

WELCOME TO YOUR NEW HOME !

30 Village Hill Road
Northampton, Massachusetts
01060

LEED for Homes
Operations and Maintenance
Manual



U.S. Green Building Council

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In the LEED for Homes program, the Project Team must educate the homeowner (and/or tenants) on the specific LEED for Homes-related equipment installed (per prerequisite AE 1.1 of the LEED for Homes Rating System). This training includes the unique operations and maintenance requirements for that equipment. USGBC developed this manual to complement the educational activities of the project team. However, the information in this manual is general in nature and may not address all of the features in a LEED-certified home. Further, this information is not intended to supersede the Project Team's instructions.

U.S. Green Building Council
2101 L Street, NW, Suite 500
Washington, DC 20037

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Quick Look-Up

Summary of Suggested Operations and Maintenance Tips

A description of each of these tips is presented in Parts 2 and 3 of this manual.

(Some of the following tasks are not applicable in condominiums)

Maintenance Task		Season				Every Few Years
		Winter	Spring	Summer	Fall	
Indoor Pollutants						
1	Check/Replace batteries in carbon monoxide alarms		●		●	
2	Clean or replace walk-off mats		●			
3	Vacuum all carpets at least weekly, clean annually	●	●	●	●	
4	Check/clean fireplace and chimney				●	
Exterior Structure						
5	Clean debris from gutters and downspouts		●		●	
6	Remove excess snow from roof to prevent ice dams	●				
7	Inspect basement/crawl space for seepage/leakage		●			
8	Check / repair roofing and flashing for signs of wear or damage		●		●	
9	Check / repair all cracked or missing exterior caulking			●		
10	Check / repair air leakage inside: replace weather-stripping					●
11	Check /repair damaged shingles			●		
Interior Durability and Finishes						
12	Check /repair caulking/grout in and around showers/baths			●		
13	If paint is needed, use only low emission paint					●
Lighting and Appliances						
14	If replacing lights, use only ENERGY STAR labeled lighting					●
15	Check if exterior automated lighting controls are working		●		●	
16	Use power strip to reduce phantom loads from chargers, TV, etc.					●
17	Clean lint screen and dryer vent	●	●	●	●	
18	If replacing appliances, use only ENERGY STAR labeled ones					●

Quick Look-Up (cont'd)

Summary of Suggested Operations and Maintenance Tips

A description of each of these tips is presented in Parts 2 and 3 of this manual.

Maintenance Task		Season				Every Few Years
		Winter	Spring	Summer	Fall	
Heating, Cooling, and Ventilation Systems						
19	Clean or replace furnace filter	●		●		
20	Adjust thermostat for season change	●	●	●	●	
21	Have air conditioner and heating system serviced					●
22	Remove leaves, debris around air conditioning condenser				●	
23	Clean in and around grills and registers; vacuum inside of ducts					●
24	Clean in and around radiators					
25	Bleed valves for radiator	●				
26	Check / adjust humidity levels; Air out damp basement	●	●	●	●	
27	Check that roof/soffit vents are open and debris-free if vented				●	
28	Check/clean mechanical ventilation system	●	●	●	●	
29	Check that exhaust fans are unobstructed and working	●				
30	Check / clean air intakes and exhausts for debris	●	●			
Plumbing						
31	Fix leaks immediately in pipes, appliances, etc.	●	●	●	●	
32	Prevent pipe freezes: Turn off outdoor faucets	●				
33	Keep water heater temperature at 120F	●		●		
34	Check hot water heater for mineral buildup, drain, and refill					●
Your Garage						
35	Check seal between garage and home, if exists. Keep door closed		●		●	
36	Remove unneeded chemicals stored in garage		●		●	
Your Yard						
37	Check landscaping sprinklers to ensure proper flow		●			
38	Check that landscaping sprinklers do not spray on home		●			
39	Replace and repair landscaping - mulch, permeability features					●
40	Store fire wood off the ground, away from home	●				
41	Maintain proper grades for drainage on all property		●		●	
42	Winterize irrigation system: turn off water, drain				●	
43	Avoid damaging de-icers	●				
44	Keep all plants at least 24" away from home			●		
45	Avoid toxic chemicals for pest control and chemical fertilizer	●	●	●	●	

Part 1

Introduction to Your Green Home

- ✓ What are Green Homes?
- ✓ Your Role in Keeping Your Home Green
- ✓ Emergency Information and Safety Tips
- ✓ Purpose and Structure of this Manual

What are Green Homes?

Generally speaking, a green home is designed and built to be:

Healthy,
Comfortable,
Durable,
Energy efficient, and
Environmentally responsible.

A common misconception is that all new homes, built to the minimum building codes, are high quality and high performance homes. However, many new homes do not achieve several of the benefits listed above. Green homes are built to substantially exceed the performance levels offered by conventional, code-compliant new homes.

Also, while many new homes may claim to be green, they differ in how thoroughly they achieve the benefits above. In other words, they achieve different degrees of green, depending on the degree to which they deliver these benefits.

Why Green Homes?

Homes have a very significant environmental impact. According to the U.S. Department of Energy, all homes in the U.S. account for:

22% of the total energy consumed; and
21% of carbon dioxide emissions.

Also, certain indoor air pollutants can often be four to five times higher than outdoor levels. Construction and demolition waste (including both residential and commercial buildings) represents 40% of the solid waste in the U.S. Homes also have a significant impact on the amount of water consumed, on the amount of chemicals (e.g., fertilizer, pest control chemicals) that can damage nearby water bodies, and other consequences.

Shifting towards the design and construction of more sustainable homes can have enormous benefits for the environment, as well as for the occupants.

What is LEED for Homes?

LEED for Homes is a voluntary rating system administered by the U.S. Green Building Council (USGBC). USGBC is a non-profit organization that promotes the design and construction of high performance green buildings. To be certified under the LEED for Homes program, a home must:

- Include several required green measures (“prerequisites”) (e.g., achieve energy efficiency at least 15%¹ better than conventional homes), and

¹ Homes must be 15% more efficient in mild & moderate climates and 20% more efficient in cold climates.

- Include many additional green measures. These are chosen by the builder from a variety of optional measures (“credits”) to earn points. A project must earn a minimum number of points to achieve certification.

The program includes several additional requirements as well, such as verification by a LEED for Homes Green Rater. The LEED for Homes Green Rater is not associated with the project team (i.e., this person is a “third-party”) and he or she has training in verifying green homes. In the verification process, the LEED for Homes Green Rater confirms that:

- All of the required green measures are installed in the home (by visual inspection), and
- The performance level of the home meets the program requirements (by physical testing of the home’s air leakage, duct leakage, etc.).

For more information on the LEED for Homes program, go to:

www.usgbc.org/LEED/homes

Your Role in Keeping Your Home Green

Most people know that cars need regular maintenance, like periodic oil changes and keeping tires properly inflated. Regular maintenance helps to keep a car running longer, more safely, and more efficiently. Similarly, your home needs regular maintenance to prevent equipment malfunctions, minimize health risks, and keep it operating as efficiently as possible.

A green home may also have special features that you may be unfamiliar with. Some of these special features have operations and maintenance requirements that will help to ensure that your home remains environmentally responsible and resource efficient throughout its lifetime.

This manual provides operations and maintenance tips on how to keep your new LEED-certified home healthy, comfortable, durable, efficient, and environmentally responsible.

Emergency Information and Safety Tips

This section offers emergency and safety tips that are important for any home. These tips are meant to be a brief summary and not a complete list. For more detailed emergency and safety information, go to:

U.S. Fire Administration www.usfa.dhs.gov/citizens

Home Safety Council www.homesafetycouncil.org/index.asp

Emergency Information

Immediately after moving into your home, take a few minutes to do the following. Don't wait until you have an emergency!

- Locate central shut-off valves for each of the following:
 - ✓ Water supply;
 - ✓ Electricity supply
- Find the number for your local poison control center, especially if you have small children.
- Locate the nearest hospital emergency room(s).
- Contact local authorities for emergency suggestions for local and regional natural disasters (e.g. flood, hurricane, tornado, earthquake). Identify fire escape routes, particularly in large homes or multifamily buildings.

Safety Tips

- Regularly replace batteries in smoke alarms and check that they are functioning, if applicable. You may have a 10-year battery alarm.
- Periodically check electrical cords, plugs, outlets, and other equipment for damage, and replace as needed. Also, don't overload electrical circuits.
-

² http://homesafetycouncil.org/SafetyGuide/sg_water_w003.asp

Purpose and Structure of this Manual

A list of all of the measures installed in your LEED-certified home is shown in the Project Checklist in Appendix A of this document. Further information on these measures can be found in the LEED for Homes Rating System³. Note that builders have some flexibility in which green measures (or LEED credits) they install in each LEED-certified home. Some of the features described in this manual may not be included in your LEED-certified home. Review the LEED for Homes checklist that was filled out specifically for your home to find out which features are installed.

The purpose of this document is to:

Part 2. Highlight the operation and maintenance procedures for the LEED for Homes measures that are installed in your home. Note that many of the LEED for Homes measures installed in your home should not require any operations or maintenance. For example, insulation that is more effective than what is required by code is installed behind the drywall. This and other measures installed behind the drywall should provide their intended benefits throughout the life of your home, without the need for maintenance. Features that do not require maintenance are not included in this manual.

Part 3. *Describe operation and maintenance information for special LEED features that your builder has installed in your home. Your builder has included these special features to substantially improve the overall performance of your home.

Part 4. Suggest resources if you decide to do a renovation or addition to your home. If you live in a condominium, check with bylaws of the association.

Part 5. Provide green lifestyle tips. Your LEED-certified home includes many measures for *efficiency* (i.e., getting more useful output, such as light, hot water, etc. for the amount of energy supplied). You can further reduce energy and water bills, and your environmental footprint, by following basic measures for *conservation* (i.e., using less energy, water, and other resources). In addition, the day to day behavioral choices that you make in other areas of your life, such as transportation, cleaning, and purchasing, can greatly affect your overall environmental footprint. The green lifestyle tips suggest behavioral choices that will help you live more sustainably, and that will often help save you money as well.

*Some of this information may not have been provided if your building is a condominium.

³ The LEED for Homes Rating System can be downloaded at no charge from www.USGBC.org/LEED/homes.

Part 2

How to Maintain the Green Features in Your Home

Operations and Maintenance Tips for:

- ✓ Indoor Pollutants
- ✓ Interior Durability and Finishes
- ✓ Lighting and Appliances
- ✓ Heating, Cooling, and Ventilation Systems
- ✓ Plumbing

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Check/Replace batteries in smoke and carbon monoxide alarms.* Replace the batteries regularly in your carbon monoxide alarm. If the alarm goes off, contact a professional to find and fix the problem immediately.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credit:

- Indoor Environmental Quality (EQ) 2: Combustion Venting

Radon

Radon is a naturally occurring gas that is emitted from soil. Different soils emit radon at different rates. Exposure to radon is the #1 cause of lung cancer among non-smokers in the U.S.

Homes can be built with radon resistant construction techniques to reduce the amount of radon that enters your home from the soil below. This includes a radon vent pipe, which runs from below your home to the outside (generally through the roof). LEED-certified homes that are constructed in areas that have been found to have high levels of radon in the soil (in Radon Zone 1) are required to incorporate these radon-resistant construction techniques. LEED-certified homes in areas that have moderate or low levels of radon in the soil (in Radon Zones 2 and 3) are encouraged to be built with these techniques. In general, this system works without any maintenance on your part. However, periodically check that the radon vent pipe is not blocked (e.g., clear of leaves). In some homes, the pipe will vent out through the exterior wall, instead of through the roof.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Test your home for radon.* The best way to ensure that your home does not have a radon problem is to perform a simple test. Radon test kits are available at your local hardware store. The U.S. Environmental Protection Agency provides guidance on how to conduct the test. If the test shows high levels of radon (above 4 picoCuries per Liter of air [pCi/L]), you should hire a radon professional to install a radon mitigation system. If your home was built with radon resistant construction techniques, then it can be modified with an exhaust fan to make it more effective.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credit:

- Indoor Environmental Quality (EQ) 9: Radon Protection

Airborne Particles

Airborne particles are common pollutants in the home. Airborne particles eventually settle out of the air and become dust on a surface. But small particles take a long time to settle out, and they can easily be kicked up into the air again (i.e., re-suspended) with activity. Airborne particles can be inhaled, causing health problems such as asthma. Some particles contain allergens, lead, or other components that can cause additional health problems.

LEED-certified homes include several measures to reduce airborne particles:

- One way that particles are transported into homes is by people tracking them in on shoes. Many LEED-certified homes include walk-off mats and shoe storage areas at each entryway.
- Cooking – especially frying – generates particles⁴. All LEED-certified homes include kitchen exhaust systems that exhaust particles, humidity, and other pollutants from your home. Use this fan whenever you cook.
- Fireplaces are a common source of particles in the home. Many LEED-certified homes do not have fireplaces, or have a fireplace or woodstove with sealed combustion to reduce the amount of pollutants indoors.

Your use and maintenance of features installed in your home are important in keeping them working effectively.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Clean or replace walk-off mats at all entries.* Walk-off mats are designed to trap dirt and keep it out of the home, and by helping to remove dirt from shoes. However, if not cleaned and replaced regularly, walk-off mats can become a source of particles.

⁴ Wallace, L.A., et al. Environmental Science & Technology. 2004 Apr 15;38(8):2304-11. "Source strengths of ultrafine and fine particles due to cooking with a gas stove."

2. *Vacuum all carpets at least weekly, clean annually.* While it is common knowledge that carpets should be vacuumed, most homeowners vacuum far less frequently than what manufacturers recommend (at least once per week, and more often in high traffic areas). The Carpet and Rug Institute also recommends that carpets be professionally deep cleaned every 12 to 18 months.

3. *Check/clean fireplace and chimney.* If your home has a fireplace, check the chimney to ensure it is not blocked by leaves, nests, or other debris. In general, the U.S. Environmental Protection Agency (U.S. EPA) recommends that wood-burning appliances and chimneys should be professionally inspected and cleaned each year.¹ This will remove the build-up of soot, and keep it in a safe operating condition. If your fireplace is not drafting effectively (i.e., smoke enters the room when your fireplace is being used), stop using it immediately. Have a professional inspect it, and if needed, clean or repair it.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credits:

- Indoor Environmental Quality (IEQ) 2: Combustion Venting
- Indoor Environmental Quality (IEQ) 8: Contaminant Control

Additional Information

For more information, resources, and tools related to minimizing your exposure to indoor pollutants, visit:

US EPA's Indoor Environments Division (EPA

IED) www.epa.gov/iaq/combust.html

www.epa.gov/iaq/co.html

www.epa.gov/radon/pubs/citguide.html

The Carpet and Rug Institute (CRI)

www.carpet-rug.org/residential-customers/cleaning-and-maintenance/basic-cleaning/index.cfm

2.1 The Exterior Structure or Envelope

Your home is designed to protect you from conditions outside, including heat, cold, wind, and rain. LEED for Homes focuses on improving the performance of 3 aspects of the exterior structure (or exterior envelope) of your home:

- The thermal performance (heat flow resistance);
- The air-tightness (air flow resistance); and
- The water-proofing (moisture flow resistance).

This section includes operations and maintenance suggestions for the exterior structure of your home. Additional sources of information on exterior structures are listed at the end of this section.

Overall Durability of Exterior Structure

The exterior of your home, including the roof and siding, acts like your body's skin. It is the first line of defense in protecting your home from rain, cold air, pests, and other things best kept outside. It is important to keep the exterior in good condition.

If water penetrates into the structure of the building, it can cause damage (e.g., wood rot), which is a major safety concern. It can also reduce the effectiveness of materials such as insulation. In general, water should drain away from your home, and it should do so as quickly as possible. Water that pools on a surface can eventually leak through cracks in the surface, potentially causing damage to the structure.

Your LEED-certified home's builder is required to consider the durability risks at your home's site, and to design and build your home to mitigate these risks. (See the LEED for Homes durability forms in Appendix A.) All LEED-certified homes also have water resistant materials in wet areas, such as bathrooms, kitchens, and entryways.

How to Maintain the Green Features in Your Home*

This section includes operation and maintenance tips for LEED for Homes features installed in your home that require some upkeep or user operation. Keep in mind:

- The maintenance requirements for your home are specific to the types of systems that are installed in your home. It is very important for you to be familiar with the product manufacturer's specific recommendations for each system (see Appendix B).
- Many of the features in your LEED-certified home will not require maintenance, so they are not described here. But many still require that you use them properly in order to fully reap their benefits. For example, if your LEED-certified home includes dual flush toilets, this feature will only conserve water if everyone in your home uses the partial flush feature when appropriate. Review the LEED for Homes checklist (Appendix A) that was customized for your home to familiarize yourself with which green measures are installed in your home.

This section is organized by the systems in your home. Each section includes information on:

- Why this system is important;
- Tips for operating and maintaining the system; and
- Websites that provide additional information and maintenance tips for the system.

***Much of this information in Part 2 may not apply if you live in a condominium.**

2.1 Indoor Pollutants

There are many potential sources of pollution in any home. For example, combustion equipment (anything that burns fuel, such as a gas-fired water heater or wood stove) releases carbon monoxide. Fireplaces and cooking can release small airborne particles, which can cause breathing problems, especially for people with asthma.

In general, indoor pollution can be controlled by:

- Reducing the amount of pollutants that are generated (for example, by not having a fireplace, or by using a fireplace that is cleaner burning); and
- Diluting pollutants once they are created, by bringing in fresh air (ventilation) or removing polluted air with exhaust fans and vents.

Combinations of these pollution control methods are used in LEED-certified homes. But you can further reduce pollutants in your home through operation and maintenance.

This section includes suggestions to help to control the following indoor pollutants:

- Carbon monoxide;
- Radon; and
- Airborne particles.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is generally released during combustion (e.g., burning of a fuel in equipment like cars, gas-fired appliances, and fireplaces). At high levels, CO can cause health problems, such as headaches and nausea. At very high levels, CO will cause death. LEED-certified homes include CO monitors, which can help warn if there are dangerous levels in your home.

As mentioned in the Emergency Information and Safety Tips, **never bring an unvented combustion source, like a barbecue grill, into the home.** Vented combustion sources, such as hot water heaters, have a pipe that carries carbon monoxide and other combustion pollutants out of your home. Equipment, such as barbecue grills, camping stoves, kerosene heaters, etc., will create carbon monoxide and other dangerous pollutants. Because the equipment is unvented, the pollutants cannot escape the home. The carbon monoxide can quickly build up in the home and become dangerous.

1. *Check / repair all exterior caulking, weather-stripping, and paint.* Check and repair the sealing of the exterior of your home, especially around joints, windows, doors, trim, and plumbing and utility openings. Re-seal with caulk, window putty, weather-stripping, and other air sealing materials. Materials such as caulk and weather-stripping are inexpensive and can save you considerable money in energy bills. By keeping your home well sealed, you will also help prevent pests from entering.

Check the paint, siding, and other materials on the exterior of your home for damage every few years. Peeling paint should be sanded and repainted. Follow manufacturer's instructions when repainting to avoid more paint peeling in the future. If peeling continues, there may be a moisture problem. If so, contact a professional that specializes in fixing moisture problems.

2. *Check roofing and flashing, and repair any damaged materials.* "Flashing" is sheet metal or other material laid over roof valleys, windows, or other areas where water often drains or collects. Many LEED-certified homes have flashing, because it helps prevent water from seeping into the building structure. Flashing and roof materials (e.g., shingles) become damaged over time. Check these materials at least once a year, particularly before the rainy season, to make sure that they are in good condition (e.g., not missing or damaged). Replace if needed. Materials such as flashing are inexpensive and can save money by reducing the need for costly repairs.

3. *Clean debris from gutters and downspouts.* Downspouts and gutters are important for draining water away from your home. They should be cleaned regularly (generally every spring and fall) to remove leaves, dirt, nests, and other debris.

4. *Remove excess snow from roof to prevent ice dams.* Ice dams form when snow melts on the roof, and then re-freezes further down the roof before it can drain. Ice dams form when areas of your roof are colder than others, because some sections of the underside of the roof are better insulated than other sections. Ice dams cause water to pool on the roof, which can then leak into the home's structure.

The best solution for handling ice dams is to prevent them from forming. Soon after a snowfall, use a broom to remove snow from the edges of your roof. Doing this prevents snow from becoming ice. Avoid using rakes or sharp tools, because these can damage the roof surface. If your roof is frequently forming ice dams, consult an ice dam specialist to diagnose and fix the problem. For example, your home may need additional insulation in some sections of the attic.

5. *Inspect basement/crawl space for seepage/leakage.* Periodically inspect the lowest part of your home (e.g., the basement or the crawlspace) for pooling water and damp areas. These may indicate that water is not draining properly away from the home. Contact a basement water proofing specialist to identify and fix the problem.

Related LEED for Homes Measures

- Innovation and Design (ID) 2: Durability Management Process
- Energy and Atmosphere (EA) 3: Air Infiltration

Additional Information

For more information, resources, and tools related to the durability of your home, visit:

Home Energy Resource (formerly Home Smart), Basic Care

www.homeenergyresourcecmn.org/

University of Massachusetts, Building and Construction Technology, Preventing Ice Dams

bct.nrc.umass.edu/index.php/publications/by-title/preventing-ice-dams/

US EPA's ENERGY STAR Programs, Home Improvement – Peeling Paint

www.energystar.gov/index.cfm?c=home_solutions.hm_improvement_peelingpaint

2.3 Interior Durability and Finishes

The previous section highlighted the importance of maintaining the exterior structure of your home. The interior of your LEED-certified home is carefully designed and constructed as well. This section includes operations and maintenance suggestions related to the interior features of your LEED-certified home, including:

- Interior Durability (control of moisture); and
- Paints and Coatings (control of chemical emissions).

Interior Durability

Just as rain can cause damage if it enters your home's exterior, leaks and moisture originating within the home can also damage the structure. Your LEED-certified home includes measures such as proper drainage and drain pans for appliances that help prevent water from pooling on surfaces in your home. You should check periodically that everything is in working order (e.g., draining freely), and that materials such as bathtub grout are in good condition. This will help keep water from damaging materials below, and help reduce mold and mildew.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Check /repair caulking/grout in and around showers/baths.* For example, check and repair caulk and grout in wet rooms, such as around bathtubs and sinks, between walls and vanities, countertops, or bathtubs.

2. *Check for water leakage around clothes washers and dish washers.* A small drip or leak is a sign that the appliance needs repair. Usually small leaks quickly evolve into major leaks that can cause major damage. If there is evidence of a leak, contact the appropriate equipment repairman immediately.

3. *Run bathroom fan for 30 minutes after showering.* Always turn on your bathroom fan while showering or bathing, and allow it to run for 30 minutes after you stop. By using this fan, you help remove moisture that can lead to mold and mildew, and that can damage the structure of the building. You should also run your kitchen fan while cooking, to remove pollutants and odors.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credits:

Innovation and Design (ID) 2: Durability Management Process

Paints and Coatings (e.g., finishes, shellacs, stains)

Interior paints and finishes add to the beauty of homes, and help protect surfaces. However, many paints, coatings, and adhesives contain chemicals that slowly off-gas into the air. These chemicals are called Volatile Organic Compounds, or VOCs. Some of these VOCs (e.g., formaldehyde) can be harmful to your health. Most VOCs are released at the highest rate when they are applied – the “new paint smell”. However, significant levels of VOCs will continue to off-gas long after application. Many LEED-certified homes include paint, adhesives, and other materials that are “low VOC”. These have a lower content of these harmful, off-gassing chemicals than conventional products.

Furniture, cabinets, cleaning products, and other materials can also have high levels of VOCs. These are discussed in Part 5.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *If paint is needed for the interior of your home, use paint that is low emitting (“low VOC”).* Several programs, such as the Green Seal Standard, will label products that have a low VOC content.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credits:

- Materials and Resources (MR) 2: Environmentally Preferable Products
- Indoor Environmental Quality (IEQ) 8.3 Preoccupancy Flush

Additional Information

For more information, resources, and tools related to maintaining your home's interior, visit:

GREENGUARD Environmental Institute, Consumers

www.greenguard.org

2.4 Lighting and Appliances

According to the US Department of Energy's Residential Energy Consumption Survey (2001), lighting and appliances use 34% of energy consumed in homes and account for 47% of the energy costs. Many LEED-certified homes include energy efficient lights, and ENERGY STAR-rated appliances. You can help to control your energy bills by replacing these products with similar energy-efficient products as needed. You can also conserve energy by turning off lights when they are not in use, and by reducing the energy used by home electronics in stand-by mode by unplugging appliances, or by using power strips.

This section includes operations and maintenance suggestions related to your home's:

- Lighting; and
- Appliances.

Additional sources of information on maintaining your lighting fixtures and appliances are listed at the end of this section.

Lighting

Collectively, interior and exterior lighting typically accounts for 5% to 15% of a new home's total energy use. Energy efficient bulbs and fixtures can use 50-75% less energy, and can emit the same amount of light. These also require less frequent replacement.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *If replacing lights, use only ENERGY STAR-labeled lighting.* Choose bulbs and fixtures with the ENERGY STAR label, such as ENERGY STAR-labeled compact fluorescent lights. These bulbs may have a first cost that is more expensive than traditional, incandescent bulbs, but you will recover any cost difference quickly because of the bulbs' longer life and lower energy use. ENERGY STAR-labeled bulbs also achieve high standards for comfort issues (e.g., less flicker than other bulbs).

2. *Periodically check if exterior automated lighting controls are working.* Many LEED-certified homes include exterior lighting that is motion controlled. If the motion control detector stops working, have the detector fixed or replaced so that you can continue to save energy when lighting is not needed. If you feel that some continuous lighting is needed for safety reasons, consider installing a low level of light, with a sensor to trigger a high level of light when motion is detected.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credits:

- Energy and Atmosphere (EA) 1: Optimize Energy Performance
- Energy and Atmosphere (EA 8): Lighting

Appliances

Household appliances typically use 20-30% of a home's total energy use and about 25% of a home's indoor water use. Many LEED-certified homes have ENERGY STAR-labeled appliances, which can use 10-50% less energy and water than standard models.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Clean/adjust direction of ceiling fans seasonally.* In the summer, ceiling fans can be used to make people feel cool by blowing air on them. Remember to turn off the fan when used for cooling if no one is in a room. Fans do not cool rooms – they only cool people.

A ceiling fan can also be used to help warm a room when it is operated in reverse, by gently pushing warm air back to the floor. (Hot air rises.) Most ceiling fans have a switch that allows you to reverse its direction. Reverse the direction of fans each summer and winter. Use a very low speed for winter, and turn down your thermostat to capture the heating bill savings from using fans.

Clean the fan blades at least annually, to reduce particles in your home and to keep the fan in good condition.

2. *Connect appliances (e.g., televisions, chargers) to a power strip and switch it off when not in use.* “Phantom loads” refer to energy that appliances (e.g., televisions, cell phone, laptop chargers) continue to draw when they are turned off. The U.S. Environmental Protection Agency estimates that households spend \$100 per year to power devices in this standby mode¹. Unplug appliances when they are not in use, or connect them to a power strip and turn off multiple appliances when they are not in use. Some power strips also serve as surge protection for appliances.

The U.S. EPA has also begun to identify some products, such as power adaptors, with the ENERGY STAR label. Look for this label to identify products that are more efficient than conventional models.

3. *Clean lint screen after every use. Periodically clean dryer vent.* For dryers, cleaning the lint screen after every use helps reduce energy use, and it reduces the risk of fire. Also, periodically check the exhaust vent for the dryer on the outside of your home. Make sure that the vent screen is clean and free of leaves, debris, etc., so that exhaust can freely escape to the outside.

4. *Choose ENERGY STAR-labeled appliances.* ENERGY STAR-labeled appliances use less energy and/or water than conventional models. While these often have a slightly higher cost, they will save money in the long-run because of lower energy or water bills. Also make sure that you buy the right sized appliance for your household’s needs. For example, refrigerators that are too full, or that are almost empty, will not perform at the rated efficiency.¹

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credit:

- Energy and Atmosphere (EA) 1: Optimize Energy Performance
- Energy and Atmosphere (EA) 9: Appliances

Additional Information

For more information, resources, and tools related to maintaining your home’s lighting and appliances, visit:

U.S. Environmental Protection Agency (USEPA) Energy Star program, resources for lighting and appliances:

www.energystar.gov/index.cfm?c=lighting.pr_lighting

www.energystar.gov/index.cfm?c=appliances.pr_appliances

Alliance to Save Energy

www.ase.org/section/topic/lights

Federal Trade Commission's How to Buy an Energy-Efficient Home Appliance

www.ftc.gov/bcp/edu/pubs/consumer/homes/rea07.shtm

Department of Energy, Energy Efficient Appliances

www1.eere.energy.gov/buildings/appliance_standards/pdfs/26468.pdf

California Energy Commission's Consumer Energy Center

www.consumerenergycenter.org/home/appliances/

2.5 Heating, Cooling, and Ventilation Systems

Well designed heating cooling and ventilation systems are essential elements of a comfortable and healthy LEED-certified home. More importantly, they also provide for significant energy savings (at least 30% in most LEED-certified homes).

This section includes 2 related topics:

- Heating and Cooling Systems; and
- Ventilation Systems.

Additional sources of information on these systems are listed at the end of this section.

Heating and Cooling Systems

Heating and cooling systems are required to maintain comfortable temperatures within a home. They are also one of the major causes of excessive energy use in homes.

LEED-certified homes have heating and cooling equipment that is often 20 to 30% more efficient than equipment that meets the minimum efficiency standards. It is also correctly sized, based on the size of your home, how well your home is insulated, and other factors. This translates into lower energy bills.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Clean or replace filters in heating/cooling equipment.* Dirty filters are a common cause of equipment malfunction or damage. Clean filters will allow your equipment to run more efficiently. Filters are relatively inexpensive and easy to replace. According to the U.S. Department of Energy, keeping the filter clean on an air conditioner can lower the air conditioner's energy consumption by 5% to 15%.¹ How often you will need to replace your filter will vary depending on the product. Some units have an indicator light showing when the filter needs to be replaced. Generally, it is recommended that air filters should be replaced monthly during the heating or cooling season. Replace the filter with the same type of filter that was originally installed. This will keep the equipment operating as designed, and it will continue to remove particles for better indoor air quality.

2. *Adjust thermostat for season change.* Set your programmable thermostat to “reasonable” set-points to conserve energy. LEED-certified homes generally have programmable thermostats which allow you to set different set-point temperatures at different times of the day. Example settings are provided below.

**Example Temperature Settings
for Programmable Thermostat**

Season	Time of Day		
	Night	Day	
		Occupied	Un-Occupied
Winter	60	70	60
Summer	75	75	85

3. *All components of the heating and cooling systems should be serviced by a qualified technician about every two years.* The technician should check settings, clean and lubricate parts inside the system, tighten electrical connections, and provide other services. This will help keep your equipment running in good order.

One service that a technician can provide for an air conditioning system is recharging the refrigerant. All LEED-certified homes are required to have air conditioning systems tested at installation to ensure that it is correctly charged (i.e., has the right amount of refrigerant). The system should be tested periodically and recharged if needed. The American Council for an Energy Efficient Economy reports that fixing an incorrectly charged system can improve its efficiency by 20%.¹

4. *Remove leaves and debris around the outdoor condenser of an air conditioner.* Conventional air conditioning systems include an outdoor condenser unit. Twice a year, make sure that the area around the condenser is clear of trash, plants, etc. The Department of Energy recommends trimming back any foliage so that it is at least 2 feet from the unit.¹ Clean any leaves or other debris from the “fins” – the metal slats through which air passes.

5. *Clean in and around grills and registers; vacuum inside of ducts.* For forced air systems (i.e., systems that blow hot or cold air through ducts), annually remove the heating registers and vacuum inside the ducts that are within reach.

6. *Clean in and around radiators, bleed air from radiators.* For hydronic systems (i.e., systems that circulate hot water through pipes and radiators), the U.S. Department of Energy reports that the most common problem is unwanted air in the system.¹ The problem occurs when a bubble of air becomes trapped in the system, which blocks the water from circulating. At the start of each heating season, a technician should check all of the radiators in your home, and bleed-out any trapped air. This will help improve the efficiency of and the comfort provided by your hydronic heating system.

7. *Check / adjust humidity levels.* As described in the section on Durability, wet building materials can lead to rot or other damage to the building's structure, and lead to mold or mildew growth. Monitor the relative humidity in your home. Relative humidity monitors are inexpensive and available at hardware stores. In general, the recommended relative humidity in the home should be between 30 to 60%. Use your home's systems (e.g., fans in wet rooms, and dehumidifiers, if present) to keep the relative humidity in this range. If the relative humidity is often well above 60%, or if your home shows other signs of high humidity (such as windows with condensation on the inside or a damp basement):

- First check that everyone in the household is using local exhaust fans properly (e.g., turning on bathroom fans during bathing and kitchen fans when cooking); and
- If your home still has high humidity, consider installing a dehumidifier (if your home does not already have one).

If your home has low humidity levels, you may choose to install a humidifier. Continue to monitor the relative humidity closely. Do not operate a humidifier while the air conditioner is running.

8. *Check roof / soffit vents for flow and obstructions.* Many homes include vented attics. These vents allow hot air to escape during the hot summer months. In the winter, vented attics help to keep the attic cool, reducing the chance for ice dams to form.¹ If your home has vents in the attic, do not cover these with insulation or any other material. Periodically check that vents have not become covered or obstructed by items in the attic.

Other homes are designed with unvented attics (i.e., the attic is conditioned). Your builder will have considered whether roof / soffit vents were beneficial for your particular home, as part of the program's durability requirements.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credits:

- Indoor Environmental Quality (IEQ) 3: Moisture Control
- Energy and Atmosphere (EA) 6: Space Heating and Cooling
- Energy and Atmosphere (EA) 11: Appropriate HVAC Refrigerants
- Indoor Environmental Quality (IEQ) 7: Air Filtering

Ventilation Systems

Ventilation systems exhaust airborne pollutants from your home and also replenish your home with fresh air. Generally there are 2 types of ventilation systems that are used in your home:

1. Local Exhaust Systems (i.e., bath and kitchen fans); and
2. Whole-house ventilation systems.

All LEED-certified homes are required to have whole-house air ventilation systems, which provide the right amount of fresh air into your home. (The rate is based on the size of your home and number of bedrooms.) Also, all LEED-certified homes must have exhaust fans in kitchens and bathrooms, which must be vented directly to the outdoors. These measures help provide better indoor air quality, and they protect the structure from moisture damage. Even moist air can become a problem if it is not exhausted from your home, because it can cause damage structures and lead to mold growth. (In contrast, many code homes do not have ventilation systems and/or do not exhaust moist air directly to the outdoors.)

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Check operation of mechanical ventilation systems (for example, an HRV/ERV) and regularly replace filters.* Ventilation is often provided in the same system as heating or cooling. Such systems require regular filter changes and bi-annual service check-ups.

However, some homes have a separate or dedicated ventilation system installed. For example, many LEED-certified homes include a Heat Recovery Ventilator (HRV) or an Energy Recovery Ventilator (ERV). An HRV brings in fresh air for ventilation, but transfers the heat from the outgoing stale air to incoming air. An ERV performs similarly, but it removes heat from the incoming air, using the cold stale air that it exhausts. These systems reduce energy for heating and cooling, and provide fresh air.

If your home has a separate ventilation system, clean or replace the filter regularly. Check your manufacturer's information for your product's specific requirements, but a general rule of thumb is every one to three months.¹ Periodically check the intake and exhaust vents to ensure that they are clear from leaves, debris, etc.

2. Periodically check that your exhaust fans are operating: Hold a piece of toilet paper up to the exhaust fan in the bathroom while the fan is running. The paper should be held firmly against that fan grille, after you let it go. If you find a problem, contact a ventilation specialist.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credits:

- Indoor Environmental Quality (IEQ) 4: Outdoor Air Ventilation
- Indoor Environmental Quality (IEQ) 5: Local Exhaust

Additional Information

For more information, resources, and tools related to maintaining your home's heating, cooling, and ventilation systems, visit:

Green Home Guide by the U.S. Green Building Council (USGBC)

www.GreenHomeGuide.com

U.S. Department of Energy (DOE), Energy Saver's

www.energysavers.gov

U.S. Government, Home Owner Resources

<http://www.usa.gov/Citizen/Topics/Family/Homeowners.shtml>

U.S. Environmental Protection Agency (USEPA), Energy Star program

www.energystar.gov/homes

www.energystar.gov/index.cfm?c=dehumid.pr_basics_dehumidifiers

California Energy Commission, Consumer Energy Center

www.consumerenergycenter.org/home/heating_cooling/index.html

Natural Resources Canada, Routine maintenance for HRV's

<http://oee.nrcan.gc.ca/Publications/infosource/Pub/hrv/maintenance.cfm?attr=4#schedule>

2.6 Plumbing

Water is an important resource, and it takes considerable energy to move, treat, and heat water. The average family of four can use 400 gallons of water every day, and, on average, approximately 70% of that water is used indoors⁵.

Leaky pipes and fixtures can result in large amounts of wasted water, and cause damage to structures below. Plumbing can also serious damage it not maintained during the winter.

This section includes operations and maintenance suggestions related to your plumbing equipment. Note that tips on maintaining the efficient use of water outdoors are included in the “Your Yard” section below. Tips on conserving water both indoors are outdoors are provided in the Part 5.

Indoor Plumbing Fixtures and Fittings

All LEED-certified homes include measures that should reduce water use, relative to conventional homes that are built to the minimum building code. Measures that reduce hot water use will save both energy and water. Many of these measures will not require any special maintenance. For example, many LEED-certified homes include low flow fixtures (e.g., low-flow faucets or showers, dual-flush toilets), or the plumbing has been designed so that the hot water tank is close to the fixtures that require hot water.

Operations and Maintenance Tips

The following general maintenance strategies are highly recommended.

1. *Check / fix leaks immediately in pipes, fixtures, and appliances.* Immediately fix any leaks in pipes, equipment (e.g., water heaters, clothes washers), and plumbing fixtures (e.g., toilets, sinks). According to the U.S. EPA’s WaterSense program, leaky faucets that drip at the rate of one drip per second waste more than 3,000 gallons of water each year.¹ Over time, water leaks may lead to structural problems.

If your hot water tank is leaking, shut off the water supply to the tank, and shut off the fuel input (or electricity) until a plumber can repair or replace the system. The pressure relief valve may be clogged or not working, or there may be some other problem that should be addressed.

⁵ <http://www.epa.gov/watersense/pubs/indoor.html>

2. *Prevent pipes from freezing: turn on/off outdoor faucets.* When water pipes run through the exterior walls of your home (e.g., to your irrigation system, outdoor faucets, or garden hoses), they are susceptible to freezing in the winter. As the water in the pipes freezes, it expands and can potentially cause the pipe to burst. To prevent this, in late fall, turn off the water supply to the outdoors. Then drain these fixtures to the outdoors to remove any water that remains in the pipes or hoses. Most homes have a separate shut-off valve for each outdoor faucet.

If you go on vacation in the winter, turn the heat down, but not off, in your home. The home must be warm enough to keep the pipes inside from freezing.

Related LEED for Homes Measures

For more information on this LEED measure, please look-up the following credits:

- Water Efficiency (WE) 3: Indoor Water Use
- Energy and Atmosphere (EA) 7: Water Heating
- Energy and Atmosphere (EA) 9: Appliances

Additional Information

For more information, resources, and tools related to maintaining your home's plumbing fixtures and fittings, visit:

H₂O Use, Household Water Efficiency

Resources <http://www.h2ouse.org/resources/links/index.cfm>

Urban Water Resources Management, Water Conservation

Tips <http://www.gdrc.org/uem/water/conservation.html>

National Association of Home Builders, TOOLBASE, Low flow fixtures

<http://www.toolbase.org/TechInventory/TechDetails.aspx?ContentDetailID=868&BucketID=6&CategoryID=9>

Flex Your Power, Low Flow Showerheads

http://www.fypower.org/res/tools/products_results.html?id=100160

Montana Weatherization Training Center, Water Heater Maintenance Tips

<http://www.weatherization.org/waterheatermaintenance.htm>

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condominium at The Columns at Rockwell
Place.

Part 3

Special Feature

See the following page which explains a special feature installed in the building which brings on-demand hot water into your home.

1.

The EcoBurner Tankless Hot Water Heater

Description

Your hot water comes from a state-of the art central condensing tankless hot water heater that is ultra-efficient because it is designed to limit wasting water.

Benefit

The EcoBurner Tankless Hot Water Heater is not only efficient and economical but it burns with a "short flame" which dramatically reduces environmental hazardous materials particularly carbon monoxide and nitrogen oxides.

Operation and Maintenance Tips

This Section is not applicable as these Tasks are the responsibility of the property manager.

Related LEED for Homes Measures

Energy & Atmosphere (EA) 5: Efficient Hot Water Distribution Supply
Energy & Atmosphere (EA) 5: Efficient Domestic Hot Water Equipment

Additional Information

For more information, resources, and tools, visit:

Goggins Real Estate

<https://www.gogginsrealestate.com/developments/be-green-with-envy/>

Pages 44-45 were intentionally deleted as they were templates for this manual. Please disregard.

Part 4

Resources for Sustainable Additions and Retrofits

At The Columns at Rockwell Place, check with the bylaws of the Associations regarding additions and retrofits.

The REGREEN Program

If you decide to add-on to your home or retrofit part of it, it is important to do so in a thoughtful, sustainable way. This is to ensure that any remodel does not affect any of the green features or systems installed in your LEED-certified home. Ideally, the remodel itself should also be green, to continue in the direction of sustainability set by the original LEED for Homes builder.

The REGREEN residential remodeling program provides a valuable starting point for green remodels. This resource was designed by the U.S. Green Building Council (USGBC) and the American Society for Interior Designers (ASID). It provides:

- Information;
- Case studies;
- A strategy generator; and
- Guidelines.

The program is designed to serve both homeowners and building professionals.

Information on the REGREEN program is available at:

www.regreenprogram.org

Green Home Guide

The people that you hire to do a retrofit or remodel play a critical role in the quality and overall sustainability of the project. It is important to select professionals carefully, especially because different professionals have varying experience with remodeling green homes.

The USGBC created the Green Home Guide resource for sustainability-related consumer resources. This website includes the “Find a Pro” feature which helps you find a qualified green professional in your area.

Green Home Guide is also a valuable resource for learning about, and maintaining, your green home. The website includes:

Know How: Articles, insights and tips from experienced green professionals.

Ask a Pro: Have a green home question? Ask our team of experts.

Residential Programs: Learn about programs that offer green home education and certification

Information on the Green Home Guide is available at:

www.greenhomeguide.com

Part 5

Suggestions on How to Live More Sustainably

This section includes a summary of suggestions for living more sustainably, such as conserving water and energy, reducing waste, and protecting local bodies of water. Many of these suggestions will also save you money. These lifestyle suggestions can be adopted by residents of any home, whether LEED-certified or not. However, several of the lifestyle suggestions overlap the information provided in other sections of this manual.

While the list provided here is a good start, there are countless other opportunities. There are additional resources listed after the table with websites that can provide further discussion of some of the tips in the table, and offer new tips.

Green Lifestyle Tips

Suggestions
Energy Efficiency
<ul style="list-style-type: none"> Purchase green power (generated by renewable energy) Use ENERGY STAR programmable thermostat Keep unoccupied rooms closed (doors and heating / cooling vents) Keep radiators and vents clear of furniture, rugs, etc. Use occupant sensors for lighting in areas that are used infrequently Use insulated draperies Use energy-saving mode for electronics when not in use, or powerstrips Turn off lights in rooms when not in use Use cold/warm settings for laundry
Water Efficiency
<ul style="list-style-type: none"> Take shorter showers Use dish- and clothes-washers only when full Turn water off while teeth brushing Adjust programmable irrigation settings for rainfall Avoid watering landscaping at mid-day Install an automatic shut-off nozzle on garden hose
Waste Management
<ul style="list-style-type: none"> Properly recycle gas, kerosene, paint, and other hazardous waste Donate items instead of throwing them away Buy second-hand products, or products with recycled content Use re-usable shopping bags Reduce paper waste (e.g., use cloth napkins) Use unbleached coffee filters, paper towels, etc. Opt-out of junk mailings if possible Find out what can be recycled in your area and recycle these products
Indoors and Cleaning
<ul style="list-style-type: none"> Use nontoxic, biodegradable detergents and cleaners Have home tested for radon Buy furniture and furnishings with low VOC content.
Food Purchases
<ul style="list-style-type: none"> Grow your own food or participate in community garden Purchase locally grown, and organic food Participate in a Community Supported Agriculture (CSA) program Eat less meat Purchase seafood from sustainable seafood programs

Green Lifestyle Tips (cont'd)

Suggestions
Transportation
Bike or walk for short trips Use public transportation Carpool and/or run errands in fewer trips Avoid idling cars unnecessarily Regularly maintain cars, other vehicles Purchase carbon offsets from flying or commuting
Your Yard
Refrain from use of toxic chemicals, insecticides, fertilizers, etc. Plant natives trees and plants Place hardwood mulch around trees and gardens Use composting from kitchen on gardens and landscapes Leave grass clippings on yard to provide nutrients back to soil Add rain barrel for rainwater harvesting
Home Office and Study
Use electronic format instead of paper as much as possible Recycle paper, used print cartridges, and old electronics Use recycled paper, and recycled print cartridges

Additional Resources

The following resources can provide further information on some of the green lifestyle tips listed in the table.

Energy Efficiency

The Energy Star program from the U.S. EPA and U.S. Department of Energy:
www.energystar.gov

The Consumer Energy Center from the California Energy Commission:
www.consumerenergycenter.org

Water Efficiency

The WaterSense program from the U.S. EPA
www.epa.gov/watersense/

Waste Management

The National Resources Defense Council

www.nrdc.org/cities/recycling/gelectronicsrecycling.asp

Indoors & Cleaning

The GREENGUARD Environmental Institute

www.greenguard.org/

Food Purchases

The National Resources Defense Council

www.nrdc.org/health/food/default.asp

The Monterey Bay Aquarium

www.montereybayaquarium.org/

The City of Annapolis

www.ci.annapolis.md.us/sustainability.asp?page=13694

Transportation

The Best Workplaces for Commuters program from the U.S. EPA

<http://www.epa.gov/omswww/bwc.htm>

The Pennsylvania American Automobile Association's Gas Watcher's Guide

www.aaapa.org/pdfs/Gas_Watchers_Guide.pdf

Your Yard

The Lady Bird Johnson Wildflower Center

www.wildflower.org

The Plant Native Organization

www.plantnative.org

Home Office & Study

The National Resources Defense Council

www.nrdc.org/land/forests/gtissue.asp

The Forest Stewardship Council

<http://fscus.org/>

The following resources provide additional green living tips:

<http://www.nrdc.org/greenliving/>

<http://www.ci.annapolis.md.us/sustainability.asp?page=13694>

Many local or state government offices, water districts, and utilities provide local or regionally specific recommendations. Contact these organizations or find their websites to discover information specific to your area.

<https://www.masssave.com/>

<http://www.northamptonma.gov/957/Sustainable-Northampton>

<http://usgbcma.org/west-branch>

<https://www.buylocalfood.org/>

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Appendix A

LEED for Homes Documentation

The green measures installed in every LEED-certified home must be verified by a third-party verification organization (other than the project team that designed and built your home). This organization is called a LEED for Homes Provider, which includes or oversees the LEED for Homes Green Rater. At the completion of the verification process, these verifiers prepare the following three documents:

- ✓ Project Checklist;
- ✓ Durability Forms; and
- ✓ Accountability Forms.

Copies of these verification documents are included in this appendix.

LEED for Homes Project Checklist

LEED for Homes Durability Evaluation Form

LEED for Homes Durability Inspection Checklist



ENERGY STAR Certified Homes, Version 3 (Rev. 07) Water Management System Builder Checklist ^{1,2}

Home Address: 30 Village Hill Rd City: Northampton State: MA Zip Code: 01060

1. Water-Managed Site and Foundation	Must Correct	Builder Verified	Rater Verified	N/A
1.1 Patio slabs, porch slabs, walks, and driveways sloped ≥ 0.25 in. per ft. away from home to edge of surface or 10 ft., whichever is less. ³	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.2 Back-fill has been tamped and final grade sloped ≥ 0.5 in. per ft. away from home for ≥ 10 ft. See Footnote for alternatives. ³	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.3 Capillary break beneath all slabs (e.g., slab on grade, basement slab) except crawlspace slabs using either: ≥ 6 mil polyethylene sheeting, lapped 6-12 in., or ≥ 1 in. extruded polystyrene insulation with taped joints. ^{4,5,6}	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.4 Capillary break at all crawlspace floors using ≥ 6 mil polyethylene sheeting, lapped 6-12 in., & installed using one of the following opt's: ^{4,5,6}				
1.4.1 Placed beneath a concrete slab; OR,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.4.2 Lapped up each wall or pier and fastened with furring strips or equivalent; OR,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.4.3 Secured in the ground at the perimeter using stakes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.5 Exterior surface of below-grade walls of basements & unvented crawlspaces finished as follows: a) For poured concrete, masonry, & insulated concrete forms, finish with damp-proofing coating. ⁷ b) For wood framed walls, finish with polyethylene and adhesive or other equivalent waterproofing.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.6 Class 1 vapor retarder not installed on interior side of air permeable insulation in ext. below-grade walls. ⁸	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.7 Sump pump covers mechanically attached with full gasket seal or equivalent.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.8 Drain tile installed at the exterior side of footings of basement and crawlspace walls, with the top of the drain tile pipe below the bottom of the concrete slab or crawlspace floor. Drain tile surrounded with ≥ 6 in. of $\frac{1}{2}$ to $\frac{3}{4}$ in. washed or clean gravel and with gravel layer fully wrapped with fabric cloth. Drain tile level or sloped to discharge to outside grade (daylight) or to a sump pump. ⁹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Water-Managed Wall Assembly				
2.1 Flashing at bottom of exterior walls with weep holes included for masonry veneer and weep screed for stucco cladding systems, or equivalent drainage system. ¹⁰	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.2 Fully sealed continuous drainage plane behind exterior cladding that laps over flashing in Item 2.1 and fully sealed at all penetrations. Additional bond-break drainage plane layer provided behind all stucco and non-structural masonry cladding wall assemblies. ^{10,11}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.3 Window and door openings fully flashed. ¹²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Water-Managed Roof Assembly				
3.1 Step and kick-out flashing at all roof-wall intersections, extending ≥ 4 " on wall surface above roof deck and integrated shingle-style with drainage plane above; boot / collar flashing at all roof penetrations. ¹³	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2 For homes that don't have a slab-on-grade foundation and do have expansive or collapsible soils, gutters & downspouts provided that empty to lateral piping that discharges water on sloping final grade ≥ 5 ft. from foundation, or to underground catchment system not connected to the foundation drain system that discharges water ≥ 10 ft. from foundation. See Footnote for alternatives & exemptions. ^{4,14}	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.3 Self-sealing bituminous membrane or equivalent at all valleys & roof deck penetrations. ⁴	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.4 In 2009 IECC Climate Zones 5 & higher, self-sealing bituminous membrane or equivalent over sheathing at eaves from the edge of the roof line to > 2 ft. up roof deck from the interior plane of the exterior wall. ⁴	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Water-Managed Building Materials				
4.1 Wall-to-wall carpet <i>not</i> installed within 2.5 ft. of toilets, tubs, and showers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.2 Cement board or equivalent moisture-resistant backing material installed on all walls behind tub and shower enclosures composed of tile or panel assemblies with caulked joints. Paper-faced backerboard shall not be used. ¹⁵	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.3 In Warm-Humid climates, Class 1 vapor retarders not installed on the interior side of air permeable insulation in above-grade walls, except at shower and tub walls. ⁸	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.4 Building materials with visible signs of water damage or mold <i>not</i> installed or allowed to remain. ¹⁶	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.5 Framing members & insulation products having high moisture content <i>not</i> enclosed (e.g., with drywall) ¹⁷	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Builder Employee: <u>Michael J O'Brien</u>				
Builder Signature: <u>Michael J O'Brien</u>	Date: <u>6-27-17</u>			
Builder has completed Builder Checklist in its entirety, except for items that are checked in the Rater Verified column (if any) ²				
Rater Signature: <u>Mark Rey</u>	Date: <u>7/28/17</u>			

Notes:

- The specifications in this Checklist are designed to help improve moisture control in new homes compared with homes built to minimum code. However, these features alone cannot prevent all moisture problems. For example, leaky pipes or overflowing sinks or baths can lead to moisture issues and negatively impact the performance of this Checklist's specified features.

LEED for Homes Accountability Forms

Appendix B

Detailed Manufacturer's Info about Products in Your Home

This appendix includes manufacturers' product information, organized as follows:

- ✓ Indoor Pollutants;
- ✓ Interior Durability and Finishes
- ✓ Lighting and Appliances
- ✓ Heating, Cooling, and Ventilation Systems
- ✓ Plumbing

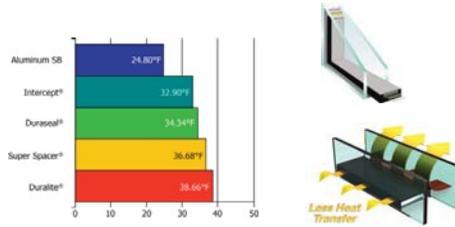
Interior Durability and Finishes

COMFORT IN YOUR OWN HOME

We enhance your comfort by using the technology of the Duralite® Warm-edge Spacer in the insulated glass. Windows built with Duralite reduce heat transfer and improve the temperature of your inside window glass. Regardless of the season, home comfort begins with windows built with Duralite Warm-edge Spacer.

When it comes to windows, you have many choices in colors, interior finishes, hardware and glass. Most glass options also have a variety of different spacer choices that can make a real difference in performance and comfort.

The warmer the glass edge, the less energy lost and the more comfortable you feel near your window. Duralite reduces condensation, increases thermal performance, and improves total U-Value.



Above chart shows edge of glass temperatures and is based off NFRC 100-2001 testing whereby the interior temperature is 70° F and the exterior temperature is 0° F.

Double Hung Sliding Picture Casement Awning Bay



Chris & Alex
 "Professionally installed. Getting new windows was an easy decision once we saw the energy savings. Thank you."



National Vinyl LLC • 7 Coburn Street • Chicopee, MA 01013 • 413-420-0548 • www.NVPWindows.com



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 Ccore® is a registered trademark of Chelsea Building Products
 Duralite® is a registered trademark of Qualex.

Northwind III

ENERGY ADVANTAGE

A BEAUTIFUL LIFE – FROM EVERY POINT OF VIEW



Beauty Quality Comfort Longevity Strength Performance

THE ENERGY ADVANTAGE

If you are looking for an energy saving double hung, sliding, picture, hopper, casement and/or awning window, our Northwind III Energy Advantage Series are a great choice. Our window products easily meet and can exceed the Energy Star requirements for thermal tests.

National Vinyl's Northwind III Energy Advantage Series fusion welded windows are virtually maintenance free, designed for smooth and effortless operation and will provide you with long lasting beauty for years to come. The Northwind III Energy Advantage Series Replacement and remodeling product line is available only through authorized National Vinyl dealers and are typically installed by a contractor or remodeler.

Our Northwind III Energy Advantage Series windows come with National Vinyl's Limited Lifetime Warranty and Satisfaction Guarantee! Contact National Vinyl for more information or to learn about purchasing the Northwind III Energy Advantage Series windows.



**A Beautiful Life
~
From Every Point
of View**

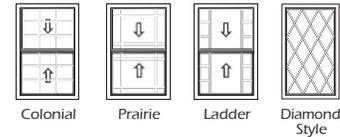
A crystal clear view to life.

Watching the trees sway gently in the wind, the flowers bloom and the birds soaring in synchronicity through the sky ... enjoying the view of life growing, changing and expanding before their very eyes.

veer.com/
EAN9005785

ENTERING A HOME YOU LOVE

Grid Styles

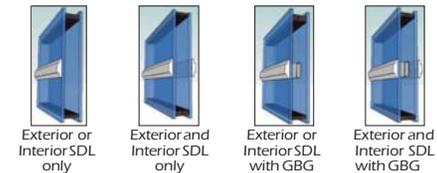


Grid Between Glass (GBG)

Grids can be between glass for effortless cleaning or SDL (Simulated Divided Lite) for a more true "wood" or traditional look. GBG (Grid Between Glass) mimics a more authentic colonial look. We match interior and exterior colors on grids.



Simulated Divided Lite (SDL)



Wood Grain Interior Laminates



Wood Grain Interior Stains



These printed color swatches do not match the actual stain. **Please ask for an actual sample for best color matching.** Note: Your approval of a physical color sample from our window factory is required prior to production.

Brian & Samantha

"I am so glad we opted for Low E glass. I had no idea how many things had faded due to the sun. I love how easy our new window are to clean too!"

STAYING AHEAD OF THE COMPETITION

Our technologically advanced window is inherently thermally efficient without costly upgrades.

In order for the competition to meet our product features and to meet the new Energy Star requirements, they have to make major modifications or additions. Including:

- The competition needs to use foam fill which adds costs and weight to the window.
- The competition may require that you invest in very expensive insulated glass units.
- The competition may include an expensive upcharge to use krypton gas within the insulated glass unit.
- The competition may require the unit to be triple glazed, or triple glazed and foam filled. Costlier and puts more stress on unit due to weight.
- The competition may suggest the use of a complex Low-E coatings to achieve the Energy Star rating which can cause darker glass with lower emissivity values.

Let us show you the science behind saving you dollars and increasing your energy savings.

BEST PERFORMANCE, NO ADDED COSTS, NO EXTRA FOAM FILLING, NO DARK GLASS, NO TRIPLE GLAZING....JUST GREAT LONG LASTING PERFORMANCE



PERSONALIZING YOUR HOME

Your home. It's where you and your family begin each day – and the place you look forward to retreating each night. It provides your family with security and peace of mind. Your home is a reflection of who you are. Technological advances in vinyl window manufacturing have made them one of the smartest choices to improve a home's energy efficiency. Plus they bring beauty and elegance to your home's appearance.

The Northwind III Energy Advantage provides you with a professionally crafted window. It combines the beauty of a classically designed window with the performance that meets or exceeds today's tough energy standards. Built from the finest materials, the Northwind III Energy Advantage allows you to create nearly limitless possibilities when you take advantage of our special grid and color options. We put the flexibility to match the unique decor of your home in your hands.

We are committed to meeting and exceeding your expectations by providing high quality products, unparalleled customer service, and support.

Available Colors

Your color options are virtually limitless with our Custom Matching Service. Present us with a color swatch to match and we'll do the rest! One time color match cost applies. Standard colors shown. **Ask for an actual sample for best color matching.** Our standard stocked colors include White, Desert Sand, Cocoa Brown and Bronze. Available for exterior, interior or both.

Solid Vinyl Window Colors



Custom Painted Window Colors



*Can be custom painted. **Lineal inventoried for normal lead-time production, exterior only.

Bob & Terry

"We noticed an improvement in how the windows reduced the amount of noise coming into our house right away."



LIFETIME WARRANTY

The National Vinyl LLC Fully Transferable Lifetime Limited Warranty

We proudly provide each of our Northwind III Energy Advantage Series windows with one of the strongest warranties in the industry. With a lifetime limited warranty on vinyl, all moveable parts, as well as glass (in case of seal failure), you can be confident in your National Vinyl LLC window purchase.

Our National Vinyl LLC Lifetime Limited Warranty is fully transferable, which means it can be transferred to your home's new owner if you decide to move. This is advantageous when selling your home or condo.

Please review our Lifetime Limited Warranty for exact details.



Kim & John

"The installers came and had all ten of our windows installed the same day. It looks so beautiful! We love it. Our house looks new!"



HISTORY OF QUALITY & LONGEVITY

National Vinyl LLC was founded with the simple premise to make the best windows at a fair price and provide the best value and service in the industry. National Vinyl's owners bring well over 50 years of fenestration experience to the company.

The founders, Ben Sumner and Stephen Fellers, became partners in 1963. In 1978, they started building interior storm panels. When they saw the energy savings that vinyl windows could bring to the homeowner, it was an easy decision to add this innovative product line to National Vinyl's offerings in 1984.

Today, with over 100 years of combined window manufacturing and management experience, National Vinyl is the premier choice for Northeastern homeowners. Our windows are manufactured with a slim profile to let in more natural light, insulated glass technology for the highest energy efficiency ratings, and fusion welded frames and sashes for durability.

All of us at National Vinyl thank you for the opportunity to provide quality windows and doors in your home. The decision to upgrade your windows and doors only needs made once. We are confident you will be completely satisfied with your decision to use National Vinyl's products in your home.



DURABLE & LONGLASTING

Energy Star® promotes standards in energy efficient products. As Energy Star Partners, our windows are rated according to procedures established by the National Fenestration Rating Council (NFRC) which is a nonprofit organization for the fenestration industry. We are NFRC Certified! Through continued technological advances in window design, we have engineered our windows to meet or exceed NFRC's stringent test standards without expensive upgrades. We meet and surpass even their minimum test results without expensive foam and krypton gas. Our windows utilize the most advanced thermal insulated glass spacer and take advantage of the insulating properties of a multi-chambered sash and frame design. Even our Ccore® structural reinforcements are thermally efficient. We utilize scientifically engineered PVC composite reinforcements for strength and durability.

We strive to bring you the strongest and most energy efficient products to keep you comfortable in your home.



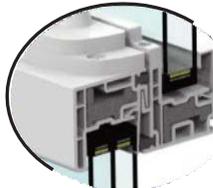
Comes with an Aluminum 1/2 screen with fiber glass screen mesh (not shown)



Fusion welded frame and sash – provide structural integrity and durability



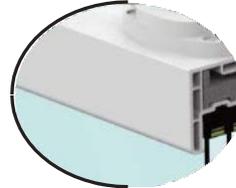
Balance covers for a neat interior look



Multi-chambered hollows in frame and sash – engineered to create vastly increased thermal insulating values to meet Energy Star's requirements. Bonus, it also increases the structural value of the window!



Decorative beveled exterior – captures that classic look which complements every home



Beautiful soft bevel on sash – provides a more elegant and traditional look

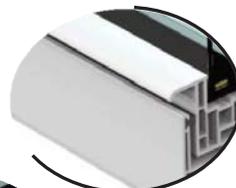


Slim profile – allows for maximum glass area letting more light in to your home

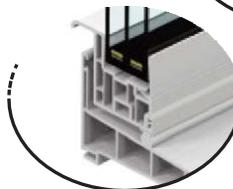


Heavy-duty block and tackle balance system – provides years of easy sash operation

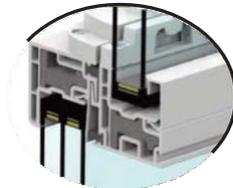
Mullion options are available for all your multi-window needs (not shown)



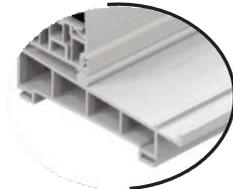
One-piece lift rail top and bottom



Superior bulb seal where sash meets sill. This creates the best protection against air and water infiltration for greater peace of mind



Fully reinforced meeting rails – for structural integrity and lock longevity utilizing thermally efficient Ccore® structural composite reinforcement.



True sloped sill design provides optimal water run-off eliminating water entry into home

Energy Star Performance Ratings

Choose our Soft Coat Low E 3/4" insulated dual pane glass with argon gas fill and Ccore® reinforcement for strength.
NOTE: To reach Energy Star Ratings, NO foam, NO krypton gas or triple glazing is necessary. The thermal efficiency is built right into the window!

Double Hung Window
U-Value: 0.27
Solar Heat Gain (SHGC): 0.28
Visual Transmittance (VT): 0.52
Condensation Resistance (CR): 62.0

All window styles meet Energy Star. Rating results may vary by window style.



R5 Most Efficient

For the most efficient window, choose our Soft Coat Dual Low E 1" insulated triple pane glass with argon gas fill and Ccore® reinforcement for strength.
NOTE: Goes beyond Energy Star Ratings, NO foam, NO krypton gas. The thermal efficiency is already built right into the window, this enhanced glass package surpasses it!

Double Hung Window
U-Value: 0.20
Solar Heat Gain (SHGC): 0.21
Visual Transmittance (VT): 0.34
Condensation Resistance (CR): 73.0

All window styles meet Energy Star. Rating results may vary by window style.



EnduraView
Door Systems

EnduraView

Door Systems

Features & Benefits

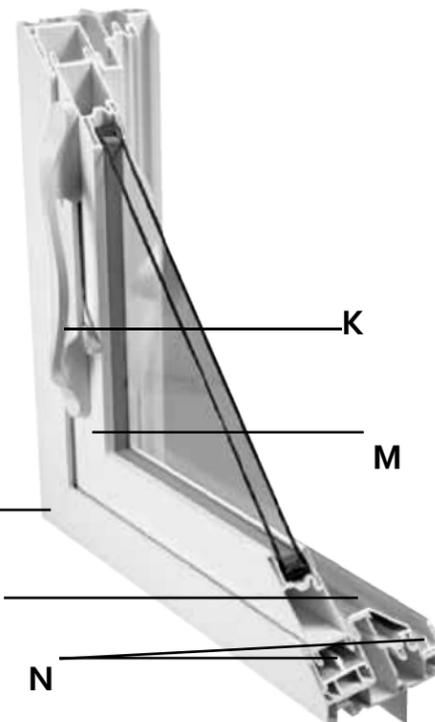
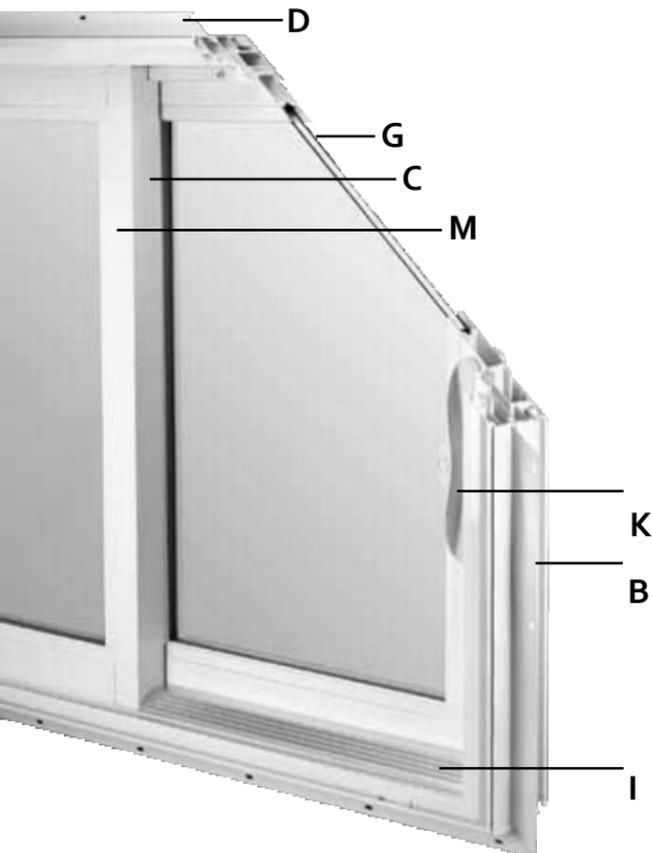
The EnduraView Door System is a highly efficient door product, featuring SUNshield Technology. SUNshield is an advanced material developed through an intensive manufacturing process and formulated to withstand the harsh effects of weather and ultraviolet light. This environmentally safe compound exceeds all required material standards for strength.

- A** Fully fusion welded corners offer rigid long lasting performance.
- B** 100% virgin vinyl featuring SUNshield® Technology for superior material integrity.
- C** Full interlock at the meeting rail offers reduced air infiltration keeping you comfortable and safe inside your home.

- D** Standard with a nail fin for easy installation. Can be easily removed for remodeling applications.
- E** Stationary panel is direct set making the EnduraView door an easier installation.
- F** Field reversible prior to installation. Great for when your plans change.
- G** 3/4" insulated glass sealed with Super Spacer offers great thermal performance.
- H** When grids are required we use contoured "fish mouth" construction for a more authentic look.

- I** Aluminum sill tracks for superior strength and longevity. This grooved walking plate provides an area to scrape off dirt, keeping your home cleaner.
- J** Operable Sash and Screen are fully adjustable for smooth operation.
- K** Sleek and stylish handle to match well to your homes decor.
- L** Available options of foot bolt and/or security bar for added peace of mind and safety.

- M** Full reinforcements in all vertical sash members provides strength, rigidity and security.
- N** Both sash and screen glide smoothly on extruded aluminum guide tracks.

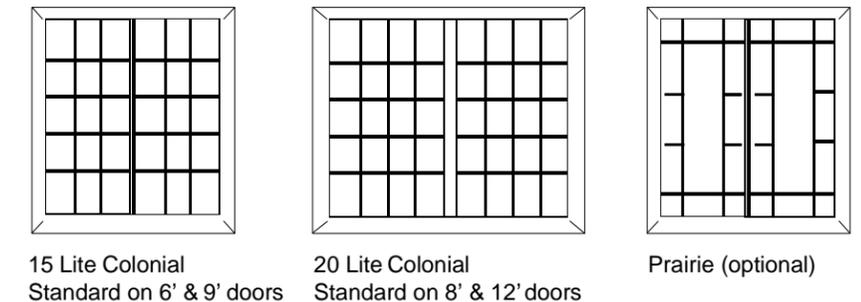


Options

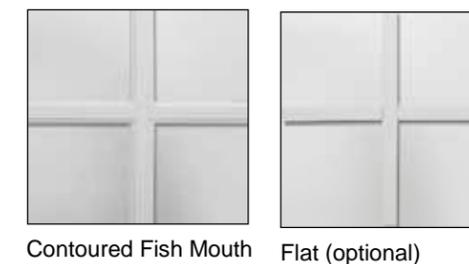
Available Colors [*Exterior only] More colors available upon request.



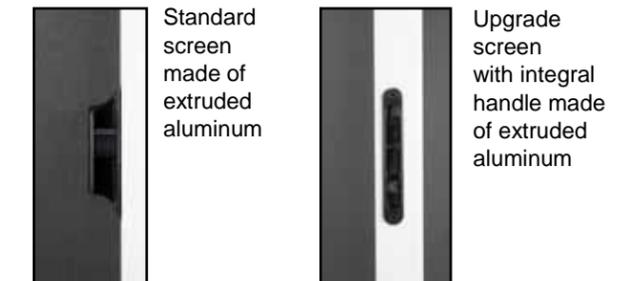
Grid Patterns



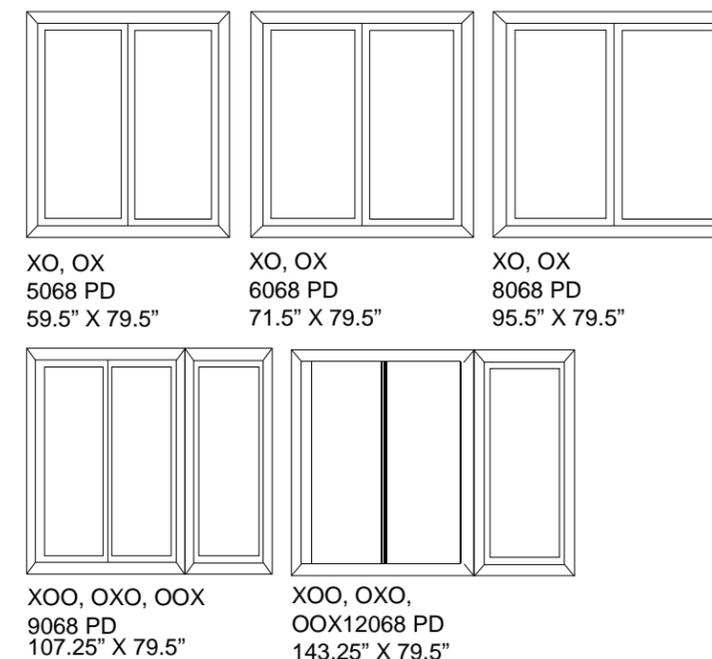
Grid Styles **H**



Screen Options **J**



Sizes & Operation



X - OPERATING PANEL O - FIXED PANEL
NOTE: 3 panel doors consist of a door with mullied sidelite.
All door operations are viewed outside looking in.



Comfort

Warm edge technology is more than just a low conductive product that helps make a window more thermally efficient. The warm edge spacer is the actual seal that keeps the glass package in a door from failing.



Energy transfer thru full metal spacer



Less energy transfer thru NO-Metal Super Spacer®

There are two types of systems on the market today: single seal and dual seal systems. Single seal units are constructed of only one (1) type of

sealant, which is called upon to perform double duty. Not only must the sealant retard the infiltration of moisture, but it must also hold the glass unit together under a wide variety of both high and low temperatures while withstanding the effects of high humidity and ultraviolet exposure.

All EnduraView Doors use Super Spacer® dual seal insulating glass system. This NO-metal, structural foam spacer clearly resists condensation, reduces energy costs, provides long-life durability and adds both comfort and value to your home.

As a Health Smart® Door made with Super Spacer®, EnduraView minimizes concerns about harmful mold, bacteria, viruses, allergens, and mites by reducing condensation and stabilizing household humidity at optimum levels.



Longevity

National Vinyl LLC was founded by Ben Sumner and Stephen Fellers with the simple premise to make the best windows at a fair price and provide the best value and service in the industry. Their partnership formed in 1963 when Ben became 50% owner in Stephens' gas and service station. Since then they have been 50-50 partners in every business they've formed. National Vinyl LLCs' ownership brings nearly 70 years of fenestration experience. Having

built interior storm panels as early as 1978 and vinyl windows in 1984, Ben and Steve have been innovative leaders in home energy savings.

All of us at National Vinyl LLC thank you for the opportunity to provide our quality windows and doors for your home. We understand that in today's market there are many choices and the decision to buy windows and doors is one that needs only to be made once. That is why we are so confident that given the chance you will be completely satisfied with your decision to use National Vinyl in your home.

Warranty

- **Lifetime Limited Warranty on all vinyl**
- **10 Year Limited Warranty on all paint and laminate**
- **10 Year Limited Warranty on sealed glass units**
- **5 Year Limited Warranty on hardware**

*See official Warranty for exact details.

Performance ratings:

Glass Options	Unit U-Value w/ Low-E & Argon Gas	Solar Heat Gain Coefficient	Visible Transmittance
Low-E Argon No Grid	.28	.30	.55
Low-E Argon With Grids	.28	.27	.49



The name and logo of Decuninck, or its affiliated companies and the products and services manufactured by them, are trade-marks protected by national and international laws.

National Vinyl, LLC
7 Coburn Street, Chicopee, MA 01013
413-420-0548 www.nvpwindows.com





WINDOW WARRANTY & CARE MANUAL

7 Coburn Street, Chicopee, MA 01013

1-413-420-0548

Fax: 1-413-420-0560

Toll Free: 1-800-424-5300

ational
VINYLS

LES O'DELL
ARCHITECTURAL
SALES REPRESENTATIVE

7 COBURN STREET
CHICOPEE, MA 01013

OFFICE (413) 420-0548
TOLL FREE 1-600-424-5300
FAX (413) 420-0560
CELL (413) 282-5187
E-MAIL: lodelr@nvpwindows.com
WEB: www.nvpwindows.com

EnduraView

LIMITED WINDOW & DOOR WARRANTY

National Vinyl LLC, a leading manufacturer of vinyl windows produces windows in accordance with the highest standards of engineering and product performance.

Each EnduraView Window and Door carries a limited warranty from the date of installation against any defect in the material or workmanship occurring as a direct result of the manufacturing process, as to the structural parts and mechanical components of the basic window unit (excluding damaged screens) under normal use and subject to all of the terms and conditions contained in this warranty certificate.

This warranty covers only manufacturing defects as specified herein and does not include defects or damages attributable to installation, normal weather, defects used by misuse, abuse, accident, fire, flood, or acts of god, vandalism, riot, or civil disorder, building settlement, structural failure or walls or foundation, or any other circumstances beyond the reasonable control of National Vinyl U.S.C.

This warranty is expressly limited to material costs of repair or replacement of affected parts or components of the window units. Labor costs for removal and repair of affected parts or components are not covered under the terms of this warranty. The word "defects" as used in this warranty is defined as imperfections which impair the utility of the product. Minor cosmetic problems are not defects.

VINYL - Lifetime Limited Warranty

All vinyl connections are warranted for the life of the window and door as long as the original purchaser owns and is residing in the home. All vinyl is warranted for the life of the product against cracking, crazing and discoloration. All vinyl will lose its gloss over time.

INSULATED GLASS - 10 Year Limited Warranty

The insulated glass unit is warranted against seal failure resulting in obstruction of vision from film formation caused by dust or moisture in the dead air space of the sealed unit for 10 years.

Exclusions include glass subjected to high temperature levels and rooms with pools, hot tubs, etc.

HARDWARE - 5 Year Limited Warranty

All hardware is warranted to the original property owner for 5 years against any manufacturing defects.

CONDENSATION

Condensation on any window or door is the natural result of excessive moisture in the home and does not indicate a defective unit or faulty installation. Additional information regarding condensation is available from National Vinyl LLC at your request.

This warranty will only become effective by mail to the address on the certificate or installation signed by the original purchaser-property owner and received within 30 days of the completed installation. This warranty is transferable by the original owner to one subsequent owner provided that the original Vinyl LLC receives notice or transfer within thirty (30) days after the date of transfer or ownership, accompanied by a copy of this completed warranty. In the event of a transfer, the warranty period for the EnduraView Windows & Doors manufactured by National Vinyl LLC will be 10 years after the original date of manufacture. Claims for defects under this warranty must be submitted in writing to National Vinyl LLC promptly after discovery, describing the defect claimed and referring to the warranty number and date of issuance together with proof of purchase. Please allow reasonable time for inspection. After inspection by National Vinyl LLC or its representative, the claim is valid to the extent provided in this warranty. National Vinyl agrees, at its option, to repair or replace (color matching NOT guaranteed) any affected part or component, without charge, except for labor, packaging and shipping.

On installations, caulking is used to seal frames or trim against water or air penetration. Caulking is not considered a part of any National Vinyl LLC product and, therefore, is not covered under this warranty. Caulking is normally considered a maintenance responsibility of the property owner.

If used in a building operated as a multifamily dwelling or used for commercial purposes, or rented properties (such as hotels, motels, apartments, government owned structures, office buildings, etc.), then this warranty will be limited to ten (10) years on all materials and will not be transferable.

National Vinyl LLC reserves the right to discontinue or make changes in any of its products, including changing the color of its vinyl products, with 60 days notice to the purchaser or subsequent owner and shall not be liable to the original purchaser or subsequent owner as a result of such discontinuance or change. In the event the products covered by this warranty are not available, National Vinyl LLC shall have the right to substitute a product that National Vinyl LLC's sole discretion is of equal quality or price. THIS WARRANTY IS LIMITED TO THE EXTENT OF THE TERMS OF THE SOLE EXPRESSED WARRANTY GIVEN IN THE INSTALLATION MANUAL. FOR THE RECORD, NATIONAL VINYL WINDOWS AND THE PROVISIONS HEREOF SHALL CONSTITUTE THE PROPERTY OWNER'S EXCLUSIVE REMEDY. FOR THE RECORD, THERE IS NO OTHER EXPRESSED WARRANTY, TO THE EXTENT PERMITTED BY LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS IS HEREBY EXCLUDED OR IS EXPRESSLY LIMITED TO THE DURATION OF THIS WARRANTY AND NATIONAL VINYL LLC SHALL NOT HAVE ANY RESPONSIBILITY FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

Some States do not enforce the exclusion or limitation or term of an implied warranty or exclusion or limitation or incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Natioqf!

7-21-16

To: Saloomey Construction

From: Les O'Dell

Re: The Columns at Rockwell Place Window Details

The Northwind Three Energy Advantage replacement windows are as note

below. Noted Features & Benefits

- 100% virgin vinyl
- Color is White
- Interlock at the reinforced meeting rails
- ¾ Insulated Glass- Low E Glass on all windows
- Argon Gas Fill on all glass units
- Fully weather stripped sashes to stop air infiltration
- Superior Bulb Seal where the sash meets the sill to stop water and air infiltration
- Integral lift rail
- Heavy Duty Block & Tackle balances
- Half Locking Fiber Mesh Screens
- Truth Dual Arm Encore Hardware
- 20 year commercial warranty

National Vinyl LLC.

7 Coburn Street
Chicopee, MA 01013

Phone: 413-420-0548
Fax: 413-420-0560

Customer QUOTATION
DATE: CREATED 4/29/2015
QUOTE EXPIRES
Quote Not Confidential Shipping Zone
Local
Delivery Date 1/1/00 01
Sales Person

www.nvpwindows.com

BILL TO: 0004
Salomey Construction
P.O. Box 1203

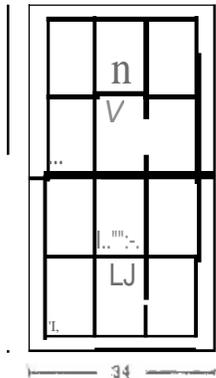
SHIP TO:
Salomey Construction
Jobsite: 30 Village Hill
Northampton MA
Phone: Mike O'Brien 413-537-9005
Mobile:
Fax:
Email:

Westfield MA 01086

QUOTE#	STATUS	CUSTOMER PO#	ORDER DATE
200966	None		Qu rn Not Ordered
QUOTED BY	TE'RMS	SHIP VIA	PIWJJECT'NAM ID
lodeII	Net 10th of Month	Del_ivei;ed on NVf> T ruck	The Colmns at Rockwell Place-REVISED 7-21-16

Line Item	Description
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100-1
Qty: 13 Northwind III Double Hung DH 34 x 63
Make Size 34" X 63" Frame Width= 34, Frame Height= 63, Sash Split= Even
Rough Opening 34.5" X 63.5" Replacement, Sash Type= Thermal Sash, Manufacturing Notes= No
Color= White
Lock Options= Double Lock, Lock Type= Standard, Lock Colors= White
Sash Reinforcement= Standard - Lock and Keeper Rail Only, Composite
Locking half Screen, Fiberglass
Unit 1: Glazing Type= Low E, Low E Softcoat, Argon
Unit 1 Lower, 1 Upper: Glass Strength= Double Strength, Tempered = Yes
Unit CPD Number= NVP-K-14-00693-00002, Unit U-Factor = 0.27, Unit SHGC = 0.25, Unit VT= 0.45, Unit CR= 61, Air Infiltration Rating < 0.3 cfm/ft2, Meets Energy Star= Yes
5/8" Contoured, Colonial, 3W2H
Head Expander= Yes



QUOTE#	STATUS	CUSTOMER PO#	ORDER DATE
200966	None		Quote Not Ordered
QUOTED BY	TERMS	SHIP VIA	PROJECT NAME
lodell	Net 10th of Month	Delivered on NVP Truck	The Columns at Rockwell Place-REVISED 7-21-16

Liueltom LJ	Description
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200-1

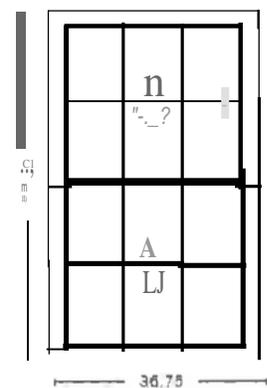
Qty: 113

Make Size
36.75" X 59.75"

Rough Opening
37.25" X 60.25"

Comment/Room:
Type A- first-third floor

Northwind III Double Hung DH 36.75 x 59.75
 Frame Width= 36.75, Frame Height= 59.75, Sash Split = Even
 Replacement, Sash Type= Thermal Sash, Manufacturing Notes= No
 Color= White
 Lock Options= Double Lock, Lock Type= Standard, Lock Colors= White
 Sash Reinforcement= Standard - Lock and Keeper Rail Only, Composite
 Locking half Screen, Fiberglass
 Unit 1: Glazing Type Low E, Low E Softcoat, Argon
 Unit 1 Lower, 1 Upper: Glass Strength= Single Strength
 Unit CPD Number= NVP-K-14-00692-00002, Unit U-Factor = 0.27, Unit SHGC = 0.25, Unit VT = 0.46,
 Unit CR= 62, Air Infiltration Rating < 0.3 cfm/ft2, Meets Energy Star= Yes
 5/8" Contoured, Colonial, 3W2H
 Head Expander= Yes



Liueltom LJ	Description
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300-1

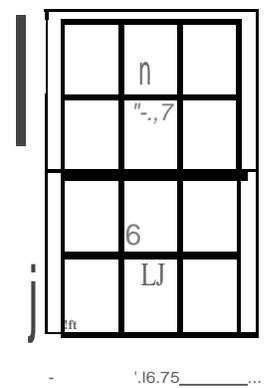
Qty: 7

Make Size
36.75" X 59.75"

Rough Opening
37.25" X 60.25"

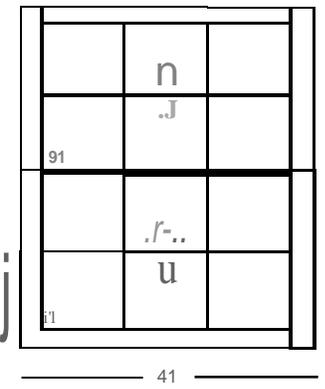
Comment/Room:
Type A-TEMPERED

Northwind III Double Hung DH 36.75 x 59.75
 Frame Width= 36.75, Frame Height= 59.75, Sash Split= Even
 Replacement, Sash Type= Thermal Sash, Manufacturing Notes= No
 Color= White
 Lock Options= Double Lock, Lock Type= Standard, Lock Colors= White
 Sash Reinforcement = Standard - Lock and Keeper Rail Only, Composite
 Locking half Screen, Fiberglass
 Unit 1: Glazing Type= Low E, Low E Softcoat, Argon
 Unit 1 Lower, 1 Upper: Glass Strength= Double Strength, Tempered= Yes
 Unit CPD Number= NVP-K-14-00693-00002, Unit U-Factor = 0.27, Unit SHGC = 0.25, Unit VT= 0.45,
 Unit CR= 61, Air Infiltration Rating < 0.3 cfm/ft2, Meets Energy Star= Yes
 5/8" Contoured, Colonial, 3W2H
 Head Expander= Yes

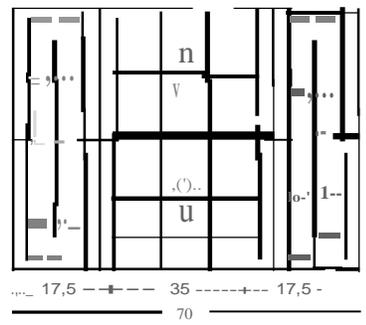


QUOTE #	STATUS	CUSTOMER PO#	ORDER DATE
200966	None		Q uoLc Not Orde red
QUOTED BY	TERMS	SHIP VIA	PRO,IECI ' NAME
lodell	Net 10th of Month	Delivered on NVP Truck	The Coluh111s at R ockwcll Place-REVISED 7-21-16

Lineltcm #	Description
400-1	<p>Qty: 8 Northwind III Double Hung DH 41 x 48 Frame Width= 41, Frame Height= 48, Sash Split= Even Make Size 41" X 48" Rough Opening 41.5" X 48.5" Comment/Room: Type B- Garden Level- Tempered</p> <p>Replacement, Sash Type= Thermal Sash, Manufacturing Notes= No Color= White Lock Options= Double Lock, Lock Type= Standard, Lock Colors= White Sash Reinforcement= Standard - Lock and Keeper Rail Only, Composite Locking half Screen, Fiberglass Unit 1: Glazing Type= Low E, Low E Softcoat, Argon Unit 1 Lower, 1 Upper: Glass Strength= Double Strength, Tempered= Yes Unit CPD Number= NVP-K-14-00693-00002, Unit a-Factor= 0.27, Unit SHGC = 0.25, Unit VT = 0.45, Unit CR= 61, Air Infiltration Rating < 0.3 cfm/ft2, Meets Energy Star= Yes 5/8" Contoured, Colonial, 3W2H Head Expander= Yes</p>

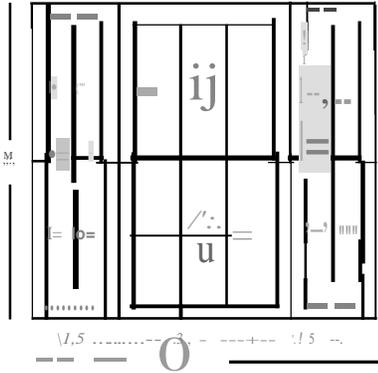


Lineltcm #	Description
500-1	<p>Qty: 6 Northwind III Double Hung DH/ DH/ DH 70 x 53 Unit 1, 3: Frame Width= 17.5, Frame Height= 53, Sash Split= Even Make Size 70" X 53" Rough Opening 70.5" X 53.5" Comment/Room: Type C-Factory Mullid</p> <p>Unit 2: Frame Width= 35, Frame Height= 53, Sash Split= Even Replacement, Sash Type= Standard Sash, Manufacturing Notes= No Color = White Unit 1, 3: Lo k Options= Single Lock, Lock Type Standard, Lock Colors= White Unit 2: Lock Options= Double Lock, Lock Type= Standard, Lock Colors= White Sash Reinforcement= Standard - Lock and Keeper Rail Only, Aluminum Locking half Screen, Fiberglass Unit 1, 2, 3: Glazing Type= Low E, Low E Softcoat, Argon Unit 1 Lower, 1 Oppper, 2 Lower, 2 Upper, 3 Lower, 3 Upper: Glass Strength= Single Strength Unit CPD Number= NVP-K-14-00644-00002, Unit a-Factor= 0.28, Unit SHGC = 0.25, Unit VT= 0.46, Unit CR= 62, Air Infiltration Rating=< 0.3 cfm/ft2, Meets Energy Star=No Unit 1 Bottom, 1 Top, 3 Bottom, 3 Top: 5/8" Contoured, Colonial, 2W2H Unit 2 Bottom, 2 Top: 5/8" Contoured, Colonial, 3W2H Mulls 1: Vertical Factory Zero Mull - FV, 53" lengLh Mulls 2: Vertical Factory Zero Mull - FV, 53" length Head Expander= Yes</p>

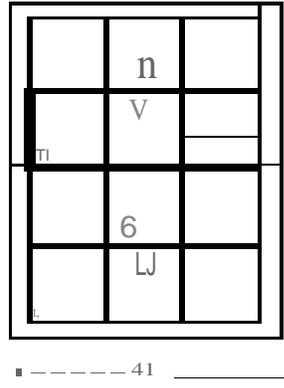


Q OT' #	STATUS	CUSTOMER PO#	ORPER DATE
200966	None		Quote: Not Ordered
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Iodell	Net 10th of Month	Delivered on NVP Trnck	The. C 1 umns at Rockwell Place-REVISED 7-21-16

LinItem #	Description
Qty: 6 Make Size 70" X 63" Rough Opening 70.5" X 63.5" Comment/Room: Type D-Factory Mulled	Northwind III Double Hung DH/ DH/ DH 70 x 63 Unit 1, 3: Frame Width= 17.5, Frame Height= 63, Sash Split= Even Unit 2: Frame Width= 35, Frame Height= 63, Sash Split= E:ven Replacement, Sash Type= Standard Sash, Manufacturing Notes= No Color= White Unit 1, 3: Lock Options= Single Lock, Lock Type Standard, Lock Colors= White Unit 2: Lock Options= Double Lock, Lock Type= Standard, Lock Colors= White Sash Reinforcement= Standard - Lock and Keeper Rail Only, Aluminum Locking half Screen, Fiberglass Unit 1, 2, 3: Glazing Type= Low E, Low E Softcoat, Argon Unit 1 Lower, 1 Upper, 2 Lower, 2 Upper, 3 Lower, 3 Upper: Glass Strength= Single Strength Unit CPD Number= NVP-K-14-00644-00002, Unit U-Factor = 0.28, Unit SHGC = 0.25, Unit VT= 0.46, Unit CR= 62, Air Infiltration Rating=< 0.3 cfm/ft2, Meets Energy Star= No Unit 1 Bottom, 1 Top, 3 Bottom, 3 Top: 5/8" Contoured, Colonial, 2W2H Unit 2 Bottom, 2 Top: 5/8" Contoured, Colonial, 3W2H Mulls 1: Vertical Factory Zero Mull - FV, 63" length Mulls 2: Vertical Factory Zero Mull - FV, 63" length Head Expander Yes

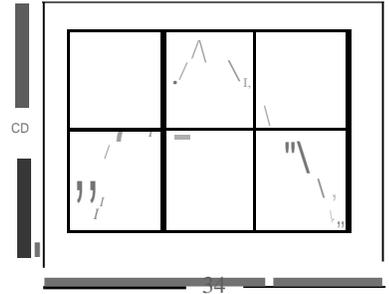


ulnortem#	Description
700-1 Qty: 4 Make Size 41" X 52" Rough Opening 41.5" X 52.5" Comment/Room: Type G - Garden Level- TEMPERED	Northwind III Double Hung DH 41 x 52 Frame Width= 41, Frame Height= 52, Sash Split= Even Replacement, Sash Type= Thermal Sash, Manufacturing Notes= No Color= White Lock Options = Double Lock, Lock Type= Standard, Lock Colors= White Sash Reinforcement= Standard - Lock and Keeper Rail Only, Composite Locking half Screen, Fiberglass Unit 1: Glazing Type= Low E, Low E Softcoat, Argon Unit 1 Lower, 1 Upper: Glass Strength= Double Strength, Tempered= Yes Unit CPD Number= NVP-K-14-00693-00002, Unit U-Factor = 0.27, Unit SHGC = 0.25, Unit VT = 0.45, Unit CR= 61, Air Infiltration Rating < 0.3 cfm/ft2, Meets Energy Star= Yes 5/8" Contoured, Colonial, 3W2H Head Expander= Yes

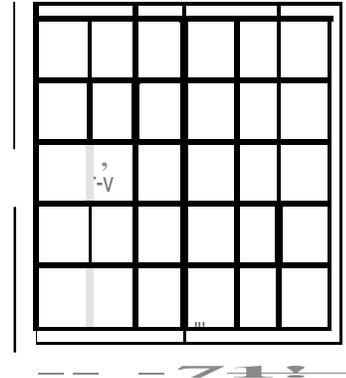


QUOTE#	STATUS	CUSTOMER PO#	ORDER DATE
200966	None		Qllotc Not Orderefj
QUOTED BY	TERMS	SHIP VIA	PRO .JECT NAME
lodell	Net 10th of Month	Delivered on NVP Truck	The Colunins at Rockwell Place-REVISED 7-21-16

Line Item #	Description	
800-1		
Qty: 1	Northwind III Awning Vent 34 x 26	
Make Size	Frame Width= 34, Frame Height= 26	
34" X 26"	Replacement, Frame Type= Thermal Frame,	
Rough Opening	Manufacturing Notes= No	
34.5" X 26.5"	Color= White	
	Full Screen, Fiberglass	
	Unit 1: Glazing Type= Low E, Low E Softcoat, Argon	
Comment/Room:	Unit 1: Glass Strength = Double Strength, Tempered	
Type H-Garden	Y, s, Ob"se:\,re 'l'ype "" l?atte--n 62	
Level-TEMPERED-	Unit CPD Nurnbe.c = IJVP- L<- 19- 0035 9- 00002 , Un L	
OBSCURE	0-E'actor = 0.26, Unit SHGC = 0.22, Unit V' .. 0.39,	
	Unit CR = 62, Air Infiltration Rating .0.3	
	c.m/ft2, Meets 'Energy Star= Yes	
	5/8" Contoured , Colonial, 3W2H	
	Head Expander= Yes	



Line Item #	Description	
900.]		
Qty: 9	EnduraView Double Sliding Door XO - OSLI 71.5 x 79.5	
Make Size	Call Width= 6-0, Call Height= 6-8, Frame Width=	
71.5" X 79.5"	71.5, Frame Height= 79.5	
Rough Opening	New Construction, Manufacturing Notes= No	
72" X 80"	Color= White	
	Allure Handle	
	Standard Screen, Fiberglass, Screen Instruction=	
Comment/Room:	Ship Screen In Window	
National Vinyl Door-	Unit 1: Glazing Type= Low E, Low E Softcoat, Argon	
In Stock	Unit 1 Left, 1 Right: Glass Strength= Double	
	Strength, Tempered = Yes	
	Unit CPD Number= NVP-K-27-00052-00002, Unit	
	U-Factor = 0.27, Unit SHGC= 0.27, Unit VT= 0.47,	
	Unit CR= 61, Air Infiltration Rating < 0.3	
	cfm/ft2, Meets Energy Star = Yes	
	5/8" Contoured, Colonial, 3W5H	



ENERGY STAR® Certified in Highlighted Regions



I
 National Fenestration
 Rating Council *1
MILWAUKEE

**NORTHWIND III
 DOUBLE HUNG
 ENERGY ADVANTAGE**

Vinyl frame, Double glazed,
 Low E coating (a=0,027, S2),
 Argon/air filled

NVP-K-14-00692-00001

ENERGY PERFORMANCE RATINGS

U-Factor (U.S./I-P)

0.27

Solar Heat Gain Coefficient

0.28

ADDITIONAL PERFORMANCE RATINGS

Visible Transmittance

0.52

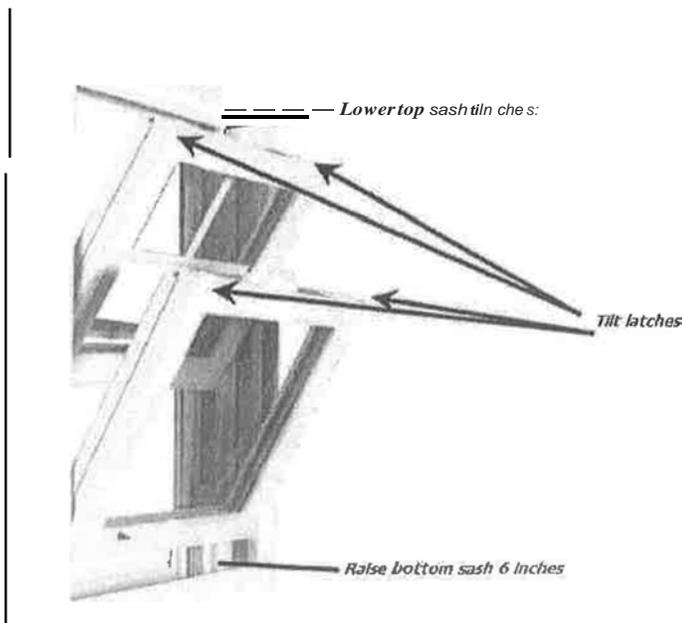
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HOW TO TILT VINYL DOUBLE HUNG WINDOWS

- STEP 1 Unlock sash by turning lock counter clock-wise.
- STEP 2 Raise bottom sash approximately 2-3 inches.
- STEP 3 Lower top sash at least 6 inches. (make sure you will be able to reach to tilt latches once the bottom sash is tilted in)
- STEP 4 At the top corners of the sashes are the tilt latches. Slide latch buttons inwards towards each other* at the same time and gently pull towards yourself and sash will tilt into tilt position. Repeat with top sash.
- *when tilting sash be sure to hold evenly. Do not hold on only one side as this may cause sash to pop out of the shoe.*
- STEP 5 When done simply rotate top sash back into original position and with slight pressure sash will snap back into place. Repeat for bottom sash.



NEVER USE EXCESSIVE FORCE WHEN OPERATING ANY PART OF THE WINDOW
DO NOT SLAM THE SASHES AGAINST THE SASH STOPS - BREAKING TILT LATCHES



CARE & CLEANING OF VINYL DOUBLE HUNG WINDOWS

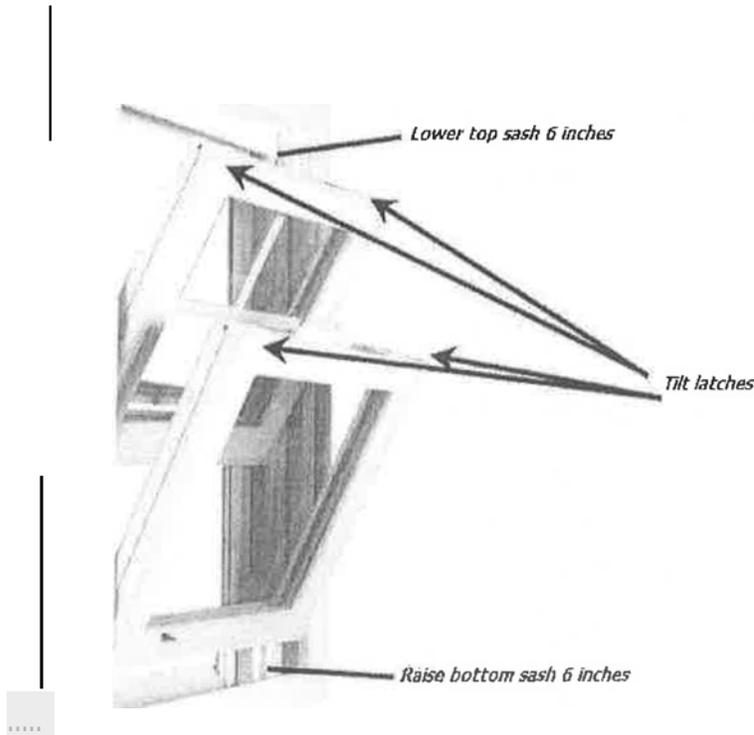
CLEANING:

Use instructions for tilting in of windows to clean outside of windows.

Glass cleaners (Windex, etc.) work well for both glass and vinyl. For most stains, an all purpose cleaner such as Murphy's Oil Soap or Fantastik will work well. Soft Scrub works on minor scrapes or scratches.

Do not use any solvents, acids or abrasives on the vinyl.

Keep balances, weather stripping, hardware and window tracks clear of debris and dirt. Keep weep holes (if applicable) open and clear of obstruction.





CONDENSATION

QU'ESTIONS

&

ANSWERS

7 Coburn St, Chicopee, MA 01013 1- 413-420-0548
Fax: 1-413-420-0560 Toll Free: 1-800-424-5300

CONDENSATION QUESTIONS & ANSWERS

What is condensation?

Condensation is the fog that suddenly appears in cold weather on the glass of windows and sliding doors. It can block out the view, drip on the floor, freeze on glass...it's annoying. **It's natural to blame the window ...but you shouldn't.**

What Causes Window Condensation?

Window condensation is the result of excess humidity in your home. The glass only provides a cold surface on which humidity can visibly condense. The fog on your windows is a form of condensation: so is the water that forms on the outside of a glass of iced tea in the summer and on the bathroom mirrors and walls after someone takes a hot shower. Condensation usually occurs first on windows because glass surfaces have the lowest temperature of any of the interior surfaces in the house. When the warm moist air comes into contact with the cooler glass surfaces, the moisture condenses.

The important thing is your foggy windows and sliding doors are trying to tell you to reduce the indoor humidity before it causes hidden, costly problems elsewhere in your home. Problems like peeling paint, rotting wood, buckling floors, insulation deterioration, mildew, even moisture spots on ceilings and walls.

FOGGY WINDOWS ARE THE INDICATORS, THE WARNING SIGNS THAT HUMIDITY COULD BE DAMAGING YOUR HOME.

How Can My Home Have Indoor Humidity?

Humidity is water vapor, or moisture in the air. All air contains a certain amount of moisture, *even* indoors.

Where does the moisture come from?

There are many things that generate indoor moisture: humidifiers, heating systems and even plants. Cooking three meals a day adds four or five pints of water to the air. Each shower contributes ½ pint. In fact, every activity that uses water (dishwashing, mopping floors, laundry) adds moisture to the air.

MORE WATER VAPOR IN THE AIR MEANS A HIGHER INDOOR HUMIDITY. HIGH INDOOR HUMIDITY MEANS CONDENSATION.

How Much Indoor Humidity Is Too Much?

The householder can use the windows as a guide to the proper humidity level within the house. IF OBJECTIONABLE CONDENSATION OCCURS ON THE INSIDE SURFACE OF THE WINDOWS THE HUMIDITY LEVEL IS TOO HIGH. To avoid excessive condensation, the following winter humidity's are recommended in the house:

Outside Temperature	Inside Relative Humidity
-20 F	15 to 20%
-10 F	15 to 20%
0 F	20 to 25%
+10 F	25 to 30%
+20 F	30 to 35%

(The indoor humidity can be checked with a sling psychrometer or a hygrometer)

Will Reducing the Humidity in MY Home During Winter Help Control Condensation?

Eliminate the excessive humidity and you will eliminate most possibly all the condensation.

How Can I Reduce The Humidity In My Home?

Control the sources of moisture and increase ventilation.

As a temporary solution to an acute problem, open a window in each room for just a few minutes. Opening windows allows the stale humid air to escape and fresh dry air to enter. After a shower, open the bathroom window or turn on an exhaust fan so steam can go outside instead of remaining in the house.

Vent all gas burners, clothes dryers, etc. to the outdoors. Install kitchen and bathroom exhaust fans. If there are a large number of plants in the house during winter, concentrate them in one sunny room and avoid over-watering.

Keep basements as dry as possible by waterproofing floors and walls. Run a dehumidifier if necessary. Make sure attics vents are open and unobstructed.

Opening the windows slightly throughout the house for a brief time each day will go far toward allowing humid air to escape and drier air to enter. The heat loss will be minimal.

Does Condensation Occur More Often In particular Climates or Types of Homes?

Yes, there are primarily three:

- New Construction or remodeling
- The beginning of the heating season
- Quick changes in temperature

Wood, plaster, cement and other building materials used in new construction and remodeling produce a great deal of moisture. During the heating season, there may be a certain amount of temporary condensation. During the humid summer, your house will have absorbed some moisture. After the first few weeks of heating it will dry out, and you'll have fewer condensation troubles. Sharp, quick drops in temperature can also create temporary condensation problems during the heating season.

Are There Any Cases Where Window Condensation Is Only Temporary?

Yes, there are primarily three :

- New Construction or remodeling
- The beginning of the heating season
- Quick changes in temperature

Wood, plaster, cement and other building materials used in new construction and remodeling produce a great deal of moisture. During the heating season, there may be a certain amount of temporary condensation. During the humid summer, your house will have absorbed some moisture. After the first few weeks of heating it will dry out, and you'll have fewer condensation troubles. Sharp, quick drops in temperature can also create temporary condensation problems during the heating season.

WHY DO MY NEW WINDOWS HAVE CONDENSATION WHEN MY OLD WINDOWS DIDN'T?

One of the reasons you probably replaced your old windows was because they were drafty and when the wind wasn't blowing those slight cracks allowed the excessive humidity within your house to escape to the outdoors. Now that your windows are tight the excess humidity that is in your house is unable to escape and is now showing itself on the glass. This is the first indication that you have too much humidity in your home.

YOU SAY I SHOULD HAVE LESS HUMIDITY, BUT I HAVE BEEN TOLD THAT MORE HUMIDITY IS HEALTHIER?

At one time it was believed that humidifiers helped people stay healthy during the winter months. Recent tests have shown that for usually healthy people, this is not the case. In fact, humidifiers may actually cause health problems.

Additionally, the Association of Home Appliance Manufacturers makes no medical claims for humidifiers because an Association spokesman said: "We do not have evidence of medical benefits". However, the Association said "Manufacturers do maintain that humidifiers help plants and furniture only".

Does The Amount of Condensation Depend On The Window Type?

Sometimes. Recessed windows like bay or bow windows usually experience more condensation than other window styles. This is because air circulated around those window types is usually more restricted and since they hang away from the insulated house wall, bays and bows could be a few degrees cooler in temperature. To diminish excessive condensation, the smart installer will insulate under the seat and head of the unit. As a secondary measure, placing a common electric fan near the window to produce air circulation may also be helpful.

Do Drapes and Window Shades Cause Window Condensation?

Drapes and other window coverings don't cause window condensation, but they can contribute to the problem by restricting the flow of warm room air over the glass surface. Therefore, condensation is more apt to occur when drapes are closed and shades are pulled down. Today's healthier insulated drapes and tighter shades can contribute to the problem even more.

Remember... Windows Do Not Cause Condensation:

Therefore, there cannot be a window which eliminate condensation. However, certain material used in the manufacture of windows will be more condensation free than others.

THE FOLLOWING SOURCES WERE USED: The Condensation Problem---HERE ARE THE CAUSES AND CURES, Canadian Builder VolXIII, No 7, Condensation Problems In Your House: Prevention and Solution. U.A. Dept. of Agriculture Forest Service, Agriculture Information Bulletin No 373. Technical Bulletin #1-Ethyl Corp. The Condensation Answer Book, Anderson

WINDOWS DONT MANUFACTURE WATER

Everything you need to know about condensation- and everything you need to do about it.

Of course windows don't manufacture water. If you were out in the desert, you'd want a canteen, not a window.

But people seem to believe that windows manufacture water. They call up window contractors and say, "My windows are all wet, and it's all the fault of the windows." Well, not quite.

Water on windows is condensation-and it can be a problem, and it has a solution. But it's not a window problem, and the solution doesn't come from the windows.

What causes window condensation? What can you, the homeowner do about it? More and more homeowners are concerned about growing condensation problems...and they are growing.

There are several explanations for this last remark. And for the most part, they can be traced to "progress". For example, the "tight" construction of newer homes...and increasing use of modern labor-saving appliances...certain building materials...smaller homes...more gas furnaces...more showers.

A little fog on the corners of your windows shouldn't bother you. And it probably doesn't. But "problem" condensation-fog or frost that covers whole windows-definitely bothers you. And it should. The visible effects are just the tip of the iceberg...what is happening elsewhere in your home? Take your attic. Excess moisture may be freezing in the insulation where it will later melt and damage your plaster. Or perhaps it's forcing its way through your siding, where it will form blisters under the exterior paint, or it may be promoting mildew in your home.

The culprit is too much water vapor. Not the window, not the insulation, not the pains. The only answer is to get rid of excess water vapor. Water vapor, or humidity, is one of the visible components of air. This humidity tries to flow toward drier air, since this air has a lower vapor pressure. In other words, the higher vapor pressure in moister air forces the moisture to areas which are drier.

In cold weather, the air outside is generally drier than that within a warm house. What happens then, is that the moisture is forced to the outdoors. The most obvious indication of this is condensation on your windows: the moisture comes in contact with the cold surface of the window but cannot get through the glass. It therefore condenses to form either frost or water (depending on whether the temperature of the glass surface is below or above 32 degrees).

The tight construction of modern homes traps the moisture in many ways. Certain varnishes, paints, tiles, plastics and acrylics-which are increasingly used in construction today-do not allow moisture penetration. Thus the moisture created by kitchens, laundries, bathing and human bodies (as well as cat, dog and other pet bodies) can't flow easily to the outside. And insulation and construction materials that are designed to keep cold air outside also keep moisture inside, further increasing the moisture level in your home. Going a step further, houses are generally smaller today, which means an even greater concentration of trapped water vapor.

It's all well and good to have an understanding of what causes excess moisture and condensation. But by now you are probably saying, "OK, fine...but what can I DO about it?"

The answer is simple: Control humidity in your home. Before continuing, it's a good idea to know just what "relative humidity" is. It is the percentage of moisture in the air in relation to (or relative to) complete saturation. When air will hold no more moisture, it is said to be saturated. (if it were raining out, for example, the relative humidity would be 100%)

There are maximum safe humidity's for ,vour home. If these humidity levels are malntaine.d, you can avoid excessiv condensation The following table shows relative humidity for a 70 degree F indoor air temperature. Lower humidity would be required for higher indoor temperatures.

Outside Air Temperature	Recommended Relative Humidity
-20 degree F or below	not more than 15%
-20 degree F to -10 degree F	not more than 20%
-10 degree F to 0 degree F	not more than 25%
0 degree F to 10degree F	not more than 30%
10 degree F to 20 degree F	not more than 35%
20 degree F to 40 degree F	not more than 40%

Your home's relative humidity can be tested by buying an Inexpensive humidistat which registers the inside humidity much like a dial-type thermometer.

Smooth-Star Door System Specifications

DOOR PANELS	<p>Faces: 1/16-inch minimum thickness, proprietary fiberglass-reinforced thermoset composite, surface lightly textured, accepts most exterior and interior paints. Door edges: machinable kiln-dried pine, primed, lock edge reinforced with engineered lumber core, lockset area reinforced with solid blocking for hardware backup.</p> <p>Door bottom edge: moisture- and decay-resistant composite.</p> <p>Core: foamed-in-place polyurethane, density 1.9 pcf minimum. Except where certification does not permit, standard factory sizes may be end trimmed in shop or field to suit replacement door size requirements.</p>
OPTIONAL FACTORY-GLAZED GLASS OR GLASS INSERTS	<p>Factory-glazed: perimeter moldings flush with skin and made as integral part of skin. Glass minimum 1/8-inch tempered, two panes with sealed airspace between typically 3/8-inch to 1/2-inch. Options for grooved, etched, Low-E, or grille between glass (GBG). Optional removable wood grilles. Optional permanent external lite dividers.</p> <p>Inserts (lites): perimeter frames in raised-molding patterns, molded from composite, wood-grained in natural hardwood patterns, paintable, screw-fastened to doors, screw holes concealed with grained plugs in matching material. Tested to withstand high service temperatures resulting from exposure behind storm doors or dark finishes. Glass minimum 1/8-inch tempered, two panes with sealed airspace between, airspace typically 1/4-inch to 3/4-inch. Options for leaded decorative glass panel or wrought iron grille in air space between tempered glass panes with brass, brushed nickel or black nickel earring finishes. Wrought iron grille available in matte black only. Options for grooved, etched, Low-E, grille between glass (GBG), or mini-blinds. Optional removable wood grilles. Optional permanent external lite dividers.</p>
OPTIONAL DECORATIVE PANELS	<p>Molded from proprietary fiberglass-reinforced composite, surface lightly textured, accepts most exterior and interior paints, fastened with very high bond tape.</p>
GASKETING, WEATHERSTRIPPING	<p>Jacketed thermoset open-cell foam, press-fit in kerfs at jamb stops in frames. Extruded thermoplastic elastomer, finned and chambered design, press-fit into bottom kerf of doors. Corner pads at bottom margin corners from jacketed thermoset open-cell foam.</p>
HINGES, STRIKES, MULTI-POINT LOCKING SYSTEM	<p>Steel, with a variety of finishes. Screws plated and finished to match hardware. Standard hinge size 4 x 4 x .098 inches. Strikes are proprietary adjustable type, permitting in-out adjustment of door in frame, up to 3/16 inch. Multi-point locking system is available in manual shootbolt or tongue versions.</p>
FRAMES	<p>Milled from 5/4 kiln-dried pine, profiled with 1/2-inch stop, standard depth 4-9/16 inches. Other frame depths available to match wall constructions. Exterior casing brickmould in WM180 pattern available. Optional frames in exterior grade red oak with matching brickmould. Optional rot resistant jambs.</p>
<p>ilti' =?.:oJs</p>	<p>Wide range of sill options: fixed threshold, adjustable threshold, and public access available in bronze, mill, satin nickel and brass finishes.</p> <p>Double-door models: double door available with both leaves active and locking astragal available.</p> <p>Sidelite options: flush-glazed or lite insert models, with embossed panel & glass moldings, in 10 inch, 12-inch and 14-inch widths. Sidelite systems available with mullions separating doors from sidelites, and continuous sills and frame head, or as separately framed and cased units joined together.</p>
TRANSOM OPTIONS	<p>Transom frames, either rectangular, elliptical or half round, match door frames and have matching exterior brickmould. Transom frames in primed pine or clear northern red oak to match door frame option. Clear, Low-E, or etched insulated glass. Options for leaded decorative glass panel or wrought iron grille in air space between tempered glass panes with brass, brushed nickel or black nickel earring finishes. Wrought iron grille available in matte black only.</p>

Profiles Insulated Steel Door System Specifications

DOOR PANELS	Faces: .021-inch (24 gauge) minimum thickness, tension-leveled cold rolled steel, zinc-coated, conversion-coated to permit paint bond. Door edges: machinable kiln-dried pine or engineered lumber mechanically locked to door faces, four-sided full thermal break provided. Lock area reinforced with solid blocking in full area of passage and deadbolt locksets. May be prepared for cylindrical or full-mortise locksets. Door bottom edge: moisture- and decay-resistant composite. Core: foamed-in-place polyurethane, density 1.9 pcf minimum. Door faces factory primed white.
OPTIONAL FACTORY-GLAZED GLASS OR GLASS INSERTS	Inserts (lites): perimeter frames in raised-molding patterns, molded from composite, wood-grained in natural hardwood patterns, paintable, screw-fastened to doors, screw holes concealed with grained plugs in matching material. Tested to withstand high service temperatures resulting from exposure behind storm doors or dark finishes. Glass minimum 1/8-inch tempered, two panes with sealed airspace between, airspace typically 1/4-inch to 3/4-inch. Options for leaded decorative glass panel or wrought iron grille in air space between tempered glass panes with brass, brushed nickel or black nickel earning finishes. Wrought iron grille available in matte black only. Options for grooved, etched, Low-E, grille between glass (GBG), or mini-blinds. Optional removable wood grilles. Optional permanent external lite dividers.
GASKETING, WEATHERSTRIPPING	Jacketed thermoset open-cell foam, press-fit in kerfs at jamb stops in frames. Extruded thermoplastic elastomer, finned and chambered design, press-fit into bottom kerf of doors. Corner pads at bottom margin corners from jacketed thermoset open-cell foam.
HINGES, STRIKES, MULTI-POINT LOCKING SYSTEM	Steel, with a variety of finishes. Screws plated and finished to match hardware. Standard hinge size 4 x 4 x .098 inches. Strikes are proprietary adjustable type, permitting in-out adjustment of door in frame, up to 3/16 inch. Multi-point locking system is available in manual shootbolt or tongue versions.
FRAMES	Milled from 5/4 kiln-dried pine, profiled with 1/2-inch stop, standard depth 4-9/16 inches. Other frame depths available to match wall constructions. Exterior casing brickmould in WMI 80 pattern available. Optional frames in exterior grade red oak with matching brickmould. Optional rot resistant jambs.
SILL OPTIONS	Wide range of sill options: fixed threshold, adjustable threshold, and public access available in bronze, mill, satin nickel and brass finishes. Do ble-doormodels: double door available with both leaves active and locking astragal available. Sidelite options: flush-glazed or lite insert models, with embossed panel & glass moldings, in 10 inch, 12-inch and 14-inch widths. Sidelite systems available with mullions separating doors from sidelites, and continuous sills and frame head, or as separately framed and cased units joined together.
TRANSOM OPTIONS	Transom frames, either rectangular, elliptical or half round, match door frames and have matching exterior brickmould. Transom frames in primed pine or clear northern red oak to match door frame option. Clear, Low-E, or etched insulated glass. Options for leaded decorative glass panel or wrought iron grille in air space between tempered glass panes with brass, brushed nickel or black nickel earning finishes. Wrought iron grille available in matte black only.

Traditions Series Steel Door System Specifications

DOOR PANELS	Faces: .018-inch (25 gauge) minimum thickness, tension-leveled cold rolled steel, zinc-coated, conversion-coated to permit paint bond. Door edges: machinable kiln-dried pine or engineered lumber mechanically locked to door faces, four-sided full thermal break provided. Lock area reinforced with solid blocking in area of passage and deadbolt locksets. May be prepared for cylindrical or full-mortise locksets. Door bottom edge: moisture- and decay-resistant composite. Core: foamed-in-place polyurethane, density 1.9 pcf minimum. Door faces factory primed white.
OPTIONAL FACTORY-GLAZED GLASS OR GLASS INSERTS	Inserts (lites): perimeter frames in raised-molding patterns, molded from composite, wood-grained in natural hardwood patterns, paintable, screw-fastened to doors, screw holes concealed with grained plugs in matching material. Tested to withstand high service temperatures resulting from exposure behind storm doors or dark finishes. Glass minimum 1/8-inch tempered, two panes with sealed airspace between, airspace typically 1/4-inch to 3/4-inch. Options for leaded decorative glass panel or wrought iron grille in air space between tempered glass panes with brass, brushed nickel or black nickel earning finishes. Wrought iron grille available in matte black only. Options for grooved, etched, Low-E, grille between glass (GBG), or mini-blinds. Optional removable wood grilles. Optional permanent external lite dividers.
GASKETING, WEATHERSTRIPPING	Jacketed thermoset open-cell foam, press-fit in kerfs at jamb stops in frames. Extruded thermoplastic elastomer, finned and chambered design, press-fit into bottom kerf of doors. Corner pads at bottom margin corners from jacketed thermoset open-cell foam.
HINGES, STRIKES, MULTI-POINT LOCKING SYSTEM	Steel, with a variety of finishes. Screws plated and finished to match hardware. Standard hinge size 4 x 4 x .098 inches. Strikes are proprietary adjustable type, permitting in-out adjustment of door in frame, up to 3/16 inch. Multi-point locking system is available in manual shootbolt or tongue versions.
FRAMES	Milled from 5/4 kiln-dried pine, profiled with 1/2-inch stop, standard depth 4-9/16 inches. Other frame depths available to match wall constructions. Exterior casing brickmould in WMI 80 pattern available. Optional frames in exterior grade red oak with matching brickmould. Optional rot resistant jambs.
i1ti' =?:oJs	<p>Wide range of sill options: fixed threshold, adjustable threshold, and public access available in bronze, mill, satin nickel and brass finishes.</p> <p>Double-door models: double door available with both leaves active and locking astragal available.</p> <p>Sidelite options: flush-glazed or lite insert models, with embossed panel & glass moldings, in 10 inch, 12-inch and 14-inch widths. Sidelite systems available with mullions separating doors from sidelites, and continuous sills and frame head, or as separately framed and cased units joined together.</p>
TRANSOM OPTIONS	Transom frames, either rectangular, elliptical or half round, match door frames and have matching exterior brickmould. Transom frames in primed pine or clear northern red oak to match door frame option. Clear, Low-E, or etched insulated glass. Options for leaded decorative glass panel or wrought iron grille in air space between tempered glass panes with brass, brushed nickel or black nickel earning finishes. Wrought iron grille available in matte black only.

DOWNLOAD TILE 1D64

PRODUCT SPECIFICATIONS

PRODUCT TYPE:	Carpet Tile
CONSTRUCTION:	Tufted
SURFACE APPEARANCE:	Level Loop Graphics
GAUGE:	1/10" (39.37 rows per 10 cm)
TUFTED WEIGHT:	14 oz/yd ² (474 g/m ²)
PILE THICKNESS:	.107" (2.72 mm)
STITCHES PER INCH:	8.0 (31.50 per 10 cm)
DYE METHOD:	100% Solution Dyed
FIBER TYPE:	Colorstrand® SD Nylon
STAIN RELEASE TECHNOLOGY:	Mohawk Protection Plus Stain
SOIL RELEASE TECHNOLOGY:	Mohawk Protection Plus Soil
DENSITY:	4,710
WEIGHT DENSITY:	65.940
PRIMARY BACKING:	Non-Woven Synthetic
SECONDARY BACKING:	UltraSet®
RECYCLED CONTENT:	Contains a minimum 39% pre-consumer recycled content by total product weight
NSF 140	Gold
INSTALLATION METHOD:	Quarter Turn / Brick Ashlar
SIZE:	24" x 24" (.6096 m x .6096 m)
FLAMMABILITY:	ASTM E 648 Class I (Glue Down)
SMOKE DENSITY:	ASTM E 662 Less than 450
STATIC PROPENSITY:	AATCC-134 Under 3.5 KV
IAQ GREEN LABEL PLUS:	Certified 1098
APPEARANCE RETENTION RATING (TARR):	Severe Traffic
WARRANTIES:	Lifetime Limited Wear Warranty Lifetime Limited Static Protection Lifetime Limited Edge Ravel, Zippering, Delamination, and Dimensional Stability Warranty Lifetime Limited Colorfastness to Light Warranty 10 Year Limited Stain Resistance Warranty 10 Year Limited Colorfastness to Atmospheric Contaminants

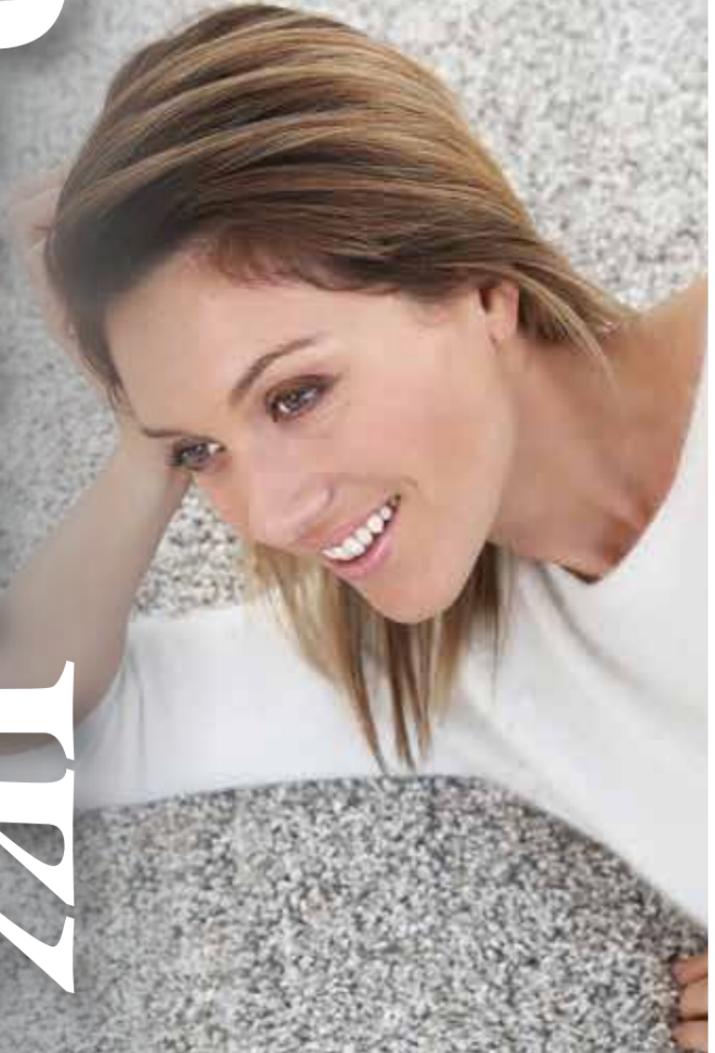
All specifications are subject to normal manufacturing tolerances. 9/14

*For additional technical information, please contact Technical Services at **800.833.6954**.*

Indoor Pollutants

DreamWeaver

WARRANTY, CARE &
MAINTENANCE GUIDE



WELCOME TO *ENGINEERED FLOORS*

We are Engineered Floors LLC, one of the largest and fastest-growing carpet mills in the world. We started in 2010 with the most modern equipment, facilities and processes, as well as with some of the most experienced and talented people in the industry. Together, we serve the needs of the floorcovering specialty retailer with our Dream Weaver® brand, the new homebuilder with our DWellings® brand and property owners and managers of multifamily housing with our Engineered Floors® brand.



ENVIRONMENTALLY RESPONSIBLE MANUFACTURING



Congratulations for choosing a carpet made by Engineered Floors

You have chosen one of the best carpets you can buy. Not only have we made our carpet beautiful, we have also designed it to be very durable.



Our PureColor® carpet fiber

PureColor® is our proprietary brand of solution-dyed fiber that is used in every carpet we make. Because it's solution-dyed, the color goes all the way through the fiber, like the color in a carrot, meaning the color won't fade, wear off or stain. The result is color that is beautiful, vivid and permanent for the life of the carpet, with virtually no inconsistencies or side-matching issues.



Built-in protection

Our PureColor® nylon fiber has soil and stain protection that is not only applied to the outside of each fiber, but is also inside each fiber. It's called "N²." Our PureColor® polyester solution-dyed fiber is also made with added soil and stain protection.



Visit EngineeredFloorsLLC.com for complete warranty details.

OWN WITH CONFIDENCE

Installed correctly and following proper care and maintenance (as outlined in this pamphlet), your Dream Weaver®, DWellings® or Engineered Floors® branded carpet will stay looking newer and beautiful longer. Our carpets are warranted against staining, fading, soiling, abrasion, manufacturer defects and loss of texture retention. Some are also warranted against pet stains. See the warranty specifications that apply to your particular carpet in this pamphlet.



Visit EngineeredFloorsLLC.com for complete warranty details.

PureColor® Soft Nylon*

- Lifetime Stain Resistance Limited Warranty
- Lifetime Fade Resistance Limited Warranty
- Lifetime Pet Stains Resistance Limited Warranty
- 25-Year Soil Resistance Limited Warranty
- 25-Year Abrasive Wear Resistance Limited Warranty
- 25-Year Texture Retention Limited Warranty
- 25-Year Manufacturing Defects Limited Warranty

PureColor® Soft Polyester

- Lifetime Stain Resistance Limited Warranty
- Lifetime Fade Resistance Limited Warranty
- Lifetime Pet Stains Resistance Limited Warranty
- 25-Year Soil Resistance Limited Warranty
- 25-Year Abrasive Wear Resistance Limited Warranty
- 25-Year Texture Retention Limited Warranty
- 25-Year Manufacturing Defects Limited Warranty

PureColor® Nylon*

- Lifetime Stain Resistance Limited Warranty
- Lifetime Fade Resistance Limited Warranty
- Lifetime Pet Stains Resistance Limited Warranty
- 15-Year Soil Resistance Limited Warranty
- 15-Year Abrasive Wear Resistance Limited Warranty
- 15-Year Texture Retention Limited Warranty
- 15-Year Manufacturing Defects Limited Warranty

PureColor® Polyester

- Lifetime Stain Resistance Limited Warranty
- Lifetime Fade Resistance Limited Warranty
- Lifetime Pet Stains Resistance Limited Warranty
- 15-Year Soil Resistance Limited Warranty
- 15-Year Abrasive Wear Resistance Limited Warranty
- 15-Year Texture Retention Limited Warranty
- 15-Year Manufacturing Defects Limited Warranty

* Made with our Engineered Floors Cationic Fiber Technology that blocks stains before they can seep into the fiber.

STAIN RESISTANCE

LIMITED WARRANTY

No one wants a permanent stain on their carpet. That is why we make all our carpets to be extremely stain resistant. With proper care and prompt attention, our carpets will resist staining from a host of common food and beverage accidents, such as coffee, colas, ketchup, chocolate, household bleach, cleaners and wine. Of course, this warranty excludes abusive conditions or unattended spills or accidents. You must keep the carpet cleaned and maintained according to guidelines established by the Carpet and Rug Institute. See our guidelines and a complete list of substances and conditions excluded from our stain resistance limited warranty by visiting EngineeredFloorsLLC.com/StainWarranty.

PET RESISTANCE

LIMITED WARRANTY

This warranty covers pet stains (dog and cat) only. You will need to keep the carpet cleaned and maintained according to guidelines established by the Carpet and Rug Institute. Visit EngineeredFloorsLLC.com/PetWarranty for more details.



FADE RESISTANCE

LIMITED WARRANTY

We all enjoy a beautiful view and lots of natural light, but no one wants to worry about the possible damage and color fading that can be caused by prolonged exposure to harsh sunlight – especially from southern exposures. That is why our carpets are made beautifully fade resistant with our Pure-Color® solution-dyed fiber. You can even spot clean with household bleach and the color will not fade. See these guidelines for more details and conditions excluded from our fade resistance limited warranty by visiting EngineeredFloorsLLC.com/FadeWarranty.

SOIL RESISTANCE

LIMITED WARRANTY

Nothing dulls the appearance of a new carpet faster than soiling from dirt tracked in from the outside or just everyday living. That is why we equip all our carpets with our own soil & stain shield treatment. Our treatment keeps dirt from clinging to the carpet fibers so it's easier to vacuum. Did you know regular vacuuming also prolongs the life of your carpet? It does! Always keep the carpet cleaned and maintained according to guidelines established by the Carpet and Rug Institute. See more information regarding our Soil Resistance Limited Warranty by visiting EngineeredFloorsLLC.com/SoilWarranty.

ABRASION RESISTANCE

LIMITED WARRANTY

Everything wears from use and carpet is no exception, but you certainly don't want your new carpet to wear out before its time, and neither do we! That is why we warrant our carpet to stand up to normal wear and lose no more than 10% of pile fiber during its warranty period. Of course, the carpet has to be installed correctly and the abrasive wear has to be normal residential foot traffic -- not abusive use. See the complete guidelines for our Abrasion Resistance Limited Warranty by visiting EngineeredFloorsLLC.com/AbrasionWarranty.

MANUFACTURER DEFECTS

LIMITED WARRANTY

At Engineered Floors, we use the best materials and workmanship, but no one is perfect. So in that very rare instance, you're protected. See EngineeredFloorsLLC.com/DefectWarranty for more details on this coverage.

TEXTURE RETENTION

LIMITED WARRANTY

Texture gives your new carpet the look and feel you want. So why not keep it longer? We warrant your new carpet against significant twist loss from foot traffic for the warranty period in your residence. This does not cover abusive wear or carpet that has been incorrectly installed. Visit EngineeredFloorsLLC.com/TextureWarranty for complete details.



WARRANTY SERVICE

First, be sure you visit EngineeredFloorsLLC.com for complete information on all warranty coverage. If you are unhappy with your Dream Weaver carpet and believe you have a warranty claim, contact your retailer, who will assist you in processing your claim. You will need to provide your proof of purchase, a full description of your claim and receipt(s) for recommended professional cleaning by hot water extraction. These warranties are not transferable.

Please note: Some states do not allow limitations on the duration of implied warranties, or the exclusion or limitation of incidental and consequential damages. Except for these rights, the remedies provided under our limited warranties state and set forth the limit of our warranties.

DREAM WEAVER WARRANTY EXCLUSIONS

These warranties specifically exclude any carpet that has been treated after installation with any foreign agents, non-residential installations, abnormal abuse and carpet exposed to hot substances or other abusive conditions that deteriorate the appearance of the pile fibers. Specifically excluded from this warranty is crushing caused by furniture and damage caused by tears, pulls, burns, wheel traffic or athletic equipment. Also excluded is carpet installed in kitchens, bathrooms, laundry rooms, stairs, carpets in commercial facilities, outdoor areas and in other than owner occupied residences. Dream Weaver recommends a pad with a minimum thickness of 7/16 inch for optimum performance. These warranties are not transferable. This warranty is voided if you fail to follow recommended carpet care and routine maintenance of the product.

CARPET CARE CHECKLIST

- ✓ Only install your carpet in appropriate areas of your home.
- ✓ Use a professional carpet installer for best results.
- ✓ Use a quality carpet pad of the correct thickness.
- ✓ Always have clean walk-off mats at all entrances to capture outside soil before it's tracked inside.
- ✓ Vacuum regularly with a Carpet and Rug Institute Seal of Approval vacuum cleaner.
- ✓ Have your carpet professionally cleaned using deep cleaning extraction every 12-18 months by a Carpet and Rug Institute Seal of Approval professional.
- ✓ Always attend to accidents and spills immediately by blotting the spill with a damp, white absorbent towel.
- ✓ Have professionals remove stains caused by markers.
- ✓ Only use Carpet and Rug Institute Seal of Approval spot cleaners.
- ✓ See "Spot Cleaning Guide" for more tips or visit www.carpet-rug.org.

Proper maintenance of your carpet means regular vacuuming using a Carpet and Rug Institute Seal of Approval vacuum cleaner. Vacuuming actually prolongs the life of your carpet by removing abrasive soil particles in the carpet fibers.



All carpets must be professionally cleaned using a Carpet and Rug Institute Seal of Approval deep cleaning extraction system every 12-18 months to be in compliance with our warranties. This system effectively removes soils, residues and water from the carpet and prolongs its life.



PRORATION SCHEDULE

If your carpet does not perform to the warranty, we will offer credit for the remainder of the carpet material in accordance with the following schedule:

Proration Year	Lifetime Stain, Fade & Pet Stains after 7 years
Year 1	100% carpet
Year 2	100% carpet
Year 3	100% carpet
Year 4	100% carpet
Year 5	100% carpet
Year 6	100% carpet
Year 7	100% carpet
Year 8	90% carpet
Year 9	90% carpet
Year 10	90% carpet
Year 11	80% carpet
Year 12	70% carpet
Year 13	60% carpet
Year 14	50% carpet
Year 15	40% carpet
Year 16	30% carpet
Year 17	25% carpet
Year 18	20% carpet
Year 19	15% carpet
Year 20	10% carpet
Year 21	10% carpet
Year 22	10% carpet
Year 23	10% carpet
Year 24	10% carpet
Year 25	10% carpet
Warranty Coverage:	
Carpet	Yes
Labor (Installation, Removal & Disposal)	Yes

SPOT CLEANING *GUIDE*

A. WATER SOLUBLE STAINS

First, blot thoroughly with a white cotton cloth or paper towel. Next, apply a solution of liquid dishwashing detergent to one quart of water. A spray bottle works well. Repeat until the stain is removed.

B. WATER SOLUBLE STAINS WITH ODOR

Same as A, but treat with white vinegar before using detergent.

C. WATER SOLUBLE STAINS WITH HEAVY COLORS

Same as A, but treat with a household ammonia before using detergent.

D. GREASE

Blot as much as possible with a white cloth or paper towel. Apply a volatile solvent such as Perchloroethane (dry cleaning fluid) or a citrus-based solvent to a white cotton cloth. CAUTION: Do not apply the solvent directly to the carpet pile as permanent damage WILL result. Use with rubber gloves and adequate ventilation.

E. WAXES & GUMS

Freeze with ice or a commercially available product in a spray can. Shatter with blunt object and vacuum immediately. Repeat as necessary.

F. MEDICAL STAINS

Commercial preparations are available. A 5% Sodium Thiosulphate solution from a photography store may also be used. For stains more than a few hours old, this solution should be heated.

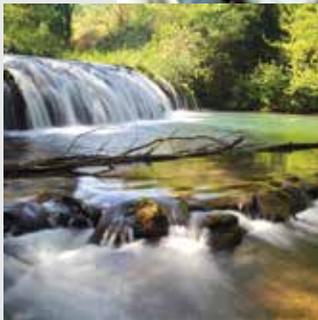
G. RUST

Most can be removed with a 10% solution of citric acid. More stubborn stains will require professional cleaning as restricted chemicals may be needed. Use of citric acid is not recommended for solution-dyed products as damage may result. Certain household cleaners contain citric acid and should be used with caution.

Alcoholic Beverage	A
Asphalt	D
Beer	A
Betadine	F
Berries	A
Blood (Wet)	A
Blood (Dry)	C
Butter	A
Chewing Gum	E
Chocolate	C
Coffee	B
Cola Drinks	A
Cosmetics	A
Crayon Markers	D
Excrement	A
Food Dyes	A
Furniture Polish	A, D
Grease (auto)	D
Grease (food)	A
Ink (ball point)	D
Ink (washable)	A
Lipstick	D
Milk	A
Mustard	A
Nail Polish	Nail Polish Remover
Paint Latex (wet)	A
Paint Latex (dry)	D
Paint (oil)	D
Rust	G
Tea	A
Urine	B
Vomit	B
Wax	E
Wine	C



MADE WITH *PRIDE*



Our carpets are made in the USA using the latest technology and state-of-the-art manufacturing facilities and processes in the carpet industry. Because of our manufacturing efficiencies and the way we make our solution-dyed fibers, we use considerably less energy, water and produce less greenhouse gases.



OWNERSHIP *RECORDS*

Installation Date:

Carpet Style #:

Color:

Retailer:

Retailer Phone:

Installer:

Carpet Cleaning Dates:

Notes:

Keep your receipts with this pamphlet or in a safe place.
You will need them if you ever need to make a claim.



You can learn more about Dream Weaver® by speaking with a Dream Weaver® sales representative by calling 866-706-9745.

Visit DWcarpet.com

You can take a virtual plant tour and learn more about our products by visiting our Engineered Floors® channel on YouTube or by scanning this code:



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Dream Weaver / Attn.: After Sales Service
3510 Corporate Drive / Dalton, GA 30721
Information subject to change without notice



commercial luxury vinyl
maintenance & warranty

Warranty

Pre-Installation Warranty: Planks/Tiles containing manufacturing defects are eligible for replacement. Return unused planks/tiles for free replacement material. However, material that is subjectively viewed as defective but meets Hallmark Floors' and industry standards for quality, visuals, and color will not be replaced (see item 4 under exclusions). Inspect all materials carefully prior to installation. Warranties do not cover materials with visible defects once they are installed. Installation constitutes acceptance. Each Hallmark Floors plank/tile is carefully inspected before leaving the factory shipped in sealed packaging to keep the product stable. Wood and vinyl materials have inherent character that cannot always be fully viewed in a display sample or hand set. Samples exposed to ultra violet light can also experience change.

Lifetime Structural Warranty: Hallmark Floors warrants that the boards/planks will remain free from manufacturing defects for the indicated period in a commercial application, for as long as the original owner/occupant is in commercial space. In the unlikely event that any structural aspect of the plank/tile fails, Hallmark Luxury Vinyl will repair, replace, or refund the original purchase price of your floor (our option). The factory warranties apply only to the original owner/occupant of the space and are non-transferable.

Radiant Heat Warranty: It is critical that the floor be installed to Hallmark Floors' specifications. The surface temperature of the floor should not exceed 80° F. Relative humidity should be maintained at a minimum of 30 to 55%. Hydronic, water-based radiant heat systems must be used (see installation instructions and radiant heat guide for greater detail). Use of electric mat systems is not authorized. For glue-down application Hallmark 3 (hard set adhesive) pressure sensitive releasable adhesives not suitable for use with radiant heat. Hallmark LVT & PVP with EZ Loc can also be used over radiant heat.

Finish & Structural Warranties: Our Surface Guardian® finishes are extremely durable and carry the following warranties:

Luxury Vinyl:

Town & Country 2mm	EN 31 Commercial Moderate	5 Year Commercial Finish 10 Year Commercial Structural
Castle & Cottage 2mm	EN 32 Commercial General	7 Year Commercial Finish 10 Year Commercial Structural
El Dorado 3mm	EN 32 Commercial General	10 Year Commercial Finish 20 Year Commercial Structural
Sierra Madre 3mm	EN 32 Commercial General	10 Year Commercial Finish 20 Year Commercial Structural
San Simeon 4mm	EN 32 Commercial General	10 Year Commercial Finish 20 Year Commercial Structural
Hermosa Stone 3mm	EN 32 Commercial General	10 Year Commercial Finish 20 Year Commercial Structural
Times Square 3mm	EN 32 Commercial General	10 Year Commercial Finish 20 Year Commercial Structural

Premium Vinyl:

Polaris 5.5mm	EN 32 Commercial General	10 Year Commercial Finish 20 Year Commercial Structural
Courtier 5.5mm	EN 32 Commercial General	10 Year Commercial Finish 20 Year Commercial Structural

Warranty List



Exclusions to Warranties

- 1. Color /Gloss Level Variation:** Although great care is taken in the production of our Luxury & Premium Vinyl, environmental conditions can create small differences between production dates.
- 2. Ultraviolet Light/Sunlight Exposure:** Close blinds or curtains where extreme sunlight hits the floor. A combination of heat and sunlight can cause discoloration and excessive temperatures may cause floor expansion (buckling) or delamination.
- 3. Pre-Installation Inspection of Planks & Tiles:** Planks and tiles containing manufacturing defects are eligible for replacement. Return unused planks & tiles for free replacement material. However, material that is subjectively viewed as defective but meets Hallmark Floor and industry quality standards will not be replaced. Boards and tiles/ planks that are installed when visibly defective will not be eligible for replacement.
- 4. Improper Installation:** Failure to follow installation instructions will invalidate the warranty. Cabinets and built in appliances should be installed prior to the installation of the vinyl floor. Cabinets and built in appliances should not be installed on top of the vinyl floor. Luxury Vinyl & Premium Vinyl flooring should be installed at the same time as carpet after finishing walls, cabinet installation, appliance installation, tile and countertop installation. NOTE: Product warranty remains in tact. However, in the unlikely event that the floor experiences problems, Hallmark Floors will not pay for the removal or reinstallation of cabinets and countertops, since installing them on top of the floor does not represent best practice.
- 5. Adverse Environment:** Damage created by moisture (originating from any source), sharp objects, sand, gravel, or other abrasive material, loss of sheen, scratches, high heels, dents caused by unprotected chair/furniture legs, and pet urine, vomit, or claw damage is excluded from this warranty. When moving appliances use proper appliance dolly's, glides, or 1/8" Masonite on the floor shiny side down. Rolling appliances or heavy load bearing carts with small wheels directly across the floor will damage the vinyl floor.
- 6. Maintenance:** Full compliance with maintenance instructions is required. Hallmark Truclean wood and lvt cleaner must be used. Spills must be wiped up immediately.
- 7. High Traffic Areas:** High traffic areas may experience finish wear through. More than 10% of the total surface area must be effected for the Residential & Commercial Finish Warranties to apply.
- 8. Internet Purchases:** Hallmark Floors does not warrant product purchased on the internet. Only product purchased from an authorized displaying dealer and serviced locally will be covered under warranty. Any claim must be accompanied by an original dealer invoice and original dealer inspection report. NOTE: See Hallmark Floors website for full internet selling policy at www.hallmarkfloors.com
- 9. High Traffic Areas:** High traffic areas may experience finish wear through. More than 10% of the total surface area must be affected for the Residential and Commercial Finish Warranties to apply.



ATTENTION: Luxury & Premium vinyl flooring is subject to expansion and contraction (thermal degradation) when exposed to excessive heat and light. Use appropriate precautions to minimize potential effects on your luxury or premium vinyl floor.

The Luxury Vinyl & Premium Vinyl collections from Hallmark Floors are finished with a ceramic bead UV coating. The UV Coatings protect the vinyl wear layer and give it a more lustrous wood look finish. Town & Country, Castle & Cottage and Polaris (PVP), El Dorado, Sierra Madre, San Simeón, Hermosa Stone, and Times Square, Courtier (PVP): Contain Surface Guardian Pro, offer the same strength and beauty of ceramic bead UV coatings. Additionally they have Nanocontrol anti microbial additives that inhibit the growth of bacteria. The construction of these products is also ortho phthalate free.

This warranty is limited to commercial use. When unauthorized maintenance products are used the warranty becomes void. If any product is abused, improperly installed (see installation instructions), or damaged by moisture intrusion, plumbing leaks, mold, building defects, floods, or circumstances beyond our control the warranty is no longer valid. Hallmark Luxury Vinyl will not be responsible for any special, incidental, or consequential damages including inconvenience or loss of time. This commercial warranty applies to all Hallmark Floors products purchased after January 1, 2016. It is valid for the original purchaser only and is non-transferable. No agent, dealer, fabricator, installer, or employee of Hallmark Floors Inc., is authorized to alter or increase the terms, limitations, or obligations of this warranty. In the unlikely event that warranty service is required, please contact your original Hallmark Floors retailer to arrange an evaluation of the floor.

Maintenance for Hallmark Luxury Vinyl Commercial Floors Hallmark's Surface Guardian Pro Finish provides excellent durability and performs well in commercial applications as long as a consistent maintenance program is followed. Daily sweeping, vacuuming (without the beater bar) or dust mopping will prevent the build up of dirt and grit from being ground into the surface of the finish. Walk off mats should be used to control the amount of dirt or grit that reaches the floor. Light mopping will also cut down on the amount of dirt build up and remove spills and stains that might occur. The amount of traffic will dictate the frequency of cleaning. Clean your floor with Truclean Wood and LVT Cleaner to achieve the best results. If the floor is in high traffic areas and becomes very dirty, a low speed buffer with a white or nylon pad and True Clean can be used. Once buffing is complete, remove all dirty residue with a final cleaning using Truclean Wood and LVT Cleaner.

Refer to www.hallmarkfloors.com for the latest, updated information.

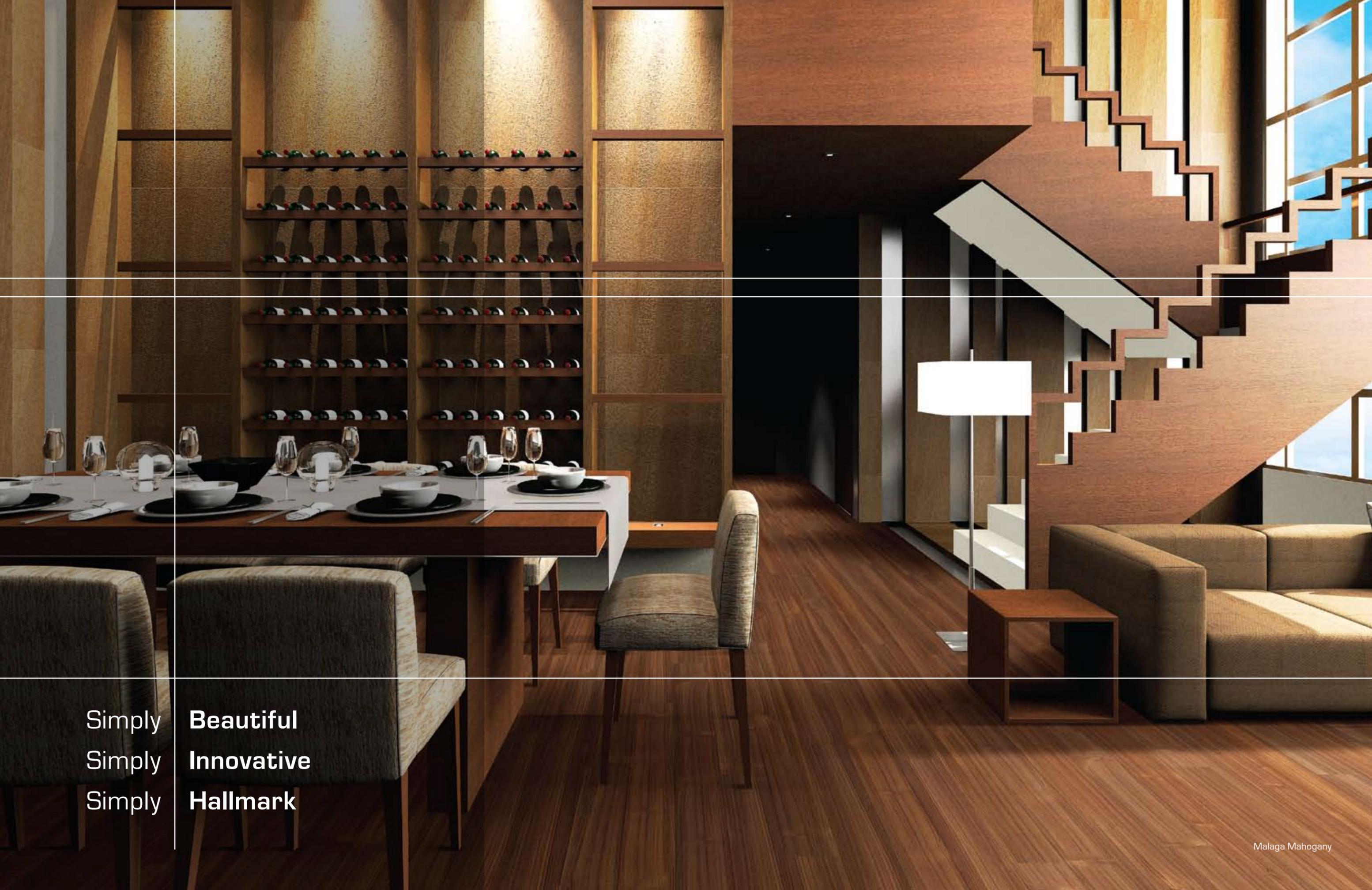
Maintenance





LUXURY VINYL

Town & Country
Castle & Cottage
El Dorado
Hermosa Stone
San Simeon



Simply Beautiful
Simply Innovative
Simply Hallmark

san simeon

San Simeon's strength and performance makes this beautiful floating floor suitable for commercial or residential applications. Using the Unilin Locking System as its foundation, San Simeon can be installed over a greater area, while still maintaining its integrity. San Simeon's color assortment and variety of textured surfaces from wire brushed to hand scraped will definitely be a crowd pleaser at your next event.



Aragon Walnut



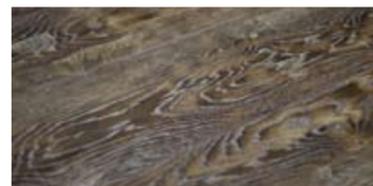
Castile Smoke



Castile Terra



Cordoba Hickory



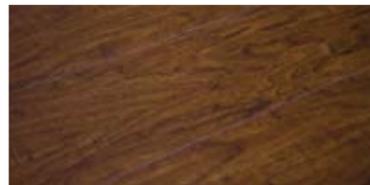
Iberian Oak



Leon Pecan



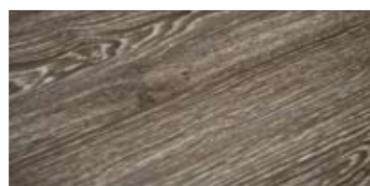
Navarra Oak



Olivera Hickory



Pamplona Maple



Toledo Oak

Dimensions: 7" x 48" x 4mm
Wear Layer: 20mil (.5mm)
 Surface Guardian Pro
Square Ft./Box: 32.5
Weight/Box: 50 lbs.
Planks/Box: 14
Usage: Residential, Commercial
Edge Detail: Beveled Edge
Warranty: 10 year commercial finish
 20 year commercial structural



Pamplona Maple



Castile Smoke

hermosa stone

Hallmark's Hermosa Stone utilizes high definition films, stone-specific textures, and groutable joint lines to provide a visual so realistic, you have to touch it to realize that it is luxury vinyl. These fashion forward colors and visuals can even be mixed and matched with our 3mm planks to create a truly custom floor.



Ardesia Amaro



Ardesia Caldera



Ardesia Dolcetto



Ardesia Marrone



Carrara Gris



Carrara Lunaria



Carrara Mandora



Pietra Avorio



Pietra Biscotti



Pietra Crema



Pietra Noce



Pietra Novanna

Dimensions: 18" x 18" x 3mm
Wear Layer: 20mil (.5mm)
 Surface Guardian Pro
Square Ft./Box: 35.94
Weight/Box: 38.92 lbs.
Tiles/Box: 16
Usage: Residential, Commercial
Edge Detail: Microbevel
Warranty: Lifetime Residential finish
 Lifetime Residential structural
 10 year commercial finish
 20 year commercial structural



Pietra Gris



Ardesia Dolcetto

el dorado

El Dorado Luxury Vinyl Flooring brings a new level of durability to the vinyl flooring market of today. With its thick wear layer and superior Surface Guardian Pro finish, El Dorado is the right choice to inspire any of your commercial, residential or health care projects. The styling brings with it a wealth of color & textures to suit any decor.



Barcelona Spruce



Tortosa Sisal



Caceres Acacia



Pyrenees Pine



Cadiz Oak



Salamanca Wenge



Granada Walnut



San Sebastian Strand Bamboo



Madrid Maple



Seville Oak



Malaga Mahogany



Valencia Teak

Dimensions: 6" x 48" x 3mm
Wear Layer: 20mil (.5mm)
 Surface Guardian Pro
Square Ft./Box: 24
Weight/Box: 28.66 lbs.
Planks/Box: 12
Usage: Residential, Commercial
Edge Detail: Beveled Edge
Warranty: 10 year commercial finish
 20 year commercial structural



Barcelona Spruce



Salamanca Wenge

castle & cottage

Castle & Cottage Luxury Vinyl flooring offers a tasteful spectrum of hardwood visuals ranging from domestic to exotic. Boasting a generous 6" x 48" format, and realistic embossed wood grain textures, Castle & Cottage far outclasses any of the competition in this particular price category.



Arcadian Oak



Ponderosa Pine



Chaminade Oak



Provincial Oak



Chatham Walnut



Pumilla Elm



Cupari Acacia



Rubra Elm



Jari Oak



Sakonnet Oak



Morello Cherry



Senegalia Acacia

Dimensions: 6" x 48" x 2mm
Wear Layer: 12mil (.3mm)
 Surface Guardian Basic
Square Ft./Box: 35.94
Weight/Box: 2721 lbs.
Planks/Box: 18
Usage: Residential, Commercial
Edge Detail: Square Edge
Warranty: 7 year commercial finish
 10 year commercial structural



Chaminade Oak



Chatham Walnut

town & country

Town & Country Luxury Vinyl flooring replicates real hardwood floors from exotic to domestic species at a tremendous value. Not only is Town & Country beautiful, durable, easy to maintain and water resistant, its look and style outmatches its closest competitor in the luxury vinyl market today!



Allegheny Oak



Plymouth Maple



Appalachian Birch



Portsmouth Oak



Blue Ridge Fir



Shenandoah Oak



Cambridge Walnut



Smoky Mountain Pine



Cumberland Cedar



Springfield Birch



Lexington Pecan



Wellesley Oak

Dimensions: 6" x 36" x 2mm
Wear Layer: 12mil (.3mm)
 Surface Guardian Basic
Square Ft./Box: 35.94
Weight/Box: 28.63 lbs.
Planks/Box: 24
Usage: Residential, Light Commercial
Edge Detail: Square Edge
Warranty: 5 year commercial finish
 10 year commercial structural



Appalachian Birch



Smoky Mountain Pine

Hallmark Healthy Homes



■ ■ San Simeon/Palo Verdes

Flexibility	Pass	ASTM F137
Thickness Standard	Pass	ASTM F386
Resistance to Chemicals (5 min.)	Pass	ASTM F925 5
Resistance to Chemicals (24 hr.)	Pass	ASTM F925
Heat Stability by Color Change	Pass	ASTM F1514
Light Stability by Color Change	Pass	ASTM F1515
Dimensional Stability after exposure to heat	Pass	ASTM F219
Fire Resistance	Class C - Pass	ASTM E 648
Coefficient of Friction	Pass	ASTM D2047-04
Static Load	Pass	ASTM F970-07
Stain Resistance	Pass	ASTM F925
Short Term Indentation	Pass	ASTM F1914-98
Smoke Density	Pass	ASTM E662-09
Wear Resistance	High	ASTM F510-93
Formaldehyde Emission (air)	None Detected *E1 Rating	EN 7171-1
Impact Insulation Class IIC	Eternity Underlayment IIC 71 Delta 21	ASTM E-492, E-989

ISO 14001 Certified Environmental Management System

Certified FloorScore: Independent 3rd Party IAQ verification system for low-emitting flooring. Approved as CHPS 01350 compliant and recognized in LEED EQ Credit 4.3

■ ■ El Dorado/Sierra Madre

Flexibility	Pass	ASTM F137
Thickness Standard	Pass	ASTM F386
Resistance to Chemicals (5 min.)	Pass	ASTM F925 5
Resistance to Chemicals (24 hr.)	Pass	ASTM F925
Heat Stability by Color Change	Pass	ASTM F1514
Light Stability by Color Change	Pass	ASTM F1515
Dimensional Stability after exposure to heat	Pass	ASTM F219
Fire Resistance	Class C - Pass	ASTM E 648
Coefficient of Friction	Pass	ASTM D2047-04
Static Load	Pass	ASTM F970-07
Stain Resistance	Pass	ASTM F925
Short Term Indentation	Pass	ASTM F1914-98
Smoke Density	Pass	ASTM E662-09
Wear Resistance	High	ASTM F510-93
Formaldehyde Emission (air)	None Detected *E1 Rating	EN 7171-1
Impact Insulation Class IIC	Eternity Underlayment IIC 71 Delta 21	ASTM E-492, E-989

ISO 14001 Certified Environmental Management System

Certified FloorScore: Independent 3rd Party IAQ verification system for low-emitting flooring. Approved as CHPS 01350 compliant and recognized in LEED EQ Credit 4.3

LEED: 25% Post Industrial Recycled Content. 25% recycled content contributing to MR credit 4 (El Dorado)

■ Hermosa Stone

Flexibility	Pass	ASTM F137
Thickness Standard	Pass	ASTM F386
Resistance to Chemicals (5 min.)	Pass	ASTM F925 5
Resistance to Chemicals (24 hr.)	Pass	ASTM F925
Heat Stability by Color Change	Pass	ASTM F1514
Light Stability by Color Change	Pass	ASTM F1515
Dimensional Stability after exposure to heat	Pass	ASTM F219
Fire Resistance	Class C - Pass	ASTM E 648
Coefficient of Friction	Pass	ASTM D2047-04
Static Load	Pass	ASTM F970-07
Stain Resistance	Pass	ASTM F925
Short Term Indentation	Pass	ASTM F1914-98
Smoke Density	Pass	ASTM E662-09
Wear Resistance	High	ASTM F510-93
Formaldehyde Emission (air)	None Detected *E1 Rating	EN 7171-1
Impact Insulation Class IIC	Eternity Underlayment IIC 71 Delta 21	ASTM E-492, E-989

ISO 14001 Certified Environmental Management System

Certified FloorScore: Independent 3rd Party IAQ verification system for low-emitting flooring. Approved as CHPS 01350 compliant and recognized in LEED EQ Credit 4.3

■ ■ Town & Country/Castle & Cottage

Flexibility	Pass	ASTM F137
Thickness Standard	Pass	ASTM F386
Resistance to Chemicals (5 min.)	Pass	ASTM F925 5
Resistance to Chemicals (24 hr.)	Pass	ASTM F925
Heat Stability by Color Change	Pass	ASTM F1514
Light Stability by Color Change	Pass	ASTM F1515
Dimensional Stability after exposure to heat	Pass	ASTM F219
Fire Resistance	Class C - Pass	ASTM E 648
Coefficient of Friction	Pass	ASTM D2047-04
Static Load	Pass	ASTM F970-07
Stain Resistance	Pass	ASTM F925
Short Term Indentation	Pass	ASTM F1914-98
Smoke Density	Pass	ASTM E662-09
Wear Resistance	High	ASTM F510-93
Formaldehyde Emission (air)	None Detected *E1 Rating	EN 7171-1
Impact Insulation Class IIC	Eternity Underlayment IIC 71 Delta 21	ASTM E-492, E-989

ISO 14001 Certified Environmental Management System

Certified FloorScore: Independent 3rd Party IAQ verification system for low-emitting flooring. Approved as CHPS 01350 compliant and recognized in LEED EQ Credit 4.3

LEED: 25% Post Industrial Recycled Content. 25% recycled content contributing to MR credit 4 (Town & Country)

simply better



- P:** Premium Fashion - Classic to Contemporary
- L:** Lifetime Warranty - Limited Lifetime Finish & Structure
- U:** Ultimate Value - Comprehensive color selection & textures at a competitive price
- S:** Superior Wear - Surface Guardian Basic/PRO and Plus with Nanocontrol



EZ Loc® "Simply Stronger": Unilin's locking system is the strongest and tightest lock in the industry. It allows for a 40' x 40' installation without any expansion space in the floor.



Nanocontrol® "Simply Cleaner": Proprietary technology to effectively kill microorganisms that come in contact with the surface of the floor. (Anti-Microbial®).



Surface Guardian Basic "Simply Durable": 12 mil wear layer topped with a UV coating containing ceramic additives for superior durability. Rated for Light Commercial Use.



Surface Guardian Pro "Simply Resistant": 20 mil wear layer topped with a UV coating containing ceramic additives and Micro Ti22 Nanocontrol to create our most durable finish. Rated for Full Commercial Use.

 **ATTENTION!:** Luxury vinyl flooring subjected to excessive heat and light exposure is subject to expansion and contraction (thermal degradation). Use appropriate precautions to minimize potential affects on your luxury vinyl floor.



Hallmark Luxury Vinyl's proprietary formula of raw materials includes only the highest quality pure virgin vinyl. Purcore is strictly monitored for consistency & quality in production, thus producing one of the most dimensionally stable vinyl cores in the luxury vinyl industry.

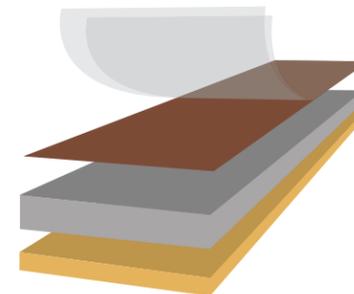


Hallmark Luxury Vinyl's proprietary recipe of raw materials includes only the highest quality and pure virgin vinyl with **25% post consumer single-source recycled material**. Purcore is strictly monitored for consistency and quality in production, thus producing one of the most dimensionally stable vinyl cores in the luxury vinyl industry.

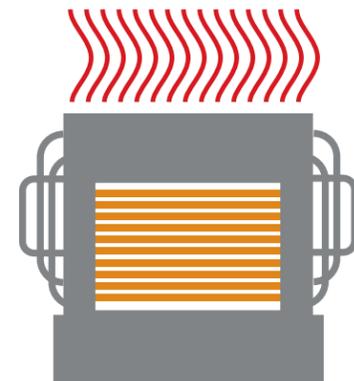


Floor Score Certified

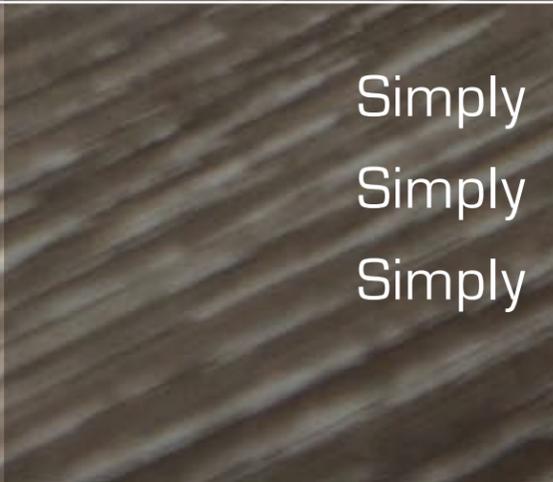
- a) LEED EQ Credit 4.3 - low emitting material promoting healthy indoor air quality.
- b) MR Credit 4.3 - 25% Post industrial single-source recycled content.



Hallmark's Luxury Vinyl is carefully crafted to bring you the highest quality product that performs. The face of the product is coated with a protective layer that helps resist scratches and scuffing while adding UV inhibitors that help with direct sunlight. The protective wear layer adds additional durability and helps protect against tears and indentations. The third layer is the printed visual that offers your realistic design pattern of wood, stone, slate or ceramic tile. Lastly, the bottom layer is for structural strength & durability while providing dimensional stability.



Approved for installation over radiant heat. Please see Hallmark Radiant Heat Guidelines found in the Installation Instructions for specific details.



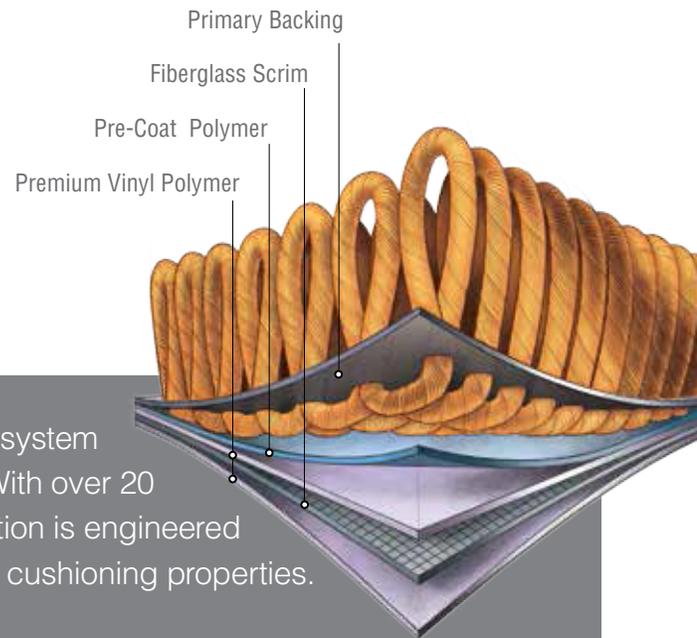
Simply	Visionary
Simply	Elegant
Simply	Better



2360 S. Archibald Ave.
Ontario, CA 91761
888.551.0888 t
909.947.7776 f
www.hallmarkfloors.com

EcoFlex™ ICT

Modular backing



EcoFlex™ ICT is a premium vinyl modular backing system containing a minimum of 35% recycled content. With over 20 years in the marketplace, its ultra dense construction is engineered to offer superior performance while giving greater cushioning properties.



PERFORMANCE

- Unsurpassed dimensional stability – no growing or shrinking
- Constructed with an ultra dense five layer cushion backing system
- Main body of tile provides an effective moisture barrier (not applicable at the seams).
- Tiles are impervious to moisture damage from spills and water extraction cleaning.
- Construction features superior tuft bind that is highly resistant to edge ravel.
- Proven performance for over 15 years



BUDGET

- Superior construction offers reliability for the life of your installation.



SUSTAINABILITY

- EcoFlex ICT contains 35% minimum pre consumer recycled content by total weight*.
- Recyclable through Mohawk's ReCover program
- EcoFlex ICT may contribute to or comply with LEED® credits MR 4.0, IEQ 4.3 and Innovation credit for NSF 140.
- CRI Green Label Plus certified



SERVICE

- Certified at the Gold Level in accordance with NSF/ANSI 140 the Sustainability Assessment for Carpet
- Engineered performance for an overall better after sales service experience

* Recycled content claim third party verified by UL (Underwriters Laboratory)

INSTALLATION SPECIFICATIONS

Backing	Suggested Adhesive	Adhesive Application Method	Moisture & pH	Spread Rate
EcoFlex ICT	EnPress PSA (M001)	3/8" roller or 1/16" x 1/32" x 1/32" U-Notch Trowel	5lbs/ 80% RH, 5-9 pH	25-40 SY/Gal

* Mohawk OptiSeal required for installations with subfloor moisture exceeding 5 lbs and/or 80% RH. Maximum allowable moisture with OptiSeal is 90% RH.

LIFETIME LIMITED MODULAR WARRANTY*

WEAR – The Mohawk Group warrants for the life of the carpet that the carpet modules will not wear more than 10% of the surface pile for the life of the carpet. “Wear” mean the fiber loss from the carpet modules through normal abrasion and does not include crushing, flattening of the carpet pile in any area, staining, soiling, fading, change in carpet module appearance, nor fiber loss due to abnormal usage of the carpet module.

STATIC PROTECTION – The Mohawk Group warrants for the life of the carpet that the carpet modules will not give static discharges in excess of 3.5 KV when tested under AATCC Test Method 134-1979.

EDGE RAVEL/ ZIPPERING – The Mohawk Group warrants for the life of the carpet that the carpet modules will not zipper or develop continuous “pile yarn runners.”

DELAMINATION – The Mohawk Group warrants for the life of the carpet that the carpet modules will not delaminate. Chair pads are not required for this warranty but are recommended for maximum appearance retention.

DIMENSIONAL STABILITY – The Mohawk Group warrants for the life of the carpet that the carpet modules will not lose their dimensional stability (i.e. shrink, grow, cup, dome) due to normal variations in atmospheric changes (temperature and/or humidity) or when maintained in accordance with the Mohawk Group’s recommended maintenance procedures.

* See Mohawk Group official warranty documents for further details at www.mohawkgroup.com

LEED and the related logo is a trademark owned by the U.S. Green Building Council and is used with permission.



CARPET CARE 101

PREVENTIVE MAINTENANCE

SEC. 1.0

VACUUMING

SEC. 2.0

SPILL AND SPOT CLEANING

SEC. 3.0

INTERIM CLEANING

SEC. 4.0

DEEP CLEANING

SEC. 5.0



5

THE FIVE KEYS TO EFFECTIVE MAINTENANCE

1.0

PREVENTIVE MAINTENANCE

Keeping dirt off the carpet is easier and less expensive than removing it.

2.0

VACUUMING

Regular vacuuming is the most important part of a successful maintenance program.

3.0

SPILL AND SPOT CLEANING

Spots are inevitable, but they don't have to be permanent. Remove a spill quickly and there is less chance it will become a stain.

4.0

INTERIM CLEANING

Scheduled interim cleaning helps the carpet retain appearance, and improves performance.

5.0

DEEP CLEANING

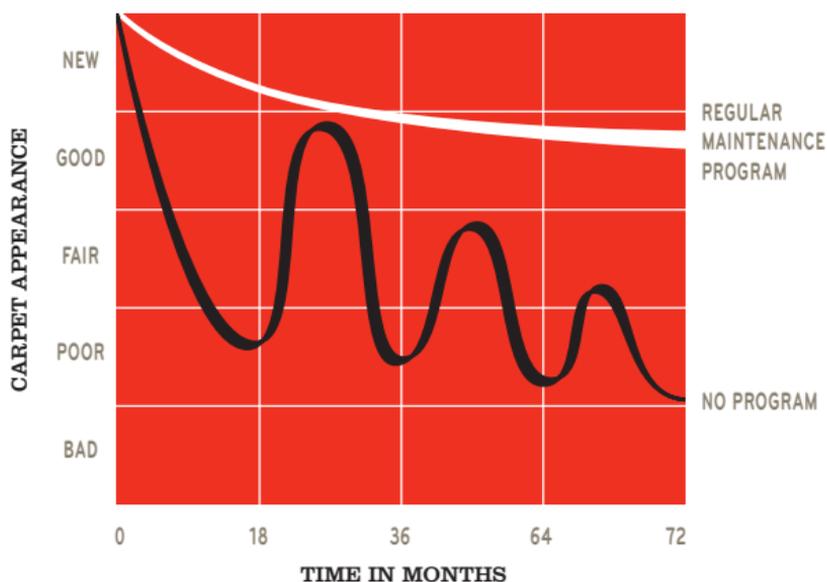
Periodic deep cleaning, using hot water extraction is most effective at removing any embedded abrasive soil.

THANK YOU FOR CHOOSING MOHAWK CARPET!

We appreciate your choice and we will continually strive to earn your business through service after the sale. One of the ways we do that is by providing you with the best possible information regarding the care and maintenance of your carpet. We want you to have an enjoyable experience with your carpet throughout its life on your floor.

With this guide, we want to help you maximize your carpet investment by showing you how to implement an effective carpet maintenance program right from the start. A comprehensive maintenance program will extend your carpet's performance, appearance and life. The longer your carpet lasts, the less it costs.

AN EFFECTIVE MAINTENANCE PROGRAM WILL PROTECT YOUR CARPET INVESTMENT



CARPET APPEARANCE

With and without a planned maintenance program

10



Mohawk Group offers walk-off tiles to fit any type of entrance situation. To learn more about our walk-off tiles contact your local sales representative or you can visit our website at: mohawkgroup.com

KEEP THE DIRT OUT

An often overlooked, but vitally important part of a maintenance program is preventive maintenance, which prevents soil from being deposited into the carpet. The best way to do this is with proper and adequate walk-off systems at all entrances and other sources of soil.

Proper walk-off material is able to scrape and hold large amounts of dry soil as well as absorb water or oil-based moisture. Mohawk walk-off tiles are made to do both, or you can use separate mats for soil containment.

Adequate walk-off material should capture five or six footsteps (roughly 10-15 feet). This amount has been shown to trap 80% of the soil and moisture that would have migrated into your facility.

Along with placing walk-off material at all entrances to your facility, you can use mats at other sources of soil, such as break rooms, water fountains and coolers, to prevent soil from being deposited into the carpet.

For walk-off material to be effective, we recommend daily vacuuming, just as with your other surfaces. Actually, walk-off material requires more frequent cleaning because it is your first line of defense and accumulates soil much more quickly. If this accumulated soil is not removed, the walk-off material will become saturated with soil and lose its ability to prevent soil from entering your facility.

THOROUGH PREVENTIVE MAINTENANCE INCLUDES

- Keeping sidewalks and parking areas clean
- Using chair pads to prevent casters from grinding soil into the carpet
- Placing trashcans in easily accessible areas

PREVENTIVE MAINTENANCE FACTS

- A 15 ft. walk-off tile area effectively removes about 80% of soil and moisture before it reaches the carpet.
- Removing a pound of dirt once it is inside a building is estimated to cost more than \$500.
- It is estimated that up to 24 lbs. of dirt can be tracked in by 1,000 people entering a building over a 20-day work period.

VACUUMING

Proper vacuuming is the single most important part of any maintenance program.



When selecting vacuums, a great place to start is the Carpet and Rug Institute's (CRI) Seal of Approval list. The vacuums listed at www.carpet-rug.org have been tested in an independent, certified laboratory and have met minimum standards for cleaning efficacy.

THE MOST IMPORTANT MAINTENANCE TASK

Frequent and thorough vacuuming is the single most important component of a carpet maintenance program. Studies of the soil composition in a facility show that roughly 80% is dry, insoluble soil, or what most of us refer to as dirt. The most efficient way to remove this dry, insoluble soil is with frequent and thorough vacuuming.

Soil accumulation is inevitable if vacuuming isn't planned at routine intervals. The best way to plan your vacuuming is to identify high-, medium- and low-traffic areas. Continually monitor these areas for changes in carpet performance and make adjustments to the maintenance schedule as needed.

It is important to note that carpet is a three-dimensional product. Unlike hard, two-dimensional flooring, carpet has depth and the ability to hide soiling. Carpet can trap and hold up to one pound of dirt per square foot before it appears dirty, which is a major advantage that carpet has over other flooring types. Even though it may not appear dirty, carpet requires routine maintenance, particularly vacuuming, to remove soiling and keep it looking beautiful for years.

VACUUMING TIPS

- ▶ Vacuum with slow, deliberate passes in length and width for maximum effectiveness.
- ▶ Heavy traffic areas require multiple passes back and forth to sufficiently extract embedded soil.
- ▶ A vacuum with a brush roller will provide agitation to help with soil removal.
- ▶ Slow movement allows time for air to circulate through the face yarn and extract soil.

RECOMMENDED EQUIPMENT

To adequately remove dry soil with routine vacuuming, you will need to ensure that you use the proper equipment. Mohawk recommends:

- ▶ An upright, dual-motor vacuum with a brush roller and high-efficiency filtration for the bulk of your vacuuming needs. Dual-motor vacuums have one motor for the vacuum suction and one for the brush roller.
- ▶ A wide-area vacuum for large corridors and other wide-open areas.
- ▶ A backpack or canister vacuum for stairs.

VACUUMING

EQUIPMENT MAINTENANCE

Just as you maintain the floor, you need to perform routine maintenance on your vacuums. The crucial parts to pay special attention to are the bags, belts and brush rollers.

- Bags should not get more than two-thirds full before being replaced. The vacuum loses suction significantly and will not pick up much dirt when the bag is too full.
- Vacuum belts stretch out over time and become loose. They need to be changed regularly to keep the vacuum in good working condition.
- Check the brush roller periodically for a build-up of loose items, such as strings or hair, which could impair its function. Monitor the brush roller to make sure that it hasn't worn down to the point that it is no longer making contact with the carpet face fibers. You can easily check by running a straight edge, such as a driver's license or a credit card, across the vacuum suction opening to make sure it makes contact with the brush roller.

VACUUMING FREQUENCIES

The table below is provided as a general reference for how often different types of traffic areas should be vacuumed during normal situations.

AREA TYPE	TRAFFIC CONDITION
Entry	Heavy
Ground Floor Halls	Heavy
Breakroom or Food Areas	Heavy
Above Ground Halls	Medium
General Office Areas	Medium
Classrooms/Guest Rooms	Medium
Hospital/School Corridors	Medium
Conference Rooms	Medium
Nursing Stations	Medium
Supply Rooms	Medium
Patient Rooms*	Medium
Executive Offices	Light
Boardrooms	Light

* Occupancy and traffic will determine frequency



CLEANING FREQUENCIES FOR A TYPICAL CORPORATE OFFICE

VACUUMING FREQUENCY

Daily
Daily
Daily
3 Times / Week
Weekly
Weekly

HEAVY COMMERCIAL TRAFFIC

The classification of heavy commercial traffic refers to public spaces such as main corridors, lobby and entrance areas, vending machine areas, airports, casinos, assisted living and retail facilities.

MEDIUM COMMERCIAL TRAFFIC

Medium commercial traffic areas are those that must withstand high foot traffic such as school corridors and classrooms, administrative and general office areas.

LIGHT COMMERCIAL TRAFFIC

Light commercial traffic areas include cubicles, executive offices and board-rooms. Traffic is minimal, thus reducing the soil in this area.



NOTE:

When cleaning a spot always work from the edge toward the center of the spot. Always blot, never scrub, as it may spread the spot or distort the fibers.

EFFECTIVE SPOT REMOVAL STARTS WITH THE PROPER PRODUCT SPECIFICATION

If you specify one of Mohawk Group's stain resistant fiber systems Duracolor, SmartStrand or ColorShield you are specifying the best stain resistant systems available. These products allow 96% of all spills to be removed with water only, ensuring that your carpet will last longer, look new longer, be less expensive and more environmentally friendly to maintain.

SPOT CLEANING IS ESSENTIAL

Dry soil often hides within the carpet pile, but spots and spills can stand out, depending upon the carpet's color and pattern. Therefore, to keep your carpet looking as good as possible it's essential that spot cleaning become an important part of your maintenance program. Since most carpet manufactured today has mill-applied stain blockers and soil-resist treatments, your chances for success with spot cleaning are greatly improved if you act quickly and use the proper products, tools and techniques.

TAKE IMMEDIATE ACTION

Spot cleaning is often regarded as a cumbersome chore and very often the same large equipment used to perform deep cleanings of a large areas ends up being used to clean spots that should be attended to sooner. Don't delay cleaning spots until your regularly scheduled cleaning. The best time to treat a spot is when you see it, and a simple way to extract it is by blotting it with a plain, white absorbent towel. If your cleaning staff has towels at their disposal, they can quickly blot up as much of a fresh spill as possible.

If the spot has dried, blot it with a towel that has been dampened with plain water or a general-purpose spotter. This is a great first step to get as much of the contaminant out of the carpet as possible, and it can remove many common water-borne spots. If a residue remains, a spot extractor can be used at a more appropriate time and the spot will disappear with much less effort.

Another simple but effective option for spot cleaning is through the use of an absorbent compound. This method, often called dry extraction, uses an absorbent material that is applied to the affected area. The compound absorbs and dislodges the soil and is then easily vacuumed away. This cleaning method has the advantage of no drying time since little water is used.

SPILL AND SPOT CLEANING

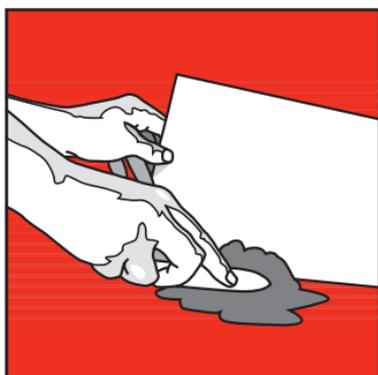
PROPER TOOLS FOR SPILL AND SPOT CLEANING

We recommend you have a “spot kit” on hand to deal with your most common spots and spills. You will need the following list of materials:

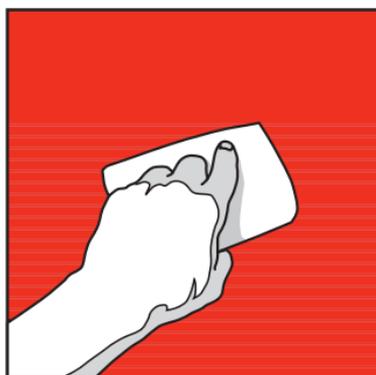
- Absorbent towels
- Water
- General purpose spotter or absorbent compound
- Bone spatula or soft bristle brush
- Small extractor or vacuum

MECHANICS OF MOST SPILL REMOVAL FOR DURACOLOR, SMARTSTRAND AND COLORSHIELD

The spill removal instructions below should work for most spills.



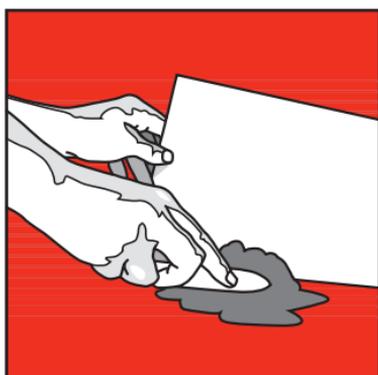
1. Blot or scrape up the substance (DO NOT SCRUB)



2. Use a water moistened towel to blot up remaining spill

MECHANICS OF SPOT REMOVAL.

The spot removal instructions below will work on a majority of the spots you may encounter.



1. Blot or scrape up the substance (DO NOT SCRUB)



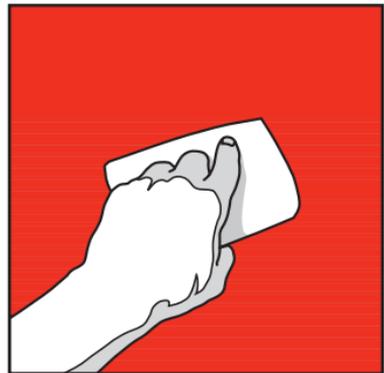
2. Apply cleaning solution or absorbent compound to the affected area

**NOTE:**

See section 3.2 on the next page for more detailed instructions about how to remove specific types of spots.



3. Agitate with bone spatula or soft bristle brush



4. Blot or extract the affected area or vacuum if absorbent compound was used
(Repeat 2-4 if necessary)

TYPES OF SPOTS & HOW TO REMOVE

▶ CATEGORY “A” SPOTS

Water based spots such as catsup, fruit juice, etc.

STEP 1: Blot or extract to remove substance. Rinse thoroughly with clear water. Apply a mild carpet spotter cleaning solution sparingly and gently agitate the discolored area. Blot or extract to remove substance. Rinse thoroughly with clear water to remove residue. Blot or extract to remove remaining excess moisture.

STEP 2: Repeat if necessary.

▶ CATEGORY “B” SPOTS

Petroleum based spots such as grease, oil, shoe polish, etc.

STEP 1: Blot or extract to remove substance. Try implementing cleaning procedure for Category “A” spots using a mild carpet spotter.

STEP 2: Blot or extract to remove substance. Apply only enough cleaning fluid to dampen the discolored area. Gently agitate. Blot or extract to remove substance. Rinse thoroughly with clear water. Repeat as long as the spot continues to transfer from the carpet to the towel. Rinse thoroughly with clear water. Blot or extract to remove remaining excess moisture.

STEP 3: Apply a specific POG (Paint, Oil and Grease) Dry Solvent Cleaner sparingly to a clean white towel or paper towel and apply to the discolored area. Gently agitate. Blot or extract to remove substance. Rinse thoroughly with clear water. Blot or extract to remove remaining excess moisture.

▶ CATEGORY “C” SPOTS

Coffee and tea based spots.

STEP 1: Blot or extract to remove substance. Rinse thoroughly with clear water. Apply coffee stain remover according to manufacturer’s recommendations. Rinse thoroughly with clear water to remove residue. Blot or extract to remove remaining excess moisture.

▶ CATEGORY “D” SPOTS

Biological spots such as blood, urine, vomit, etc.

STEP 1: If solids are present, first remove these with a Bone Spatula.

STEP 2: Blot or extract to remove substance. Rinse thoroughly with clear water. Apply an alkaline disinfectant type cleaner (below 10 pH) according to manufacturer’s recommendations. Rinse thoroughly with clear water to remove residue. Blot or extract to remove remaining excess moisture.

MOST COMMON SPOTS AND THEIR CATEGORIES

Asphalt *	B	Copier Toner	VACUUM ONLY
Ball Point Pen	A	Cosmetics	B
Beer	A	Glue, Latex	B
Bleach	A	Grass	A
Blood	D	Grease *	B
Brass Stain	A	Ink, Copying	B
Betadine *	B	Ink, Permanent	B
Butter	B	Iodine *	B
Calcium Chloride (De-Icer)	A	Mildew	A
Candle	B	Oil *	B
Candy	A	Paint, Latex	A
Carbolic Acid (Disinfectant)	A	Paint, Oil *	B
Carbon, Black	B	Peanut Butter	A
Catsup	A	Perfume	A
Cement, Building	A	Salad Dressing	B
Cement, Contact	B	Shoe Polish	B
Chewing Gum	A	Soy Sauce	B
Children's Drink Mix	A	Tea *	C
Chocolate	A	Tomato Juice	A
Cigarette Burn	A	Tomato Paste	A
Clay	A	Urine	D
Coke	A	Vomit	D
Coffee *	C	Wine	A

* These difficult spots must be treated immediately to ensure removal of the spot.

NEED ASSISTANCE? Contact the Mohawk Group Technical Department at **800.833.6954** for any further information.

CAUTION: Mohawk Group does not recommend the use of a spin bonnet, as it can damage the fibers in your carpet.



When selecting chemicals and equipment, a great place to start is the Carpet and Rug Institute's (CRI) Seal of Approval list. The chemicals and equipment listed at www.carpet-rug.org have been tested in an independent, certified laboratory and have met minimum standards for cleaning efficacy.

INTERIM CLEANING METHODS

Interim cleaning is a cost effective way to keep your carpet attractive and odor free between hot water/wet extractions. Mohawk recommends two different methods of interim cleaning. The absorbent compound cleaning method, and the low moisture encapsulation cleaning method. Both methods use various chemicals to dissolve and absorb water and oil based soils, holding them until they are removed by vacuuming (dry extraction).

ABSORBENT COMPOUND CLEANING METHOD

This cleaning method uses an absorbent compound moistened with water and other cleaning agents. The compound absorbs the soil and spots as they are brushed into the carpet, and then removed by vacuuming.

ABSORBENT COMPOUND PROCESS

1. Vacuum thoroughly to remove as much dry soil as possible. (Pile lifter will help remove embedded soil)
2. Apply the absorbent cleaning compound to the carpet. This may include the use of a pre-spray, depending on the type and severity of soiling.
3. Agitate with a counter-rotating brush machine, working the absorbent compound throughout the carpet to suspend and absorb the soil.
4. Vacuum thoroughly to remove the soil and dirty compound.

LOW MOISTURE ENCAPSULATION CLEANING METHOD

Low moisture encapsulation uses special chemistry formulated to encapsulate the soil and dry it into a crystalline form, which is then removed by vacuuming.

LOW MOISTURE ENCAPSULATION PROCESS

1. Vacuum thoroughly to remove as much dry soil as possible. (Pile lifter will help remove embedded soil)
2. Apply the encapsulation pre-spray to the carpet.
3. Agitate the area with a counter-rotating brush machine.
4. Vacuum thoroughly once the carpet is dry.

INTERIM CLEANING

INTERIM CLEANING TIPS

- ▶ Operate equipment with slow, deliberate passes in length and width for maximum effectiveness.
- ▶ Heavy traffic areas may require multiple passes back and forth to sufficiently extract embedded soil.

RECOMMENDED EQUIPMENT

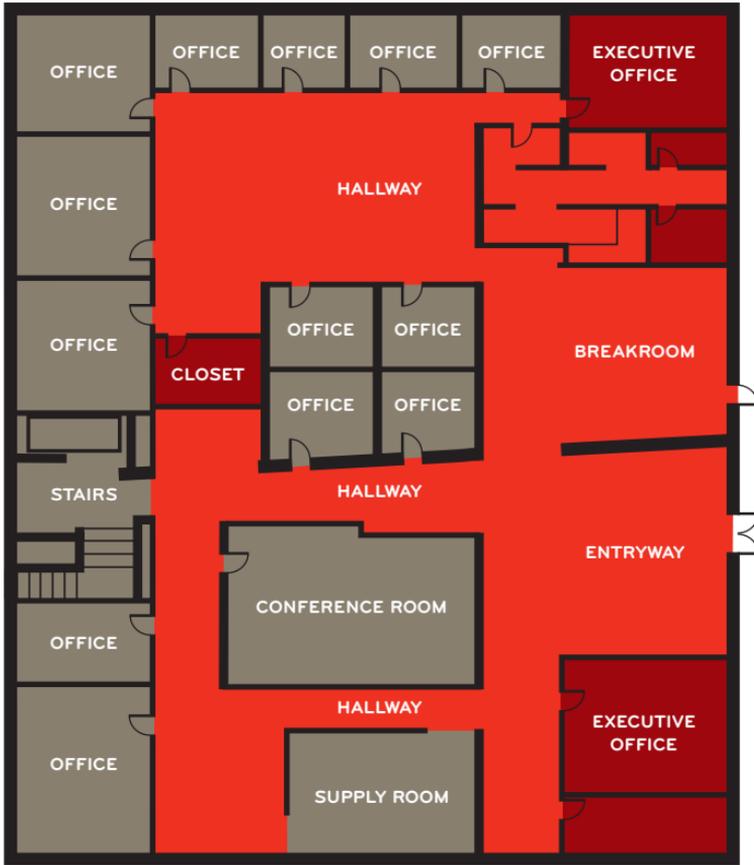
- ▶ For interim cleaning the Mohawk Group recognizes that there are many absorbent compound and low moisture cleaning brands available in the marketplace. We suggest that you analyze several brands for effectiveness and cost, to determine which best suits the needs of your facility.
- ▶ Closely follow all the manufacturer's user instructions for the cleaning method you choose. Any cleaning method improperly carried out can lead to poorly maintained and damaged carpet.

INTERIM CLEANING FREQUENCIES

The table below is provided as a general reference for how often different types of traffic areas should be Interim cleaned during normal situations.

AREA TYPE	TRAFFIC CONDITION	INTERIM CLEANING FREQUENCY
Entry	Heavy	18 Times / Year
Ground Floor Halls	Heavy	18 Times / Year
Breakroom or Food Areas	Heavy	18 Times / Year
Above Ground Halls	Medium	9 Times / Year
General Office Areas	Medium	9 Times / Year
Classrooms/Guest Rooms	Medium	9 Times / Year
Hospital/School Corridors	Medium	9 Times / Year
Conference Rooms	Medium	9 Times / Year
Nursing Stations	Medium	9 Times / Year
Supply Rooms	Medium	9 Times / Year
Patient Rooms*	Medium	9 Times / Year
Executive Offices	Light	3 Times / Year
Boardrooms	Light	3 Times / Year

* Occupancy and traffic will determine frequency



CLEANING FREQUENCIES FOR A TYPICAL CORPORATE OFFICE

HEAVY COMMERCIAL TRAFFIC

The classification of heavy commercial traffic refers to public spaces such as main corridors, lobby and entrance areas, vending machine areas, airports, casinos, assisted living and retail facilities.

MEDIUM COMMERCIAL TRAFFIC

Medium commercial traffic areas are those that must withstand high foot traffic such as school corridors and classrooms, administrative and general office areas.

LIGHT COMMERCIAL TRAFFIC

Light commercial traffic areas include cubicles, executive offices and boardrooms. Traffic is minimal, thus reducing the soil in this area.

DEEP CLEANING

CAUTION: Mohawk Group does not recommend the use of a spin bonnet, as it can damage the fibers in your carpet.



When selecting chemicals and equipment, a great place to start is the Carpet and Rug Institute's (CRI) Seal of Approval list. The chemicals and equipment listed at www.carpet-rug.org have been tested in an independent, certified laboratory and have met minimum standards for cleaning efficacy.

DEEP CLEANING

Deep Cleaning is restoring the carpet's appearance by extracting soil and substances that can damage your carpet. The Mohawk Group recommends hot water extraction as the most effective method to give restorative deep cleaning results. Soil is abrasive and will cause premature wear of the fibers if it is not properly removed and hot water extraction is the only method that can remove the soil and residue from deep down in the fibers.

HOT WATER EXTRACTION CLEANING METHOD

Hot Water extraction, performed with truck-mount, portable, or self-contained equipment, uses the high-pressure force of water injected into the carpet followed by powerful vacuum suction to remove suspended soil. The process happens almost instantaneously and does not allow cleaning agents to have adequate dwell time. Therefore, the only cleaning agent you should use in the machine's tank is an acidic rinse agent to help return the pH to neutral, or a de-foamier to cut down on the accumulation of detergent foam in the machine. Instead, use your cleaning agent as a pre-spray, agitate, and then rinse with your extractor using plain water.

HOT WATER EXTRACTION PROCESS

1. Vacuum thoroughly to remove as much dry soil as possible
2. Pre-spray with cleaning agent
3. Agitate with a counter rotating brush or carpet rake to work the pre-spray throughout the carpet pile and suspend the soil
4. Rinse with plain water

NOTE: During extraction, it is essential to extract as much moisture as possible with dry passes (3 to 4 dry passes per each wet pass). Enhance the drying time by using air movers allowing three to four hours drying time after the last extraction before traffic is allowed on the carpet.

DEEP CLEANING

HOT WATER EXTRACTION TIPS

- Test the cleaning agent to be sure it dries without stickiness or residue; otherwise it can cause rapid re-soiling.
- Use only cleaning agents that have a pH factor below 10 and contain low levels of volatile organic compounds (VOCs).
- When performed properly, carpet should be dry within 4-6 hours.
- We recommend the use of portable or truck-mounted equipment or self-contained extractors. Extractors incorporating a brush between the water jet and vacuum are recommended.
- Remove as much moisture as possible with dry passes.
- Enhance drying time by using air movers and, if possible, do not permit traffic on the carpet until it is dry.

RECOMMENDED EQUIPMENT

- Presprays are a vital part of a good hot water extraction.
- Dual cylinder brush scrubber is recommended to agitate and pile lift the yarn.
- All equipment and chemicals must be CRI approved.

DEEP CLEANING FREQUENCIES

The table below is provided as a general reference for how often different types of traffic areas should be Deep cleaned during normal situations.

AREA TYPE	TRAFFIC CONDITION	DEEP CLEANING FREQUENCY
Entry	Heavy	6 Times / Year
Ground Floor Halls	Heavy	6 Times / Year
Breakroom or Food Areas	Heavy	6 Times / Year
Above Ground Halls	Medium	3 Times / Year
General Office Areas	Medium	3 Times / Year
Classrooms/Guest Rooms	Medium	3 Times / Year
Hospital/School Corridors	Medium	3 Times / Year
Conference Rooms	Medium	3 Times / Year
Nursing Stations	Medium	3 Times / Year
Supply Rooms	Medium	3 Times / Year
Patient Rooms*	Medium	3 Times / Year
Executive Offices	Light	1 Times / Year
Boardrooms	Light	1 Times / Year

* Occupancy and traffic will determine frequency



CLEANING FREQUENCIES FOR A TYPICAL CORPORATE OFFICE

HEAVY COMMERCIAL TRAFFIC

The classification of heavy commercial traffic refers to public spaces such as main corridors, lobby and entrance areas, vending machine areas, airports, casinos, assisted living and retail facilities.

MEDIUM COMMERCIAL TRAFFIC

Medium commercial traffic areas are those that must withstand high foot traffic such as school corridors and classrooms, administrative and general office areas.

LIGHT COMMERCIAL TRAFFIC

Light commercial traffic areas include cubicles, executive offices and boardrooms. Traffic is minimal, thus reducing the soil in this area.

BEYOND VACUUMING AND ROUTINE SPOT CLEANING

In addition to preventive maintenance, proper vacuuming and spot cleaning, a planned program of both interim and deep cleaning is the best approach to maintain your carpet's appearance by extracting soil and substances that can damage your carpet.

When deciding on the right carpet for your business, it was necessary to consider many factors unique to your own needs. The same is true when considering the most appropriate cleaning method for your carpet. Just as there is no "one-size-fits-all" carpet, there is no "one-size-fits-all" maintenance program.

However, there are cleaning principles that apply across the spectrum, and apply to carpet the same way they apply to cleaning any other object. We refer to these principles as **TACT...**

➡ **TIME** ➡ **AGITATION** ➡ **CHEMISTRY** ➡ **TEMPERATURE**

TIME is for dwell time, allowing the cleaning agent to do its work in breaking the bond between the soil and fiber and either dissolving it, absorbing or encapsulating it. Just as we don't apply toothpaste to our teeth and immediately spit it out, we can't expect good results if we apply cleaning agents to the carpet and then immediately remove them.

AGITATION is for mechanical agitation, which serves to work the cleaning agent throughout the carpet pile and to help break the bond between the soil and the carpet fibers.

CHEMISTRY is any carpet-appropriate cleaning agent that is used to remove soil. Different types of soiling require different types of cleaning agents. We use chemistry in cleaning every day of our lives and should not be afraid to use it appropriately when cleaning carpet.

TEMPERATURE means using the appropriate temperature for the type of soiling. This mainly applies to wet extraction and does not always mean heat. Heat is a catalyst that speeds up chemical reactions and aids in the cleaning process by helping to lower surface tension and loosen most soiling bonds.

These principles apply regardless of the cleaning method you employ. Optimal cleaning results will be achieved when using all of these principles together. Should you find that one of the principles is not available to you such as lack of hot water, you will need to increase the use of the other principles, i.e., more agitation or dwell time to achieve equitable results.

ANNUAL INTERIM & DEEP CLEANING FREQUENCIES

The table below is provided as a general reference for how often the three different types of traffic areas (Heavy, Medium & Light) should be cleaned during normal situations.

WEEK	CLEANING TYPE
01	Interim
02	Interim
03	Interim
04	Interim
05	
06	Interim
07	Interim
08	Deep
09	
10	Interim
11	Interim
12	Interim
13	
14	Interim
15	Deep
16	Deep
17	Interim
18	
19	Interim
20	Interim
21	Interim
22	
23	Interim
24	Interim
25	Deep
26	

WEEK	CLEANING TYPE
27	Interim
28	Interim
29	Interim
30	Interim
31	
32	Interim
33	Deep
34	Deep
35	
36	Interim
37	Interim
38	Interim
39	
40	Interim
41	Interim
42	Deep
43	Deep
44	
45	Interim
46	Interim
47	Interim
48	
49	Interim
50	Deep
51	Deep
52	

TRAFFIC CONDITION

Heavy Commercial Traffic
Medium Commercial Traffic
Light Commercial Traffic

EXCEPTIONAL FLOORING FOR DEMANDING SPACES

Regardless of the space, the demand for maximum flooring performance remains critical. The Mohawk Group specializes in fitting the right high performance and the longest possible life cycle. With proper routine maintenance, such as vacuuming and following simple cleaning instructions, carpet from the Mohawk Group will maintain its beauty for years. In fact, carpet will allow your custodial crew to clean more space in the same eight-hour shift than spaces with hard surfaces. Let us show you the value of our carpet and how easy it is to protect your investment.

OUR ENVIRONMENTAL COMMITMENT

The Mohawk Group, a subsidiary of Mohawk Industries Inc., is committed to manufacturing processes that have the least impact on our environment. We practice energy conservation and reduce landfill waste by recycling manufacturing by-products. We encourage you to join us in our environmental commitment by properly maintaining your carpet. A planned maintenance program will keep your carpet looking good longer so it stays out of the landfill. Properly maintained carpet can also help improve the air in your workplace by acting as a filter. The end result is much better performance, higher employee morale and a healthier work environment.

TO LEARN MORE ABOUT THE MOHAWK GROUP AND
THE PRODUCTS WE OFFER, CONTACT YOUR LOCAL
SALES REPRESENTATIVE OR VISIT OUR WEBSITE AT:
MOHAWKGROUP.COM

WARNING!

Do not use these cleaning products on any Mohawk carpet:

- Chlorinated cleaning solutions
- Quarternary solutions
- Oil-based de-foamers
- Petroleum distillates
- Toxic or flammable solvent-based cleaners

Cleaning products should have a pH level below 10 for nylon carpet.
Water temperature should never exceed 160 degrees.

MOHAWK GROUP MAINTENANCE HOTLINE: **800.833.6954**

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FIELD TECHNICAL SERVICES DEPARTMENT TELEPHONE: 1.800.833.6954

ADDRESS: 160 SOUTH INDUSTRIAL BLVD., CALHOUN, GA 30701 TELEPHONE: 1.800.554.6637

MOHAWKGROUP.COM

CC101 SLT0003637



Gris 12 x 12 on floor: Diamond Pattern Shown. Gris 10 x 14 on wall with coordinating 1 x 2 Midnight Oyster glass mosaics.



24 x 24



18 x 18



12 x 24



12 x 12



10 x 14
Wall Tile



2 x 4
Brick Mosaic

Porcelain Floor Tile



Blanc Golden Gris Russet

Ceramic Wall Tile



Blanc Golden Gris Russet

Ceramic Mosaic Tile



Blanc** Golden** Gris** Russet**

Coordinating Decorative Wall Tile Options



Midnight Oyster*** Pecan Taupe Blend***

Coordinating Decorative Tile



Copper Wheel*

PACKAGE INFORMATION

24 x 24 Field Tile (23-5/8" x 23-5/8" nominal size) 16.00 sq. ft. per carton
 18 x 18 Field Tile (17-11/16" x 17-11/16" nominal size) 18.00 sq. ft. per carton
 12 x 24 Field Tile (11-11/16" x 23-5/8" nominal size) 16.00 sq. ft. per carton
 12 x 12 Field Tile (11-13/16" x 11-13/16" nominal size) 11.00 sq. ft. per carton
 10 x 14 Wall Tile (9-27/32" x 13-31/32" nominal size) 14.55sq. ft. per carton
 2 x 4 Mosaic (11-11/16" x 11-11/16" nominal size) 0.83sq. ft. per sheet

FLOOR LOCATION



Suitable for exterior applications in freezing and non-freezing climates when proper installation methods are followed. Not recommended for residential pool decks.

WALL LOCATION



FLOOR PRODUCT REFERENCE CHART

	24 x 24	18 x 18	12 x 12	12 x 24*	3 x 12 Bullnose	2 x 12* Deco
FLOOR	Blanc	AD16467	AD16415	AD16407	AD16411	AD16391
	Golden	AD16468	AD16416	AD16408	AD16412	AD16392
	Gris	AD16469	AD16417	AD16409	AD16413	AD16393
	Russet	AD16470	AD16418	AD16410	AD16414	AD16394
	Copper Wheel					AD15296

AVAILABLE TRIM

WALL PRODUCT REFERENCE CHART

	10 x 14	2 x 4** Mosaic	3 x 10 Bullnose	3 x 3 Wall Bullnose Corner	5/8 x Random Mosaic***	1 x 2 Glass Mosaic***
FLOOR	Blanc	AD16403	AD16387	AD16395	AD16399	
	Golden	AD16404	AD16388	AD16396	AD16400	
	Gris	AD16405	AD16389	AD16397	AD16401	
	Russet	AD16406	AD16390	AD16398	AD16402	
	Midnight Oyster					16526
	Pecan Taupe Blend					AD15285

AVAILABLE TRIM

FLOOR NOTES: Four 12 x 12 Field Tile were photographed together to show the High Shade Variation which is part of the natural beauty of this product. To achieve the maximum intended results, tile should be pulled from multiple cartons and placement decided upon prior to installation.

* Decorative Border comes mesh-mounted on a 2 x 12 sheet.

WALL NOTES: Four 10 x 14 Field Tile were photographed together to show the High Shade Variation which is part of the natural beauty of this product. To achieve the maximum intended results, tile should be pulled from multiple cartons and placement decided upon prior to installation.

** 2 x 4 Brick Joint Mosaic comes dot-mounted on 12 x 12 sheet.

*** Mosaics come mesh-mounted on a 12 x 13 sheet.

INSTALLATION INFORMATION

Tile Thickness: 5/16"
 Grout Width: 3/16" Floor+
 Grout Width: 1/16" Wall+
 Grout Width: 1/8" Mosaic

+When rectangular sizes are used in a staggered brick-joint pattern, the overlap should not exceed 33%.

Use of a latex modified thin-set is recommended for installation.

LARGE TILE INSTALLATION CAUTION: Large format tile installation requires particular attention to proper substrate preparation, grout width sizing, trowel selection, and mortar coverage. It is critical that large format tile be installed on a level substrate. Additionally, there must be at least 90% mortar contact and a minimum grout width of 1/8". Refer to the published installation instructions prepared by your preferred manufacturer of setting materials for optimal tools and setting methods to achieve your desired result.

CLEANING PROCEDURES:

- Remove loose dust and dirt with a damp cloth or sponge
- Use a neutral, non-abrasive cleaner suitable for ceramic tile
- Remove cleaning solution with a clean, damp sponge or mop

FLOOR TEST DISCLOSURE INFORMATION

Wear Rating: 1 2 3 4 5
 Scratch Hardness: 6 7 8 9 10
 Resistance: CHEMICAL IMPACT STAIN FROST

Slip Resistance (S.C.O.F) > 0.60 Wet (D.C.O.F) ≥ 0.42 Wet

Wear Rating is based on a scale of 1 thru 5. 1 is recommended for light residential. 5 is rated for heavy commercial usage. This is also known as PEI. Scratch Hardness is the measure to determine the relative hardness of glazes. This measure is also known as MOHs and uses a scale from 1 to 10 with 10 having the highest scratch hardness.

WALL TEST DISCLOSURE INFORMATION

Resistance: CHEMICAL IMPACT STAIN FROST

SHADE VARIATION

High (V3) change in color within each tile and from tile to tile.

Since there is shade variation in all fired ceramic and porcelain products, the tile and trim supplied for your particular installation may not match these samples. Color samples, as shown, may not be an exact product match. Mohawk expressly disclaims any liability resulting from product selections that rely solely upon color samples contained on this card. Final selection should always be made from actual pieces of tile and trim, not from tile and trim samples and/or color photo reproductions.



REVEAL IMAGING™

Only stone is more real than Reveal. Every single tile looks virtually indistinguishable from natural stone, offering a clearly unique visual. The main attributes of state-of-the-art Reveal Imaging™ technology.

- Sophisticated state-of-the-art imaging.
- Unmatched color definition, detailing and veining.
- Unparalleled emulation of natural stone.
- Pattern rarely repeats.



MOHAWK'S LIMITED WARRANTY For Laminate Floors

LIMITED LIFETIME WARRANTY AND MAINTENANCE FOR RESIDENTIAL USE

Mohawk Industries is so confident in the design and durability of our Mohawk laminate flooring products and accessories, that we back them with a Lifetime Warranty. This Lifetime Warranty covers defects in material and/or workmanship which relate to joint integrity, staining, fading, wear and moisture resistance during normal residential use.

Joint Integrity

The Mohawk Uniclic system will not fail.

Stain Resistance

Mohawk flooring will resist staining.

Fade Resistance

Mohawk flooring will resist fading from exposure to sunlight or artificial light.

Wear Resistance

Mohawk flooring wear layer will not wear through the design layer.

Water Resistance

Mohawk flooring will resist water damage.



GENERAL TERMS AND CONDITIONS For Laminate Floors

Mohawk flooring and accessories carry the specific warranties listed above. In addition to the requirements specified for each of those particular warranties, the following general terms and conditions also apply.

1. This warranty applies only to the first owner and the first installation of the product and may not be transferred. The "first owner" is the person stated as the buyer on the purchase document(s). This warranty applies only to the first quality Mohawk brand product purchases made after the edition date of these warranty conditions for the designated time period when the product is installed in a private residence.

2. This product warranty only applies to defects inherent to the material supplied. This means any material or production defects acknowledged by the manufacturer. It includes the delamination or reduced resistance of the wear layer, but does not include, in beveled-edge products, wear along the edges of the panels less than 3/16" (5mm) from the edge. Mohawk Industries will repair or replace the product, at its option. When replacement of the flooring is made, only new panels from the current product range at the time the complaint is upheld will be supplied by the distributor or retailer. There will be no other form of compensation. Responsibility under this warranty only applies to hidden defects. These are defects that were not visible before or during the installation of the laminate floor. If the product was originally professionally installed, Mohawk Flooring will cover reasonable labor cost. Mohawk Industries can never be held liable and is not responsible for any secondary damage.

3. The lifetime locking warranty on the Uniclic joint only applies to open joints greater than 0.01 inches (0.2mm).

4. This warranty applies only to first quality Mohawk brand product installed according to the manufacturers' recommended installation instructions in indoor residential spaces. We recommend using the approved Mohawk Uniclic accessories as they have been specifically designed and tested for use with Mohawk flooring panels. The use of accessories other than Mohawk accessories might cause damage to the Mohawk floor. In such cases, the warranty provided by Mohawk will be void. Proof of compliance with the installation and maintenance instructions recommended by the manufacturer must be provided if a claim is filed. These instructions are located inside one out of every three flooring cartons or in each individual accessory package. If the instructions are not there, they should be requested from the manufacturer, distributor or retailer. The instructions may also be viewed at www.mohawkflooring.com. If installation is not performed by the end user, at least one copy of the installation and maintenance instructions and this residential warranty must be provided to the end user by the installer.

5. This warranty does not apply to laminate flooring that has been put to abnormal use or conditions or abused in any way. Abnormal use or conditions includes, but is not limited to, water damage from plumbing, storm or flood; damage from smoke, fire or other

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casualty events; damage caused by negligence and improper alterations of the original manufactured product. "Abuse" is any use of the flooring that is unreasonable considering the normal and expected uses of a laminate floor in a residential environment. The damage to the product must be evident, measuring, per product unit (panel, accessory, etc.) at least 1.40 square centimeter or 0.5 square inch, and must not be the result of abusive, abnormal conditions or accidents such as, but not limited to, damage of mechanical nature, severe impact or scratches (caused by dragging objects or furniture) or cutting. The feet of furniture must always be covered with appropriate protective material. Chairs, sofas or furniture with castors must be fitted with soft rubber wheels. An adequate protective mat or protective castor cups must be put under this furniture.

6. A suitable mat or sufficiently large transition area at the entrance door(s) must be used to prevent sand and/or dust from damaging the flooring.

7. This warranty does not apply to damage from exposure to extreme heat, dryness, water saturation or stains as a result of chemical or industrial products (other than recommended cleaning products). The floor may not be installed in damp and/or humid areas, in extremely dry areas or in areas where there are extremely high temperatures (such as saunas or swimming pool areas).

8. This warranty excludes damage caused by water, including but not limited to natural disasters (i.e., floods), naturally occurring conditions/accidents (i.e., Appliance and plumbing failures), urine or standing water (water that remains on the floor longer than 30 minutes). The water resistance warranty does not apply to products that are less than 8mm thick and does not apply to beveled-edge products when used in bathrooms.

9. This warranty excludes damage caused by water or moisture trapped beneath the floor due to improper subflooring or underlayment including but not limited to damage from hydrostatic pressure (water or moisture under the floor that is transmitted to the surface through exerted pressure) or other conditions that result in water or moisture being below the floor.

10. This warranty excludes damage caused by moisture left on the floor (or on or around the skirting boards, wall base or profiles), cleaning that is too wet and/or the use of inappropriate cleaning products. Prolonged water exposure could damage your laminate flooring.

11. Flooring panels or accessories must be checked carefully for material defects before and during installation and under sufficient lighting. Products with visible defects must not be installed under any circumstances. The distributor or retailer must be informed in writing of such defects within 15 days. After this time has elapsed, no further complaints will be accepted. Color and gloss issues resulting from material added to an existing installation at a later date and non-warranty repairs are excluded from coverage.

12. Under no circumstances will Mohawk Industries be responsible for any loss of time, inconvenience, expenses, costs or other consequential damages caused by or resulting directly or indirectly from a problem about which a claim was made.

13. Mohawk Flooring OFFERS NO OTHER WARRANTY, EXPRESS OR IMPLIED, THAN THE ONE DESCRIBED HEREIN, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR SUITABILITY OF THE PRODUCT FOR A PARTICULAR PURPOSE, AND NO OTHER REMEDIES SHALL BE AVAILABLE EXCEPT FOR THOSE PROVIDED HEREIN. Some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

14. The general warranty and Uniclic warranty periods are both pro rata 33 years for flooring and 25 years for accessories. A pro rata warranty is one that provides for a refund or credit that decreases according to a set formula as the warranty period progresses. The Mohawk original warranty value is reduced by the amount of time that you own it. When a claim is made, the value of the warranty becomes a percentage of ownership per year based upon the 33 years for the general warranty for flooring, 25 years for accessories and/or 33 years on the integrity of the Uniclic joint. Any services provided as part of this warranty do not extend the original warranty period. If the product for which a claim is made is no longer available, the customer will be able to choose a Mohawk product of equal value from the current product range.

15. If there is a conflict between these general terms and conditions and the terms and conditions of the warranties as specified, the terms and conditions of the warranties as specified shall control.

For service under this warranty, please contact your local Mohawk® retailer. Describe the problem and in many cases, the retailer can provide you with a solution.

For installation, maintenance and technical questions, contact Mohawk Technical Services at mohawk_tech@mohawkind.com or by calling 888-387-9881 option 3.



CARE AND MAINTENANCE For Laminate Floors

Mohawk laminates are specially designed to be easy-care, low-maintenance floors. Following these general guidelines will help maintain their strength and prolong their beautiful appearance.

A CLEAN ROUTINE

Vacuum or sweep with a soft-bristle broom regularly, especially before using floor cleaners, to prevent gritty dirt and particle buildup that can scratch the floor's surface. Don't use vacuums with a beater bar or power rotary brush head.

Wipe up spills and spots immediately with Mohawk FloorCare Essentials Hardwood & Laminate Flooring Cleaner applied directly to a clean white cloth. Carefully remove stubborn stains such as paint, oil, markers, lipstick and tar with an acetone-based fingernail polish remover. Use ice to harden tough substances such as candle wax or chewing gum and then gently scrape with a plastic scraper, such as a credit card. Be careful not to scratch the flooring surface. Wipe area clean with a soft, slightly damp cloth.

PROTECTIVE PADS AND PROPER PRECAUTIONS

Attach felt or similar protective pads to all furniture legs, particularly heavy pieces. When you're moving furniture, appliances or other heavy objects, use floor protectors and wide-load-bearing leg bases or rollers; never slide or roll anything across the floor. Use wider floor protectors for heavier loads. If furniture has hard plastic or metal castor/wheels, replace them with soft rubber castor or use protective mats underneath.



TEN LAMINATE DO'S & DON'TS For Laminate Floors

DO dust-mop and vacuum your floor frequently, especially in high-traffic areas; only use a vacuum with a soft-bristle brush.

DO NOT wet-mop or clean your floor with water or other liquid; for slightly damp maintenance, lightly spray laminate cleaner on a duster and wipe dry immediately.

DO NOT use wax, polish, oils, soaps, detergents, shine enhancers, varnish, silicon or ammonia to clean your floor.

DO NOT use 2-in-1 cleaners with polish that may contain acrylics or urethane polish to restore gloss.

DO NOT use harsh cleaning aids such as steel wool pads, any scouring pads containing metal or scouring powders.

DO keep pets' nails trimmed and their paws free of dirt, gravel, grease, oil and stains.

DO remove shoes with spiked or damaged heels before walking on floor.

DO use humidifiers during cool weather and an air conditioner or dehumidifier in warm weather to help reduce plank shrinkage and maintain proper relative humidity (between 50-60%)

DO avoid exposure to water as much as possible during inclement weather.

For additional cleaning instructions, visit: www.mohawkflooring.com



PREMIUM LUXURY VINYL FLOORING WARRANTY

Premium Luxury Vinyl Flooring comes with a 15 year Residential Warranty (2MM/6mil urethane), a 25 year Residential/6 year Light Commercial Warranty (2MM/12 mil urethane), or a Limited Lifetime Residential/10 year Commercial Warranty (3MM/20 mil urethane with Aluminum Oxide) — depending on the construction purchased. This warranty covers defects in material and/or workmanship which relate to staining and wear during intended use.

Stain Resistance

Premium Luxury Vinyl Flooring will resist staining.

Wear Resistance

Premium Luxury Vinyl Flooring wear layer will not wear through the design layer.

To qualify for any repair or replacement, you will need to provide the original dated sales receipt or other documentation to demonstrate proof of purchase.



Premium Luxury Vinyl Flooring carries the specific warranties listed above. In addition to the requirements specified for each of those particular warranties, the following general terms and conditions also apply. If you have questions regarding the warranty information, please contact the manufacturer or retailer.

1. This warranty is for properly installed Premium Luxury Vinyl Flooring, according to the installation insert in the cartons of material. For the most up-to-date installation recommendations, please send an email to Mohawk_Tech@Mohawkind.com. Proof of compliance with the installation and maintenance instructions recommended by the manufacturer must be provided if a claim is filed. The installation instructions are included in the cartons of product or may be obtained by contacting your retailer. If installation is not performed by the end user, at least one copy of the installation and maintenance instructions and this residential warranty must be provided to the end user by the installer.

2. This warranty applies only to the first owner and the first installation of the product and may not be transferred. The "first owner" is the person stated as the buyer on the purchase document(s). This warranty applies only to first quality Premium Luxury Vinyl Flooring purchases made after the edition date of these warranty conditions for the designated time period when the product is installed in a private residence or light commercial application.

3. This product warranty only applies to defects inherent to the material supplied. This means any material or production defects acknowledged by Mohawk. Mohawk will repair or replace the product, at its option. When replacement of the flooring is made, only new material from the current product range at the time the complaint is upheld will be supplied by the distributor or retailer. There will be no other form of compensation. Responsibility under this warranty only applies to hidden defects. These are defects that were not visible before or during the installation of the laminate floor. Mohawk® can never be held liable and is not responsible for any secondary damage.

4. This warranty does not apply to Premium Luxury Vinyl Flooring that has been put to abnormal use or conditions or abused in any way. "Abnormal use or conditions" includes, but is not limited to, damage from plumbing/appliance leaks, storm or flood; damage from smoke, fire or other casualty events; damage caused by negligence or improper alterations of the original manufactured product. "Abuse" is any use of the flooring that is unreasonable considering the normal and expected uses of Luxury Vinyl Flooring in a residential or light commercial environment. The damage to the product must be evident, measuring per product unit (panel, accessory, etc.) at least 1.40 square centimeter or 0.5 square inch, and must not be the result of abusive, abnormal conditions or accidents such as, but not limited to, damage of a mechanical nature, severe impact or scratches (caused by dragging objects or furniture) or cutting. The feet of furniture must always be covered with appropriate protective material. Chairs, sofas or furniture with castors must be fitted with soft rubber wheels. An adequate protective mat or protective castor cups must be put under this furniture.

GENERAL TERMS AND CONDITIONS

For Premium Luxury Vinyl

5. A suitable mat or sufficiently large transition area at the entrance door(s) must be used to prevent sand and/or dust from damaging the flooring.

6. This warranty does not apply to damage from exposure to extreme heat or sunlight exposure, dryness or stains as a result of chemical or industrial products (other than recommended cleaning products).

7. This warranty excludes damage caused by hydrostatic pressure (water or moisture under the floor that is transmitted to the surface through exerted pressure) or other conditions that result in water or moisture being below the floor.

8. Material must be checked carefully for defects before and during installation and under sufficient lighting. Products with visible defects must not be installed under any circumstances. The retailer must be informed in writing of such defects within 15 days. After this time has elapsed, no further complaints will be accepted. Color and gloss issues resulting from material added to an existing installation at a later date and non-warranty related repairs are excluded from coverage.

9. Under no circumstances will Mohawk be responsible for any loss of time, inconvenience, expenses, costs or other consequential damages caused by or resulting directly or indirectly from a problem about which a claim was made.

10. **Mohawk OFFERS NO OTHER WARRANTY, EXPRESS OR IMPLIED, THAN THE ONE DESCRIBED HEREIN, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR SUITABILITY OF THE PRODUCT FOR A PARTICULAR PURPOSE, AND NO OTHER REMEDIES SHALL BE AVAILABLE EXCEPT FOR THOSE PROVIDED HEREIN.** Some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

11. The general warranty period is pro rata. A pro rata warranty is one that provides for a refund or credit that decreases according to a set formula as the warranty period progresses. The warranty value is reduced by the amount of time that you own it. When a claim is made, the value of the warranty becomes a percentage of ownership per year based upon 10 years residentially for the general warranty. Any services provided as part of this warranty do not extend the original warranty period. If the product for which a valid claim is made is no longer available, the customer will be able to choose a Premium Luxury Vinyl Flooring product of equal value from the current product range.

12. If there is a conflict between these general terms and conditions and the terms and conditions of the warranties as specified, the terms and conditions of the warranties as specified shall control.

GENERAL TERMS AND CONDITIONS

For Premium Luxury Vinyl

For service under this warranty, please contact retail location where you purchased your Premium Luxury Vinyl Flooring. Describe the problem and, in many cases, the retailer can provide you with a solution.

For installation, maintenance and technical questions, please call Mohawk Technical Services at 888-387-9881 option 3.

Premium Luxury Vinyl Flooring is distributed by Mohawk Industries. Warranty date: September 2015

Endnotes

¹ See General Terms and Conditions point 12.

² See General Terms and Conditions point 12.

³ See General Terms and Conditions point 12.



CARE AND MAINTENANCE For Premium Luxury Vinyl

Thanks to its high durability and water resistance, luxury vinyl is easy to keep clean and looking like new.

Basic Maintenance

Sweep or vacuum floors regularly to remove any dust or debris. Avoid using a vacuum with a beater bar. Damp-mop as needed with clean water or Mohawk Floorcare Essentials Hardwood, Laminate and Vinyl Flooring Cleaner. Harsh cleaning chemicals shouldn't be used on luxury vinyl flooring.

Tips for Preventing Damage

- Use blinds or drapes to block sunlight during peak hours.
- Use felt pads for frequently moved furniture to prevent scratching. Opt for nonstaining large surface floor protectors for heavy furniture and appliances.
- Clean up spills immediately.

Extra Protection

Invest in high-quality floor mats for an extra layer of protection. Place the mats at entrances and exits to collect and trap corrosive substances that can be tracked in such as dirt, sand, oil, grit, asphalt and even driveway sealer.



MOHAWK'S LIMITED WARRANTY For Premium Glueless/Clic Luxury Vinyl

PREMIUM GLUELESS LUXURY VINYL FLOORING WARRANTY

Premium Glueless Luxury Vinyl Flooring comes with a 25-year Residential Warranty and a 6-year Light Commercial Warranty. This warranty covers defects in material and/or workmanship which relate to joint integrity, staining and wear during intended use.

Joint Integrity

The Uniclic brand locking system will not fail.

Stain Resistance

Premium Glueless Luxury Vinyl Flooring will resist staining.

Wear Resistance

Premium Glueless Luxury Vinyl Flooring wear layer will not wear through the design layer.

To qualify for any repair or replacement, you will need to provide the original dated sales receipt or other documentation to demonstrate proof of purchase.



GENERAL TERMS AND CONDITIONS For Premium Glueless/Clic Luxury Vinyl

Premium Glueless Luxury Vinyl Flooring carries the specific warranties listed above. In addition to the requirements specified for each of those particular warranties, the following general terms and conditions also apply. If you have questions regarding the warranty information, please contact the manufacturer or retailer.

1. This warranty is for properly installed Premium Glueless Luxury Vinyl Flooring, according to the installation insert in the cartons of material. For the most up-to-date installation recommendations, please send an email to Mohawk_Tech@Mohawkind.com. Proof of compliance with the installation and maintenance instructions recommended by the manufacturer must be provided if a claim is filed. The installation instructions are included in the cartons of product or may be obtained by contacting your retailer. If installation is not performed by the end user, at least one copy of the installation and maintenance instructions and this residential warranty must be provided to the end user by the installer.

2. This warranty applies only to the first owner and the first installation of the product and may not be transferred. The "first owner" is the person stated as the buyer on the purchase document(s). This warranty applies only to first quality Premium Glueless Luxury Vinyl Flooring purchases made after the edition date of these warranty conditions for the designated time period when the product is installed in a private residence or light commercial application.

3. This product warranty only applies to defects inherent to the material supplied. This means any material or production defects acknowledged by Mohawk. Mohawk will repair or replace the product, at its option. When replacement of the flooring is made, only new material from the current product range at the time the complaint is upheld will be supplied by the distributor or retailer. There will be no other form of compensation. Responsibility under this warranty only applies to hidden defects. These are defects that were not visible before or during the installation of the laminate floor. Mohawk can never be held liable and is not responsible for any secondary damage.

4. Open joints of 0.01 inches (0.2mm) or less are not considered a defect under the lifetime locking warranty.

5. This warranty does not apply to Premium Glueless Luxury Vinyl Flooring that has been put to abnormal use or conditions or abused in any way. "Abnormal use or conditions" includes, but is not limited to, damage from plumbing/appliance leaks, storm or flood; damage from smoke, fire or other casualty events; damage caused by negligence or improper alterations of the original manufactured product. "Abuse" is any use of the flooring that is unreasonable considering the normal and expected uses of Premium Glueless Luxury Vinyl Flooring in a residential or light commercial environment. The damage to the product must be evident, measuring per product unit (panel, accessory, etc.) at least 1.40 square centimeters or 0.5 square inch, and must not be the result of abusive, abnormal conditions or accidents such as, but not limited to, damage of a mechanical nature, severe impact or scratches (caused by dragging objects or furniture) or cutting.

GENERAL TERMS AND CONDITIONS For Premium Glueless/Clic Luxury Vinyl

The feet of furniture must always be covered with appropriate protective material. Chairs, sofas or furniture with castors must be fitted with soft rubber wheels. An adequate protective mat or protective castor cups must be put under this furniture.

6. A suitable mat or sufficiently large transition area at the entrance door(s) must be used to prevent sand and/or dust from damaging the flooring.

7. This warranty does not apply to damage from exposure to extreme heat or sunlight exposure, dryness or stains as a result of chemical or industrial products (other than recommended cleaning products).

8. This warranty excludes damage caused by hydrostatic pressure (water or moisture under the floor that is transmitted to the surface through exerted pressure) or other conditions that result in water or moisture being below the floor.

9. Material must be checked carefully for defects before and during installation and under sufficient lighting. Products with visible defects must not be installed under any circumstances. The retailer must be informed in writing of such defects within 15 days. After this time has elapsed, no further complaints will be accepted. Color and gloss issues resulting from material added to an existing installation at a later date and non-warranty related repairs are excluded from coverage.

10. Under no circumstances will Mohawk be responsible for any loss of time, inconvenience, expenses, costs or other consequential damages caused by or resulting directly or indirectly from a problem about which a claim was made.

11. Mohawk OFFERS NO OTHER WARRANTY, EXPRESS OR IMPLIED, THAN THE ONE DESCRIBED HEREIN, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR SUITABILITY OF THE PRODUCT FOR A PARTICULAR PURPOSE, AND NO OTHER REMEDIES SHALL BE AVAILABLE EXCEPT FOR THOSE PROVIDED HEREIN. Some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

12. The general warranty and the Uniclic brand locking mechanism warranty periods are both pro rata. A pro rata warranty is one that provides for a refund or credit that decreases according to a set formula as the warranty period progresses. The warranty value is reduced by the amount of time that you own it. When a claim is made, the value of the warranty becomes a percentage of ownership per year based upon 25 years residentially and 6 years for light commercially for the general warranty and on the integrity of the interlocking joint. Any services provided as part of this warranty do not extend the original warranty period. If the product for which a valid claim is made is no longer available, the customer will be able to choose a Uniclic brand Luxury Vinyl Flooring product of equal value from the current product range.

GENERAL TERMS AND CONDITIONS For Premium Glueless/Clic Luxury Vinyl

13. If there is a conflict between these general terms and conditions and the terms and conditions of the warranties as specified, the terms and conditions of the warranties as specified shall control.

For service under this warranty, please contact the retail location where you purchased your Premium Glueless Luxury Vinyl Flooring. Describe the problem and, in many cases, the retailer can provide you with a solution.

For installation, maintenance and technical questions, please call Mohawk Technical Services at: 888-387-9881 option 3.

Premium Glueless Luxury Vinyl Flooring is distributed by Mohawk Industries. Warranty date: January 2015

Endnotes

¹ See General Terms and Conditions point 12.

² See General Terms and Conditions points 3-4.



CARE AND MAINTENANCE

For Premium Glueless/Clic Luxury Vinyl

Thanks to its high durability and water resistance, luxury vinyl is easy to keep clean and looking like new.

Basic Maintenance

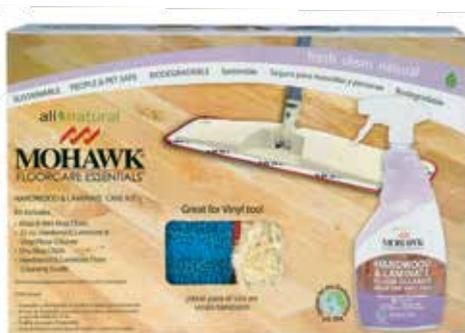
Sweep or vacuum floors regularly to remove any dust or debris. Avoid using a vacuum with a beater bar. Damp-mop as needed with Mohawk Floorcare Essentials Hardwood, Laminate and Vinyl Flooring Cleaner. Harsh cleaning chemicals shouldn't be used on luxury vinyl flooring.

Tips for Preventing Damage

- Use blinds or drapes to block sunlight during peak hours.
- Use felt pads for frequently moved furniture to prevent scratching. Opt for nonstaining large surface floor protectors for heavy furniture and appliances.
- Clean up spills immediately.

Extra Protection

Invest in high-quality floor mats for an extra layer of protection. Place the mats at entrances and exits to collect and trap corrosive substances that can be tracked in such as dirt, sand, oil, grit, asphalt and even driveway sealer.



WHAT IS COVERED?

The Mohawk Limited Residential Warranty means that during the stated warranty period your Mohawk fiberglass flooring:

- Will not rip, tear or gouge from normal use
- Will not wear through to lose the design from normal residential use
- Will not permanently indent when the correct floor protectors are used
- Will not contain any manufacturing defects
- Will not discolor from moisture or underlayment panels (see job preparation)

Mohawk will assist in the repair or replacement of the defective material. New material will be of the same grade, design and color, if available. If unavailable, or discontinued, Mohawk has the right to select and supply a similar material. Mohawk will reimburse reasonable labor costs based on a detailed statement if professional installation was paid for when the original floor was installed. For years 1 and 2, a full reimbursement will be paid. For years 3-5, 50% of reasonable labor costs will be paid; after year 5, there will be no reimbursement for installation.

ABOUT YOUR MOHAWK FLOORING WARRANTY:

A dated proof of purchase (consumer receipt) is necessary to verify all warranty claims.

Correct installation practices are critical to appearance and performance. Your floor must be installed following all standard installation practices. Installation problems (i.e., improper subfloor, poor subfloor preparation or the use of improper adhesives and seam sealers, other than those specifically recommended by are the responsibility of the flooring retailer/installer and are not covered by this warranty. This warranty does not cover labor cost on non professionally installed floors or on floors installed with obvious visible defects. Be sure to discuss installation matters with your installer.

Following correct care and maintenance procedures for your new floor is crucial.

The following conditions are not included in the warranty coverage:

- Loss of gloss or buildup/dulling due to improper or lack of maintenance. Dulling over time can be restored using floor polishes.
- Damage resulting from failure to follow care instructions (i.e., scuffs, scratches, cuts).
- Staining (i.e., tracked-in dyes from carpet, fertilizers).
- Severe accidents (i.e., burns, flooding, fires).
- Abuse (i.e., dragging heavy objects across the floor without proper protection).
- Fading or discoloration from heat or sunlight.
- Damage caused by vacuum beater bar, castor wheels and cutting from sharp objects.
- Damage caused by pets/animals.
- Any damage caused to floors that were not graded as "Regular goods."
- Any damage caused by the floor being installed in a non residential or commercial environment.
- Construction and installation-related damage.



CARE AND MAINTENANCE For Fiberglass Sheet Vinyl

General Maintenance

Your new Mohawk fiberglass flooring is an easy care product designed to give you many years of use. Mohawk fiberglass flooring with urethane finishes normally do not require floor polish to maintain their like-new appearance. Mohawk fiberglass flooring with PVC finishes may over time require polish to protect the surface from staining agents and renew the shine.

New Floor Maintenance – 24 hours after installation

- Maintain room temperature at least 65°F for 48 hours to ensure adhesive bonding.
- Keep all traffic off the new floor, if possible, to allow the adhesive to set.
- Avoid all contact with the seam area for the first 12 hours.
- Avoid scrubbing or heavy washing the floor for 3 days.
- Use plywood or other boards when moving heavy objects across the new floor.
- Remove adhesive residue with a clean white cloth dampened with mineral spirits.

Easy Care Maintenance

- Wipe up spills as soon as they occur. Once a spill dries, use a neutral pH cleaner.
- Sweep the floor thoroughly with a soft broom to remove all dirt and grit.
- Damp-mop the floor using a clean mop or cloth. Frequently rinse in clean water.
- Do not use a beater bar vacuum cleaner on the floor. It can visibly damage the floor surface.
- When necessary, mop the floor with a solution of clean water and mild detergent or domestic floor cleaning emulsion.*
- Rinse thoroughly with clean water.

*Do not use:

- Wire or nylon scouring pads
- Furniture polish
- Spirit-based polish
- Powder or liquid abrasive cleaners
- Bleach or strong detergents

CARE AND MAINTENANCE For Fiberglass Sheet Vinyl

Protecting your floor from Physical Damage

Avoid the following:

- Indentation marks from high pressure points, for example, cookers, washing machines, and other appliances; these can be placed on hardboard sheets, castor cups, or an off-cut of the flooring.
- Stiletto heels will damage the flooring.
- Tear or scuff damage can result from dragging heavy appliances across the floor. This can be avoided by placing a sheet of hard board or an off-cut of carpet beneath such units before repositioning them.
- Sharp objects can puncture the surface of the floor.
- Hot or burning objects may scorch or blister the surface of the floor.
- Prevent ground-in dirt & grit by placing a non-staining doormat at all external doorways.

Protecting your floor from Stain Damage

Avoid the following:

- Rubber backings on doormats may result in yellow discoloration of the floor directly beneath the mat. Choose a natural fiber mat or a mat with a non-staining backing.
- Rubber feet on furniture may cause staining. Remove them altogether or place coasters or felt pads between them and the floor.
- Spirit-based products such as shoe polish, solvents, hair dye, and permanent marker pens may stain. Wipe up spots and marks as quickly as possible. Also applies to turmeric, mustard, and strongly colored food items.
- Corrosive substances such as acid and alkaline solutions can damage the surface of the floor. Clean up any spills quickly and carefully avoid direct contact with the substance. (Wear protective clothing, gloves, etc.)
- Bitumen/tar from freshly resurfaced or melted roads and pathways will stain; inexpensive black driveway sealers, some inexpensive rubber shoe (and slipper) soles also can cause stain.

MOHAWK'S LIMITED WARRANTY

For Tile

MOHAWK INDUSTRIES 1-YEAR LIMITED WARRANTY

Mohawk Industries warrants that manufactured products will be free from defect for a period of one-year from date of purchase. Defect is defined as a shortfall in the product to perform to Mohawk specifications as disclosed in product literature, within industry allowable tolerances as set forth in standard, national industry protocols. Mohawk provides detailed information in its product literature regarding appropriate tile and stone applications. Failure to comply with recommended applications voids this warranty. **THIS ONE-YEAR EXPRESS WARRANTY IS THE SOLE WARRANTY EXTENDED AND REPLACES ANY STATUTORY WARRANTIES TO THE MAXIMUM EXTENT ALLOWABLE BY LAW.**

IMPLIED WARRANTIES LIMITED IN DURATION AND SCOPE

The Federal Magnuson-Moss Warranty Act limits disclaimers of implied warranties involving consumer products. To the maximum extent allowable by federal and state law, this warranty supplements or supersedes federal and state consumer goods warranty protections. There are no warranties extended beyond the description on the face hereof.

IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE

Mohawk provides detailed information in its product literature regarding appropriate tile and stone applications. Failure to comply with recommended applications voids this warranty. There are no warranties extended beyond the description on the face hereof.

ADDITIONAL EXCLUSIONS

All warranty claims must be reported immediately. Failure to report any warranty claim within 30 days of defect discovery will void this warranty. All products must be inspected prior to installation. Installation of products with visual defects or nonconformities apparent prior to installation voids this warranty.

Customer misuse including negligence, physical, or chemical abuse is not covered by this warranty. Installation defects are not covered by this warranty.

Tile is subject to variation in technical specifications, including DCOF, due to inherent variability in the raw materials and production process. Express technical specifications are not guarantees of minimum or maximum thresholds of performance. Tile containing abrasives create a rough surface, creating cleaning challenges because dirt and other contaminants lodge in the surface. Extra attention is necessary to assure contaminants are removed promptly. Unless specifically stated otherwise, tile recommended for floor or wall applications refers to interior applications only. Mohawk does not recommend its products for use on ceilings or roofs, unless specifically disclosed as being suitable for ceilings or roofs in product literature. Local building codes may dictate minimum tile performance specifications. Mohawk does not warrant product installations that violate building codes.

Natural stone products are mined and cut from natural formations. Because these products are not subject to a manufacturing

REMEDY LIMITATION & DISCLAIMER

For Tile

process, quality warranties are limited to the specified representations in product literature and guidelines established by the Marble Institute of America. Mohawk does not warrant natural stone products for shade, size, thickness, warping, cleft variations, surface finish variations, or other natural variances on stone products.

Photographic color images may not be an exact product match. Product samples are representative only and may not be an exact match to supplied materials due to variations in batch manufacturing or naturally occurring stone. Supplied materials may have slight differences in color, shade, and/or surface appearance.

REMEDY LIMITATION & DISCLAIMER

If a defect in materials or workmanship is discovered within the one-year period, Mohawk will either refund the price of the product or provide a replacement product after a reasonable number of attempts to remedy product defects. Buyer's remedy is limited to replacement or repair of the defective product. No consequential (including, but not limited to, lost profits) or incidental damages are recoverable. Mohawk disclaims all express warranties not contained in this limited express warranty.

No person has authority to make representations other than those in this writing. Any representations made in connection with the sale of this product that differs from the terms of this warranty are not valid and should be brought to the attention of Mohawk immediately (1-800-933-TILE).

LEGAL NOTICE: WARNING – Tile and installation products contain chemicals known to the state of California to cause cancer, birth defects, reproductive harm, respiratory harm or other health problems. For more product-specific information on chemical content, obtain an MSDS at Mohawk.com or contact Mohawk at 800.933.TILE.

TO MAKE A CLAIM:

1. The original purchaser must notify a Mohawk Sales Service Center or an authorized representative in writing within 30 days of the discovery of any defect.
2. After notification, Mohawk or an authorized representative will inspect and/or test the product for defect and complete a Product Claim Action form. No claim will be honored without product inspection by Mohawk or an authorized representative.
3. Upon determination that the product defect claim is valid, Mohawk will notify the purchaser in writing. Mohawk reserves the right to repair, replace or refund the originally-purchased product, at its sole discretion.

CARE AND MAINTENANCE For Tile

Tile is known for its water resistance and easy cleaning. With the right maintenance routine, your tile floors, walls, and countertops will look great and last for years.

Basic Maintenance

Sweep or vacuum floors to remove any dust or debris before using any cleaning products. Damp-mop your tile floor at least once each week (more frequently for heavy traffic areas) to decrease wear and abrasion from grit and soil.

Glazed Tile

Clean regularly with an all-purpose, non-oil-based household cleaner that's compatible with cleaning grout joints. Use an everyday multipurpose spray cleaner to remove soap scum, hard water deposits and mildew on wall tiles in your bath or shower.

Unglazed Tile

Use concentrated tile cleaners that have a neutral pH for regular cleaning. These will safely remove grease, oils and normal spills—just check to be sure the cleaner is intended for the application, use and traffic level. Clean glass tile with any nonabrasive cleaner recommended for either glass or tile.



Tips for Preventing Damage

- Test scouring powders and sealants on a small area before cleaning the full area.
- Use a sealer on grout joints shortly after installation and use products compatible with cleaning grout joints.
- After cleaning, rinse the entire area with clear water to remove any cleaning solution residue.
- Have any damaged or broken tile removed and replaced only by a qualified tile contractor.

Extra Protection

Invest in high-quality floor mats and protective pads under heavy furniture for an extra layer of protection to your tile floors. Place floor mats at entrances and exits—they collect and trap corrosive substances that can be tracked in such as dirt, sand, oil, grit, asphalt or even driveway sealer. Placing mats in high-traffic areas—in front of vanities, kitchen sinks and stoves—is an effective way to reduce tile wear.

What to Avoid

- Any cleaners containing acid or bleach shouldn't be used for routine maintenance.
- Avoid wax-based cleaners and oil-based detergents, and use sealants on grout joints only.
- Harsh cleaning aids like steel wool pads or any scouring pads containing metal shouldn't be used on tile.
- Unglazed tile should not be cleaned with an agent that contains color.







PROMAR[®] 200 ZERO VOC

OUR PROFESSIONAL, TOP QUALITY, COMPLETE,
ZERO VOC SOLUTION.

INTERIOR LATEX



EXCELLENT QUALITY. ZERO VOCs.
SIX SHEENS. ALL COLORS.
IT DOESN'T GET MORE COMPLETE THAN THIS.

Professional painters have it all with ProMar® 200 Zero VOC Interior Latex. A complete professional line that not only has zero VOCs, but is also available in six sheens and every color. All while



delivering productivity with outstanding durability and touchup. And now, the flat sheen has improved hide and uniformity, and meets MPI certification.



PRODUCT CERTIFIED FOR
LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818

PROMAR 200 ZERO VOC KEY BENEFITS

<ul style="list-style-type: none"> • Exceptional durability, easy application and excellent hide. 	<ul style="list-style-type: none"> • Outstanding touchup reduces repaint costs.
<ul style="list-style-type: none"> • Anti-microbial agents inhibit the growth of mold and mildew on the paint surface. 	<ul style="list-style-type: none"> • Zero VOCs meets the most stringent VOC requirements. Complies with LEED v4, GREENGUARD Environmental Institute (GEI) and other green guidelines and regulations. ProMar 200 Zero VOC Flat meets MPI 53 and 143.
<ul style="list-style-type: none"> • Available in flat, low sheen eg-shel, low gloss eg-shel, eg-shel, semi-gloss and gloss. 	<ul style="list-style-type: none"> • Available in all colors — including deep, vivid accents.

PROMAR 200 ZERO VOC IS BROUGHT TO YOU BY A NAME YOU KNOW AND TRUST.

For 150 years, Sherwin-Williams has provided contractors, builders, property managers, architects and designers with the trusted products they need to build their business and satisfy customers. ProMar 200 Zero VOC Interior Latex is just one more way we bring you industry-leading paint technology — innovation you can pass on to your customers.

Plus, with more than 4,100 stores and 2,400 sales representatives across North America, personal service and expert advice is always available near jobsites. Find out more about ProMar 200 Zero VOC at your nearest Sherwin-Williams store or to have a sales representative contact you, call **800-524-5979**.



My Store:

Shop by Category Specifications Project Solutions Services Color Business Builders PRO Concrete

ProMar 200 Zero VOC Interior Latex Primer

Not Yet Rated Write a Review See all Primer products

ProMar® 200 Zero VOC Interior Latex Primer is a durable, professional quality, interior vinyl acrylic primer. It prepares and seals the surface to provide good topcoat performance.



PRODUCT CERTIFIED FOR
LOW CHEMICAL
EMISSIONS UL.COM/GG
UL 2818

Feedback





JOHNSONITE RESILIENT WALL BASE

Traditional Wall Base

Product Specification

1. PROPRIETARY PRODUCT/MANUFACTURER

1.1. Proprietary Product: Thermoplastic Wall Base

1.2. Manufacturer:

Tarkett	Phone: (800) 899-8916
30000 Aurora Rd.	(440) 543-8916
Solon, Ohio 44139	Tech: Ext 9297
Web: www.tarketta.com	Samples: Ext 9299
E-mail: info@johnsonite.com	

1.3. Proprietary Product Description:

1.3.1. **Construction:** Johnsonite Traditional Wall Base is manufactured from a proprietary rubber and vinyl formulation designed specifically to meet the performance and dimensional requirements of ASTM F-1861, Type TV (Thermoplastic Vinyl) and TP (Thermoplastic Rubber), Group 1 (solid), Style A and B, Standard Specification for Resilient Wall Base.

1.3.2. Styles/Physical Characteristics:

Rubber Wall Base

- **Traditional:** DC-XX with toe (coved) or DCT-XX for toeless (straight), 0.125" (3.17 mm) thickness, 2-1/2" (6.35 cm), 4" (10.16 cm), 4 1/2" (11.4 cm) or 6" (15.24 cm) height

Available in 4' (1.22 m) straight lengths and 120' (36.58 m) coiled lengths. The 6" (15.24 cm) high profile available in 4' (1.22 m) straight lengths and 100' (30.48 m) coiled lengths

- **Wall Art:** WA-XX w/toe (coved), 0.125" (3.17 mm) thickness, 4" (10.16 cm) height

Available in 4' (1.22 m) straight lengths only

- **Inside and Outside Corners** available with 4" (10.16 cm) returns packaged 25 per carton, add LIC (Inside corners) or LOC (Outside corners)

Vinyl Wall Base

- **Traditional:** CB-XX with toe (coved) or CBT-XX toeless (straight), 0.125" (3.17 mm) or 0.080" thickness, 2-1/2" (6.35 cm), 4" (10.16 cm), or 6" (15.24 cm) height

Cartons size: Available in 4' (1.22 m) straight lengths and 120' (36.58 m) coiled lengths. The 6" (15.24 cm) high profile available in 4' (1.22 m) straight lengths and 100' (30.48 m) coiled lengths

- **Inside and Outside Corners** available with 4" (10.16 cm) returns packaged 25 per carton, add LIC (Inside corners) or LOC (Outside corners)

2. PRODUCT PERFORMANCE AND TECHNICAL DATA

2.1. Meets or exceeds the performance requirements for resistance to heat/light aging, chemicals, and dimensional stability when tested to the methods, as described, in ASTM F-1861.

2.2. **Flexibility:** Will not crack, break, or show any signs of fatigue when bent around a 1/4" (6.4 mm) diameter cylinder.

2.3. **Chemical resistance (ASTM F 925):** Passes – 5% acetic acid, 70% isopropyl alcohol, mineral oil, 5% sodium hydroxide solution, 5% hydrochloric acid solution, 5% sulfuric acid solution, 5% household ammonia solution, and 5.25% household bleach solution

2.4. **Resistance to light (ASTM F 1515):** ΔE < 8

2.5. Fire Resistance:

Vinyl Wall Base

ASTM E 84/NFPA 255 (Flame/Smoke) – Class B, < 450

ASTM E 648 (NFPA 253): Critical Radiant Flux – Class I

Rubber Wall Base

ASTM E 84/NFPA 255 (Flame/Smoke) – Class A, < 450

ASTM E 648 (NFPA 253): Critical Radiant Flux – Class I

3. INSTALLATION

3.1. See Johnsonite wall base installation instructions for complete details.

3.2. Adhesives:

- **Tarkett 960 Cove Base Adhesive (Porous surfaces):**

Application: 1/8" x 1/8" x 1/8" square notched trowel

Approximate coverage:

2 1/2" high – 300 to 350 linear feet/gallon

4" high – 200 to 250 linear feet/gallon

6" high – 100 to 150 linear feet/gallon

- **Tarkett 946 Premium Contact Adhesive (Non-porous surfaces)**

Application: Brush or roller

Approximate coverage:

1 kg Unit (0.95 Qt) – 24 to 36 sq. ft.

6 kg Unit (1.44 Gal.) – 144 to 215 sq. ft.

4. AVAILABILITY AND COST

Available through authorized Tarkett distributors nationwide.

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ISSUED June 2014

09 91 23 - INTERIOR

**LEED®-H (HOME) SPECIFICATION
Contributes toward satisfying MR Credit 2.2:**

THE SHERWIN-WILLIAMS COMPANY

PAINTING SCHEDULE GUIDE

This Painting Schedule is furnished only as a guide to select interior paint systems, and is not all-inclusive of available Sherwin-Williams products. Although it is written in the CSI format and can be included in its entirety in a master specification, one should review the contents and edit to suit the particular needs of the project and its respective location. This specification does not take into consideration wet areas or areas needing Industrial Maintenance coatings.

This specification guide includes LEED®-Home Rating Systems and lists the Sherwin-Williams products that contribute toward satisfying LEED's criteria under **MR Credit 2.2**: applicable standards in Table 25. Products are not reviewed or certified under LEED. LEED credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands. For more information on LEED, visit www.usgbc.org/contact

Review the LEED Rating System included in this guide and then consult with a Sherwin-Williams Company Representative to ensure the most appropriate product selections for your next LEED-registered project.

Local and National V.O.C. (Volatile Organic Compound) regulations have been taken into consideration, but because these regulations vary greatly around the country and are constantly changing, we suggest verifying that product selections meet the requirements of the area in which they are to be used. It is always recommended that you consult with a LEED AP or a Sherwin-Williams Company Representative before finalizing the selection.

If you need more specific information on a particular product, refer to the current Sherwin-Williams Painting Systems Catalog, sherwin-williams.com or swgreenspecs.com Websites or call our Architectural Services Department toll free.

If you need more specific information on a particular rule, please contact
USGBC at: www.usgbc.org

**The Sherwin-Williams Company
Architectural Services Department
1-800-321-8194 (Telephone)
216-566-1392 (Fax)**

SECTION 09 91 23

INTERIOR PAINTS AND COATINGS



Part 1 GENERAL

1.1 SECTION INCLUDES

- A Interior paint and coatings systems

1.2 RELATED SECTIONS

- A Section 05 05 13 - Shop Applied Coatings for Metal
- B Section 06 01 40 - Architectural Woodwork Refinishing
- C Section 06 05 83 - Shop Applied Wood Coatings
- D Section 07 19 00 - Water Repellents
- E Section 09 67 00 - Fluid Applied Flooring for Concrete
- F Section 09 93 00 - Stains and Transparent Finishes
- G Section 09 96 00 - High-Performance Coatings

1.3 REFERENCES

- A SSPC-SP 1 - Solvent Cleaning
- B SSPC-SP 2 - Hand Tool Cleaning
- C SSPC-SP 3 - Power Tool Cleaning
- D SSPC-SP 13 / Nace No. 6 Surface Preparation for Concrete
- E LEED®-H U.S. Green Building Council (USGBC) January 2008 Updated 4/1/2013

1.4 SUBMITTALS

- A Submit under provisions of Section 01 33 00, Submittal Procedures.
- B Product Data: Manufacturer's data sheets on each paint and coating product should include:
 - 1 Product characteristics
 - 2 Surface preparation instructions and recommendations
 - 3 Primer requirements and finish specification
 - 4 Storage and handling requirements and recommendations
 - 5 Application methods
 - 6 Clean-up Information
 - 7 VOCs
- C Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's color samples available.
- D Coating Maintenance Manual: upon conclusion of the project, the Contractor or paint manufacture/supplier shall furnish a coating maintenance manual, such as Sherwin-Williams "Custodian Project Color and Product Information" report or equal. Manual shall include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.5 MOCK-UP

Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of painting on the project.

- A Finish surfaces for verification of products, colors, & sheens
- B Finish area designated by Architect
- C Provide samples that designate prime & finish coats
- D Do not proceed with remaining work until the Architect approves the mock-up samples

1.6 DELIVERY, STORAGE, AND HANDLING

- A Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information:
 - Product name, and type (description)
 - Application & use instructions
 - Surface preparation
 - VOC content
 - Environmental handling
 - Batch date
 - Color number
- B Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.
- C Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.7 PROJECT CONDITIONS

- A Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits. This specification does not take into consideration wet areas or areas needing high performance coatings.

Part 2 PRODUCTS

2.1 MANUFACTURERS

- A Acceptable Manufacturer:
The Sherwin-Williams Company
101 Prospect Avenue NW
Cleveland, OH 44115
Tel: (800) 321-8194
Fax: (216) 566-1392
sherwin-williams.com / swgreenspecs.com
- B Substitutions: Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 Product Requirements.
When submitting request for substitution, provide complete product data specified above under Submittals, for each substitute product.

2.2 APPLICATIONS/SCOPE

- A Use this article to define the scope of painting if not fully defined in a Finish Schedule or on the drawings. This article must be carefully edited to reflect the surfaces actually found on the project. In some cases, it may be enough to use the first paragraph that says, in effect, "paint everything" along with a list of items not to paint, without exhaustively defining all the different surfaces and items that must be painted.
- B If the project involves repainting some but not all existing painted surfaces, be sure to indicate the extent of the repainting.
- C The descriptions of each system can also be used to further refine the definition of what is to be painted, stained, or clear finished.
- D Surfaces to Be Coated:

Concrete - Poured, Precast, Tilt-Up, Cast-In-Place, Cement Board including Plaster

Masonry - (CMU - Concrete, Split Face, Scored, Smooth, etc.)

Metal – Aluminum/ Galvanized

Metal Ferrous-(Structural Steel, Joists, Trusses, Beams, Misc. & Ornamental Iron)

Wood - Walls, Ceilings, Doors, Trim

Drywall- Drywall board, Gypsum board

Concrete Floors (Non-Vehicular)

1.7 PROJECT CONDITIONS

- A Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits. This specification does not take into consideration wet areas or areas needing high performance coatings.

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Masonry - (CMU - Concrete, Split Face, Scored, Smooth, etc.)

Metal – Aluminum/ Galvanized

Metal Ferrous-(Structural Steel, Joists, Trusses, Beams, Misc. & Ornamental Iron)

Wood - Walls, Ceilings, Doors, Trim

Drywall- Drywall board, Gypsum board

Concrete Floors (Non-Vehicular)

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[DATAPAGES AND MSDS SHEETS: \(To open any of the Data page Files, please click here\)](#)

Refer to the current MSDS/EDS for specific VOCs (calculated per 40 CFR 59.406). VOCs may vary by base and sheen.

2.3 SCHEDULE

A. CONCRETE - (Walls & Ceilings, Poured Concrete, Precast Concrete, Unglazed Brick, Cement Board, Tilt-Up, Cast-In-Place & Plaster)

1. Latex Systems

a. Gloss Finish

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W ProMar[®] 200 Latex Gloss, B21-2200 Series

3rd Coat: S-W ProMar 200 Latex Gloss, B21-2200 Series
(4.0 mils wet, 1.5 mils dry per coat)

b. Semi-Gloss Finish

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W Emerald[™] Interior Latex Semi-Gloss, K38 Series

3rd Coat: S-W Emerald Interior Latex Semi-Gloss, K38 Series
(4.0 mils wet, 1.5 mils dry per coat)

Alternate:

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W Harmony[®] Interior Latex Semi-Gloss, B10 Series

3rd Coat: S-W Harmony Interior Latex Semi-Gloss, B10 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series

3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

2.3 SCHEDULE INDEX

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2.3 SCHEDULE

A. CONCRETE - (Walls & Ceilings, Poured Concrete, Precast Concrete, Unglazed Brick, Cement Board, Tilt-Up, Cast-In-Place & Plaster)

1. Latex Systems

a. Gloss Finish

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W ProMar[®] 200 Latex Gloss, B21-2200 Series

3rd Coat: S-W ProMar 200 Latex Gloss, B21-2200 Series
(4.0 mils wet, 1.5 mils dry per coat)

b. Semi-Gloss Finish

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W Emerald[™] Interior Latex Semi-Gloss, K38 Series

3rd Coat: S-W Emerald Interior Latex Semi-Gloss, K38 Series
(4.0 mils wet, 1.5 mils dry per coat)

Alternate:

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W Harmony[®] Interior Latex Semi-Gloss, B10 Series

3rd Coat: S-W Harmony Interior Latex Semi-Gloss, B10 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series

3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

A. CONCRETE - (Walls & Ceilings, Poured Concrete, Precast Concrete, Unglazed Brick, Cement Board, Tilt-Up, Cast-In-Place & Plaster) (Cont.)

1. Latex Systems

c. Eg-Shel / Satin Finish

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W Emerald Interior Latex Satin, K37 Series

3rd Coat: S-W Emerald Interior Latex Satin, K37 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W Builders Solution™ Latex Eg-Shel, A62 Series

3rd Coat: S-W Builders Solution Latex Eg-Shel, A62 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W Harmony® Interior Latex Eg-Shel, B9 Series

3rd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series

3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series
(4.0 mils wet, 1.7 mils dry per coat)

d. Low Sheen Finish

1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)

2nd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series

3rd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

A. CONCRETE - (Walls & Ceilings, Poured Concrete, Precast Concrete, Unglazed Brick, Cement Board, Tilt-Up, Cast-In-Place & Plaster) (Cont.)

1. Latex Systems

e. Flat Finish

- 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)
- 2nd Coat: S-W Emerald Interior Latex Matte, K36 Series
- 3rd Coat: S-W Emerald Interior Latex Matte, K36 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

- 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)
- 2nd Coat: S-W Builders Solution™ Latex Flat, A61 Series
- 3rd Coat: S-W Builders Solution Latex Flat, A61 Series
(4.0 mils wet, 1.36 mils dry per coat)

Alternate:

- 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)
- 2nd Coat: S-W Harmony Interior Latex Flat, B5 Series
- 3rd Coat: S-W Harmony Interior Latex Flat, B5 Series
(4.0 mils wet, 1.8 mils dry per coat)

Alternate:

- 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

2. Alkyd Systems (Waterbased Acrylic-Alkyd)

a. Gloss Finish

- 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

b. Semi-Gloss Finish

- 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

c. Eg-Shel Finish

- 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, A24W8300
(8.0 mils wet, 3.2 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
(4.0 mils wet, 1.4 mils dry per coat)

**B. MASONRY - (CMU - Concrete, Split Face, Scored, Smooth, High/ Low Density, Fluted)
(non-wet area)**

1. Latex Systems

a. Gloss Finish

- 1st Coat: S-W PrepRite® Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Latex Gloss B21-2200 Series
- 3rd Coat: S-W ProMar 200 Latex Gloss B21-2200 Series
(4.0 mils wet, 1.5 mils dry per coat)

b. Semi-Gloss Finish

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W Emerald Interior Latex Semi-Gloss, K38 Series
- 3rd Coat: S-W Emerald Interior Latex Semi-Gloss, K38 Series
(4.0 mils wet, 1.4 mils dry per coat)

Alternate:

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W Harmony Interior Latex Semi-Gloss, B10 Series
- 3rd Coat: S-W Harmony Interior Latex Semi-Gloss, B10 Series
(4.0 mils wet, 1.6 mils dry per coat)

c. Eg-Shel / Satin Finish

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W Emerald Interior Latex Satin, K37 Series
- 3rd Coat: S-W Emerald Interior Latex Satin, K37 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series
- 3rd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series
(4.0 mils wet, 1.7 mils dry per coat)

B. MASONRY - (CMU - Concrete, Split Face, Scored, Smooth, High / Low Density, Fluted) (non-wet area)(Cont.)

1. Latex Systems

d. Low Sheen Finish

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

e. Flat Finish

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W Emerald Interior latex Matte, K36 Series
- 3rd Coat: S-W Emerald Interior latex Matte, K36 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W Harmony Interior Latex Flat, B5 Series
- 3rd Coat: S-W Harmony Interior Latex Flat, B5 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

2. Alkyd Systems (Waterbased Acrylic-Alkyd)

a. Gloss Finish (Water Base)

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

b. Semi-Gloss Finish

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

c. Eg-Shel Finish

- 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
(4.0 mils wet, 1.4 mils dry per coat)

C. METAL - Aluminum/Galvanized

1. Latex Systems

a. Gloss Finish

- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
- 2nd Coat: S-W ProMar 200 Latex Gloss B21-2200 Series
- 3rd Coat: S-W ProMar 200 Latex Gloss B21-2200 Series
(4.0 mils wet, 1.5 mils dry per coat)

b. Semi-Gloss Finish

- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
- 2nd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series
- 3rd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series
(4.0 mils wet, 1.3 mils dry per coat)

c. Satin Finish

- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
- 2nd Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series
- 3rd Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series
(4.0 mils wet, 1.2 mils dry per coat)

d. Flat Finish

- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
- 2nd Coat: S-W Harmony Interior Latex Flat, B5 Series
- 3rd Coat: S-W Harmony Interior Latex Flat, B5 Series
(4.0 mils wet, 1.8 mils dry per coat)

Alternate:

- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

2. Alkyd Systems (Water based Acrylic-Alkyd)

a. Gloss Finish

- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

b. Semi-Gloss Finish

- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

D. METAL Ferrous - (Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous & Ornamental Iron, Structural Iron)

1. Latex Systems

- a. Gloss Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProMar 200 Latex Gloss B21-2200 Series
 - 3rd Coat: S-W ProMar 200 Latex Gloss B21-2200 Series (4.0 mils wet, 1.5 mils dry per coat)

 - b. Semi-Gloss Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series
 - 3rd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series (4.0 mils wet, 1.4 mils dry per coat)

 - c. Satin Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series
 - 3rd Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series (4.0 mils wet, 1.2 mils dry per coat)

 - d. Flat Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W Harmony Interior Latex Flat, B5 Series
 - 3rd Coat: S-W Harmony Interior Latex Flat, B5 Series (4.0 mils wet, 1.8 mils dry per coat)
- Alternate:**
- 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
 - 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series (4.0 mils wet, 1.6 mils dry per coat)

D. METAL Ferrous - (Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous & Ornamental Iron, Structural Iron)(Cont.)

2. Alkyd Topcoat System (Waterbased Acrylic-Alkyd)

- a. Gloss Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
 - 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

- b. Semi-Gloss Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
 - 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

E. WOOD - (Walls, Ceilings, Doors, Trim,)

1. Latex Systems

- a. Gloss Finish
 - 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
 - 2nd Coat: S-W ProClassic Waterborne Acrylic Gloss, B21-51 Series
 - 3rd Coat: S-W ProClassic Waterborne Acrylic Gloss, B21-51 Series
(4.0 mils wet, 1.5 mils dry per coat)

Alternate:

 - 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
 - 2nd Coat: S-W ProMar 200 Latex Gloss, B21-2200 Series
 - 3rd Coat: S-W ProMar 200 Latex Gloss, B21-2200 Series
(4.0 mils wet, 1.5 mils dry per coat)

- b. Semi-Gloss Finish
 - 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
 - 2nd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series
 - 3rd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series
(4.0 mils wet, 1.3 mils dry per coat)

- c. Satin Finish
 - 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
 - 2nd Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series
 - 3rd Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series
(4.0 mils wet, 1.2 mils dry per coat)

E. WOOD - (Walls, Ceilings, Doors, Trim)(Cont.)

1. Latex Systems

d. Flat Finish

- 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

2. Alkyd Systems (Waterbased Acrylic-Alkyd)

a. Gloss Finish

- 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Gloss, B35-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

b. Semi-Gloss Finish

- 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

c. Eg-Shel Finish

- 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
- 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
- 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
(4.0 mils wet, 1.4 mils dry per coat)

3. Stain and Varnish System

a. Gloss Finish

- 1st Coat: S-W WoodClassics® 250 Stain
- 2nd Coat: S-W Minwax® Waterbased Polyurethane, 71031 Series
- 3rd Coat: S-W Minwax Waterbased Polyurethane, 71031 Series
(4.0 mils wet, 1.0 mil dry per coat)

b. Semi-Gloss Finish

- 1st Coat: S-W WoodClassics or Minwax 250 Stain
- 2nd Coat: S-W Minwax Waterbased Polyurethane, 71032 Series
- 3rd Coat: S-W Minwax Waterbased Polyurethane, 71032 Series
(4.0 mils wet, 1.0 mil dry per coat)

c. Satin Finish

- 1st Coat: S-W WoodClassics or Minwax 250 Stain
- 2nd Coat: S-W Minwax Waterbased Polyurethane, 71033 Series
- 3rd Coat: S-W Minwax Waterbased Polyurethane, 71033 Series
(4.0 mils wet, 1.0 mil dry per coat)

F. DRYWALL - (Walls, Ceilings, Gypsum Board, etc.)

1. Latex Systems

a. Semi-Gloss Finish

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W Emerald Interior Latex Semi-Gloss, K38 Series
- 3rd Coat: S-W Emerald Interior Latex Semi-Gloss, K38 Series
(4.0 mils wet, 1.5 mils dry per coat)

Alternate:

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W Harmony Interior Latex Semi-Gloss, B10 Series
- 3rd Coat: S-W Harmony Interior Latex Semi-Gloss, B10 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

b. Eg-Shel / Satin Finish

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W Emerald Interior Latex Satin, K37 Series
- 3rd Coat: S-W Emerald Interior Latex Satin, K37 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W Builders Solution Latex Eg-Shel, A62 Series
- 3rd Coat: S-W Builders Solution Latex Eg-Shel, A62 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series
- 3rd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series
(4.0 mils wet, 1.7 mils dry per coat)

Alternate:

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series
(4.0 mils wet, 1.7 mils dry per coat)

c. Low Sheen Finish

- 1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)
- 2nd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
- 3rd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

F. DRYWALL - (Walls, Ceilings, Gypsum Board, etc.)(Cont.)

1. Latex Systems

d. Flat Finish

1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)

2nd Coat: S-W Emerald Interior latex Matte, K36 Series

3rd Coat: S-W Emerald Interior latex Matte, K36 Series
(4.0 mils wet, 1.6 mils dry per coat)

Alternate:

1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)

2nd Coat: S-W Builders Solution Latex Flat, A61 Series

3rd Coat: S-W Builders Solution Latex Flat, A61 Series
(4.0 mils wet, 1.36 mils dry per coat)

Alternate:

1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)

2nd Coat: S-W Harmony Interior Latex Flat, B5 Series

3rd Coat: S-W Harmony Interior Latex Flat, B5 Series
(4.0 mils wet, 1.8 mils dry per coat)

Alternate:

1st Coat: S-W Harmony Interior Latex Primer, B11
(4.0 mils wet, 1.3 mils dry)

2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series

3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

G. Concrete - (Floors)(non-vehicular)

1. Latex Systems

a. Satin Finish

1st Coat: S-W Porch & Floor Enamel, A32-200 Series

2nd Coat: S-W Porch & Floor Enamel, A32-200 Series
(4.0 mils wet, 1.5 mils dry per coat)

2.4 MATERIALS - GENERAL REQUIREMENTS

A Paints and Coatings - General:

- 1 Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such a procedure is specifically described in manufacturer's product instructions. VOC numbers used in this document need to be confirmed by using the products MSDS sheets.
- 2 Requirements: USGBC LEED®-H
MR Credit 2.2: Per USGBC: Low Emissions (0.5 point per component). Use products that meet the emissions specification in LEED-H Table 24. Under Emission specifications in the Interior walls and ceilings and millwork Assembly section: Use products that comply with all applicable standards in Table 25.

Table 25 Standards:

Types of Paints and Coatings	Applicable standard (VOC Content)	Reference
Architectural paints, coatings and primers applied to interior elements	Flats: 50 g/l, Nonflats: 150 g/l	Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993
Anticorrosive and antirust paints applied to interior ferrous metal substrates	250 g/l	Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd edition, January 7, 1997
Clear wood finishes	Varnish 350 g/l Lacquer: 550 g/l	South Coast Air Quality Management District Rule 1113, Architectural Coatings
Floor coatings	100 g/l	
Sealers	Waterproofing: 250 g/l, Sanding 275 g/l, All others: 200 g/l	
Shellacs	Clear 730 g/l Pigmented: 550 g/l	
Stains	250 g/l	

The above table has been reprinted directly from www.usgbc.org

Since USGBC has failed to post the date of South Coast Air Quality Management District Rule 1113, Architectural Coatings rule, one must refer to the most recent rule amended June 3, 2011 with an effective date of 1/1/12. Therefore **Varnish: s/be 275 g/L, Lacquer: s/be 275 g/L, Floor Coatings: s/be <50 g/L, Sealers: Waterproofing: 100 g/L, All others: 100 g/l. Stains: s/be defined as Stain Interior 250 g/L**

2.5 ACCESSORIES

A Coating Application Accessories:

- 1 Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.

PART 3 EXECUTION

3.1 EXAMINATION

- A Do not begin application of coatings until substrates have been properly examined and prepared. Notify Architect of unsatisfactory conditions before proceeding.
- B If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

- C Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- D Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

(Specifier Note: Verify the existence of lead based paints on the project. Buildings constructed after 1978 are less likely to contain lead based paints. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. State and local regulations may be more strict than those set under the federal regulations. Verify that Owner has completed a Hazardous Material Assessment Report for the project prior to issuing of Drawings. Concluding that no lead based paints were found on project site, delete paragraph regarding lead based paints.)

3.2 SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority. Removal must be done in accordance with EPA Renovation, Repair and Painting Rule and all related state and local regulations. Care should be taken to follow all state and local regulations which may be more strict than those set under the federal RRP Rule.

- A Proper product selection, surface preparation, and application affect coating performance. Coating integrity and service life will be reduced because of improperly prepared surfaces. Selection and implementation of proper surface preparation ensures coating adhesion to the substrate and prolongs the service life of the coating system.
- B Selection of the proper method of surface preparation depends on the substrate, the environment, and the expected service life of the coating system. Economics, surface contamination, and the effect on the substrate will also influence the selection of surface preparation methods.
- C The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
- D Remove mildew before painting by washing with a solution of one (1) part liquid household bleach and three (3) parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes; however, do not allow the solution to dry on the surface. Rinse thoroughly with clean water and allow the surface to dry at least 48 hours before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
- E No painting should take place when the interior temperature is below 50°F unless the specified product is designed for these conditions.
- F Methods
 - 1 Aluminum
 - Remove all oil, grease, dirt, oxide and other foreign material by cleaning per SSPC-SP1, Solvent Cleaning.

- 2 **Block (Cinder and Concrete)**
Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners. Concrete and mortar must be cured at least 30 days at 75°F. The pH of the surface should be between 6 and 9, and moisture content must be 15% or lower. On tilt-up and poured-in-place concrete, commercial detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a cement patching compound. Masonry surfaces must be dry before priming.
- 3 **Concrete, SSPC-SP13 or NACE 6**
This standard gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems. The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, precast slabs, masonry walls, and shotcrete surfaces. An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.
- 4 **Cement Composition Siding/Panels**
Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Pressure clean, if needed, with a minimum of 2100 psi pressure to remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, and peeling or defective coatings. Allow the surface to dry thoroughly. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments.
- 5 **Drywall—Interior**
Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting.
- 6 **Galvanized Metal**
Clean per SSPC-SP1 using detergent and water or a degreasing cleaner to remove greases and oils. Apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP7 is necessary to remove these treatments.
- 7 **Plaster**
Must be allowed to dry thoroughly for at least 30 days before painting, unless the products are designed to be used in high pH environments. Room must be ventilated while drying; in cold, damp weather, rooms must be heated. Damaged areas must be repaired with an appropriate patching material. Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1-pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry.
- 8 **Steel: Structural, Plate, etc.**
Should be cleaned by one or more of the surface preparations described below. These methods are used throughout the world for describing methods for cleaning structural steel. Visual standards are available through the Society of Protective Coatings. A brief description of these standards together with numbers by which they can be specified follow.
- 9 **Solvent Cleaning, SSPC-SP1**

Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.

10 Hand Tool Cleaning, SSPC-SP2

Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before hand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1 or other agreed upon methods

11 Power Tool Cleaning, SSPC-SP3

Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1 or other agreed upon methods.

12 Commercial Blast Cleaning, SSPC-SP6 or NACE 3

A Commercial Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 33 percent (33%) of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.

13 Power Tool Cleaning to Bare Metal, SSPC-SP11

Metallic surfaces that are prepared according to this specification, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxide corrosion products, and other foreign matter. Slight residues of rust and paint may be left in the lower portions of pits if the original surface is pitted. Prior to power tool surface preparation, remove visible deposits of oil or grease by any of the methods specified in SSPC-SP1, Solvent Cleaning, or other agreed upon methods.

14 Water Blasting, NACE Standard RP-01-72

Removal of oil grease dirt, loose rust, loose mill scale, and loose paint by water at pressures of 2,000 to 2,500 psi at a flow of 4 to 14 gallons per minute.

15 Wood

Must be clean and dry. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

3.3 INSTALLATION

- A Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendation.
- B Do not apply to wet or damp surfaces.
 - 1 Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days.
 - 2 Test new concrete for moisture content.
 - 3 Wait until wood is fully dry
- C Apply coatings using methods recommended by manufacturer.

- D Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E Apply coatings at spreading rate required to achieve the manufacturer's recommended dry film thickness.
- F Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- G Inspection: The coated surface must be inspected and approved by the Architect or Engineer just prior to the application of each coat.

3.4 PROTECTION

- A Protect finished coatings from damage until completion of project.
- B Touch-up damaged coatings after substantial completion, following manufacture's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

3.5 SCHEDULES

Specifier Note: Cut and paste the coatings system schedule here (specified in section 2.3 INTERIOR PAINT SCHEDULE), otherwise delete this section.
--

END OF SECTION06242014

LEED for Homes Rating System- Updated April 1st 2013 Contributes toward satisfying MR Credit 2.2		updated 2/1/14
PRODUCTS	TABLE 25 CATEGORY	PRODUCT VOCs†
Builders Solution™ Interior Latex Flat, A61W151 & Matte A64W51	FLAT	<50 g/L
Duration Home® Interior Latex Matte, A96-Series	FLAT	<50 g/L
Emerald Interior Matte, K36 Series	FLAT	<50 g/L
Harmony Interior Latex Flat, B5 Series	FLAT	<50 g/L
ProMar® 200 Zero VOC Latex Flat B30-2600 & Low Sheen B24-2600 Series	FLAT	<50 g/L
ProMar® 400 Zero VOC Interior Latex Flat, B30-4600 Series, Low Sheen, B24-4600	FLAT	<50 g/L
EcoSelect Interior Flat, A21 Series	FLAT	<50 g/L
Solo 100% Acrylic Interior/Exterior Flat, A74-51 Series	FLAT	<50 g/L
Porch & Floor Enamel, A32 Series	FLOOR	<50 g/L
Builders Solution™ Interior Latex Eg-Shel, A62W51	NON-FLAT	<100 g/L
Duration Home Latex Satin, A97 & Duration Home Semi-Gloss, A98-Series	NON-FLAT	<50 g/L
EcoSelect Interior Eg-Shel & Semi-Gloss, A22 & A20 Series	NON-FLAT	<50 g/L
Emerald Interior Satin & Semi-Gloss, K37 & K38 Series	NON-FLAT	<50 g/L
Harmony Latex Eg-Shel, B9 Series & Harmony® Semi-Gloss, B10 Series	NON-FLAT	<50 g/L
ProClassic™ Interior Waterbased Acrylic-Alkyd Satin & Semi-Gloss, B33 & B34-850 Series	NON-FLAT	<50 g/L
ProClassic® Waterborne Acrylic Satin, S/G, B20-1150, B31-1150 Series	NON-FLAT	<50 g/L
ProMar® 200 Zero VOC Latex Eg-Shel, B20-2600 & Semi-Gloss, B31-2600 Series	NON-FLAT	<50 g/L
ProMar® 200 Interior Waterbased Acrylic-Alkyd Eg-Shel/Semi-Gloss/Gloss B33- B34- & B35-8251 Series	NON-FLAT	<100 g/L
ProMar® 200 Latex Gloss B21W2251 Series & ProMar® 400 Latex Gloss B21W4451 Series	NON-FLAT	<50 g/L
ProMar® 400 Zero VOC Latex Eg-Shel B20-4600, Semi-Gloss B31-4600 Series	NON-FLAT	<50 g/L
Solo 100% Acrylic Interior/Exterior Eg-Shel, Semi-Gloss & Gloss, A75-51, A76-51 & A77-51 Series	NON-FLAT	<50 g/L
Harmony Interior Latex Primer, B11	P,S,U	<50 g/L
Multi-Purpose Latex Primer, B51-450 series	P,S,U	<50 g/L
Multi-Purpose Waterbased Acrylic-Alkyd Primer, B79W450	P,S,U	<50 g/L
PrepRite ProBlock Latex Primer, B51-620 Series	P,S,U	<50 g/L
Premium Wall & Wood Primer, B28W8111	P,S,U	<50 g/L
ProMar® 200 Zero VOC Latex Primer, B28W2600	P,S,U	<50 g/L
ProMar® 400 Zero VOC Latex Primer, B28W4600	P,S,U	<50 g/L
Loxon® Concrete & Masonry Primer/Sealer, A24W8300	P,S,U	<100 g/L
Loxon® Conditioner A24-1100 Series	P,S,U	<50 g/L
Loxon® Block Surfacer, A24W200	P,S,U	<100 g/L
PrepRite® Block Filler, B25W25	P,S,U	<50 g/L
Water Blocking Primer/Finish, B72W8010	P,S,U	<50 g/L
White Pigmented Shellac Primer, B49W8050	SHELLACS	<550 g/L
WoodClassics 250 Stains, Minwax 250 Stains	STAINS: INTERIOR	<250 g/L
Minwax® Waterbased Polyurethane , Satin, Semi-Gloss, Gloss	VARNISH	<275 g/L

LEED and the related logo is a trademark owned by the U.S. Green Building Council and is used per the USGBC® trademark policy. Product names, logos, brands and other trademarks are the property of their respective trademark holders.



JOHNSONITE RESILIENT WALL BASE

Traditional Wall Base

Product Specification

5. WARRANTY

Limited 2 year warranty. For complete details, contact Tarkett or an authorized Tarkett distributor.

6. MAINTENANCE

72 hours after installation is completed, initial maintenance procedures must be implemented in accordance with manufacturer's requirements. Refer to Johnsonite Resilient Wall Base Installation & Maintenance Instructions for complete maintenance details.

7. TECHNICAL SERVICES

Samples: Submittal samples for verification and approval available upon request from Tarkett. Samples shall be submitted in compliance with the requirements of the contract documents. Accepted and approved samples shall constitute the standard materials which represent materials installed on the project.

For current Installation and Maintenance Instructions, Product Specifications, and other technical data, visit us on the web at www.tarkettna.com or contact Tarkett at 1-800-899-8916.



THE ULTIMATE
FLOORING EXPERIENCE

Technical Services Department
30000 Aurora Road, Solon, Ohio 44139
(800) 899-8916 ext 9297
Fax (440) 632-5643
email: info@johnsonite.com
www.tarkettna.com



Lighting and Appliances

Product datasheet

LED Bulb Light



ML-8A19-827-300-D



Areas of application

- All domestic rooms, especially where the lamps are visible
- Where compact and efficient lamps are needed
- Where the lamps need to last a long time or have to withstand frequent on/off switching

Product benefits

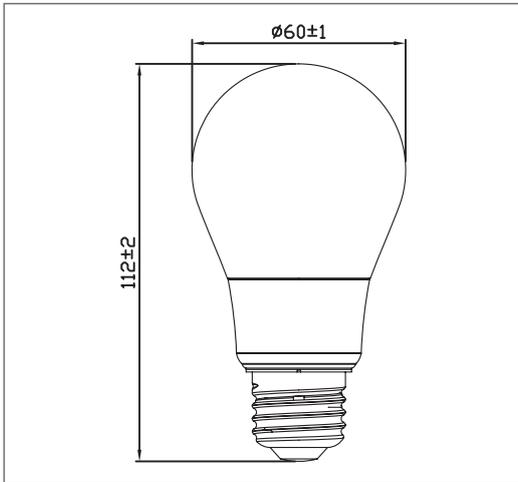
- Comfortable glare-free light
- Flickerfree starting and flickerfree operation
- Contains no mercury
- Energy saving rate more 80% ,effective save both energy and money
- 5 years warranty
- Weight:73g

Product features

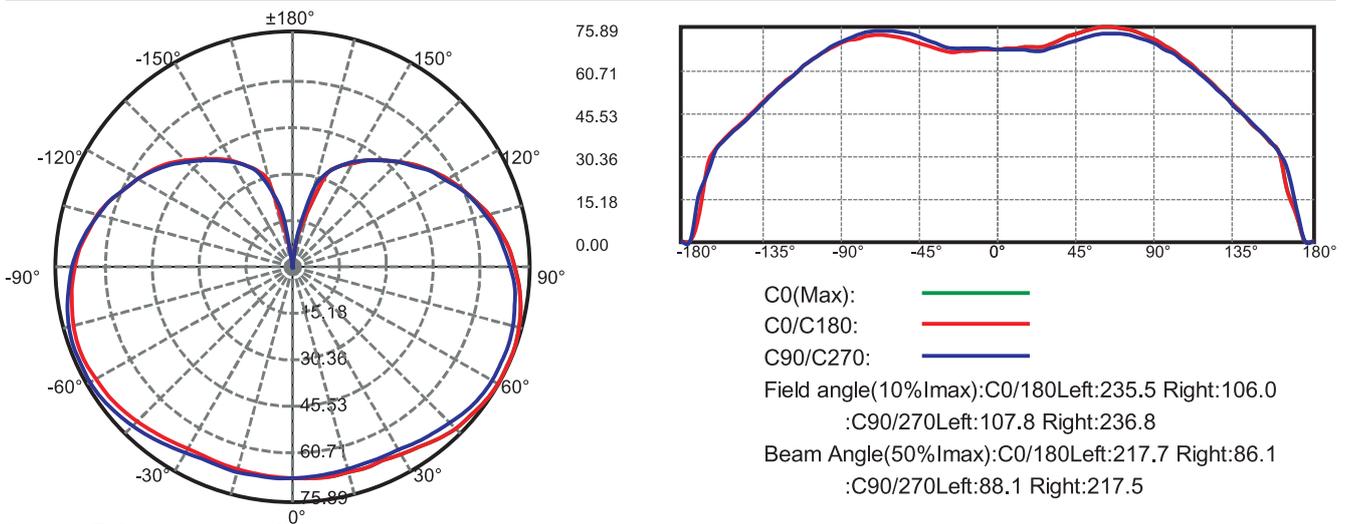
Product Model	Input Voltage	Wattage	Lumens	Efficacy	Power Factor	Rated Life
ML-8A19-827-300-D	120V	8W	800lm	100lm/W	≥0.9	25,000 Hours Rated Life
	Beam Spread	CCT(K)	CRI	Finish	Lamp Base	Dimming Compatibility
	300°	2700K	80	White	E26	Dimmable

Product datasheet

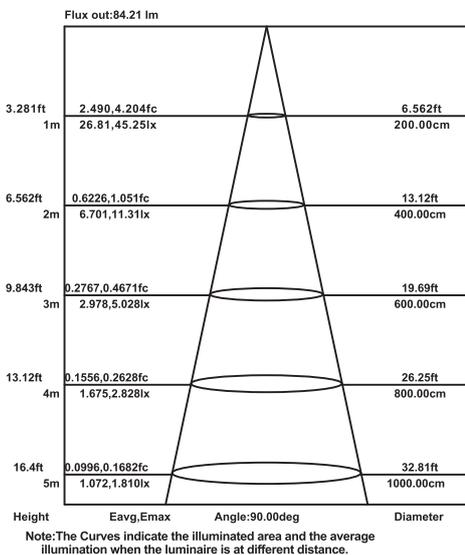
Dimensional drawings



Light Distribution Curve [Unit:cd]



Lux Distance Curve





nexus LITE

Access Control at Your Fingertips

- ▶ Color TFT touch screen display
- ▶ Support for up to 8 doors (Anti-passback)
- ▶ Completely functional standalone system
- ▶ Onboard web application
- ▶ Data exports to CSV from web browser

AMANO[®]
Time & Security Division



The Nexus Lite system provides advanced access control features in an affordable package. The large, two and a half inch color TFT touch screen brings complete system configuration and control to your fingertips and built in wizards simplify initial setup and enrollment. With onboard reporting and system diagnostics, Nexus Lite is visually clean and easy to use, making access control setup and management for up to eight doors virtually effortless.

Key Features

- ▶ Screen lock for configuration security
- ▶ Basic audit trail
- ▶ Simple and advanced system configuration
- ▶ Onboard reporting
- ▶ Onboard system diagnostics
- ▶ Onboard web-client for remote network configuration and enrollment
- ▶ Easy to mount backing plate

Specifications

Tagholders	1,000
Buffered transactions	5,000
Doors	1-8 (Anti-Passback)
Readers	Up to 16 (8 APB Doors)
Tags per person	Up to 3
Tagholder Access Groups	8

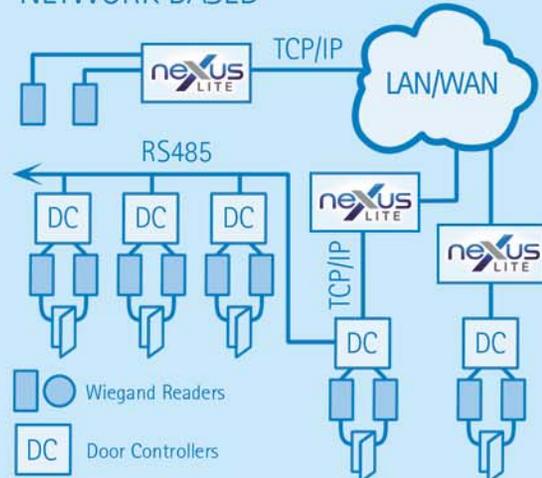
Access Control at Your Fingertips

System Configuration Options

STANDALONE



NETWORK BASED



Authorized Dealer:

AMANO
Time & Security Division

Amano Cincinnati, Inc. 180 Alternate 19 Suite A, Palm Harbor, FL 34683
Phone: (800) 390-5837 Fax: (727) 786-9400 Email: access@amano.com

www.amano.com

SMOKE & CO COMBO ALARM

CAT. **SC7010B**



OptiPath 360™
Technology

**10YR CO SENSOR
10YR ALARM LIFE**

SMOKE & CO COMBO

Electrochemical CO sensor; Photoelectric smoke sensor.

LATCHING ALARM INDICATOR

Remembers which unit initiated an alarm.

SILENCE FEATURE

Silences nuisance alarms.

END OF LIFE SIGNAL

Provides audible notice when alarm needs to be replaced after 10 years.

SPREAD SPECTRUM HORN TONE

Easier for elderly with normal age related hearing loss to hear the horn.

OPTIPATH 360 TECHNOLOGY™

Provides 360 degrees of direct access to the smoke sensing chamber.



BRK®

THE PROFESSIONAL STANDARD

**120V AC, 60Hz Wire-in
with 3V (two 1.5V AA) Battery Backup**

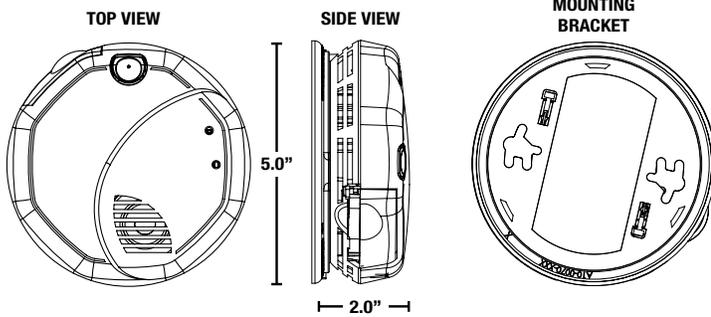
Description:

The BRK Model No. SC7010B is a wire-in, 120V AC 60Hz single and/or multiple station combination smoke and carbon monoxide alarm specifically designed for residential and institutional applications including sleeping rooms of hospitals, hotels, motels, dormitories and other multi-family dwellings as defined in standard NFPA 101. Model SC7010B complies with UL217 and UL2034, CSFM, NFPA 72 and NFPA 720, HUD, FHA and other agencies that model their codes after the above agencies. It meets building codes where AC/DC photoelectric smoke and carbon monoxide alarms are required.

The BRK SC7010B is a state-of-the-art hardwired with battery backup smoke/CO combo alarm that features a photoelectric smoke sensing chamber, an electrochemical CO sensor and an End of Life signal. The Spread Spectrum Horn Tone has a lower and varying frequency that makes it easier for the elderly with normal age related hearing loss to hear the horn. This alarm features two latching features and two silence features. Alarm Latch: Easily identifies initiating alarm even after alarm condition has subsided. Low Battery Latch: Identifies which unit is in low battery condition by blinking the green power light. Low Battery Silence: Temporarily silence the low battery chirp for up to eight hours. Alarm Silence: Silence alarm for several minutes. Other features include an 85dB horn, single button test/silence, an easy access battery drawer and dust cover. OptiPath 360 Technology: Exclusive patented technology provides 360 degrees of direct access to the smoke sensor. Two locking features are provided to prevent battery theft and/or theft of the unit. Connection to AC power is made with a Quick-Connect wiring harness. Installation is quick, easy and cost effective.



CAT. SC7010B



ARCHITECTURAL AND ENGINEERING SPEC

The combination smoke and carbon monoxide alarm shall be a BRK Model SC7010B and shall provide at a minimum the following features and functions:

1. A photoelectric smoke sensing chamber and an electrochemical CO sensor both with a 10 year service life.
2. Powered by 120V AC, 60Hz and have a monitored battery backup and a solid state piezo horn rated at 85dB at 10 ft. and shall be capable of self restoring. The horn shall have a lower and varying horn frequency to make it easier for the elderly with normal age related hearing loss to better hear the horn.
3. The unit shall have an "End of Life" signal (5 chirps). This signal should be capable of temporarily being silenced for up to 2 days. After about 2 days, the signal will resume. After about 2-3 weeks the signal cannot be silenced.
4. A visual power-on indicator to confirm unit is receiving AC power or has switched to battery backup mode. Separate LED's to indicate a smoke or CO alarm.
5. The CO sensor is adjusted not to detect CO levels below 30 PPM and will not alarm when exposed to constant levels of 30 PPM for 30 days. It will alarm at the following levels: 400 PPM CO between 4 and 15 minutes, 150 PPM CO between 10 and 50 minutes and 70 PPM CO between 60 and 240 minutes.
6. Two Latching features: Alarm Latch to easily identify initiating alarm after alarm condition has subsided. Low battery latch: to visually identify which unit is in low battery condition. Two Silence Features: Alarm Silence to temporarily silence nuisance alarms. Low Battery Silence to silence low battery chirp for up to 8 hours.
7. Two Locking features - tamper resistant locking pins that lock battery drawer and/or alarm to mounting bracket.
8. The unit shall be capable of operating between 40°F (4°C) and 100°F (38°C) and relative humidity between 10% and 95%.
9. The unit shall have a plug in connector and be capable of interconnection of up to 18 alarms, 12 of which can be smoke alarms.
10. The unit shall at a minimum meet the requirements of UL217 and UL2034, CSFM, NFPA 72 and 720 and the ICC.

TECHNICAL SPECS

Alarm Dimensions:	5.0" dia. x 2.0"H
Weight:	9.3 oz
Operating Voltage:	120V AC 60Hz with 3V alkaline battery backup (two 1.5V)
Operating Current:	0.05 amps (standby/alarm)
Temperature Range:	40°F (4°C) to 100°F (38°C)
Humidity Range:	10% to 95% relative humidity (RH)
Audio Alarm:	85dB at 10 feet
Test/Silence:	Electronically simulates smoke or CO condition, causing the unit to alarm. Press and hold test/silence button.
Alarm Reset:	Automatic when smoke or CO clears
Interconnections:	Up to 18 units of First Alert or BRK Smoke, CO and Heat Alarms. Maximum of 12 smoke alarms. See user's manual for details.
Smoke Sensor:	Photoelectric
CO Sensor:	Electrochemical
Indicator Lights/Sounds:	
AC Power:	Constant Green LED
DC Power:	Intermittent Green LED
Local Alarm:	Red LED flashes rapidly
Remote Alarm:	Red LED off
Latching Alarm:	Red LED flashes every 5 seconds after local alarm
Low Battery Latch:	"Power" LED flashes green on for 2 sec, off for 2 sec
Listing:	Listed to UL217 and UL2034 Standards

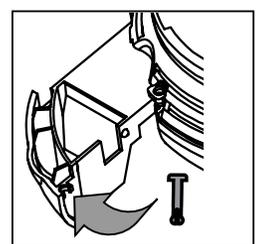
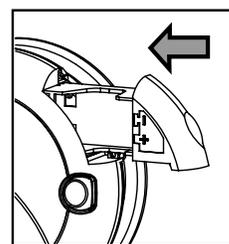
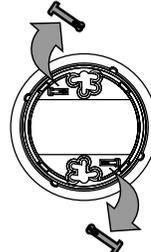
SHIPPING SPECS

Individual Carton Dimensions	5.13"L x 2.38"W x 5.13"H
Weight	0.74 lbs.
Cube	0.04 ft ³
UPC	0 29054 00228 0
Master Carton Dimensions	10.75"L x 7.88"W x 11.06"H
Master Pack	12
Weight	9.4 lbs.
Cube:	0.54 ft ³
I2of5:	100 29054 00228 7
Pallet Information	
Cases per Layer	22
Number of Layers:	4
Cases per Pallet:	88
Units per Pallet:	1,056
Cube:	54.0 ft ³
Weight:	892 lbs.

BATTERY DRAWER LOCK

Remove Pin from Mounting Bracket

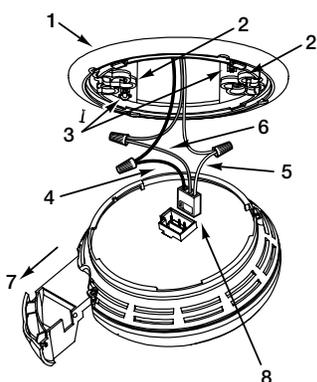
Close Door. Insert Pin in Holes through alarm and Battery Drawer



INSTALLATION OF ALARM

Installation of this smoke alarm must conform to all local electrical codes and Article 760 of the National Electrical Code (NFPA 70) and NFPA 72. Interconnected units must meet the following requirements: Total length of wire interconnecting units should be less than 1000 feet, be #18 gauge or larger and be rated at least 300V. It is recommended that all units be on the same fuse or circuit breaker. If local codes do not permit, be sure the neutral wire is common to both phases.

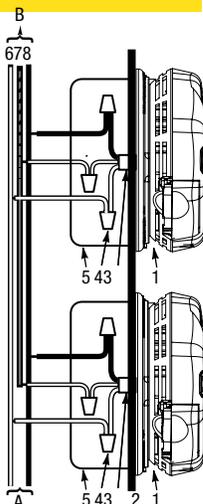
THE PARTS OF THIS SMOKE ALARM



1. Mounting bracket
2. Mounting Slots
3. Locking Pins
4. Hot (Black) AC Wire
5. Neutral (White) AC Wire
6. Interconnect (Orange) Wire
7. Pull-out battery drawer
8. Quick-Connect Plug

A. Unswitched 120VAC 60 Hz source
 B. To additional units; Maximum = 18 total (Maximum 12 Smoke Alarms)

1. Smoke /CO Alarm
2. Ceiling or Wall
3. Power Connector
4. Wire Nut
5. Junction Box
6. Neutral Wire (White)
7. Interconnect Wire (Orange)
8. Hot Wire (Black)



BRK
 THE PROFESSIONAL STANDARD
 brkelectronics.com

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 Aurora, IL 60504-8122
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 CM3234

SMOKE ALARM

PHOTOELECTRIC

BRK[®]

THE PROFESSIONAL STANDARD

CAT. **7010B**



OptiPath 360[™]
Technology

PHOTOELECTRIC

Photoelectric technology is generally more sensitive at detecting large particles, which tend to be produced in greater amounts by smoldering fires.

LATCHING ALARM INDICATOR

Remembers which unit initiated an alarm.

OPTIPATH 360 TECHNOLOGY[™]

Provides 360 degrees of direct access to the smoke sensing chamber.

SILENCE FEATURE

Silences nuisance alarms.

TWO LOCKING FEATURES

Pins are provided to lock battery drawer and/or alarm to base. Perfect for apartment, dormitory or hotel applications.

120V AC, 60Hz Wire-in with 9V Battery Backup

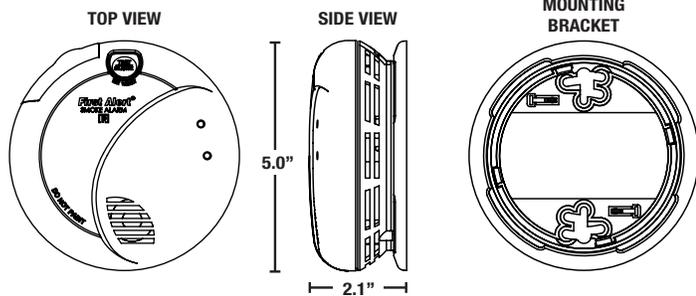
Description:

The BRK Brands, Inc. model number 7010B is a wire-in, 120V AC 60Hz single and/or multiple station photoelectric smoke alarm specifically designed for residential and institutional applications including sleeping rooms of hospitals, hotels, motels, dormitories and other multi-family dwellings as defined in standard NFPA 101. Model 7010B complies with UL217, CSFM, NFPA 72, HUD, FHA and other agencies that model their codes after the above agencies. It meets building codes where AC/DC with silence photoelectric smoke alarms are required. The alarms are interconnectable with up to 18 devices, of which 12 can be smoke alarms.

The BRK 7010B features a photoelectric smoke sensing chamber, an 85dB horn, a 9V battery back-up and a "silence" feature. Optipath 360 technology provides 360 degrees of direct access to the smoke sensing chamber. Alarm Latch: Easily identifies initiating alarm even after alarm condition has subsided. The "Perfect Mount" system features a gasketless base and a mounting bracket that keeps the alarm secure over a wide rotation range to allow for true alignment. This will allow fine-tuning on the positioning to compensate for out of aligned wall studs and to keep the wording level when wall mounting. Battery installation and removal can occur while the unit is mounted to the ceiling or wall via the side load battery compartment. Other Contractor Preferred features include a dust cover to keep alarm clean during construction, keyhole slots in the mounting bracket eliminate the need to remove the electrical box screws for installation. Two locking features are provided to prevent battery theft and/or theft of the unit. Connection to AC power is made with a "Quick-Connect" wiring harness. Installation is quick, easy and cost effective.



CAT. 7010B



ARCHITECTURAL AND ENGINEERING SPEC

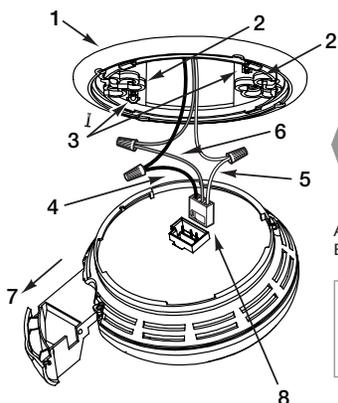
The smoke alarm shall be a BRK Model 7010B and shall provide at a minimum the following features and functions:

1. A photoelectric smoke sensing chamber.
2. The unit shall be capable of self restoring.
3. A fully screened sensing chamber to resist entry of small insects thereby reducing the probability of unwanted alarms.
4. Powered by 120V AC, 60Hz and have a monitored 9V battery backup and a solid state piezo horn rated at 85dB at 10 ft.
5. A visual LED power-on indicator to confirm unit is receiving power or is in alarm.
6. A full function test button. The test button should check all alarm functions by stimulating the chamber to simulate a smoke condition, causing the unit to alarm.
7. Latching & silence features: Alarm Latch to easily identify initiating alarm after alarm condition has subsided. Silence feature - Temporarily silence unwanted nuisance alarms.
8. Two Locking features - tamper resistant locking pins that lock battery drawer and/or alarm to mounting bracket.
9. The unit shall be capable of operating between 40°F (4°C) and 100°F (38°C) and relative humidity between 10% and 95%.
10. The unit shall have a gasketless base for easy installation and be capable of keeping alarm secure over a wide rotation range to allow for true alarm alignment.
11. The unit shall have a plug in connector and be capable of interconnection of up to 18 alarms, 12 of which can be smoke alarms.
12. The unit shall at a minimum meet the requirements of UL217, CSFM, NFPA 72, NFPA 101, ICC.

INSTALLATION OF ALARM

Installation of this smoke alarm must conform to all local electrical codes and Article 760 of the National Electrical Code (NFPA 70) and NFPA 72. Interconnected units must meet the following requirements: Total length of wire interconnecting units should be less than 1000 feet, be #18 gauge or larger and be rated at least 300V. It is recommended that all units be on the same fuse or circuit breaker. If local codes do not permit, be sure the neutral wire is common to both phases.

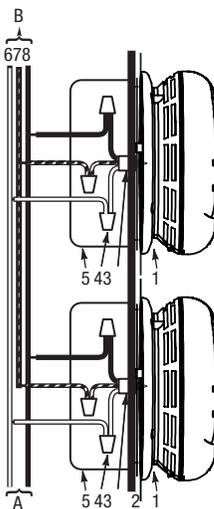
THE PARTS OF THIS ALARM



1. Mounting bracket
2. Mounting Slots
3. Locking Pins
4. Hot (Black) AC Wire
5. Neutral (White) AC Wire
6. Interconnect (Orange) Wire
7. Pull out Battery Drawer
8. Quick-Connect Plug

- A. Unswitched 120VAC 60 Hz source
 B. To additional units; Maximum = 18 total (Maximum 12 Smoke Alarms)

1. Smoke Alarm
2. Ceiling or Wall
3. Power Connector
4. Wire Nut
5. Junction Box
6. Neutral Wire (White)
7. Interconnect Wire (Orange)
8. Hot Wire (Black)



TECHNICAL SPECS

Alarm Dimensions:	5.0" Dia. x 2.1"H
Weight:	8.4 oz
Operating Voltage:	120V AC 60Hz w/ 9V battery backup
Temperature Range:	40°F (4°C) to 100°F (38°C)
Humidity Range:	10% to 95% relative humidity (RH)
Audio Alarm:	85dB at 10 feet
Test/Silence:	Electronically simulates smoke condition, causing the unit to alarm. Press and hold test/silence button.
Alarm Reset:	Automatic when smoke clears
Interconnections:	Up to 18 units of First Alert or BRK Smoke, CO and Heat Alarms. Maximum of 12 smoke alarms. See user's manual for details.
Smoke Sensor:	Photoelectric
Indicator Lights/Sounds:	
AC Power:	Constant Green LED
DC Power:	Intermittent Red LED
Local Alarm:	Red LED flashes rapidly
Latching Alarm:	Red LED flashes once per second for 3 seconds after local alarm. Pattern repeats approximately every 45 secs.
Remote Alarm:	Audio alarm and Red LED out.
Listing:	Listed to UL217 Standard

SHIPPING SPECS

Individual Carton Dimensions	5.13"L x 2.38"W x 5.13"H
Weight	0.55 lbs.
Cube	0.04 ft ³
UPC	0 29054 11201 9
Master Carton Dimensions	10.75"L x 7.88"W x 11.06"H
Master Pack	12
Weight	7.1 lbs.
Cube:	0.54 ft ³
I2of5:	100 29054 11201 6
Pallet Information	
Cases per Layer	22
Number of Layers:	4
Cases per Pallet:	88
Units per Pallet:	1,056
Cube:	54.0 ft ³
Weight:	678 lbs.



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 Company (NYSE: JAH)
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 Aurora, IL 60504-8122
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 BRK is a registered trademark of BRK Brands, Inc.
 CM3250

12VDC HIGH OUTPUT FLEXIBLE LED LINEAR RIBBON IN A 30M (98-1/2') REEL

PROJECT	TYPE
CATALOG NUMBER	

PRODUCT DESCRIPTION

LEDTask is a flexible LED linear ribbon that conforms to straight, curved and irregular architectural coves, bannisters, recesses, and other constructs where even, energy saving LED illumination is specified. Available in a 30 meter (98-1/2') reel, LEDTask can be cut in the field to achieve virtually any custom installation. Available in 2700K* Warm White, 3000K, 3500K* and 4200K* Natural White.

PRODUCT SPECIFICATIONS

Construction: LEDTask is a flexible LED ribbon that conducts power via the LTW series ribbon to power supply connectors. Included in each reel are 15 LTW-24 connectors and 24" of lead affixed to start of reel.

Electrical: Each of the 1872 LED's per reel (19 LED's per foot) are .18W, equal-ling 2.2 watts per foot. Total Amps per reel is 18. 50,000 hr. life.

Temperature*: 2700K, 3000K, 3500K and 4200K.

Power Supplies: See chart at right for complete descriptions and catalog numbers. Must be wired every 16' (5 amps).

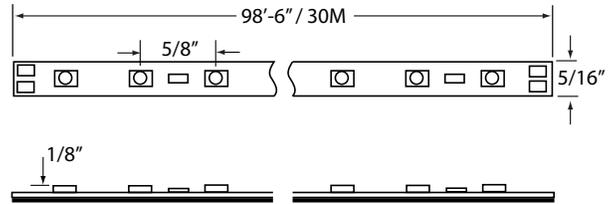
Dimming: Yes with dimmable power supplies (see at right) utilizing low voltage magnetic on/off wall dimmer (by others).

Mounting: 3M double stick mounting tape pre-affixed to LEDTask Flexible Ribbon.

Connectors: See chart below ribbon is cuttable every 3 diodes.

Label: ETL

American Lighting Association



12VDC ELECTRONIC POWER SUPPLIES / DIMMABLE MAGNETIC POWER SUPPLIES

LTP-2	2A - Switchable - 120V Cord & Plug, Class II, 12VDC @ 2 amps. Electronic.
LTP-6	5A - Switchable - 120V Cord & Plug, Class II, 12VDC @ 5 amps. Electronic
LTH-2	2.1A - 12VDC, 25W Metal Chassis Hardwire. Screw Terminals.
LTH-4	4.2A - 12VDC, 50W Metal Chassis Hardwire. Screw Terminals.
LTH-8	8.5A - 12VDC, 100W Metal Chassis Hardwire. Screw Terminals and Mounting Feet. Electronic.
LTH-16	16.7A - 12VDC, 200W Metal Chassis Hardwire. Screw Terminals and Mounting Feet. Electronic
LTH-25	25A - 12VDC, 320W Metal Chassis Hardwire. Screw Terminals and Mounting Feet. Electronic.
LTFD-60	12VDC, 60W, Dimmable Class II, 120V Cord and Plug
LTF-60-12	12VDC, 60W, Dimmable Class II, 120VAC Input, 6 Standard Knockouts
LTF-100-12	12VDC, 100W, Dimmable, 120VAC Input, 6 Standard Knockouts
LTF200-12	12VDC, 200W, Dimmable, 120VAC Input, 6 Standard Knockouts
LTF300-12	12VDC, 300W, Dimmable, 120VAC Input, 6 Standard Knockouts
LTHM50-DIM	Dimmable - Primary: 120VAC, 60Hz, 0.33A Secondary: 12VDC, 4A Max. 50W
LTH-60-DIM	Dimmable - Primary: 120VAC, 60Hz, 0.33A Secondary: 12VDC, 4A Max. 60W
LTHM100-DIM	Dimmable - Input: 120VAC, 60Hz Output: 12VDC 8A Max. 100W, Nema 3R Enclosure
LTHM300-DIM	Dimmable - Primary: 120VAC, 60Hz, 25A Output: 12VDC, Double Section Bobbin, Max. 300W
LTHM150-CL2-DIM	Dimmable - Input: 120VAC, 60Hz, 5A, 3 circuit Class II Output: 12VDC, Manual reset, 150W, UL for indoor use.
LTHM300-CL2-DIM	Dimmable - Input: 120VAC, 60Hz, 6 circuit Class II Output: 12VDC x 6, 25A Max. 300W, UL for indoor and outdoor use.

Flexible LED Ribbon Connectors	
LTC-1	Ribbon to ribbon connector
LTC-3	3" flexible ribbon to ribbon connector
LTC-12	12" flexible ribbon to ribbon connector
LTC-24	24" flexible ribbon to ribbon connector
LTC-36	36" flexible ribbon to ribbon connector
LTC-60	60" flexible ribbon to ribbon connector
LTW-6	6" flexible ribbon to power supply connector
LTW-24	24" flexible ribbon to power supply connector
LTW-48	48" flexible ribbon to power supply connector
LTW-60	60" flexible ribbon to power supply connector
LTC-T	3" Flexible Ribbon to Ribbon T Connector
STC-1	Sure Tite Ribbon To Ribbon Connector
STLK-60	60" Sure Tite Flexible Ribbon To Ribbon Connector
STW-60	60" Sure Tite Flexible Ribbon To Power Connector

Model Number	Length	Total LED's	LED Wattage	Amps per Ft.	Lumens per Ft.*	Color	LED Life
LTR300-100-27	98'-6"	1872	2.2W/FT	.18	152	2700K	50,000 HRS
LTR300-100-30	98'-6"	1872	2.2W/FT	.18	195	3000K	50,000 HRS
LTR300-100-WW	98'-6"	1872	2.2W/FT	.18	198	3500K	50,000 HRS
LTR300-100-42	98'-6"	1872	2.2W/FT	.18	222	4200K	50,000 HRS

* Kelvin temperature (color) ±200

Connectors: Each reel comes complete with (15) LTW-24 flexible ribbon to power supply connectors and 24" of lead affixed at start of reel.

LTR300-100-050415

NUVO 60-496

3-Lights Wall Mounted Vanity Fixture in Brushed Nickel Finish with White Opal Glass and (3) 13W GU24 Bulbs Included



Fixture Type
Vanity & Wall 3-Light

Collection
Polaris

Style
Contemporary

Finish
Brushed Nickel

Width
21"

Height
8.25"

Shade Description
White Opal

Shade Material
Glass

Extension
8"

Number of Lights
3-Lights

Max Wattage
13 Watts

Lamp Type
Fluorescent

Bulb Type
T2 Bulb

Bulb Base
GU24 Base

Bulb Included
Yes

Replaceable Light Source
Yes

Certification
UL Listed

Safety Rated
Damp Location

Energy Saver
Yes

Energy Star
No

UPC
045923604966

Warranty
2-Year Warranty Light Source

POLARIS



60-490



60-491



60-492



60-493



60-494



60-495



60-496



60-497



60-607



60-608

7" Low Profile Flushmount

LED 54663142

11.8 Watt 810lms 4000K

Specifications



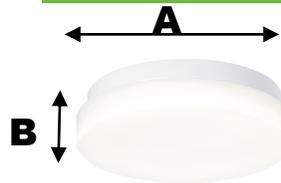
The ETi 11.5 watt 810 lumen LED 7" Low Profile light is an ideal wall and ceiling mounted work light. Designed to replace a standard work light with a 60W incandescent lamp. They are UL listed for use in damp and dry locations. Warranty 5 years. Suitable for installations from - 4° F to 95° F.

KEY FEATURES & BENEFITS

- 11.5 Watts
- 120V
- 810 lumen, 4000K CCT, 80CRI
- Non-Dimmable
- UL damp location rated
- No UV, IR or mercury
- Warranty 5 years or 50,000 hours



FIXTURE DIMENSIONS



SKU# 54663142

Dimension A = 7.0"

Dimension B = 2.0"

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. For FCC Part 15 user information, please see www.etiled.us/fcc15b

APPLICATION INFORMATION

Designed to be used anywhere a standard incandescent fixture is used. Typically used in bedrooms, hallways, kitchens, living rooms and recreational rooms. Other applications apply in commercial, office, retail, restaurants, schools, hospitals and hotel/motel locations.



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WhisperGreen Select™ is a game-changing solution. Built-in Pick-A-Flow™ speed selector switch allows you to select your required airflow (50-80-110 CFM). Plug 'N Play modules allow further customization. Features a DC Motor with SmartFlow® technology and a Flex-Z Fast installation bracket. Can be used to comply with the latest codes and standards.

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NUVO 60-495

2-Lights Wall Mounted Vanity Fixture in Brushed Nickel Finish with White Opal Glass and (2) 13W GU24 Bulbs Included



Fixture Type
Vanity & Wall 2-Light

Collection
Polaris

Style
Contemporary

Finish
Brushed Nickel

Width
13.5"

Height
8.25"

Shade Description
White Opal

Shade Material
Glass

Extension
8"

Number of Lights
2-Lights

Max Wattage
13 Watts

Lamp Type
Fluorescent

Bulb Type
T2 Bulb

Bulb Base
GU24 Base

Bulb Included
Yes

Replaceable Light Source
Yes

Certification
UL Listed

Safety Rated
Damp Location

Energy Saver
Yes

Energy Star
No

UPC
045923604959

Warranty
2-Year Warranty Light Source

POLARIS



60-490



60-491



60-492



60-493



60-494



60-495



60-496



60-497



60-607



60-608



DESCRIPTION:

The GT-DM is an all-in-one audio/video entrance station with stainless steel cover for the GT Multi-Unit entry system. This unit is equipped with a 170° angle of view PTZ camera. The 10-key keypad allows for direct digital dialing and access entry. A 3.5" color LCD displays a greeting message, tenant names & numbers, and system status. The color LCD may be set to energy saver mode and can activate via the built in motion sensor. The GT-DM is equipped with a six language user assistance guide. The guide provides operational assistance by displaying a visual pictogram as well as audible guidance.

The GT-DM works on a common bus wiring system, carrying the calling and communication functions on a 2 conductor wire, and the video signal on a second 2 conductor wire. A separate power supply provides voltage for the digital display, while the power for the audio and video is supplied on the common bus wires.

The entrance station is designed to be flush mounted but an optional hooded stainless steel surface mount box can be purchased separately (SBX-GTDM).

Audio only and audio/video entrance panels are intermixable within a system, as are audio and video tenant stations. The system allows up to two video stations and two audio stations to be used in the same tenant location (exception to this rule if using the GT-2C).

Communication is hands free at the entrance station when a tenant answers the call.

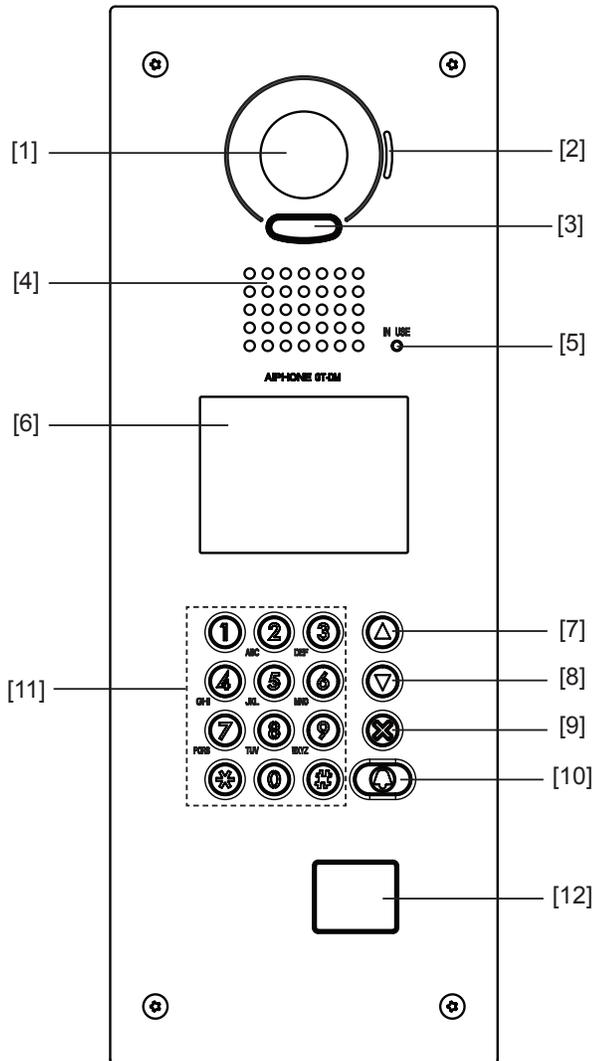
FEATURES:

- Hands free audio communication
- Video image of visitor when called from entrance, or a view of entry area when activated from the tenant station
- Direct digit dialing, alphabetical scrolling or "jump" scrolling by letter to select tenant name
- Digital panel can store up to 500 tenant name/number locations
- Alpha-numeric room numbers and/or names can be programmed
- Access Control door entry with keypad with up to 500 unique codes to activate door release
- Scrolling welcome message, up to 160 characters, adjustable scroll speed
- 3.5" Color LCD displays calling unit name and number
- Motion sensor to activate LCD
- PC program for loading resident information, access codes, and welcome message (Via USB)
- Stainless Steel weather resistant construction

GT-DM

All-in-One Video Entrance Station

FEATURE CALL-OUT:



FEATURE CALL-OUT DEFINITIONS:

- [1] Camera
- [2] Microphone
- [3] Illuminator LED
- [4] Speaker
- [5] In use LED (orange)
- [6] 3.5" Color LCD display
- [7] Back search button (or move cursor to the left)
- [8] Forward search button (or move cursor to the right)
- [9] Cancel button (or set and return)
- [10] Call button (or set and move forward)
- [11] 10-key (0~9, *, #)
- [12] Sensor (If the sensor detects an object, the LCD display will be illuminated)

SPECIFICATIONS:

Power:	24V DC, use specified number of PS-2420UL per system configuration
Calling:	Electronic ring tone from entrance panel
Communication:	Hands free from entrance panel to tenant station
Capacity:	Max. 16 Entry panels per system Max. 4 Concierge stations per system Max. 500 Tenant stations per system Max. 4 Tenant stations per unit
Wire:	Two sets of 2-conductor, PE insulation (two common buses for audio & video) Aiphone #872002, 2 conductor PE insulated, non-shielded, 11.05 pf/ft Aiphone #871802, 2 conductor PE insulated, non-shielded, 11.05 pf/ft
Wiring Distance:	GT-BC to farthest entrance: 980' GT-BC to farthest tenant (audio): 980' GT-VBC to farthest entrance: 980' GT-VBC to farthest tenant (video): 500'
Talk Path:	Single channel with privacy
Dimensions:	16-1/8" H x 5-7/8" W x 2-5/8" D
Weight:	Approx. 6.61lbs (3kg)

iO500 Intelligent Life Safety System



Overview

The EST iO500 intelligent life safety system offers the power of high-end intelligent processing in a configuration that delivers an uncomplicated solution for small to mid-sized applications. With intelligent detection, electronic addressing, automatic device mapping, optional Ethernet® connectivity, and a full line of easily-configured option cards and modules, this flexible system offers versatility that benefits building owners and contractors alike.

The iO500 provides one Class A or Class B analog device loop that supports up to 250 device addresses. A second 250-point loop may be added to the iO500 to expand total system capacity to up to 500 device addresses. The panel includes four NACs that may be wired for either Class A or Class B operation.

The iO500 supports a wide range of accessories and related equipment, including:

- Signature Series intelligent modules, detectors, and bases
- R-Series remote annunciators
- option cards that expand system capacity and extend system capabilities
- Listed for releasing applications using SIGA-REL
- Fully integrated CO detection using Signature Series 2 detectors with or w/o audible signaling

Features

- Comes standard with one loop (expandable to two) that supports up to 250 (expandable to 500) intelligent devices: each iO500 loop supports up to 125 detectors and up to 125 modules.
- Supports Signature Series intelligent modules and detectors
- Combines the Signature intelligent releasing module with Signature multisensor detectors for reliable suppression
- Four Class B NACs or two Class A NACs.
- Form C contacts for alarm and trouble, Form A for supervisory
- Electronic addressing with automatic device mapping
- Optional Ethernet port for diagnostics, programming and a variety of system reports
- Two programmable switches with LEDs and custom labeling
- Supports Genesis horn silence over two wires and UL 1971-compliant strobe synchronization
- Supports up to eight serial annunciators, (LCD, LED-only, and graphic interface).
- 1,000 event panel history log
- Can use existing wiring for most retrofit applications
- Upload/download remotely or locally
- Two-level maintenance alert reporting
- Pre-alarm and alarm verification by point
- Adjustable detector sensitivity
- 4 x 20 character backlit LCD display
- Optional earthquake hardening: OSHPD seismic pre-approval for component Importance Factor 1.5

System LEDs

LED	Description
Alarm	Red LED. On steady when there is an active alarm.
Trouble	Yellow LED. Flashes when there is a fault on a monitored circuit or system component, or when a circuit is disabled.
Sup	Yellow LED. On steady when there is an active supervisory event.
AC Power	Green LED. On when the panel has AC power.
Disable	Yellow LED. Double-flashes when there is a disabled circuit, alarm relay, or remote annunciator.
Ground Fault	Yellow LED. On steady during an active ground fault.
Test	Yellow LED. Flashes when performing an audible walk test. Steady indicates a silent test.
Monitor	Yellow LED. On steady when there is an active monitor event.
Service Detector	Yellow LED. Indicates that detector needs servicing.
Signal Silence	Yellow LED. On steady indicates that NAC circuits are turned off but the panel is still in alarm.
Remote Disconnect	Yellow LED. On steady indicates that the dialer is disabled or that the alarm relay is enabled or disabled when the dialer is set to modem only.
Drill	Yellow LED. Indicates that the panel is in drill.
Reset	Yellow LED. Indicates that the panel is resetting.
Panel Silence	Yellow LED. Indicates that the panel has been silenced during an active trouble, supervisory, or alarm event and indicates that new event activations have been acknowledged.
User Keys	Yellow LED. Programmable.

Panel Operation Options

Language	English or French
Marketplace	U.S. or Canada
AC fail delay	<i>Off:</i> Off-premise notification of an AC power failure is immediate. <i>1 to 15 hours:</i> Delays the off-premise notification of an AC power failure by the time period selected.
Zone resound	<i>On:</i> NACs resound each time a device in the zone goes into alarm even if they were silenced <i>Off:</i> Inhibits the NACs from turning on again (after they were silenced) when a second device in the zone goes into alarm.
Reset inhibit after NACs turn on	<i>Off:</i> Panel reset is operational immediately. <i>1 minute:</i> Panel reset is inhibited for one minute.
Auto signal silence	<i>Off:</i> Allows immediate silencing of signals from an off-normal condition using the Signal Silence button <i>5 to 30 minutes:</i> Delays the silencing of signals from an off-normal condition by disabling the Signal Silence button for the time period selected.
Day start	Start time for daytime sensitivity
Night start	Start time for nighttime sensitivity
Date	<i>U.S.:</i> MM/DD/YYYY, <i>Canada:</i> DD/MM/YYYY
Sounder Base	Six configuration settings
Mapping	<i>Disabled:</i> Device mapping is not available <i>Enabled:</i> Device mapping is available
LCD banner	Banner text for line one and line two. Each line is capable of up to 20 characters.
Event notification	<i>Zone:</i> When a device is a member of a zone, only the zone information is sent to the LCD display, LEDs, printer, and dialer. <i>Zone/device:</i> Zone information is sent to the LCD display and LEDs. Device information is sent to the printer and dialer. <i>Device:</i> Only device information is reported.

Programming

iO500 life safety systems are simple to set up, yet also offer advanced programming features that put these small building panels into a class of their own. The auto programming feature quickly gets the panel operational using factory default settings. Basic zone and point settings can be programmed easily through the front panel interface, so the system is up and running in no time.

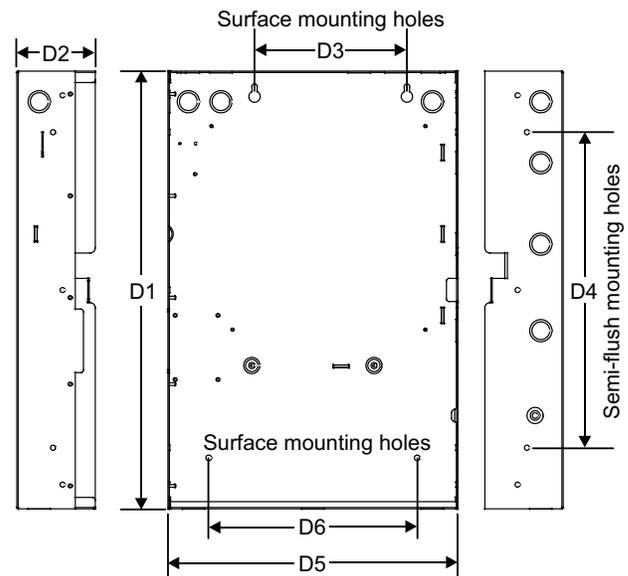
For more advanced system configuration and correlation groups programming, iO500 systems interface to a PC running compatible iO-CU software. This option offers full system configuration in the familiar Windows® operating environment. Connection is typically made to a laptop through the panel's optional RS-232 communications port, which can also be used to connect a system printer.

Among the many innovative features of iO500 control panels is the optional network card. This module provides a standard 10/100 Base T Ethernet® network connection that permits access to the control panel from any remote location with the correct communications protocols. The connection can be used to download to the panel from the iO-CU, or upload and view system reports using the iO-CU.

Available system reports include:

- Correlation groups
- Device details
- Device maintenance
- History
- Internal status
- System configuration
- System status
- Walk test
- Dialer
- CO runtime

Dimensions



Panel dimensions, in (cm)						
Model	D1*	D2	D3	D4	D5*	D6
iO500	28.0 (71.1)	3.85 (9.8)	9.0 (22.8)	22.0 (55.8)	15.75 (40.0)	10.25 (26.0)

* Add 1-1/2 in. (3.81 cm) to D1 and D5 dimensions for trim kit.

GM Lighting

LEDTASK™ 24VDC SUPER HIGH OUTPUT FLEXIBLE LED LINEAR RIBBON

Project: _____

Type: _____

Location: _____

Contact Phone: _____

PRODUCT DESCRIPTION

A 24VDC 'Super High Output' flexible LED linear ribbon that con-
forms to straight, curved and irregular architectural coves, bannisters, recesses and other constructs where even, energy saving hi-power LED illumination is specified. Available in a 5 meter (16.4') reel. Ribbon can be cut in field to achieve desired length.

PRODUCT SPECIFICATIONS

Construction: LEDTask 24VDC Super High Output Flexible LED Ribbon incorporates 1200 LED diodes per reel and are mounted to a flexible adhesive backed buss. The ribbon is conveniently wound on a 5 meter (16.4 ft) reel. Each reel is shipped in a moisture proof package and is also supplied with appropriate connectors.

Connectors: Five meter reel includes 3 - DTW-24 ribbon to power supply connectors, with 24" of lead affixed to start of reel. One meter reel includes (1) DTW-24 affixed to the start of the reel and (1) DTC-1

Electrical: Each LED is .08W. 5.85W per foot. 5 meter reel is 4.5 amps and 96 watts. **50,000 hour LED life.**

Color Temperature: 2700K, 3000K, 3500K and 4200K
Power Supplies: See chart at right

Dimming: Yes with dimmable power supplies (see at right) utilizing low voltage magnetic on/off wall dimmer (GMWD-600).

Cutting and Mounting: Linear ribbon can be cut every 6 pairs of LED diodes. Ribbon utilizes 3M double stick tape.

Label: ETL

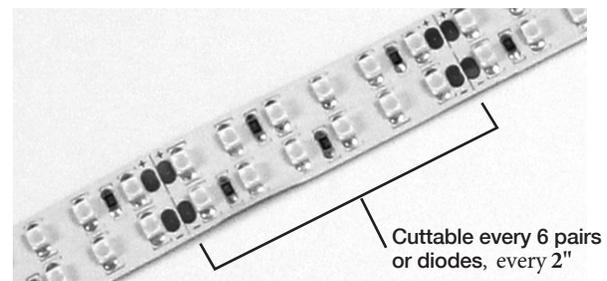
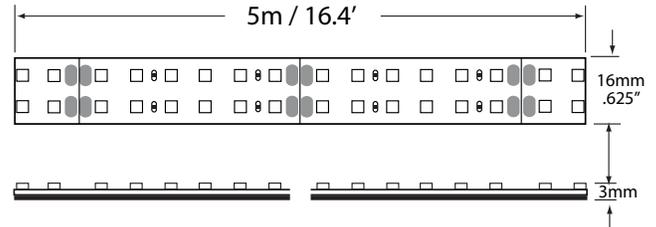
Warranty: 5 year warranty

LED LINEAR RIBBON CONNECTORS and ACCESSORIES

Cat. No.	Description
DTC-1	Ribbon to ribbon connector
DTC-3	3" flexible ribbon to ribbon connector
DTC-12	12" flexible ribbon to ribbon connector
DTC-24	24" flexible ribbon to ribbon connector
DTC-48	48" flexible ribbon to ribbon connector
DTC-60	60" flexible ribbon to ribbon connector
DTW-6	6" flexible ribbon to power supply connector
DTW-24	24" flexible ribbon to power supply connector
DTW-60	60" flexible ribbon to power supply connector

Cat. Number	Length	Total LED's	LED Wattage	Amps per reel	Lumens per ft	Color	LED Life
LTR24024-HO-27	1M (39")	240	.08W (5.85W/ft)	0.6	314	2700K Warm White	50,000 hrs
LTR24024-HO-30	1M (39")	240	.08W (5.85W/ft)	0.6	350	3000K Warm White	50,000 hrs
LTR24024-HO-35	1M (39")	240	.08W (5.85W/ft)	0.6	379	3500K Warm White	50,000 hrs
LTR24024-HO-42	1M (39")	240	.08W (5.85W/ft)	0.6	427	4200K Cool White	50,000 hrs
LTR120024-HO-27	5M (16.4')	1200	.08W (5.85W/ft.)	4.0	314	2700K Warm white	50,000 hrs.
LTR120024-HO-30	5M (16.4")	1200	.08W (5.85W/ft.)	4.0	350	3000K Warm white	50,000 hrs.
LTR120024-HO-35	5M (16.4')	1200	.08W (5.85W/ft.)	4.0	379	3500K Warm White	50,000 hrs
LTR120024-HO-42	5M (16.4')	1200	.08W (5.85W/ft.)	4.0	427	4200K Cool White	50,000 hrs

* Includes 24" of lead on the ribbon and (3) DTW-24 24" flexible ribbon to power supply connectors. **Kelvin temperature (color) ±200.



24VDC ELECTRONIC POWER SUPPLIES DIMMABLE MAGNETIC POWER SUPPLIES



Cat. No.	Description
LTP-24-48	48W - 2 Amps - 120V Cord and Plug (126"). Short circuit, overload protection - LED indicator for power on.
LTP24-90	90W - 3.75 Amps - 120V Cord and Plug (72"). Short circuit, overload protection . LED indicator for power on.
LTH24-4	100W - 4.2 Amps - 120V - Universal AC input - Short circuit overload protection. LED indicator for power on. Metal.
LTH24-8	200W - 8.4 Amps - 120V - Universal AC input - Short circuit overload protection. LED indicator for power on. Metal.
LTH-60-DIM	Dimmable 60W - 2.5 Amps - 120V, 240V or 277V - Universal AC input 120V, 240V or 277V - 50 or 60 Hz. - no external fusing.
LTHM100-DIM-24	Dimmable 100W - 4 Amps - 120V / 60 Hz - Double section bobbin - ETL for indoor and outdoor use. Manual reset.
LTHM200-DIM-24	Dimmable 200W - 8 Amps - 120V / 60 Hz - Double section bobbin - ETL for indoor and outdoor use. Manual reset.
LTHM300-DIM-24	Dimmable 300W - 12 Amps - 120V / 60 Hz - Double section bobbin - ETL for indoor and outdoor use. Manual reset
GMWD-600	600W magnetic wall dimmer with on/off switch. Single pole. 120V/60Hz. White finish. For use with all GM Lighting 12VDC and 24VDC Mag. Dimmable Power Supplies

For power supply dimensions, please see www.gmlighting.net



GM Lighting, LLC • 9830 W. 190th St. • Unit F • Mokena, IL 60448
Toll-Free: (866) 671-0811 FAX: (708) 478-2640 • www.gmlighting.net
e-mail: sales@gmlighting • Specifications subject to change without notice.



LTR120024-HO_081915

JB645EK/RK

GE® Series 30" Free-Standing Electric Range

FEATURES AND BENEFITS

Two 9"/6" Power Boil elements – Two powerful elements boil water 25% faster than standard GE elements and adjust to fit cookware

Self-clean oven – Cleans the oven cavity without the need for scrubbing

Dual-element Bake – Upper and lower elements produce even heat and great results

Ceramic glass cooktop – Smooth cooktop easily wipes clean

Removable full-width storage drawer – Store cookware or kitchen accessories

5.3 cu. ft. oven capacity – Enough room to cook an entire meal at once

Model JB645RKSS – Stainless steel

Model JB645EKES – Slate



GE APPLIANCES

2016

WARRANTY INFORMATION



GE APPLIANCES

WARRANTY INFORMATION*

The condensed list below is a convenient overview of the written warranties offered on various GE appliances described in this catalog for products manufactured on or after January 1, 2006. For complete warranty details on a specific GE Appliance model, contact your nearest GE Appliances supplier, or call GE Appliances Factory Service, toll-free, 800.GE.CARES (800-432-2737).

REFRIGERATORS, WINE AND BEVERAGE CENTERS, ICE MAKERS

All Profile/Café models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the refrigerator which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.
Five years From the date of the original purchase	Any part of the sealed refrigerating system (the compressor, condenser, evaporator and all connecting tubing) which fails due to a defect in materials or workmanship. During this limited five-year sealed refrigerating system warranty , GE Appliances will also provide, free of charge , all labor and related service costs to replace the defective part.

REFRIGERATORS, FREEZERS, WINE AND BEVERAGE CENTERS

All GE/Artistry models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the refrigerator which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

ICEMAKERS

For Refrigerators

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the icemaker which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

WATER FILTERS

For the period of	GE Appliances will replace
30 days From the date of the original purchase	Any part of the water filter cartridge which fails due to a defect in materials or workmanship. During this limited 30-day warranty , you will be responsible for any labor and related service costs.

RANGES, COOKTOPS, WALL OVENS, WARMING DRAWERS AND HOODS

All Café/Profile/GE/Artistry models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the cooking product which fails due to a defect in materials or workmanship. During this limited one-year warranty GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.
Five years (CS980 ONLY) From the date of the original purchase	A replacement glass cooktop if it should crack due to thermal shock, discolor, crack at the rubber seal between the glass cooktop and the porcelain edge or if the pattern wears off, or if any of the radiant surface units burn out. During this additional four-year limited warranty , you will be responsible for any labor or in-home service.

SPEEDCOOK OVENS WITH ADVANTIUM® TECHNOLOGY

All Café/Profile models

For the period of	GE Appliances will choose to replace or service
One year From the date of the original purchase	Any part of the oven which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related services costs to replace the defective part.
Five years (CSA1201 ONLY) From the date of the original purchase	The magnetron tube , if the magnetron tube fails due to a defect in the materials or workmanship. During this five-year limited warranty , you will be responsible for any labor or in-home service costs.

OVER-THE-RANGE AND COUNTERTOP MICROWAVE OVENS

All Café models

For the period of	GE Appliances will choose to replace or service
One year From the date of the original purchase	Any part in the microwave which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will also provide, free of charge , all labor and in-home service to replace the defective part.
Five years (CVM1750, CVM1790 & CEB1599 ONLY) From the date of the original purchase	The magnetron tube , if the magnetron tube fails due to a defect in the materials or workmanship. During this five-year limited warranty , you will be responsible for any labor or in-home service.

OVER-THE RANGE AND COUNTERTOP MICROWAVES OVENS

Profile/GE/Artistry models

For the period of	GE Appliances will choose to replace or service
One year From the date of the original purchase	In the event of service, GE Appliances will provide any part of the microwave oven which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will also provide, free of charge , all labor related service costs to replace the defective part when the unit is serviced.

DISHWASHERS AND COMPACTORS

All GE/Artistry/Profile/Café models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the dishwasher or compactor which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

*See written warranty for complete details.

DISPOSERS

For the period of	GE Appliances will replace
One year From the date of the original purchase	Models GFC320 and GFC325: The entire disposer if there is a defect in materials or workmanship relating to functional parts only (appearance parts are excluded). During this limited one-year warranty , GE Appliances will also provide, free of charge , all labor charges related to replacing the original disposer along with the replacement disposer within the first year.
Additional one year From the date of the original purchase	Models GFC520V, GFC525V: If there is a defect in materials or workmanship relating to functional parts only (appearance parts are excluded). During this one-year extended limited warranty period , you will be responsible for all installation charges related to the replacement disposer.
Additional two years From the date of the original purchase	Models GFC530V, GFC535V: If there is a defect in materials or workmanship relating to functional parts only (appearance parts are excluded). During this two-year extended limited warranty period , you will be responsible for all installation charges related to the replacement disposer.
Additional four years From the date of the original purchase	Models GFC720V, GFB760V: If there is a defect in materials or workmanship relating to functional parts only (appearance parts are excluded). During this four-year extended limited warranty period , you will be responsible for all installation charges related to the replacement disposer.
Additional six years From the date of the original purchase	Model GFC1020V: If there is a defect in materials or workmanship relating to functional parts only (appearance parts are excluded). During this six-year extended limited warranty period , you will be responsible for all installation charges related to the replacement disposer.

WATER SOFTENERS

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part of the Water Softening System which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.
Second through third year From the date of the original purchase	Electronic Monitor , if the Electronic Monitor fails due to a defect in materials or workmanship. During this additional two-year limited warranty , you will be responsible for any labor and related service costs.
Second through tenth year From the date of the original purchase	Cabinet (Brine Tank) and Resin Tank , if either of these parts fail due to a defect in materials or workmanship. During this additional nine-year limited warranty , you will be responsible for any labor and related service costs.

WASHERS AND FRONT LOAD WASHERS

All GE models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the washer which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.
Ten years From the date of the original purchase	Models GTW860, GTW810, GTW680: The motor , if it should fail due to a defect in materials or workmanship. During this additional nine-year limited warranty , you will be responsible for any labor and related service costs.

DRYERS AND FRONT LOAD DRYERS

All GE models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the dryer which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

GEOSPRING™ HYBRID ELECTRIC WATER HEATERS

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part of the GeoSpring hybrid electric water heater which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will also provide, free of charge , all labor and related service to replace the defective part.
Second through tenth year From the date of the original purchase	Any part of the GeoSpring hybrid electric water heater which fails due to a defect in materials or workmanship. During this limited ten-year parts warranty , labor and related service to replace the defective part are not included.

REVERSE OSMOSIS FILTRATION SYSTEMS

All Profile models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part of the Reverse Osmosis Filtration System (excluding filters) which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

DUAL-STAGE AND SINGLE-STAGE WATER FILTRATION AND WHOLE HOUSE FILTRATION

All GE models

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part of the Water Filtration System (excluding filters) which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

DUAL-STAGE AND SINGLE-STAGE WATER FILTRATION AND WHOLE HOUSE FILTRATION

All GE models starting with GX

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part of the Water Filtration System (excluding filters) which fails due to a defect in materials or workmanship. During this limited one-year warranty , you will be responsible for any labor and related service costs.

DUAL-STAGE AND SINGLE-STAGE WATER FILTRATION AND WHOLE HOUSE FILTRATION

GE models: UNFCTFBL, UCRING, UCWRENCH, HHRING & HHWRNCH

For the period of	GE Appliances will replace
30 days From the date of the original purchase	Any part of the water filtration accessory that fails due to a defect in materials or workmanship. During this limited 30-day warranty , you will be responsible for any labor and related service costs.

AIR CONDITIONERS

Window

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the air conditioner which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

WARRANTY INFORMATION* (continued)

DEHUMIDIFIERS

For the period of	GE Appliances will replace
One year From the date of the original purchase	During this limited one-year warranty , GE Appliances will replace the dehumidifier if there is a defect in materials or workmanship.

AIR CONDITIONERS

Built-in

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part in the air conditioner which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.
Five years From the date of the original purchase	Sealed Refrigerating System , if the Sealed Refrigerating System (compressor, condenser, evaporator and all connecting tubing) should fail due to a defect in materials or workmanship. During this limited five-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

AIR CONDITIONERS

Zonline® and Vertical Zonline

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part of the air conditioner which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.
Five years From the date of the original purchase	Sealed Refrigerating System , if any part of the Sealed Refrigerating System (the compressor, condenser, evaporator, and all connecting tubing, including the make up air system) should fail due to a defect in materials or workmanship. During this limited five-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.
Second through fifth year (Zonline only) From the date of the original purchase	Fan Motors, Switches, Thermostat, Heater, Heater Protectors, Compressor Overload, Solenoids, Circuit Boards, Auxiliary Controls, Thermistors, Frost Controls, Freeze Sentinel, ICR Pump, Capacitors, Varistors and Indoor Blower Bearing , if any of these parts should fail due to a defect in materials or workmanship. During this additional four-year limited warranty , the customer will be responsible for any labor and related service costs.
Second through fifth year (vertical Zonline only) From the date of the original purchase	Fan Motors, Switches, Heater, Heater Protectors, Compressor Overload, Solenoids, Circuit Boards, Auxiliary Controls, Thermistors, Frost Controls, Freeze Sentinel, ICR Pump, Capacitors, Varistors and Indoor Blower Bearing , if any of these parts should fail due to a defect in materials or workmanship. During this additional four-year limited warranty , the customer will be responsible for any labor and related service costs.

PARTS AND ACCESSORIES

For the period of	GE Appliances will replace
One year From the date of the original purchase	Any part or accessory which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE Appliances will provide, free of charge , all labor and related service costs to replace the defective part.

*See written warranty for complete details.

What GE Appliances will not cover:

- Service trips to your home to teach you how to use the product.
- Improper installation.
- Replacement of house fuses or resetting of circuit breakers.
- Failure of the product if it is abused, misused or used for anything other than the intended purpose or used commercially.
- Damage to product caused by accident, fire, floods or acts of God.
- Incidental or consequential damage caused by possible defects with this appliance.

EXCLUSION OF IMPLIED WARRANTIES - Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.

*See written warranty for complete details.

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. In Alaska, the One-Year Warranty excludes the cost of shipping, or service calls to your home. Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.



GE APPLIANCES

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Appliance Park
Louisville, KY 40225
geappliances.com

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Owner's Manual and Installation Instructions

GE, GE Profile and GE Café Models 21, 24 & 25 cuft

Write the model and serial numbers here:

Model # _____

Serial # _____

Find these numbers on a label on the left side, near the middle of the refrigerator compartment.

IMPORTANT SAFETY INFORMATION. READ ALL INSTRUCTIONS BEFORE USING.

SAFETY



GE Appliances website

For more information on your refrigerator's operation, visit www.GEAppliances.com or call 800.GECARES (800.432.2737). In Canada visit GEAppliances.ca or call 800.561.3344.

REFRIGERATOR SAFETY INFORMATION

! This is the safety alert symbol. This symbol alerts you to potential hazards that can kill or hurt you and others. All safety messages will follow the safety alert symbol and the word "DANGER", "WARNING", or "CAUTION". These words are defined as:

! DANGER Indicates a hazardous situation which, if not avoided, **will** result in death or serious injury.

! WARNING Indicates a hazardous situation which, if not avoided, **could** result in death or serious injury.

! CAUTION Indicates a hazardous situation which, if not avoided, **could** result in minor or moderate injury.

IMPORTANT SAFETY INSTRUCTIONS

! WARNING To reduce the risk of fire, explosion, electric shock, or injury when using your refrigerator follow these basic safety precautions:

- This refrigerator must be properly installed and located in accordance with the Installation Instructions before it is used.
- Unplug the refrigerator before making repairs, replacing a light bulb, or cleaning.
Note: Power to the refrigerator cannot be disconnected by any setting on the control panel.
Note: Repairs must be performed by a qualified service professional.
- Replace all parts and panels before operating.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Because of potential safety hazards under certain conditions, we strongly recommend against the use of an extension cord. However, if you must use an extension cord, it is absolutely necessary that it be a UL-listed (in the United States) or a CSA certified (in Canada), 3-wire grounding type appliance extension cord having a grounding type plug and outlet and that the electrical rating of the cord be 15 amperes (minimum) and 120 volts.
- To prevent suffocation and entrapment hazards to children, remove the fresh food and freezer doors from any refrigerator before disposing of it or discontinuing its use.
- Do not allow children to climb, stand or hang on the door handles or the shelves in the refrigerator. They could seriously injure themselves.

! CAUTION To reduce the risk of injury when using your refrigerator, follow these basic safety precautions.

- Do not clean glass shelves or covers with warm water when they are cold. Glass shelves and covers may break if exposed to sudden temperature changes or impact, such as bumping or dropping. Tempered glass is designed to shatter into many small pieces if it breaks.
- Keep fingers out of the "pinch point" areas; clearances between the doors and between the doors and cabinet are necessarily small. Be careful closing doors when children are in the area.
- Do not refreeze frozen foods which have thawed completely.
- Do not touch the cold surfaces in the freezer compartment when hands are damp or wet, skin may stick to these extremely cold surfaces.
- In refrigerators with automatic icemakers, avoid contact with the moving parts of the ejector mechanism, or with the heating element that releases the cubes. Do not place fingers or hands on the automatic ice making mechanism while the refrigerator is plugged in.
- Use a sturdy glass when dispensing ice (on models with ice dispenser).

IMPORTANT SAFETY INFORMATION. READ ALL INSTRUCTIONS BEFORE USING.

SAFETY (CONT.)

INSTALLATION

WARNING **Explosion Hazard.**

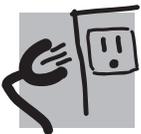
Keep flammable materials and vapors, such as gasoline, away from refrigerator. Failure to do so can result in fire, explosion, or death.

CONNECTING ELECTRICITY

WARNING **Electrical Shock Hazard.**

Plug into a grounded 3-prong outlet
Do not remove the ground prong

Do not use an adapter
Failure to follow these instructions can result in death, fire, or electrical shock.



Do not, under any circumstances, cut or remove the third (ground) prong from the power cord. For personal safety, this appliance must be properly grounded.

The power cord of this appliance is equipped with a 3-prong (grounding) plug which mates with a standard 3-prong (grounding) wall outlet to minimize the possibility of electric shock hazard from this appliance.

Have the wall outlet and circuit checked by a qualified electrician to make sure the outlet is properly grounded.

Where a standard 2-prong wall outlet is encountered, it is your personal responsibility and obligation to have it replaced with a properly grounded 3-prong wall outlet. Do not use an adapter.

The refrigerator should always be plugged into its own individual electrical outlet which has a voltage rating that matches the rating plate.

A 115 Volt AC, 60 Hz, 15- or 20-amp fused, grounded electrical supply is required. This provides the best performance and also prevents overloading house wiring circuits which could cause a fire hazard from overheated wires.

Never unplug your refrigerator by pulling on the power cord. Always grip plug firmly and pull straight out from the outlet.

Repair or replace immediately all power cords that have become frayed or otherwise damaged. Do not use a cord that shows cracks or abrasion damage along its length or at either end.

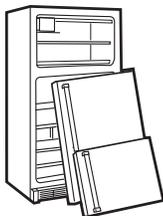
When moving the refrigerator away from the wall, be careful not to roll over or damage the power cord.

PROPER DISPOSAL OF YOUR OLD REFRIGERATOR

WARNING **Suffocation and child entrapment hazard.**

Remove fresh-food and freezer doors from the refrigerator, prior to disposal. Failure to do so can result in child entrapment which can lead to death or brain damage.

IMPORTANT: Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators are still dangerous even if they will sit for "just a few days." If you are getting rid of your old refrigerator, please follow the instructions below to help prevent accidents.



Before You Throw Away Your Old Refrigerator or Freezer:

- Take off the fresh food and freezer doors.

- Leave the shelves in place so that children may not easily climb inside.

Refrigerants

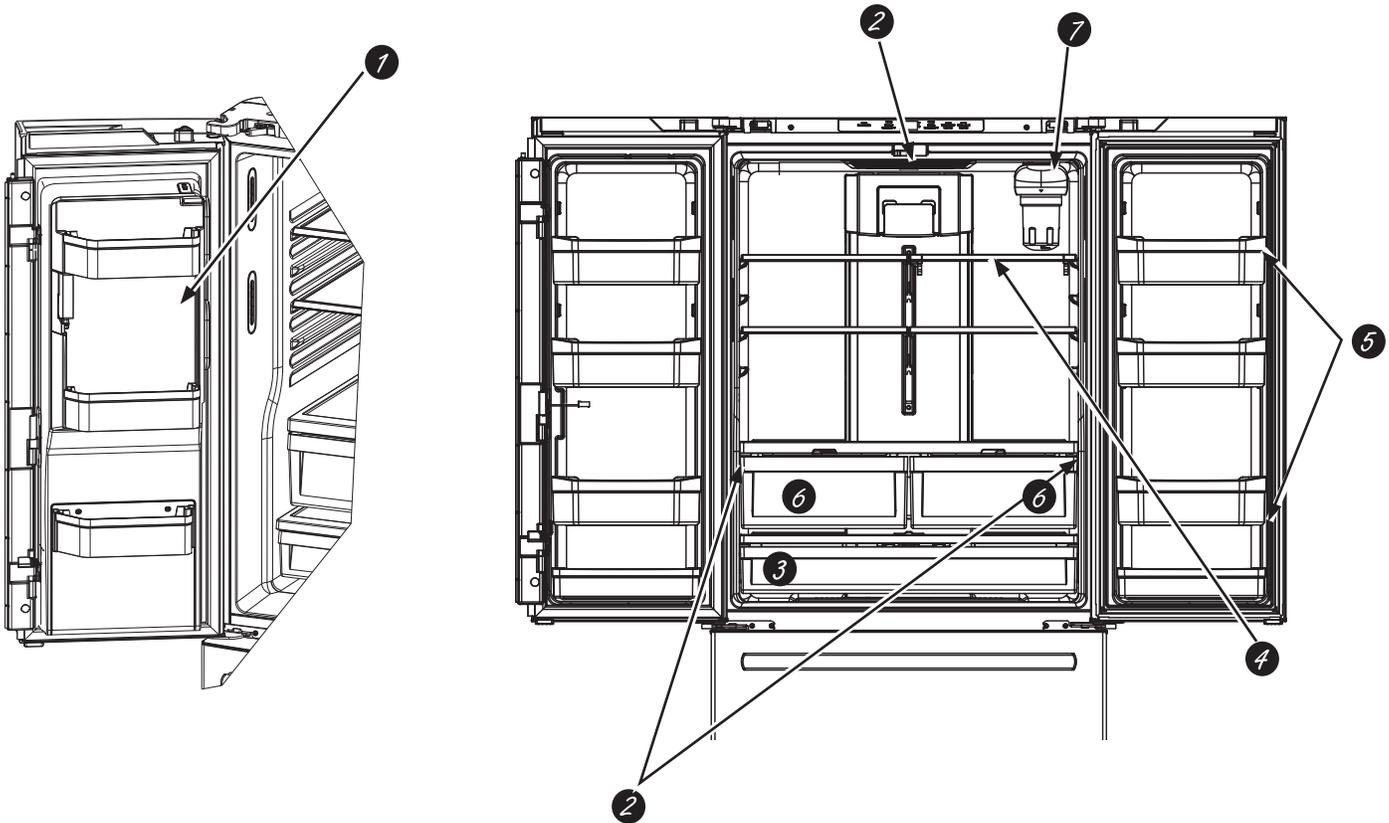
All refrigeration products contain refrigerants, which under federal law must be removed prior to product disposal. If you are getting rid of an old refrigeration product, check with the company handling the disposal about what to do.



**READ AND FOLLOW THIS SAFETY INFORMATION CAREFULLY.
SAVE THESE INSTRUCTIONS**

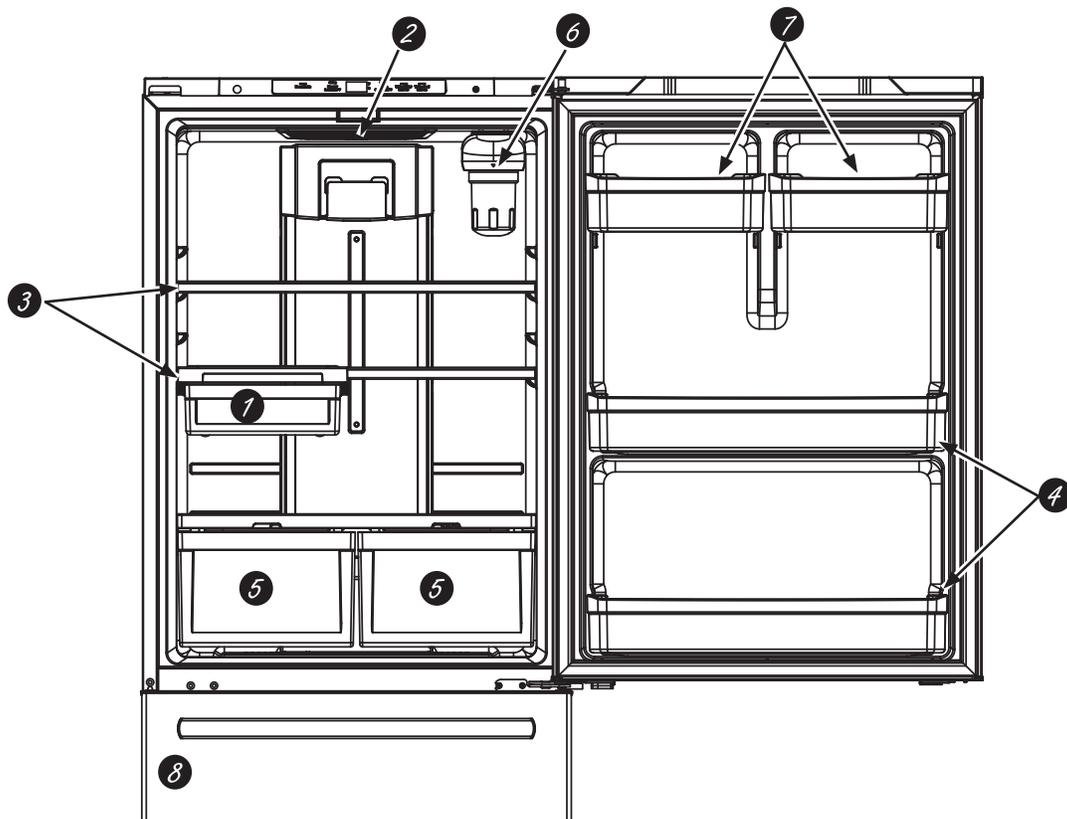
About the features.

French Door Models



- 1 Space-saving ice maker (on some models)**
Ice maker and bin are located on the door creating more usable storage space.
- 2 LED lighting**
LED lights in the fresh food compartment are located at the top center and on the left and right sides of climate zone pans. LED lights are also located in the freezer; see pages 12 and 13.
- 3 Full-width drawer**
A full-width drawer that can accommodate larger items is located at the bottom of the fresh food compartment.
- 4 QuickSpace™ shelf (on some models)**
Functions as a normal full-sized shelf when needed and easily slides back to store tall items below.
- 5 Removable/adjustable door bins**
Can be moved up or down to accommodate your needs.
- 6 Climate zone drawers**
Separate pans for produce storage.
- 7 Water filter**
Accessible for easy replacement.

Single Door Models



- 1 Floating snack pan**
Can be moved to different locations to best serve your needs.
- 2 LED lighting**
LED light is located at the top of the fresh food compartment. LED lights are also located in the freezer; see pages 12 and 13.
- 3 Full-width shelves**
Full-width shelves that can accommodate larger items.
- 4 Full-width gallon door bins**
Nonadjustable full-width door bins that will hold gallon containers.
- 5 Climate zone pans**
Separate bins for produce storage.
- 6 Water filter (on some models)**
Accessible for easy replacement.
- 7 Adjustable door bins**
Can be moved up or down to accommodate your needs.
- 8 Icemaker (on some models)**
Icemaker is located in the freezer on some models. Icemaker Kit IM-4D is available for models that are icemaker-ready.

About the controls.

GBE21, ABE21 Internal Control

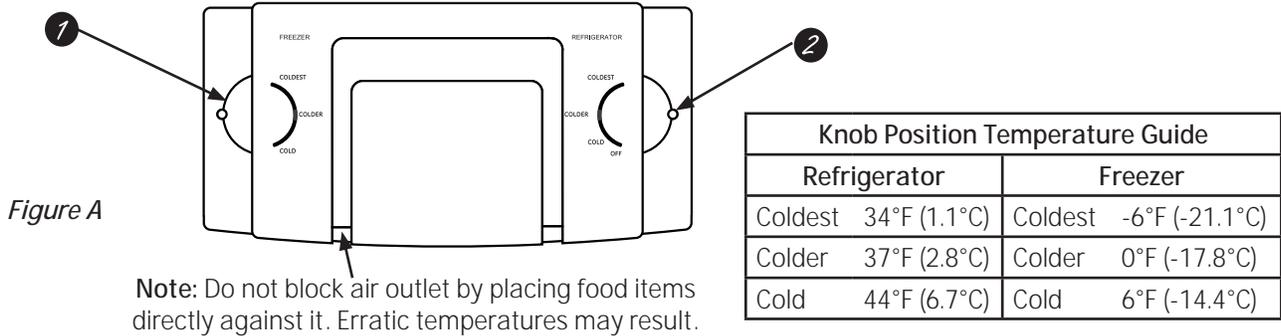


Figure A

Note: Do not block air outlet by placing food items directly against it. Erratic temperatures may result.

- 1 Freezer Compartment Temperature Control**
Adjust freezer compartment temperature. The freezer temperature is preset in the factory at the **Colder** position. Allow 24 hours for temperature to stabilize to the preset recommended setting.
- 2 Fresh Food Compartment Temperature Control**
Adjust fresh food compartment temperature. The fresh food temperature is preset in the factory at the **Colder** position. Allow 24 hours for temperature to stabilize to the preset recommended setting.

NOTE: Power to the refrigerator cannot be disconnected by any setting on the control panel.

GDE21, PDE21, GNE21, PNE21, GDE25, GNE25, PNE25, CNE25 Top Control

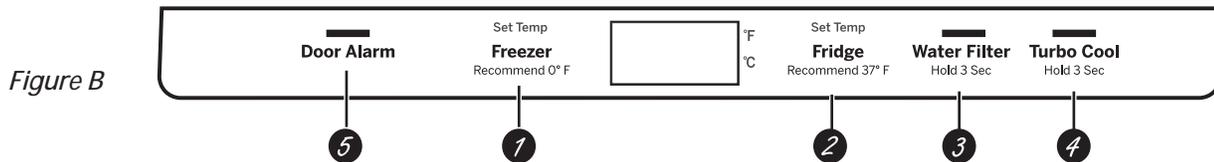


Figure B

- 1 Freezer Compartment Temperature Control**
Adjust freezer compartment temperature. The freezer temperature is preset in the factory at **0°F**. Allow 24 hours for temperature to stabilize to the preset recommended setting.
- 2 Fresh Food Compartment Temperature Control**
Adjust fresh food compartment temperature. The fresh food temperature is preset in the factory at **37°F**. Allow 24 hours for temperature to stabilize to the preset recommended setting.
- 3 Water Filter**
Press and hold 3 seconds to reset the Water Filter.
- 4 Turbo Cool**
To set the **TurboCool™**, press the **Turbo Cool** pad for 3 seconds. The display will show **tc**. **TurboCool™** rapidly cools the refrigerator compartment in order to more quickly cool foods. Use **TurboCool™** when adding a large amount of the food to the refrigerator compartment, putting away foods after they have been sitting out at room temperature, or when putting away warm leftovers. It can also be used if the refrigerator has been without power for an extended period.

NOTE: The refrigerator temperature cannot be changed during **TurboCool™**. The freezer temperature is not affected during **TurboCool™**. When opening the refrigerator door during **TurboCool™**, the fans will continue to run if they have cycled on.

- 5 Door Alarm**
To set the alarm, press the **Door Alarm** pad. This alarm will sound if either door is open for more than 2 minutes. The beeping stops when you close the door.

NOTE: To put the refrigerator control in the **OFF** position, simultaneously touch the words **Freezer** and **Fridge** for 3 seconds. Power to the refrigerator cannot be disconnected by any setting on the control panel.

GFE24, PFE24, CFE24 External Control

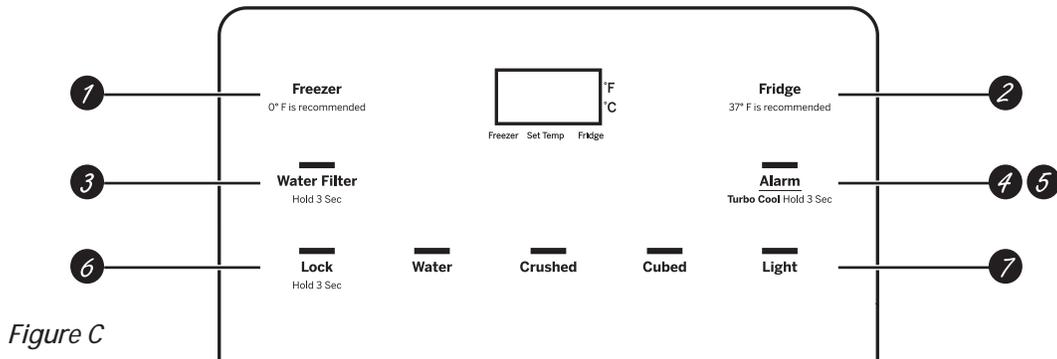


Figure C

1 Freezer Compartment Temperature Control

Adjust freezer compartment temperature. The freezer temperature is preset in the factory at **0°F**. Allow 24 hours for temperature to stabilize to the preset recommended setting.

2 Fresh Food Compartment Temperature Control

Adjust fresh food compartment temperature. The fresh food temperature is preset in the factory at **37°F**. Allow 24 hours for temperature to stabilize to the preset recommended setting.

3 Water Filter

Press and hold 3 seconds to reset the Water Filter.

4 Turbo Cool

To set the **TurboCool™**, press the **Alarm** pad for 3 seconds. The display will show **tc**. **TurboCool™** rapidly cools the refrigerator compartment in order to more quickly cool foods. Use **TurboCool™** when adding a large amount of the food to the refrigerator compartment, putting away foods after they have been sitting out at room temperature, or when putting away warm leftovers. It can also be used if the refrigerator has been without power for an extended period.

NOTE: The refrigerator temperature cannot be changed during **TurboCool™**. The freezer temperature is not affected during **TurboCool**. When opening the refrigerator door during **TurboCool™**, the fans will continue to run if they have cycled on.

5 Alarm

Press the **Alarm** pad to toggle the door alarm between off and on. The alarm will sound if either door is left open for more than 2 minutes. The beeping stops when you close the door.

6 Lock

Press and hold the **Lock** pad for 3 seconds to lock out ice and water dispenser and all other controls. Press and hold to unlock the controls.

7 LED dispenser Light

Press the **Light** pad to turn your dispenser light on and off.

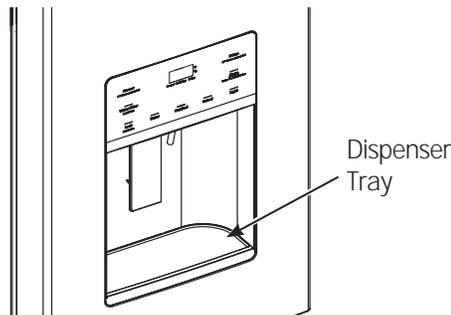
NOTE: To put the refrigerator control in the **OFF** position, simultaneously touch the words **Freezer** and **Fridge** for 3 seconds. Power to the refrigerator cannot be disconnected by any setting on the control panel.

NOTE: The refrigerator is shipped with protective film covering the temperature controls. If this film was not removed during installation, remove it now.

About the dispenser. (on some models)

Water & Ice Dispenser

(See About the controls)



Press the glass gently against the dispenser cradle.

The spill shelf is not self-draining. To reduce water spotting, the shelf should be cleaned regularly.

If no water is dispensed when the refrigerator is first installed, there may be air in the water line system. Press the dispenser paddle for at least five minutes to remove trapped air from the water line and to fill the water system. To flush out impurities in the water line, throw away the first six full glasses of water.

⚠ WARNING Laceration Hazard

- Never put fingers or any other object into ice crusher discharge opening. Doing so can result in contacting the ice crushing blades and lead to serious injury or amputation
- Use a sturdy glass when dispensing ice. A delicate glass may break and result in personal injury.

To remove Dispenser Tray

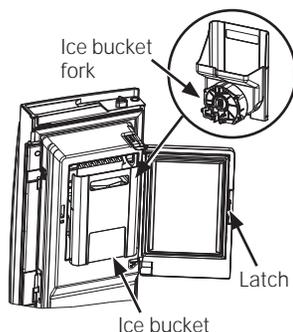
- Pull Dispenser Tray out.

To reinstall Dispenser Tray

- Push in until it is firmly in place.

Door Ice Bin

1. Open left fresh food door.
2. Pull down latch to release bin door.
3. Using handhold, lift ice bucket up and out to clear locators in bottom of bin.
4. To replace the ice bucket, set it on the guide brackets and push until the ice bucket seats properly.
5. If bucket cannot be replaced, rotate the Ice Bucket Fork 1/4 turn clockwise.



Internal Water Dispenser

(on some models)

The water dispenser is located on the left wall inside the refrigerator compartment.

To dispense water:

1. Hold the glass against the recess.
2. Push the water dispenser button.
3. Hold the glass underneath the dispenser for 2–3 seconds after releasing the dispenser button. Water may continue to dispense after the button is released.



If no water is dispensed when the refrigerator is first installed, there may be air in the water line system. Press the dispenser button for at least 5 minutes to remove trapped air from the water line and to fill the water system. During this process, the dispenser noise may be loud as the air is purged from the water line system. To flush out impurities in the water line, throw away the first 6 glasses of water.

NOTE: To avoid water deposits, the dispenser should be cleaned periodically by wiping with a clean cloth or sponge.

Important Facts About Your Dispensers

- Do not add ice from trays or bags to the door ice maker bucket. It may not crush or dispense.
- Avoid overfilling glass with ice and use of narrow glasses. Backed-up ice can jam the chute or cause the door in the chute to freeze shut. If ice is blocking the chute remove the ice bucket, poke it through with a wooden spoon.
- Beverages and foods should not be quick-chilled in the door ice maker bin. Cans, bottles or food packages in the storage drawer may cause the ice maker or auger to jam.
- To keep dispensed ice from missing the glass, put the glass close to, but not touching, the dispenser opening.
- Some crushed ice may be dispensed even though you selected **CUBED ICE**. This happens occasionally when a few cubes accidentally get directed to the crusher.
- After crushed ice is dispensed, some water may drip from the chute.
- Sometimes a small mound of snow will form on the door in the ice chute. This condition is normal and usually occurs when you have dispensed crushed ice repeatedly. The snow will eventually evaporate.

About the GE Appliances® MWF water filter cartridge.

Water Filter Cartridge

The water filter cartridge is located in back upper right corner of the refrigerator compartment.

When to replace the filter on models with a replacement indicator light

There is a replacement indicator light for the water filter cartridge on the dispenser. A red light will start blinking to tell you that you need to replace the filter soon.

The filter cartridge should be replaced when the replacement indicator light turns red or if the flow of water to the dispenser or icemaker decreases.

When to replace the filter on models without a replacement indicator light

The filter cartridge should be replaced every six months or earlier if the flow of water to the dispenser or icemaker decreases.

Removing the filter cartridge

If you are replacing the cartridge, first remove the old one by slowly turning it to the left. **Do not** pull down on the cartridge. A small amount of water may drip down.

NOTE: To reduce the risk associated with property damage due to water leakage, read and follow instructions before installation and use of this system. Installation and use **MUST** comply with all state and local plumbing codes.

CAUTION If air has been trapped in the system, the filter cartridge may be ejected as it is removed. Use caution when removing.

WARNING

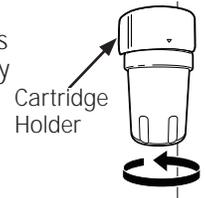
To reduce the risk associated with choking, do not allow children under 3 years of age to have access to small parts during the installation of this product. The disposable filter cartridge should be replaced every 6 months at the rated capacity, or sooner if a noticeable reduction in flow rate occurs.

For the maximum benefit of your filtration system, GE recommends the use of GE-branded filters only. Using GE-branded filters in GE and Hotpoint® refrigerators provides optimal performance and reliability. GE filters meet rigorous industry NSF standards for safety and quality that are important for products that are filtering your water. GE has not qualified non-GE-branded filters for use in GE and Hotpoint refrigerators and there is no assurance that non-GE-branded filters meet GE's standards for quality, performance and reliability.

If you have questions, or to order additional filter cartridges, visit our website at www.gewaterfilters.com or call GE Parts and Accessories, 800.626.2002 (Canada 1.800.626.2002 or geappliances.ca/en/products/parts-filters-accessories or call 1.800.661.1616).

Installing the Filter Cartridge

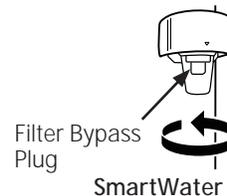
1. Fill the replacement cartridge with water from the tap to allow for better flow from the dispenser immediately after installation.
2. Line up the arrow on the cartridge and the cartridge holder. Place the top of the new cartridge up inside the holder. Do not push it up into the holder.
3. Slowly turn it to the right until the filter cartridge stops. **DO NOT OVERTIGHTEN.** As you turn the cartridge, it will automatically raise itself into position. The cartridge will move about a 1/2 turn.
4. Run water from the dispenser for 1-1/2 gallons (about three minutes) to clear the system and prevent sputtering.
5. Press and hold the RESET WATER FILTER pad (on some models) on the dispenser for three seconds.



NOTE: A newly installed water filter cartridge may cause water to spurt from the dispenser.

Filter Bypass Plug

You must use the filter bypass plug when a replacement filter cartridge is not available. The dispenser and the icemaker will not operate without the filter or filter bypass plug.



About the shelves and bins

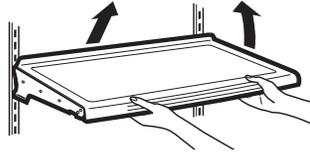
Not all features are on all models.

Rearranging the Refrigerator Shelves

Shelves in the refrigerator compartment are adjustable.

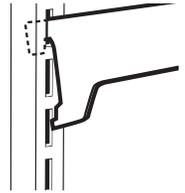
To remove the shelves:

1. Remove all items from the shelf.
2. Tilt the shelf up at the front.
3. Lift the shelf up at the back and bring the shelf out.



To replace the shelves:

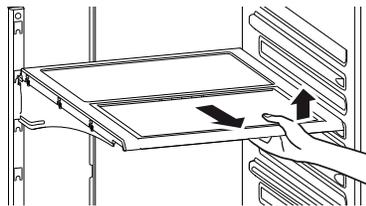
1. While tilting the shelf up, insert the top hook at the back of the shelf in a slot on the track.
2. Lower the front of the shelf until the bottom of the shelf locks into place.



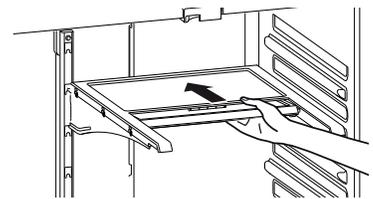
Quick Space Shelf (on some models)

This shelf splits in half and slides under itself for storage of tall items on the shelf below.

This shelf can be removed and replaced or relocated.



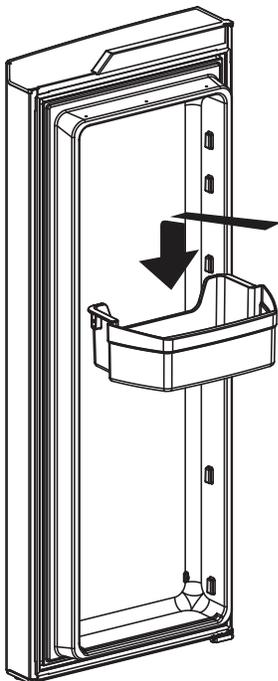
NOTE: The back half of the Quick Space Shelf is not adjustable.



Adjustable Door Bins (on some models)

To remove: Lift the bin straight up; then pull out.

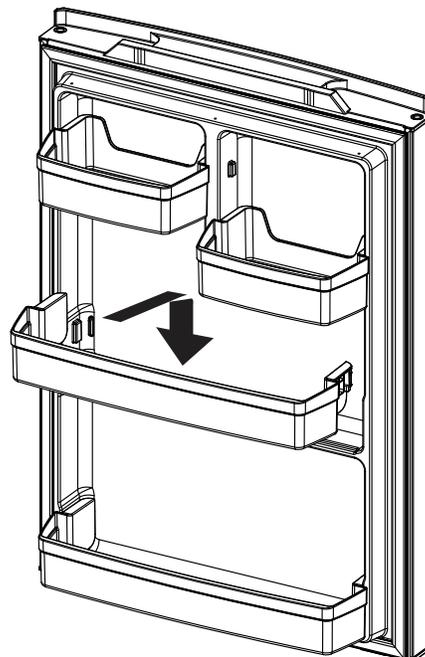
To replace: Engage the bin in the molded supports on the door and push down to lock in place.



Non-Adjustable Gallon Door Bins (on some models)

To remove: Lift the bin straight up; then pull out.

To replace: Engage the bin in the molded supports on the door and push down to lock in place.



About the pans.

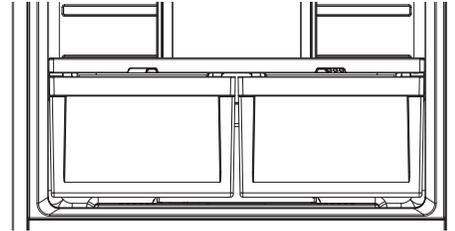
Not all features are on all models.

Climate Zone Pans

Keep fruits and vegetables organized in separate compartments for easy access. Excess water that may accumulate in the bottom of the drawers or under the drawers should be wiped dry.

To remove pan:

Slide the pan out to the stop position, lift the pan up and past the stop position and **pull forward**



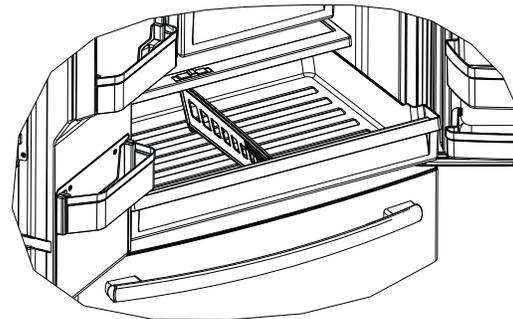
Full -Width Pan (on some models)

To remove pan:

1. Pull the pan out to the stop position.
2. Lift the front of the drawer up and out.

To replace pan:

1. Place back of the drawer in first and rotate drawer front down to seat it on the slides.
2. Push the drawer in to the closed position.



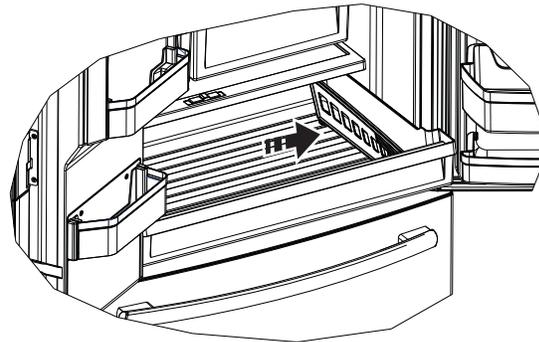
How to Remove and Replace Drawer Divider

To remove:

1. Pull the drawer out to the stop position.
2. Slide pan divider to right to release it from pan.

To replace:

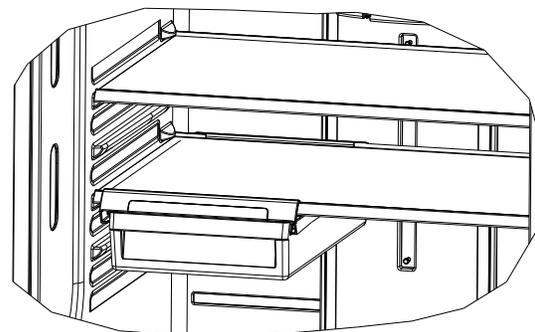
Reverse steps 1 and 2 to replace drawer divider.



Floating Snack Pan (on some models)

This pan can be moved to the most useful location for your family's needs.

To **remove**, slide the pan out to the stop position, lift the pan up and past the **stop** position and lift it out.



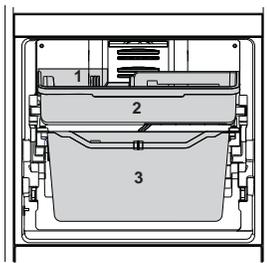
About the freezer drawer. (on some models)

Not all features are on all models.

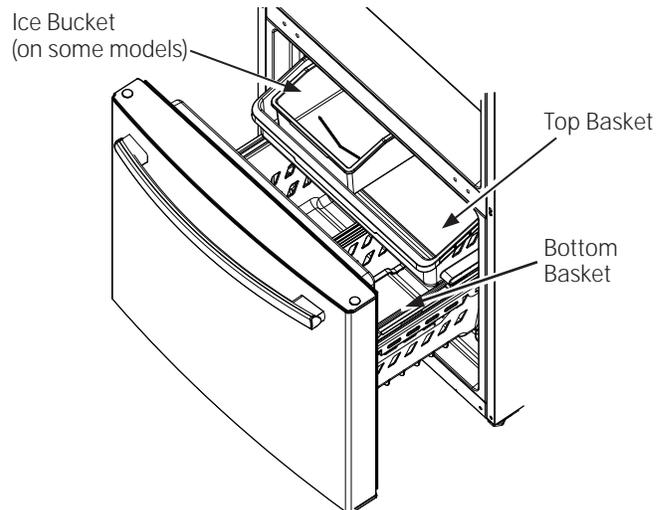
FREEZER BASKETS

1. An ice bucket in the top basket (on some models).
2. A top full-width basket.
3. A bottom full-width basket (with divider - in some models).

NOTE: Do not fill baskets higher than the rim of the basket. This may cause baskets to stick or jam when opening or closing.



Appearance and features may vary



Top Basket Removal

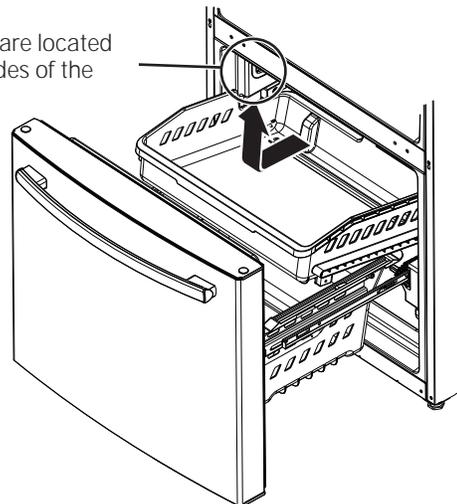
To remove the top full-width basket on freezer drawer models:

1. Pull the basket out to the stop location.
2. Lift basket up to release it from the slides.

When replacing the basket, make sure that the basket remains mounted on the side rails and over the slides of the bottom basket.

NOTE: Always be sure to fully close this basket.

LED lights are located on both sides of the freezer



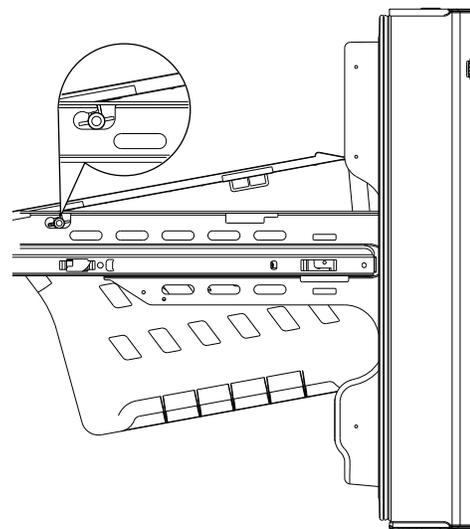
Bottom Basket Removal

To remove the bottom full-width basket on freezer drawer models:

1. Open the bottom freezer drawer until it stops.
2. Remove the top freezer basket.
3. The bottom freezer basket rests on the inside tabs on the drawer slides.
4. Lift the front of the basket and pull forward.
5. Release the pin from the slot to remove the basket.

When replacing the bottom full-width basket, tilt the basket back and lower it into the drawer. Rotate the basket to a horizontal position and press down. Make sure to place the pin back into the slot.

NOTE: Always be sure that the basket is seated on the bracket tabs before sliding the drawer back into the freezer.



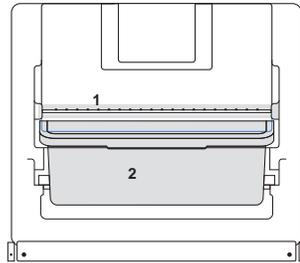
About the freezer compartment. (on some models)

Not all features are on all models.

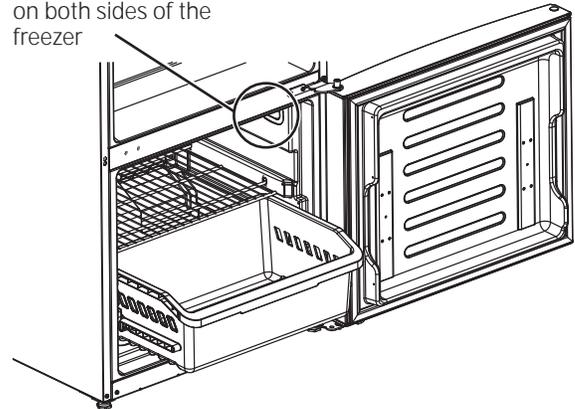
FREEZER SHELF AND BASKET

1. A full-width fixed wire shelf
2. A full-width sliding plastic basket

NOTE: Do not fill baskets higher than the rim. This may cause basket to stick or jam when opening or closing.



LED lights are located on both sides of the freezer

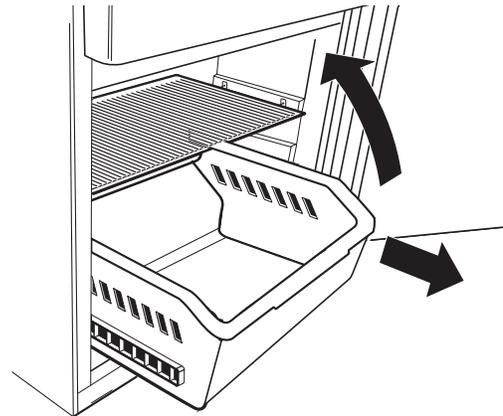


Basket Removal

To remove the full-width sliding basket on freezer door models:

1. Open the basket out to its full extension.
2. Lift up the front of the basket and pull straight out to remove.

When replacing the basket, insert the plastic basket into the lower liner rails and push back into place.

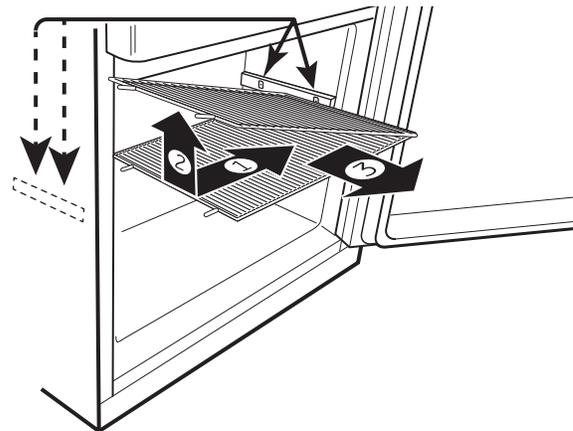


Fixed Shelf Removal

NOTE: The full-width wire shelf is not intended to slide.

To remove for cleaning, push the shelf to one side while then pull up on the opposite side and out to remove.

To replace the full-width wire shelf, insert one side of the shelf into the supports, pushing the shelf to that side until the opposite side will fit into its supports.



About the automatic ice maker.

A newly installed refrigerator may take 12 to 24 hours to begin making ice.

Automatic Ice maker (on some models)

The ice maker will produce seven cubes per cycle approximately 100–130 cubes in a 24-hour period, depending on freezer compartment temperature, room temperature, number of door openings and other use conditions.

If the refrigerator is operated before the water connection is made to the ice maker, set the power switch in the **OFF** position. When the refrigerator has been connected to the water supply, set the power switch to the **ON** position.

The ice maker will fill with water when it cools to 15°F (–10°C). A newly installed refrigerator may take 12 to 24 hours to begin making ice cubes.

You may hear a buzzing sound each time the ice maker fills with water.

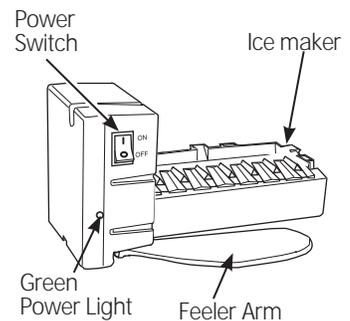
Throw away the first few batches of ice to allow the water line to clear.

Be sure nothing interferes with the sweep of the feeler arm.

When the bin fills to the level of the feeler arm, the ice maker will stop producing ice. It is normal for several cubes to be joined together.

If ice is not used frequently, old ice cubes will become cloudy, taste stale and shrink.

NOTE: In homes with lower-than-average water pressure, you may hear the ice maker cycle multiple times when making one batch of ice.

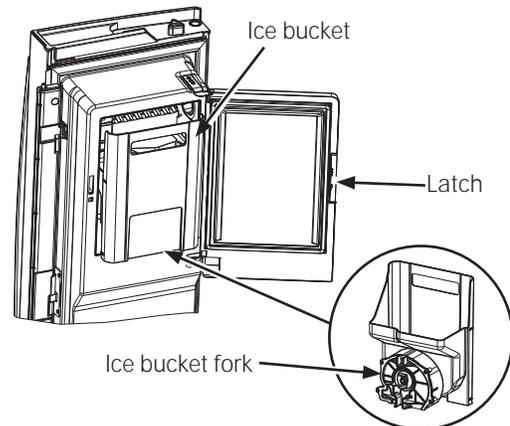


WARNING

To minimize the risk of personal injury, avoid contact with the moving parts of the ejector mechanism, or with the heating element that releases the cubes. Do not place fingers or hands on the automatic ice making mechanism while the refrigerator is plugged in.

For Refrigerator Models with Ice Maker in the Door Ice Bucket and Dispenser

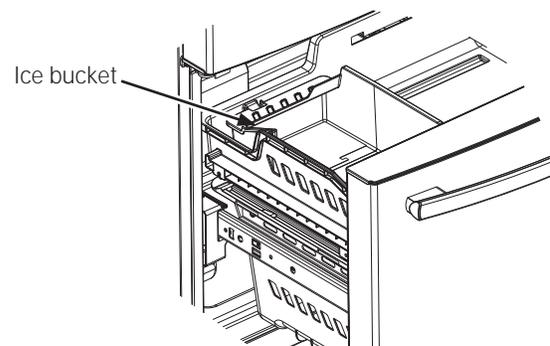
- Open the ice box door on inside of the left door.
- Pull up and out on the ice bucket in the left hand door to remove it from the compartment.
- To replace the ice bucket, set it on the guide brackets and push until the ice bucket seats properly.
- If bucket cannot be replaced, rotate the ice bucket fork 1/4 turn clockwise.
- Ice maker can be turned on and off using this display (see *About the controls* on pages 6 and 7.)



For Refrigerator Models with Ice Maker in the Freezer Compartment

Some models come with an ice maker installed in the freezer compartment. For those models that come ice-maker ready, you can purchase Kit IM-4D. Visit our website at GEAppliances.com or call GE Parts and Accessories, 800.626.2002 (in Canada visit geappliances.ca/en/products/parts-filters-accessories or call 1.800.661.1616).

There is ice storage in the freezer compartment located on the left side of the upper basket. Pull the upper basket forward to remove the ice bucket.



Care and cleaning of the refrigerator.

Cleaning the Outside

The stainless steel panels, door handles and trim.

Do not use appliance wax, polish, bleach, or other products containing chlorine on stainless steel.

Stainless steel can be cleaned with a commercially available stainless steel cleaner. A spray-on stainless steel cleaner works best.

Silver-accented plastic parts.

Wash parts with soap or other mild detergents. Wipe clean with a sponge, damp cloth or paper towel.

Do not use scouring pads, powdered cleaners, bleach or cleaners containing bleach because these products can scratch and weaken the paint finish.

Should spill tray need cleaning use lime remover.

Cleaning the Inside

Unplug the refrigerator before cleaning.

If this is not practical, wring excess moisture out of sponge or cloth when cleaning around switches, lights or controls.

Use an appliance wax polish on the inside surface between the doors.

Use warm water and baking soda solution—about a tablespoon (15 ml) of baking soda to a quart (1 liter) of water.

This both cleans and neutralizes odors. Rinse and wipe dry.



CAUTION Do not clean glass shelves or covers with warm water when they are cold. Glass shelves and covers may break if exposed to sudden temperature changes or impact such as bumping or dropping. Tempered glass is designed to shatter into many small pieces if it breaks.

Behind the Refrigerator

Be careful when moving the refrigerator away from the wall. All types of floor coverings can be damaged, particularly cushioned coverings and those with embossed surfaces.

Raise the leveling legs located at the bottom front of the refrigerator.

Pull the refrigerator straight out and return it to position by pushing it straight in. Moving the refrigerator in a side direction may result in damage to the floor covering or refrigerator.

Lower the leveling legs until they touch the floor.

When pushing the refrigerator back, make sure you don't roll over the power cord or water supply line.

Preparing for Vacation

For long vacations or absences, remove food and unplug the refrigerator. Clean the interior with a baking soda solution of one tablespoon (15 ml) of baking soda to one quart (1 liter) of water. Leave the doors open.

If the temperature can drop below freezing, have a qualified service technician drain the water supply system to prevent serious property damage due to flooding.

- 1) Turn refrigerator off (pages 6 and 7) or unplug the refrigerator.
 - 2) Empty ice bucket
 - 3) Turn water supply off
-

If you cut the water supply off, turn off the ice maker (pg. 14).

Upon returning from vacation:

- 1) Replace the water filter.
 - 2) Run 2 gallons of water through the cold water dispenser (about 5 minutes) to flush the system.
-

Preparing to Move

Secure all loose items such as shelves and drawers by taping them securely in place to prevent damage.

When using a hand truck to move the refrigerator, do not rest the front or back of the refrigerator against the hand truck. This could damage the refrigerator.

Handle only from the sides of the refrigerator.

Be sure the refrigerator stays in an upright position during moving.

Replacing the lights

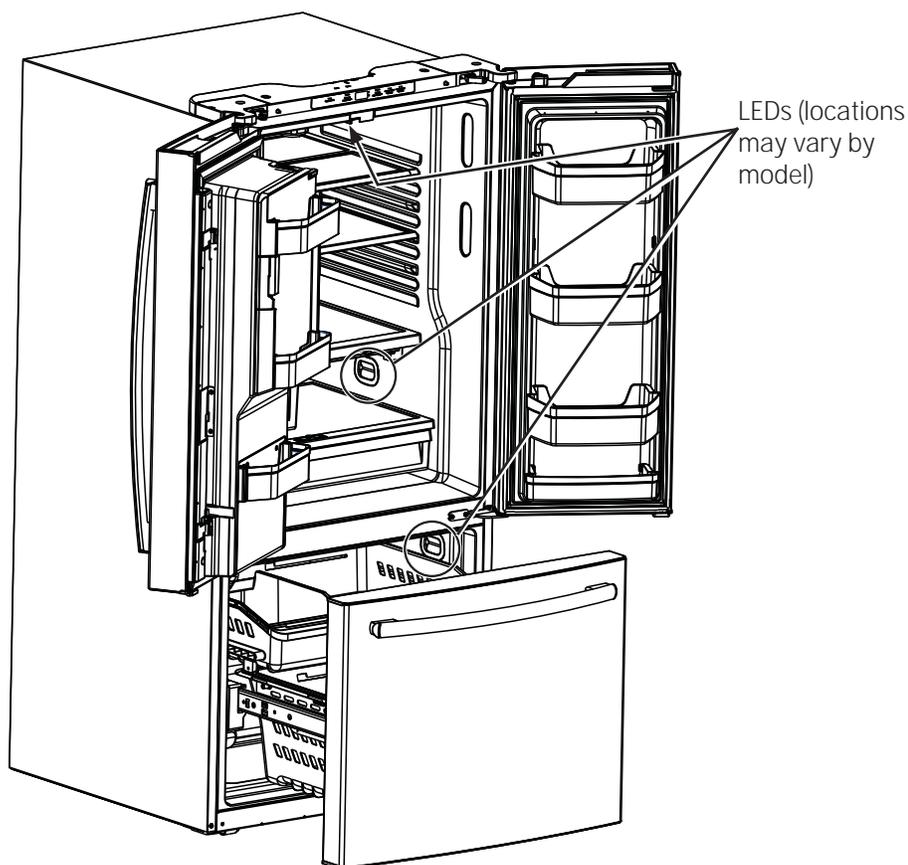
Refrigerator Lights (LEDs)

There is LED lighting in the fresh food compartment at the top center and on the left and right sides above the climate zone pans on the french door models. LED lighting is located at the top of the fresh food compartment on the single door models.

LED lights are also located at the top of the left and right sides of the freezer in all models.

An authorized technician will need to replace the LED light.

If this assembly needs to be replaced, call GE Service at 1.800.432.2737 in the United States or 1.800.561.3344 in Canada.



Normal operating conditions.



Newer refrigerators sound different from older refrigerators.
Modern refrigerators have more features and use newer technology.

Do you hear what I hear? These conditions are normal.

**HUMMM...
WHOOSH...**

- The new high efficiency compressor may run faster and longer than your old refrigerator and you may hear a high-pitched hum or pulsating sound while it is operating.
- You may hear a whooshing sound when the doors close. This is due to pressure equalizing within the refrigerator.

WHIR!



- You may hear the fans spinning at high speeds. This happens when the refrigerator is first plugged in, when the doors are opened frequently or when a large amount of food is added to the refrigerator or freezer compartments. The fans are helping to maintain the correct temperatures.
- The fans change speeds in order to provide optimal cooling and energy savings.

**CLICKS, POPS,
CRACKS and SNAPS**

- You may hear cracking or popping sounds when the refrigerator is first plugged in. This happens as the refrigerator cools to the correct temperature.
- Expansion and contraction of cooling coils during and after defrost can cause a cracking or popping sound.
- On models with an ice maker, after an ice making cycle, you may hear the ice cubes dropping into the ice bucket.
- On models with a dispenser, during water dispense, you may hear the water lines move at initial dispense and after dispenser button is released.

WATER SOUNDS



- The flow of refrigerant through the cooling coils may make a gurgling noise like boiling water.
- Water dropping on the defrost heater can cause a sizzling, popping or buzzing sound during the defrost cycle.
- A water dripping noise may occur during the defrost cycle as ice melts from the evaporator and flows into the drain pan.
- Closing the door may cause a gurgling sound due to pressure equalization.

Before you call for service...



Troubleshooting Tips
Save time and money! Review the charts on the following pages first and you may not need to call for service.

Problem	Possible Causes	What to Do
Water filter indicator light remains lit after replacing filter (on some models)	Water filter indicator must be reset	Press WATER FILTER pad for 3 seconds to reset the water filter.
Water filter indicator light is not lit (on some models)	This is normal. This indicator will turn on to tell you that you need to replace the filter soon.	See <i>About the Water Filter</i> for more information.
Handle is loose/handle has a gap.	Handle needs adjusting	See <i>Attach Fresh Food Handle</i> and <i>Attach Freezer Handle</i> sections for detailed instructions.
Refrigerator beeping	This is door alarm	Turn off or disable with door closed. If door open and alarm is sounding, you can only snooze the alarm.
Not cooling	The cooling system is off	See <i>About Controls</i> .
Water has poor taste/odor (on some models)	Water dispenser has not been used for a long time	Dispense water, until all water in system is replenished.
Water in glass is warm (on some models)	Normal when refrigerator is first installed	Wait 24 hours for the refrigerator to completely cool down.
	Water dispenser has not been used for a long time	Dispense water, until all water in system is replenished.
	Water system has drained	Allow several hours for replenished supply to chill.
Water dispenser does not work (on some models)	Water supply line turned off or not connected	See <i>Installing the Water Line</i> .
	Water filter clogged or filter/bypass plug not installed	Replace filter cartridge or remove filter and install bypass plug.*
	Air may be trapped in the water system	Press the dispenser arm for at least 5 minutes.
	Water in reservoir is frozen because the controls are set too cold	Set the refrigerator control to a warmer setting and wait 24 hours. If the water does not dispense after 24 hours, call for service.
Water spurting from dispenser (on some models)	Newly installed filter cartridge	Run cold water from the dispenser for 5 minutes (about 2 gallons)..

*Some models do not come equipped with the filter bypass plug. To obtain a free bypass plug, call 800-GECARES. In Canada call 800.561.3344.

Before you call for service...



Troubleshooting Tips (cont)

Problem	Possible Causes	What to Do
No water or ice cube production (on some models)	Supply line or shutoff valve is clogged	Call a plumber
	Water filter is clogged	Replace filter cartridge or remove filter and install bypass plug*.
	Filter cartridge not properly installed	Remove and reinstall filter cartridge, being certain that it locks in place.
	Ice maker is turned off	Check that the ice maker is turned on. See <i>About the Automatic Ice Maker</i> .
Water is leaking from dispenser (on some models)	Air may be present in the water line system, causing water to drip after being dispensed	Dispense water for at least 5 minutes to remove air from system.
Freezer cooling, fresh food not cooling	Normal, when refrigerator first plugged in or after extended power outage	Wait 24 hours for temperature in both compartments to reach selected temperatures.
Ice dispenser opens after closing freezer drawer (on some models)	Normal	The ice dispenser door may open after closing freezer door to allow access.

*Some models do not come equipped with the filter bypass plug. To obtain a free bypass plug, call 800-GECARES. In Canada call 800.561.3344.

SERVICE

Before you call for service, review the detailed troubleshooting tips in the Owner's manual. If needed, service can be scheduled by visiting us online GEAppliances.com or calling 800.ge.CARES 800.432.2737

Truth or Myth

Truth or Myth?	Answer	Explanation
The refrigerator water filter may require replacement, even though the filter indicator has not turned red, or reads "Filter Expired."	TRUE	The water filter indicator will indicate the need to replace the water filter every six months. Water quality varies from city to city; if water flow from the dispenser slows, or ice production decreases, the water filter should be replaced, even though the filter indicator may not indicate the need for replacement.
The automatic ice maker in my refrigerator will produce ice when the refrigerator is plugged in to a power receptacle.	MYTH	The refrigerator must be connected to water, and the ice maker must be turned on. Make sure the ice maker is turned on, only after the water line is connected and water is turned on. The ice maker can be turned on/off from the controls and ensure the ice maker is on, as indicated on the refrigerator control panel. See <i>About the Automatic Ice Maker</i> .
After the refrigerator has been plugged in and connected to water, I will immediately have unlimited chilled water available from the water dispenser.	MYTH	The water dispenser tank located inside the refrigerator stores water for dispensing. The water in this tank requires 24 hours to chill after installation. High usage conditions will not allow time for the water to chill.
After water dispenses, a few drops of water are normal.	TRUE	A few drops of water may fall from the dispenser, after the dispenser paddle has been released. To minimize the drops, remove the glass slowly from the dispenser.
I will never see frost inside the freezer compartment.	MYTH	Frost inside the freezer typically indicates that the door is not properly sealed, or has been left open. If frost is found, clear the frost using a plastic spatula and towel, then check to ensure that no food packages or containers are preventing the freezer door from closing. Check the refrigerator control panel to ensure the door alarm is on.
When the refrigerator is installed, or after replacing the water filter, I must dispense water for five minutes.	TRUE	A newly installed refrigerator or water filter contains air in the water lines. Press the dispenser paddle and dispense cold water for at least 5 minutes to remove air from the water line, and flush the filter.
To fill the ice bucket to the maximum capacity, I should dispense 12 and 18 hours after installation.	TRUE	Dispensing 3-4 cubes 12 hours and 18 hours after installation, allows ice to disperse within the ice bucket, which in turns calls on the ice maker to produce additional ice. Normal ice production = 100 cubes in 24 hours.
I can use the water filter bypass plug to determine if the filter requires replacement.	TRUE	Decrease in flow from the water dispenser, or decreased ice production, may indicate the need to replace the water filter. Install the water filter bypass plug (provided with the refrigerator on some models*), and check flow from the dispenser. If water flow returns to normal with the bypass plug in place, replace the water filter.
The top of the refrigerator doors will always be aligned.	MYTH	Several things can affect the fresh food door alignment, including the floor the refrigerator is installed on and loading of doors. If the top of the fresh food doors are not aligned, use a 1/4" allen wrench to adjust the right/left hand door. The adjustment screw is located on the bottom right or left hand side of the door; open the freezer door to access the screw. On some models, the left hand fresh food door may be raised using spacers. Call 800-GEARES to obtain the spacers.
Refrigerator door handles can be easily tightened.	TRUE	If door handles are loose or have a gap, the handle can be adjusted using a 1/8" allen wrench, on set screws located on the ends of the handles.
There may be odor and taste problems with your ice.	TRUE	After starting the ice maker throw away 24 hours of ice production to avoid odor and taste problems.
I can make fine adjustments to the fresh food doors to align them.	TRUE	If the fresh food doors are not aligned, use a 1/4" Allen wrench to adjust the right hand door. The adjustment screw is located on the bottom of the right door. Open the freezer door to access. The left hand fresh food door may be raised using spacers. Call 800-GEARES to obtain the spacers.
Door handles should always be removed for installation.	MYTH	Check chart on reverse side of this instruction. If the doors must be removed do not remove the handles, or if the refrigerator will fit easily through the passage way opening. Adjust handles that are loose or have a gap, by adjusting 1/8" set screws on either end of handles.

SERVICE

Before you call for service, review the detailed troubleshooting tips in the Owner's manual. If needed, service can be scheduled by visiting us online *GEAppliances.com* or calling 800.ge.CARES 800.432.2737

Truth or Myth (cont.)

Truth or Myth?	Answer	Explanation
Door removal is always required for installation.	MYTH	Check chart on reverse side of this instruction. Doors should only be removed when necessary to prevent damage from passage way or access to final location.
Refrigerator doors that won't close after installation, can be adjusted to close properly.	TRUE	Door mechanism works best if installed at 90°. If installed at 180°, remove the door from the mid hinge, and swing the door 180° before reinstalling. See <i>Reinstalling the Refrigerator Doors</i> .
There is an adjustment to rear wheels.	MYTH	Front leveling legs are adjustable and should be used to balance the refrigerator. Leveling legs are used to make initial fresh food door adjustment.
Check for leaks after all water connections are made.	TRUE	While purging the air from the water system, check all water line connections for leaks. Check the connection to the household water supply at back of refrigerator, and door water line connect.
Any packaging residue can be cleaned off the refrigerator using any cleaner.	MYTH	Do not use wax, polish, bleach, or other products containing chlorine on Stainless Steel panels, door handles and trim. Check this instruction under "Cleaning the Outside" for full details.

*Some models do not come equipped with the filter bypass plug. To obtain a free bypass plug, call 800-GE CARES. In Canada call 800.561.3344.

Refrigerator Warranty. *(For customers in the United States)*



All warranty service provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service, visit us online at GEAppliances.com, or call 800.GE.CARES (800.432.2737). Please have serial number and model number available when calling for service.

Staple your receipt here. Proof of the original purchase date is needed to obtain service under the warranty.

Servicing your refrigerator may require the use of the onboard data port for diagnostics. This gives a GE Factory Service technician the ability to quickly diagnose any issues with your appliance and helps GE improve its products by providing GE with information on your appliance. If you do not want your appliance data to be sent to GE, please advise your technician NOT to submit the data to GE at the time of service.

For the Period of:	GE Will Replace
One Year From the date of the original purchase	Any part of the refrigerator which fails due to a defect in materials or workmanship. During the limited one-year warranty , GE will also provide, free of charge , all labor and related service to replace the defective part.
Thirty Days (Water filter, if included) From the original purchase date of the refrigerator	Any part of the water filter cartridge which fails due to a defect in materials or workmanship. During this limited thirty-day warranty , GE will also provide, free of charge , a replacement water filter cartridge.
GE PROFILE™ AND GE CAFÉ™ MODELS	
Five Years From the date of the purchase	Any part of the sealed refrigerating system (the compressor, condenser, evaporator and all connecting tubing) which fails due to a defect in materials or workmanship. During this limited five-year sealed refrigerating system warranty , GE will also provide, free of charge , all labor and related service to replace the defective part in the sealed refrigerating system.

What GE Will Not Cover:

- Service trips to your home to teach you how to use the product.
- Improper installation, delivery or maintenance.
- Failure of the product if it is abused, misused, or used for other than the intended purpose or used commercially.
- Loss of food due to spoilage.
- Replacement of house fuses or resetting of circuit breakers.
- Damage caused after delivery.
- Replacement of the water filter cartridge, if included, due to water pressure that is outside the specified operating range or due to excessive sediment in the water supply.
- Replacement of the light bulbs, if included, or water filter cartridge, if included, other than as noted above.
- Damage to the product caused by accident, fire, floods or acts of God.
- Incidental or consequential damage caused by possible defects with this appliance.
- Product not accessible to provide required service.
- Damage caused by a non-GE Brand water filter.

EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. If the product is located in an area where service by a GE Authorized Servicer is not available, you may be responsible for a trip charge or you may be required to bring the product to an Authorized GE Service location for service. In Alaska, the warranty excludes the cost of shipping or service calls to your home.

Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.

Warrantor: General Electric Company, Louisville, KY 40225

Performance Data Sheet

SmartWater™ Filtration System—GE Appliances MWF Cartridge

The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system as specified in NSF/ANSI Standard 42 and Standard 53. System tested and certified by NSF International against NSF/ANSI Standard 42 and Standard 53 for the reduction of substances listed below.

Capacity 300 Gallons (1,135 Liters). Contaminant Reduction Determined by NSF testing.

Substance Tested for Reduction	Average Influent	NSF specified Challenge Concentration	Avg % Reduction	Average Product Water Concentration	Max Permissible Product Water Concentration	NSF Reduction Requirements	NSF Test Report
Chlorine Taste and Odor	2.0 mg/L	2.0 mg/L ± 10%	97.5%	0.05 mg/L	N/A	≥ 50%	J-00077703
Nominal Particulate Class I, ≥0.5 to < 1.0 µm	7,833,333 pts/mL	At least 10,000 particles/mL	99.7%	18,617 pts/mL	N/A	≥85%	J-00077704
Cyst*	101,000 cysts/L	Minimum 50,000 cysts/L	99.99%	1 cyst/L	N/A	≥99.95%	J-00100036
Asbestos	47 MF/L	107 to 108 fibers/L; fibers greater than 10 µm in length	>99%	<1 MF/L	N/A	≥99%	J-00077707
Atrazine	0.009 mg/L	0.009 mg/L ± 10%	94.5%	0.0005 mg/L	0.003 mg/L	N/A	J-00077708
Benzene	0.016 mg/L	0.015 mg/L ± 10%±	96.7%	0.0005 mg/L	0.005 mg/L	N/A	J-00077717
Carbofuran	0.08 mg/L	0.08 mg/L ± 10%	98.7%	0.001 mg/L	0.04 mg/L	N/A	J-00077718
Endrin	0.007 mg/L	0.006 mg/L ± 10%	97.1%	0.0002 mg/L	0.002 mg/L	N/A	J-00100039
Lead @ pH 6.5	0.152 mg/L	0.15 mg/L ± 10%	99.3%	0.001 mg/L	0.010 mg/L	N/A	J-00077722
Lead @ pH 8.5	0.148 mg/L	0.15 mg/L ± 10%	99.3%	0.001 mg/L	0.010 mg/L	N/A	J-00077723
Lindane	0.002 mg/L	0.002 mg/L ± 10%	99.0%	0.00002 mg/L	0.0002 mg/L	N/A	J-00077726
Mercury @ pH 6.5	0.0058 mg/L	0.006 mg/L ± 10%	93.2%	0.0004 mg/L	0.002 mg/L	N/A	J-00100037
Mercury @ pH 8.5	0.0061 mg/L	0.006 mg/L ± 10%	93.2%	0.0004 mg/L	0.002 mg/L	N/A	J-00092355
P-Dichlorobenzene	0.222 mg/L	0.225 mg/L ± 10%	99.8%	0.005 mg/L	0.075 mg/L	N/A	J-00077729
Tetrachloroethylene	0.015 mg/L	0.015 mg/L ± 10%	96.7%	0.0005 mg/L	0.005 mg/L	N/A	J-00082184
Toxaphene	0.015 mg/L	0.015 mg/L ± 10%	93.2%	0.001 mg/L	0.003 mg/L	N/A	J-00077730
2,4-D	0.218 mg/L	0.210 mg/L ± 10%	99.5%	0.0009 mg/L	0.07 mg/L	N/A	J-00085470

*Based on the use of Cryptosporidium parvum oocysts.

The following pharmaceutical reduction claims have not been certified by NSF International or the state of California. Claims tested and verified by independent laboratory:

Contaminant Reduction	Average Influent	NSF specified Challenge Concentration	Avg % Reduction	Average Product Water Concentration	Max Permissible Product Water Concentration	NSF Reduction Requirements	NSF Test Report
Atenolol	978 ng/L	N/A	99.5%	5.0 ng/L	N/A	N/A	J-00121587
Fluoxetine	907 ng/l	N/A	99.4%	5.4 ng/L	N/A	N/A	J-00121587
Ibuprofen	885 ng/L	N/A	94.1%	52.3 ng/L	N/A	N/A	J-00121588
Progesterone	1097 ng/L	N/A	99.5%	5.0 ng/L	N/A	N/A	J-00121589
Trimethoprim	415 ng/L	N/A	99.5%	2.0 ng/L	N/A	N/A	J-00121587

Application Guidelines/Water Supply Parameters

Service Flow	0.5 gpm (21.9 lpm)	Water Pressure	40-120 psi (2.8-8.2 bar)
Water Supply	Potable Water	Water Temperature	33°F-100°F (0.6°C-38°C)

It is essential that the manufacturer's recommended installation, maintenance and filter replacement requirements be carried out for the product to perform as advertised. See Installation Manual for Warranty information.

Note: While the testing was performed under standard laboratory conditions, actual performance may vary.
Replacement Cartridge: MWF. For estimated costs of replacement elements please call 1-800-626-2002 or visit our website at www.geapplianceparts.com.

WARNING

To reduce the risk associated with ingestion of contaminants:

- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before and after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts. EPA Establishment Number 10350-MN-005.

For conditions of use, health claims certified by the California Department of Public Health, and replacements, see performance data sheet. California Department of Public Health Certification #05-1698. The contaminants or other substances removed or reduced by this water filter are not necessarily in all users' water.

NOTICE

To reduce the risk associated with property damage due to water leakage:

- Read and follow use instructions before installation and use of this system.
- Installation and use **MUST** comply with all state and local plumbing codes.
- Do not install if water pressure exceeds 120 psi (8.2 bar). If your water pressure exceeds 80 psi, you **must** install a pressure-limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.
- Do not install where water hammer conditions may occur. If water hammer conditions exist you **must** install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.
- Do not install on hot water supply lines. The maximum operating water temperature of this filter system is 100° F (38° C).
- Protect filter from freezing. Drain filter when temperatures drop below 33°F (0.6°C).
- The disposable filter cartridge **must** be replaced every 6 months at the rated capacity, or sooner if a noticeable reduction in flow rate occurs.



Tested and certified by NSF International against NSF/ANSI Standard 42 and Standard 53 in model GE Appliances MWF for the reduction of the claims specified on the performance data sheet.

Consumer Support.



GE Appliances Website

In the U.S.: *GEAppliances.com*

Have a question or need assistance with your appliance? Try the GE Appliances website, 24 hours a day, any day of the year! For greater convenience and faster service, you can now download Owner's Manuals, order parts or even schedule service on-line. In Canada: www.GEAppliances.ca



Schedule Service

In the U.S.: *GEAppliances.com*

Expert GE repair service is only one step away from your door. Get on-line and schedule your service at your convenience any day of the year! Or call 800.GE.CARES (800.432.2737) during normal business hours.

In Canada, call 1.800.561.3344



Real Life Design Studio

In the U.S.: *GEAppliances.com*

GE supports the Universal Design concept—products, services and environments that can be used by people of all ages, sizes and capabilities. We recognize the need to design for a wide range of physical and mental abilities and impairments. For details of GE's Universal Design applications, including kitchen design ideas for people with disabilities, check out our Website today. For the hearing impaired, please call 800.TDD.GEAC (800.833.4322).

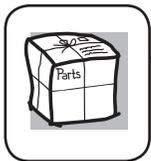
In Canada, contact: Manager, Consumer Relations, Mabe Canada Inc.
Suite 310, 1 Factory Lane
Moncton, N.B. E1C 9M3



Extended Warranties

In the U.S.: *GEAppliances.com*

Purchase a GE extended warranty and learn about special discounts that are available while your warranty is still in effect. You can purchase it on-line anytime, or call 800.626.2224 during normal business hours. GE Consumer Home Services will still be there after your warranty expires. In Canada, call 1.888.261.2133



Parts and Accessories

In the U.S.: *GEApplianceParts.com*

Individuals qualified to service their own appliances can have parts or accessories sent directly to their homes (VISA, MasterCard and Discover cards are accepted). Order on-line today, 24 hours every day or by phone at 800.626.2002 during normal business hours. (In Canada, call 1.800.661.1616.)

Instructions contained in this manual cover procedures to be performed by any user. Other servicing generally should be referred to qualified service personnel. Caution must be exercised, since improper servicing may cause unsafe operation.



Contact Us

In the U.S.: *GEAppliances.com*

If you are not satisfied with the service you receive from GE, contact us on our Website with all the details including your phone number, or write to:

General Manager, Customer Relations
GE Appliances, Appliance Park
Louisville, KY 40225

In Canada: www.GEAppliances.ca, or call 1.800.661.1616 or write to: Director, Consumer Relations, MC Commercial
Suite 310, 1 Factory Lane
Moncton, N.B. E1C 9M3



Register Your Appliance

In the U.S.: *GEAppliances.com*

Register your new appliance on-line—at your convenience! Timely product registration will allow for enhanced communication and prompt service under the terms of your warranty, should the need arise. You may also mail in the pre-printed registration card included in the packing material. In Canada: www.GEAppliances.ca



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**Owner's Manual
and Installation**

Models 22, 23, 25,26,27 and 29

Côte à Côte

Réfrigérateurs

**Manuel d'utilisation
et d'installation**

La section française commence à la page 40

Lado a Lado

Refrigeradores

**Manual del propietario
e instalación**

La sección en español empieza en la página 75

Write the model and serial numbers here:

Model # _____

Serial # _____

Find these numbers on a label inside the refrigerator compartment at the top on the right side.

IMPORTANT SAFETY INFORMATION. READ ALL INSTRUCTIONS BEFORE USING.

⚠ WARNING!

Use this appliance only for its intended purpose as described in this Owner's Manual.

SAFETY PRECAUTIONS

When using electrical appliances, basic safety precautions should be followed, including the following:

- This refrigerator must be properly installed and located in accordance with the Installation Instructions before it is used.
- Do not allow children to climb, stand or hang on the shelves in the refrigerator. They could damage the refrigerator and seriously injure themselves.
- Do not touch the cold surfaces in the freezer compartment when hands are damp or wet. Skin may stick to these extremely cold surfaces.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- In refrigerators with automatic icemakers, avoid contact with the moving parts of the ejector mechanism, or with the heating element located on the bottom of the icemaker. Do not place fingers or hands on the automatic icemaking mechanism while the refrigerator is plugged in.
- Keep fingers out of the "pinch point" areas; clearances between the doors and between the doors and cabinet are necessarily small. Be careful closing doors when children are in the area.
- Unplug the refrigerator before cleaning and making repairs.
NOTE: We strongly recommend that any servicing be performed by a qualified individual.
- Do not refreeze frozen foods which have thawed completely.
NOTE: Turning the refrigerator off via the controls on the touch panel does not shut off electrical power to the refrigerator.

⚠ DANGER! RISK OF CHILD ENTRAPMENT

PROPER DISPOSAL OF THE REFRIGERATOR

Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators are still dangerous...even if they will sit for "just a few days." If you are getting rid of your old refrigerator, please follow the instructions below to help prevent accidents.

Before You Throw Away Your Old Refrigerator or Freezer:

- Take off the doors.
- Leave the shelves in place so that children may not easily climb inside.

Refrigerants

All refrigeration products contain refrigerants, which under federal law must be removed prior to product disposal. If you are getting rid of an old refrigeration product, check with the company handling the disposal about what to do.

USE OF EXTENSION CORDS

Because of potential safety hazards under certain conditions, we strongly recommend against the use of an extension cord.

However, if you must use an extension cord, it is absolutely necessary that it be a UL-listed (in the United States) or a CSA-listed (in Canada), 3-wire grounding type appliance extension cord having a grounding type plug and outlet and that the electrical rating of the cord be 15 amperes (minimum) and 120 volts.

⚠ WARNING!

HOW TO CONNECT ELECTRICITY

Do not, under any circumstances, cut or remove the third (ground) prong from the power cord. For personal safety, this appliance must be properly grounded.

The power cord of this appliance is equipped with a 3-prong (grounding) plug which mates with a standard 3-prong (grounding) wall outlet to minimize the possibility of electric shock hazard from this appliance.

Have the wall outlet and circuit checked by a qualified electrician to make sure the outlet is properly grounded.

If the outlet is a standard 2-prong outlet, it is your personal responsibility and obligation to have it replaced with a properly grounded 3-prong wall outlet.

The refrigerator should always be plugged into its own individual electrical outlet which has a voltage rating that matches the rating plate.

This provides the best performance and also prevents overloading house wiring circuits which could cause a fire hazard from overheated wires.

Never unplug your refrigerator by pulling on the power cord. Always grip plug firmly and pull straight out from the outlet.

Repair or replace immediately all power cords that have become frayed or otherwise damaged. Do not use a cord that shows cracks or abrasion damage along its length or at either end.

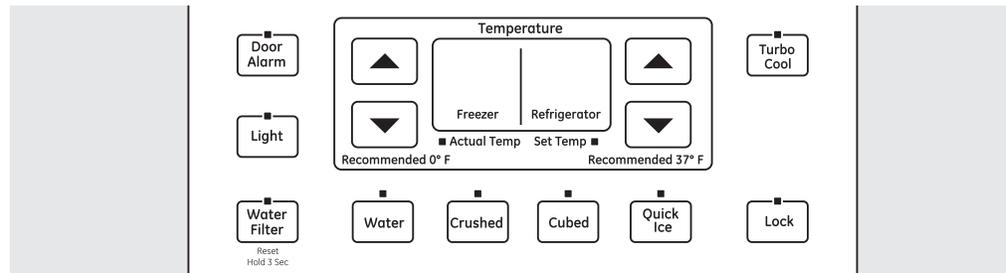
When moving the refrigerator away from the wall, be careful not to roll over or damage the power cord.

READ AND FOLLOW THIS SAFETY INFORMATION CAREFULLY.

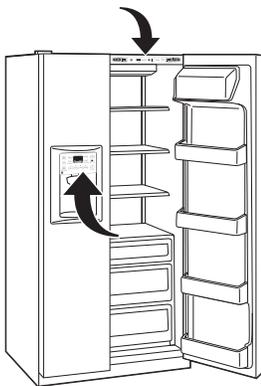
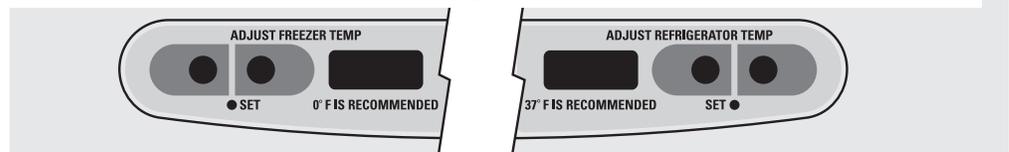
SAVE THESE INSTRUCTIONS

About the temperature controls.

Not all features are on all models. Your controls may be similar to the following:



OR



The temperature controls are preset in the factory at 37°F for the refrigerator compartment and 0°F for the freezer compartment. Allow 24 hours for the temperature to stabilize to the preset recommended settings. The temperature controls can display both the *SET* temperature as well as the actual temperature in the refrigerator and freezer. The actual temperature may vary slightly from the *SET* temperature based on usage and operating environment.

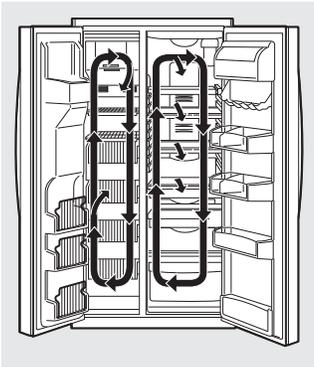
- On some models, setting both controls to the warmest setting until the display flashes (off) will stop cooling in both the freezer and refrigerator compartments.
- On other models, setting either control to the warmest setting until the display flashes (off) will stop the cooling to the freezer and refrigerator.
- **NOTE:** Turning the refrigerator off via the controls on the touch panel does not shut off electrical power to the refrigerator.

NOTE: The refrigerator is shipped with protective film- covering the temperature controls. If this film was not removed during installation, remove it now.

Performance Air Flow System

The Performance Air-Flow System is designed to maximize temperature control in the refrigerator and freezer compartments. This unique special feature consists of the Air Tower along the back wall of the refrigerator and the Air Tunnel on the bottom portion of the freezer rear wall.

Placing food in front of the louvers on these components will not affect performance. Although the Air Tower and the Air Tunnel can be removed, doing so will affect temperature performance. (For removal instructions, on-line, 24 hours a day, contact us at GEAppliances.com or call 800.GE.CARES. In Canada, contact us at geappliances.ca or call 1.800.561.3344.)



How it Works

The *ClimateKeeper2™* is the industry's most advanced refrigeration system, delivering optimum temperature and humidity performance to keep food garden fresh longer and reduce freezer burn.

The *ClimateKeeper2™* system features two evaporators—one for the refrigerator and one for the freezer.

This provides two separate cooling systems, and separates the airflow between the fresh food and freezer compartments during normal cooling operations.*

This ensures that the humidity levels in the fresh food compartment are significantly higher than in a conventional system,** allowing fresh produce and other unsealed foods to retain their moisture content and freshness longer. Moisture sensitive foods such as fresh fruit, salads, rice, etc., can now be stored on open shelves without excessive moisture loss.

Due to the higher humidity in the refrigerator, you may on occasion experience fog or small amounts of moisture in the refrigerator compartment. This is normal and may come and go as different food loads and environmental conditions change. Wipe dry with a paper towel if desired.

The separate airflow system minimizes the mixing of air between the two compartments, which reduces fresh food odor transfer to improve the taste of ice.

The *ClimateKeeper2™* system also reduces the number of defrosting cycles in the freezer evaporator, thereby reducing freezer burn.

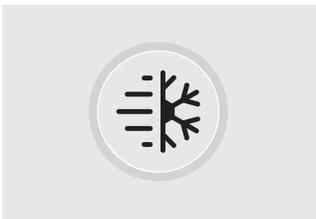
**Freezer air is used in the CustomCool™ feature.*

***Testing shows a higher level of humidity in the Fresh Food section in ClimateKeeper2™ refrigerators versus conventional units.*

About TurboCool™ (on some models)



OR



How it Works

TurboCool™ rapidly cools the refrigerator compartment in order to more quickly cool foods. Use *TurboCool™* when adding a large amount of food to the refrigerator compartment, putting away foods after they have been sitting out at room temperature or when putting away warm leftovers. It can also be used if the refrigerator has been without power for an extended period.

Once activated, the compressor will turn on immediately and the fans will cycle on and off at high speed as needed for eight hours. The compressor will continue to run until the refrigerator compartment cools to approximately 34°F (1°C), then it will cycle on and off to maintain this setting. After 8 hours, or if *TurboCool™* is pressed again, the refrigerator compartment will return to the original setting.

How to Use

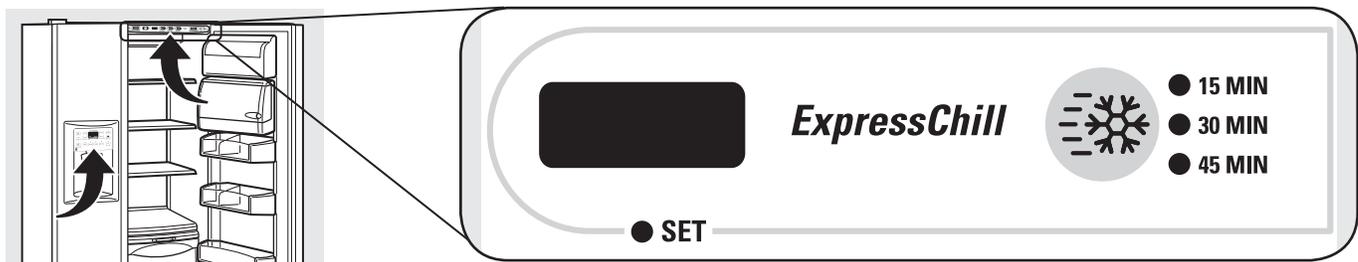
Press *TurboCool™*. The *TurboCool™* temperature display will show *Tc* and the LED will be activated. After *TurboCool™* is complete, the *TurboCool™* indicator light will go out.

NOTES: The refrigerator temperature cannot be changed during *TurboCool™*.

The freezer temperature is not affected during *TurboCool™*.

When opening the refrigerator door during *TurboCool™*, the fans will continue to run if they have cycled on.

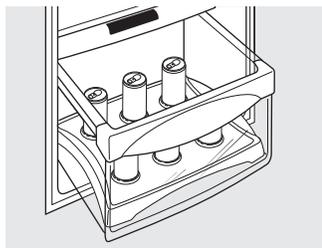
About ExpressChill™ (on some models)



How it Works

The **ExpressChill™** feature is a system of dampers, a fan and a temperature thermistor. The pan is tightly sealed to prevent the pan's temperature from causing temperature fluctuations in the rest of the refrigerator.

The controls for this pan are located in the top of the refrigerator or on the dispenser with the temperature controls.



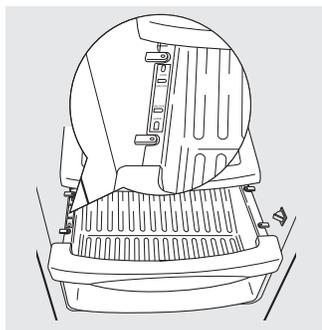
ExpressChill™

How to Use

- 1 Empty the pan. Place the Chill tray in the pan. Place the items on the tray and close the pan completely.
- 2 Select the **ExpressChill™** pad. On some models, you can then select the chill time (use chart to determine best setting). Other models will only have one option (45 minutes). On models with multiple settings, tap the pad until the light appears next to

the desired setting.

- To stop a feature before it is finished, tap that feature's pad until no options are selected and the display is off.
- During **ExpressChill™**, the display on the controls will count down the time in the cycle.



How to Remove and Replace the Drawer

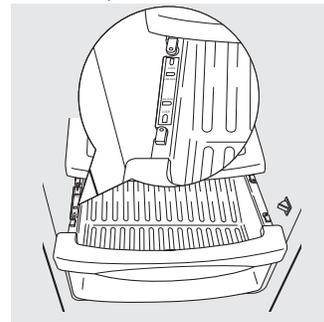
To remove:

- 1 Pull the drawer out to the stop position.
- 2 Rotate all four swing locks to the unlock position.
- 3 Lift the front of the drawer up and out.

To replace:

- 1 Make sure all four swing locks are in the unlock position.
- 2 Place the sides of the drawer into the drawer supports, making sure the swing locks fit on the drawer slots.

- 3 Lock all four swing locks by rotating them to the lock position.



ExpressChill™ Chart (on some models)

NOTE: Results may vary depending on packaging, starting temperature and other food traits.

15 Minutes	30 Minutes	45 Minutes
<ul style="list-style-type: none"> ■ 1 Beverage Can (12 oz) ■ 2 Small Juice Boxes (6-8 oz each) 	<ul style="list-style-type: none"> ■ 2 to 6 Beverage Cans (12 oz each) ■ 2 Plastic 20 oz Bottles of Beverage ■ 4 to 6 Small Juice Boxes (6-8 oz each) ■ 3 Foil Juice Packets ■ Wine (750 ml bottle) 	<ul style="list-style-type: none"> ■ 2 Liters of Beverage ■ 1/2 Gallon of Juice ■ Gelatin—1 package

Water Filter Cartridge

The water filter cartridge is located in the back upper right corner of the refrigerator compartment.

When to Replace the Filter on Models With a Replacement Indicator Light

There is a replacement indicator light for the water filter cartridge on the dispenser. This light will turn orange to tell you that you need to replace the filter soon.

The filter cartridge should be replaced when the replacement indicator light turns red or if the flow of water to the dispenser or icemaker decreases.

When to Replace the Filter on Models Without a Replacement Indicator Light

The filter cartridge should be replaced every *six months* or earlier if the flow of water to the water dispenser or icemaker decreases.

Removing the Filter Cartridge

If you are replacing the cartridge, first remove the old one by slowly turning it to the left. *Do not* pull down on the cartridge. A small amount of water may drip down.

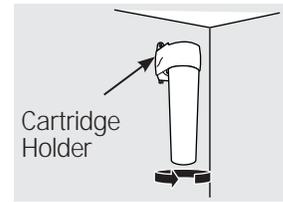
Installing the Filter Cartridge

- 1 If you are replacing a SmartWater cartridge with an adapter, it must be removed before installing the cartridge. To remove the adapter, turn it to the left about 1/4 turn.

If you are replacing a Water by Culligan cartridge, leave the adapter in place. This adapter will stay in the refrigerator when you replace future cartridges.



- 2 On models without a replacement indicator light, apply the month and year sticker to the new cartridge to remind you to replace the filter in *six months*.
- 3 Fill the replacement cartridge with water from the tap to allow for better flow from the dispenser immediately after installation.
- 4 Line up the arrow on the cartridge and the cartridge holder. Place the top of the new cartridge up inside the holder. *Do not* push it up into the holder.
- 5 Slowly turn it to the right until the filter cartridge stops. **DO NOT OVERTIGHTEN.** As you turn the cartridge, it will automatically raise itself into position. The cartridge will move about 1/2 turn.



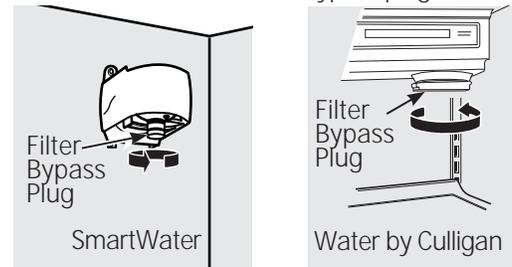
- 6 Run water from the dispenser 1-1/2 gallons (about three minutes) to clear the system and prevent sputtering.
- 7 Press and hold the **WATER FILTER** pad (on some models) on the dispenser for 3 seconds.



NOTE: A newly-installed water filter cartridge may *cause water to spurt* from the dispenser upon first use.

Filter Bypass Plug

You must use the filter bypass plug when a replacement filter cartridge is not available. The dispenser and the icemaker will not operate without the filter or filter bypass plug.



To use the filter bypass plug on Water by Culligan models, you must first remove the filter adapter from the cartridge holder by turning it to the left.

For the maximum benefit of your filtration system, GE recommends the use of GE branded SmartWater filters only. Using GE branded filters in GE and Hotpoint refrigerators provides optimal performance and reliability. GE branded SmartWater filters are always the right choice because they are patented and designed specifically for GE products. GE SmartWater filters meet rigorous industry NSF standards for safety and quality that are important for products that are filtering your water. GE has not qualified non-GE branded filters for use in GE and Hotpoint refrigerators and there is no assurance that non-GE branded filters meet GE's standards for quality, performance and reliability.

If you have questions—visit our Website at GEAppliances.com, or call 1.800.GE.CARES (1.800.432.2737).

Replacement filters:

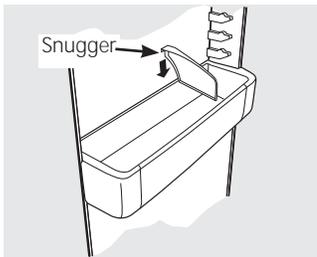
To order additional filter cartridges in the United States, visit our Website at GEAppliances.com, or call GE Parts and Accessories, 800.626.2002.

See filter label for type of filter to order (MWF or MSWF).

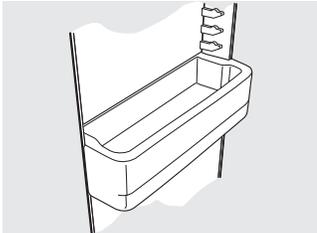
Customers in Canada should consult the yellow pages for the nearest Mabe Service Center.

About the shelves and bins.

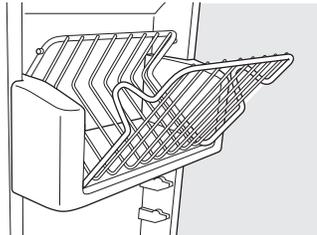
Not all features are on all models.



Refrigerator bin



Freezer bin



Freezer tilt-out bin

Refrigerator Door Bins and Freezer Door Tilt-Out Bins

Large Bins

The larger refrigerator door bins and freezer tilt-out door bins are adjustable.

To remove: Lift the front of the bin straight up, then lift up and out.

To replace or relocate: Engage the back side of the bin in the molded supports of the door. Then push down on the front of the bin. Bin will lock in place.

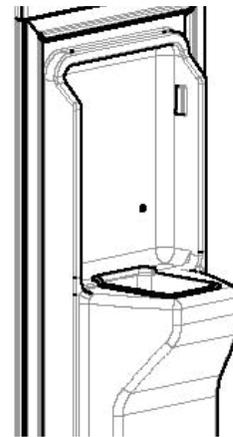
Small Bins

To remove: Lift the front of the bin straight up then out.

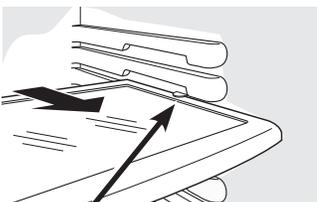
To replace: Position the bin above the rectangular molded supports on the door. Then slide the bin down onto the support to lock it in place.

The *snagger* helps prevent tipping, spilling or sliding of small items stored on the door shelf. Place a finger on either side of the snagger near the rear and move it back and forth to fit your needs.

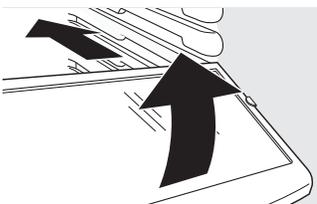
Top freezer bin



CAUTION:
Be careful when placing items in the top bin. Make sure that items do not block or fall into the ice chute.



Press tab and pull shelf forward to remove



Slide-Out Spillproof Shelf

The slide-out spillproof shelf allows you to reach items stored behind others. The special edges are designed to help prevent spills from dripping to lower shelves.

To replace or relocate:

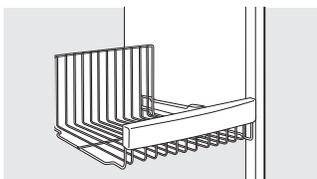
Line the shelf up with the supports and slide it into place. The shelf can be repositioned when the door is at 90° or more. To reposition the shelf, slide the shelf past the stops and angle downward. Slide shelf down to the desired

To remove:

Slide the shelf out until it reaches the stop, then press down on the tab and slide the shelf straight out.

position, line up with the supports and slide into place.

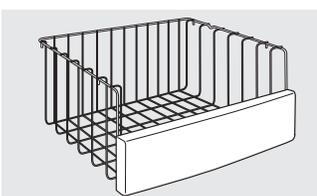
Make sure you push the shelves all the way back in before you close the door.



Freezer Baskets (on some models)

To remove, slide out to the *stop* position, lift the front past the stop position, and slide out.

Make sure you push the baskets all the way back in before you close the door.

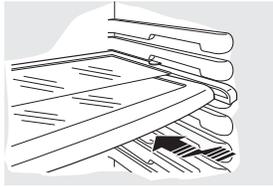


Freezer Baskets (on some models)

To remove, push the basket all the way to the back of the freezer. Lift up until the back pins are disengaged. Lift the entire basket up and pull out.

Make sure you push the baskets all the way back in before you close the door.

Not all features are on all models.

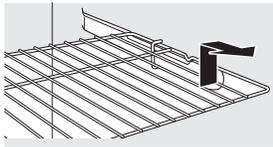


QuickSpace™ Shelf (on some models)

This shelf splits in half and slides under itself for storage of tall items on the shelf below.

This shelf can be removed and replaced or relocated just like Slide-Out Spillproof Shelves.

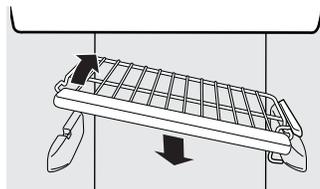
On some models, this shelf can not be used in the lowest position.



Slide-Out Freezer Shelves

To remove, slide out to the stop position, lift the front past the stop position, and slide out from rib.

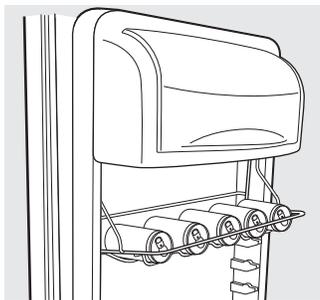
Make sure you push the shelves all the way back in before you close the door.



Fixed Freezer Shelves

To remove, lift the shelf up at the left side and then bring the shelf out.

NOTE FOR DISPENSER MODELS: In order to take full advantage of the tilt-out ice bin (on some models), only store items on the shelf below the ice bin that are no taller than the lowest point on the bin.



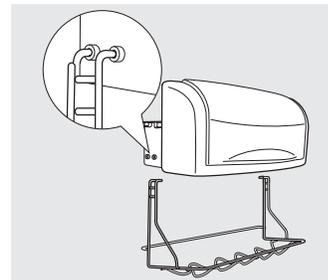
Door Wine/Beverage Rack (on some models)

This rack holds up to 5 cans, one bottle of wine or one 2-liter bottle of soda.

The rack hangs from the sides of the dairy bin.

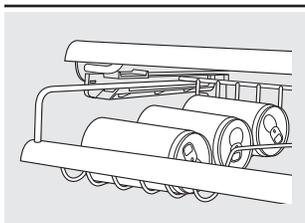
To remove:

- 1 Empty the wine/beverage rack.
- 2 Holding the bottom of the dairy bin, lift the front straight up, then lift up and out.
- 3 To detach the rack from the dairy bin, pull the rack's side wires out of the holes on each side of the dairy bin.



To replace:

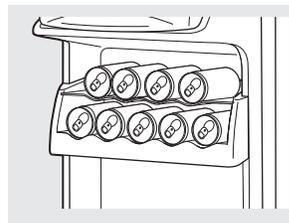
- 1 Reattach the rack to the sides of the bin.
- 2 Engage the back side of the bin in the molded supports on the door. Then push down on the front of the bin. The bin will lock into place.



ShelfSaver™ Rack (on some models)

Use this rack to store beverage cans for easy access.

It can also hold a 9" x 13" baking dish.

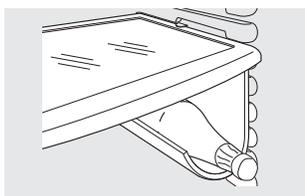


Door Can Rack (on some models)

(on some models)

This door rack holds up to 9 cans.

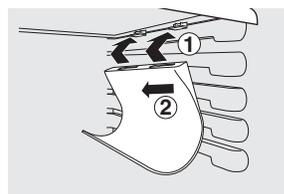
NOTE: This rack can only be mounted in the top position under the dairy bin.



Removable Beverage Rack (on some models)

(on some models)

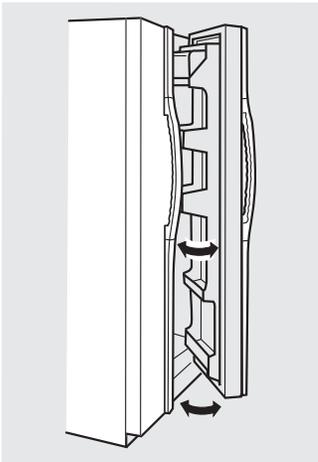
The beverage rack is designed to hold a bottle on its side. It can be attached to any slide-out shelf.



To install:

- 1 Line up the large part of the slots on the top of the rack with the tabs under the shelf.
- 2 Then slide the rack back to lock it in place.

About the refrigerator doors.



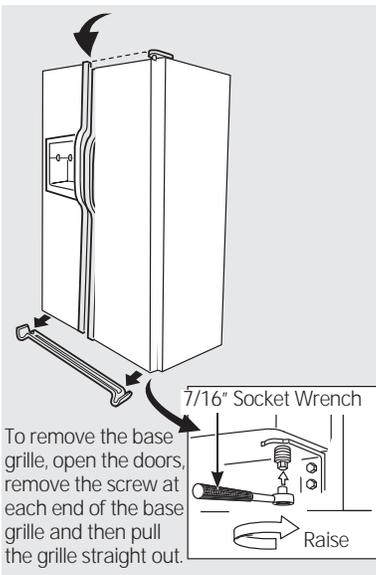
When the door is only partially open, it will automatically close. Beyond this *stop* the door will stay open.

Refrigerator Doors (on some models)

The refrigerator doors may feel different than the ones you are used to. The special door opening/closing feature makes sure the doors close all the way and are securely sealed.

When opening and closing the door you will notice a *stop* position. If the door is opened past this *stop* point, the door will remain open to allow you to load and unload food more easily. When the door is only partially open, it will automatically close.

The resistance you feel at the *stop* position will be reduced as the door is loaded with food.



Door Alignment

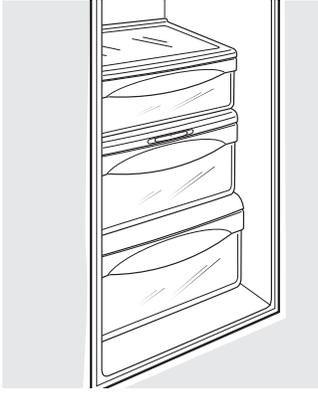
If doors are uneven, adjust the refrigerator door.

① Using a 7/16" socket wrench, turn the door adjusting screw to the right to raise the door; to the left, to lower it. (A nylon plug, imbedded in the threads of the pin, prevents the pin from turning unless a wrench is used.)

② After one or two turns of the wrench, open and close the refrigerator door and check the alignment at the top of the doors.

About the crispers and pans.

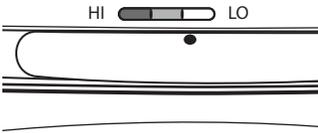
Not all features are on all models.



Fruit and Vegetable Crispers

Excess water that may accumulate in the bottom of the drawers should be wiped dry.

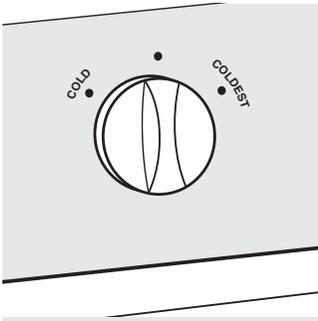
On some models, the bottom drawer has full extension slides that allow full access to the drawer.



Adjustable Humidity Crispers

Slide the control all the way to the *HI* setting to provide high humidity recommended for most vegetables.

Slide the control all the way to the *LO* setting to provide lower humidity levels recommended for most fruits.



Convertible Deli Pan (on some models)

The convertible deli pan has its own cold air duct to allow a stream of cold air from the freezer compartment or refrigerator compartment to flow to the pan.

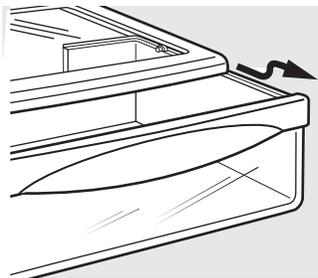
The variable temperature control regulates the air flow from the Climate Keeper.

Set the control to the *coldest* setting to store fresh meats.

Set the control to *cold* to convert the pan to normal refrigerator temperature and provide extra vegetable storage space. The cold air duct is turned off. Variable settings between these extremes can be selected.

About crisper removal.

Not all features are on all models.



Crisper Removal

Crispers can easily be removed by pulling the drawer straight out and lifting the drawer up and over the *stop* location.

If the door prevents you from taking out the drawers, first try to remove the door bins. If this does not offer enough clearance, the refrigerator will need to be rolled forward until the door opens enough to slide the drawers out. In some cases, when you roll the refrigerator out, you will need to move the refrigerator to the left or right as you roll it out.

About the automatic icemaker.

A newly installed refrigerator may take 12 to 24 hours to begin making ice.

Automatic Icemaker

The icemaker will produce seven cubes per cycle—approximately 100–130 cubes in a 24-hour period, depending on freezer compartment temperature, room temperature, number of door openings and other use conditions.

If the refrigerator is operated before the water connection is made to the icemaker, set the power switch in the **OFF** position.

When the refrigerator has been connected to the water supply, set the power switch to the **ON** position.

The icemaker will fill with water when it cools to 15°F (–10°C). A newly installed refrigerator may take 12 to 24 hours to begin making ice cubes.

You will hear a buzzing sound each time the icemaker fills with water.

Throw away the first few batches of ice to allow the water line to clear.

Be sure nothing interferes with the sweep of the feeler arm.

When the bin fills to the level of the feeler arm, the icemaker will stop producing ice. It is normal for several cubes to be joined together.

If ice is not used frequently, old ice cubes will become cloudy, taste stale and shrink.

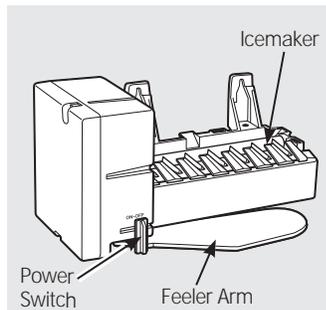
Special note about dispenser models:

- Some models have a tilt-out ice bin. The bin can be tilted out as shown in the illustrations, and it will hold itself up while you take ice out or turn the icemaker power switch on and off. Be sure to put the bin back in place before closing the door.

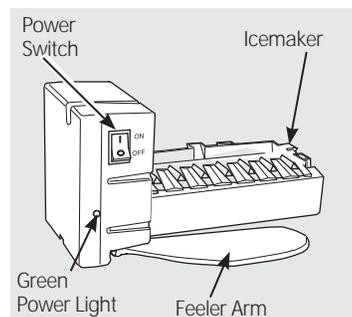
- **To restore your ice level from an empty bucket stage, the following steps are recommended:**

- 1 12 hours after the first batch of ice has fallen into the bin, dispense 3 to 4 cubes.
- 2 After an additional 6 hours, dispense 3 to 4 cubes again.

These steps will restore your ice level in the shortest amount of time.



(on some models)



(on some models)

NOTE:

In homes with lower than average water pressure, you may hear the icemaker cycle multiple times when making one batch of ice.

Accessing Ice and Reaching the Power Switch on Dispenser Models

There are two types of ice storage bins on dispenser models. One has a shelf above the bin, the other does not.

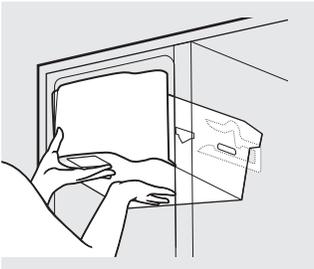
Special note for models with tilt-out ice bin:

- These models have a tilt-out ice bin. The bin can be tilted out as shown in the illustrations, and it will hold itself up while you take ice out or turn the icemaker power switch on and off. Be sure to put the bin back in place before closing the door.

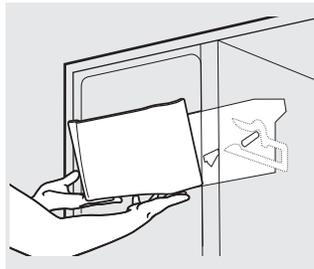
NOTE: In order to take full advantage of the tilt-out ice bin, only store items on the shelf below the ice bin that are no taller than the lowest point on the bin.

Models with tilt out ice bin

To access ice and reach the icemaker power switch:

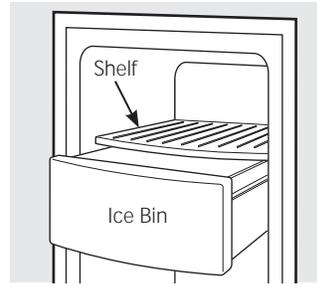


1 Lift the bin, then pull it forward until the bin stops.

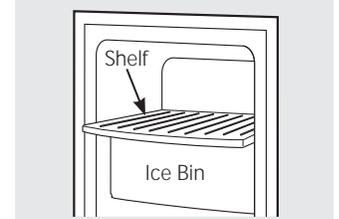


2 Lower the bin to access ice or reach the power switch.

Models with a shelf above the ice bin

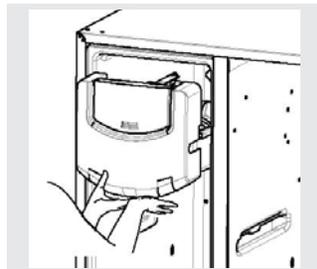


To access ice, pull the bin forward.

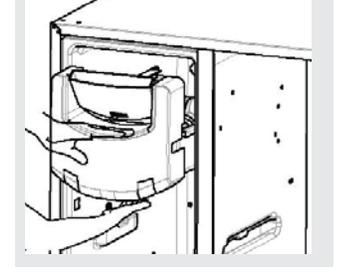


To reach the power switch, pull the shelf straight out. Always be sure to replace the shelf.

On some models, to access ice or reach the power switch:



1 Pull the bin forward until the bin stops.



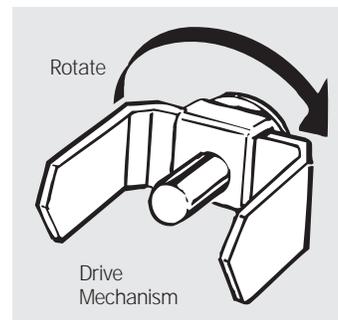
2 Lower the bin to access ice or reach the power switch.

Removing Ice Bin (dispenser models)

CAUTION: The ice bin is heavy when full.

Set the power switch to the **OFF** position before removing the bin.

When replacing the bin, be sure to press it firmly into place. If it does not go all the way back, remove it and rotate the drive mechanism 1/4 turn. Then push the bin back again.



Dispenser Models only

About the ice and water dispenser. (on some models)



To Use the Dispenser

Select **CUBED ICE**  **CRUSHED ICE** 
or **WATER** .

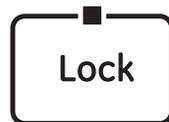
Press the glass gently against the top of the dispenser cradle.

The spill shelf is not self-draining. To reduce water spotting, the shelf and its grille should be cleaned regularly.

If no water is dispensed when the refrigerator is first installed, there may be air in the water line system. Press the dispenser arm for at least two minutes to remove trapped air from the water line and to fill the water system. To flush out impurities in the water line, throw away the first six glassfuls of water.

CAUTION: Never put fingers or any other objects into the ice crusher discharge opening.

Locking the Dispenser



Press the **LOCK** pad for 3 seconds to lock the dispenser and control panel. To unlock, press and hold the pad again for 3 seconds.



Dispenser Light

This pad turns the *night light* in the dispenser on and off. The light also comes on when the dispenser cradle is pressed. For models with a bulb, if the light burns out, it should be replaced with a 6 watt 12V maximum bulb. For LED models, contact Factory Service.



Quick Ice (on some models)

When you need ice in a hurry, press this pad to speed up ice production. This will increase ice production for the following 48 hours or until you press the pad again.

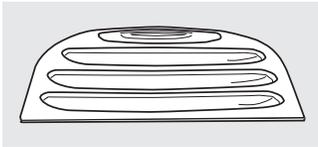


Door Alarm (on some models)

To set the alarm, press this pad until the indicator light comes on. This alarm will sound if either door is open for more than 3 minutes. The light goes out and the beeping stops when you close the door.

Important Facts About Your Dispenser

- Do not add ice from trays or bags to the storage drawer. It may not crush or dispense well.
- Avoid overfilling glass with ice and use of narrow glasses. Backed-up ice can jam the chute or cause the door in the chute to freeze shut. If ice is blocking the chute, poke it through with a wooden spoon.
- Beverages and foods should not be quick-chilled in the ice storage drawer. Cans, bottles or food packages in the storage drawer may cause the icemaker or auger to jam.
- To keep dispensed ice from missing the glass, put the glass close to, but not touching, the dispenser opening.
- Some crushed ice may be dispensed even though you selected **CUBED ICE**. This happens occasionally when a few cubes accidentally get directed to the crusher.
- After crushed ice is dispensed, some water may drip from the chute.
- Sometimes a small mound of snow will form on the door in the ice chute. This condition is normal and usually occurs when you have dispensed crushed ice repeatedly. The snow will eventually evaporate.



Dispenser drip area.

Cleaning the Outside

The dispenser drip area, beneath the grille, should be wiped dry. Water left in this area may leave deposits. Remove the deposits by adding undiluted vinegar to the well. Soak until the deposits disappear or become loose enough to rinse away.

The dispenser cradle. Before cleaning, lock the dispenser by pressing and holding the **LOCK** pad for 3 seconds. Clean with warm water and baking soda solution—about a tablespoon (15 ml) of baking soda to a quart (1 liter) of water. Rinse thoroughly and wipe dry.

The door handles and trim. Clean with a cloth dampened with soapy water. Dry with a soft cloth.

The stainless steel panels and door handles (on some models) can be cleaned with a commercially available stainless steel cleaner. A spray-on stainless steel cleaner works best.

Do not use appliance wax or polish on the stainless steel.

Keep the outside clean. Wipe with a clean cloth lightly dampened with kitchen appliance wax or mild liquid dish detergent. Dry and polish with a clean, soft cloth.

Do not wipe the refrigerator with a soiled dish cloth or wet towel. These may leave a residue that can erode the paint. Do not use scouring pads, powdered cleaners, bleach or cleaners containing bleach because these products can scratch and weaken the paint finish.

Cleaning the Inside

To help prevent odors, leave an open box of baking soda in the fresh food and freezer compartments.

Unplug the refrigerator before cleaning. If this is not practical, wring excess moisture out of sponge or cloth when cleaning around switches, lights or controls.

Use warm water and baking soda solution—about a tablespoon (15 ml) of baking soda to a quart (1 liter) of water. This both cleans and neutralizes odors. Rinse and wipe dry.

Use of any cleaning solution other than that which is recommended, especially those that contain petroleum distillates, can crack or damage the interior of the refrigerator.

Avoid cleaning cold glass shelves with hot water because the extreme temperature difference may cause them to break. Handle glass shelves carefully. Bumping tempered glass can cause it to shatter.

Do not wash any plastic refrigerator parts in the dishwasher.

The chill/thaw tray is dishwasher safe.

Care and cleaning of the refrigerator. (cont.)

Behind the Refrigerator

Be careful when moving the refrigerator away from the wall. All types of floor coverings can be damaged, particularly cushioned coverings and those with embossed surfaces.

Pull the refrigerator straight out and return it to position by pushing it straight in. Moving the refrigerator in a side direction may result in damage to the floor covering or refrigerator.

When pushing the refrigerator back, make sure you don't roll over the power cord or icemaker supply line (on some models).

Preparing for Vacation

For long vacations or absences, remove food and unplug the refrigerator. Clean the interior with a baking soda solution of one tablespoon (15 ml) of baking soda to one quart (1 liter) of water. Leave the doors open.

Set the icemaker power switch to the *OFF* position and shut off the water supply to the refrigerator.

If the temperature can drop below freezing, have a qualified servicer drain the water supply system (on some models) to prevent serious property damage due to flooding.

Preparing to Move

Secure all loose items such as shelves and drawers by taping them securely in place to prevent damage.

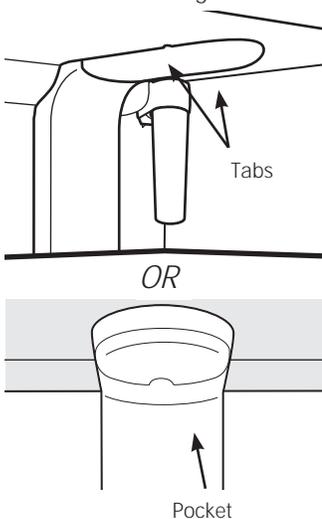
When using a hand truck to move the refrigerator, do not rest the front or back of the refrigerator against the hand truck. This could damage the refrigerator. Handle only from the sides of the refrigerator.

Be sure the refrigerator stays in an upright position during moving.

Replacing the light bulbs. (on some models)

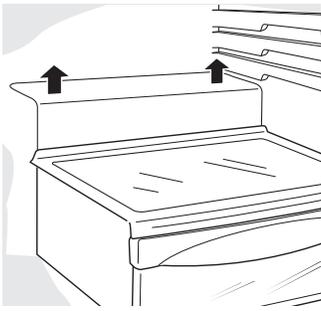
Note: Turning the refrigerator off via the controls on the touch panel does not shut off electrical power to the refrigerator.

Your light shield will look like one of the following:



Refrigerator Compartment—Upper Light

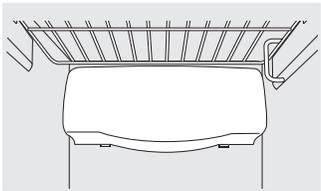
- 1 Unplug the refrigerator.
- 2 The bulbs are located at the top of the compartment, inside the light shield. On some models, a screw at the front of the light shield will have to be removed. On other models, the screw is located in the pocket located at the back of the shield.
- 3 To remove the light shield, on some models, press in on the tabs on the sides of the shield and slide forward and out. On other models, just slide the shield forward and out.
- 4 After replacing the bulb with an appliance bulb of the same or lower wattage, replace the light shield and screw. When replacing the light shield, make sure that the tabs at the back of the shield fit into the slots at the back of the light shield housing.
- 5 Plug the refrigerator back in.



Refrigerator Compartment—Lower Light

This light is located above the top drawer.

- 1 Unplug the refrigerator.
- 2 Lift the light shield up and pull it out.
- 3 After replacing the bulb with an appliance bulb of the same or lower wattage, replace the shield.
- 4 Plug the refrigerator back in.



Freezer Compartment

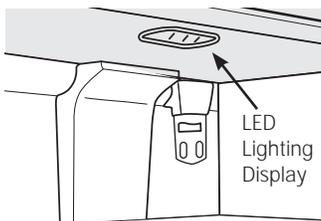
- 1 Unplug the refrigerator.
- 2 Remove the shelf just above the light shield. (The shelf will be easier to remove if it is emptied first.) Remove the screw at the top of the light shield.
- 3 To remove the light shield, press in on the sides, and lift up and out.
- 4 Replace the bulb with an appliance bulb of the same or lower wattage, and reinstall the light shield. When reinstalling the light shield, make sure the top tabs snap securely into place. Replace the screw.
- 5 Reinstall the shelf and plug the refrigerator back in.

Dispenser (on some models)

- 1 Unplug the refrigerator.
- 2 The bulb is located on the dispenser under the control panel. Remove the light bulb by turning it counterclockwise.
- 3 Replace the bulb with a bulb of the same size and wattage.
- 4 Plug the refrigerator back in.

Replacing the lights on models with LED lighting

Setting the controls to OFF does not remove power to the light circuit. Not all features are on all models.



Refrigerator Compartment (on some models)

There is an LED lighting display in the top and sides of the fresh food compartment and in the rear and side of the freezer compartment on some models.

If this assembly needs to be replaced, call GE Service at 1.800.432.2737 in the United States or 1.800.561.3344 in Canada.

Normal operating sounds.



Newer refrigerators sound different from older refrigerators. Modern refrigerators have more features and use newer technology.

Do you hear what I hear? These sounds are normal.

HUMMM... WHOOSH...

- The new high efficiency compressor may run faster and longer than your old refrigerator and you may hear a high-pitched hum or pulsating sound while it is operating.
- Sometimes the refrigerator runs for an extended period, especially when the doors are opened frequently. This means that the *Frost Guard™* feature is working to prevent freezer burn and improve food preservation.
- You may hear a whooshing sound when the doors close. This is due to pressure equalizing within the refrigerator.



- You may hear the fans spinning at high speeds. This happens when the refrigerator is first plugged in, when the doors are opened frequently or when a large amount of food is added to the refrigerator or freezer compartments. The fans are helping to maintain the correct temperatures.
- If either door is open for over 3 minutes, you may hear the fans come on in order to cool the light bulbs.
- The fans change speeds in order to provide optimal cooling and energy savings.

CLICKS, POPS, CRACKS and CHIRPS

- You may hear cracking or popping sounds when the refrigerator is first plugged in. This happens as the refrigerator cools to the correct temperature.
- Electronic dampers click open and closed to provide optimal cooling and energy savings.
- The compressor may cause a clicking or chirping sound when attempting to restart (this could take up to 5 minutes).
- The electronic control board may cause a clicking sound when relays activate to control refrigerator components.
- Expansion and contraction of cooling coils during and after defrost can cause a cracking or popping sound.
- On models with an icemaker, after an icemaking cycle, you may hear the ice cubes dropping into the ice bucket.

WATER SOUNDS



- The flow of refrigerant through the freezer cooling coils may make a gurgling noise like boiling water.
- Water dropping on the defrost heater can cause a sizzling, popping or buzzing sound during the defrost cycle.
- A water dripping noise may occur during the defrost cycle as ice melts from the evaporator and flows into the drain pan.
- Closing the door may cause a gurgling sound due to pressure equalization.



For additional information on normal icemaker and dispenser operating sounds, see the *About the automatic icemaker* and *About the ice and water dispenser* sections.

Before you call for service...



Troubleshooting Tips
Save time and money! Review the charts on the following pages first and you may not need to call for service.

<i>Problem</i>	<i>Possible Causes</i>	<i>What To Do</i>
<i>Refrigerator does not operate</i>	Refrigerator in defrost cycle.	• Wait about 30 minutes for defrost cycle to end.
	Either or both controls set to <i>OFF</i> .	• Set the controls to a lower temperature setting.
	Refrigerator is unplugged.	• Push the plug completely into the outlet.
	The fuse is blown/circuit breaker is tripped.	• Replace fuse or reset the breaker.
	Refrigerator is in showroom mode.	• Unplug the refrigerator and plug it back in.
<i>Vibration or rattling (slight vibration is normal)</i>	Rollers need adjusting.	• See Rollers.
<i>Motor operates for long periods or cycles on and off frequently. (Modern refrigerators with more storage space and a larger freezer require more operating time. They start and stop often to maintain even temperatures.)</i>	Normal when refrigerator is first plugged in.	• Wait 24 hours for the refrigerator to completely cool down.
	Often occurs when large amounts of food are placed in refrigerator.	• This is normal.
	Door left open.	• Check to see if package is holding door open.
	Hot weather or frequent door openings.	• This is normal.
	Temperature controls set at the coldest setting.	• See About the controls.
<i>Refrigerator or freezer compartment too warm</i>	Temperature control not set cold enough.	• See About the controls.
	Warm weather or frequent door openings.	• Set the temperature control one step colder. See About the controls.
	Door left open.	• Check to see if package is holding door open.
<i>Frost or ice crystals on frozen food (frost within package is normal)</i>	Door left open.	• Check to see if package is holding door open.
	Too frequent or too long door openings.	
<i>Divider between refrigerator and freezer compartments feels warm</i>	Automatic energy saver system circulates warm liquid around front edge of freezer compartment.	• This helps prevent condensation on the outside.
<i>Automatic icemaker does not work</i>	Icemaker power switch is in the <i>OFF</i> position.	• Set the power switch to the <i>ON</i> position.
	Water supply turned off or not connected.	• See Installing the water line.
	Freezer compartment too warm.	• Wait 24 hours for the refrigerator to completely cool down.
	Piled up cubes in the storage bin cause the icemaker to shut off.	• Level cubes by hand.
	Ice cubes stuck in icemaker.	• Turn off the icemaker, remove cubes, and turn the icemaker back on.

Before you call for service...

<i>Problem</i>	<i>Possible Causes</i>	<i>What To Do</i>
<i>Ice cubes have odor/taste</i>	Ice storage bin needs cleaning.	• Empty and wash bin. Discard old cubes.
	Food transmitting odor/taste to ice cubes.	• Wrap foods well.
	Interior of refrigerator needs cleaning.	• See Care and cleaning.
<i>Small or hollow cubes</i>	Water filter clogged.	• Replace filter cartridge with new cartridge or with plug.
<i>Slow ice cube freezing</i>	Door left open.	• Check to see if package is holding door open.
	Temperature control not set cold enough.	• See About the controls.
<i>Frequent 'buzzing sound' warm (on some models)</i>	Icemaker power switch is in the 1 (on) position, but the water supply to the refrigerator has not been connected.	• Set the power switch to the 0 (off) position. Keeping it in the 1 (on) position will damage the water valve.
<i>Orange glow in the freezer</i>	Defrost heater is on.	• This is normal.
<i>Cube dispenser does not work (on some models)</i>	Icemaker turned off or water supply turned off.	• Turn on icemaker or water supply.
	Ice cubes are frozen to icemaker feeler arm.	• Remove cubes.
	An item is blocking or has fallen into the ice chute inside the top door bin of the freezer.	• Remove any item that might be blocking, or has fallen into, the chute.
	Irregular ice clumps in storage container.	• Break up with fingertip pressure and discard remaining clumps. • Freezer may be too warm. Adjust the freezer control to a colder setting, one position at a time, until clumps do not form.
	Dispenser is <i>LOCKED</i> .	• Press and hold the <i>LOCK</i> pad for 3 seconds.
<i>Water has poor taste/odor (on some models)</i>	Water dispenser has not been used for a long time.	• Dispense water until all water in system is replenished.
<i>Water in first glass is warm (on some models)</i>	Normal when refrigerator is first installed.	• Wait 24 hours for the refrigerator to completely cool down.
	Water dispenser has not been used for a long time.	• Dispense water until all water in system is replenished.
	Water system has been drained.	• Allow several hours for replenished supply to chill.
<i>Water dispenser does not work (on some models)</i>	Water supply line turned off or not connected.	• See Installing the water line.
	Water filter clogged.	• Replace filter cartridge or remove filter and install plug.
	Air may be trapped in the water system.	• Press the dispenser arm for at least two minutes.
	Dispenser is <i>LOCKED</i> .	• Press and hold the <i>LOCK</i> pad for 3 seconds.
<i>Water spurting from dispenser (on some models)</i>	Newly-installed filter cartridge.	• Run water from the dispenser for 3 minutes (about one and a half gallons).
<i>Water is not dispensed (on some models) but icemaker is working</i>	Water in reservoir is frozen.	• Call for service.
	Refrigerator control setting is too cold.	• Set to a warmer setting.

<i>Problem</i>	<i>Possible Causes</i>	<i>What To Do</i>
<i>No water or ice cube production</i>	Supply line or shutoff valve is clogged.	• Call a plumber.
	Water filter clogged.	• Replace filter cartridge or remove filter and install plug.
	Dispenser is <i>LOCKED</i> .	• Press and hold the <i>LOCK</i> pad for 3 seconds.
<i>CUBED ICE was selected but CRUSHED ICE was dispensed (on some models)</i>	Last setting was <i>CRUSHED ICE</i> .	• A few cubes were left in the crusher from the previous setting. This is normal.
<i>Refrigerator has odor</i>	Foods transmitting odor to refrigerator.	• Foods with strong odors should be tightly wrapped. • Keep an open box of baking soda in the refrigerator; replace every three months.
	Interior needs cleaning.	• See Care and cleaning.
<i>Moisture forms on outside of refrigerator</i>	Not unusual during periods of high humidity.	• Wipe surface dry.
<i>Moisture collects inside (in humid weather, air carries moisture into refrigerator when doors are opened)</i>	Too frequent or too long door openings.	• This is normal for the beverage center.
	Due to the higher humidity in the refrigerator, you may on occasion experience fog or small amounts of moisture in the refrigerator compartment.	• This is normal for the beverage center. loads and environmental conditions change. with a per towel if desired.
<i>Interior light does not work</i>	No power at outlet.	• Replace fuse or reset the breaker.
	Light bulb burned out.	• See Replacing the light bulbs.
	For LED lights	• Call Service.
<i>Water on kitchen floor or on bottom of freezer</i>	Cubes jammed in chute.	• Poke ice through with a wooden spoon.
<i>Hot air from bottom of refrigerator</i>	Normal air flow cooling motor. In the refrigeration process, it is normal that heat be expelled in the area under the refrigerator. Some floor coverings are sensitive and will discolor at these normal and safe temperatures.	
<i>Refrigerator never shuts off but the temperatures are OK</i>	Adaptive defrost keeps compressor running during door openings.	• This is normal. The refrigerator will cycle off after the door remains closed for 2 hours.
<i>Refrigerator is beeping</i>	Door is open.	• Close door.
<i>Door not closing properly</i>	Door gasket on hinge side sticking or folding over.	• Apply paraffin wax to the face of the gasket.
<i>Actual temperature not equal to Set temperature</i>	Unit just plugged in.	• Allow 24 hours for system to stabilize.
	Door open for too long.	• Allow 24 hours for system to stabilize.
	Warm food added to refrigerator.	• Allow 24 hours for system to stabilize.
	Defrost cycle is in process.	• Allow 24 hours for system to stabilize.

Performance Data Sheet (on some models)

SmartWater Filtration System-GE® MSWF Cartridge

This system has been tested and certified in filter model GE MSWF according to NSF/ANSI Standards 42 and 53 for reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI Standards 42 and 53.* (Safety factors built in for unmetered usage.)

Standard No. 42: Aesthetic effects

Parameter	USEPA MCL	Influent Challenge Concentration	Effluent		% Reduction		Min. Required Reduction
			Average	Maximum	Average	Maximum	
Chlorine Taste & Odor	—	2.0 mg/L ± 10%	0.06 mg/L	0.10 mg/L	97%	9.1%	≥ 50%
Particulate**	—	at least 10,000 particles/mL	408,333	670,000	95.5%	89.4%	≥ 85%

Standard No. 53: Health effects

Parameter	USEPA MCL	Influent Challenge Concentration	Effluent		% Reduction		Max. Permissible Product Water
			Average	Maximum	Average	Maximum	
Turbidity	1 NTU****	11 ± 1 NTU****	0.38 NTU	0.5 NTU	96.5%	95.4%	0.5 NTU
Cysts***	99.95% Reduction	Minimum 50,000 L	< 1 #/L	4 #/L	> 99.99%	> 99.99%	99.95%
Lead at pH 6.5	0.010 mg/L	0.15 mg/L ± 10%	< 1 ppb	< 1 ppb	99.3%	99.3%	0.010 mg/L
Lead at pH 8.5	0.010 mg/L	0.15 mg/L ± 10%	3.1 ppb	9.0 ppb	98.0%	95.5%	0.010 mg/L
Mercury at pH 6.5	0.002 mg/L	0.006 mg/L ± 10%	0.34 ppb	0.7 ppb	94.0%	89.6%	0.002 mg/L
Mercury at pH 8.5	0.002 mg/L	0.006 mg/L ± 10%	0.66 ppb	1.5 ppb	88.4%	73.7%	0.002 mg/L
Lindane	0.0002 mg/L	0.002 mg/L ± 10%	< 0.02 ppb	< 0.02 ppb	> 99.0%	> 99.0%	0.0002 mg/L
Atrazine	0.003 mg/L	0.009 mg/L ± 10%	< 0.5 ppb	< 0.05 ppb	> 93.9%	> 94.3%	0.003 mg/L
2, 4-D	0.070 mg/L	0.210 mg/L ± 10%	7.7 ppb	35 ppb	96.0%	82.0%	0.070 mg/L
Toxaphene	0.003 mg/L	0.015 mg/L ± 10%	< 1 ppb	< 1 ppb	> 92.9%	> 92.9%	0.003 mg/L
Benzene	0.005 mg/L	0.015 mg/L ± 10%	< 0.5 ppb	< 0.5 ppb	> 96.8%	> 97.0%	0.005 mg/L
Carbofuran	0.040 mg/L	0.080 mg/L ± 10%	< 1 ppb	1 ppb	> 98.7%	> 98.7%	0.040 mg/L
P-Dichlorobenzene	0.075 mg/L	0.225 mg/L ± 10%	< 0.5 ppb	< 0.5 ppb	> 99.7%	> 99.8%	0.075 mg/L
Asbestos	99% Reduction	10 ⁷ to 10 ⁸ fibers/L; fibers > 10µm in length	< 0.17 MF/L	< 0.17 MF/L	> 99%	> 99%	99% Reduction

*Tested using pressure of 60 psig; pH of 7.5 ± 0.5; temp of 68° ± 5°F (20° ± 2.5°C).

**Measurement in Particles/mL. Particles used were 0.5-1 microns.

***Based on the use of Cryptosporidium parvum oocysts.

****NTU=Nephelometric Turbidity Units

Capacity 300 gallons (1,135 liters). Contaminant reduction determined by NSF testing.

Application Guidelines/Water Supply Parameters

Service Flow	0.9 gpm (3.14 lpm)
Water Supply	Potable Water

Water Pressure	40–120 psi (2.8–8.2 bar)
Water Temperature	33°F–100°F (0.6°C–38°C)

It is essential that the manufacturer's recommended installation, maintenance and filter replacement requirements be carried out for the product to perform as advertised. See insert for Warranty information.

Operating Specifications

- Pressure requirement: 40–120 psi (2.8–8.2 bar), non-shock
- Temperature: 33–100°F (0.6–38°C)
- Flow rate: 0.9 gpm (3.14 lpm)

General Installation/Operation/Maintenance Requirements

- Flush new cartridge at full flow for 4-1/2 gallons (about five minutes) to purge trapped air.
- Replace cartridge when flow becomes too slow.
- Protect from freezing by removing filter cartridge when temperatures are expected to drop below 40°F (4.4°C). Do not install systems in areas where ambient temperatures may go above 100°F or below 40°F. Do not install on a hot water supply.

Special Notices

- Installation instructions are included with the product when shipped.
- This drinking water system must be maintained according to manufacturer's instructions, including replacement of filter cartridges.
- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

- The contaminants or other substances removed or reduced by this water treatment system are not necessarily in your water.
- Check for compliance with the applicable state and local laws and regulations.
- Note that while the testing was performed under standard laboratory conditions, actual performance may vary. Systems must be installed and operated in accordance with manufacturer's recommended procedures and guidelines.
- Installation and use MUST comply with all state and local plumbing codes. Do not install if water pressure exceeds 120 psi. If your water pressure exceeds 80 psi (552 kPa), you should install a pressure-limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.
- Do not install where water hammer conditions may occur. If water hammer conditions exist you must install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.
- Where a backflow prevention device is installed on a water system, a device for controlling pressure due to thermal expansion must be installed.

For conditions of use, health claims certified by the California Department of Public Health, and replacements, see performance data sheet. California Department of Public Health Certification #06-1834. The contaminants or other substances removed or reduced by this water filter are not necessarily in all users' water.

Tested and Certified by NSF International against ANSI/NSF Standards 42 and 53 in model GE MSWF for the reduction of:

Standard No. 42: Aesthetic Effects

- Chemical
 - Chlorine Taste and Odor
- Mechanical Filtration
 - Particulate Reduction, Class I

Standard No. 53: Health Effects

- Chemical Reduction
 - Atrazine Reduction
 - Endrin Reduction
 - Benzene and Carbofuran Reduction
 - 1,4 Dichlorobenzene and 2,4-D Reduction
- Mechanical Filtration
 - Lead and Lindane Reduction
 - Mercury and Toxaphene Reduction
 - Cyst and Asbestos Reduction



GE
Appliances
Appliance Park
Louisville, KY 40225
geapplianceparts.com



REPLACEMENT ELEMENT

EPA #10350-MN-005

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Performance Data Sheet (on some models) SmartWater™ Filtration System—GE MWF Cartridge

The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system as specified in NSF/ANSI Standard 42 and Standard 53. System tested and certified by NSF International against NSF/ANSI Standard 42 and Standard 53 for the reduction of substances listed below.

Capacity 300 Gallons (1,135 Liters). Contaminant Reduction Determined by NSF testing.

Substance Tested for Reduction	Average Influent	NSF specified Challenge Concentration	Avg % Reduction	Average Product Water Concentration	Max Permissible Product Water Concentration	NSF Reduction Requirements	NSF Test Report
Chlorine Taste and Odor	2.0 mg/L	2.0 mg/L ± 10%	97.5%	0.05 mg/L	N/A	≥ 50%	J-00077703
Nominal Particulate Class I, ≥0.5 to < 1.0 µm	7,833,333 pts/mL	At least 10,000 particles/mL	99.7%	18,617 pts/mL	N/A	≥85%	J-00077704
Cyst*	101,000 cysts/L	Minimum 50,000 cysts/L	99.99%	1 cyst/L	N/A	≥99.95%	J-00100036
Asbestos	47 MF/L	107 to 108 fibers/L; fibers greater than 10 µm in length	>99%	<1 MF/L	N/A	≥99%	J-00077707
Atrazine	0.009 mg/L	0.009 mg/L ± 10%	94.5%	0.0005 mg/L	0.003 mg/L	N/A	J-00077708
Benzene	0.016 mg/L	0.015 mg/L ± 10%±	96.7%	0.0005 mg/L	0.005 mg/L	N/A	J-00077717
Carbofuran	0.08 mg/L	0.08 mg/L ± 10%	98.7%	0.001 mg/L	0.04 mg/L	N/A	J-00077718
Endrin	0.007 mg/L	0.006 mg/L ± 10%	97.1%	0.0002 mg/L	0.002 mg/L	N/A	J-00100039
Lead @ pH 6.5	0.152 mg/L	0.15 mg/L ± 10%	99.3%	0.001 mg/L	0.010 mg/L	N/A	J-00077722
Lead @ pH 8.5	0.148 mg/L	0.15 mg/L ± 10%	99.3%	0.001 mg/L	0.010 mg/L	N/A	J-00077723
Lindane	0.002 mg/L	0.002 mg/L ± 10%	99.0%	0.00002 mg/L	0.0002 mg/L	N/A	J-00077726
Mercury @ pH 6.5	0.0058 mg/L	0.006 mg/L ± 10%	93.2%	0.0004 mg/L	0.002 mg/L	N/A	J-00100037
Mercury @ pH 8.5	0.0061 mg/L	0.006 mg/L ± 10%	93.2%	0.0004 mg/L	0.002 mg/L	N/A	J-00092355
P-Dichlorobenzene	0.222 mg/L	0.225 mg/L ± 10%	99.8%	0.005 mg/L	0.075 mg/L	N/A	J-00077729
Tetrachloroethylene	0.015 mg/L	0.015 mg/L ± 10%	96.7%	0.0005 mg/L	0.005 mg/L	N/A	J-00082184
Toxaphene	0.015 mg/L	0.015 mg/L ± 10%	93.2%	0.001 mg/L	0.003 mg/L	N/A	J-00077730
2,4-D	0.218 mg/L	0.210 mg/L ± 10%	99.5%	0.0009 mg/L	0.07 mg/L	N/A	J-00085470

*Based on the use of *Cryptosporidium parvum* oocysts.

The following pharmaceutical reduction claims have not been certified by NSF International or the state of California. Claims tested and verified by independent laboratory:

Contaminant Reduction	Average Influent	NSF specified Challenge Concentration	Avg % Reduction	Average Product Water Concentration	Max Permissible Product Water Concentration	NSF Reduction Requirements	NSF Test Report
Atenolol	978 ng/L	N/A	99.5%	5.0 ng/L	N/A	N/A	J-00121587
Fluoxetine	907 ng/l	N/A	99.4%	5.4 ng/L	N/A	N/A	J-00121587
Ibuprofen	885 ng/L	N/A	94.1%	52.3 ng/L	N/A	N/A	J-00121588
Progesterone	1097 ng/L	N/A	99.5%	5.0 ng/L	N/A	N/A	J-00121589
Trimethoprim	415 ng/L	N/A	99.5%	2.0 ng/L	N/A	N/A	J-00121587

Application Guidelines/Water Supply Parameters

Service Flow	0.5 gpm (21.9 lpm)	Water Pressure	40-120 psi (2.8-8.2 bar)
Water Supply	Potable Water	Water Temperature	33°F-100°F (0.6°C-38°C)

It is essential that the manufacturer's recommended installation, maintenance and filter replacement requirements be carried out for the product to perform as advertised. See Installation Manual for Warranty information.

Note: While the testing was performed under standard laboratory conditions, actual performance may vary.

Replacement Cartridge: MWF. For estimated costs of replacement elements please call 1-800-626-2002 or visit our website at www.geapplianceparts.com.

⚠ WARNING

To reduce the risk associated with ingestion of contaminants:

- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before and after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts. EPA Establishment Number 10350-MN-005.

For conditions of use, health claims certified by the California Department of Public Health, and replacements, see performance data sheet. California Department of Public Health Certification #05-1698. The contaminants or other substances removed or reduced by this water filter are not necessarily in all users' water.

NOTICE

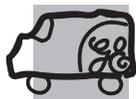
To reduce the risk associated with property damage due to water leakage:

- Read and follow use instructions before installation and use of this system.
- Installation and use **MUST** comply with all state and local plumbing codes.
- Do not install if water pressure exceeds 120 psi (8.2 bar). If your water pressure exceeds 80 psi, you **must** install a pressure-limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.
- Do not install where water hammer conditions may occur. If water hammer conditions exist you **must** install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.
- Do not install on hot water supply lines. The maximum operating water temperature of this filter system is 100° F (38° C).
- Protect filter from freezing. Drain filter when temperatures drop below 33°F (0.6°C).
- The disposable filter cartridge **must** be replaced every 6 months at the rated capacity, or sooner if a noticeable reduction in flow rate occurs.



Tested and certified by NSF International against NSF/ANSI Standard 42 and Standard 53 in model GE MWF for the reduction of the claims specified on the performance data sheet.

Refrigerator Warranty. (For customers in the United States)



All warranty service provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service, on-line, visit us at GEAppliances.com, or call 800.GE.CARES (800.432.2737). Please have serial number and model number available when calling for service.

Staple your receipt here. Proof of the original purchase date is needed to obtain service under the warranty.

For The Period Of: GE Will Replace:

GE, GE PROFILE and GE Café MODELS:

One Year From the date of the original purchase	<i>Any part of the refrigerator which fails due to a defect in materials or workmanship. During this limited one-year warranty, GE will also provide, free of charge, all labor and related service to replace the defective part.</i>
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Thirty Days (Water filter, if included) From the original purchase date of the refrigerator	<i>Any part of the water filter cartridge which fails due to a defect in materials or workmanship. During this limited thirty-day warranty, GE will also provide, free of charge, a replacement water filter cartridge.</i>
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GE PROFILE and GE Café MODELS ONLY:

Five Years (GE Profile models only) From the date of the original purchase	<i>Any part of the sealed refrigerating system (the compressor, condenser, evaporator and all connecting tubing) which fails due to a defect in materials or workmanship. During this limited five-year sealed refrigerating system warranty, GE will also provide, free of charge, all labor and related service to replace the defective part in the sealed refrigerating system.</i>
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What GE Will Not Cover:

- | | |
|---|---|
| <ul style="list-style-type: none"> ■ Service trips to your home to teach you how to use the product. ■ Improper installation, delivery or maintenance. ■ Failure of the product if it is abused, misused, or used for other than the intended purpose or used commercially. ■ Loss of food due to spoilage. ■ Replacement of house fuses or resetting of circuit breakers. ■ Damage caused after delivery. ■ Damage caused by a non-GE brand water filter. | <ul style="list-style-type: none"> ■ Replacement of the water filter cartridge, if included, due to water pressure that is outside the specified operating range or due to excessive sediment in the water supply. ■ Replacement of the light bulbs, if included, or water filter cartridge, if included, other than as noted above. ■ Damage to the product caused by accident, fire, floods or acts of God. ■ Incidental or consequential damage caused by possible defects with this appliance. ■ Product not accessible to provide required service. |
|---|---|

EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. If the product is located in an area where service by a GE Authorized Servicer is not available, you may be responsible for a trip charge or you may be required to bring the product to an Authorized GE Service location for service. In Alaska, the warranty excludes the cost of shipping or service calls to your home.

Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.

Warrantor: General Electric Company. Louisville, KY 40225

CUSTOMER WARRANTY

(for customers in Canada)

Your refrigerator is warranted to be free of defects in material and workmanship.

What is covered	How Long Warranted (From Date of Sale)	Parts Repair or Replace at Mabe's Option	Labour
Compressor	GE Profile: Ten (10) Years GE and All Other Brands: One (1) Year	GE Profile: Ten (10) Years GE and All Other Brands: One (1) Year	GE Profile: Five (5) Years GE and All Other Brands: One (1) Year
Sealed System (including evaporator, condenser tubing and refrigerant)	GE Profile: Five (5) Years GE and All Other Brands: One (1) Year	GE Profile: Five (5) Years GE and All Other Brands: One (1) Year	GE Profile: Five (5) Years GE and All Other Brands: One (1) Year
All Other Parts	One (1) Year	One (1) Year	One (1) Year

TERMS AND CONDITIONS:

This warranty applies only for single family domestic use in Canada when the Refrigerator has been properly installed according to the instructions supplied by Mabe and is connected to an adequate and proper utility service.

Damage due to abuse, accident, commercial use, and alteration or defacing of the serial plate cancels all obligations of this warranty.

Service during this warranty period must be performed by an Authorized Mabe Service Agent.

Neither Mabe nor the Dealer is liable for any claims or damages resulting from failure of the Refrigerator or from service delays beyond their reasonable control.

To obtain warranty service, purchaser must present the original Bill of Sale. Components repaired or replaced are warranted through the remainder of the original warranty period only.

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within Canada. In home warranty service will be provided in areas where it is available and deemed reasonable by Mabe to provide.

This warranty is in addition to any statutory warranty.

WHAT IS NOT COVERED:

- Owner is responsible to pay for service calls related to product installation and/or teaching how to use the product.
- Damage to finish must be reported within 48 hours following the delivery of the appliance.
- Damage to finish after delivery.
- Improper installation—proper installation includes adequate air circulation to the refrigeration system, adequate electrical, plumbing and other connecting facilities.
- Replacement of house fuses or resetting of circuit breakers.
- Replacement of light bulbs.
- Damage to product caused by accident, fire, floods or acts of God.
- Loss of food due to spoilage.
- Proper use and care of product as listed in the owner's manual, proper setting of controls.
- Product not accessible to provide required service.
- WARRANTOR IS NOT RESPONSIBLE FOR CONSEQUENTIAL DAMAGES.
- Damage caused by a non-GE brand water filter.

EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.

IMPORTANT

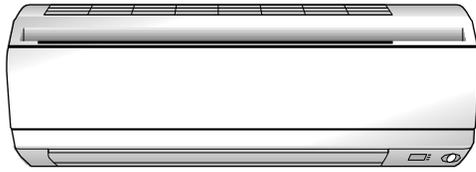
Keep this warranty and your bill of sale as proof of original purchase and purchase date. Please have serial number and model number available when calling for service.

Mabe Service is available coast to coast. If further help is needed concerning this warranty, contact:

Manager, Consumer Relations
Mabe Canada Inc., Consumer Service
1 Factory Lane, Suite 310
Moncton, New Brunswick E1C 9M3
1.800.561.3344

Staple your receipt here.
Proof of the original purchase
date is needed to obtain service
under the warranty.

Heating, Cooling, and Ventilation Systems



DAIKIN ROOM AIR CONDITIONER

OPERATION MANUAL

INVERTER

English

Français

Español



MODELS

- FTXS09LVJU
- FTXS12LVJU
- CTXS07LVJU

Feature

For your comfort and energy saving



INTELLIGENT EYE

The INTELLIGENT EYE sensor detects the human movement in a room. If no one is room for more than 20 minutes, the operation automatically changes to energy saving operation.

▶ Page 15



WEEKLY TIMER

Up to 4 timer settings can be saved for each day of the week according to your family's life style. The WEEKLY TIMER allows you to set on/off time and the desired temperature. ▶ Page 22

Other functions



COMFORT AIRFLOW

The airflow direction will be in upward mode while in COOL operation, in downward mode while in HEAT operation. This function will prevent cold or warm air from directly blowing on your body. ▶ Page 15



OUTDOOR UNIT QUIET

OUTDOOR UNIT QUIET operation lowers the noise level of the outdoor unit. This function is useful in consideration of your neighbors.

▶ Page 18

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ECONO

This function enables efficient operation by limiting the maximum power consumption. It is useful when using the air conditioner and other electrical devices simultaneously. ▶Page 19

Safety Precautions

- Read these safety considerations for operations carefully before installing air conditioning equipment. After completing the installation, make sure that the unit operates properly during the startup operation. Instruct the customer on how to operate and maintain the unit.

Inform customers that they should store this operation manual with the installation manual for future reference.

Meanings of DANGER, WARNING, CAUTION, and NOTE Symbols:

DANGER	WARNING	CAUTION
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Never do.	Be sure to follow the instructions.
Be sure to ground the air conditioner.	Never allow the air conditioner or remote controller to get wet.
Never touch the air conditioner (including the remote controller) with a wet hand.	

DANGER

- For refrigerant leakage, consult your dealer. Refrigerant gas is heavier than air and replaces oxygen. A massive leak could lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.
- Refrigerant gas may produce a toxic gas if it comes in contact with fire such as from a fan heater, stove or cooking device. Exposure to this gas could cause severe injury or death.
- Any abnormalities in the operation of the air conditioner such as smoke or fire could result in severe injury or death. Turn off the power and contact your dealer immediately for instructions.
- Do not install the unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.
- If equipment utilizing a burner is used in the same room as the air conditioner, there is the danger of oxygen deficiency which could lead to an asphyxiation hazard resulting in serious injury or death. Be sure to ventilate the room sufficiently to avoid this hazard.
- Safely dispose of the packing materials. Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries. Tear apart and throw away plastic packaging bags so that children will not play with them. Children playing with plastic bags face the danger of death by suffocation.

WARNING

- It is not good for health to expose your body to the air flow for a long time.
- Do not put your finger or other objects into the air outlet or inlet as the fan is rotating at high speed and could cause injury. Always keep small children away from the unit during operation.
- Do not attempt to repair, relocate, modify or reinstall the air conditioner by yourself. Incorrect work or modifications could cause electric shocks, fire or other damage. For repairs and reinstallation, consult your Daikin dealer for advice and information.
- If the air conditioner is not cooling (heating) properly, the refrigerant may be leaking, contact your authorized dealer or qualified service repairman. When making repairs which requires adding refrigerant, consult with your authorized dealer or qualified service repairman.
- Do not attempt to install the air conditioner by yourself. Improper installation could result in water leakage, electric shocks or fire. For installation, consult your authorized dealer or a qualified technician.

CAUTION

- The air conditioner must be grounded. Improper grounding may result in electric shocks. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod, or a telephone ground line. Follow all local and state electrical codes.
- Do not use this unit for cooling precision instruments, food, plants, animals or works of art.
- Never expose little children, plants or animals directly to the air flow.
- Do not block air inlets nor outlets. Impaired air flow may result in poor performance or equipment problems.
- Do not stand, sit, or place objects on the outdoor unit. To avoid injury, do not remove the fan guard.

CAUTION

-  • Do not place anything under the indoor or outdoor unit that must be kept away from moisture, such as electrical or electronic equipment. In certain conditions, moisture in the air may condense and drip.
 - Check the unit stand and fittings for damage annually.
 - Do not touch the air inlet and aluminum fins of outdoor unit. It may cause injury and/or damage the heat transfer surface.
 - This appliance is NOT intended for use by young children or impaired persons without proper supervision.
 - Young children should be supervised to ensure that they DO NOT play with or near the air flow of this appliance.
 - Do not pull at the conduit or hang anything on it. Otherwise it will cause fire or electric shock.
 - Do not touch the heat exchanger fins. Improper handling may result in injury.
 - Do not turn off the power immediately after stopping operation. Always wait at least 5 minutes before turning off the power to avoid water leakage or other problems.
-
-  • To avoid personal injury or equipment damage be sure to stop the operation, turn the breaker off or pull out the supply cord before cleaning or servicing the unit. NOTE: More than one disconnect may be required to shut off all power.
 - Do not connect the air conditioner to a power supply different from the one specified. It may cause improper operation or fire.
 - Depending on the environment, state and local electrical codes, a ground fault circuit interrupter may be required. Improper grounding or lack of a ground fault circuit interrupter may result in electrical shock, injuries, or death.
 - It is recommended to install a ground fault circuit interrupter if one is not already available. This helps prevent electrical shocks or fire.
 - Arrange the drain hose to ensure smooth drainage. Improper drainage may cause water damage to the building, or its furnishing.
 - Depending on the usage environment, water may leak from the air conditioner. If this happens, contact your Daikin Dealer.
 - The remote controller should be installed in such away that children cannot play with it.
 - Do not place objects in direct proximity of the outdoor unit and do not let leaves and other debris accumulate around the unit. Leaves are a hotbed for small animals which can enter the unit. Once in the unit, such animals can cause malfunctions, smoke or fire when making contact with electrical parts.
-
-  • Do not operate the air conditioner with wet hands.
-
-  • Do not wash the indoor unit with excessive water, only use a slightly wet cloth.
 - Do not place things such as vessels containing water or anything else on top of the unit. Water may penetrate into the unit and degrade electrical insulations, resulting in an electric shock.

Installation site.

- Operate the air conditioner in a sufficiently ventilated area and not surrounded by obstacles. Do not use the air conditioner in the following places.
 - a. Places with a mist of mineral oil, such as cutting oil.
 - b. Locations such as coastal areas where there is a lot of salt in the air.
 - c. Locations such as hot springs where there is a lot of sulfur in the air.
 - d. Locations such as factories where the power voltage varies a lot.
 - e. In cars, boats, and other vehicles.
 - f. Locations such as kitchens where oil may splatter or where there is steam in the air.
 - g. Locations where equipment produces electromagnetic waves.
 - h. Places with an acid or alkaline mist.
 - i. Places where fallen leaves can accumulate or where weeds can grow.

Consider the nuisance of noise to your neighbors.

- Pay Attention to Operating Sound. Be sure to use the following places:
 - a. Places that can sufficiently withstand the weight of the air conditioner yet can suppress the operating sound and vibration of the air conditioner.
 - b. Places where warm air from the air outlet of the outside unit or the operating sound of the outside unit does not annoy neighbors. Make sure that there are no obstacles close to the outside unit. Obstacles close to the outside unit may drop the performance of the outside unit or increase the operating sound of the outside unit. Consult your dealer if the air conditioner in operation generates unusual noise.

Electrical work.

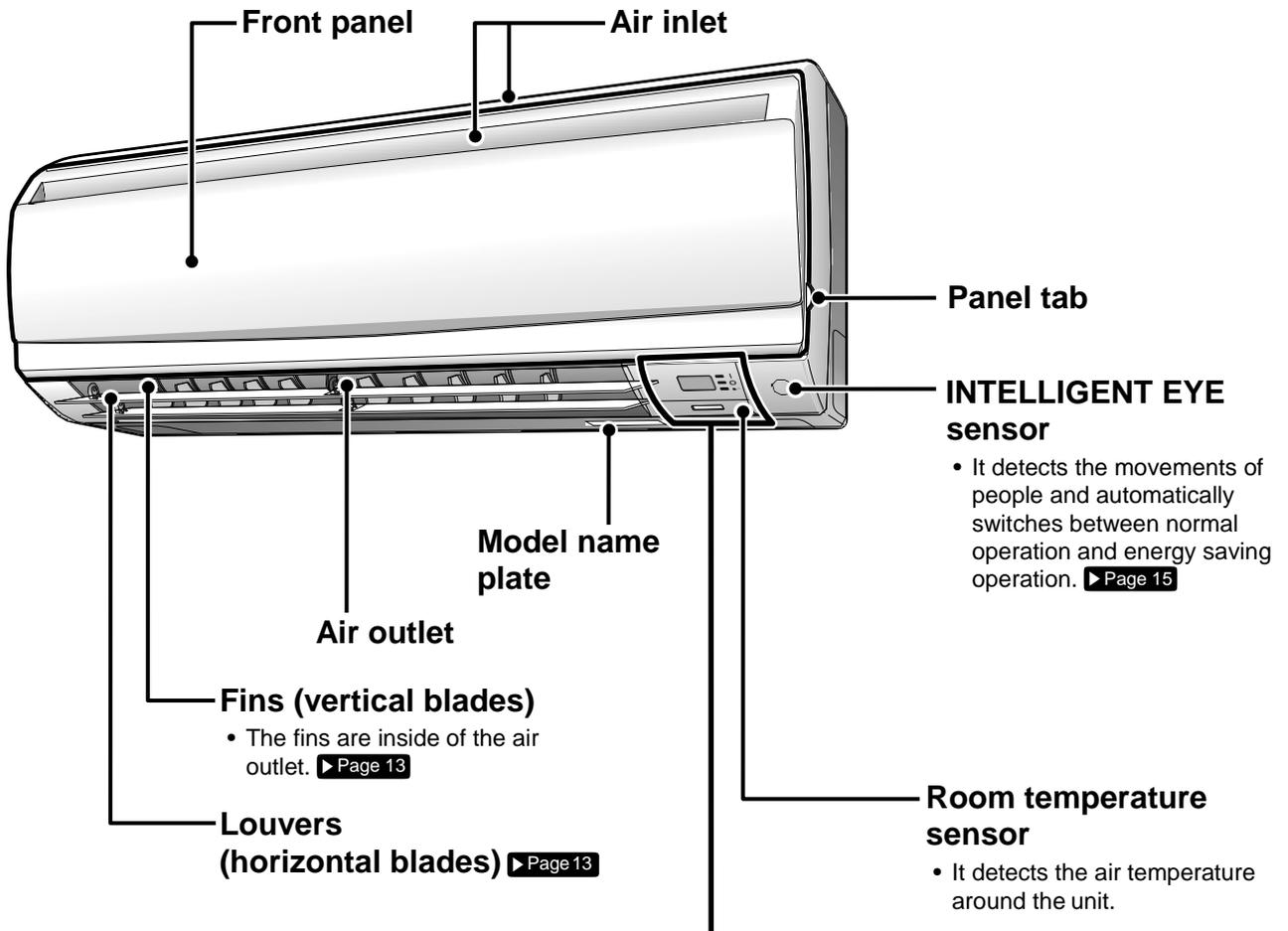
- For power supply, be sure to use a separate power circuit dedicated to the air conditioner.

System relocation.

- Relocating the air conditioner requires specialized knowledge and skills. Please consult the dealer if relocation is necessary for moving or remodeling.

Names of Parts

Indoor Unit



Display

Signal receiver

- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a beep sound.

Case	Sound type
Operation start	beep-beep
Setting changed	beep
Operation stop	long beep

OPERATION lamp (green)

TIMER lamp (yellow) ▶ Page 20,21

INTELLIGENT EYE lamp (green) ▶ Page 15,16

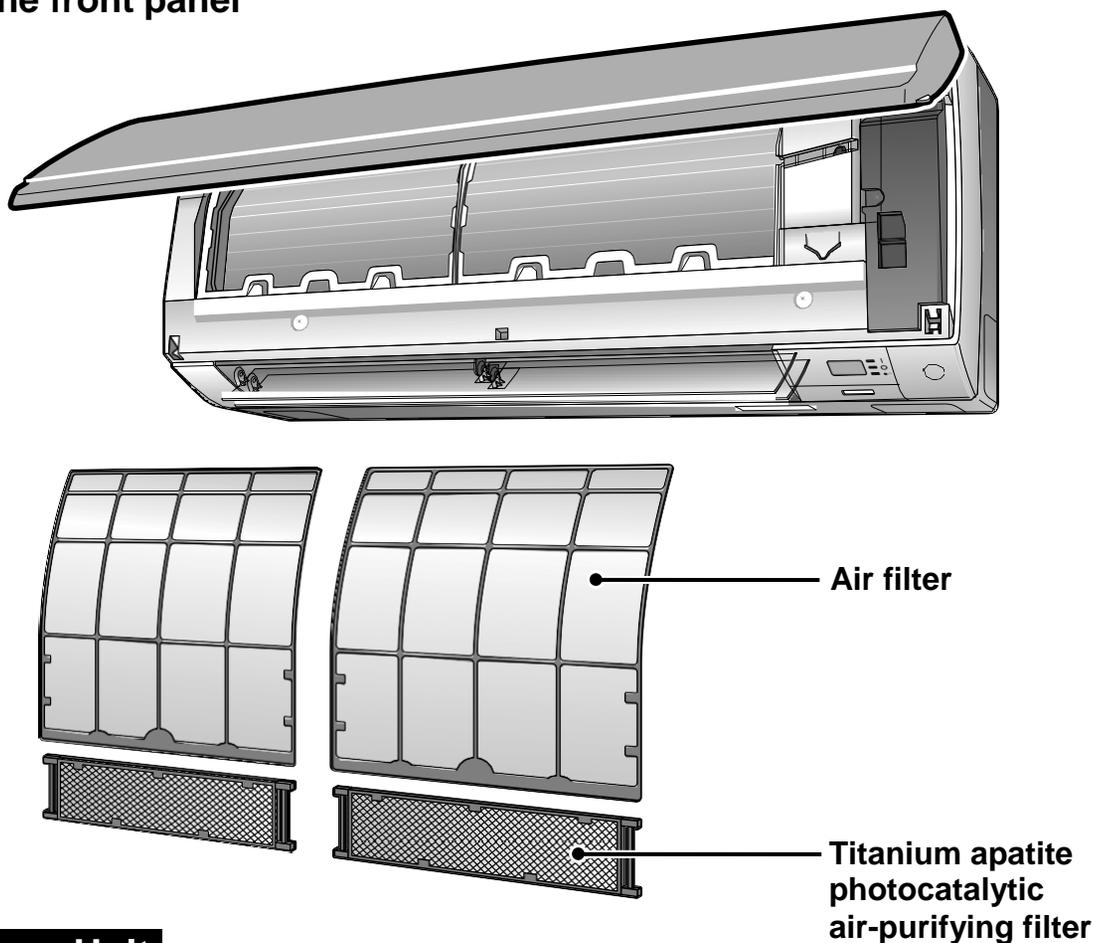
Indoor unit ON/OFF switch

- Press this switch once to start operation. Press once again to stop it.
- The operation mode refer to the following table.

Mode	Temperature setting	Airflow rate
AUTO	77°F (25°C)	AUTO

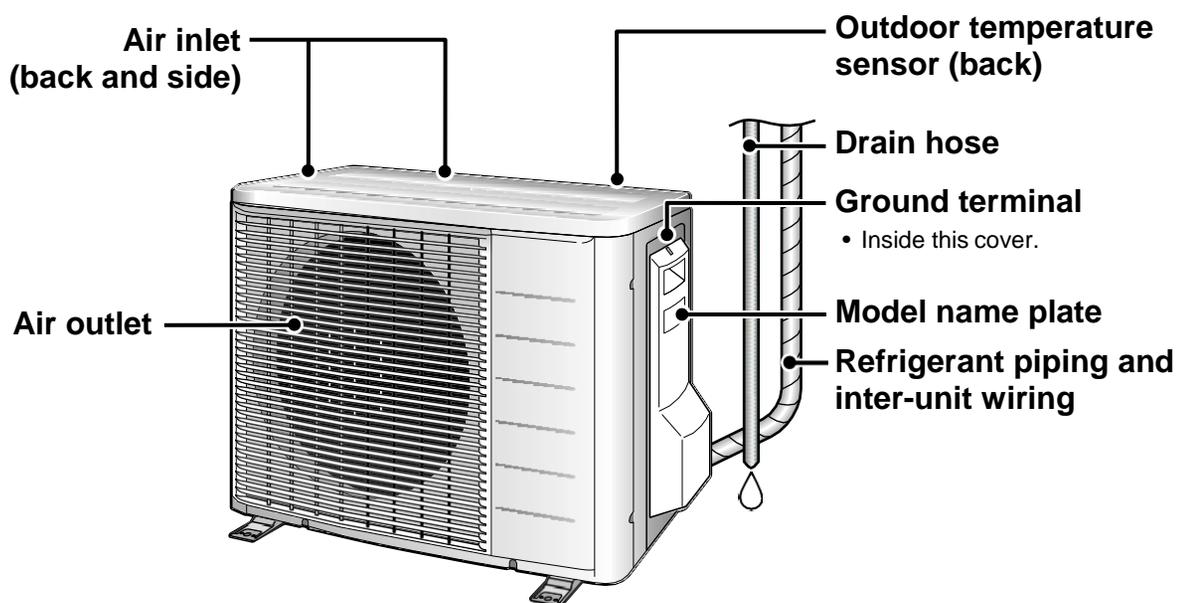
- This switch is useful when the remote controller is missing.

- Open the front panel



Outdoor Unit

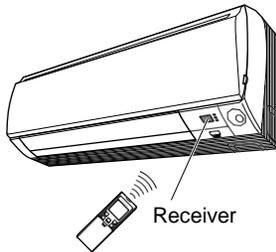
- Appearance of the outdoor unit may differ from some models.



Names of Parts

Remote Controller

Signal transmitter



- To use the remote controller, aim the transmitter at the indoor unit. If there is anything to block signals between the unit and the remote controller, such as a curtain, the unit will not operate.
- Do not drop the remote controller. Do not get it wet.
- The maximum distance for communication is approximately 23ft (7m).

Display (LCD)

- Displays the current settings. (In this illustration, each section is shown with all its displays on for the purpose of explanation.)

TEMPERATURE adjustment buttons

- Changes the temperature setting.

▶ Page 12

ON/OFF button

- Press this button once to start operation.

Press once again to stop it. ▶ Page 11

Front cover

- Open the front cover. ▶ Page 8

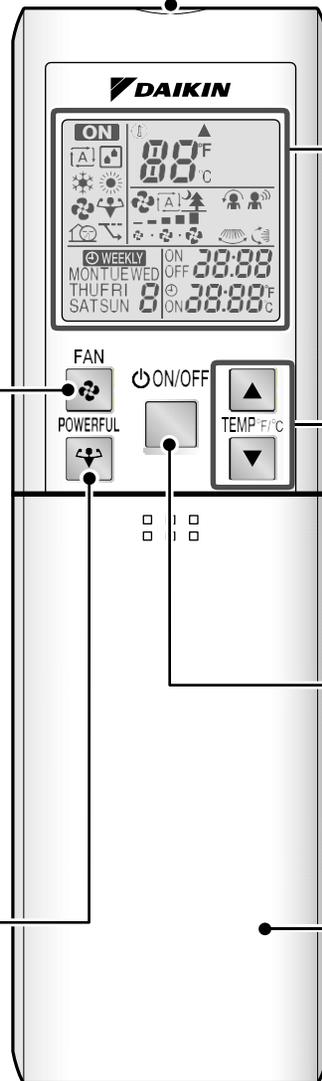
FAN setting button

- Selects the airflow rate setting.

▶ Page 14

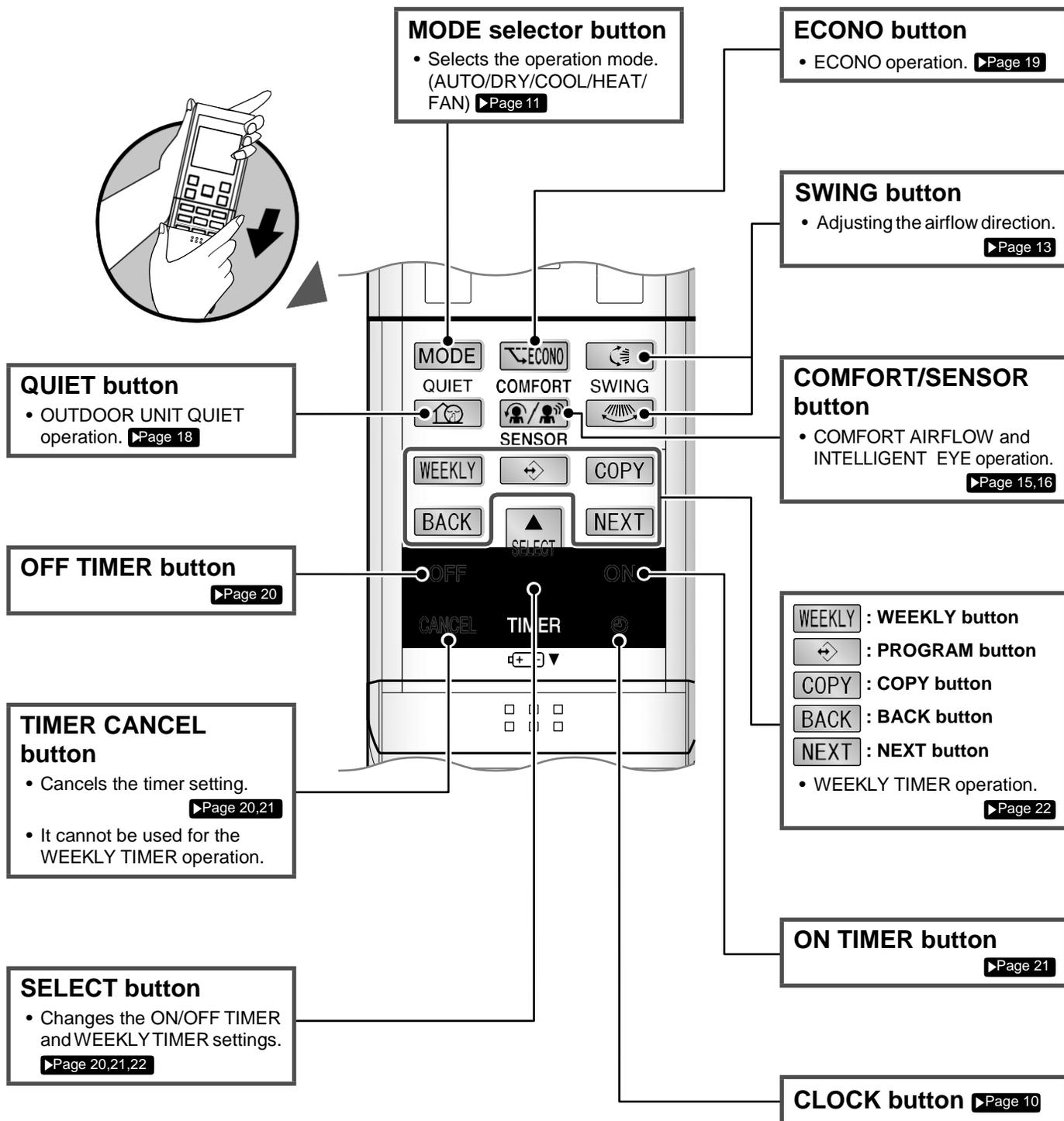
POWERFUL button

- POWERFUL operation. ▶ Page 17

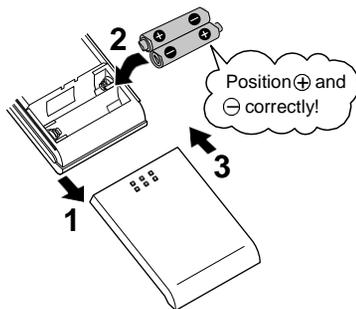


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• Open the front cover



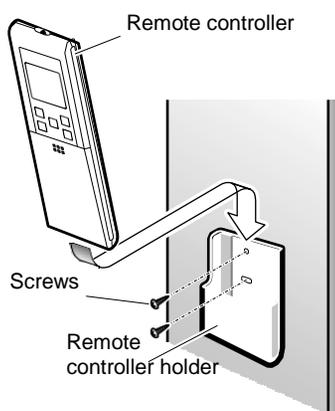
Preparation before Operation



• To set the batteries

1. Slide the front cover to take it off.
2. Set two dry batteries AAA.LR03 (alkaline).
3. Set the front cover as before.

• To fix the remote controller holder on the wall



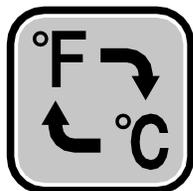
1. Choose a place from where the signals reach the unit.
2. Fix the holder to a wall, a pillar, etc. with the screws supplied with the holder.
3. Place the remote controller in the remote controller holder.

• Celsius/Fahrenheit display switch

- The Celsius or Fahrenheit display is selectable with the following buttons.

Press  and  simultaneously for 5 seconds.

- The temperature will be displayed in Fahrenheit if it is presently displayed in Celsius, and vice versa.



NOTE

• Notes on batteries

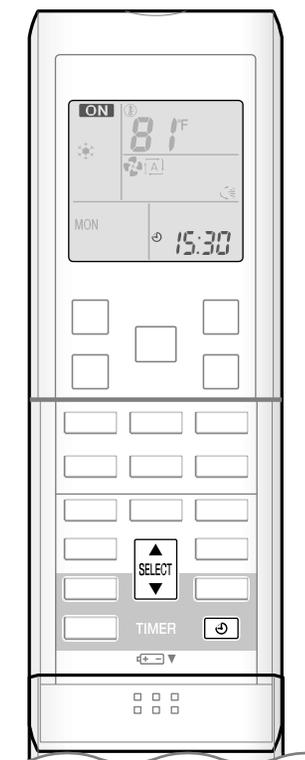
- When replacing the batteries, use batteries of the same type, and replace both batteries at the same time.
- When the system is not used for a long time, take the batteries out.
- The batteries will last for approximately 1 year. If the remote controller display begins to fade and the degradation of reception performance occurs within a year, however, replace both batteries with new, size AAA.LR03 (alkaline).
- The attached batteries are provided for the initial use of the system.
The usable period of the batteries may be short depending on the manufactured date of the air conditioner.

• Notes on remote controller

- Never expose the remote controller to direct sunlight.
- Dust on the signal transmitter or receiver will reduce the sensitivity. Wipe off dust with a soft cloth.
- Signal communication may be disabled if an electronic-starter-type fluorescent lamp (such as inverter-type lamps) is in the room. Consult the shop if that is the case.
- If the remote controller signals happen to operate another appliance, move that appliance somewhere else, or consult the service shop.

• Celsius/Fahrenheit display change function of remote controller

- The set temperature may increase when the display is changed to Celsius from Fahrenheit, because a fraction of 0.5°C is rounded up.
- Example: A set temperature of 65°F (equivalent to 18.5°C) will be converted into 19°C.
When the display is changed to Fahrenheit again, the set temperature will be converted into 66°F (equivalent to 19°C) instead of the original set temperature (65°F) but a set temperature of 66°F (equivalent to 19°C) will be converted into 19°C with no temperature change.
- A reception sound will go off for the transmission of set temperature to the indoor unit at the time of setting the Celsius/Fahrenheit display change function.



• Turn the breaker on

- After the power is turned on, the louvers of the indoor unit open and close once to set the reference position.

• To set the clock

1. Press .



"0:00" is displayed.
"MON" and "☉" blink.

2. Press to set the current day of the week.

3. Press .



"☉" blinks.

4. Press to set the clock to the present time.

- Holding down  or  rapidly increases or decreases the time display.

5. Press .

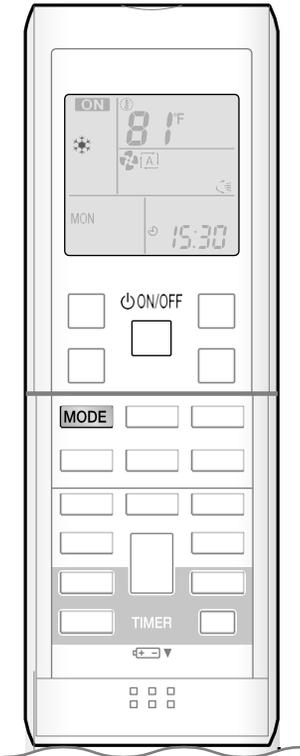
- Point the remote controller at the indoor unit when pressing the buttons.



"." blinks.
.



AUTO · DRY · COOL · HEAT · FAN Operation

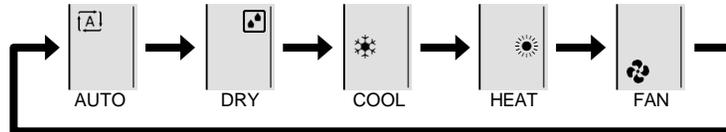


The air conditioner operates with the operation mode of your choice. From the next time on, the air conditioner will operate with the same operation mode.

• To start operation

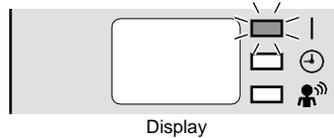
1. Press **MODE** and select an operation mode.

- Each pressing of the button advances the mode setting in sequence.



2. Press .

- “**ON**” is displayed on the LCD.
- The OPERATION lamp lights green.



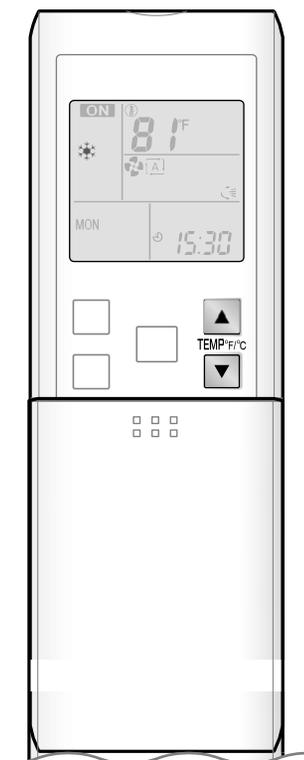
• To stop operation

Press again.

- “**ON**” is no longer displayed on the LCD.
- The OPERATION lamp goes off.

NOTE

MODE	Notes on each operation mode
HEAT	<ul style="list-style-type: none"> • Since this air conditioner heats the room by taking heat from outdoor air to indoors, the heating capacity becomes smaller in lower outdoor temperatures. If the heating effect is insufficient, it is recommended to use another heating appliance in combination with the air conditioner. • The heat pump system heats the room by circulating hot air around all parts of the room. After the start of HEAT operation, it takes some time before the room gets warmer. • In HEAT operation, frost may occur on the outdoor unit and lower the heating capacity. In that case, the system switches into defrosting operation to take away the frost. • During defrosting operation, hot air does not flow out of indoor unit.
COOL	<ul style="list-style-type: none"> • This air conditioner cools the room by releasing the heat in the room outside. Therefore, the cooling performance of the air conditioner may be degraded if the outdoor temperature is high.
DRY	<ul style="list-style-type: none"> • The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.
AUTO	<ul style="list-style-type: none"> • In AUTO operation, the system selects an appropriate operation mode (COOL or HEAT) based on the room and outside temperatures and starts the operation. • The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.
FAN	<ul style="list-style-type: none"> • This mode is valid for fan only.



• To change the temperature setting

Press  or  .

- The displayed items on the LCD will change whenever either one of the buttons is pressed.

COOL operation	HEAT operation	AUTO operation	DRY or FAN operation
64-90°F (18-32°C)	50-86°F (10-30°C)	64-86°F (18-30°C)	The temperature setting is not variable.
Press ▲ to raise the temperature and press ▼ to lower the temperature.			

• Operating conditions

• Recommended temperature setting

- For cooling: 78-82°F (26-28°C)
- For heating: 68-75°F (20-24°C)

• Tips for saving energy

- Be careful not to cool (heat) the room too much.
Keeping the temperature setting at a moderate level helps save energy.
- Cover windows with a blind or a curtain.
Blocking sunlight and air from outdoors increases the cooling (heating) effect.
- Clogged air filters cause inefficient operation and waste energy. Clean them once in about every 2 weeks. [▶Page 32](#)

• Notes on the operating conditions

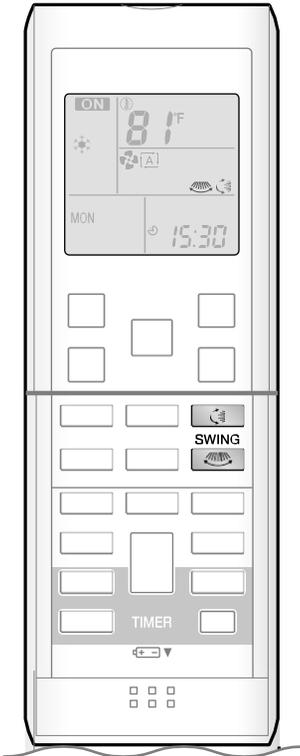
- The air conditioner always consumes a small amount of electricity even while it is not operating.
- If you are not going to use the air conditioner for a long period, for example in spring or autumn, turn the breaker off.
- Use the air conditioner in the following conditions.

MODE	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature : 50-115°F (10-46°C) Indoor temperature : 64-90°F (18-32°C) Indoor humidity : 80% max.	<ul style="list-style-type: none"> • A safety device may work to stop the operation. (In multi system, it may work to stop the operation of the outdoor unit only.) • Condensation may occur on the indoor unit and drip.
HEAT	Outdoor temperature : 5-75°F (-15-24°C) Indoor temperature : 50-86°F (10-30°C)	<ul style="list-style-type: none"> • A safety device may work to stop the operation.
DRY	Outdoor temperature : 50-115°F (10-46°C) Indoor temperature : 64-90°F (18-32°C) Indoor humidity : 80% max.	<ul style="list-style-type: none"> • A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.

- Operation outside this humidity or temperature range may cause a safety device to disable the system.



Adjusting the Airflow Direction and Rate



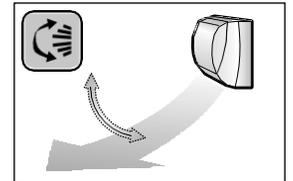
You can adjust the airflow direction to increase your comfort.

• To start auto swing

Upper and lower airflow direction

Press .

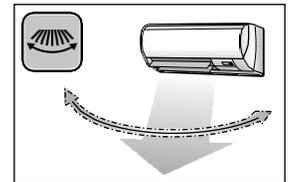
- “” is displayed on the LCD.
- The louvers (horizontal blades) will begin to swing.



Right and left airflow direction

Press .

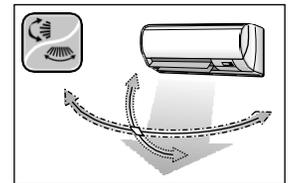
- “” is displayed on the LCD.
- The fins (vertical blades) will begin to swing.



The 3-D airflow direction

Press  and .

- “” and “” are displayed on the LCD.
- The louvers and fins move in turn.
- To cancel 3-D airflow, press either  or  again. The louvers or fins will stop moving.

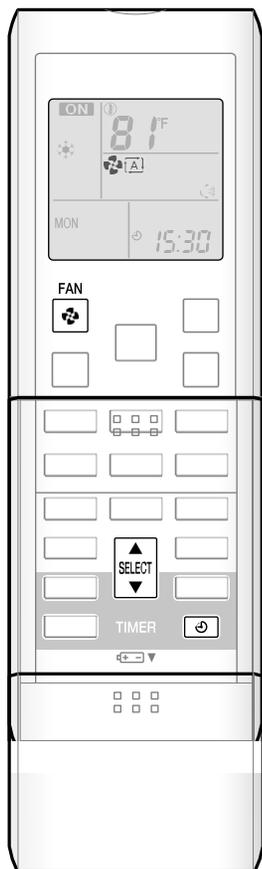


• To set the louvers or fins at desired position

- This function is effective while louvers or fins are in auto swing mode.

Press  and  when the louvers or fins have reached the desired position.

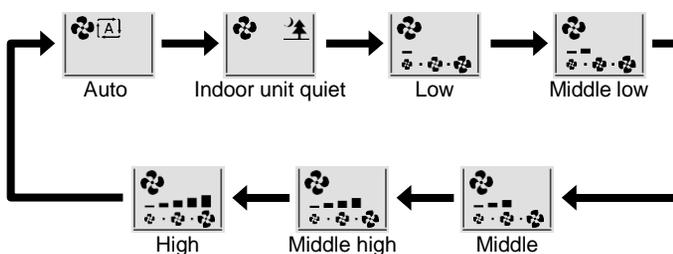
- In the 3-D airflow, the louvers and fins move in turn.
- “” or “” is no longer displayed on the LCD.



• To adjust the airflow rate setting

Press .

- Each pressing of  advances the airflow rate setting in sequence.

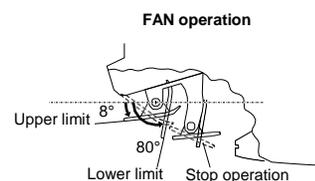
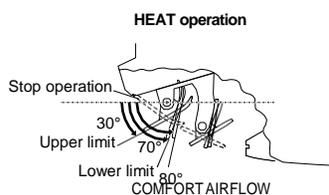
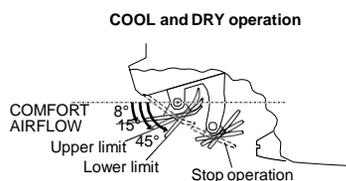


- When the airflow is set to “”, indoor unit quiet operation will start and the noise from the unit will become quieter.
- In indoor unit quiet operation, the airflow rate is set to a weak level.
- In DRY operation, the airflow rate setting is not variable.

NOTE

• Notes on the angles of the louvers

- The louvers swinging range depends on the operation. (See the figure.)



• Note on 3-D airflow

- Using 3-D airflow circulates cold air, which tends to be collected at the bottom of the room, and hot air, which tends to collect near the ceiling, throughout the room, preventing areas of cold and hot developing.

• Note on airflow rate setting

- At smaller airflow rates, the cooling (heating) effect is also smaller.

CAUTION

- Always use a remote controller to adjust the angles of the louvers and fins. If you attempt to move the louvers and fins forcibly with hand when they are swinging, the mechanism may be broken.
- Always use a remote controller to adjust the fins angles. Inside the air outlet, a fan is rotating at a high speed.



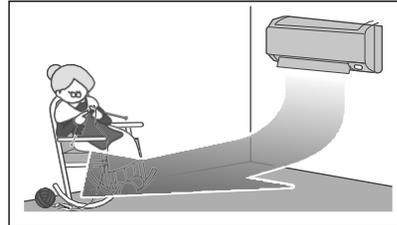
COMFORT AIRFLOW / INTELLIGENT EYE Operation

• COMFORT AIRFLOW operation

The flow of air will be in the upward direction while in COOL operation and in the downward direction while in HEAT operation, which will provide a comfortable wind that will not come in direct contact with people.



COOL operation



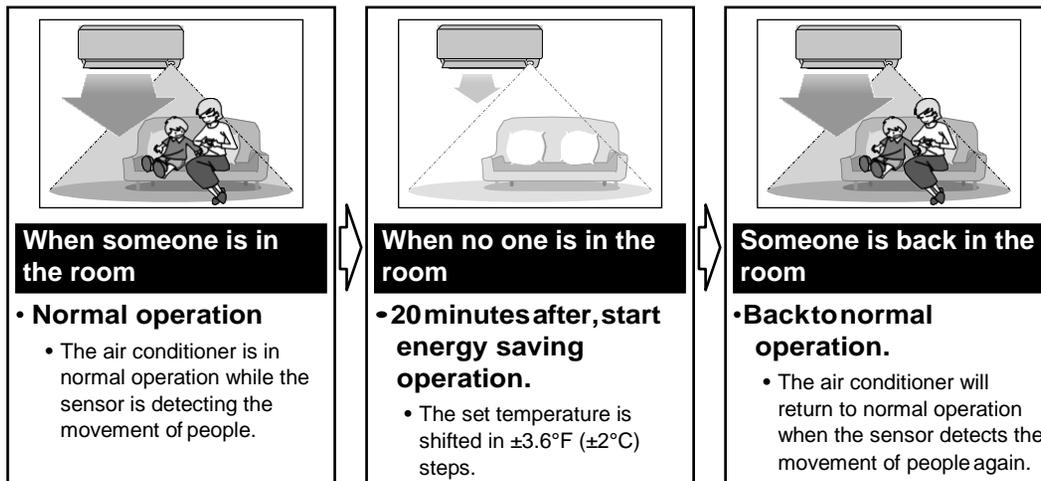
HEAT operation

• INTELLIGENT EYE operation

“INTELLIGENT EYE” is the infrared sensor which detects the human movement.

If no one is in the room for more than 20 minutes, the operation automatically changes to energy saving operation.

[Example]



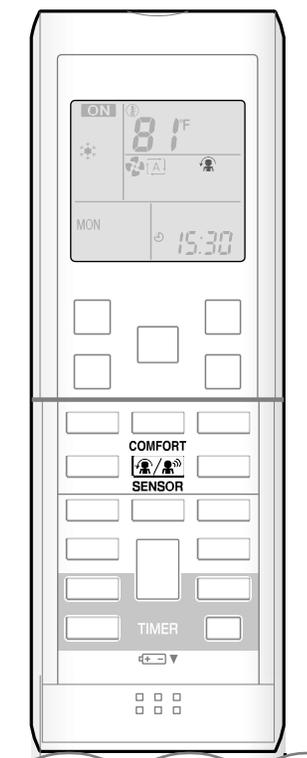
INTELLIGENT EYE operation is useful for energy saving

• Energy saving operation

- If no presence detected in the room for 20 minutes, the energy saving operation will start.
- This operation changes the temperature -3.6°F (-2°C) in HEAT / $+3.6^{\circ}\text{F}$ ($+2^{\circ}\text{C}$) in COOL / $+3.6^{\circ}\text{F}$ ($+2^{\circ}\text{C}$) in DRY operation from set temperature. When the room temperature exceeds 86°F (30°C), the operation changes the temperature $+1.8^{\circ}\text{F}$ ($+1^{\circ}\text{C}$) in COOL / $+1.8^{\circ}\text{F}$ ($+1^{\circ}\text{C}$) in DRY operation from set temperature.
- This operation decreases the airflow rate slightly in FAN mode only.

• Combination COMFORT AIRFLOW and INTELLIGENT EYE operation

The air conditioner can go into operation with the COMFORT AIRFLOW and INTELLIGENT EYE functions combined.



• To start operation

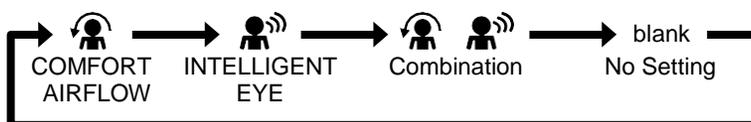
Press  and select the desired mode.

- Each time the  is pressed a different setting option is displayed on the LCD.
- The INTELLIGENT EYE lamp lights green.



Display

- By selecting “ ” from the following icons, the air conditioner will be in COMFORT AIRFLOW operation combined with INTELLIGENT EYE operation.



- When the louvers (horizontal blades) are swinging, the operating as above will stop movement of them.
- The lamp will be lit while human movements are detected.

• To cancel operation

Press  and select “blank” on the LCD.

- The INTELLIGENT EYE lamp goes off.

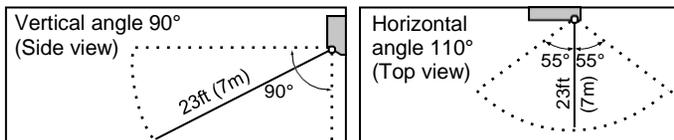
NOTE

• Notes on COMFORT AIRFLOW operation

- The louver position will change, preventing air from blowing directly on the occupants of the room.
- POWERFUL operation and COMFORT AIRFLOW operation cannot be used at the same time. Priority is given to the function of whichever button is pressed last.
- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW function will be canceled.

• Notes on INTELLIGENT EYE operation

- Application range is as follows.



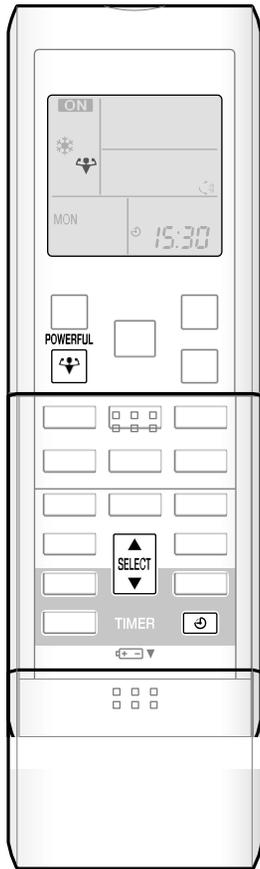
- Sensor may not detect moving objects further than 23ft (7m) away. (Check the application range)
 - Sensor detection sensitivity changes according to indoor unit location, the speed of passersby, temperature range, etc.
 - The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected off of mirrors as passersby.
 - INTELLIGENT EYE operation will not go on during POWERFUL operation.
 - NIGHT SET mode  Page 20 will not go on during use of INTELLIGENT EYE operation.
- ### • Notes on combination of COMFORT AIRFLOW operation and INTELLIGENT EYE operation
- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW operation will be canceled. Priority is given to the function of whichever button is pressed last.

CAUTION

- Do not place large objects near the sensor.
Also keep heating units or humidifiers outside the sensor's detection area. This sensor can detect undesirable objects.
- Do not hit or violently push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.



POWERFUL Operation



POWERFUL operation quickly maximizes the cooling (heating) effect in any operation mode. You can get the maximum capacity.

• To start POWERFUL operation

Press  during operation.

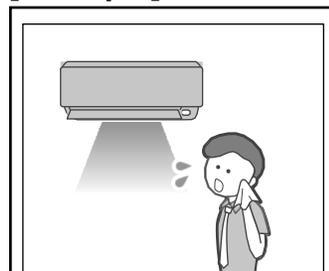
- POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
- “” is displayed on the LCD.

• To cancel POWERFUL operation

Press  again.

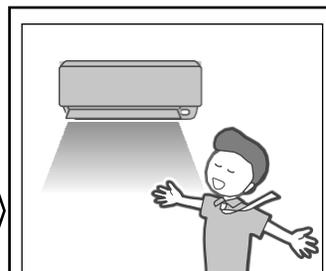
- “” is no longer displayed on the LCD.

[Example]



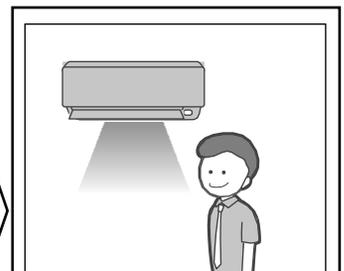
• Normal operation

- When you want to get the cooling effect quickly, start the POWERFUL operation.



• POWERFUL operation

- POWERFUL operation will work for 20 minutes.



• Back to normal operation

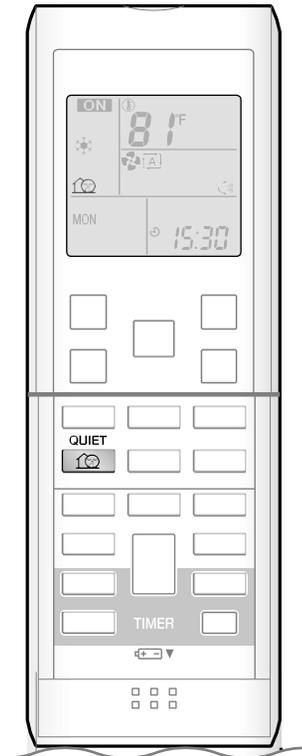
NOTE

• Notes on POWERFUL operation

- When using POWERFUL operation, there are some functions which are not available.
- POWERFUL operation cannot be used together with ECONO, COMFORT AIRFLOW or OUTDOOR UNIT QUIET operation. Priority is given to the function of whichever button is pressed last.
- POWERFUL operation can only be set when the unit is running. Pressing  causes the settings to be canceled, and “” is no longer displayed on the LCD.
- POWERFUL operation will not increase the capacity of the air conditioner if the air conditioner is already in operation with its maximum capacity demonstrated.
- **In COOL, HEAT and AUTO operation**
To maximize the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting. The temperature and airflow settings are not variable.
- **In DRY operation**
The temperature setting is lowered by 4.5°F (2.5°C) and the airflow rate is slightly increased.
- **In FAN operation**
The airflow rate is fixed to the maximum setting.



OUTDOOR UNIT QUIET Operation



OUTDOOR UNIT QUIET operation lowers the noise level of the outdoor unit by changing the frequency and fan speed on the outdoor unit. This function is convenient during the night.

• To start OUTDOOR UNIT QUIET operation

Press .

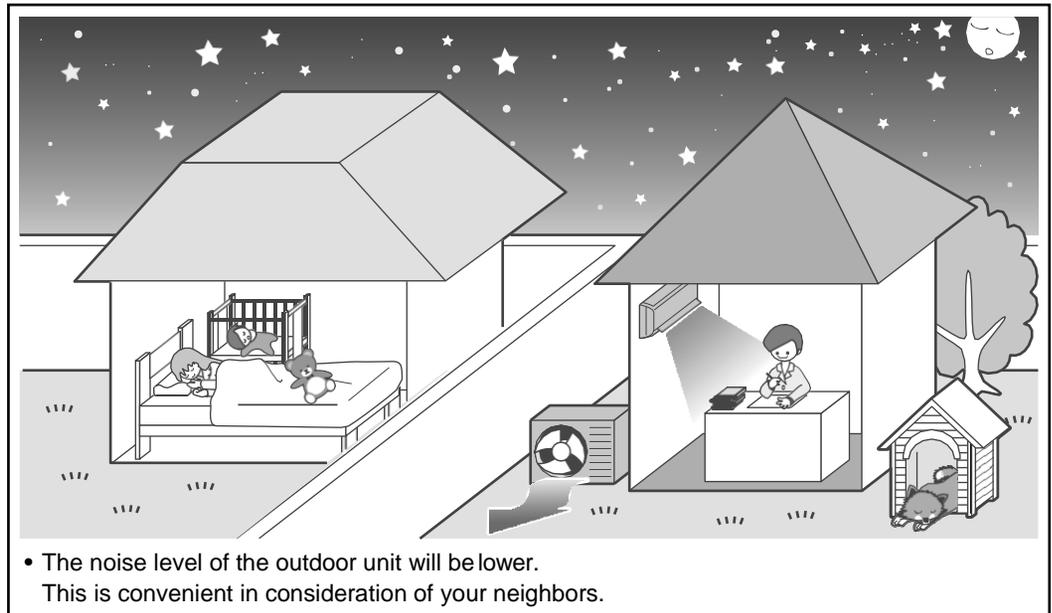
- “” is displayed on the LCD.

• To cancel OUTDOOR UNIT QUIET operation

Press  again.

- “” is no longer displayed on the LCD.

[Example] Using the OUTDOOR UNIT QUIET operation during the night.



- The noise level of the outdoor unit will be lower.
This is convenient in consideration of your neighbors.

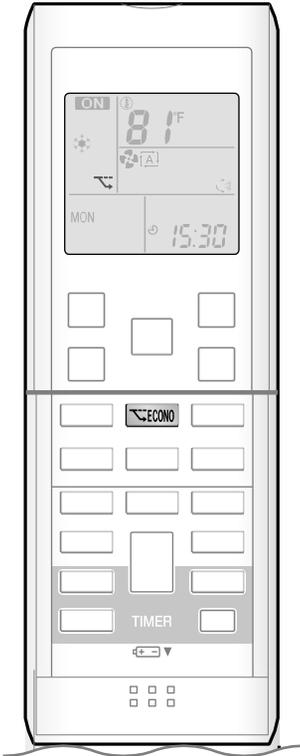
NOTE

• Notes on OUTDOOR UNIT QUIET operation

- If using a multi system, the OUTDOOR UNIT QUIET operation will work only when this function is set on all operated indoor units. However, if using priority room setting, refer to “Note for multi system”. [▶ Page28](#)
- This function is available in COOL, HEAT, and AUTO operation.
This is not available in FAN and DRY operation.
- POWERFUL operation and OUTDOOR UNIT QUIET operation cannot be used at the same time.
Priority is given to the function of whichever button is pressed last.
- Even the operation is stopped using the remote controller or the indoor unit ON/OFF switch when using OUTDOOR UNIT QUIET operation, “” will remain on the remote controller display.
- OUTDOOR UNIT QUIET operation will drop neither the frequency nor fan speed if they have been already dropped low enough.



ECONO Operation



ECONO operation is a function which enables efficient operation by limiting the maximum power consumption value. This function is useful for cases in which attention should be paid to ensure a circuit breaker will not trip when the product runs alongside other appliances.

• To start ECONO operation

Press during operation.

- "E" is displayed on the LCD.

• To cancel ECONO operation

Press again.

- "E" is no longer displayed on the LCD.

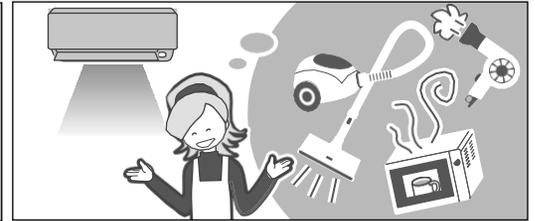
[Example]

Normal operation



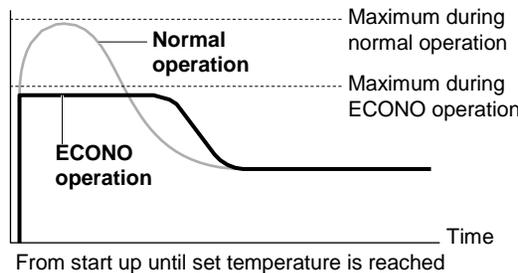
- In case the air conditioner and other appliances which require high power consumption are used at same time, a circuit breaker may trip if the air conditioner operate with its maximum capacity.

ECONO operation



- The maximum power consumption of the air conditioner is limited by using ECONO operation. The circuit breaker is unlikely to trip even if the air conditioner and other appliances are used at same time.

Running current and power consumption



- This diagram is a representation for illustrative purposes only. The maximum running current and power consumption of the air conditioner in ECONO operation vary with the connecting outdoor unit.

NOTE

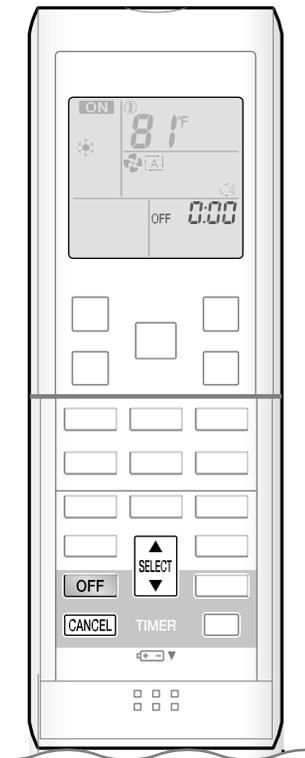
• Notes on ECONO operation

- ECONO operation can only be set when the unit is running. Pressing causes the settings to be canceled, and "E" is no longer displayed on the LCD.
- ECONO operation functions in AUTO, COOL, DRY, and HEAT operation.
- POWERFUL and ECONO operation cannot be used at the same time. Priority is given to the function of whichever button is pressed last.
- If the level of power consumption is already low, ECONO operation will not drop the power consumption.



OFF TIMER Operation

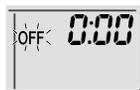
Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.



To use OFF TIMER operation

- Check that the clock is correct.
If not, set the clock to the present time. ▶ Page 10

1. Press OFF .



"0:00" is displayed on the LCD.
"OFF" blinks.

- "⊕" is no longer displayed on the LCD.

2. Press SELECT until the time setting reaches the point you like.

- Each pressing of either button increases or decreases the time setting by 10 minutes.
Holding down either button changes the time setting rapidly.

3. Press OFF again.

- "OFF" and setting time are displayed on the LCD.
- The TIMER lamp lights yellow.



Display

To cancel OFF TIMER operation

Press CANCEL .

- "OFF" and setting time are no longer displayed on the LCD.
- "OFF" and day of the week are displayed on the LCD.
- The TIMER lamp goes off.

NOTE

Notes on TIMER operation

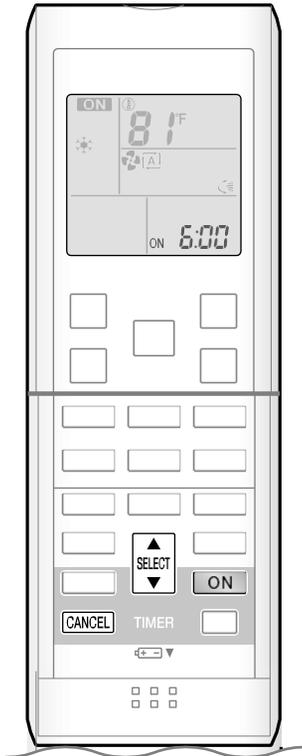
- When TIMER is set, the present time is not displayed.
- Once you set ON/OFF TIMER, the time setting is kept in the memory. The memory is canceled when remote controller batteries are replaced.
- When operating the unit via the ON/OFF TIMER, the actual length of operation may vary from the time entered by the user. (Maximum approximately 10 minutes)

NIGHT SET mode

- When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.9°F (0.5°C) up in COOL, 3.6°F (2.0°C) down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.



ON TIMER Operation



• To use ON TIMER operation

- Check that the clock is correct.
If not, set the clock to the present time. ▶ Page 10

1. Press **ON**.



“6:00” is displayed on the LCD.
“ON” blinks.

- “⊕” and day of the week are no longer displayed on the LCD.

2. Press **SELECT** until the time setting reaches the point you like.

- Each pressing of either button increases or decreases the time setting by 10 minutes.
Holding down either button changes the setting rapidly.

3. Press **ON** again.

- “ON” and setting time are displayed on the LCD.
- The TIMER lamp lights yellow.



Display

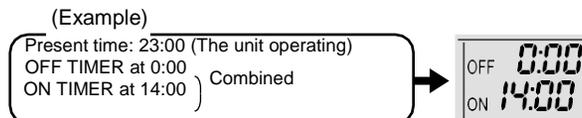
• To cancel ON TIMER operation

Press **CANCEL**.

- “ON” and setting time are no longer displayed on the LCD.
- “ON” and day of the week are displayed on the LCD.
- The ⊕ TIMER lamp goes off.

• To combine ON TIMER and OFF TIMER

- A sample setting for combining the 2 timers is shown below.



NOTE

- In the following cases, set the timer again.
 - After a breaker has turned off.
 - After a power failure.
 - After replacing batteries in the remote controller.

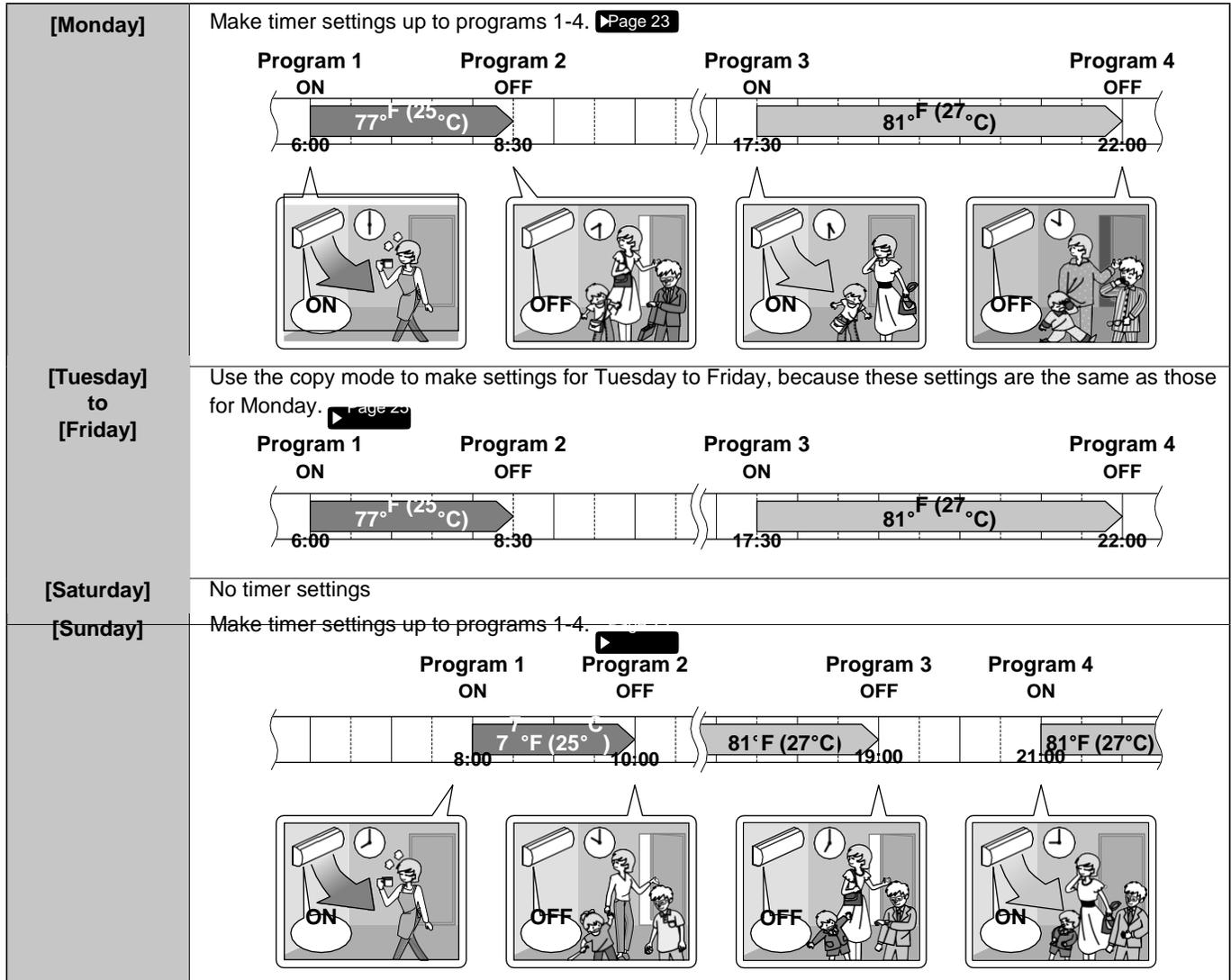


WEEKLY TIMER Operation

Up to 4 timer settings can be saved for each day of the week. It is convenient if the WEEKLY TIMER is set according to the family's life style.

Using in these cases of WEEKLY TIMER

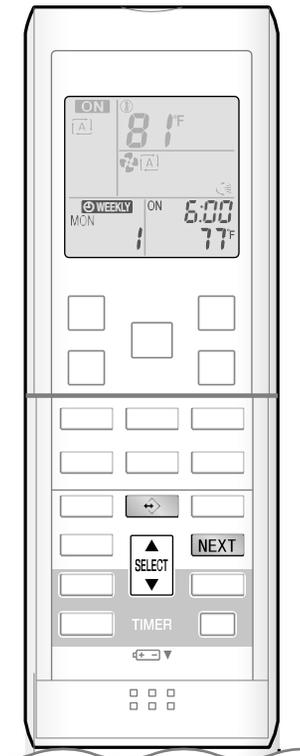
Example: The same timer settings are made for the week from Monday through Friday while different timer settings are made for the weekend.



- Up to 4 reservations per day and 28 reservations per week can be set in the WEEKLY TIMER. The effective use of the copy mode ensures ease of making reservations.
- The use of ON-ON-ON-ON settings, for example, makes it possible to schedule operating mode and set temperature changes. Furthermore, by using OFF-OFF-OFF-OFF settings, only the turn off time of each day can be set. This will turn off the air conditioner automatically if the user forgets to turn it off.



WEEKLY TIMER Operation

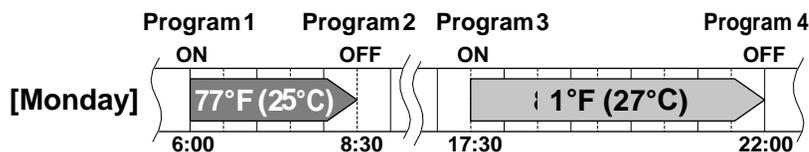


To use WEEKLY TIMER operation

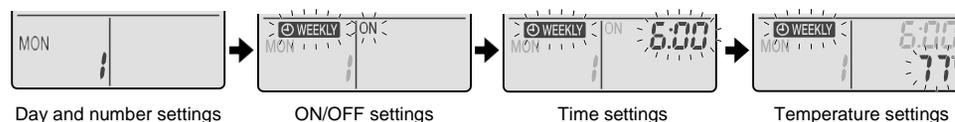
Setting mode

- Make sure the day of the week and time are set. If not, set the day of the week and time.

▶ Page 10



Setting Displays



1. Press

- The day of the week and the reservation number of the current day will be displayed.
- 1 to 4 settings can be made per day.

2. Press to select the desired day of the week and reservation number.

- Pressing changes the reservation number and the day of the week.

3. Press .

- The day of the week and reservation number will be set.
- “ WEEKLY” and “ON” blink.

4. Press to select the desired mode.

- Pressing changes “ON” or “OFF” setting in sequence.

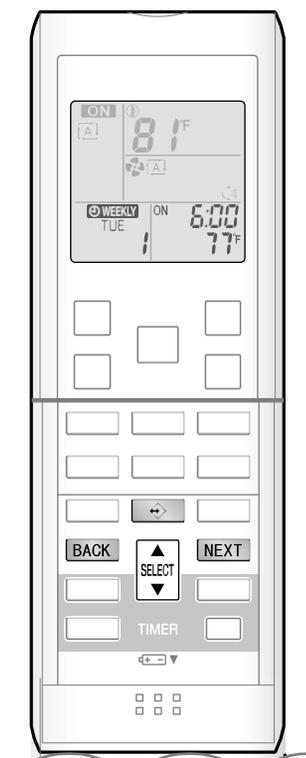


- In case the reservation has already been set, selecting “blank” deletes the reservation.
- Go to **STEP 9** if “blank” is selected.

5. Press .

- The ON/OFF-TIMER mode will be set.
- “ WEEKLY” and the time blink.





6. Press to select the desired time.

- The time can be set between 0:00 and 23:50 in 10 minute intervals.
- To return to the ON/OFF TIMER mode setting, press .
- Go to **STEP 9** when setting the OFF TIMER.

7. Press .

- The time will be set.
- “” and the temperature blink.

8. Press to select the desired temperature.

- The temperature can be set between 50°F (10°C) and 90°F (32°C).
Cooling: The unit operates at 64°F (18°C) even if it is set at 50 (10) to 63°F (17°C).
Heating: The unit operates at 86°F (30°C) even if it is set at 87 (31) to 90°F (32°C).
- To return to the time setting, press .
- The set temperature is only displayed when the mode setting is on.

9. Press .

- The temperature will be set and go to the next reservation setting.
- To continue further settings, repeat the procedure from **STEP 4**.

10. Press to complete the setting.

- Be sure to direct the remote controller toward the indoor unit and check for a receiving light  flashing the OPERATION lamp.
- “” is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp lights yellow.



Display

- A reservation made once can be easily copied  the same settings used for another day of the week. Refer to **Copy mode**.

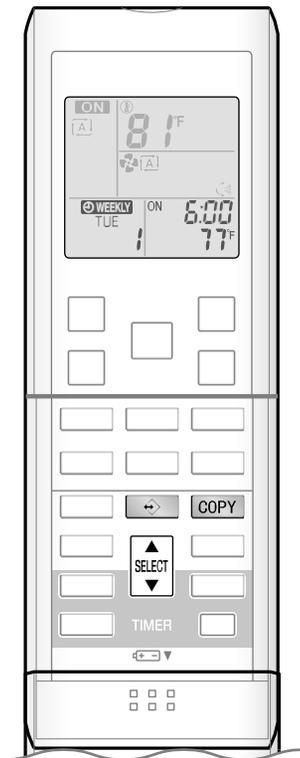
NOTE

• Notes on WEEKLY TIMER operation

- Do not forget to set the clock on the remote controller first.
- The day of the week, ON/OFF TIMER mode, time and set temperature (only for ON TIMER mode) can be set with WEEKLY TIMER. Other settings for ON TIMER are based on the settings just before the operation.
- Both WEEKLY TIMER and ON/OFF TIMER operation cannot be used at the same time.  OFF TIMER operation has priority if it is set while WEEKLY TIMER is still active. The WEEKLY TIMER will go into standby state, and “” will be no longer displayed on the LCD. When ON/OFF TIMER is up, the WEEKLY TIMER will automatically become active .
- Only the time and set temperature with the WEEKLY TIMER are sent with the . Set the WEEKLY TIMER only after setting the operation mode, the airflow rate and the airflow direction ahead of time.
- Shutting ker off, power failure, and other similar events will render operation of the indoor unit's internal clock inaccurate. Reset the clock .
- The  can be used only for the time and temperature settings. It cannot be used to go back to the reservation number.

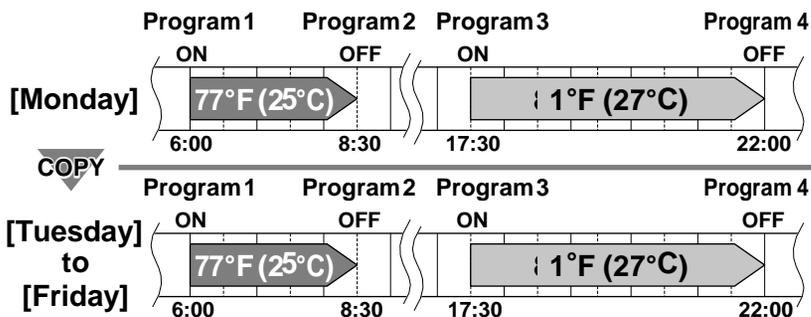


WEEKLY TIMER Operation

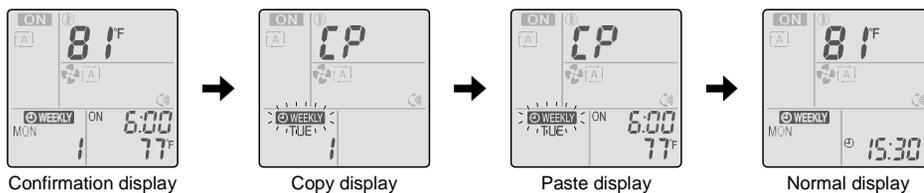


Copy mode

- A reservation made once can be copied to another day of the week. The whole reservation of the selected day of the week will be copied.



Setting Displays



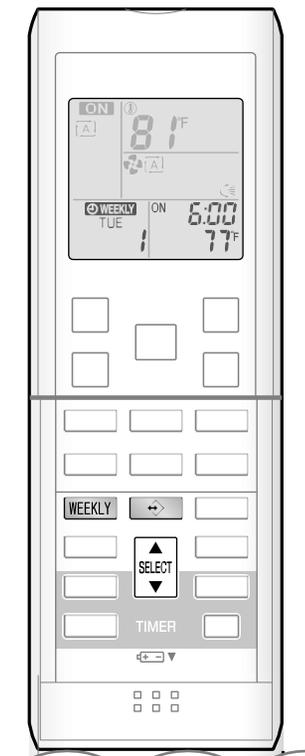
1. Press .
2. Press to confirm the day of the week to be copied.
3. Press .
 - The whole reservation of the selected day of the week will be copied.
4. Press to select the destination day of the week.
5. Press .
 - The reservation will be copied to the selected day of the week. The whole reservation of the selected day of the week will be copied.
 - To continue copying the settings to other days of the week, repeat **STEP 4** and **STEP 5**.
6. Press to complete the setting.
 - “ WEEKLY” is displayed on the LCD and WEEKLY TIMER operation is activated.

NOTE

• Note on COPY MODE

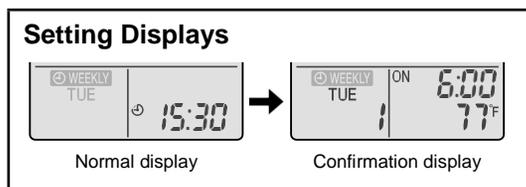
- The entire reservation of the source day of the week is copied in the copy mode.

In the case of making a reservation change for any day of the week individually after copying the content of weekly reservations, press and change the settings in the steps of **Setting mode** .



• Confirming a reservation

- The reservation can be confirmed.



1. Press .

- The day of the week and the reservation number of current day will be displayed.

2. Press to select the day of the week and the reservation number to be confirmed.

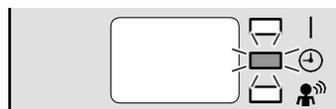
- Pressing  displays the reservation details.
- To change the confirmed reserved settings, select the reservation number and press

NEXT

The mode is switched to setting mode. Go to **Setting mode STEP 4.** 

3. Press to exit confirming mode.

- “” is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp lights yellow.



Display

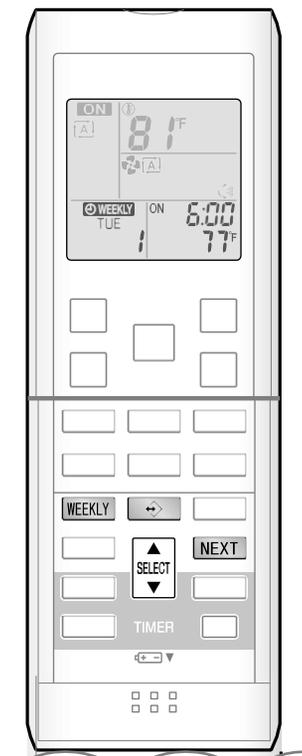
• To deactivate WEEKLY TIMER operation

Press **WEEKLY** while “” is displayed on the LCD.

- “” will be no longer displayed on the LCD.
- The TIMER lamp goes off.
- To reactivate the WEEKLY TIMER operation, press **WEEKLY** again.
- If a reservation deactivated with **WEEKLY** is activated **WEEKLY** again, the last reservation mode will be used.



WEEKLY TIMER Operation



To delete reservations

The individual reservation

1. Press .
 - The day of the week and the reservation number will be displayed.
 2. Press **SELECT** to select the day of the week and the reservation number to be deleted.
 3. Press .
 - “ WEEKLY” and “ON” or “OFF” blink.
 4. Press **SELECT** and select “blank”.
 - Pressing **SELECT** changes ON/OFF TIMER mode.
 - The reservation will be no setting with selecting “blank”.
- ```

 graph LR
 A[ON TIMER] --> B[OFF TIMER]
 B --> C[blank]
 C --> A

```
5. Press .
    - The selected reservation will be deleted.
  6. Press .
    - If there are still other reservations, WEEKLY TIMER operation will be activated.

### The reservations for each day of the week

- This function can be used for deleting reservations for each day of the week.
- It can be used while confirming or setting reservations.

1. Press **SELECT** to select the day of the week to be deleted.
2. Hold **WEEKLY** for 5 seconds.
  - The reservation of the selected day of the week will be deleted.

### All reservations

#### Hold **WEEKLY** for 5 seconds while normal display.

- Be sure to direct the remote controller toward the indoor unit and check for a receiving tone.
- This operation is not effective on the setting display of WEEKLYTIMER.
- All reservations will be deleted.

# Note for Multi System

Multi system has one outdoor unit connected to multiple indoor units.

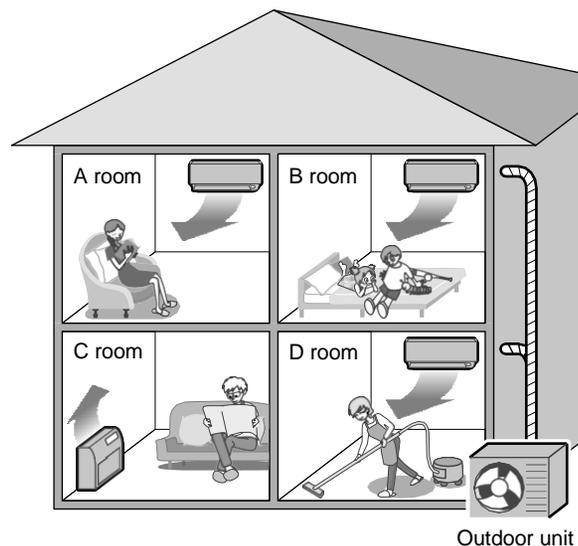
## • Selecting the operation mode

### With the priority room setting present but inactive or not present.

When more than one indoor unit is operating, priority is given to the first unit that was turned on.

In this case, set the units that are turned on later to the same operation mode as the first unit.

Otherwise, they will enter the standby state, and the OPERATION lamp will flash: this does not indicate malfunction.



Outdoor unit

## NOTE

### • Notes on operation mode for multi system

- COOL, DRY and FAN operation may be used at the same time.
- AUTO operation automatically selects COOL operation or HEAT operation based on the room temperature. Therefore, AUTO operation is available when selecting the same operation mode as that of the room with the first unit to be turned on.

## ⚠ CAUTION

- Normally, the operation mode in the room where the unit is first run is given priority, but the following situations are exceptions, so please keep this in mind.

If the operation mode of the first room is **FAN operation**, then using **HEAT operation** in any room after this will give priority to **HEAT operation**. In this situation, the air conditioner running in FAN operation will go on standby, and the OPERATION lamp will flash.

### With the priority room setting active.

Refer to “**Priority room setting**” on the next page.

## • NIGHT QUIET mode (Available only for COOL operation)

NIGHT QUIET mode requires initial programming during installation. Please consult your retailer or dealer for assistance. NIGHT QUIET mode reduces the operation noise of the outdoor unit during the nighttime hours to prevent annoyance to neighbors.

- The NIGHT QUIET mode is activated when the temperature drops 10.8°F (6°C) or more below the highest temperature recorded that day. Therefore, when the temperature difference is less than 7.2°F (4°C), this function will not be activated.
- NIGHT QUIET mode reduces slightly the cooling efficiency of the unit.

## • OUTDOOR UNIT QUIET operation

Refer to “**OUTDOOR UNIT QUIET operation**”. ▶ Page 18

### With the priority room setting present but inactive or not present.

When using the OUTDOOR UNIT QUIET operation feature with the Multi system, set all indoor units to OUTDOOR UNIT QUIET operation using their remote controllers.

When clearing OUTDOOR UNIT QUIET operation, clear one of the operating indoor units using their remote controller.

However OUTDOOR UNIT QUIET operation display remains on the remote controller for other rooms.

We recommend you release all rooms using their remote controllers.

### With the priority room setting active.

Refer to “**Priority room setting**” on the next page.

# Note for Multi System

## - COOL / HEAT mode lock

The COOL / HEAT mode lock requires initial programming during installation. Please consult your authorized dealer for assistance. The COOL / HEAT mode lock sets the unit forcibly to either COOL or HEAT operation. This function is convenient when you wish to set all indoor units connected to the multi system to the same operation mode.

## - Priority room setting

The priority room setting requires initial programming during installation. Please consult your authorized dealer for assistance. The room designated as the priority room takes priority in the following situations.

### Operation mode priority

- As the operation mode of the priority room takes precedence, the user can select a different operation mode from other rooms.

#### [Example]

- Room A is the priority room in the examples.

When COOL operation is selected in room A while operating the following modes in room B, C and D :

| Operation mode in room B, C and D | Status of room B, C and D when the unit in room A is in COOL operation                                                                                                    |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COOL or DRY or FAN                | Current operation mode maintained                                                                                                                                         |
| HEAT                              | The unit enters standby mode. Operation resumes when the room A unit stops operating.                                                                                     |
| AUTO                              | If the unit is set to COOL operation, it continues. If the unit is set to HEAT operation, it enters standby mode. Operation resumes when the room A unit stops operating. |

### Priority when POWERFUL operation is used

#### [Example]

- Room A is the priority room in the examples.

The indoor units in rooms A, B, C and D are all operating. If the unit in room A enters POWERFUL operation, operation capacity will be concentrated in room A. In such a case, the cooling (heating) efficiency of the units in room B, C and D may be slightly reduced.

### Priority when using OUTDOOR UNIT QUIET operation

#### [Example]

- Room A is the priority room in the examples.

Just by setting the unit in room A to QUIET operation, the air conditioner starts OUTDOOR UNIT QUIET operation. You don't have to set all the operated indoor units to QUIET operation.

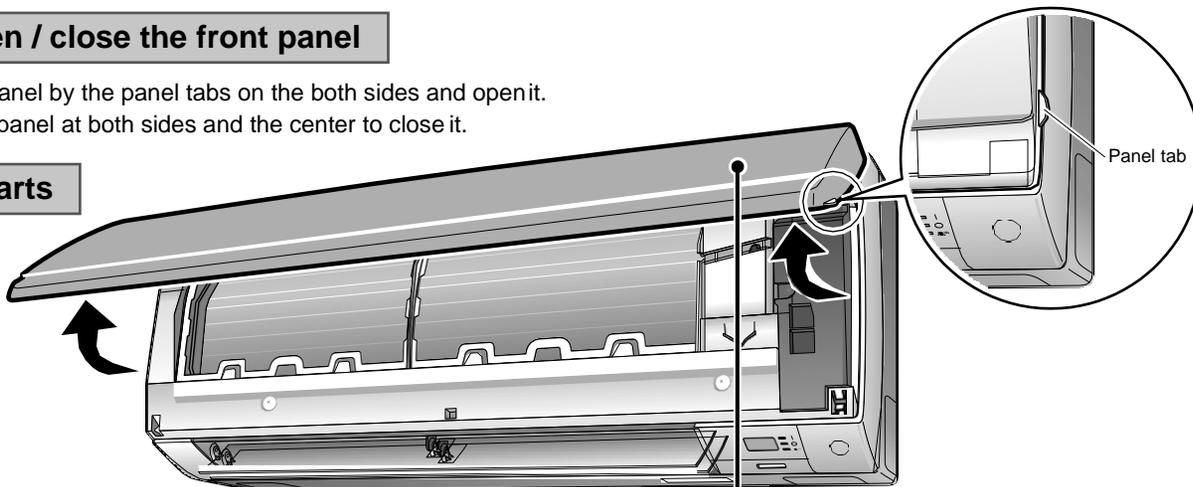
# Care and Cleaning

## • Quick reference

### How to open / close the front panel

- Hold the front panel by the panel tabs on the both sides and open it.
- Press the front panel at both sides and the center to close it.

### Cleaning parts

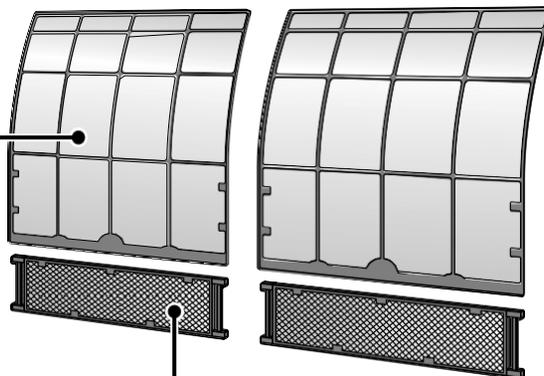


#### Air filter

- Vacuum dust or wash the filter.

**Once every  
2 weeks**

Refer to ▶ Page 32



#### Front panel

- Wipe it with soft cloth soaked in water.

**If bothered by dirt**

Refer to ▶ Page 31

#### Titanium anatite photocatalytic air-purifying filter

- Vacuum dust or replace the filter.

[Cleaning]

**Once every 6 months**

Refer to ▶ Page 33

[Replacement]

**Once every 3 years**

Refer to ▶ Page 33

#### Indoor unit, Outdoor unit and Remote controller

- Wipe them with soft cloth.

**If bothered by dirt**

## Notes on cleaning

### • For cleaning, do not use the materials as follows.

- Hot water above 104°F (40°C).
- Benzine, gasoline, thinner, other volatile oils.
- Polishing compound.
- Scrubbing brushes, other hard stuff.



## ⚠ CAUTION

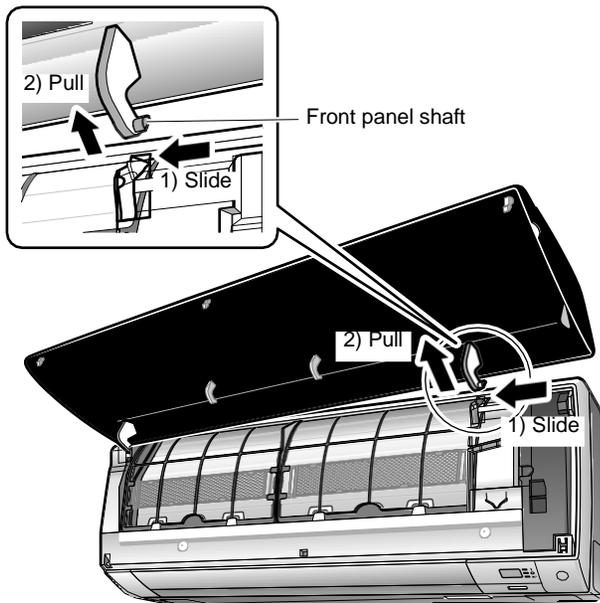
- Before cleaning, be sure to stop the operation and turn the breaker off.
- Do not touch the aluminum fins of the indoor unit. If you touch those parts, this may cause an injury.

# Care and Cleaning

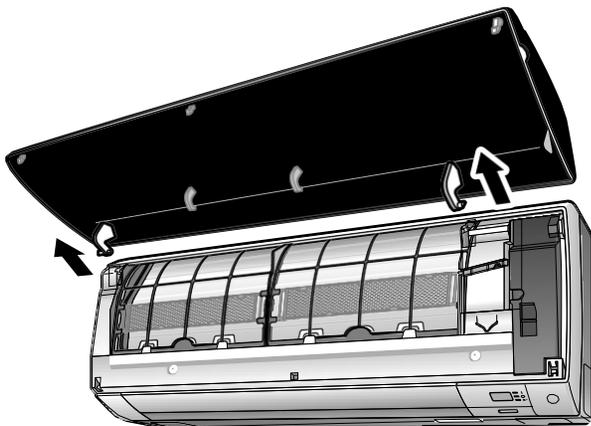
## • Front panel

### 1. Remove the front panel.

- Open the front panel.
- Slide the front panel to either the left or right and pulling it toward you.  
This will disconnect the front panel shaft on one side.



- Disconnect the front panel shaft on the other side in the same manner.

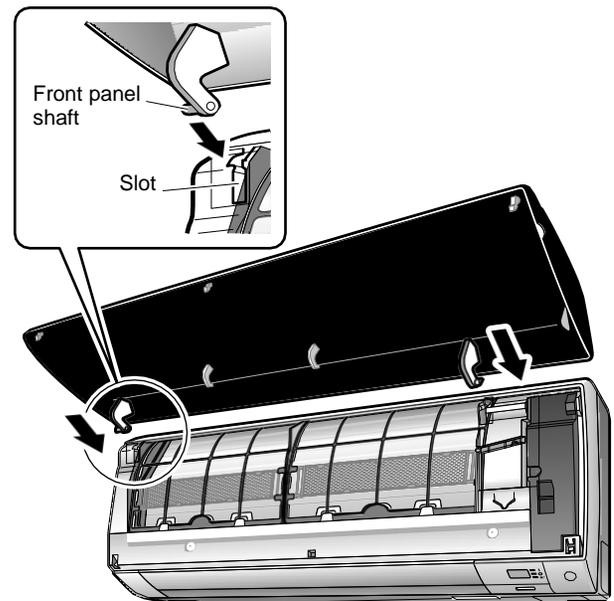


### 2. Clean the front panel.

- Wipe it with a soft cloth soaked in water.
- Only neutral detergent may be used.
- If you wash the panel with water, wipe it with a dry soft cloth, and allow to dry in the shade.

### 3. Attach the front panel.

- Align the front panel shaft on the left and right of the front panel with the slots, then push them all the way in.



- Close the front panel slowly. (Press the panel at both sides and the central area.)

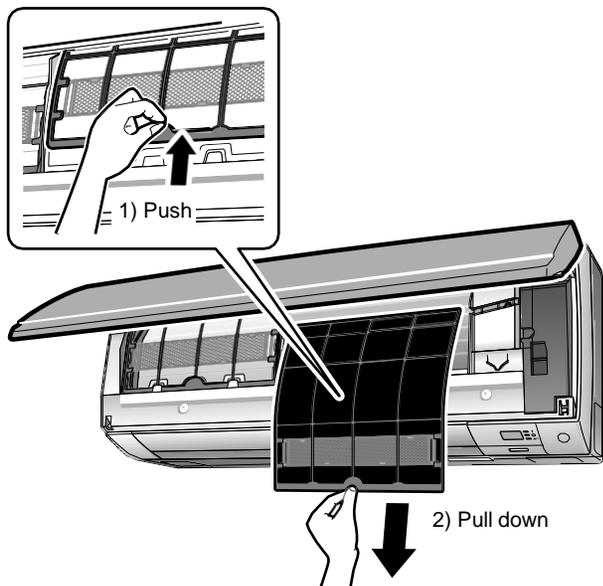
## CAUTION

- When removing or attaching the front panel, use a robust and stable stool and watch your steps carefully.
- When removing or attaching the front panel, support the panel securely with hand to prevent it from falling.
- After cleaning, make sure that the front panel is securely fixed.

## • Air filter

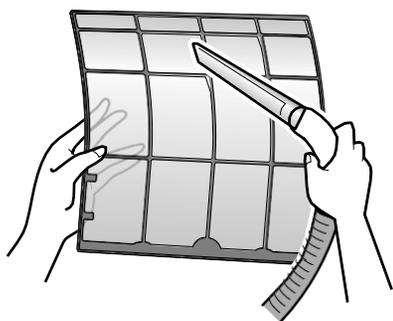
### 1. Pull out the air filters.

- Open the front panel.
- Push the filter tab at the center of each air filter slightly upward, then pull it down.



### 2. Wash the air filters with water or clean them with vacuum cleaner.

- It is recommended to clean the air filters every 2 weeks.



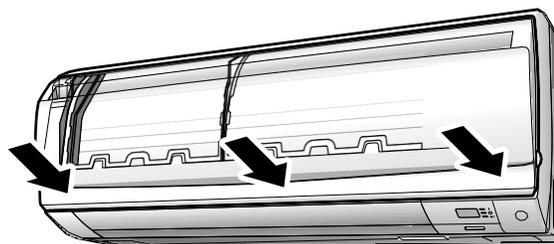
### If the dust does not come off easily

- Wash the air filters with neutral detergent thinned with lukewarm water, then allow to dry in the shade.
- Be sure to remove the titanium apatite photocatalytic air-purifying filter. Refer to "Titanium apatite photocatalytic air-purifying filter" on the next page.



### 3. Set the filters as they were and close the front panel.

- Press the front panel at both sides and the central area.



## CAUTION

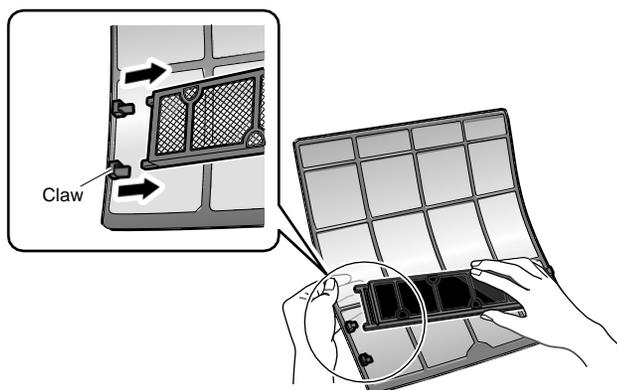
- Do not touch the aluminum fins by bare hand at the time of dismantling or mounting the filter.

# Care and Cleaning

## • Titanium apatite photocatalytic air-purifying filter

### 1. Take off the titanium apatite photocatalytic air-purifying filter.

- Open the front panel and pull out the air filters.
- Hold the recessed parts of the frame and unhook the 4 claws.



### 2. Clean or replace the titanium apatite photocatalytic air-purifying filter.

#### [Maintenance]

#### 2-1 Vacuum dust, and soak in lukewarm water or water for about 10 to 15 minutes if dirt is heavy.

- Do not remove the filter from frame when washing with water.

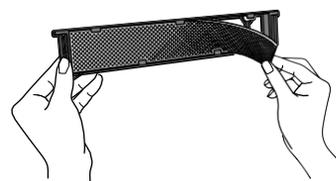


#### 2-2 After washing, shake off remaining water and dry in the shade.

- Since the material is made out of polyester, do not wring out the filter when removing water from it.

#### [Replacement]

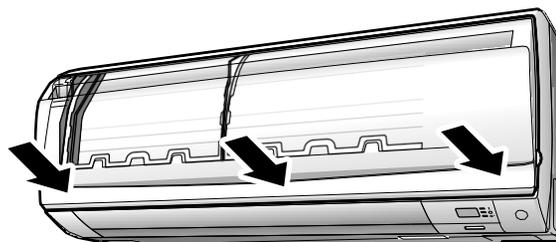
#### Remove the tabs on the filter frame and replace with a new filter.



- Do not throw away the filter frame. Reuse the filter frame when replacing the titanium apatite photocatalytic air-purifying filter.
- Dispose of the old filter as non-flammable waste.

### 3. Set the filters as they were and close the front panel.

- Press the front panel at both sides and the central area.



#### NOTE

- Operation with dirty filters:
  - cannot deodorize the air,
  - cannot clean the air,
  - results in poor heating or cooling,
  - may cause odor.
- Dispose of old filters as non-flammable waste.
- To order titanium apatite photocatalytic air-purifying filter contact to the service shop there you purchased the air conditioner.

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Item     | Titanium apatite photocatalytic air-purifying filter (without frame) 1 set |
| Part No. | KAF970A46                                                                  |

## ● Check the units

---

- Check that the base, stand and other fittings of the outdoor unit are not decayed or corroded.
  - Check that nothing blocks the air inlets and the outlets of the indoor unit and the outdoor unit.
  - Check that the drain comes smoothly out of the drain hose during COOL or DRY operation.
    - If no drain water is seen, water may be leaking from the indoor unit. Stop operation and consult the service shop if this is the case.
- 

## ● Before a long idle period

### 1. Operate the FAN only for several hours on a nice day to dry out the inside.

- Press **MODE** and select “” operation.
- Press **ON/OFF** and start the operation.

### 2. After operation stops, turn off the breaker for the room air conditioner.

### 3. Clean the air filters and set them again.

### 4. Take out batteries from the remote controller.

- When a multi outdoor unit is connected, make sure the heating operation is not used at the other room before you use the fan operation. 

## ● We recommend periodical maintenance

- In certain operating conditions, the inside of the air conditioner may get foul after several seasons of use, resulting in poor performance. It is recommended to have periodical maintenance by a specialist aside from regular cleaning by the user.
- For specialist maintenance, contact the service shop where you purchased the air conditioner.
- The maintenance cost must be born by the user.

# Troubleshooting

## • These incidents are not malfunctions.

- The following incidents do not indicate a malfunctioning air conditioner and have explanations. The air conditioner can continue to operate.

### Indoor unit



#### The louvers do not immediately swing. The louvers move soon after startup.

- The air conditioner is adjusting the louver position. The louvers will start moving soon.

#### The HEAT operation stops suddenly and a flowing sound is heard.

- The outdoor unit is taking away the frost. The HEAT operation starts after the frost on the outdoor unit is removed. You should wait for about 4 to 12 minutes.

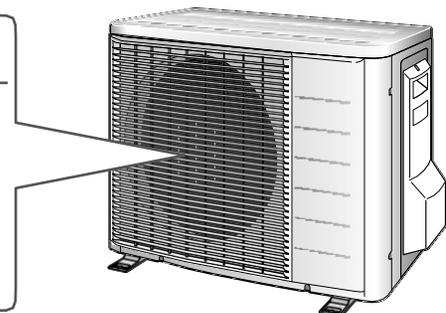
#### Operation does not start soon.

- When "ON/OFF" button was pressed soon after operation was stopped.
- When the mode was reselected.
  - This is to protect the air conditioner. You should wait for about 3 minutes.

### Outdoor unit

#### The outdoor unit emits water or steam.

- In HEAT operation
  - The frost on the outdoor unit melts into water or steam when the air conditioner is in defrost operation.
- In COOL or DRY operation
  - Moisture in the air condenses into water on the cool surface of outdoor unit piping and drips.



#### Possible sounds.

##### • Flowing water

- Generated because the refrigerant in the air conditioner is flowing.
- This is a pumping sound of the water in the air conditioner it is heard when the water is pumped out from the air conditioner in cooling or drying operation.
- The refrigerant flows in the air conditioner even if the air conditioner is not working when the indoor units in other rooms are in operation.

##### • Blowing

- Generated when the flow of the refrigerant in the air conditioner is switched over.

##### • Ticking

- Generated when the size of the air conditioner slightly expands or shrinks as a result of temperature changes.

##### • Whistling sound

- Generated when refrigerant flows during defrosting operation.

##### • Clicking sound during operation or idle time

- Generated when the refrigerant control valves or the electrical parts operate.

##### • Clopping sound

- Heard from the inside of the air conditioner when the exhaust fan is activated while the room doors are closed. Open the window or turn off the exhaust fan.

- Troubleshooting measures are classified into the following two types on a remedial basis. Take an appropriate measure according to the symptom.



## Not malfunction

- The following conditions do not indicate a problem with the system.



## Check

- Please check again before calling a repair person.

### The air conditioner does not operate. (OPERATION lamp is off.)

- Is a breaker off or a fuse blown?
- Is there a power failure?
- Are batteries set in the remote controller?
- Is the timer setting correct?



### Hot air does not flow out soon after the start of HEAT operation.

- The air conditioner is warming up. You should wait for 1 to 4 minutes. (The system is designed to start discharging air only after it has reached a certain temperature.)



### Operation stopped suddenly. (OPERATION lamp is on.)

- For system protection, the air conditioner may stop operating on a sudden large voltage fluctuation. It automatically resumes operation in about 3minutes.



### Operation stopped suddenly. (OPERATION lamp flashes.)

- Are the air filters clean?  
Clean the air filters.
- Is there anything to block the air inlet or the outlet of the indoor and the outdoor units?
- Turn the bleaker off and take all obstacles away. Then turn it on again and try operating the air conditioner with the remote controller. If the lamp still flashes, call the service shop where you purchased the air conditioner.
- Are operation modes all the same for indoor units connected to outdoor units in the **multi system**?  
If not, set all indoor units to the same operation mode and confirm that the lamps flash.  
When the operation mode is in "AUTO", set all indoor unit operation modes to "COOL" or "HEAT" for a moment and check again that the lamps are normal. If the lamps stop flashing after the above steps, there is no malfunction. ▶ Page 28



### Mist comes out of the indoor unit.

- This happens when the air in the room is cooled into mist by the cold airflow during COOL operation.
- This is because the air in the room is cooled by the heat exchanger and becomes mist during defrosting operation.



# Troubleshooting

## Cooling (Heating) effect is poor.

- Are the air filters clean?
- Is there anything to block the air inlet or the outlet of the indoor and the outdoor units?
- Is the temperature setting appropriate?
- Are the windows and doors closed?
- Are the airflow rate and the airflow direction set appropriately?



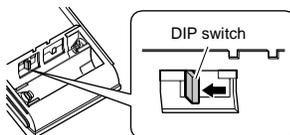
## Remote controller does not work properly.

- **No remote controller signals are displayed.**
- **Remote controller sensitivity is low.**
- **Display is low in contrast or blacked out.**
- **Display runs out of control.**
  - The batteries are dying and the remote controller is malfunctioning. Replace all the batteries with new, size AAA.LR03 (alkaline). For details, refer to "To set the batteries" of this manual. ▶Page 9



## HEAT operation cannot be selected, even though the unit is heat pump model.

- Slide the DIP switch to the left as shown in the illustration so that the HEAT operation can be selected with the "MODE" button.



## The ON/OFF TIMER does not operate according to the settings.

- Check if the ON/OFF TIMER and the WEEKLY TIMER are set to the same time. Change or deactivate the settings in the WEEKLY TIMER. ▶Page 22



## The indoor unit gives out odor.

- This happens when smells of the room, furniture, or cigarettes are absorbed into the unit and discharged with the airflow. (If this happens, have the indoor unit washed by a technician from the service shop where you purchased the air conditioner.)



## The outdoor fan rotates while the air conditioner is not in operation.

- **After operation is stopped**
  - The outdoor fan continues rotating for another 60 seconds for system protection.
- **While the air conditioner is not in operation**
  - When the outdoor temperature is very high, the outdoor fan starts rotating for system protection.



## An abnormal functioning happens during operation.

- The air conditioner may malfunction with lightning or radio waves. Turn the breaker off, turn it on again and try operating the air conditioner with the remote controller.



## • Call the service shop immediately

### WARNING

- **When an abnormality (such as a burning smell) occurs, stop operation and turn the breaker off.**
  - Continued operation in an abnormal condition may result in malfunctioning, electric shocks or fire.
  - Consult the service shop where you purchased the air conditioner.
- **Do not attempt to repair or modify the air conditioner by yourself.**
  - Incorrect work may result in electric shocks or fire.
  - Consult the service shop where you purchased the air conditioner.

**If one of the following symptoms occurs, call the service shop immediately.**

- **The power cord is abnormally hot or damaged.**
- **An abnormal sound is heard during operation.**
- **The safety breaker, a fuse, or the ground leakage breaker cuts off the operation frequently.**
- **A switch or a button often fails to work properly.**
- **There is a burning smell.**
- **Water leaks from the indoor unit.**

Turn the breaker off and call the service shop.



#### • **After a power failure**

- The air conditioner automatically resumes operation in about 3 minutes. Wait for it to restart.

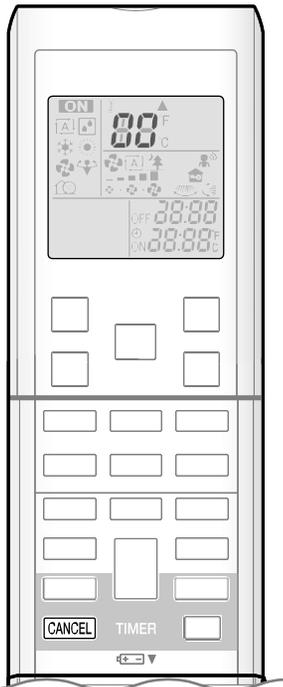
#### • **Lightning**

- If lightning may strike the neighboring area, stop operation and turn the breaker off for system protection.

## • Disposal requirements

- Dismantling the unit, and treatment of refrigerant, oil, and other parts, should be done in accordance with the relevant local and national regulations.

# Troubleshooting



## • Fault diagnosis by remote controller

- The remote controller can receive a corresponding error code from the indoor unit.

**1. When **CANCEL** is held down for 5 seconds, a “00” indication blinks on the temperature display section.**

**2. Press **CANCEL** repeatedly until a continuous beep is produced.**

- The code indication changes as displayed in the following table, and notifies with a long beep.

|              | CODE                                                | MEANING                                                        |
|--------------|-----------------------------------------------------|----------------------------------------------------------------|
| SYSTEM       | 00                                                  | NORMAL                                                         |
|              | UA                                                  | INDOOR-OUTDOOR UNIT COMBINATION FAULT                          |
|              | U0                                                  | REFRIGERANT SHORTAGE                                           |
|              | U2                                                  | DROP VOLTAGE OR MAIN CIRCUIT OVERVOLTAGE                       |
|              | U4                                                  | FAILURE OF TRANSMISSION (BETWEEN INDOOR UNIT AND OUTDOOR UNIT) |
| INDOOR UNIT  | A1                                                  | INDOOR PCB DEFECTIVENESS                                       |
|              | A5                                                  | HIGH PRESSURE CONTROL OR FREEZE-UP PROTECTOR                   |
|              | A6                                                  | FAN MOTOR FAULT                                                |
|              | C4                                                  | FAULTY HEAT EXCHANGER TEMPERATURE SENSOR                       |
|              | C9                                                  | FAULTY SUCTION AIR TEMPERATURE SENSOR                          |
| OUTDOOR UNIT | EA                                                  | COOLING-HEATING SWITCHING ERROR                                |
|              | E1                                                  | CIRCUIT BOARD FAULT                                            |
|              | E5                                                  | OL STARTED                                                     |
|              | E6                                                  | FAULTY COMPRESSOR START UP                                     |
|              | E7                                                  | DC FAN MOTOR FAULT                                             |
|              | E8                                                  | OVERCURRENT INPUT                                              |
|              | F3                                                  | HIGH TEMPERATURE DISCHARGE PIPE CONTROL                        |
|              | F6                                                  | HIGH PRESSURE CONTROL (IN COOLING)                             |
|              | H0                                                  | SENSOR FAULT                                                   |
|              | H6                                                  | OPERATION HALT DUE TO FAULTY POSITION DETECTION SENSOR         |
|              | H8                                                  | DC CURRENT SENSOR FAULT                                        |
|              | H9                                                  | FAULTY SUCTION AIR TEMPERATURE SENSOR                          |
|              | J3                                                  | FAULTY DISCHARGE PIPE TEMPERATURE SENSOR                       |
|              | J6                                                  | FAULTY HEAT EXCHANGER TEMPERATURE SENSOR                       |
|              | L3                                                  | ELECTRICAL PARTS HEAT FAULT                                    |
| L4           | HIGH TEMPERATURE AT INVERTER CIRCUIT HEATSINK       |                                                                |
| L5           | OUTPUT OVERCURRENT                                  |                                                                |
| P4           | FAULTY INVERTER CIRCUIT HEATSINK TEMPERATURE SENSOR |                                                                |

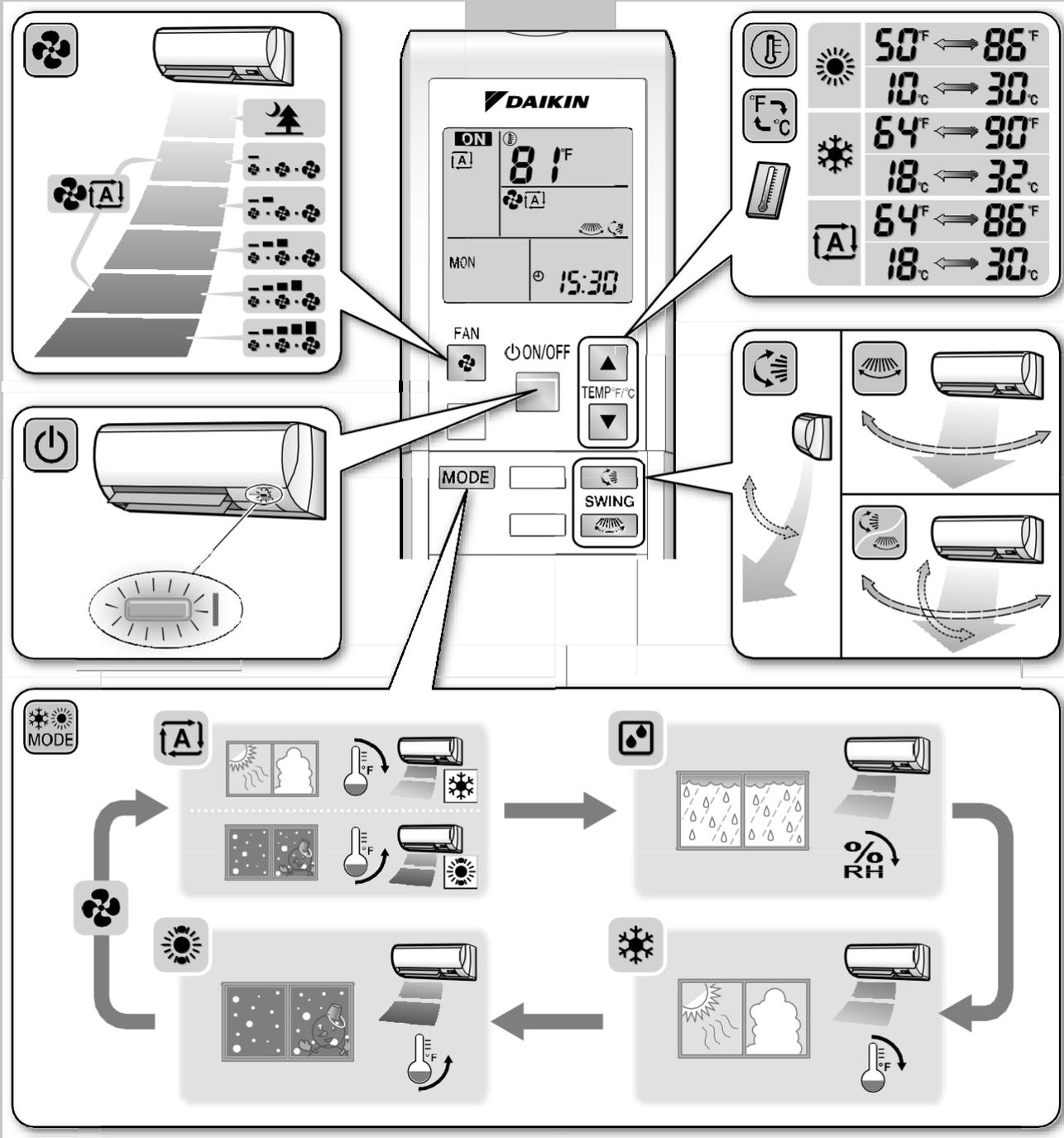
## NOTE

- A short beep and two consecutive beeps indicate non-corresponding codes.
- To cancel the code display, hold **CANCEL** for 5 seconds. The code display also cancel itself if the button is not pressed for 1 minute.

**CANCEL**

**• MEMO**

# Quick Reference



## DAIKIN AC (AMERICAS), INC.

1645 Wallace Drive, Suite 110  
Carrollton, TX75006

info@daikinac.com  
www.daikinac.com

## DAIKIN INDUSTRIES, LTD.

Head office:  
Umeda Center Bldg., 2-4-12 Nakazaki-Nishi,  
Kita-ku, Osaka, 530-8323 Japan

Tokyo office:  
JR Shinagawa East Bldg., 2-18-1, Konan,  
Minato-ku, Tokyo, 108-0075 Japan



Two-dimensional bar code is a code for manufacturing.

3P297290-1 M11B116 (111) ETL

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**⚠ DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

**⚠ WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE** is used to address practices not related to personal injury.

**⚠ PELIGRO** indica una situación peligrosa que, si no se evita, provocará lesiones graves o incluso la muerte.

**⚠ ADVERTENCIA** indica una situación riesgosa, la cual, si no se evita, puede ocasionar lesiones graves o incluso la muerte.

**⚠ PRECAUCIÓN** empleado junto con el símbolo de alerta, indica una situación riesgosa, la cual, si no se evita, puede provocar heridas leves o moderadas.

**AVISO** hace referencia a prácticas que no presentan riesgos de generar lesiones personales.

**⚠ DANGER** indique une situation dangereuse qui, si elle n'est pas évitée, entraînera la mort ou des blessures graves.

**⚠ AVERTISSEMENT** indique une situation dangereuse qui, si elle n'est pas évitée, pourrait entraîner la mort ou des blessures graves.

**⚠ MISE EN GARDE** utilisée avec le symbole d'avertissement de sécurité, indique une situation dangereuse qui, si elle n'est pas évitée, pourrait entraîner des blessures mineures ou modérées.

**AVIS** est utilisé pour décrire des pratiques qui ne sont pas liées à des blessures.

**Badger<sup>®</sup>**

# ENGLISH

## INSTRUCTIONS PERTAINING TO RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

### IMPORTANT SAFETY INSTRUCTIONS

#### **⚠ WARNING**

**Personal Injury:** Do not position your head or body under disposer; unit could fall during removal or installation.

#### **GROUNDING INSTRUCTIONS**

**For all grounded, cord-connected disposers:**

This disposer must be grounded to reduce the risk of electric shock in the event of a malfunction or breakdown. Grounding provides a path of least resistance for electric current. If your disposer did not include a factory installed power cord, use a cord having an equipment-grounding conductor and a grounding plug. (InSinkErator power cord accessory CRD-00 recommended.) The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**For permanently connected disposers:**

This disposer must be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the disposer.

#### **⚠ WARNING**

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the disposer is properly grounded. If the plug you are using does not fit the outlet, do not modify the plug or attempt to force the plug into the outlet - have a proper outlet installed by a qualified electrician.

- This disposer must be properly grounded.
- Do not attach ground wire to gas supply line.
- Disconnect power before installing or servicing disposer.
- If three-prong grounded plug is used, plug must be inserted into three-hole grounded receptacle.
- All wiring must comply with local electrical codes.
- Do not reconnect electrical current at main service panel until proper grounds are installed.

#### **NOTICE**

Do not use plumber's putty on any other disposer connection other than sink flange. Do not use thread sealants or pipe dope. These may harm disposer and cause property damage.

#### **⚠ WARNING** When using electric appliances, basic precautions are always to be followed, including:

- Read all instructions before using the appliance.
- To reduce the risk of injury, close supervision is required when an appliance is used near children.
- Do not put fingers or hands into a waste disposer.
- Turn the power switch to the off position before attempting to clear a jam, removing an object from the disposer or pressing reset button.
- When attempting to loosen a jam in a waste disposer, use the self-service wrenchette.
- When attempting to remove objects from a waste disposer, use long-handled tongs or pliers.
- Do not put the following into a disposer: clam or oyster shells, caustic drain cleaners or similar products, glass, china, or plastic, large (whole) bones, metal (such as bottle caps, steel shot, tin cans, or utensils), hot grease or other hot liquids.
- When not operating a disposer, leave the stopper in place to reduce the risk of objects falling into the disposer.
- This product is designed to dispose of normal household food waste; inserting materials other than food waste into disposer could cause personal injury and/or property damage.
- To reduce the risk of injury, do not use the sink containing the disposer for purposes other than food preparation (such as baby bathing or washing hair).
- Do not dispose of the following in the disposer: paints, solvents, household cleaners and chemicals, automotive fluids, plastic wrap.
- **FIRE HAZARD:** Do not store flammable items such as rags, paper or aerosol cans near disposer. Do not store or use gasoline or other flammable vapors and liquids in vicinity of disposer.
- **LEAK HAZARD:** Regularly inspect disposer and plumbing fittings for leaks, which can cause property damage and could result in personal injury.

#### **SAVE THESE INSTRUCTIONS**

#### **OPERATING INSTRUCTIONS**

1. Remove stopper from sink opening and run cold water.
2. Turn on wall switch to start disposer.
3. Slowly insert food waste into disposer. **WARNING!** Position stopper to minimize possible ejection of material while grinding.
4. After grinding is complete, turn disposer off and run water for a few seconds to flush drain line.

#### **DO...**

- First turn on cold water and then turn on the disposer. Continue running cold water for several seconds after grinding is completed to flush the drain line.
- Grind hard materials such as small bones, fruit pits, and ice. A scouring action is created by the particles inside the grind chamber.
- Grind peelings from citrus fruits to freshen up drain smells.
- Use a disposer cleaner, degreaser, or deodorizer as necessary to relieve objectionable odors caused by grease build-up.

#### **DON'T...**

- **DON'T POUR GREASE OR FAT DOWN YOUR DISPOSER OR ANY DRAIN. IT CAN BUILD UP IN PIPES AND CAUSE DRAIN BLOCKAGES. PUT GREASE IN A JAR OR CAN AND DISPOSE IN THE TRASH.**
- Don't use hot water when grinding food waste. It is OK to drain hot water into the disposer between grinding periods.
- Don't fill disposer with a lot of vegetable peels all at once. Instead, turn the water and disposer on first and then feed the peels in gradually.
- Don't grind large amounts of egg shells or fibrous materials like corn husks, artichokes, etc., to avoid possible drain blockage.
- Don't turn off disposer until grinding is completed and only sound of motor and water is heard.



## USER-MAINTENANCE INSTRUCTIONS

### CLEANING DISPOSER

Over time, food particles may accumulate in the grind chamber and baffle. An odor from the disposer is usually a sign of food buildup. To clean disposer:

1. Place stopper in sink opening and fill sink halfway with warm water.
2. Mix 1/4 cup baking soda with water. Turn disposer on and remove stopper from sink at same time to wash away loose particles.

### RELEASING DISPOSER JAM

If motor stops while disposer is operating, disposer may be jammed. To release jam:

1. Turn off disposer and water.
2. Insert one end of self-service wrenchette into center hole on bottom of disposer

Figure A

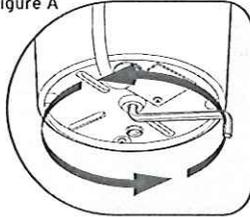
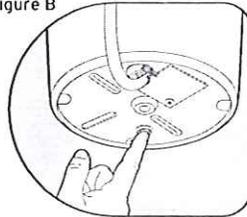


Figure B



(see Figure A). Work wrenchette back and forth until it turns one full revolution. Remove wrenchette.

3. Reach into disposer with tongs and remove object(s). Allow disposer motor to cool for 3 - 5 minutes, then lightly push red reset button on disposer bottom (see Figure B). (If motor remains inoperative, check service panel for tripped circuit breakers or blown fuses.)

**4 YEAR IN-HOME FULL SERVICE WARRANTY - BADGER® 333, BADGER® 444, BADGER® GOLD**  
**3 YEAR IN-HOME FULL SERVICE WARRANTY - BADGER® 5XP®, BADGER® 15ss, BADGER® 900, & CONTRACTOR 333®**  
**2 YEAR IN-HOME FULL SERVICE WARRANTY - BADGER® 5, BADGER® 5XT™, BADGER® 500**  
**1 YEAR IN-HOME FULL SERVICE WARRANTY - BADGER® 1, BADGER® 1XT™, BADGER® 100**

This limited warranty is provided by InSinkErator®, a division of Emerson Electric Co., ("InSinkErator" or "Manufacturer" or "we" or "our" or "us") to the original consumer owner of the InSinkErator product with which this limited warranty is provided (the "InSinkErator Product"), and any subsequent owner of the residence in which the Product was originally installed ("Customer" or "you" or "your").

InSinkErator warrants to Customer that your InSinkErator Product will be free from defects in materials and workmanship, subject to the exclusions described below, for the warranty period, commencing on the later of: (a) the date your InSinkErator Product is originally installed, (b) the date of purchase, or (c) the date of manufacture as identified by your InSinkErator Product serial number. You will be required to show written documentation supporting (a) or (b). If you are unable to provide documentation supporting either (a) or (b), the Warranty Period commencement date will be determined by Manufacturer, in its sole and absolute discretion, based upon your InSinkErator Product serial number.

#### What is Covered

This limited warranty covers defects in materials or workmanship, subject to the exclusions below, in InSinkErator Products used by a consumer Customer for residential use only, and includes all replacement parts and labor costs. **YOUR SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE INSINKERATOR PRODUCT.**

#### What is not Covered

This limited warranty does not extend to and expressly excludes:

- Losses or damages or the inability to operate your InSinkErator Product resulting from conditions beyond the Manufacturer's control including, without limitation, accident, alteration, misuse, abuse, neglect, negligence (other than Manufacturer's), failure to install, maintain, assemble, or mount the InSinkErator Product in accordance with Manufacturer's instructions or local electrical and plumbing codes.
- Wear and tear expected to occur during the normal course of use, including without limitation, cosmetic rust, scratches, dents or comparable and reasonably expected losses or damages.

In addition to the above exclusions, this limited warranty does not apply to InSinkErator Products installed in a commercial or industrial application.

#### No Other Express Warranty Applies

This limited warranty is the sole and exclusive warranty provided to the Customer identified above. No other express warranty, written or verbal, applies. No employee, agent, dealer, or other person is authorized to alter this limited warranty or make any other warranty on behalf of Manufacturer. The terms of this limited warranty shall not be modified by the Manufacturer, the original owner, or their respective successors or assigns.

#### What we will do to Correct Problems

If your InSinkErator Product does not operate in accordance with the documentation provided to you, or you have questions concerning your InSinkErator Product or how to determine when service is needed, please call the toll free InSinkErator AnswerLine™ at 1 (800) 558-5700,

or visit our website at [www.insinkerator.com](http://www.insinkerator.com). You may also notify us at: InSinkErator Service Center, 4700 21st Street, Racine, Wisconsin 53406 USA. The following information must be provided as part of your warranty claim: your name, address, phone number, your InSinkErator Product model and serial number, and if necessary, upon request, written confirmation of either: (a) the date shown on your installation receipt, or (b) the date shown on your purchase receipt.

Manufacturer or its authorized service representative will determine, in its sole and absolute discretion, if your InSinkErator Product is covered under this limited warranty. You will be given the contact information for your closest authorized InSinkErator Service Center. Please contact your InSinkErator Service Center directly to receive in home warranty repair or replacement service. Only an authorized InSinkErator service representative may provide warranty service. InSinkErator is not responsible for warranty claims arising from work performed on your InSinkErator Product by anyone other than an authorized InSinkErator service representative.

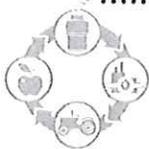
If a covered claim is made during the Warranty Period, Manufacturer will, through its authorized service representative, either repair or replace your InSinkErator Product. Cost of replacement parts or a new InSinkErator Product, and cost of labor for repair or installation of the replacement InSinkErator Product are provided at no cost to you. Repair or replacement shall be determined by Manufacturer or its authorized service representative in their sole discretion. All repair and replacement services will be provided to you at your home. If Manufacturer determines that your InSinkErator Product must be replaced rather than repaired, the limited warranty on the replacement InSinkErator Product will be limited to the unexpired term remaining in the original Warranty Period.

#### Limitation of Liability

**TO THE EXTENT PERMITTED BY LAW, IN NO EVENT SHALL MANUFACTURER OR ITS AUTHORIZED SERVICE REPRESENTATIVES BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, INCLUDING ANY ECONOMIC LOSS, WHETHER RESULTING FROM NONPERFORMANCE, USE, MISUSE OR INABILITY TO USE THE INSINKERATOR PRODUCT OR THE MANUFACTURER'S OR ITS AUTHORIZED SERVICE REPRESENTATIVE'S NEGLIGENCE. MANUFACTURER SHALL NOT BE LIABLE FOR DAMAGES CAUSED BY DELAY IN PERFORMANCE AND IN NO EVENT, REGARDLESS OF THE FORM OF THE CLAIM OR CAUSE OF ACTION (WHETHER BASED IN CONTRACT, INFRINGEMENT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE), SHALL MANUFACTURER'S LIABILITY TO YOU EXCEED THE PRICE PAID BY THE ORIGINAL OWNER FOR THE INSINKERATOR PRODUCT.**

The term "consequential damages" shall include, but not be limited to, loss of anticipated profits, business interruption, loss of use or revenue, cost of capital or loss or damage to property or equipment.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This limited warranty gives you specific legal rights and you may also have other rights which vary from state to state.



Food waste disposers provide an environmentally responsible alternative to transporting food waste to landfills. And they can help reduce greenhouse gas emissions. At capable wastewater treatment plants, food waste can be converted to biosolids and used as fertilizer. Capable plants can also recycle food waste into renewable energy. (Check the plant in your area.)

For U.S. [www.insinkerator.com/green](http://www.insinkerator.com/green) For Canada [www.insinkerator.ca](http://www.insinkerator.ca)

InSinkErator® may make improvements and/or changes in the specifications at any time, in its sole discretion, without notice or obligation and further reserves the right to change or discontinue models. The mounting collar configuration is a trademark of Emerson Electric Co.

# ESPAÑOL

## INSTRUCCIONES CORRESPONDIENTES A RIESGO DE INCENDIO, DESCARGAS ELÉCTRICAS O LESIONES A PERSONAS

### INSTRUCCIONES IMPORTANTES PARA SU SEGURIDAD

#### ⚠ ADVERTENCIA

Lesiones personales: No coloque la cabeza ni el cuerpo debajo del triturador, ya que la unidad podría caerse mientras lo retira o instala.

#### INSTRUCCIONES PARA LA CONEXIÓN A TIERRA

Instrucciones para todos los trituradores con conexión a tierra conectados por cable: El triturador debe estar conectado a tierra a fines de reducir el riesgo de descarga eléctrica en caso de mal funcionamiento o avería. La conexión a tierra proporciona una vía de menor resistencia para la corriente eléctrica. Si su triturador no incluía un cable de alimentación instalado de fábrica, use un cable que tenga un conductor de conexión a tierra y un enchufe de conexión a tierra. (Se recomienda el accesorio de cable de alimentación InSinkErator CRD-00). El enchufe debe estar conectado a un tomacorriente que esté instalado correctamente y con conexión a tierra de acuerdo con todos los reglamentos y códigos locales.

Instrucciones para los trituradores de desperdicios de comida de conexión permanente: El triturador debe estar conectado a un sistema de cableado permanente de metal y con conexión a tierra, o bien el conductor de conexión a tierra del equipo debe funcionar junto con los conductores de circuito y estar conectado al cable o terminal con conexión a tierra del equipo del triturador.

#### ⚠ ADVERTENCIA

La conexión incorrecta del conductor de conexión a tierra del equipo puede representar un riesgo de descarga eléctrica. Consulte a un electricista calificado o especialista en reparaciones si tiene dudas sobre la conexión a tierra del triturador. Si el enchufe que está usando no coincide con el tipo de tomacorriente, no altere el enchufe ni lo fuerce para que entre en el tomacorriente; pídale a un electricista calificado que instale un tomacorriente adecuado.

- El triturador debe tener una adecuada conexión a tierra.
- No conecte el cable de conexión a tierra en un tubo de suministro de gas.
- Desconecte la corriente eléctrica antes de instalar o reparar el triturador.
- Si se utiliza un enchufe de tres patas con conexión a tierra, el enchufe debe introducirse en un receptáculo de tres orificios con conexión a tierra.
- Todo el cableado debe cumplir con los códigos eléctricos locales.
- No reconecte la corriente eléctrica al panel de servicio principal sino hasta que se instalen las conexiones a tierra adecuadas.

#### AVISO

No utilice masilla de plomería ni ninguna otra conexión del triturador que no sea la brida del fregadero. No utilice sellador de rosca ni grasa para rosca de cañerías. Estos productos pueden dañar el triturador y ocasionar daños a la propiedad.

#### ⚠ ADVERTENCIA

Al usar artefactos electrodomésticos, siempre se deben tomar precauciones básicas, que incluyen las siguientes:

- Lea todas las instrucciones antes de utilizar el aparato.
- Para reducir el riesgo de lesiones, se requiere estrecha supervisión cuando se usa un artefacto cerca de niños.
- No ponga los dedos ni las manos dentro de un triturador de desperdicios.
- Coloque el interruptor de encendido en la posición de apagado antes de tratar de eliminar un atasco, retirar un objeto del triturador de desperdicios o presionar el botón de reposición.
- Para eliminar obstrucciones de un triturador de desperdicios, utilice la llave para autoservicio.
- Al tratar de extraer objetos de un triturador de desperdicios use tenazas o pinzas de mango largo.
- No coloque los siguientes elementos dentro de un triturador: conchas de almejas u ostras, limpiadores de drenaje cáusticos o productos similares, vidrio, loza o plástico, metales (como tapas de botellas, granalla de acero, latas o utensilios), grasa caliente u otros líquidos calientes.
- Cuando el triturador no esté en funcionamiento, deje el tapón del drenaje en su lugar para reducir el riesgo de que algún objeto caiga en el triturador.
- Este producto está diseñado para deshacerse de desperdicios normales de los alimentos hogareños; insertar materiales que no son desperdicios en el triturador podría ocasionar lesiones personales o daños a la propiedad.
- Para reducir el riesgo de lesiones, no utilice el fregadero ni la piletta que contiene el triturador para tareas que no sean de preparación de los alimentos (como bañar a un bebé o lavarse el cabello).
- No elimine ninguno de los siguientes elementos en el triturador: pinturas, solventes, limpiadores de uso doméstico, productos químicos, líquidos para automóviles o envolturas de plástico.
- PELIGRO DE INCENDIO: No guarde artículos inflamables, como trapos, papel o aerosoles, cerca del triturador. No guarde ni utilice gasolina ni otros vapores o líquidos inflamables cerca del triturador.
- PELIGRO DE FUGA: Revise periódicamente el triturador y los acoples de plomería para ver si hay fugas que puedan ocasionar daños materiales y puedan provocar lesiones personales.

#### GUARDE ESTAS INSTRUCCIONES

### INSTRUCCIONES DE OPERACIÓN

1. Retire el tapón del fregadero y haga correr agua fría.
2. Encienda el interruptor de pared para arrancar el triturador.
3. Introduzca lentamente los desperdicios de comida dentro del triturador. ¡ADVERTENCIA! Coloque el tapón para disminuir la posibilidad de que los materiales salgan despedidos durante la trituración.
4. Luego de que la trituración esté completa, apague el triturador y deje correr el agua durante unos segundos para enjuagar la línea de drenaje.

#### LO QUE DEBE HACER

- Primero haga correr el agua fría y luego encienda el triturador. Después de que termine la trituración, deje correr el agua durante varios segundos para enjuagar la línea de drenaje.
- Triture materiales duros como huesos pequeños, carozos de frutas y hielo. Las partículas crean una acción de restregado en el interior de la cámara de trituración.
- Triture cáscaras de frutas cítricas para refrescar el olor del drenaje.
- Utilice un limpiador, desengrasante o desodorante para trituradores cuando sea necesario a fin de eliminar malos olores causados por la acumulación de grasa.

#### LO QUE NO DEBE HACER

- **NO VIERTA GRASA NI ACEITE EN EL TRITURADOR NI EN NINGÚN DRENAJE. ESTOS MATERIALES SE PUEDEN ACUMULAR EN LAS CAÑERÍAS Y TAPAR EL DRENAJE. COLOQUE LA GRASA EN UN FRASCO O LATA Y DESÉCHELO EN LA BASURA.**
- No use agua caliente para triturar desperdicios de comidas. Puede dejar correr agua caliente en el triturador entre períodos de trituración.
- No llene el triturador con demasiadas cáscaras de vegetales al mismo tiempo. Primero abra la llave del agua y encienda el triturador y luego coloque las cáscaras gradualmente.
- No triture grandes cantidades de cáscaras de huevo ni materiales fibrosos como barbas del choclo, alcachofas, etc., pues ello podría obstruir el drenaje.
- No apague el triturador hasta que la trituración esté completa y sólo se escuche el sonido del motor y del agua.

Stop and read  
Deténgase y lea  
Arrêter et lire



4700 W. 160th St.  
Cleveland, Ohio 44135  
Ph: (800) 321-9532  
Fax: (800) 321-9535  
www.oatey.com

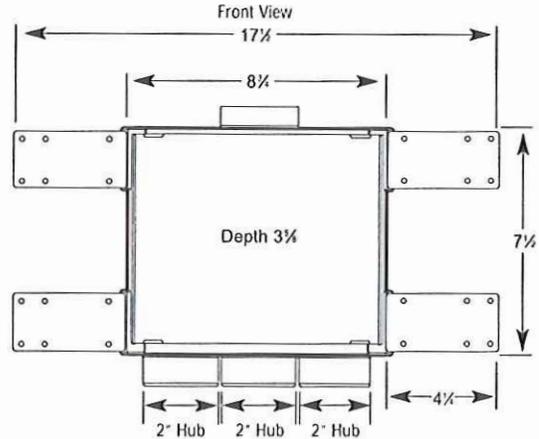
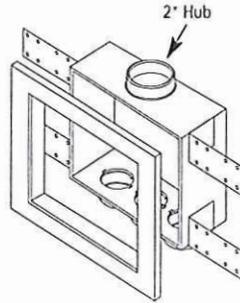
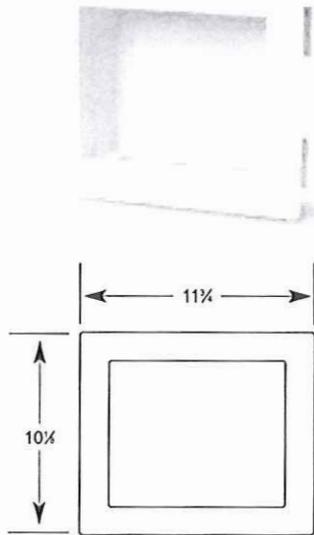
# QUADTRO™ Washing Machine Outlet Boxes



## SUBMITTAL SPECIFICATION

**Engineering Specification:** Oatey QUADTRO™ washing machine outlet boxes can be used in commercial or residential applications which require supply valves and waste drain recessed into the wall. Available water hammer arrestor option provides water pressure shock arrestors required for installation on supply lines to quick closing valves.

Job Reference



(All dimensions in inches)

- 2" drain opening fits PVC or ABS Sch. 40 DWV pipe
- All washing machine outlet boxes are shipped 12 per carton
- Box made of high impact polystyrene
- 4 support brackets included for mounting
- Easy to remove knockout
- Snap-on faceplate frame accommodates up to 1" drywall

US Patent #6,155,286 and Patents Pending

| ✓ | Part # | Description                                                                             |
|---|--------|-----------------------------------------------------------------------------------------|
|   | 38530  | QUADTRO™ 1/4 Turn Brass Ball Valve – Copper Sweat – Standard Pack                       |
|   | 38531  | QUADTRO™ 1/4 Turn Brass Ball Valve – CPVC – Standard Pack                               |
|   | 38532  | QUADTRO™ 1/4 Turn Brass Ball Valve – PEX – Standard Pack                                |
|   | 38533  | QUADTRO™ 1/4 Turn Brass Ball Valve – WIRSBO® – Standard Pack                            |
|   | 38534  | QUADTRO™ 1/4 Turn Brass Ball Valve – KITEC® – Standard Pack                             |
|   | 38535  | QUADTRO™ Single Lever Ball Valve – Copper Sweat – Standard Pack                         |
|   | 38536  | QUADTRO™ Single Lever Ball Valve – CPVC – Standard Pack                                 |
|   | 38537  | QUADTRO™ Single Lever Ball Valve – PEX – Standard Pack                                  |
|   | 38538  | QUADTRO™ Single Lever Ball Valve – WIRSBO® – Standard Pack                              |
|   | 38539  | QUADTRO™ Single Lever Ball Valve – KITEC® – Standard Pack                               |
|   | 38540  | QUADTRO™ 1/4 Turn Brass Hammer Ball Valve – Copper Sweat – Standard Pack                |
|   | 38541  | QUADTRO™ 1/4 Turn Brass Hammer Ball Valve – CPVC – Standard Pack                        |
|   | 38542  | QUADTRO™ 1/4 Turn Brass Hammer Ball Valve – PEX – Standard Pack                         |
|   | 38543  | QUADTRO™ 1/4 Turn Brass Hammer Ball Valve – WIRSBO® – Standard Pack                     |
|   | 38544  | QUADTRO™ 1/4 Turn Brass Hammer Ball Valve – KITEC® – Standard Pack                      |
|   | 38545  | QUADTRO™ Single Lever Hammer Ball Valve – Copper Sweat – Standard Pack                  |
|   | 38546  | QUADTRO™ Single Lever Hammer Ball Valve – CPVC – Standard Pack                          |
|   | 38547  | QUADTRO™ Single Lever Hammer Ball Valve – PEX – Standard Pack                           |
|   | 38548  | QUADTRO™ Single Lever Hammer Ball Valve – WIRSBO® – Standard Pack                       |
|   | 38549  | QUADTRO™ Single Lever Hammer Ball Valve – KITEC® – Standard Pack                        |
|   | 38550  | QUADTRO™ Plain Box – No Valves – Standard Pack                                          |
|   | 38551  | QUADTRO™ 1/4 Turn Brass Ball Valve – Compression – Standard Pack                        |
|   | 38552  | QUADTRO™ Brass Boiler Drain Valve – Copper Sweat – Standard Pack                        |
|   | 38553  | QUADTRO™ Brass Boiler Drain Valve with Screw Driver Stop – Copper Sweat – Standard Pack |
|   | 38554  | QUADTRO™ North American Brass Boiler Drain Valve – Copper Sweat – Standard Pack         |
|   | 38560  | QUADTRO™ 1/4 Turn Brass Ball Valve – Copper Sweat – Contractor Pack                     |
|   | 38561  | QUADTRO™ 1/4 Turn Brass Ball Valve – CPVC – Contractor Pack                             |
|   | 38562  | QUADTRO™ 1/4 Turn Brass Ball Valve – PEX – Contractor Pack                              |
|   | 38563  | QUADTRO™ 1/4 Turn Brass Ball Valve – WIRSBO® – Contractor Pack                          |
|   | 38564  | QUADTRO™ 1/4 Turn Brass Ball Valve – KITEC® – Contractor Pack                           |



Data is subject to manufacturing tolerances.

Valves meet ASME A112.18.1  
Water Hammer Arrestors meet ASSE 1010

Visit [www.oatey.com](http://www.oatey.com) for updates.



PRIER Products, Inc.  
4515 E 139th St.  
Grandview, MO 64030  
800-362-9055 Fax: 800-362-1463  
www.PRIER.com

## Installation, Operation & Maintenance Instructions for the PRIER Mansfield Style 400 Diamond Series Wall Hydrant

**\*Please leave this sheet for the property homeowner\***

Thank you for purchasing the PRIER Mansfield Style 400 Diamond Series Wall Hydrant. Your 400 Diamond Series Wall Hydrant will provide you years of dependable service with little or no maintenance.

### **Installation:**

Installation procedures may vary slightly depending on the seat option purchased and the installation inlet options. PRIER Mansfield Style 400 Series wall hydrants are available with the following inlet options:

|                     |                         |                         |
|---------------------|-------------------------|-------------------------|
| <b>478-D Style</b>  | 1/2" MIP x 1/2" SWT     | <b>Bore 1" Hole</b>     |
| <b>479-T Style</b>  | 3/4" MIP x 1/2" FIP     | <b>Bore 1 1/8" Hole</b> |
| <b>480-C Style</b>  | 1/2" CPVC               | <b>Bore 1" Hole</b>     |
| <b>481-S Style</b>  | 1/2" SWT x 3/4" Push-On | <b>Bore 1" Hole</b>     |
| <b>482-F Style</b>  | 3/4" MIP x 3/4" SWT     | <b>Bore 1 1/8" Hole</b> |
| <b>490-X Style</b>  | 1/2" Crimp PEX          | <b>Bore 1" Hole</b>     |
| <b>491-W Style</b>  | 1/2" Wirsbo® PEX        | <b>Bore 1" Hole</b>     |
| <b>492-FX Style</b> | 3/4" Crimp PEX          | <b>Bore 1 1/8" Hole</b> |
| <b>493-FW Style</b> | 3/4" Wirsbo® PEX        | <b>Bore 1 1/8" Hole</b> |

1. Determine the location for the installation of the hydrant. The valve must be installed into a heated area of the structure that will not drop below freezing. Ensure there is adequate work room in the interior of the structure for securing the hydrant to the plumbing piping. Bore the hole size listed above through the wall in the desired position for the installation.
2. All freezeless wall hydrants require a slight downward pitch to aid the draining process of the hydrant once the product is turned to the "off" position. PRIER has included an appropriate siding wedge to install behind the wall flange of the hydrant. This ensures proper drainage pitch results after installation.
3. Position the spout of the hydrant in the downward position. From the interior of the structure, utilize the spout aligning mark on the seat. When the mark is pointed down, the spout is oriented in the proper position on the outside of the structure.
4. If you are planning to solder the connection (478, 481 or 482 style seats), be certain the hydrant is in the fully open position to prevent seat damage from the heat.
5. Connect the water supply piping to the freezeless wall hydrant as desired. With a closed-end hose attached creating back pressure, test the installation for leakage.
6. After the water supply connection is made, secure the hydrant to the structure using appropriate screws through the two mounting holes on the casted back flange and siding wedge.

### **Operation:**

Operation of the PRIER Mansfield Style 400 Diamond Series Wall Hydrant is a simple process. Water flows through the hydrant after turning the handle counter-clockwise to the "on" position. Turn off the hydrant by turning the handle clockwise to the "off" position.

The hydrant will drain for a few moments. If the dripping persists after a few moments, tighten the handle slightly until the dripping stops. Be careful not to overtighten the hydrant.

The 400 Series incorporates an integral atmospheric anti-siphon vacuum breaker that, in the rare occurrence of a back siphonage, opens to the atmosphere preventing contamination of the water supply.

As well as an atmospheric vacuum breaker, the 400 Series incorporates a backflow preventer that operates as a check valve in the rare case that water is forced backwards into the valve. The backflow preventer has been tested to 125 PSI pressure.

**\*ALWAYS REMOVE HOSE DURING FREEZING TEMPERATURES\***  
**\*INTENDED FOR IRRIGATION USE AND OUTDOOR WATERING\***

### **Maintenance:**

The PRIER Mansfield Style 400 Diamond Series Wall Hydrant leaves the factory fully air tested and operational. It is treated with an FDA approved lubrication. The hydrant requires no scheduled maintenance to provide long life.



4515 East 139th Street  
 Grandview, MO 64030  
 (800) 362-9055  
 Fax (800) 362-1463  
 www.PRIER.com

Replacement Parts

| ID | Part No.    | Description                                                       |
|----|-------------|-------------------------------------------------------------------|
| 1  | See Below   | Stem Assembly, Contains: 1, 2, 3, 4, 5                            |
| 2  | C-134KT-802 | Seat Washer Replacement Kit (00 Beveled)                          |
| 3  | 336-0002    | Backflow Check Valve for 400 Series                               |
| 4  | 324-1006    | Washer (Stainless Steel)                                          |
| 5  | 339-3002    | Packing for Left Hand Packing Nut (Graphite)                      |
| 6  | 337-3001    | Left Hand Thread Packing Nut (Plastic)                            |
| 7  | 630-7965    | Handle & Screw Kit (Grey Plastic Handle & Stainless Steel Screw)  |
|    | 630-7975    | Handle & Screw Kit (Beige Plastic Handle & Stainless Steel Screw) |
| 8  | 337-3012    | Space Wedge (Grey, Plastic)                                       |
|    | 337-3013    | Space Wedge (Beige, Plastic)                                      |
| 9  | 630-7500    | Universal Vacuum Breaker Replacement Kit                          |
|    | 630-7755    | Service Kit for 300/400/500 Series Contains: 2, 3, 4, 5, 6        |
|    | 630-8500    | Complete Service, Handle & Vacuum Breaker Kit                     |

\*The 630-7755 Wall Hydrant Repair Kit includes parts for the 300, 400 and 500 Series hydrants, some of which are not pictured here. When repairing a hydrant you will have parts left over.

\*The 630-7500 Universal Vacuum Breaker Kit fits all current and past PRIER and Mansfield style residential hydrants.

Replacement Stems



H Style Manufactured April 2013 - Present

| Part No.   | Style | Description                     | Stem Length                           |
|------------|-------|---------------------------------|---------------------------------------|
| M-231-3204 | H     | Stem for 4" 400 Series Hydrant  | 6 <sup>9</sup> / <sub>16</sub> " OAL  |
| M-231-3206 | H     | Stem for 6" 400 Series Hydrant  | 8 <sup>9</sup> / <sub>16</sub> " OAL  |
| M-231-3208 | H     | Stem for 8" 400 Series Hydrant  | 10 <sup>9</sup> / <sub>16</sub> " OAL |
| M-231-3210 | H     | Stem for 10" 400 Series Hydrant | 12 <sup>9</sup> / <sub>16</sub> " OAL |
| M-231-3212 | H     | Stem for 12" 400 Series Hydrant | 14 <sup>9</sup> / <sub>16</sub> " OAL |
| M-231-3214 | H     | Stem for 14" 400 Series Hydrant | 16 <sup>9</sup> / <sub>16</sub> " OAL |

\*\*For the old style 400 Series wall hydrant stems, see 400 Series retired style spec sheet at [www.PRIER.com](http://www.PRIER.com).  
 For older styles made prior to 2007, see the retired 500 Series spec sheet.

# Installation, Maintenance, & Repair Series 009 and LF009

## Reduced Pressure Zone Assemblies

Sizes: 1/4" – 3" (8 – 80mm)

### WARNING



Read this Manual **BEFORE** using this equipment. Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment. Keep this Manual for future reference.



Local building or plumbing codes may require modifications to the information provided. You are required to consult the local building and plumbing codes prior to installation. If this information is not consistent with local building or plumbing codes, the local codes should be followed.

**Need for Periodic Inspection/Maintenance:** This product must be tested periodically in compliance with local codes, but at least once per year or more as service conditions warrant.

If installed on a fire suppression system, all mechanical checks, such as alarms and backflow preventers, should be flow tested and inspected in accordance with NFPA 13 and/or NFPA 25.

Corrosive water conditions, and/or unauthorized adjustments or repair could render the product ineffective for the service intended. Regular checking and cleaning of the product's internal components helps assure maximum life and proper product function.



3" (80mm) 009NRS

### NOTICE

For Australia and New Zealand, line strainers should be installed between the upstream shutoff valve and the inlet of the backflow preventer.

### Testing

For field testing procedure, refer to Watts installation sheets IS-TK-DP/DL, IS-TK-9A, IS-TK-99E and IS-TK-99D found on [watts.com](http://watts.com).

For other repair kits and service parts, refer to our Backflow Prevention Products Repair Kits & Service Parts price list PL-RP-BPD found on [watts.com](http://watts.com).

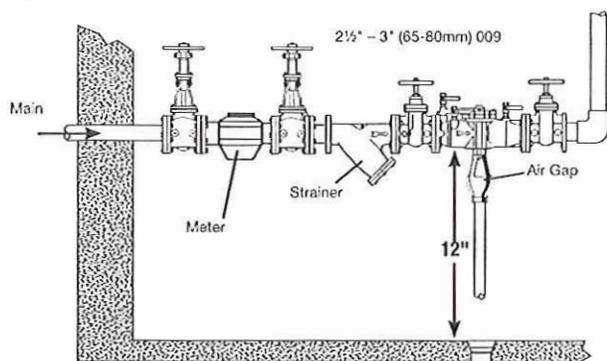
For technical assistance, contact your local Watts representative.

## Installation Instructions Series 009 and LF009

### Indoors – Figure 1

For indoor installations, it is important that the assembly be easily accessible to facilitate testing and servicing. If it is located in a line close to a wall, be sure the test cocks are easily accessible. A drain line and air gap (see literature ES-AG/EL/TC) should be piped from the relief valve connection as shown, where evidence of discharge will be clearly visible and so that water damage will not occur. **Therefore, never install in concealed locations.**

Figure 1



### NOTICE

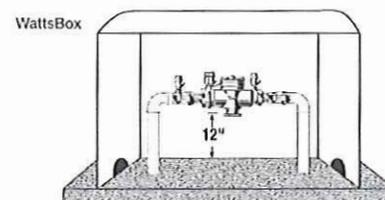
In an area where freezing conditions can occur, Series 009 and LF009 should be installed above ground in an insulated enclosure. Series 009 and LF009 must be installed in an accessible location to facilitate testing and servicing. A discharge line should be piped from the air gap at the relief valve connection making sure that there is adequate drainage. Never pipe the discharge line directly into a drainage ditch, sewer or sump. Series 009 and LF009 should never be installed where any part of the unit could become submerged in standing water.

### Outside – Figure 2

In an area where freezing conditions do not occur, Series 009 and LF009 can be installed outside. The most satisfactory installation is above ground and should be installed in this manner.

Backflow preventers should not be installed in pits unless approved by local codes. In such cases, a modified pit installation is preferred.

Figure 2



Now available, WattsBox Insulated Enclosures, for more information, send for literature ES-WB.



# Installation Instructions

## Series 009 and LF009

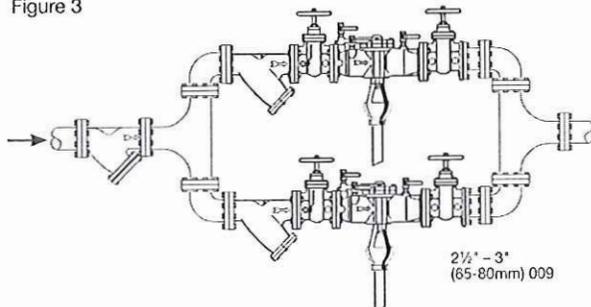
### Parallel – Figure 3

Two or more smaller size assemblies can be piped in parallel (when approved) to serve a large supply pipe main. This type of installation is employed where increased capacity is needed beyond that provided by a single valve and permits testing or servicing of an individual valve without shutting down the complete line.

The number of assemblies used in parallel should be determined by the engineer's judgment based on the operating conditions of a specific installation.

For parallel valve installations, the total capacity of the assemblies should equal or exceed that required by the system.

Figure 3



Annual inspection of all water system safety and control valves is required and necessary. Regular inspection, testing and cleaning assures maximum life and proper product function.

#### NOTICE

**Shutoff Valves:** When shutoff valves are removed and reassembled is necessary, the shutoff valve with the test cock is to be mounted on the inlet side of the backflow preventer.

- A. The 009 and LF009 should always be installed in an accessible location to facilitate testing and servicing (See page 2). **Check the state and local codes to ensure that the backflow preventer is installed in compliance, such as the proper height above the ground.**
- B. We recommend a strainer be installed ahead of 009 and LF009 series assemblies to protect the internal components from unnecessary fouling.

#### CAUTION

Do not install with strainer when backflow preventer is used on seldom-used water lines which are called upon only during emergencies, such as fire sprinkler lines.

**Start Up:** The downstream shutoff should be closed. Open upstream slowly and fill valve. When valve is filled, open the downstream shutoff slowly and fill the water supply system. This is necessary to avoid water hammer or shock damage.

- C. Water discharge from the relief valve should be vented in accordance with code requirements. The relief valve should never be solidly piped into a drainage ditch, sewer or sump. The discharge should be terminated approximately 12" above the ground or through an air gap piped to a floor drain.

#### NOTICE

##### Relief Valve Discharge Rates

The installation of an air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Please refer to Figure No. 4 for maximum relief valve discharge rates, size and capacity of typical floor drains.

Do not reduce the size of the drain line from the air gap fitting. Pipe full line size.

- D. After initial installation, a discharge from the relief valve opening may occur due to inadequate initial flushing of pipe lines to eliminate dirt and pipe compounds. If flushing will not clear, remove the first check valve and clean thoroughly.

#### NOTICE

Periodic relief valve discharge may occur on dead end service applications, such as boiler feed lines or cooling tower makeup lines due to fluctuating supply pressure during a static or no flow condition. To avoid this discharge, install a spring-loaded rubber seated check valve ahead of the backflow assembly to "lock-in" the downstream pressure.

- E. Backflow preventers should never be placed in pits unless absolutely necessary and then only when and as approved by local codes. In such cases, provision should be made to always vent above flood level or for a pit drain to ensure an adequate air gap below the relief port.
- F. It is important that Series 009 and LF009 backflow preventers be inspected periodically for any discharge from the relief valve which will provide a visual indication of need for cleaning or repair of check valves. Also testing for proper operation of the device should be made periodically in compliance with local codes, but at least once a year or more often, depending upon system conditions.

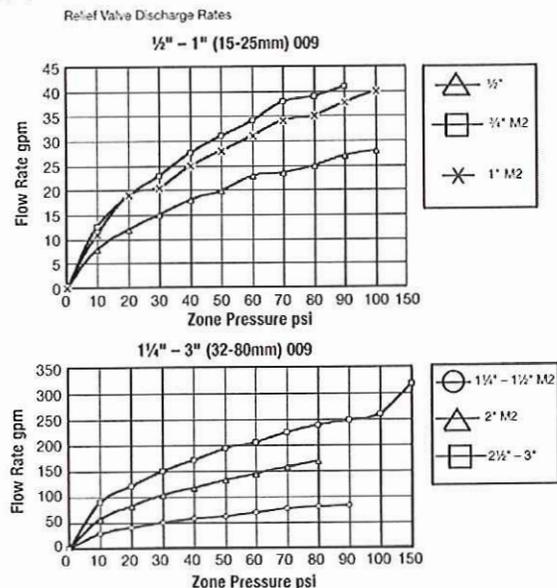
Relief vent will discharge water when, during no-flow periods, (1) the first check valve is fouled or (2) the inlet pressure to the device drops sufficiently due to upstream pressure fluctuations to affect the required operating differential between the inlet pressure and reduced pressure zone. Otherwise, such relief (spitting) can occur when the second check is fouled during emergency backflow or resulting from a water hammer condition. For Troubleshooting Guide send for S-TSG.

#### NOTICE

Special considerations are necessary when testing assemblies installed on Fire Prevention Systems.

**Fire Protection System Installations:** The National Fire protection Agency (NFPA) Guidelines require a confirming flow test be conducted whenever a "main line" valve such as the shutoff valves or a backflow assembly have been operated. Certified testers of backflow assemblies must conduct this confirming test.

Figure 4



#### TYPICAL FLOW RATES AS SIZED BY FLOOR DRAIN MANUFACTURERS:

|                     |                     |
|---------------------|---------------------|
| 2" (50 mm) 55 GPM   | 5" (125 mm) 350 GPM |
| 3" (80 mm) 112 GPM  | 6" (150 mm) 450 GPM |
| 4" (100 mm) 170 GPM | 8" (200 mm) 760 GPM |

# Servicing the Relief Valve

## Series 009 and LF009

1/4" – 3" (8 – 80mm)

1. Remove the four or six relief valve cover bolts while holding the cover down.
2. Lift the cover straight off. The stem and diaphragm assembly will normally remain with the cover as it is removed. The relief valve spring will be free inside the body at this point.
3. The relief valve seat is located at the bottom of the body bore, and can be removed, if necessary, for cleaning. The disc can be cleaned without disassembly of the relief valve module. If it is determined that the relief valve diaphragm and/or disc should be replaced, the relief valve module can be readily disassembled without the use of special tools.

### NOTICE

The disc rubber is molded into the disc holder and is supplied as a disc holder assembly.

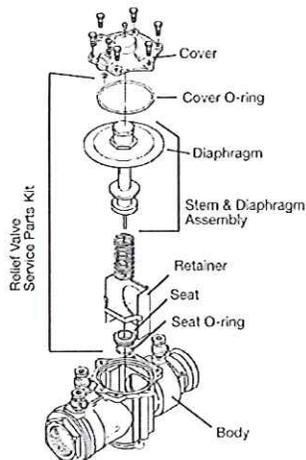
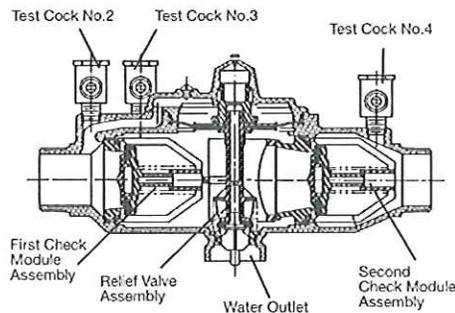
4. To reassemble the relief valve, press the seat firmly into place in the body, center the spring on the seat, and insert the cover and relief valve module as a unit straight into the bore. Press down on the cover to assure proper alignment. Insert and tighten bolts.

### NOTICE

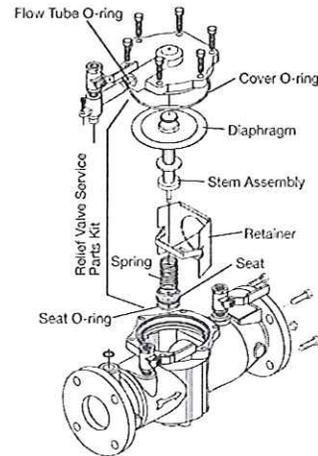
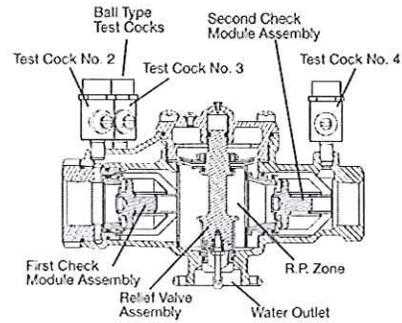
If cover will not press flat against body, stem assembly is crooked and damage can result. Realign stem and cover before bolts are inserted.

### NOTICE

No special tools required to service Series 009 2 1/2" – 3" (65 – 80mm).



For repair kits and parts, refer to our Backflow Prevention Products Repair Kits & Service Parts price list PL-RP-BPD found on [watts.com](http://watts.com).



# Servicing First & Second Check Valves

## Series 009 and LF009

1/4" – 3" (8 – 80mm)

1. Remove the relief valve assembly as outlined on page 3.
2. Remove the retainer from the body bore. The check valve modules can now be removed from the valve by hand or with a screwdriver.

### NOTICE

The seats and springs of the first and second check modules are not interchangeable. The heavier spring and smaller diameter seat belong with the first check module.

3. The check seats are attached to the cage with a bayonet type locking arrangement. Holding the cage in one hand, push the seat inward and rotate counterclockwise for 2 1/2", 3"; Clockwise for 1/4" – 2" against the cage. The seat, spring cage, spring and disc assembly are now individual components.
4. The disc assembly may now be cleaned and reassembled or, depending on its condition, may be discarded and replaced with a new assembly from the repair kit. O-rings should be cleaned or replaced as necessary and lightly greased with the FDA approved silicon grease. For more information refer to repair parts price list PL-RP-BPD.
5. Reassemble the check valve modules. Check modules are installed in the valve body with the seat facing the valve inlet. The modules must be securely in place before the retainer can be replaced. Replace relief valve assembly.

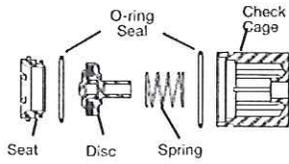
### NOTICE

No special tools required to service Series 009 2 1/2" – 3" (65 – 80mm)

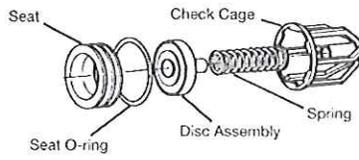
# Servicing First & Second Check Valves

## Series 009 and LF009 — 1/4" – 3" (8 – 80mm)

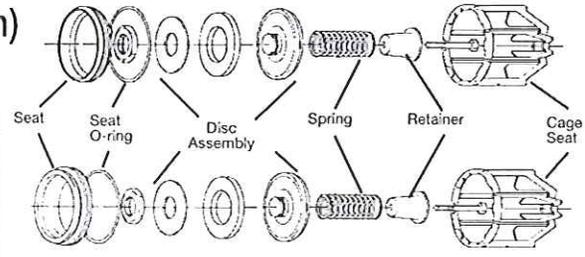
CHECK ASSEMBLY 3/4" M3



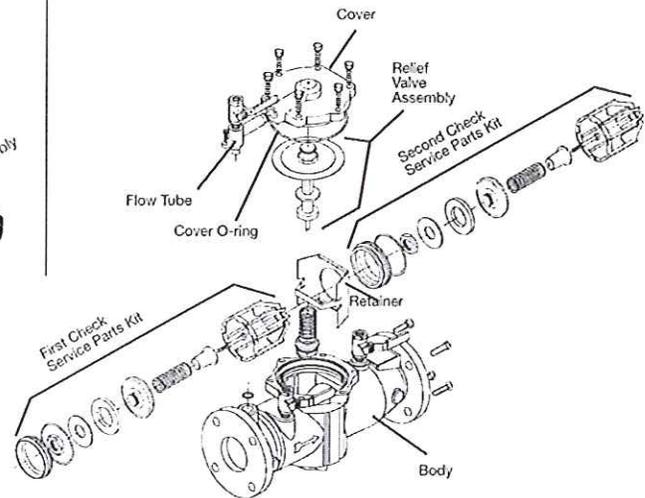
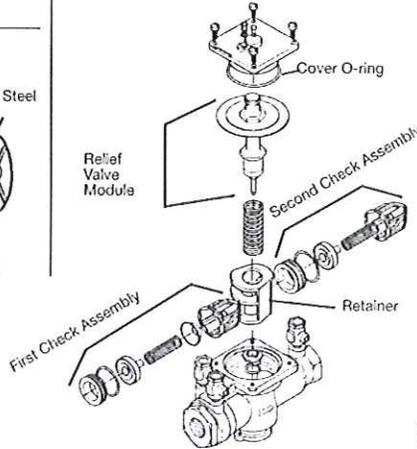
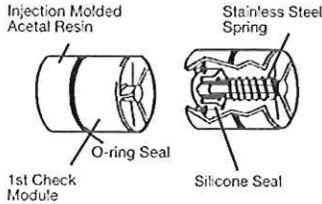
CHECK ASSEMBLY 1" - 2" (25 - 50mm)



Check Assemblies



CHECK ASSEMBLY 1/4" - 3/4"



For repair kits and parts, refer to our Backflow Prevention Products Repair Kits & Service Parts price list PL-RP-BPD found on [watts.com](http://watts.com).

Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

**WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.  
For more information: [www.watts.com/prop65](http://www.watts.com/prop65)

### Troubleshooting Guide

| Symptom                                       | Cause                                   | Solution                                |
|-----------------------------------------------|-----------------------------------------|-----------------------------------------|
| 1. Check valve fails to hold 1.0 PSID minimum | a. Debris on check disc sealing surface | Disassemble and clean                   |
|                                               | b. Leaking isolation valve              | Disassemble and clean or repair         |
|                                               | c. Damaged seat disc or seat o-ring     | Disassemble and replace                 |
|                                               | d. Damaged guide holding check open     | Disassemble and clean or replace        |
|                                               | e. Weak or broken spring                | Disassemble and replace spring          |
| 2. Chatter during flow conditions             | a. Worn, damaged or defective guide     | Disassemble and repair or replace guide |
| 3. Low flows passing through mainline valve   | a. Mainline check fouled                | Disassemble and clean                   |
|                                               | b. Meter strainer plugged               | Disassemble and clean                   |
|                                               | c. Damaged mainline seat disc or seat   | Disassemble and replace                 |
|                                               | d. Broken mainline spring               | Disassemble and replace                 |

**Limited Warranty:** Watts Regulator Co. (the "Company") warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.

**THE WARRANTY SET FORTH HEREIN IS GIVEN EXPRESSLY AND IS THE ONLY WARRANTY GIVEN BY THE COMPANY WITH RESPECT TO THE PRODUCT. THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE COMPANY HEREBY SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

The remedy described in the first paragraph of this warranty shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication, improper installation or improper maintenance or alteration of the product.

Some States do not allow limitations on how long an implied warranty lasts, and some States do not allow the exclusion or limitation of incidental or consequential damages. Therefore the above limitations may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights that vary from State to State. You should consult applicable state laws to determine your rights. **SO FAR AS IS CONSISTENT WITH APPLICABLE STATE LAW, ANY IMPLIED WARRANTIES THAT MAY NOT BE DISCLAIMED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL SHIPMENT.**



A Watts Water Technologies Company

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Honeywell

# DS06 Low Lead Content Dial Set Pressure Regulating Valves

## APPLICATION

The Honeywell DS06 Dial Set® Pressure Regulating Valve is a high quality pressure regulating valve that maintains a constant outlet pressure over a wide range of inlet supply pressures. It is suitable for potable water and irrigation applications. The downstream pressure adjustment dial eliminates the need for a pressure gauge when adjusting the pressure setting (static pressure only).

## SPECIFICATIONS

**Model:** DS06 Dial Set Pressure Regulating Valves.

**Construction Materials:**

Body: Brass.

Internal Parts: Stainless steel and engineered plastics.

Regulator Mechanism: Fabric-reinforced diaphragm.

**Seat Design:** Balanced single seat construction.

**Inlet Pressure (Maximum):** 250 psi maximum.

**Reduced Pressure Range:**  
25 to 90 psi (1/2 in. to 2 in.).

**Outlet Pressure:** Factory set at 60 psi (414 kPa).

**Dial Calibration:** ± 4 psi.

**Differential:** 14.5 psi minimum (inlet to outlet).

**Fluid Temperature (Maximum):**  
Water: 140° F (60° C).

## INSTALLATION INSTRUCTIONS

**Ambient Temperature Range:** 33° F to 140° F (1° C to 60° C).

**Pipe Sizes Available:** 1/2 in., 3/4 in., 1 in., 1-1/4 in., 1-1/2 in. and 2 in. available.

**Connections:**

Can be configured as female thread-by-thread, single- or double-union, NPT threaded or sweat.

**Low Lead Content:** < 0.25% Lead.

**Gauge Tap:** 1/4" NPT.

**Approvals:**

ASSE 1003 Listed

CSA Certified

IAPMO/UPC Listed

NSF 61 Compliant

## INSTALLATION

### When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in these instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out the product operation as provided in these instructions.



33-00014EF-07

## Water Capacities

The suitability of a given regulator size is dependent on the pressure requirements where it will operate. For the pressure regulator valve size required for a specific installation, determine the following:

1. Pressure differential between inlet and outlet pressure in pounds per square inch (psi),
2. Capacity in gallons per minute, and

3. Allowable reduced pressure falloff in psi. Given these variables, use Table 1 to determine the proper size pressure regulator valve for your application.

Example: An installation has 135 psi inlet pressure, 60 psi outlet pressure (75 psi pressure differential). If a 15 gpm capacity is required with only 10 psi falloff allowable, a 3/4 in. DS06 is required.

**Table 1. Water Capacities.**

| Pressure Regulator Valve Size | Reduced Pressure Falloff (PSI) | Pressure Differential Between Inlet and Outlet |                        |                        |                        |
|-------------------------------|--------------------------------|------------------------------------------------|------------------------|------------------------|------------------------|
|                               |                                | 25 psi                                         | 50 psi                 | 75 psi                 | 100 psi or more        |
|                               |                                | Flow Capacity (US gpm)                         | Flow Capacity (US gpm) | Flow Capacity (US gpm) | Flow Capacity (US gpm) |
| 1/2"                          | 6                              | 7.26                                           | 8.15                   | 7.44                   | 6.47                   |
|                               | 10                             | 10.7                                           | 10.66                  | 9.69                   | 8.85                   |
|                               | 15                             | 14.27                                          | 15.72                  | 14.49                  | 13.96                  |
|                               | 20                             | 17.74                                          | 19.59                  | 18.98                  | 18.1                   |
| 3/4"                          | 6                              | 11.98                                          | 14.44                  | 14.53                  | 14.97                  |
|                               | 10                             | 17.17                                          | 21.05                  | 25.23                  | 26.33                  |
|                               | 15                             | 19.86                                          | 25.14                  | 29.32                  | 32.85                  |
|                               | 20                             | 21.27                                          | 26.42                  | 30.42                  | 33.82                  |
| 1"                            | 6                              | 11.18                                          | 11.23                  | 9.51                   | 9.11                   |
|                               | 10                             | 18.01                                          | 18.98                  | 17.39                  | 16.78                  |
|                               | 15                             | 25.67                                          | 28.14                  | 28.71                  | 26.9                   |
|                               | 20                             | 30.69                                          | 34.7                   | 36.19                  | 35.05                  |
| 1-1/4"                        | 6                              | 7.53                                           | 6.34                   | 7.26                   | 7.13                   |
|                               | 10                             | 20.25                                          | 17.88                  | 15.15                  | 14                     |
|                               | 15                             | 33.02                                          | 34.87                  | 32.63                  | 29.68                  |
|                               | 20                             | 40.07                                          | 44.29                  | 46.01                  | 34.61                  |
| 1-1/2"                        | 6                              | 29.81                                          | 32.27                  | 30.87                  | 26.81                  |
|                               | 10                             | 46.14                                          | 50.02                  | 49.89                  | 47.82                  |
|                               | 15                             | 66.22                                          | 78.42                  | 86.74                  | 84.14                  |
|                               | 20                             | 77.14                                          | 92.29                  | 103.82                 | 109.68                 |
| 2"                            | 6                              | 27.34                                          | 25.8                   | 24.48                  | 18.01                  |
|                               | 10                             | 64.81                                          | 97.61                  | 78.15                  | 90.09                  |
|                               | 15                             | 82.82                                          | 105.14                 | 119.94                 | 129.62                 |
|                               | 20                             | 87.66                                          | 107.83                 | 120.95                 | 132.09                 |

## DS06 Fixture Unit

Flow rates based on submittal sheet DS06, based on flush tank systems with a 15 psi fall-off defined by IAPMO/ANSI UPC 1-2009.

**Table 2.**

| Size   | I/s  | GPM    | Fixture Units |
|--------|------|--------|---------------|
| 1/2"   | 0.99 | 15.72  | 21            |
| 3/4"   | 1.58 | 25.14  | 40            |
| 1"     | 1.77 | 28.14  | 48            |
| 1-1/4" | 2.19 | 34.87  | 70            |
| 1-1/2" | 4.93 | 78.42  | 270           |
| 2"     | 6.61 | 105.14 | 400           |

Capacities are based on a 100 psi supply pressure and a difference of 50 psi or more between the initial supply pressure and the reduced no-flow pressure.

Check local water pressures before selection.

## Procedure

1. Flush the system clear of sediment or debris.
2. Close the supply valve and downstream isolating valve (if one is installed).
3. Install the DS06 with the arrow on the body pointing in the direction of water flow. Install, preferably, in horizontal pipework with filter bowl downwards - vertical installation also possible.

The DS06 can be installed directly onto the pipe by using the female NPT threads on each end. If space limitations restrict turning the DS06, install single- or double-unions.

NOTE: Heat from soldering can damage internal parts of the DS06. Always solder the tailpieces separately from the DS06.

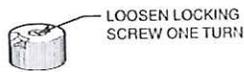
4. Open the supply valve slowly and check for leakage and proper operation of the DS06.

## Changing the Downstream Pressure (See Fig. 1)

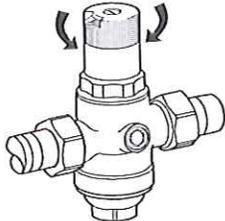
Remove the dust cap from the DS06. The DS06 is factory set to 60 psi.

To adjust the outlet pressure to a desired setting:

1. Loosen the locking screw by turning counter-clockwise ⚠️ (Do not remove this screw.)
2. Turn the adjusting knob counter-clockwise to reduce pressure or clockwise to increase pressure.
3. Lock the setting by turning the locking screw clockwise .
4. Replace the dust cap over the dial.



ADJUST SETPOINT AT THE DESIRED VALUE BY ACTUATING SELECTOR.



INLET PRESSURE (MAXIMUM): 250 PSI  
REDUCED PRESSURE RANGE:  
25 TO 90PSI 1/2 IN. TO 2 IN. SIZE

NOTE: DO NOT DISMANTLE KNOB  
SET-POINT READOUT HAS BEEN CALIBRATED  
IN THE FACTORY AND SET AT 60 PSI.  
DISMANTLING THE SELECTOR KNOB WILL  
CANCEL THIS CALIBRATION. RECALIBRATE  
USING A PRESSURE GAUGE. SEE RECALIBRATION.

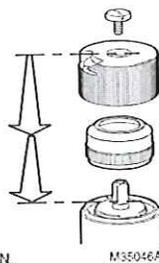


Fig. 1. Changing outlet pressure.

## Replacing the Cartridge (Fig. 2)

The working parts of the DS06, including diaphragm, valve seat, strainer, and disk are all contained in a replaceable cartridge. To replace the cartridge:

1. Close shutoff valve on inlet.
2. Release pressure on outlet side (e.g. through water tap).
3. Close shutoff valve on outlet.
4. Loosen slotted screw (do not remove the screw).



### CAUTION

To prevent injury and/or equipment damage, loosen locknut and turn adjusting screw counter-clockwise to remove spring tension.

5. Slacken tension in compression spring by turning counter clockwise until it does not move anymore.
6. Unscrew Bonnet.
7. Remove slip ring.

8. Remove cartridge using a pliers as a lever.
9. Reassemble bonnet in reverse order.

## Recalibrate

If the dial knob assembly has been disassembled recalibration is necessary.

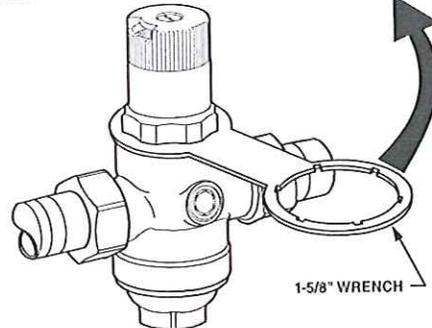
1. Close shutoff valve on inlet.
2. Release pressure on outlet side (e.g. through water tap).
3. Close shutoff valve on outlet.
4. Remove dust cap.
5. Loosen slotted screw (do not remove screw).
6. Fit pressure gauge.
7. Slowly open shutoff valve on inlet.
8. Set desired outlet pressure (e.g. 60 psi).
9. Align scale (e.g. 60 psi) in middle of viewing window.
10. Retighten slotted screw.
11. Slowly open shutoff valve on outlet.

- 1 LOOSEN THE SETPOINT DIAL LOCKING SCREW.

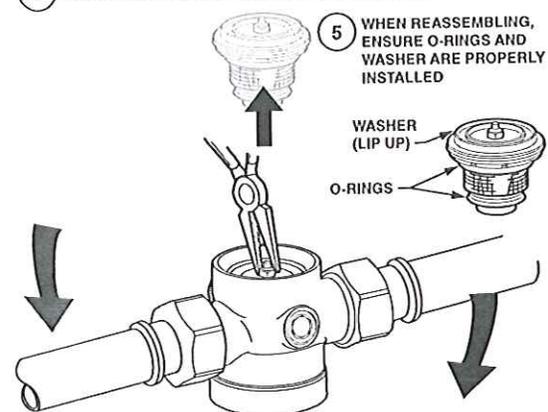


- 2 UNSTRESS THE PRESSURE SPRING BY TURNING COUNTER-CLOCKWISE .

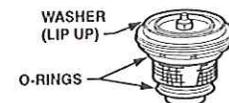
- 3 UNSCREW THE BONNET WITH A 1-5/8" WRENCH.



- 4 REMOVE CARTRIDGE USING A PLIERS AS A LEVER.



- 5 WHEN REASSEMBLING, ENSURE O-RINGS AND WASHER ARE PROPERLY INSTALLED



- 6 REASSEMBLE BONNET IN REVERSE ORDER.

Fig. 2. Replacing the DS06 cartridge.

M35634A

## Cleaning

1. Close shutoff valve on inlet.
2. Release pressure on outlet (e.g. through water tap).
3. Close shutoff valve on outlet.
4. Unscrew filter bowl using a 1-5/8" wrench.
5. Remove filter, clean and reinsert.
6. Place O-ring onto filter bowl.
7. Screw in filter cup hand-tight.
8. Slowly open shutoff valve on inlet.
9. Slowly open shutoff valve on outlets.

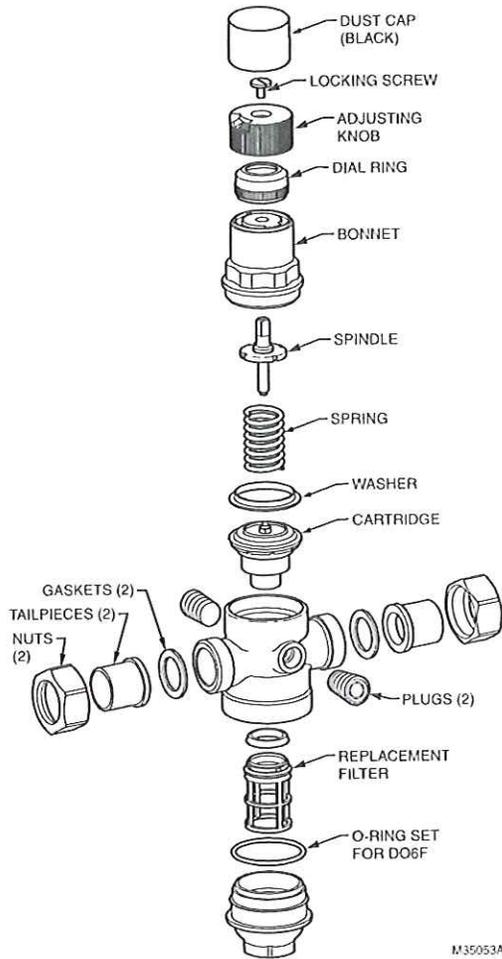


Fig. 3. DS06 exploded view.

## OPERATION

DS06 is a spring loaded pressure reducing valve that operates by means of force equalizing system. The force of a diaphragm operates against the force of an adjustment spring. If the outlet pressure and therefore diaphragm force fall because water is down, the then greater force of the spring causes the valve to open. The outlet pressure then increases until the forces between the diaphragm and the spring are equal again. The inlet pressure has no influence in either opening or closing the valve. Because of this, inlet pressure fluctuation does not influence the outlet pressure, thus providing inlet pressure balancing. See Fig. 4 for the internal construction of the DS06.

NOTE: Minimum ambient rating is 33° F (1° C).

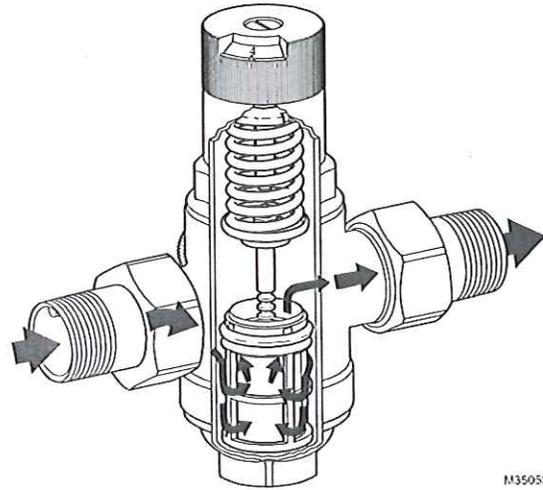


Fig. 4. Internal construction of DS06.

## TROUBLESHOOTING

Table 3 provides a troubleshooting guide for the DS06 Dial Set Pressure Regulating Valve.

**Table 3. Troubleshooting the DS06 Dial Set Pressure Regulating Valve.**

| <b>Problem</b>                                    | <b>Cause</b>                                                                        | <b>Remedy</b>                                                                        |
|---------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Beating Sounds.                                   | Pressure reducing valve is too large.                                               | Refer to capacities table to find correct valve size.                                |
| Water is escaping from the spring bonnet.         | Diaphragm in valve insert is faulty.                                                | Replace valve insert.                                                                |
| Too little or no water pressure.                  | Shutoff valves up- or downstream of the pressure reducing valve are not fully open. | Open the shutoff valves fully.                                                       |
|                                                   | Pressure reducing valve is not set to the desired outlet pressure.                  | Set outlet pressure.                                                                 |
|                                                   | Filter in pressure reducing valve is contaminated.                                  | Clean or replace filter.                                                             |
|                                                   | Pressure reducing valve is not fitted in flow direction.                            | Fit pressure reducing valve in flow direction. (Note direction of arrow on housing.) |
| The outlet pressure set does not remain constant. | Filter in pressure reducing valve is contaminated or worn.                          | Clean or replace filter.                                                             |
|                                                   | Valve insert, sealing ring or edge of nozzle is contaminated or worn.               | Replace valve insert.                                                                |
|                                                   | Rising pressure on outlet (e.g. in boiler).                                         | Check check valve, safety group etc.                                                 |

## DS06 LOW-LEAD REPLACEMENT PARTS

Table 4. Replacement Parts.

| Number | Part#        | Sizes       | Part Description                     |
|--------|--------------|-------------|--------------------------------------|
| 1      | D06FA-1/2    | 1/2" & 3/4" | Valve Insert Complete without Filter |
|        | D06FA-1B     | 1" & 1-1/4" |                                      |
|        | D06FA-1 1/2  | 1-1/2" & 2" |                                      |
| 2      | ES06F-1/2A   | 1/2" & 3/4" | Replacement Filter Insert            |
|        | ES06F-1B     | 1" & 1-1/4" |                                      |
|        | ES06F-1 1/2A | 1-1/2" & 2" |                                      |
| 3      | SB06T-1/2    | 1/2" & 3/4" | Black Filter Bowl with O-Ring        |
|        | SB06T-1      | 1" & 1-1/4" |                                      |
|        | SB06T-1 1/2  | 1-1/2" & 2" |                                      |

## DS06 LOW-LEAD ACCESSORY

Table 5. Accessories.

| Part #     | Size   | Part Description                                                                       |
|------------|--------|----------------------------------------------------------------------------------------|
| K06U1069/U | 1/2"   | Union kit for 1/2-in. NPT valves. Includes union nut, threaded tailpiece, and gasket   |
| K06U1077/U | 3/4"   | Union kit for 3/4-in. NPT valves. Includes union nut, threaded tailpiece, and gasket   |
| K06U1085/U | 1"     | Union kit for 1-in. NPT valves. Includes union nut, threaded tailpiece, and gasket     |
| K06U1135/U | 1-1/4" | Union kit for 1-1/4-in. NPT valves. Includes union nut, threaded tailpiece, and gasket |
| K06U1037/U | 1-1/2" | Union kit for 1-1/2-in. NPT valves. Includes union nut, threaded tailpiece, and gasket |
| K06U1045/U | 2"     | Union kit for 2-in. NPT valves. Includes union nut, threaded tailpiece, and gasket     |
| K06U1093/U | 1/2"   | Union kit for 1/2-in. sweat valves. Includes union nut, sweat tailpiece, and gasket    |
| K06U1101/U | 3/4"   | Union kit for 3/4-in. sweat valves. Includes union nut, sweat tailpiece, and gasket    |
| K06U1119/U | 1"     | Union kit for 1-in. sweat valves. Includes union nut, sweat tailpiece, and gasket      |
| K06U1143/U | 1-1/4" | Union kit for 1-1/4-in. sweat valves. Includes union nut, sweat tailpiece, and gasket  |
| K06U5034/U | 1-1/2" | Union kit for 1-1/2-in. sweat valves. Includes union nut, sweat tailpiece, and gasket  |
| K06U5042/U | 2"     | Union kit for 2-in. sweat valves. Includes union nut, sweat tailpiece, and gasket      |

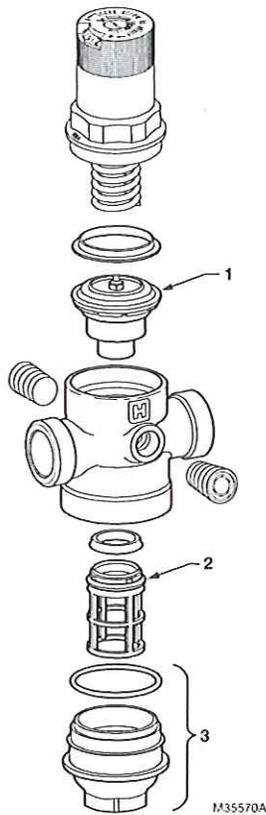


Fig. 5. Replacement Parts.

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### Home and Building Technologies

In the U.S.:

Honeywell

1985 Douglas Drive North

Golden Valley, MN 55422-3992

customer.honeywell.com

# Honeywell

# Operation Manual

## NPE Condensing Water Heaters

Model

- NPE-180A
- NPE-210A
- NPE-240A
- NPE-150S
- NPE-180S
- NPE-210S
- NPE-240S



\* Lead Free

Keep this manual near this water heater for future reference whenever maintenance or service is required.

\* The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight.



### WARNING

If the information in these instructions is not followed exactly, a fire or explosion may result, causing property damage, personal injury or death.

**Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

#### What to do if you smell gas

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

**Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

**The installation must conform with local codes or, in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54 and/or CSA B149.1, Natural Gas and Propane Installation Code.**

**When applicable, the installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 and/or CAN/CSA Z240 MH Series, Mobile Homes.**

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# 1. Safety Information

The following safety symbols are used in this manual. Read and follow all safety instructions in this manual precisely to avoid unsafe operating conditions, fire, explosion, property damage, personal injury, or death. Keep this manual for future reference.

## DANGER

Indicates an imminently hazardous situation which, if not avoided, could result in severe injury or death.

## WARNING

Indicates a potentially hazardous situation which, if not avoided, may result in injury or death.

## CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in property damage.

## WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.



- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.  
**WHAT TO DO IF YOU SMELL GAS**
  - Do not try to light any appliance.
  - Do not touch any electric switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

**!** DANGER



**To prevent burns:**

- Use the lowest operating temperature setting necessary to provide comfortably-hot water.
- If your household has children or elderly or disabled residents, consider using a lower temperature setting.
- Read all the instructions in this manual carefully before changing the temperature setting.
- Feel the water before using it on children, the elderly, or the disabled.
- If it is necessary to set the water heater above 125 °F (52 °C), have a temperature-limiting valve or mixing valve installed on the water heater.

**!** DANGER

This water heater is set to 120 °F (49 °C) at the factory for your safety and comfort. Increasing the temperature increases the risk of accidental scalding. Water temperatures at or above 125 °F (52 °C) can cause instant scalding, severe burns, or death. Before you decide to change the temperature setting, read the following charts carefully.

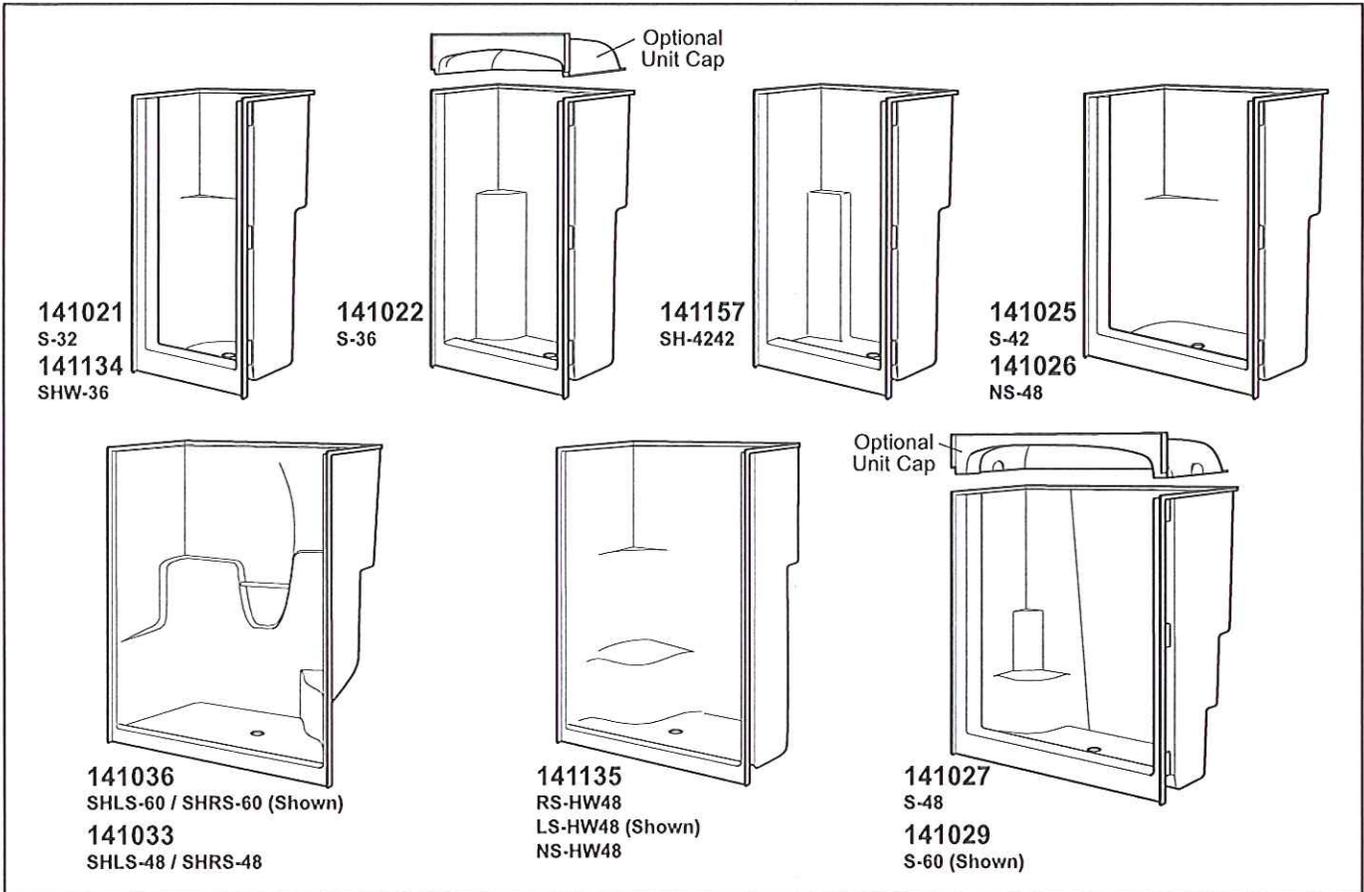
| Water Temperature | Time in which a young child can suffer a full thickness (3rd degree) burn |
|-------------------|---------------------------------------------------------------------------|
| 160 °F (70 °C)    | Less than 1 second                                                        |
| 140 °F (60 °C)    | 1 second                                                                  |
| 130 °F (55 °C)    | 10 second                                                                 |
| 120 °F (49 °C)    | 10 minutes                                                                |
| 100 °F (37 °C)    | very low scald risk                                                       |

Before setting the temperature at or above 125 °F (52 °C), consider installing a thermostatically-controlled mixing valve or temperature-limiting valve. Contact a licensed plumber or your local plumbing authority for more information.



GUIDELINES  
FOR UNIT  
INSTALLATION

|        |            | Shower Modules |        |        |         |  |
|--------|------------|----------------|--------|--------|---------|--|
| 141021 | 141022     | 141025         | 141026 | 141027 | 141029  |  |
| S-32   | S-36       | S-42           | NS-48  | S-48   | S-60    |  |
|        | 141033     | 141036         | 141134 | 141135 | 141157  |  |
|        | SHLS/RS-48 | SHLS/RS-60     | SHW-36 | SHW-48 | SH-4242 |  |



These guidelines are recommended by Maax Bath Inc. (hereafter "MAAX") for the proper installation of their product. A careful review of these procedures (and any referenced publications) before starting is important in avoiding unnecessary problems resulting in an improper assembly or installation.

**NOTE:** All drawings in this publication are typical, and may appear different than the actual items being installed. In addition, optional items may be shown on the units which may not have been ordered on the unit being installed.

**Special Notes to Installer**

- \*It is the sole responsibility of the installer to determine, prior to the installation, the requirements necessary for compliance with all codes involving the unit or the installation!
- \*All paperwork packaged with the unit and any associated options or accessories should be saved and presented to the homeowner upon completion of the installation!
- \*All published unit dimensions are for reference only. **Any critical dimensions required for installation should be taken directly from the unit being installed!**
- \*Any independent changes made to the unit (or to any options and accessories supplied with the unit) beyond those required for normal installation can void all warranties! (Refer to *warranties* for further information.)

**Inspection Guidelines**

A careful check of the unit should be conducted upon receipt. Notify your supplier immediately if any questions or problems are encountered during this process.

**DO NOT INSTALL ANY UNIT WITHOUT FIRST ADDRESSING QUESTIONS WHICH ARISE DURING THE INSPECTION!**

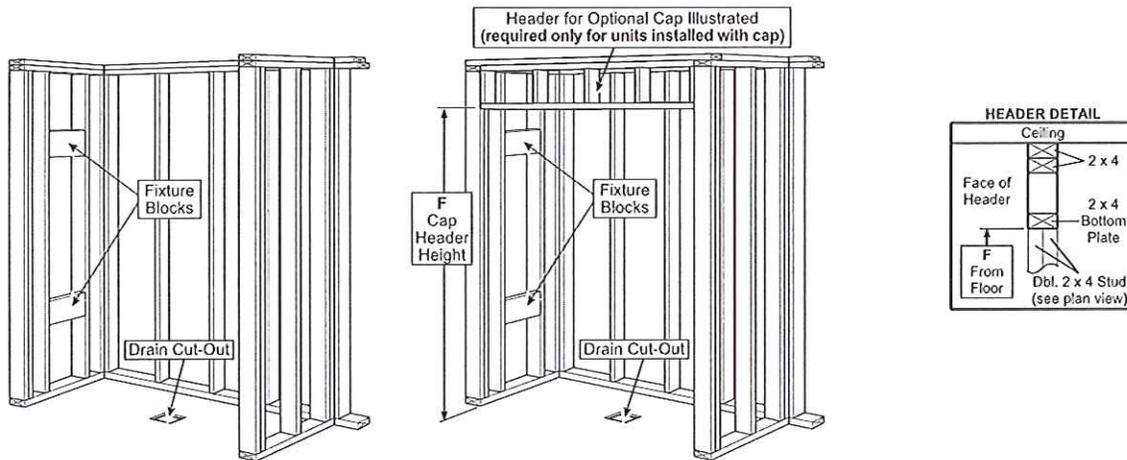
**Basic Module Check**

- ✓ Check that the unit drain corresponds to the bathroom drain location.
- ✓ Check for unit surface damage.
- ✓ Check unit color for coordination to other bathroom fixtures.
- ✓ Check for proper options and accessories.

**Options/Accessories Check**

An individual check list is included with the assembly and installation guidelines of factory authorized options. Refer to listed publications for further information before continuing.

Figure 1a - Unit Data and Dimensional Guidelines (Tolerance: +0/ -3/8 inch)



| MODEL                  | A      | B      | C      | D      | E        | F      |
|------------------------|--------|--------|--------|--------|----------|--------|
| 141021 / S-32          | 32     | 33 1/2 | 32     | 15 3/4 | 16       | -      |
| 141022 / S-36          | 36     | 37 1/2 | 36     | 18     | 18       | -      |
| 141025 / S-42          | 42     | 36 3/4 | 35 1/4 | 18 1/4 | 21       | -      |
| 141026 / NS-48         | 48     | 36 3/4 | 35 1/4 | 18 1/4 | 24       | -      |
| 141027 / S-48          | 48     | 37 1/2 | 36     | 18 1/2 | 24       | 84 1/4 |
| 141029 / S-60          | 60     | 37     | 35 1/2 | 18     | 30       | -      |
| 141033 / SHRS/LS-48    | 48 1/4 | 37 1/2 | 36     | 18 1/2 | 24 1/8   | 88 3/4 |
| 141036 / SHRS/LS-60    | 60     | 37 1/2 | 36     | 18 1/2 | 30       | 88 3/4 |
| 141157 / SH-4242       | 41 3/4 | 42 3/4 | 41 1/2 | 19 7/8 | 20 7/8   | -      |
| 141134 / SHW-36        | 36 1/8 | 37 1/4 | 36     | 18 1/4 | 18 1/16  | -      |
| 141135 / RS/LS/NS-HW48 | 47 7/8 | 34 1/2 | 33 1/2 | 17 5/8 | 23 15/16 | -      |

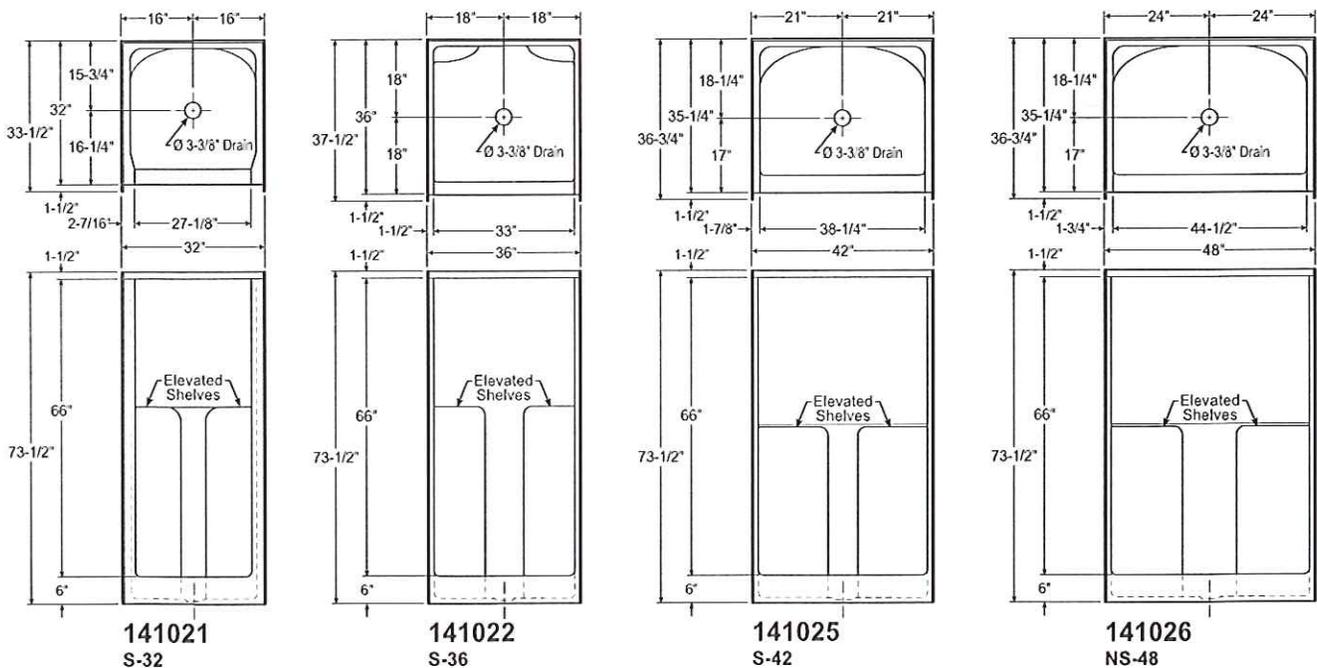
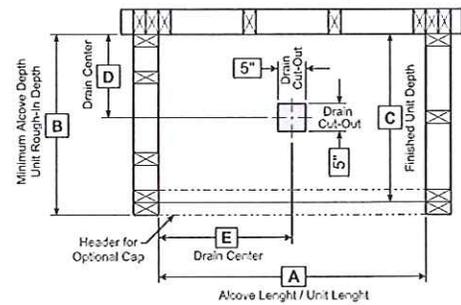
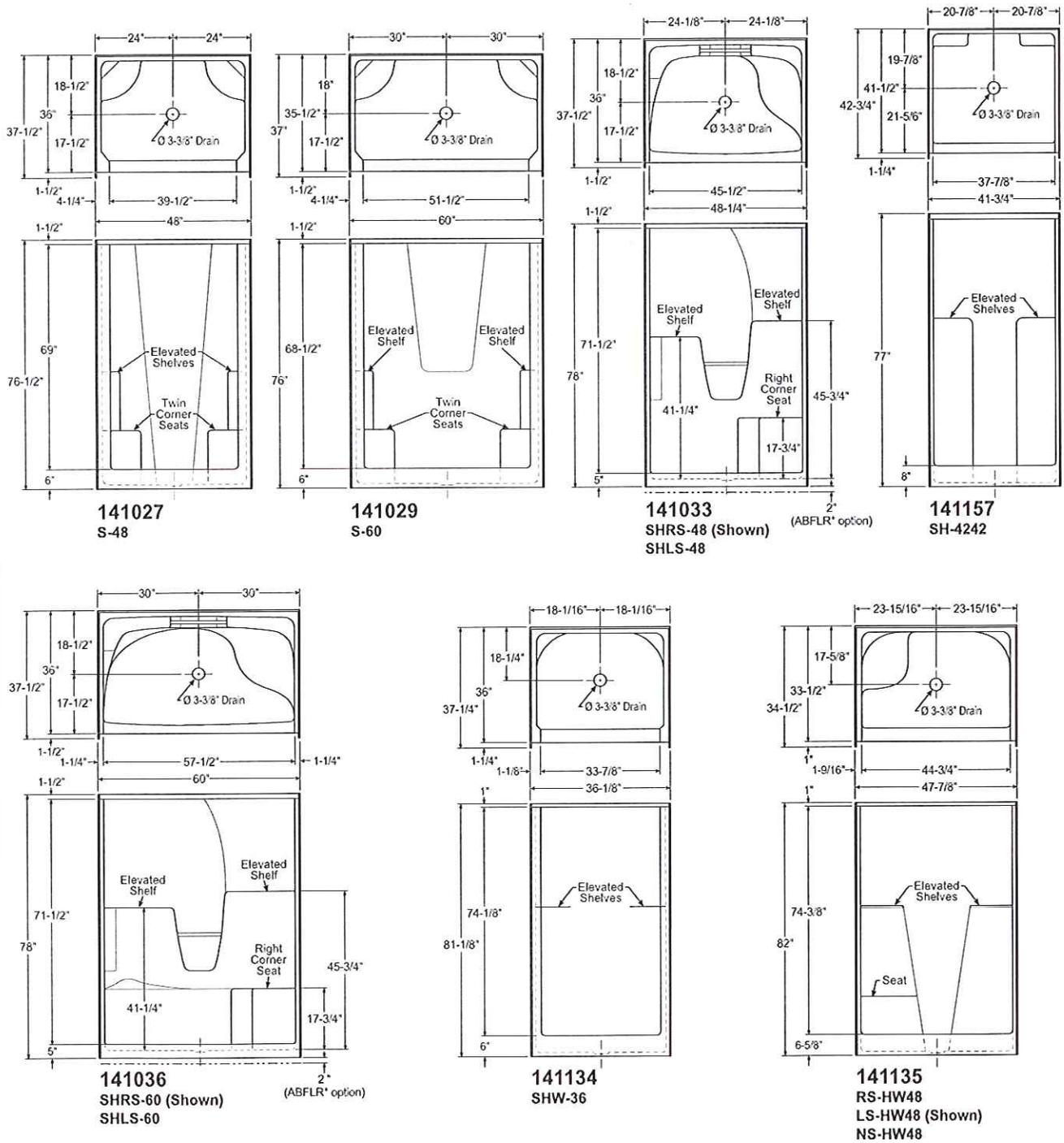


Figure 1b - Unit Data and Dimensional Guidelines (Tolerance: +0/ -3/8 inch)



Maax Bath Inc. reserves the right to discontinue products at any time or change specifications and/or design without notice and without incurring obligation. All dimensions are approximate and subject to change without notice.

### Framing Requirements

Due to individual site variations, exact guidelines for every situation cannot be supplied. The recommended framing and dimensional requirements shown are for a typical application and may vary, depending on site requirements.

The unit framing dimensions shown in Figure 1a and Figure 1b are from the surfaces where the unit will be attached. This surface can be bare studing, dry wall or other suitable underlayment material. **It is important that the floor and all framing be square and level.** Framing should be done using accepted materials and construction techniques, in accordance with all applicable codes.

An optional unit cap is available for selected shower models, which will require the construction of a header for proper unit installation. The header is only required for units using a cap.

### Optional Unit Cap Installation

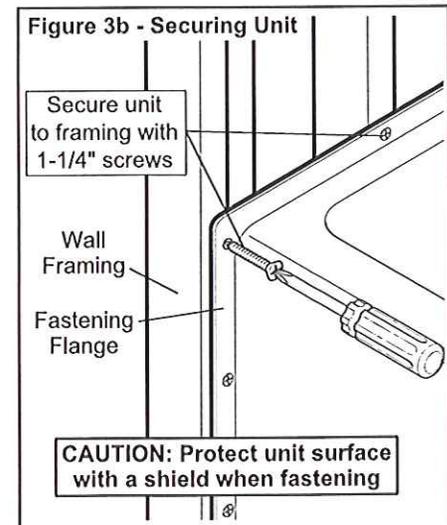
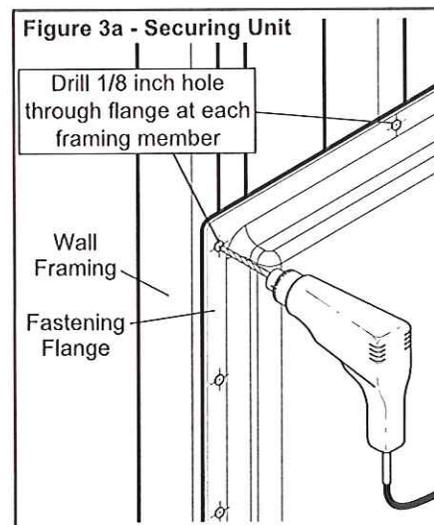
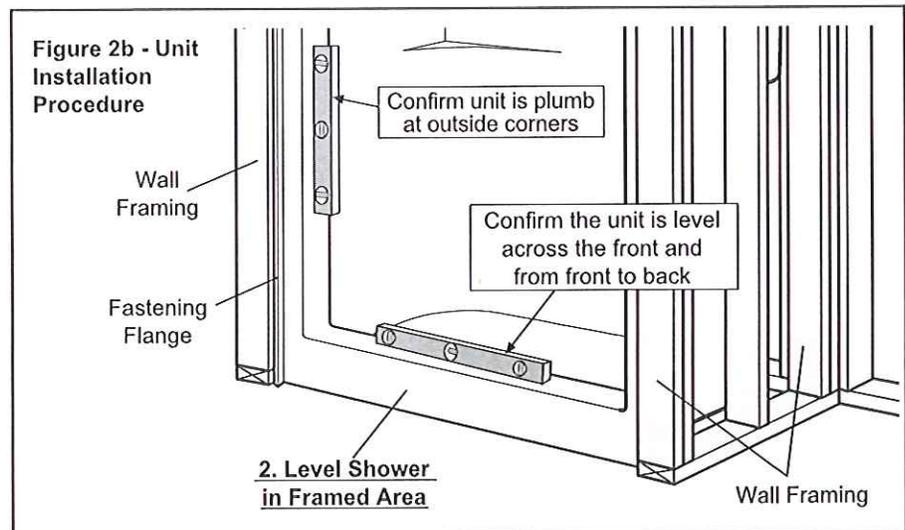
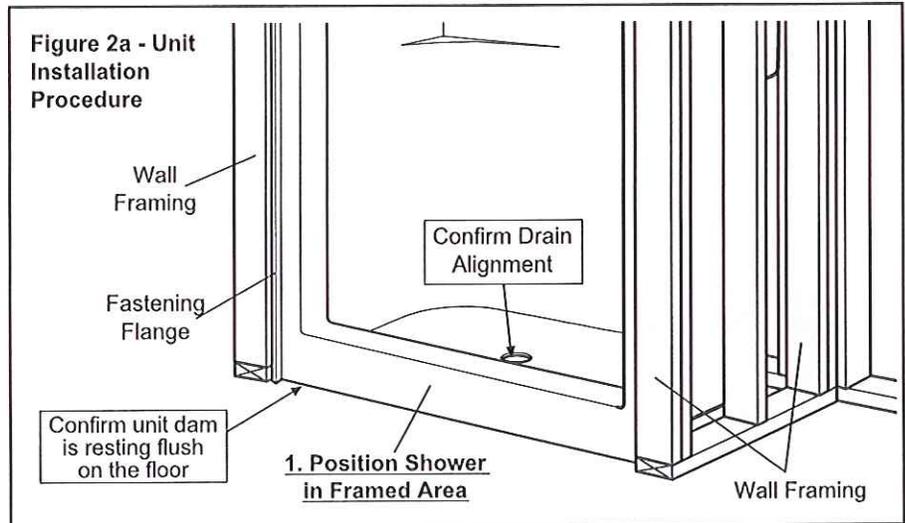
An individual set of installation guidelines are included in the optional unit cap package. The unit cap **CANNOT** be properly installed after the unit has been secured in the framed area. Refer to, and follow the instructions packaged with the cap before continuing.

**WARNING!**  
**IF AN OPTIONAL UNIT CAP IS USED, THE CAP MUST BE INSTALLED ON THE UNIT BEFORE IT IS PLACED IN THE ALCOVE!**

### Installation Procedure

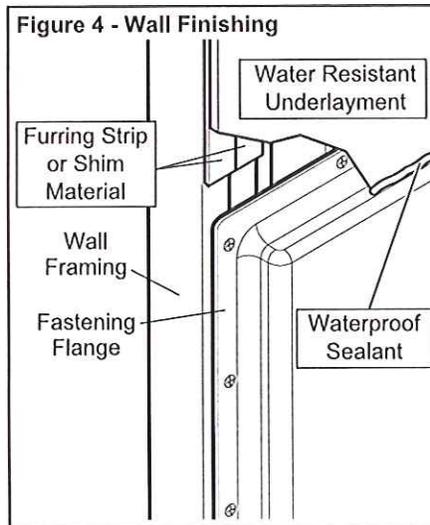
With the unit positioned in the framed area, several details must be checked prior to securing the unit in place. (Figures 2a, 2b)

- ✓ Confirm dam is flush on the floor.
- ✓ Confirm drain alignment.
- ✓ Confirm the unit is level along the top of each side wall and across dam area.
- ✓ Confirm each front inside wall surface is plumb (This is critical for the proper installation of an enclosure).
- ✓ Confirm the unit is square in the framed area.



The unit must also be positioned square in the alcove framework. The use of shim or filler material behind the fastening flange at each framing member may be required to maintain the unit in the proper position.

After the unit is confirmed level and square in the alcove, drill a 1/8 inch hole through the fastening flange at each framing member and every 8 inches along the front fastening flanges. Secure the unit in place across the back wall first, followed by the flanges at each end and along the front flanges, using 1-1/4 inch screws or other appropriate fasteners. Continuously check to confirm the unit remains square within the alcove as it is being secured. (Figures 3a & 3b)



**Unit Surface Care**

**WARNING!**  
**NEVER USE ABRASIVE MATERIALS  
NOR ABRASIVE CLEANERS ON THE  
UNIT SURFACE!**

**EXTREME CAUTION** is urged regarding the use of any cleaner, acid or solvent on the unit surface.

**READ, AND FOLLOW ALL PACKAGE LABELS AND INSTRUCTIONS!**

Through routine use, the unit surface can collect residues from soap, bath additives and natural body oils. Additional deposits can also collect from minerals or particles found in the water.

After each use, wipe the excess water from the unit. This practice will reduce the build-up of deposits and help maintain the natural unit lustre.

Following a thorough surface cleaning, an application of quality automotive wax will help reduce major accumulations. The actual schedule for cleaning, and waxing, will depend on unit usage and water quality.

**WARNING!**  
**AVOID APPLYING WAX TO THE UNIT  
BOTTOM!**

- **Routine Cleaning:** Mild, non-abrasive cleaner specifically formulated for gelcoat and acrylic surfaces recommended. (Rinse surface thoroughly.)
- **Heavy Soap Deposits:** Liquid ammonia household cleaner, applied full strength. (Rinse surface thoroughly.)
- **Stubborn Stains:** Liquid household cleaner or hydrogen peroxide, applied full strength. Place a saturated clean rag directly on stain and let stand several hours. (Rinse surface thoroughly.)

For extreme cases, buff area with white automotive polishing compound until stain disappears, and apply a quality automotive wax to surface.

- **Hard Water Scales:** Liquid scale remover or white vinegar, applied full strength. (Rinse surface thoroughly.)
- **Mold/Mildew:** Liquid mildew remover or baking soda and water paste. Apply paste and allow to fizz several minutes. (Rinse surface thoroughly.)
- **Construction Adhesive:** Soften adhesive with hand held dryer and peel off adhesive. (Caution is advised when using any electrical device near water.)

For stubborn cases, apply rubbing alcohol or nail polish remover, full strength, to adhesive. (Rinse surface thoroughly.)

**WARNING!**  
**BATH MATS OR OTHER ITEMS WHICH ARE HELD IN PLACE USING SUCTION AGAINST THE UNIT SURFACE MUST BE REMOVED FROM THE FLOOR OF THE UNIT AFTER EACH USE.**

**OVER A PROLONGED PERIOD, FAILURE TO REMOVE THESE TYPES OF ITEMS FROM THE BOTTOM OF THE UNIT CAN RESULT IN SURFACE DAMAGE.**

**WARNING!**  
**THE UNIT BOTTOM SHOULD BE CLEAR OF ALL POTENTIALLY DAMAGING DEBRIS AND THE SURFACE PROTECTED BEFORE STEPPING INSIDE.**

**CAUTION:** It is advisable to protect the unit surface with a thin plywood or cardboard shield while fastening the flange to the framing.

**Water Supply and Drain Connections**  
Refer to, and follow, the assembly and installation instructions provided with the supply valves and drain system. **Carefully check all fittings and connections for leaks.**

**Finishing Guidelines**

Furring strips or filler material may be required over the framing to ensure the underlayment will lie flush over the fastening flanges. A water resistant underlayment is recommended on areas surrounding the unit. Stop the underlayment 1/16 to 1/8 inch from the unit surface, and fill the space with a continuous bead of waterproof sealant.

Carefully fasten the underlayment near the unit to avoid damaging the unit surface. Seal the seams and edges of the underlayment, as required, and install the finish material to specifications. (Figure 4)



### LIMITED WARRANTY

Maax Bath Inc. (hereafter «Maax») offers the following express limited warranty on each of its products. This warranty extends only to the original owner/end-user for personal household use. For commercial uses, additional limitations apply.

Maax warrants acrylic units to be free from defects in workmanship and materials under normal use and service for a period of twenty five (25) years from the initial date of purchase by the owner/end-user, contractor or builder from an authorized dealer.

Maax warrants fiberglass units to be free from defects in workmanship and materials under normal use and service for a period of five (5) years from the initial date of purchase by the owner/end-user, contractor or builder from an authorized dealer.

Any product reported to the authorized dealer or to Maax as being defective within the warranty period will be repaired or replaced (with a product of equal value) at the option of Maax. In no event will Maax be liable for the cost of repair or replacement of any installation materials, including but not limited to, tiles, marble, etc. This warranty extends to the original owner/end-user and is not transferable to a subsequent owner.

Neither the distributor, authorized Maax dealer nor any other person has been authorized to make any affirmation, representation or warranty other than those contained in this warranty; any affirmation, representation or warranty other than those contained in this warranty shall not be enforceable against Maax or any other person.

Maax reserves the right to modify this warranty at any time, it being understood that such modification will not alter the warranty conditions applicable at the time of the sale of the products in question.

#### Limitations

This warranty shall not apply following incorrect operating procedures, breakage or damages caused by fault, carelessness, abuse, misuse, misapplication, improper maintenance, alteration or modification of the unit, as well as chemical or natural corrosion, accident, fire, flood, act of God or any other casualty. This warranty shall not apply to stain or malfunction caused by ferrous water, hard water or salty water.

The owner/end-user of the product covered by this warranty is entirely responsible for its proper installation and electrical wiring. Maax neither installs nor supervises the installation, nor hires a contractor for this purpose, and consequently cannot be held responsible for any defect, breakage or damage caused thereby or resulting thereof, either directly or indirectly. The owner/end-user must provide access to the components of the product as described in the installation guide, so that Maax can execute the warranty specified herein.

If such access is not available, all expenses to provide said access will be the responsibility of the owner/end-user.

This warranty does not apply to products or equipment not installed or operated in accordance with instructions supplied by Maax and all applicable rules, regulations and legislation pertaining to such installations.

Maax strongly recommends that its products-for example, but without limitation, shower doors and other items-be installed by professionals with experience in bathroom products. Installation of shower doors by an inexperienced person may result in glass breakage and, consequently, cause personal injury or death.

Maax is not liable for any costs, damages or claims resulting from the purchase of products that do not fit through openings or existing structures. Maax is not liable for any costs, damages or claims resulting from defects that could have been discovered, repaired or avoided by inspection and testing prior to installation.

Maax is not liable for personal injuries or death to any person or for any direct, special, incidental or consequential damage, loss of time, loss of profits, inconvenience, incidental expenses, labor or material charges, or any other costs resulting from the use of the product or equipment or pertaining to the application of the present warranty, or resulting from the removal or replacement of any product or element or part covered by this warranty.

**EXCEPT AS OTHERWISE PROVIDED ABOVE, MAAX MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR COMPLIANCE WITH ANY CODE.**

In any case, Maax cannot be liable for any amount over and above the purchase price paid for the product by the owner/end-user, contractor or builder.

#### Commercial Limitations

In addition to the above conditions and limitations, the warranty period for products installed for commercial applications or used in commercial ventures is of one (1) year from the initial date of purchase by the owner/end-user, contractor or builder from an authorized dealer. Maax is not responsible for loss of use or profit under any circumstances.

If the product is used as a display, Maax standard warranty applies and the warranty period begins when the product is placed on display. This warranty gives the owner/end-user specific legal rights. The owner/end-user may also have other rights which vary from one state and/or province to another.

#### Warranty service

In order to obtain service provided under this warranty during regular business hours, contact the dealer or distributor who sold the unit, or Maax directly. Maax will provide the warranty service described above when the following conditions have been met: (1) the failure is of the nature or type covered by the warranty; (2) the user has informed an authorized Maax Agent or Warranty Service Department representative of the nature of the problem during the warranty period; (3) conclusive evidence (e.g., proof of purchase or installation) is provided to the foregoing by the user proving that the failure occurred or was discovered within the warranty period; and (4) an authorized independent service person or company representative has been permitted to inspect the product during regular business hours within a reasonable time after the problem was reported by the user.

Maax's warranty obligation shall be discharged upon tender of replacement or repair. The purchaser refusal to accept the tender terminates Maax's warranty obligation.

MAAX products are certified by one or more of the following certification agencies: UL, IAPMO, CSA, ULI, INTERTEK / WARNOCK HERSEY. Certain models are pending certification approval. Certification may be ended by MAAX or certification agencies without notice.

AKER is a registered trademark of AKER PLASTICS COMPANY Inc.  
MAAX is a registered trademark of MAAX Canada Inc.

#### After Sales Service

718 Mid-Atlantic Parkway  
Martinsburg, WV 25401

Phone: 800-962-2537 • 304-263-2525

Fax: 304-263-2379

[www.maax.com](http://www.maax.com)

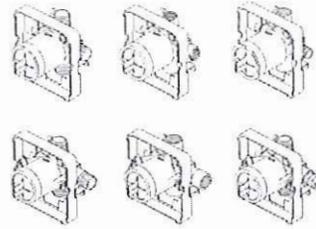


50353

## MULTICHOICE® ROUGH-IN BODY

## PIEZAS PARA LA INSTALACIÓN INTERNA MULTICHOICE®

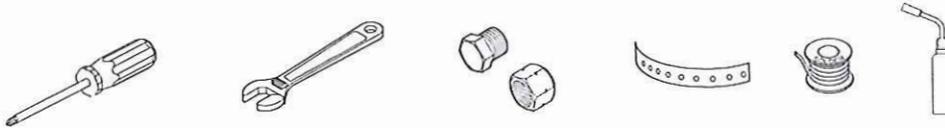
## CORPS DE ROBINET MULTICHOICE®



Model/Modelo/Modèle  
R10000  
Series/Series/Seria

Write purchased model number here.  
Escriba aquí el número del modelo comprado.  
Inscrivez le numéro de modèle ici.

### You may need/Usted puede necesitar/Articles dont vous pouvez avoir besoin:



For easy installation of your Delta® faucet you will need:

- To **READ ALL** the instructions completely before beginning.
- To **READ ALL** warnings, care, and maintenance information.

**NOTICE TO INSTALLER: CAUTION!**—As the installer of this rough-in body, it is your responsibility to properly **INSTALL** this rough-in body per the instructions given. **YOU MUST** inform the owner/user of this requirement by following the instructions. If you or the owner/user are unsure how to properly install this rough-in body, please refer to the instructions supplied and if still uncertain, call us at 1-800-345-DELTA. Leave this Instruction Sheet for the owner's/user's reference.

Para instalación fácil de su llave Delta® usted necesitará:

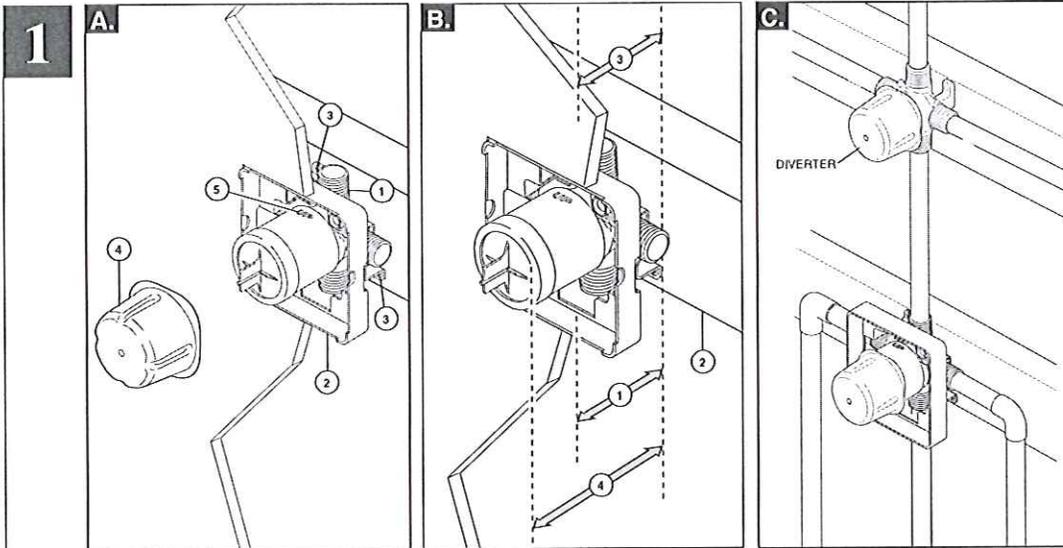
- **LEER TODAS** las instrucciones completamente antes de empezar
- **LEER TODOS** los avisos, cuidados, e información de mantenimiento.

**AVISO AL INSTALADOR: ¡PRECAUCIÓN!**— Como instalador de la tubería interna - dentro de la pared/piso, es su responsabilidad **INSTALAR** esta pieza correctamente como se describe en las instrucciones que le damos. **USTED DEBE** informarle al propietario/usuario, siguiendo las instrucciones dadas, de este requisito. Si usted o el propietario/usuario no están seguros como se instalan correctamente las tuberías internas, por favor refiérase a las instrucciones proporcionadas y si todavía no está seguro, llámenos al 1-800-345-DELTA. Deje esta hoja de instrucciones como referencia para el propietario/usuario.

Pour installer votre robinet Delta® facilement, vous devez:

- **LIRE TOUTES** les instructions avant de débiter;
- **LIRE TOUS** les avertissements ainsi que toutes les instructions de nettoyage et d'entretien;

**AVIS À L'INSTALLATEUR : ATTENTION!** — En qualité d'installateur, vous est tenu de bien **INSTALLER** ce corps de robinet conformément aux instructions. **VOUS DEVEZ** informer le propriétaire ou l'utilisateur de cette exigence. En cas de doute quant à la marche à suivre pour installer ce corps de robinet, veuillez lire les instructions fournies et, au besoin, veuillez nous appeler au 1-800-345-DELTA. Veuillez laisser ce feuillet d'instructions au propriétaire ou à l'utilisateur pour qu'il puisse le consulter s'il y a lieu.



**A. SHUT OFF WATER SUPPLIES.**  
Consider the type and thickness of your finished wall before placing your stringer back plate. Install the body (1) so the surface of the finished wall is flush with the front of the plasterguard (2)  $\pm 1/4"$ . **Note:** For with stops models, plasterguard must be flush or subflush  $1/4"$  to finished wall. Mount body using the two stringer mounting holes (3) on the bracket. **Note:** Remove cover (4) to access mounting holes. Make sure the word "UP" (5) is on top of the valve body when installing.

**B.** Distance (1) from the stringer (2) to the front of the plasterguard is  $2 3/4" \pm 1/4"$  (70 mm  $\pm 6$  mm). **Note:** This is the same distance to the finished wall (3). Distance (4) from the stringer (2) to the front of the bonnet is  $3 7/8"$  (99 mm). (For reference only)  
If a thin wall is used, be sure to have the plasterguard behind the wall, otherwise the wall should always be flush with the front of the plasterguard. See instruction on the bag for thin wall mounting. **Note:** For thin wall installation, RP47202 might be needed.

**C.** The figure illustrates the diverter and MultiChoice installed in the same finished wall.

**Note:** Refer to the diverter rough installation instructions for more information.

**A. CIERRE LOS SUMINISTROS DE AGUA.**  
Considere el tipo y el grosor de su pared terminada antes de colocar su placa trasera de acoplamiento de las tuberías. Instale el cuerpo (1) de manera que la superficie de la pared terminada esté al ras con la parte delantera del protector de yeso (2)  $\pm 1/4"$ . **Nota:** Para modelos con topes, el yeso debe estar al mismo nivel o por debajo de  $1/4"$  de la pared terminada. Instale la pieza usando los dos agujeros de instalación del acoplamiento (3) en el soporte. **Nota:** Quite la cubierta (4) para tener acceso a los agujeros de instalación. Cuando esté haciendo la instalación, asegúrese que la palabra "UP" (5) quede arriba de la válvula.

**B.** La distancia (1) desde el larguero (2) al frente del protector de yeso es  $2 3/4" \pm 1/4"$  (70 mm  $\pm 6$  mm). **Nota:** Esta es la misma distancia a la pared acabada (3). La distancia (4) desde el larguero (2) en la parte delantera del capuchón o tuerca tapa de  $3 7/8"$  (99 mm). (Sólo como referencia)

Si está haciendo la instalación en una pared delgada, asegúrese tener el protector de yeso detrás de la pared, de lo contrario la pared debe siempre estar al ras con la parte delantera del protector de yeso. Lea las instrucciones en la bolsa para instalación en paredes delgadas. **Nota:** Para una instalación en pared delgada, puede requerir RP47202.

**C.** La figura muestra el desviador y MultiChoice instalado en la misma pared terminada.

**Nota:** Para más información, consulte con las instrucciones de instalación preliminar del desviador.

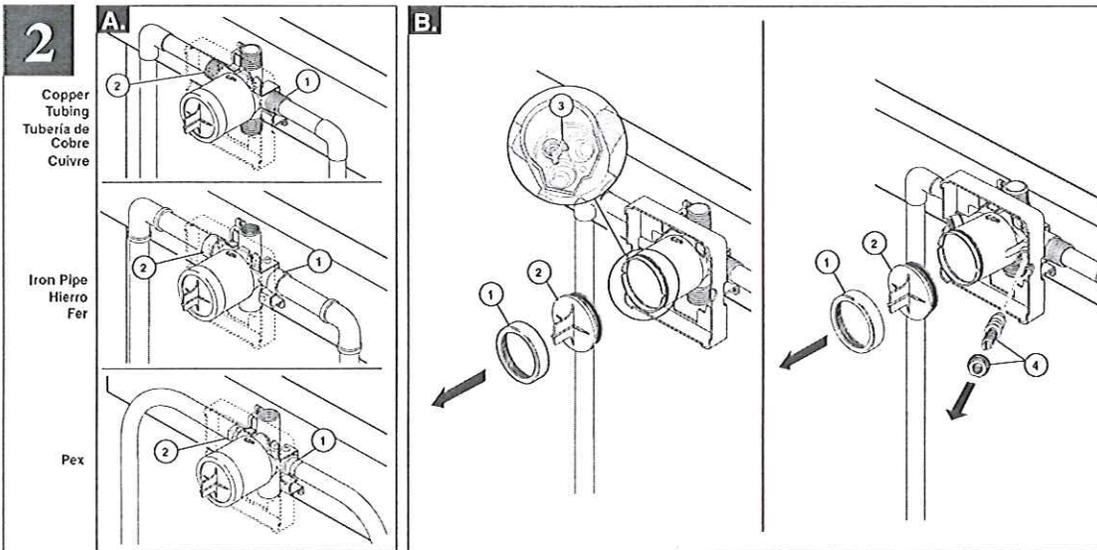
**A. INTERROMPEZ L'ALIMENTATION EN EAU.**  
Déterminez le type de la paroi et son épaisseur totale avant de placer la plaque arrière. Installez le corps (1) de sorte que la surface du mur fini soit à égalité avec l'avant du protecteur (2)  $\pm 1/4$  po. **Note :** Dans le cas des modèles munis de butées, le protecteur peut être à égalité du mur fini ou présenter un retrait de  $1/4$  po. Installez le corps utilisez les deux trous (3) de la fixation qui donnent sur l'entretoise. **Note :** Enlevez le couvercle (4) pour découvrir les trous de montage. Au moment de l'installation, assurez-vous que le mot « UP » (5) sur le dessus du corps de robinet se trouve en haut.

**B.** L'écart (1) entre la traverse (2) et l'avant du protecteur est de  $2 3/4$  po  $\pm 1/4$  po (70 mm  $\pm 6$  mm). **Note :** L'écart est le même que par rapport au mur fini (3). L'écart (4) entre la traverse (2) et l'avant du chapeau est de  $3 7/8"$  (99 mm) (pour référence seulement).

Si le mur est mince, vous devez placer le protecteur derrière le mur. Autrement, l'avant du protecteur doit toujours se trouver à égalité de la surface du mur fini. Consultez les instructions d'installation dans un mur mince qui se trouvent sur le sac. **Note :** Dans le cas d'une installation dans un mur mince, le kit RP47202 peut être nécessaire.

**C.** La figure montre l'inverseur et la soupape MultiChoice installés dans le même mur fini.

**Note :** Consultez les instructions d'installation de la soupape de l'inverseur pour obtenir plus de renseignements.



**A.** Connect valve body to water supplies using the proper fittings for your valve body type (copper tubing, iron pipe or Pex). **Note:** For Pex, be sure to use the right fitting for crimping and the right tool for cold expansion. If either of the two outlet ports is to be unused, seal the port with a pipe plug. **Note:** (1) is the cold inlet port and (2) is the hot inlet port.

If you are making a back to back or reverse installation (hot on right and cold on left) install the valve body as described, but the water supply lines will be reversed. **Note:** (1) is the hot inlet port and (2) is the cold inlet port.

**B.** Remove bonnet (1) and test cap (2) before soldering. Leave screen (3) installed. **Warning:** Avoid soldering at high temperature. Exposure to high temperatures may damage screen. Be sure stops (4) are removed from the w/stops version before soldering. (Do not install before soldering.)

**A.** Conecte el cuerpo de la válvula a los suministros de agua usando los accesorios apropiados para el tipo de su válvula (tubería de cobre, hierro o Pex). **Nota:** Para Pex, asegúrese de usar el accesorio correcto para plegar y la herramienta adecuada para la expansión en frío. Si no va a usar alguna de las dos entradas de agua, séllela con un tapón de tubería. **Nota:** (1) es la entrada del agua fría y el (2) es la entrada del agua caliente.

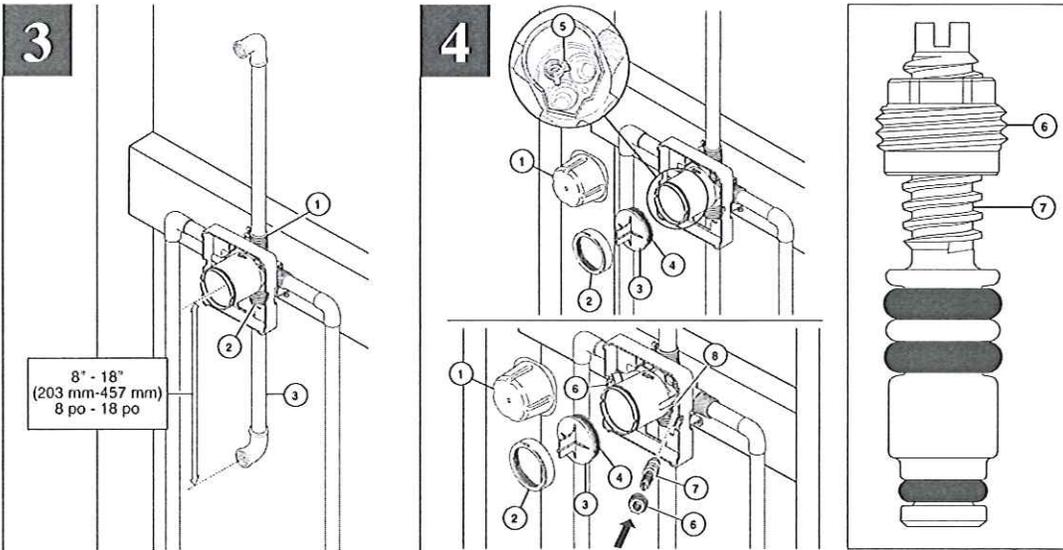
Si está haciendo una instalación dorso con dorso o a la inversa (caliente en la derecha y fría en la izquierda) instale el cuerpo de la válvula como se describe arriba, pero coloque al inverso las líneas de suministro de agua. **Nota:** (1) es la entrada de agua caliente (2) es la entrada del agua fría.

**B.** Quite la tuerca tapa (1) y la tapa de prueba (2) antes de soldar. Deje la rejilla (3) instalada. **AVISO:** Evite soldar a temperaturas altas. Si se deja expuesto a temperaturas altas pudiera dañar la rejilla. Sea seguro que las válvulas apagadas (4) están quitadas de la versión con las paradas antes de soldar. (no instale antes de soldar.)

**A.** Raccorder le corps de robinet à la tuyauterie (cuivre, fer ou Pex). **Note :** Si la tuyauterie est en Pex, assurez-vous d'avoir le bon raccord pour le sertissage et le bon outil pour la dilatation à froid. Si l'une des entrées est inutilisée, obturez-la avec un bouchon. **Note :** (1) correspond à l'entrée d'eau froide et (2) correspond à l'entrée d'eau chaude.

Dans le cas d'une installation dos à dos ou inversée (eau chaude à droite et eau froide à gauche), installez le corps de robinet de la manière indiquée ci-dessus. La tuyauterie d'alimentation doit toutefois être inversée. **Note :** (1) est l'entrée d'eau chaude et (2) est l'entrée d'eau froide.

**B.** Enlevez le chapeau (1) et le capuchon d'essai (2) avant d'effectuer le brasage. Laissez le tamis (3) en place. **Mise en garde :** évitez le brasage à haute température pour ne pas abîmer le tamis. Soyez sûr que des valves coupées (4) sont enlevées de la version avec des arrêts avant la soudure. (n'installez pas avant la soudure.)



Connect top outlet (1) to shower pipe with proper fittings. Connect bottom outlet (2) to tub spout pipe with proper fittings. Pipe (3) between valve body and tub spout must be a minimum of 1/2" (13 mm) copper pipe or 1/2" (13 mm) iron pipe in a straight drop no less than 8" (203 mm) but no more than 18" (457 mm) long with only one iron pipe or copper 90 degree elbow to the tub spout nipple. Do not use PEX tubing for tub spout drop. Note: There is no tub outlet in high flow models.

#### PRESSURE TESTING & FLUSHING THE INSTALLATION

Prior to testing, remove cover (1), bonnet (2) and cap (3). Ensure O-ring (4) and filter screen (5) are properly installed. Reinstall cap and bonnet and tighten securely. Plug both outlets with proper fittings. Check for leaks. After testing remove shower and/or tub spout plug and flush system. After flushing remove filter screen (5) and reinstall cap, bonnet and cover. Install stops (6 & 7) in the w/stops version and set to full open. Note: Install stops in the w/stops version as follows: Thread nut (6) on stem (7) as shown. Then press stem and nut assembly into body (8) and tighten using a 3/8", 6 point, deep well socket. With a flat head screwdriver, adjust stem clockwise to close and counterclockwise to open.

Conecte la salida de arriba (1) a la tubería de la regadera con los accesorios apropiados. Conecte la salida de abajo (2) a la tubería del surtidor de la bañera con los accesorios apropiados. La tubería (3) entre el cuerpo de la válvula y el de la bañera debe ser de un mínimo de 1/2" (13 mm) de tubería de cobre o 1/2" (13 mm) de tubería de hierro en caída recta no menos de 8" (203 mm) pero no más de 18" (457 mm) de largo a la entrerrosca del surtidor de la bañera y con sólo un codo de 90 grados, de tubería de hierro o cobre. No use la tubería PEX como tubería entre la válvula y el surtidor de la bañera.

#### PRUEBA DE PRESIÓN Y LIMPIEZA DE LA INSTALACIÓN

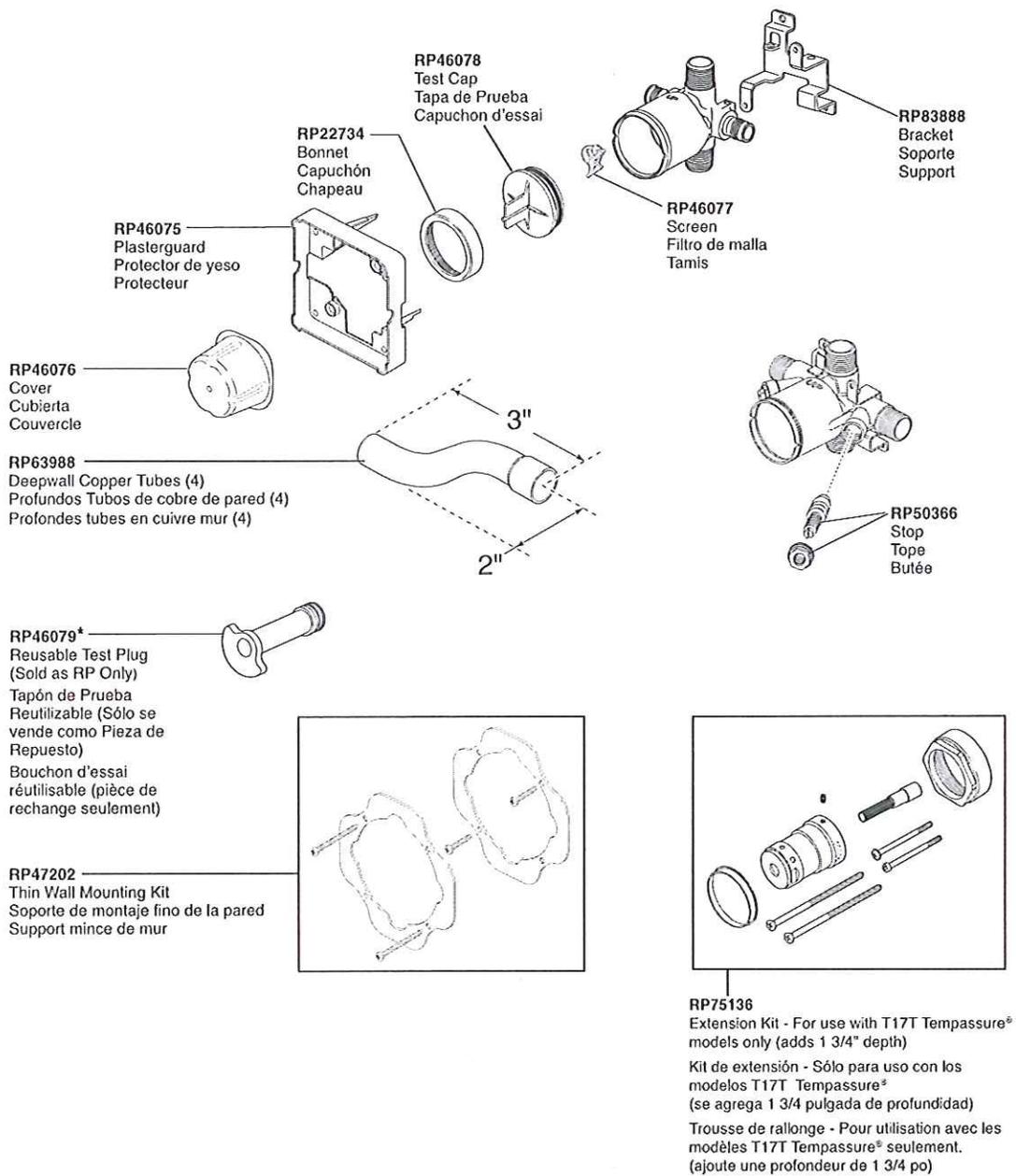
Antes de probar, quite la cubierta (1), el capuchón (2) y la tapa (3). Asegúrese que el aro O (4) y el filtro de malla (5) están correctamente instalados. Si lo ha quitado, instale otra vez la tapa y el capuchón, y apriete bien. Tape ambas salidas con los accesorios apropiados. Examine si hay filtraciones o fugas. Después de hacer la prueba quite el tapón de la regadera y/o bañera y deje que el agua corra para limpiar el sistema de tuberías. Después de dejar el agua correr quite el filtro de malla (5) y reinstale la tapa, el capuchón y la cubierta. Instale las válvulas apagadas (6 y 7) en con las paradas versión y sistema para abrirse por completo. Nota: Instale las paradas en con la versión de las válvulas apagadas como sigue: Rosque la tuerca (6) en el vástago (7) según lo demostrado. Después presione el montaje del vástago y de tuerca en cuerpo (8) y apriete con un 3/8", 6 puntos, zócalo bien profundo. Con un destornillador principal plano, ajuste el vástago a la derecha al cierre y a la izquierda abrirse.

À l'aide des raccords appropriés, raccordez l'orifice supérieur (1) au tuyau de la douche et l'orifice inférieur (2) au tuyau du bec de baignoire. Le corps de robinet doit être relié au bec de baignoire par un tuyau de cuivre d'au moins 1/2 po (13 mm) ou un tuyau de fer d'au moins 1/2 po (13 mm). Ce tuyau (3) doit être droit et il doit avoir une longueur d'au moins 8 po (203 mm) et d'au plus 18 po (457 mm); il doit être relié au tuyau du bec de baignoire par un seul coude à 90 degrés en cuivre ou en fer. N'utilisez pas de tube PEX pour raccorder le bec.

#### ESSAI SOUS PRESSION ET RINÇAGE DE L'INSTALLATION

Avant d'effectuer l'essai, enlevez le couvercle (1), le chapeau (2) et le capuchon (3). Assurez-vous que le joint torique (4) et le tamis (5) sont bien installés. Reposez le capuchon et le chapeau si vous les avez enlevés et serrez-les solidement. Obtenez les deux sorties à l'aide des bouchons appropriés. Vérifiez l'étanchéité. Après avoir réalisé l'essai, enlevez le bouchon de la sortie de la douche et/ou le bouchon de la sortie du bec de baignoire et rincez l'installation. Une fois l'installation rincée, enlevez le tamis (5) et reposez le capuchon, le chapeau ainsi que le couvercle. Installez les valves coupées (6 et 7) dans avec des arrêts version et ensemble sur grand ouvert. Note : Installez les arrêts dans avec la version de valves coupées comme suit : Filetez l'écrou (6) sur la tige (7) comme montré. Alors serrez l'ensemble de tige et d'écrou dans le corps (8) et serrez en utilisant un 3/8", 6 points, douille bonne profonde. Avec un tournevis principal plat, ajustez la tige dans le sens des aiguilles d'une montre sur la fin et s'ouvrir dans le sens contraire des aiguilles d'une montre.

**Replacement Parts**  
**Piezas de Repuesto**  
**Pièces de rechange**



\*Used to plug one inlet side (Hot or Cold) to prevent cross flow when checking for leaks before the cartridge is installed. Insert into the inlet, place test cap and use the bonnet to secure in place.

\*Tapaban una entrada lateral (caliente o frío) para prevenir flujo cruzado cuando la comprobación para saber si hay escapes antes del cartucho está instalada. El relleno en la entrada, casquillo de la prueba del lugar y utiliza el capo para asegurar en lugar.

\*Branchaient une admission latérale (chaud ou froid) pour empêcher l'écoulement en travers quand la vérification les fuites avant la cartouche est installée. L'insertion dans l'admission, chapeau d'essai d'endroit et emploient le capot pour fixer en place.

## Limited Warranty on Delta® Faucets

### Parts and Finish

All parts (other than electronic parts and batteries) and finishes of this Delta® faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for as long as the original consumer purchaser owns the home in which the faucet was first installed or, for commercial users, for 5 years from the date of purchase.

### Electronic Parts and Batteries (if applicable)

Electronic parts (other than batteries), if any, of this Delta® faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for 5 years from the date of purchase or, for commercial users, for one year from the date of purchase. No warranty is provided on batteries.

Delta Faucet Company will replace, FREE OF CHARGE, during the applicable warranty period, any part or finish that proves defective in material and/or workmanship under normal installation, use and service. If repair or replacement is not practical, Delta Faucet Company may elect to refund the purchase price in exchange for the return of the product. These are your exclusive remedies.

Delta Faucet Company recommends using a professional plumber for all installation and repair. We also recommend that you use only genuine Delta® replacement parts.

Delta Faucet Company shall not be liable for any damage to the faucet resulting from misuse, abuse, neglect or improper or incorrectly performed installation, maintenance or repair, including failure to follow the applicable care and cleaning instructions.

Replacement parts may be obtained by calling the applicable number below or by writing to:

### In the United States and Mexico:

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1-800-345-DELTA (3358)  
customerservice@deltafaucet.com

### In Canada:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1-800-345-DELTA (3358)  
customerservice@mascocanada.com

Proof of purchase (original sales receipt) from the original purchaser must be made available to Delta Faucet Company for all warranty claims unless the purchaser has registered the product with Delta Faucet Company. This warranty applies only to Delta® faucets manufactured after January 1, 1995 and installed in the United States of America, Canada and Mexico.

DELTA FAUCET COMPANY SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LABOR CHARGES) FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THE FAUCET. Some states/provinces do not allow the exclusion or limitation of special, incidental or consequential damages, so these limitations and exclusions may not apply to you. This warranty gives you special legal rights. You may also have other rights which vary from state/province to state/province.

This is Delta Faucet Company's exclusive written warranty and the warranty is not transferable.

If you have any questions or concerns regarding our warranty, please view our Warranty FAQs at [www.deltafaucet.com](http://www.deltafaucet.com), email us at [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) or call us at the applicable number above.

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## Garantía Limitada de las Llaves de Agua (grifos) Delta®

### Piezas y acabado

Todas las piezas (excepto las piezas electrónicas y las pilas) y los acabados de esta llave de agua Delta® están garantizados al consumidor comprador original de estar libres de defectos en material y fabricación durante el tiempo que el comprador original posea la vivienda en la que la llave de agua fue originalmente instalada o, para los consumidores comerciales, durante 5 años a partir de la fecha de compra.

### Componentes electrónicos y pilas (si aplicable)

Todas las piezas (salvo las pilas), si hay, de esta llave de agua Delta® están garantizadas al consumidor comprador original de estar libres de defectos en materiales y fabricación durante 5 años a partir de la fecha de compra o, para los usuarios comerciales, por un año a partir de la fecha de compra. No se garantizan las pilas.

Delta Faucet Company reemplazará, SIN CARGO, durante el período de garantía aplicable, cualquier pieza o acabado que pruebe tener defectos de material y/o fabricación bajo la instalación, uso y servicio normal. Si la reparación o su reemplazo no es práctico, Delta Faucet Company tiene la opción de reembolsarle su dinero por la cantidad del precio de compra a cambio de la devolución del producto. Estos son sus únicos recursos.

Delta Faucet Company recomienda que use los servicios de un plomero profesional para todas las instalaciones y reparaciones. También le recomendamos que utilice sólo las piezas de repuesto originales de Delta®.

Delta Faucet Company no será responsable por cualquier daño a la llave de agua que resulte del mal uso, abuso, negligencia o mala instalación o mantenimiento o reparación incorrecta, incluyendo el no seguir los cuidados aplicables y las instrucciones de limpieza.

Las piezas de repuesto se pueden obtener llamando al número correspondiente más abajo, o escribiendo a:

### En los Estados Unidos y México:

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1 800 345 DELTA (3358)  
customerservice@deltafaucet.com

### En Canadá:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1 800 345 DELTA (3358)  
customerservice@mascocanada.com

La prueba de compra (recibo original) del comprador original debe ser disponible a Delta Faucet Company para todos los reclamos a menos que el comprador haya registrado el producto con Delta Faucet Company. Esta garantía le aplica sólo a las llaves de agua de Delta® fabricadas después del 1 de enero 1995 e instaladas en los Estados Unidos de América, Canadá y México.

DELTA FAUCET COMPANY NO SE HACE RESPONSABLE POR CUALQUIER DAÑO ESPECIAL, INCIDENTAL O CONSECUTIVO (INCLUYENDO LOS GASTOS DE MANO DE OBRA) POR EL INCUMPLIMIENTO DE CUALQUIER GARANTÍA EXPRESA O IMPLÍCITA DE LA LLAVE DE AGUA. Algunos estados/provincias no permiten la exclusión o limitación de daños especiales, incidentales o consecutivos, por lo que estas limitaciones y exclusiones pueden no aplicarse a usted. Esta garantía le otorga derechos legales. Usted también puede tener otros derechos que varían de estado/provincia a estado/provincia.

Esta es la garantía exclusiva por escrito de Delta Faucet Company y la garantía no es transferible.

Si usted tiene alguna pregunta o inquietud acerca de nuestra garantía, por favor, vea nuestra sección de preguntas frecuentes FAQ sobre la garantía en [www.deltafaucet.com](http://www.deltafaucet.com), también puede enviarnos un correo electrónico a [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) o llámenos al número que le corresponda anteriormente incluido.

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## Garantie limitée des robinets Delta®

### Pièces et finis

Toutes les pièces (à l'exception des composants électroniques et des piles) et tous les finis de ce robinet Delta® sont protégés contre les défauts du matériau et les vices de fabrication par une garantie qui est consentie au premier acheteur et qui demeure valide tant que celui-ci demeure propriétaire de la maison dans laquelle le robinet a été installé. Dans le cas d'une utilisation commerciale, la garantie est de 5 ans à compter de la date d'achat.

### Composants électroniques et piles (le cas échéant)

Si ce robinet Delta® comporte des composants électroniques, ces composants (à l'exception des piles) sont protégés contre les défauts du matériau et les vices de fabrication par une garantie consentie au premier acheteur qui est d'une durée de 5 ans à compter de la date d'achat. Dans le cas d'une utilisation commerciale, la garantie est d'un an à compter de la date d'achat. Aucune garantie ne couvre les piles.

Delta Faucet Company remplacera, GRATUITEMENT, pendant la période de garantie applicable, toute pièce ou tout fini qui présentera une défectuosité du matériau et/ou un vice de fabrication pour autant que le robinet ait été installé, utilisé et entretenu normalement. S'il est impossible de réparer ou de remplacer le robinet, Delta Faucet Company pourra décider de rembourser le prix d'achat du produit pour autant que celui-ci lui soit retourné. Il s'agit de vos seuls recours.

Delta Faucet Company recommande de confier l'installation et la réparation à un plombier professionnel. Nous vous recommandons également d'utiliser uniquement des pièces de rechange authentiques Delta®.

Delta Faucet Company se dégage de toute responsabilité à l'égard des dommages causés au robinet en raison d'un mauvais usage, d'un usage abusif, de la négligence ou de l'utilisation d'une méthode d'installation, de maintenance ou de réparation incorrecte ou inadéquate, y compris les dommages résultant du non-respect des instructions de nettoyage et d'entretien applicables.

Pour obtenir des pièces de rechange, veuillez appeler au numéro applicable ci-dessous ou écrire à l'adresse applicable ci-dessous.

### Aux États-Unis et au Mexique :

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1-800-345-DELTA (3358)  
customerservice@deltafaucet.com

### Au Canada:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1-800-345-DELTA (3358)  
customerservice@mascocanada.com

La preuve d'achat (reçu original) du premier acheteur doit être présentée à Delta Faucet Company pour toutes les demandes en vertu de la garantie, sauf si le produit a été enregistré auprès de Delta Faucet Company. La présente garantie s'applique uniquement aux robinets Delta® fabriqués après le 1er janvier 1995 et installés aux États-Unis d'Amérique, au Canada et au Mexique.

DELTA FAUCET COMPANY SE DÉGAGE DE TOUTE RESPONSABILITÉ À L'ÉGARD DES DOMMAGES PARTICULIERS, CONSÉCUTIFS OU INDIRECTS (Y COMPRIS LES FRAIS DE MAIN-D'OEUVRE) QUI POURRAIENT RÉSULTER DE LA VIOLATION D'UNE GARANTIE IMPLICITE OU EXPLICITE QUELCONQUE SUR LE ROBINET. Dans les États ou les provinces où il est interdit de limiter ou d'exclure la responsabilité à l'égard des dommages particuliers, consécutifs ou indirects, les limites et les exclusions susmentionnées ne s'appliquent pas. La présente garantie vous donne des droits précis qui peuvent varier selon l'État ou la province où vous résidez.

La présente garantie écrite est la garantie exclusive offerte par Delta Faucet Company et elle n'est pas transférable.

Si vous avez des questions ou des préoccupations en ce qui concerne notre garantie, veuillez consulter la page Warranty FAQs à [www.deltafaucet.com](http://www.deltafaucet.com), faire parvenir un courriel à [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) ou nous appeler au numéro applicable.

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# MultiChoice® Valve Trim Installation Instructions

## Owners Manual

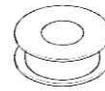
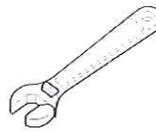
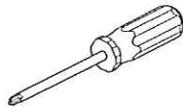
13/14 Series

68881

Write purchased model number here.



### You May Need



### Table of Contents:

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| Warranties .....                        | Page 2      |
| Installation Instructions .....         | Pages 3 - 8 |
| Clean and care .....                    | Page 9      |
| Maintenance .....                       | Page 9      |
| Cartridge Summary Reference Sheet ..... | Page 9      |
| Classic Series Replacement Parts .....  | Page 12     |

### For additional replacement parts, visit [www.deltafaucet.com](http://www.deltafaucet.com)

**CAUTION:** This system/device must be set by the installer to ensure safe, maximum temperature. Any change in the setting may raise the discharge temperature above the limit considered safe and may lead to hot water burns.

**NOTICE TO INSTALLER: CAUTION!** – As the installer of this valve, it is your responsibility to properly INSTALL and ADJUST this valve per the instructions given. This valve does not automatically adjust for inlet temperature changes, therefore, someone must make the necessary Rotational Limit Stop adjustments at the time of installation and further adjustments may be necessary due to seasonal water temperature change. **YOU MUST** inform the owner/user of this requirement by following the instructions. If you or the owner/user are unsure how to properly make these adjustments please refer to page 6 and if still uncertain, call us at 1-800-345-DELTA.

After installation and adjustment, you must affix your name, company name and the date you adjusted the Rotational Limit Stop to the caution

label provided and apply or attach the label to the back side of the closest cabinet door and the warning label to the water heater. **Leave this instruction sheet for the owner's/user's reference.**

**WARNING:** This pressure balanced or thermostatic bath valve is designed to minimize the effects of outlet water temperature changes due to inlet pressure changes, commonly caused by dishwashers, washing machines, toilets and the like. It may not provide protection from hot water burns when there is a failure of other temperature controlling devices elsewhere in the plumbing system, if the rotational limit stop is not properly set or if the hot water temperature is changed after the settings are made or if the water inlet changes due to seasonal changes.

**WARNING:** Do not install a shut-off device on either outlet of this valve. When this type of device shuts off the water flow, it can defeat the ability of the valve to balance the hot and cold water pressures.

13/14 Series

13/14 Series

13/14 Series

## Lifetime Faucet and Finish Limited Warranty

### Parts and Finish

All parts (other than electronic parts and batteries) and finishes of this Delta<sup>®</sup> faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for as long as the original consumer purchaser owns the home in which the faucet was first installed or, for commercial users, for 5 years from the date of purchase.

### Electronic Parts and Batteries (if applicable)

Electronic parts (other than batteries), if any, of this Delta<sup>®</sup> faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for 5 years from the date of purchase or, for commercial users, for one year from the date of purchase. No warranty is provided on batteries.

Delta Faucet Company will replace, FREE OF CHARGE, during the applicable warranty period, any part or finish that proves defective in material and/or workmanship under normal installation, use and service. If repair or replacement is not practical, Delta Faucet Company may elect to refund the purchase price in exchange for the return of the product. These are your exclusive remedies.

Delta Faucet Company recommends using a professional plumber for all installation and repair. We also recommend that you use only genuine Delta<sup>®</sup> replacement parts.

Delta Faucet Company shall not be liable for any damage to the faucet resulting from misuse, abuse, neglect or improper or incorrectly performed installation, maintenance or repair, including failure to follow the applicable care and cleaning instructions.

Replacement parts may be obtained by calling the applicable number below or by writing to:

### In the United States and Mexico:

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1-800-345-DELTA (3358)  
customerservice@deltafaucet.com

### In Canada:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1-800-345-DELTA (3358)  
customerservice@mascocanada.com

Proof of purchase (original sales receipt) from the original purchaser must be made available to Delta Faucet Company for all warranty claims unless the purchaser has registered the product with Delta Faucet Company. This warranty applies only to Delta<sup>®</sup> faucets manufactured after January 1, 1995 and installed in the United States of America, Canada and Mexico.

DELTA FAUCET COMPANY SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LABOR CHARGES) FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THE FAUCET. Some states/provinces do not allow the exclusion or limitation of special, incidental or consequential damages, so these limitations and exclusions may not apply to you. This warranty gives you special legal rights. You may also have other rights which vary from state/province to state/province.

This is Delta Faucet Company's exclusive written warranty and the warranty is not transferable.

If you have any questions or concerns regarding our warranty, please view our Warranty FAQs at [www.deltafaucet.com](http://www.deltafaucet.com), email us at [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) or call us at the applicable number above.

## Delta HDF Limited Warranty

All parts of the Delta HDF faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for a period of five (5) years. This warranty is made to the original consumer purchaser and shall be effective from date of purchase as shown on purchaser's receipt.

Delta will replace, FREE OF CHARGE, during the warranty period, any part which proves defective in material and/or workmanship under normal installation, use and service. Replacement parts can be obtained from your local dealer or distributor listed in the telephone directory or by returning the part along with the purchaser's receipt to our factory, TRANSPORTATION CHARGES PREPAID, at the address listed. THIS WARRANTY IS THE ONLY EXPRESS WARRANTY MADE BY DELTA. ANY CLAIMS MADE UNDER THIS WARRANTY MUST BE MADE DURING THE FIVE YEAR PERIOD REFERRED TO ABOVE. ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A

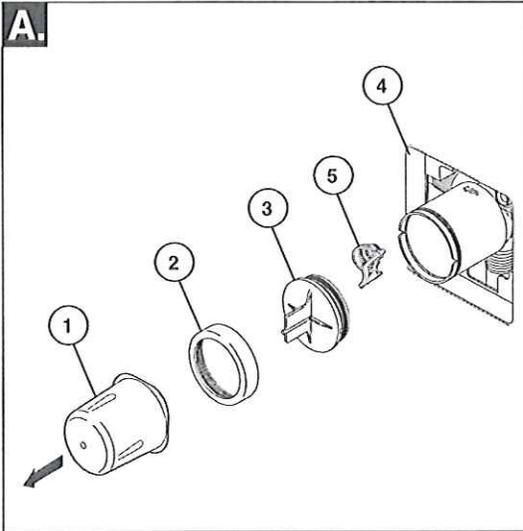
PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY. LABOR CHARGES AND/OR DAMAGE INCURRED IN INSTALLATION, REPAIR OR REPLACEMENT AS WELL AS INCIDENTAL AND CONSEQUENTIAL DAMAGES CONNECTED THEREWITH ARE EXCLUDED AND WILL NOT BE PAID BY DELTA.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

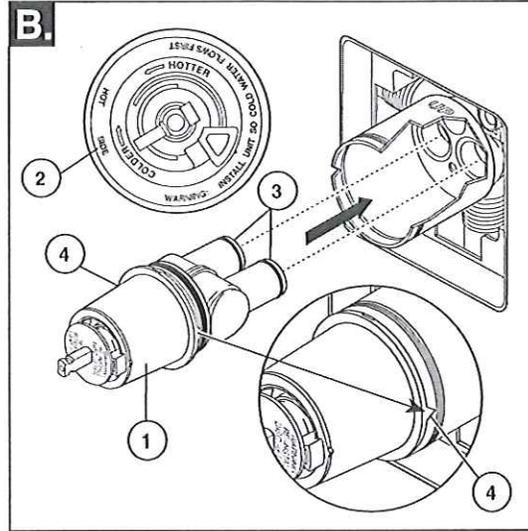
This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty is void for any damage to this faucet due to misuse, abuse, neglect, accident, improper installation, any use violative of instructions furnished by us or any use of replacement parts other than genuine Delta parts.

## 1 Cartridge Installation



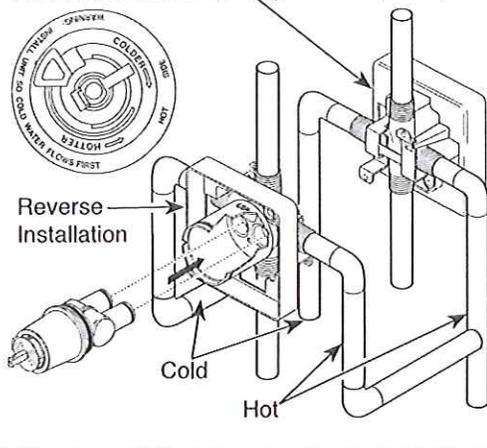
**Turn off water supplies.** Remove cover (1), bonnet nut (2) and test cap (3) from the body. If this is not a thin wall mounting, the entire plasterguard (4) may be removed. If screen (5) is in place, remove before installing cartridge.



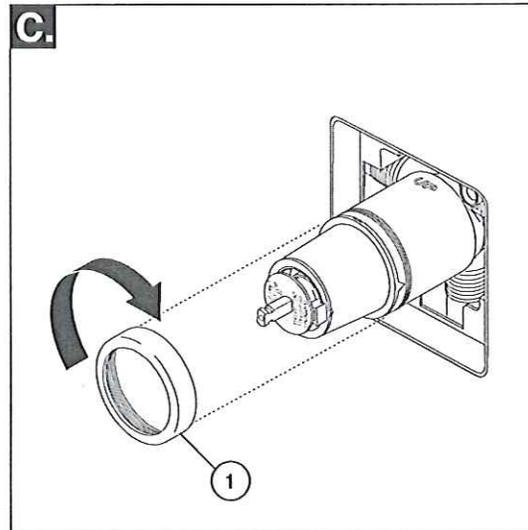
Rotate the cartridge (1) so the words "hot side" (2) appear on the left. Insert cartridge into valve body as shown. Make sure the cartridge tubes and O-rings (3) are properly seated in holes at the base of the body. Ensure the keys on the body are fully engaged with the slots in the body (4).

### Back to back Installation

Normal Installation (changes not required)



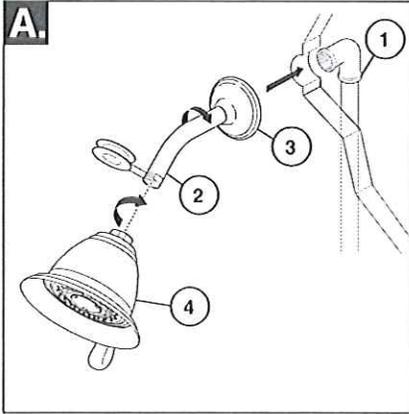
For back to back or reverse installations (hot on right and cold on left) insert the cartridge with the "hot side" on the right. If you are not making a reverse or back to back installation skip this step and continue with step 1C.



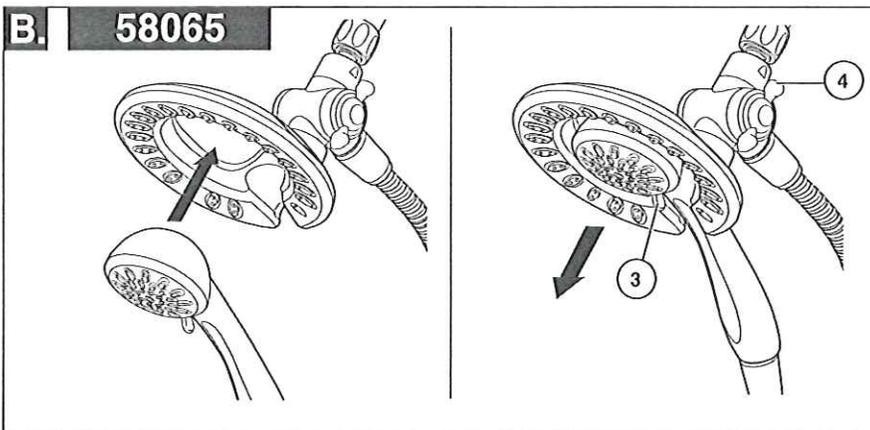
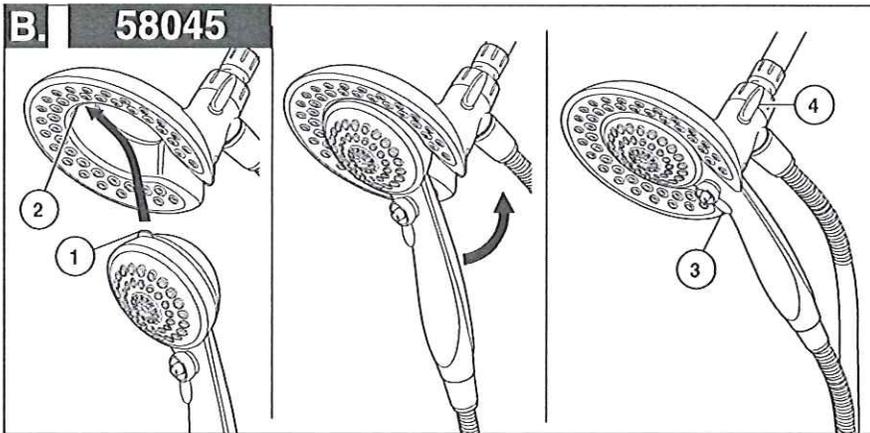
Slide bonnet nut (1) over the cartridge and thread onto the body. Hand tighten securely.

# Installation

## 2 Showerhead and Tub Spout Installation



**FOR SHOWERHEAD INSTALLATION:** Connect top outlet (1) to shower arm (2) with proper fittings. To prevent damage to finish on shower arm, insert wall end of shower arm into shower flange (3) before screwing arm into riser connection. Thread showerhead (4) onto shower arm. Apply plumber tape to pipe threads on both ends. Do not overtighten showerhead.



**B. 58045:** To combine the two showers, insert the top tab (1) on the handshower into the slot (2) of the showerhead. Push the handshower into the showerhead until the two parts snap together.

**58065:** To combine the two showers, push the handshower into the showerhead, then pull down on the handshower until locked with the showerhead.

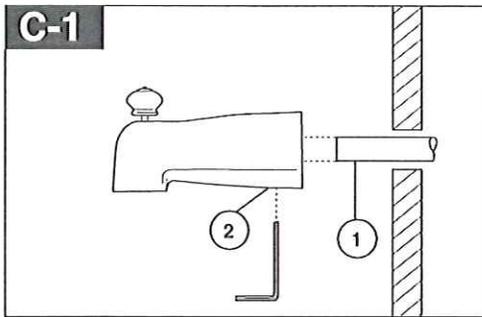
If the showerhead moves when removing the handshower, hand tighten the connection between the showerhead and the shower arm.

To change spray modes, turn the lever (3) left or right to the desired setting. Turn knob (4) to change between showerhead only, showerhead and handshower or handshower only.

## 2 Showerhead and Tub Spout Installation

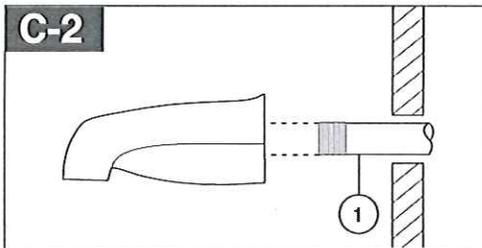
### FOR TUB SPOUT INSTALLATION:

Refer to the installation instructions supplied with your spout. Do not connect deck mount spouts to in-wall valves. Do not use hand showers connected in lieu of a tub spout to a tub/shower valve. Do not use PEX tubing for tub spout drop.



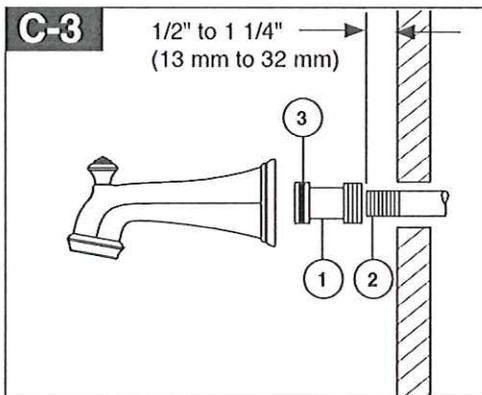
#### Slip-On Installation

The copper tube (1) must be 1/2" nominal copper. Important: If it is necessary to cut the copper tube, the end must be chamfered free of burrs to prevent cutting or nicking O-ring inside the spout. Slide spout over copper tube flush with the finished tub or wall surface. Tighten set screw (2), but do not overtighten.



#### Iron Pipe Installation

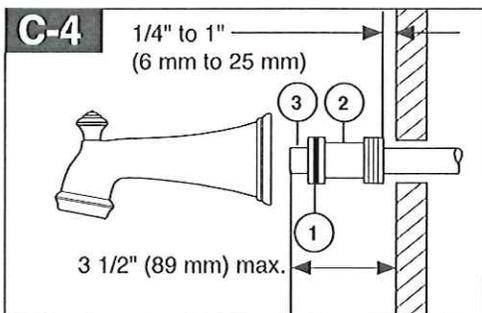
Install threaded pipe nipple (1) to extend past finished wall. Apply plumber tape to threads on pipe nipple and screw on tub spout.



#### Iron Pipe Installation

##### Installation of easy-on universal tub spout

Install pipe nipple so that end of nipple projects out from finished wall surface 1/2" to 1 1/4" (13 mm to 32 mm). Apply plumber tape or pipe dope to pipe threads. Hand tighten adapter (1) onto pipe nipple (2). Finish tightening with standard pipe wrench until a positive seal is implemented. Take care not to damage O-Ring (3) groove. Back of adapter (1) must not project more than 1" (25 mm) from finished wall surface. Hand tighten tub spout onto adapter (1) taking care not to damage the O-Ring (3).



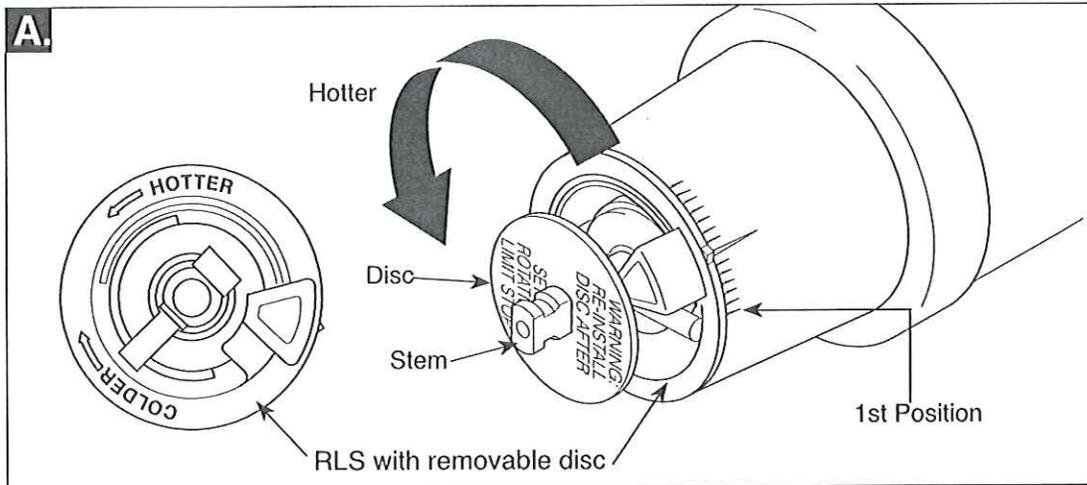
#### Copper Sweat Installation

Install adapter so the end of the adapter is 1/4" to 1" (6 mm to 25 mm) from finished wall. Remove O-ring (1) from adapter (2). Solder adapter to tube taking care to keep solder away from O-ring groove. CAUTION: NO SOLDER PERMITTED ON OUTSIDE DIAMETER OF ADAPTER ADJACENT TO O-RING GROOVE. Cut off tube (3) and replace O-ring on groove of brass adapter. Thread tub/spout onto adapter, taking care not to damage O-ring, and hand tighten until spout is firmly against finished wall and all slack is taken up behind wall.

## Installation

### 3

Adjusting the Rotational Limit Stop – Identify RSL type from pages 6-7.



#### IMPORTANT:

The Rotational Limit Stop is used to limit the amount of hot water available such that, if set properly, the user will not be scalded if the handle accidentally is rotated all the way to "hot" when a person is showering or filling a tub. The first position allows the **LEAST** amount of hot water to mix with the cold water in the system. In the first position the water will be the coldest possible when the handle is turned all the way to hot. As you move the Rotational Limit Stop counterclockwise, you progressively add more and more hot water in the mix. The last position to the left will result in the greatest amount of hot water to the mix, and the greatest risk of scald injury if someone accidentally turns the valve handle all the way to the hot side while showering or filling a tub.

**WARNING:** In some instances, setting the Rotational Limit Stop in the hottest position (full counterclockwise) could result in scald injury. It is necessary to adjust the Rotational Limit Stop so that the water coming out of the valve will not scald the user when the handle of the valve is rotated to the hot side.

- According to the majority of industry standards, the maximum allowable temperature of the water exiting the valve is 120°F (Your local plumbing codes may require a water temperature less than 120°F).

- The Rotational Limit Stop may need to be re-adjusted seasonally if the inlet water temperature changes. For example, during the winter, the cold water temperature is colder than it is during the summer which could result in varying outlet temperatures. A water temperature for

a comfortable bath or shower is typically between 90°F - 110°F.

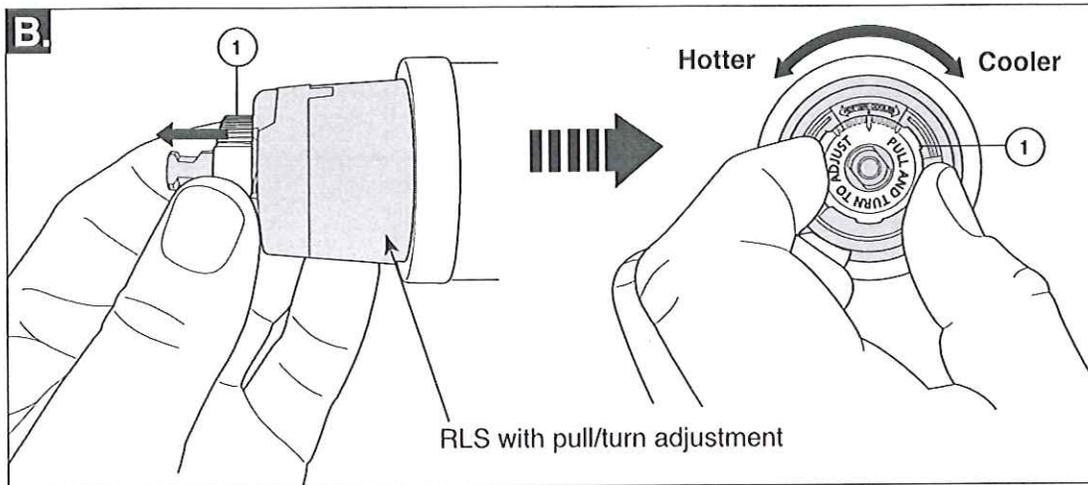
- Run the water so that the cold water is as cold as it will get and hot water is as hot as it will get. Place the handle on the stem (see page 8, step 4C) and rotate the handle counterclockwise until the handle stops.
- Place a thermometer in a plastic tumbler and hold in the water stream. If the water temperature is above 120°F, the Rotational Limit Stop must be repositioned clockwise to decrease valve outlet water temperature to be less than 120°F or to meet the requirements of your local plumbing codes.
- To adjust the temperature of the water coming out of the valve, pull the disc back to a position where it is possible to remove the Rotational Limit Stop and readjust the teeth engagement position to the desired temperature. Clockwise will decrease the outlet temperature, counterclockwise will increase the outlet temperature. Temperature change per tooth (notch) could be 4° - 16°F based on inlet water conditions. Repeat as necessary. Push disc until fully seated.

**WARNING:** Failure to re-install Disc after setting Rotational Limit Stop could result in scald injury.

- **MAKE SURE COLD WATER FLOWS FROM THE VALVE FIRST. MAKE SURE WATER FLOWING FROM THE VALVE AT THE HOTTEST FLOW POSSIBLE DOES NOT EXCEED 120°F OR THE MAXIMUM ALLOWED BY YOUR LOCAL PLUMBING CODE.**

## Installation

### 3 Adjusting the Rotational Limit Stop – Identify RSL type from pages 6-7.



#### IMPORTANT:

The Rotational Limit Stop is used to limit the amount of hot water available such that, if set properly, a scald injury is less likely to occur if the handle accidentally is rotated all the way to "hot" when a person is showering or filling a tub. The first position allows the **LEAST** amount of hot water to mix with the cold water in the system. In the first position the water will be the coldest possible when the handle is turned all the way to hot. As you move the Rotational Limit Stop counterclockwise, you progressively add more and more hot water in the mix. The last position to the left will result in the greatest amount of hot water to the mix, and the greatest risk of scald injury if someone accidentally turns the valve handle all the way to the hot side while showering or filling a tub.

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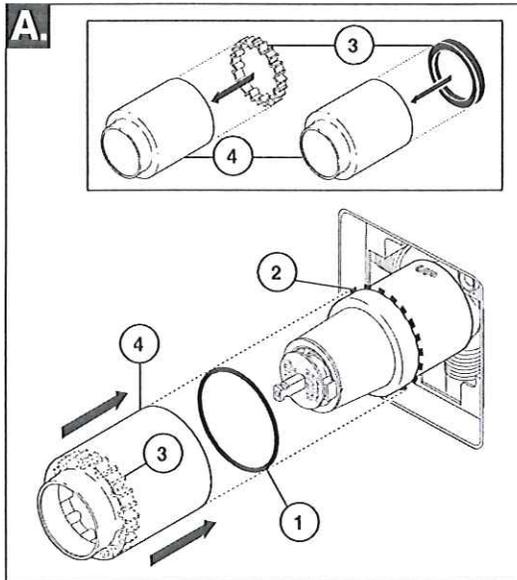
- Run the water so that the cold water is as cold as it will get and hot water is as hot as it will get. Place the handle on the stem (see page 8, step 4C) and rotate the handle counterclockwise until the handle stops.

- Place a thermometer in a plastic tumbler and hold in the water stream. If the water temperature is above 120°F, the Rotational Limit Stop must be repositioned clockwise to decrease valve outlet water temperature to be less than 120°F or to meet the requirements of your local plumbing codes.

- To adjust the temperature of the water coming out of the valve, pull the white Rotational Limit Stop (1) outward and rotate. Clockwise rotation will decrease the outlet temperature, counterclockwise rotation will increase the outlet temperature. Temperature change per tooth (notch) could be 4° - 16°F based on inlet water conditions. Repeat as necessary. When finished, make sure that the Rotational Limit Stop is fully retracted into the seated position. **WARNING: Do not take the Rotational Limit Stop apart.**

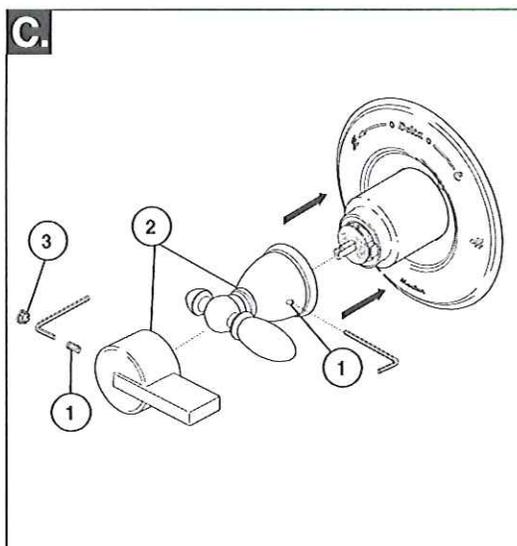
- **MAKE SURE COLD WATER FLOWS FROM THE VALVE FIRST. MAKE SURE WATER FLOWING FROM THE VALVE AT THE HOTTEST FLOW POSSIBLE DOES NOT EXCEED 120°F OR THE MAXIMUM ALLOWED BY YOUR LOCAL PLUMBING CODE.**

## 4 Trim Installation

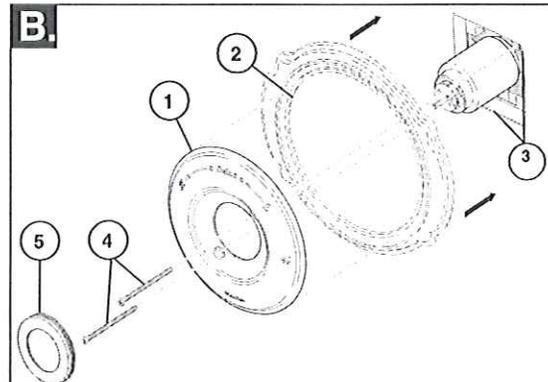


Slide O-ring (1) over cartridge and the bonnet nut (2). The O-ring, which acts as a spacer to steady the sleeve, should rest behind the bonnet nut.

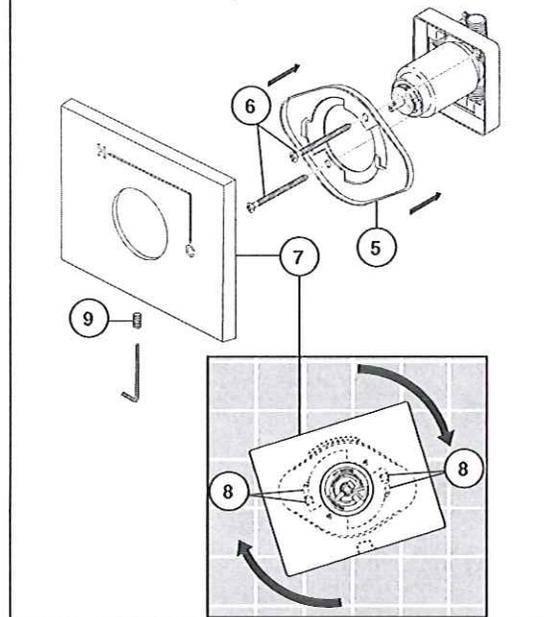
If your model requires a spacer (3), insert it into the sleeve (4) and push it to the front. Slide the sleeve over the cartridge, body and O-ring.



Using an Allen wrench to secure the set screw (1), install the handle (2) onto the stem. Insert plug button (3) (if your model has one) into set screw hole.



**Escutcheon Installation for Models T14053, T14253, T14453, T14067, T14267 & T14467.**



Secure the escutcheon (1) and backplate (2) (if your model has one) to the bracket (3) using the 2 screws provided (4). Do not overtighten escutcheon screws. **If you are installing the Cassidy models T14097, T14297 & T14497:** Thread the cover (5) onto the escutcheon (1).

**For models T14053, T14253, T14453, T14067, T14267 & T14467:**

Install bracket (5) over the cartridge body using the 2 screws provided (6). Install escutcheon (7) by placing it over the bracket as shown and rotating it to lock the tabs (8). Secure the escutcheon to the bracket using set screw (9).

## Clean and Care

Care should be given to the cleaning of this product. Although its finish is extremely durable, it can be damaged by harsh abrasives or polish. To clean, simply wipe gently with a damp cloth and blot dry with a soft towel.

**Warning:** *Scrubbing Bubbles® Bathroom Cleaner and Lysol® Basin Tub and Tile Cleaner* must not be used on the clear knob handles and levers. Use of these cleaners can result in cracked or severely damaged handles. If overspray gets onto the handles, immediately wipe them dry with a soft cotton cloth.

## Maintenance

**Faucet leaks from tub spout/showerhead:**  
SHUT OFF WATER SUPPLIES.

Replace seats and springs—Repair Kit RP4993. Check condition of lower O-rings and replace if necessary RP14414. See Helpful Hints 1, 2, & 3.

**If leak persists:**

SHUT OFF WATER SUPPLIES.  
Replace valve cartridge RP46074.  
See Helpful Hints 1, 2, 3, 4 & 5

**Unable to maintain constant water temperature:**

Replace housing assembly with RP46074 or follow instructions in Helpful Hints 1, 2, 3, 4 & 5.

**Helpful Hints:**

1. Before removing valve cartridge assembly for any maintenance, be sure to note the position of the rotational limit stop on the cap. The valve cartridge assembly must always be put back in the same position. **BE SAFE!** After you have finished the installation, turn on valve to make sure **COLD WATER FLOWS FIRST**.

2. To remove valve cartridge from body, shut off

water supplies and remove handle and bonnet nut. Do not pry the valve cartridge out of the body with a screwdriver. Place handle on stem and rotate counterclockwise approximately 1/4 turn after the stop has been contacted. Lift valve cartridge out of body.

3. To remove seats and springs.

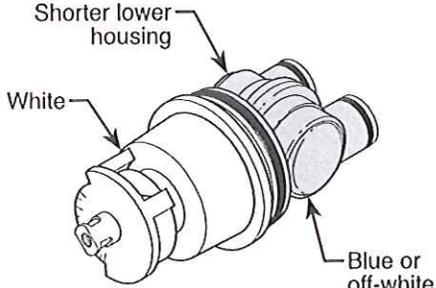
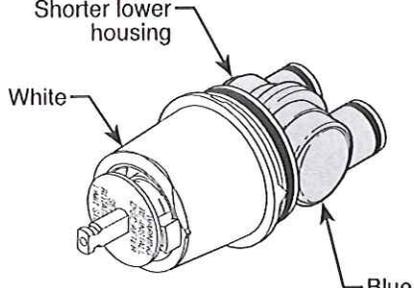
Remove valve cartridge. Separate cap assembly from the housing assembly by rotating the cap assembly counterclockwise 90° (degrees). Separate cap and housing assemblies.

4. If the water in your area has lime, rust, sand or other contaminants in it, your pressure balance valve will require periodic inspection. The frequency of the inspection will depend on the amount of contaminants in the water. To inspect valve cartridge remove it and follow the steps in note 1 above. Turn the valve to the full mix position and shake the cartridge vigorously. If there is a rattling sound, the unit is functional and can be reinstalled following instructions given in note 1 above. If there is no rattle, replace the housing assembly with the proper RP.

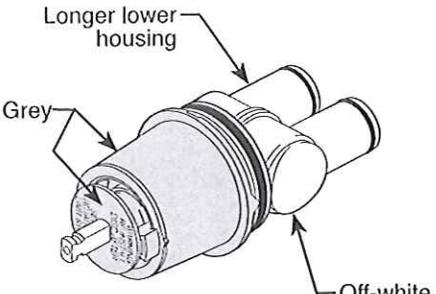
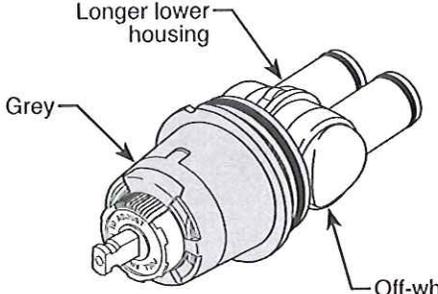
5. Push disc until fully seated. See page 6 for more details

# Cartridge Summary Reference Sheet

## Monitor® Series 1300/1400

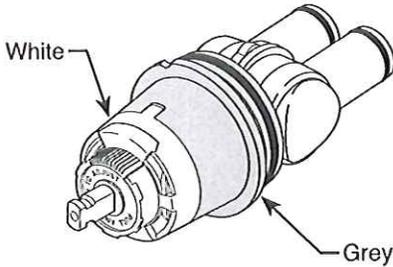
| Cartridge shipped before March 2006.                                                                                                                 | Cartridge shipped in July 2006 and after (prior to MultiChoice® transition).                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Shorter lower housing</p> <p>White</p> <p>Blue or off-white</p> |  <p>Shorter lower housing</p> <p>White</p> <p>Blue</p> |
| Order RP19804 to replace cartridge.                                                                                                                  | Order RP19804 to replace cartridge.                                                                                                      |

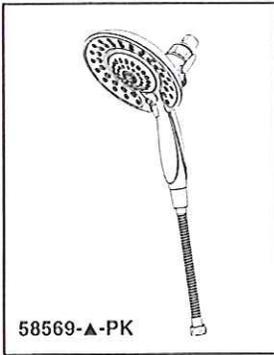
## MultiChoice® 13/14

| Cartridge shipped from March 2006 to August 2014.                                                                                           | Cartridge shipped in August 2014 and after.                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Longer lower housing</p> <p>Grey</p> <p>Off-white</p> |  <p>Longer lower housing</p> <p>Grey</p> <p>Off-white</p> |
| Order RP46074 to replace cartridge.                                                                                                         | Order RP46074 to replace cartridge.                                                                                                          |
| <p><b>NOTE: A running change for MultiChoice® 13/14 valves began August 2014, and features a new Rotational Limit Stop.</b></p>             |                                                                                                                                              |

## MultiChoice® 13/14 (Ceramic)

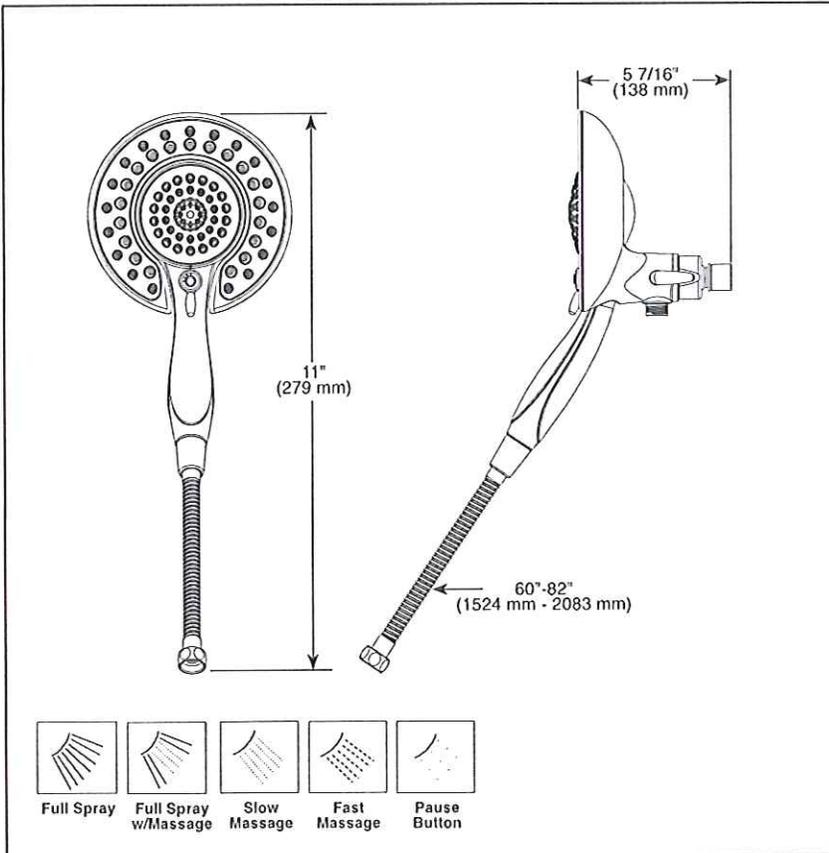
Cartridge shipping in select models (-CER).

|                                                                                                               |
|---------------------------------------------------------------------------------------------------------------|
|  <p>White</p> <p>Grey</p> |
| Order RP74236 to replace cartridge.                                                                           |



Submitted Model No.: \_\_\_\_\_

Specific Features: \_\_\_\_\_



▲ Designate proper finish suffix



## IN2ITION®

- 2-In-1 Shower
- Certified Dual Check Valves

### STANDARD SPECIFICATIONS:

- Maximum 2.00 gpm @ 80 psi, 7.60 L/min @ 550 kPa.
- Integrated handshower docks securely into showerhead when not in use.
- Multiple handshower spray settings and pause feature.
- 60"-82" (1524 mm - 2083 mm) metal hose.
- Hand held shower with 5 spray settings - not a positive shut-off.
- Adjustable shower arm mounting hands-free showering.
- Diverter allows for single or shared operation of showerhead and handshower.

### WARRANTY

- Lifetime limited warranty on parts (other than electronic parts and batteries) and finishes; or, for commercial users, for 5 years from date of purchase.
- 5 year limited warranty on electronic parts (other than batteries); or, for commercial users, for 1 year from the date of purchase. No warranty is provided on batteries.



### COMPLIES WITH:

- ASME A112.18.1 / CSA B125.1
- EPA WaterSense®



55 E 111th Street, Indianapolis, Indiana 46280  
 350 South Edgeware Road, St. Thomas, ON N5P 4L1  
 © 2016 Masco Corporation of Indiana

Delta reserves the right (1) to make changes in specifications and materials, and (2) to change or discontinue models, both without notice or obligation. Dimensions are for reference only. See current full-line price book or [www.deltafaucet.com](http://www.deltafaucet.com) for finish options and product availability.

DSP-B-58569-PK Rev. B



**IMPORTANT DOCUMENTS ENCLOSED**

**CAUTION:**

To reduce the risk of injury due to hot water burns, make sure the enclosed labels are applied where specified on the label.

---

**DOCUMENTOS IMPORTANTES INCLUIDOS**

**AVISO:**

Para reducir el riesgo de lesión por quemaduras de agua caliente , asegúrese que las etiquetas incluidas se han aplicado donde se ha especificado en la etiqueta.

---

**DOCUMENTS IMPORTANTS À L'INTÉRIEUR**

**MISE EN GARDE :**

Pour réduire le risque d'ébouillantage, veuillez apposer les étiquettes fournies aux endroits indiqués sur celles-ci.

**NOTICE TO INSTALLER:** Place this label on the water heater next to the temperature adjustment knob.

**WARNING:**

These series of tub/shower valves do not adjust automatically for changes in temperature at the hot water heater or inlet. If the temperature setting of the hot water heater or inlet is changed, the setting on these valves must be adjusted manually! Failure to re-adjust the valve may result in hot water burns or extreme cold resulting from variations in line pressure (such as when a dishwasher or washing machine is in use while you are taking a shower). After installation, verify that the rotational limit stop or temperature knob on the valve is set so that changes in line pressure or temperature do not result in uncomfortable water temperature changes. If the temperature setting of the hot water heater or inlet is changed after installation of the valve, the setting of the rotational limit stop or temperature knob also must be changed! Consult the installation instruction sheet for instructions on how to make this setting, or call us at 1-800-345-DELTA.

**AVISO AL INSTALADOR:** Coloque esta etiqueta en el calentador de agua al lado de la perilla para el ajuste de temperatura.

**AVISO:**

Esta serie de válvulas para bañeras/regaderas no se ajustan automáticamente a los cambios de temperatura en el calentador de agua o en el agua de entrada. Si el ajuste de la temperatura del calentador de agua o la temperatura del agua que entra cambia ¡El ajuste de estas válvulas se debe hacer manualmente! El no reajustar la válvula puede resultar en quemaduras por agua caliente o temperaturas de agua extremadamente frías resultando en variaciones de presión y temperatura (como cuando el fregador de platos o la lavadora están funcionando mientras que se baña). Después de la instalación, verifique que el control o tope del límite rotacional o la perilla del control de temperatura en la válvula está ajustada para que los cambios de presión y de temperatura en la línea no resulten en cambios incómodos de temperatura del agua. Si el ajuste de la temperatura del calentador de agua o de la entrada de agua se cambia después de la instalación de la válvula, el ajuste del tope del límite rotacional o la perilla de ajuste ¡también se debe cambiar! Consulte con su hoja de instrucciones de instalación para saber como se ajusta o cambia el ajuste, o llámenos al 1-800-345-DELTA.

**AVIS À L'INSTALLATEUR:** Fixez cette étiquette sur le chauffe-eau près du bouton de réglage de température.

**ATTENTION:**

La soupape de robinet de baignoire ou de douche de cette série ne se règle pas automatiquement en fonction des changements de température de l'eau chaude au chauffe-eau ou de l'eau d'alimentation. En cas de modification du réglage de température du chauffe-eau ou de la température de l'eau d'alimentation, le réglage de cette soupape doit être modifié manuellement! Si le réglage de la soupape n'est pas modifié, le robinet pourra permettre l'écoulement d'eau très chaude susceptible de causer l'ébouillantage ou d'eau très froide, sous l'effet des variations de pression et de température dans la tuyauterie d'alimentation (lorsque la douche est utilisée en même temps que le lave-vaisselle ou la machine à laver, par exemple). Après l'installation, assurez-vous que la butée de température maximale ou le bouton de température sur la soupape est réglé de manière que les fluctuations de pression et de température dans la tuyauterie d'alimentation n'entraînent pas de changements de température de l'eau inconfortables. En cas de modification du réglage de température du chauffe-eau ou de la température de l'eau d'alimentation après l'installation de la soupape, le réglage de la butée de température maximale ou du bouton de température doit être modifié! Pour régler le bouton de température, consultez la feuille d'instructions d'installation ou appelez-nous au 1-800-345-DELTA.

**NOTICE TO INSTALLER:** Place this label close to the valve where the owner will see it, such as inside the door of a cabinet or vanity.

**WARNING:**

Water temperature changes due to seasonal or other inlet variations, such as changing the setting on the hot water heater may require adjustment of the rotational limit stop or temperature knob on your tub/shower valve to ensure a safe maximum temperature. These valve series do not automatically adjust for inlet temperature changes. If changes occur and you are not sure how to make the necessary rotational limit stop or temperature knob adjustments, please consult the installation instruction sheet provided with this valve or call 1-800-345-DELTA. These valve series are designed to minimize the effects of outlet water temperature changes due to inlet pressure changes, commonly caused by dishwashers, washing machines, toilets and the like. *They may not provide protection from hot water burns when there is a failure of other temperature controlling devices elsewhere in the plumbing system.* After making the necessary adjustments please fill in the information below. This valve/system has been set by the person listed below to ensure a safe maximum temperature. Any change in the setting may raise the discharge temperature above the limit considered safe and could lead to hot water burns. If this label has not been completed, you should verify that the rotational limit stop or temperature knob has been properly adjusted to suit your individual installation. The installation instruction sheet supplied with the valve provides information on how to make this setting.

**AVISO AL INSTALADOR:** Coloque esta etiqueta cerca de la válvula donde el propietario la pueda ver, tal como dentro de la puerta del gabinete o el tocador.

**AVISO:**

Los cambios de temperatura del agua por variaciones estacionales u otras variaciones en el agua de entrada, como el cambio por el ajuste en el calentador de agua, puede requerir el ajuste del tope del límite rotacional o ajuste de la perilla para el control de la temperatura de la válvula de su unidad bañera/regadera para asegurar una temperatura máxima segura. Esta serie de válvulas no se ajusta automáticamente para los cambios de temperatura del agua de entrada. Si cambios ocurren y usted no está seguro como hacer los ajustes necesarios con la perilla para controlar la temperatura, por favor consulte la hoja de instrucciones de instalación proporcionada con esta válvula o llámenos al 1-800-345-DELTA. Las válvulas de esta serie están diseñadas para minimizar los efectos por cambios de temperatura en el agua de entrada por cambios en la presión del agua, comúnmente causados por el uso simultáneo de fregadoras de platos, lavadoras, inodoros y aparatos similares. *Estas pueden no proporcionar protección de quemaduras por el agua caliente cuando hay una falla de otros mecanismos que controlan la temperatura del agua en otro sitio del sistema de plomería.* Después de hacer los ajustes necesarios, por favor escriba la información suministrada a continuación. Esta válvula/sistema ha sido ajustada por la persona indicada a continuación para ayudar a asegurar una temperatura máxima segura. Cualquier cambio al ajuste puede aumentar la temperatura del agua de descarga sobre el límite considerado seguro y puede resultar en quemaduras por agua caliente. Si esta etiqueta no se ha llenado, debe verificar si el control o tope del límite rotacional o la perilla que controla la temperatura han sido correctamente ajustadas al gusto de su instalación individual. La hoja de instrucciones de instalación proporcionada con las válvulas le suministra información sobre como hacer este ajuste.

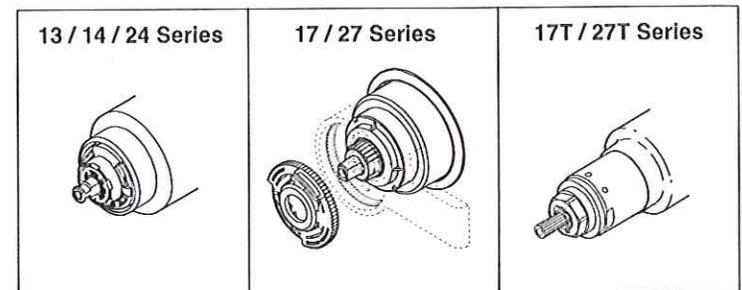
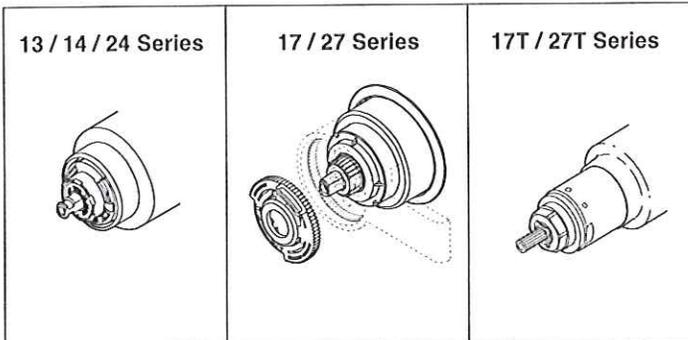
**AVIS À L'INSTALLATEUR:** Placez cette étiquette près de la soupape à un endroit où le propriétaire pourra la voir, du côté intérieur de la porte de l'armoire ou du meuble par exemple.

**AVERTISSEMENT:**

La température de l'eau peut varier en raison des changements de saison, d'une modification du réglage du chauffe-eau ou d'autres changements. Par conséquent, un réglage du bouton de température de votre soupape de douche ou de baignoire peut s'imposer pour que la température maximale de l'eau demeure sécuritaire. Les soupapes de cette série ne s'ajustent pas automatiquement aux changements de température de l'eau d'alimentation. Si des changements vous obligent à régler le bouton de température et vous n'êtes pas certain de la marche à suivre, veuillez consulter le feuillet d'instructions fourni avec la soupape ou appeler au 1-800-345-DELTA. Cette soupape est conçue pour réduire les risques de blessures causées par des changements de la température ou de la pression de l'eau d'alimentation habituellement causés par le lave-vaisselle, la machine à laver, une toilette ou un autre appareil qui consomme de l'eau. *Elle peut ne pas assurer de protection contre l'ébouillantage en cas de défectuosité d'un autre dispositif de régulation de la température dans la tuyauterie.* Après avoir effectué le réglage nécessaire, veuillez inscrire l'information requise ci-dessous. La personne dont le nom figure ci-dessous a réglé cette soupape pour qu'elle puisse maintenir une température maximale sécuritaire. Toute modification du réglage peut entraîner une élévation de la température de l'eau s'écoulant par la douche ou dans la baignoire au delà de la limite considérée sécuritaire, ce qui pourrait causer un ébouillantage. Si cette étiquette n'a pas été remplie, vous devriez vous assurer que le bouton de température a été réglé en fonction des caractéristiques de votre installation. Le feuillet d'instruction fourni avec la soupape indique la marche à suivre pour effectuer le réglage.

**TO BE FILLED OUT BY THE INSTALLER / PARA SER LLENADO POR EL INSTALADOR / A REMPLIR PAR L'INSTALLATEUR:**

BY/POR/PAR \_\_\_\_\_ COMPANY/COMPANIA/COMPAGNIE \_\_\_\_\_  
DATE/FECHA/LE \_\_\_\_\_ PHONE/TELÉFONO/TELÉPHONE \_\_\_\_\_



## Avalanche™ 1.28 & 1.6

### TOILETS WITH 3" FLUSH VALVES DIRECTIONS FOR TANK TO BOWL ASSEMBLY

This water closet has been designed for easy installation. Conventional fittings have been used throughout so that the working parts and operation of this assembly may be easily understood.

1. Before assembling tank (B) to bowl (K) check tightness of lock nuts on both flush valve and fill valve.
2. Assemble tank bolts (D) in tank with rubber washers (E) and plastic wing nuts (F). Wing nuts should be tightened by hand sufficiently to compress rubber washers and insure water seal.
3. Assemble bevel washer (G) to flush valve shank so that lock nut is enclosed in recess, making sure that the entire surface of the washer is in contact with the tank bottom.
4. Place two channel pads (H) in recesses on back of bowl ledge to prevent china-to-china contact.
5. Place tank assembly in position. All parts are supplied. **USE NO PUTTY.** Plastic wing nuts (F) are tightened by hand sufficiently to prevent rocking; and since the tank bolts are already sealed, the tank can be leveled by the relative amount that each wing nut is pulled down on the three points of contact...bevel washer (G) and two channel pads (H).
6. Plastic bolt caps and washers (J) are provided to be used as indicated in the illustration.
7. The fill valve coupling nut (I) is provided to connect the water supply line to the fill valve. **USE NO PIPE DOPE/HAND TIGHTEN ONLY; OVERTIGHTENING MAY SPLIT THE FILL VALVE AND WILL VOID THE WARRANTY!**

8. Make sure refill tube adaptor is attached to the top of the flush valve overflow tube. Note: Flow from the refill tube must be positioned directly over the overflow tube.

9. **IMPORTANT: Always clear sand and rust from system.**
  - Remove valve top by lifting arm and rotating top 1/8 turn counterclockwise.
  - While holding a container over the uncapped valve to prevent splashing, turn water supply on and off a few times. Leave water supply off.
  - Replace TOP by engaging lugs and rotating 1/8 turn clockwise. **MAKE CERTAIN TOP IS TURNED TO THE LOCKED POSITION. VALVE MAY NOT TURN ON IF TOP IS NOT FULLY TURNED TO THE LOCKED POSITION.**

10. Adjust water level in tank to marked water line. Turn the water level adjustment screw (L) to move the float cup (M) up or down.

11. Check action and nut tightness (left hand thread) of tank lever (C). Also, check looseness of flapper chain (there should be slight slack in chain when at rest) and seal of flush valve flapper.

**DO NOT USE IN-TANK DROP-IN TOILET BOWL CLEANERS CONTAINING CHLORINE OR BLEACH. Use of in-tank drop-in cleaners containing chlorine or bleach voids FLUIDMASTER™ WARRANTY and WILL RESULT IN DAMAGE to tank components and may cause flooding and property damage.**

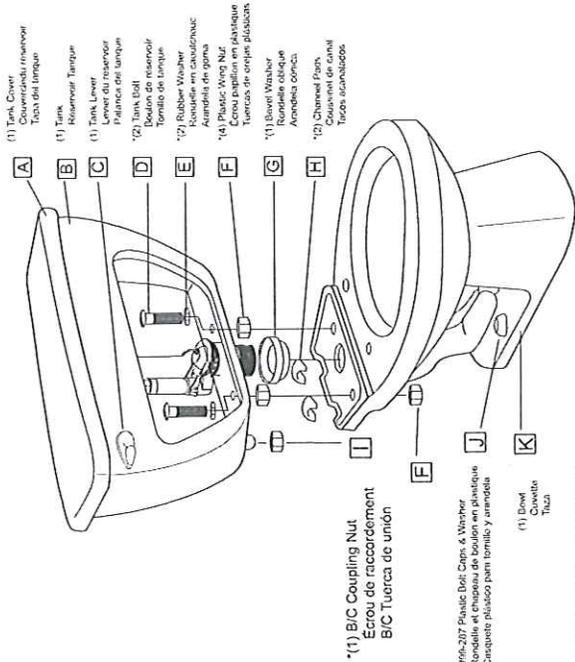
**DO NOT EXPOSE PLASTIC TRIM PARTS TO STRONG OXIDIZING AGENTS, CHLORINE, OR ACID LEVELS OF LOWER THAN 5.0 pH. SOME BOWL/TILE CLEANERS CONTAIN SUCH AGENTS.**

**TANK TYPE BOWL CLEANERS CAN CAUSE TANK COMPONENT FAILURE AND DAMAGE. OUR WARRANTY EXCLUDES SUCH FAILURES.**

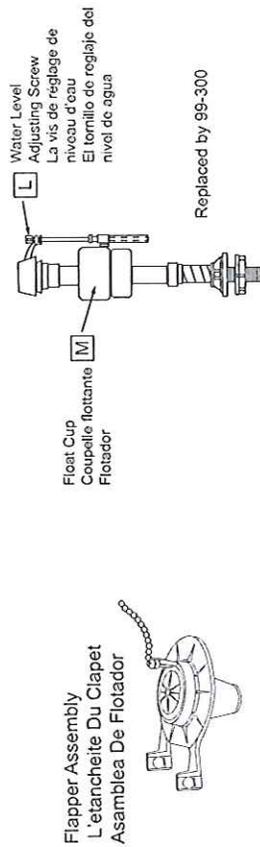
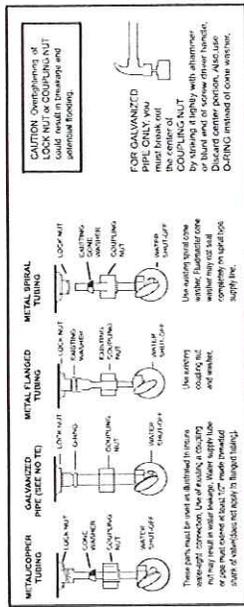


# GERBER

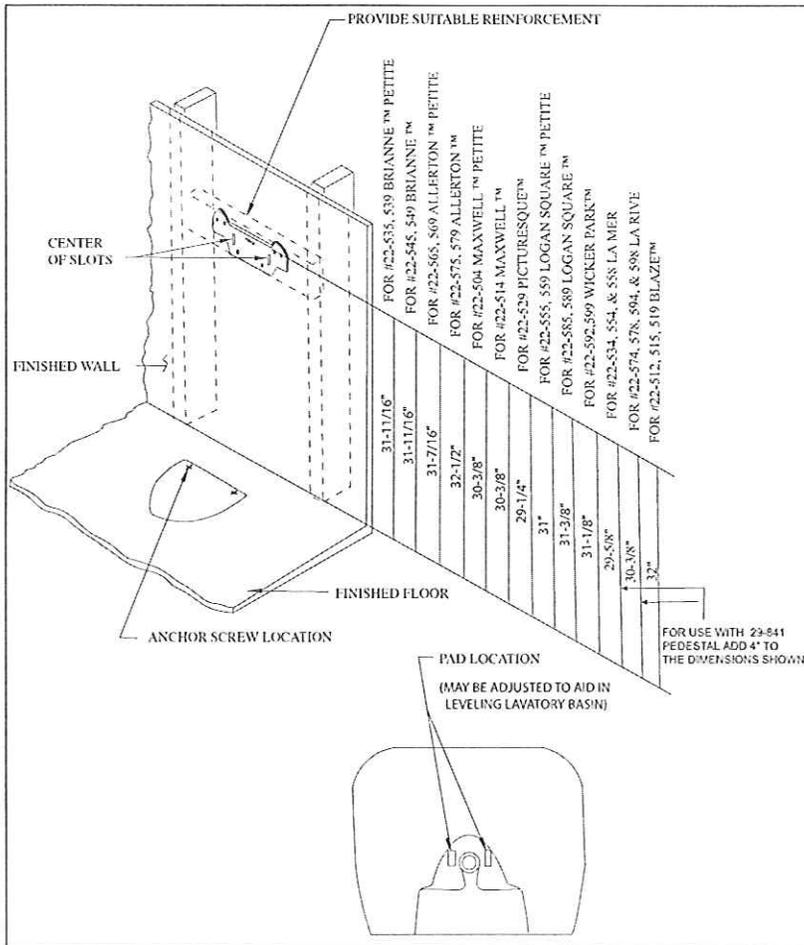
www.gerberonline.com



NOTE: Parts with \* are included in tank assembly kit 30-422E.  
REMARQUE: Les pièces avec \* sont incluses dans le kit de montage du réservoir.  
AVISO: Las piezas con \* están incluidas en el kit de montaje del tanque.



AVALANCHE™ is a trademark of GERBER PLUMBING FIXTURES LLC.  
FLUIDMASTER™ is the registered trademark of Fluidmaster Inc.  
8CGE0063, rev. 02-13



- 29-840 Standard Height Pedestal
- 29-841 ErgoHeight™ Pedestal
- 29-842 MAXWELL™ Pedestal
- 29-843 ALLERTON™ Pedestal
- 29-844 PICTURESQUE™ Pedestal
- 29-845 WICKER PARK™ Pedestal
- 29-846 BRIANNE™ Pedestal
- 29-847 LOGAN SQUARE™ Pedestal
- 29-848 BLAZE™ Pedestal

**Instructions for Installing Lavatory-Pedestal Units**

| #22-504 | MAXWELL™             | Consists of | #12-504 | Lavatory | & | #29-842 | Pedestal |
|---------|----------------------|-------------|---------|----------|---|---------|----------|
| #22-514 | MAXWELL™             | "           | #12-514 | "        | " | #29-840 | "        |
| #22-534 | La Mer Petite        | "           | #12-524 | "        | " | "       | "        |
| #22-554 | La Mer               | "           | #12-544 | "        | " | "       | "        |
| #22-558 | La Mer               | "           | #12-548 | "        | " | "       | "        |
| #22-574 | La Rive              | "           | #12-564 | "        | " | "       | "        |
| #22-578 | La Rive              | "           | #12-568 | "        | " | "       | "        |
| #22-594 | La Rive Petite       | "           | #12-584 | "        | " | "       | "        |
| #22-598 | La Rive Petite       | "           | #12-588 | "        | " | "       | "        |
| #22-565 | ALLERTON™ Petite     | "           | #12-565 | "        | " | #29-843 | "        |
| #22-569 | ALLERTON™ Petite     | "           | #12-569 | "        | " | "       | "        |
| #22-575 | ALLERTON™            | "           | #12-575 | "        | " | "       | "        |
| #22-579 | ALLERTON™            | "           | #12-579 | "        | " | "       | "        |
| #22-535 | BRIANNE™ Petite      | "           | #12-535 | "        | " | #29-846 | "        |
| #22-539 | BRIANNE™ Petite      | "           | #12-539 | "        | " | "       | "        |
| #22-545 | BRIANNE™             | "           | #12-545 | "        | " | "       | "        |
| #22-549 | BRIANNE™             | "           | #12-549 | "        | " | "       | "        |
| #22-529 | PICTURESQUE™         | "           | #12-529 | "        | " | #29-844 | "        |
| #22-555 | LOGAN SQUARE™ Petite | "           | #12-555 | "        | " | #29-847 | "        |
| #22-559 | LOGAN SQUARE™ Petite | "           | #12-559 | "        | " | "       | "        |
| #22-585 | LOGAN SQUARE™        | "           | #12-585 | "        | " | "       | "        |
| #22-589 | LOGAN SQUARE™        | "           | #12-589 | "        | " | "       | "        |
| #22-592 | WICKER PARK™         | "           | #12-592 | "        | " | #29-845 | "        |
| #22-599 | WICKER PARK™         | "           | #12-599 | "        | " | "       | "        |
| #22-512 | BLAZE™               | "           | #12-512 | "        | " | #29-848 | "        |
| #22-515 | BLAZE™               | "           | #12-515 | "        | " | "       | "        |
| #22-519 | BLAZE™               | "           | #12-519 | "        | " | "       | "        |

**See detailed drawing for dimensions**

1. Place one cork square on each side of lavatory inside pedestal ring.
2. Measure from floor for placement of top of hanger (see drawing for specific pedestal being installed)
3. Center screws in vertical slots of hanger so lavatory can be adjusted.
4. Place pedestal under lavatory.
5. Hang lavatory, raise or lower hanger to appropriate height. Mark anchor screw locations.
6. Remove lavatory, install fittings, add additional screws in lavatory hanger. (also install seal position of trap to trap piece)
7. Rehang lavatory, level and install anchor screws in holes provided at back of lavatory.
8. Install anchor screws in pedestal to floor.
9. Attach trap, supplies, etc.

**Note: Provide suitable reinforcement for all wall supports.**



EGG0034, FEB. 07-2013

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**Instructions pour l'installation Lavabo-Piédestal Unités**

| #22-504 | MAXWELL™             | Se compose | #12-504 | Lavabo | & | #29-842 | Piédestal |
|---------|----------------------|------------|---------|--------|---|---------|-----------|
| #22-514 | MAXWELL™             | "          | #12-514 | "      | " | #29-840 | "         |
| #22-534 | La Mer Petite        | "          | #12-524 | "      | " | "       | "         |
| #22-554 | La Mer               | "          | #12-544 | "      | " | "       | "         |
| #22-558 | La Mer               | "          | #12-548 | "      | " | "       | "         |
| #22-574 | La Rive              | "          | #12-564 | "      | " | "       | "         |
| #22-578 | La Rive              | "          | #12-568 | "      | " | "       | "         |
| #22-594 | La Rive Petite       | "          | #12-584 | "      | " | "       | "         |
| #22-598 | La Rive Petite       | "          | #12-588 | "      | " | "       | "         |
| #22-565 | ALLERTON™ Petite     | "          | #12-565 | "      | " | #29-843 | "         |
| #22-569 | ALLERTON™ Petite     | "          | #12-569 | "      | " | "       | "         |
| #22-575 | ALLERTON™            | "          | #12-575 | "      | " | "       | "         |
| #22-579 | ALLERTON™            | "          | #12-579 | "      | " | "       | "         |
| #22-535 | BRIANNE™ Petite      | "          | #12-535 | "      | " | #29-846 | "         |
| #22-539 | BRIANNE™ Petite      | "          | #12-539 | "      | " | "       | "         |
| #22-545 | BRIANNE™             | "          | #12-545 | "      | " | "       | "         |
| #22-549 | BRIANNE™             | "          | #12-549 | "      | " | "       | "         |
| #22-529 | PICTURESQUE™         | "          | #12-529 | "      | " | #29-844 | "         |
| #22-555 | LOGAN SQUARE™ Petite | "          | #12-555 | "      | " | #29-847 | "         |
| #22-559 | LOGAN SQUARE™ Petite | "          | #12-559 | "      | " | "       | "         |
| #22-585 | LOGAN SQUARE™        | "          | #12-585 | "      | " | "       | "         |
| #22-589 | LOGAN SQUARE™        | "          | #12-589 | "      | " | "       | "         |
| #22-592 | WICKER PARK™         | "          | #12-592 | "      | " | #29-845 | "         |
| #22-599 | WICKER PARK™         | "          | #12-599 | "      | " | "       | "         |
| #22-512 | BLAZE™               | "          | #12-512 | "      | " | #29-848 | "         |
| #22-515 | BLAZE™               | "          | #12-515 | "      | " | "       | "         |
| #22-519 | BLAZE™               | "          | #12-519 | "      | " | "       | "         |

**Consulter illustration détaillée pour obtenir les dimensions**

1. Mettre un carré de liège de chaque côté du lavabo à l'intérieur du cercle de la colonne.
2. Mesurer à partir du plancher pour déterminer la position de la partie supérieure du support (la hauteur des différents types de colonne est indiquée sur l'illustration).
3. Il est possible de régler les vis centrales dans les fentes verticales du support pour convenir au lavabo.
4. Mettre la colonne sous le lavabo.
5. Suspendre le lavabo puis monter ou descendre le support pour obtenir la hauteur appropriée. Marquer l'emplacement des vis d'ancrage.
6. Enlever le lavabo, installer les raccords et ajouter les vis supplémentaires au support de lavabo (installer également la garde d'eau du siphon à l'ébout).
7. Suspendre de nouveau le lavabo, mettre de niveau et installer les vis d'ancrage dans les trous prévus à cet effet à l'arrière du lavabo.
8. Installer les vis d'ancrage fixant la colonne au plancher.
9. Raccorder le siphon, les conduites d'eau, etc.



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**Instrucciones para Instalar Lavabo-Pedestal Unidades**

| #22-504 | MAXWELL™             | Consiste en | #12-504 | Lavabo | & | #29-842 | Pedestal |
|---------|----------------------|-------------|---------|--------|---|---------|----------|
| #22-514 | MAXWELL™             | "           | #12-514 | "      | " | #29-840 | "        |
| #22-534 | La Mer Petite        | "           | #12-524 | "      | " | "       | "        |
| #22-554 | La Mer               | "           | #12-544 | "      | " | "       | "        |
| #22-558 | La Mer               | "           | #12-548 | "      | " | "       | "        |
| #22-574 | La Rive              | "           | #12-564 | "      | " | "       | "        |
| #22-578 | La Rive              | "           | #12-568 | "      | " | "       | "        |
| #22-594 | La Rive Petite       | "           | #12-584 | "      | " | "       | "        |
| #22-598 | La Rive Petite       | "           | #12-588 | "      | " | "       | "        |
| #22-565 | ALLERTON™ Petite     | "           | #12-565 | "      | " | #29-843 | "        |
| #22-569 | ALLERTON™ Petite     | "           | #12-569 | "      | " | "       | "        |
| #22-575 | ALLERTON™            | "           | #12-575 | "      | " | "       | "        |
| #22-579 | ALLERTON™            | "           | #12-579 | "      | " | "       | "        |
| #22-535 | BRIANNE™ Petite      | "           | #12-535 | "      | " | #29-846 | "        |
| #22-539 | BRIANNE™ Petite      | "           | #12-539 | "      | " | "       | "        |
| #22-545 | BRIANNE™             | "           | #12-545 | "      | " | "       | "        |
| #22-549 | BRIANNE™             | "           | #12-549 | "      | " | "       | "        |
| #22-529 | PICTURESQUE™         | "           | #12-529 | "      | " | #29-844 | "        |
| #22-555 | LOGAN SQUARE™ Petite | "           | #12-555 | "      | " | #29-847 | "        |
| #22-559 | LOGAN SQUARE™ Petite | "           | #12-559 | "      | " | "       | "        |
| #22-585 | LOGAN SQUARE™        | "           | #12-585 | "      | " | "       | "        |
| #22-589 | LOGAN SQUARE™        | "           | #12-589 | "      | " | "       | "        |
| #22-592 | WICKER PARK™         | "           | #12-592 | "      | " | #29-845 | "        |
| #22-599 | WICKER PARK™         | "           | #12-599 | "      | " | "       | "        |
| #22-512 | BLAZE™               | "           | #12-512 | "      | " | #29-848 | "        |
| #22-515 | BLAZE™               | "           | #12-515 | "      | " | "       | "        |
| #22-519 | BLAZE™               | "           | #12-519 | "      | " | "       | "        |

**Véase la ilustración para las dimensiones**

1. Coloque una escuadra de corcho en cada lado del lavabo, dentro del anillo del pedestal.
2. Para saber dónde colocar la parte superior del colgador, mida desde el suelo (véase el dibujo del pedestal en fase de instalación).
3. Centre los tornillos en los huecos verticales del colgador para poder ajustar el lavabo.
4. Coloque el pedestal bajo el lavabo.
5. Cuelgue el lavabo, suba o baje el colgador a la altura apropiada. Marque los lugares de los tornillos de sujeción.
6. Retire el lavabo, instale las conexiones, añada los tornillos en el colgador del lavabo (instale también la porción de sellado del soporte en la pieza contrapunta).
7. Vuelva a colgar el lavabo, nivélelo e instale los tornillos de sujeción en los orificios previstos en la parte trasera del lavabo.
8. Instale los tornillos de sujeción del pedestal en el suelo.
9. Sujete el soporte, piezas, etc.



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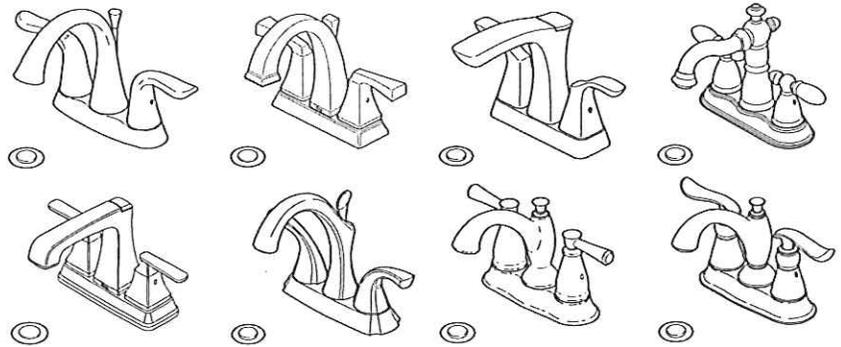
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## TWO HANDLE LAVATORY CENTERSET FAUCETS

LLAVES DE DOS MANIJAS DE MONTURA DE CENTRO PARA LAVAMANOS

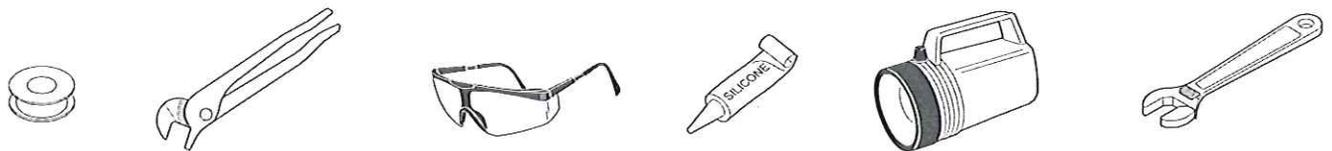
ROBINETS À ENTRAXE COURT À DEUX POIGNÉES

Models/Modelos/Modèles  
2538-DST, 2551-DST, 2552-DST,  
2555-DST, 2564-DST, 2592-DST,  
2593-DST & 2594-DST  
Series/Series/Seria



Write purchased model number here.  
Escriba aquí el número del modelo comprado.  
Inscrivez le numéro de modèle ici.

You may need/Usted puede necesitar/Articles dont vous pouvez avoir besoin:



For easy installation of your Delta faucet you will need:

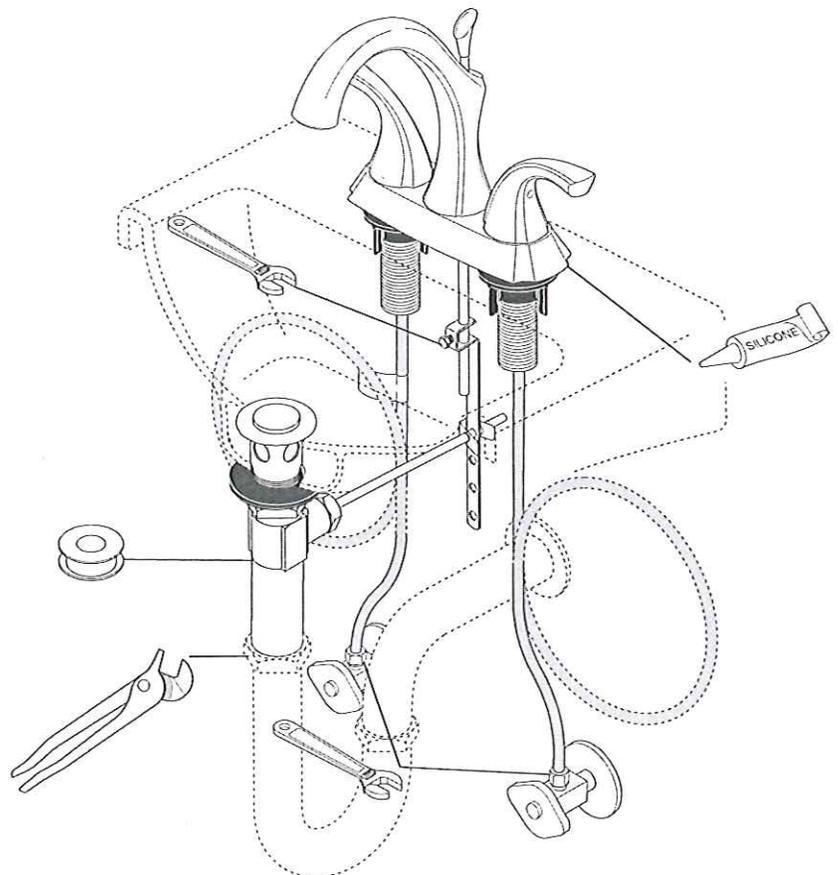
- To **READ ALL** the instructions completely before beginning.
- To **READ ALL** warnings, care, and maintenance information.

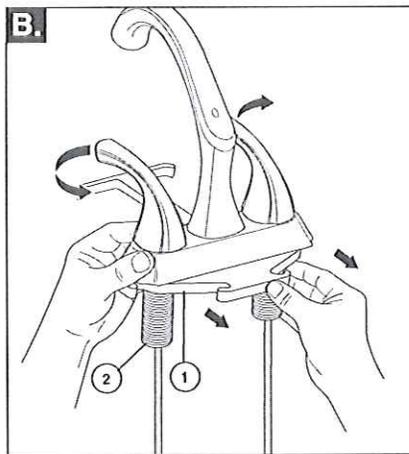
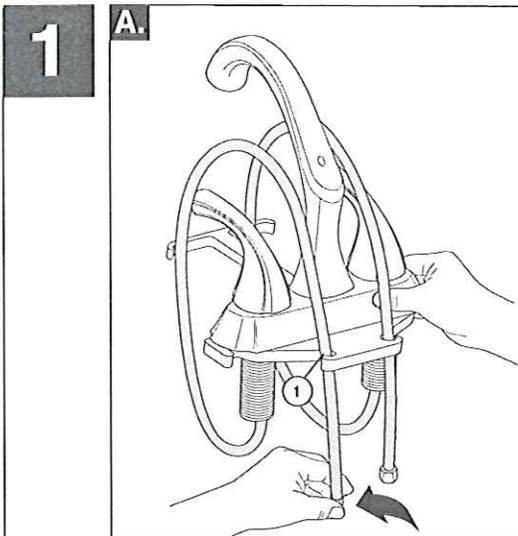
Para instalación fácil de su llave Delta usted necesitará:

- **LEER TODAS** las instrucciones completamente antes de empezar.
- **LEER TODOS** los avisos, cuidados, e información de mantenimiento.

Pour installer votre robinet Delta facilement, vous devez:

- **LIRE TOUTES** les instructions avant de débiter;
- **LIRE TOUS** les avertissements ainsi que toutes les instructions de nettoyage et d'entretien;

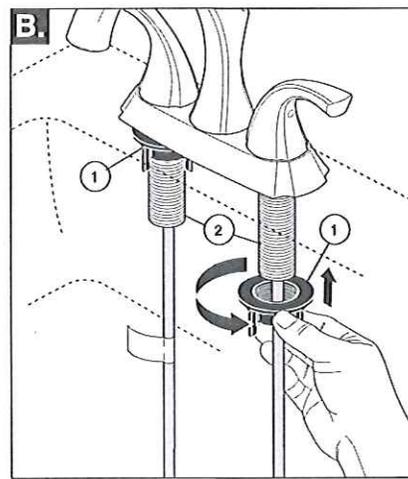
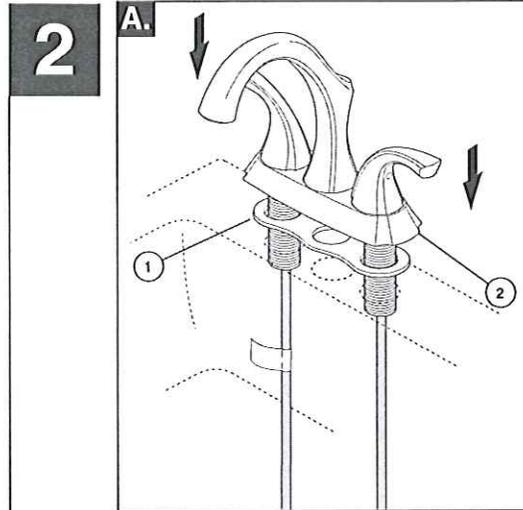




- A.** Remove tube from end slot (1) and fully unwind tube. Repeat for other side and then move handles to the off position.
- B.** Slide tube clip (1) from mounting shanks (2). Discard or recycle tube clip (1).

- A.** Retire el tubo de la ranura al extremo final (1) y desenrosque totalmente el tubo. Repita en el otro lado y luego mueva las manijas a la posición cerrada.
- B.** Deslice el gancho del tubo (1) de las espigas de montaje (2). Descarte o recicle el gancho del tubo.

- A.** Retirez le tube de la rainure à l'extrémité (1) et déroulez-le complètement. Répétez l'opération pour l'autre côté, puis placez les manettes en position de fermeture.
- B.** Glissez l'agrafe du tube (1) pour l'écartier des manchons de montage (2). Jetez ou recyclez l'agrafe du tube.



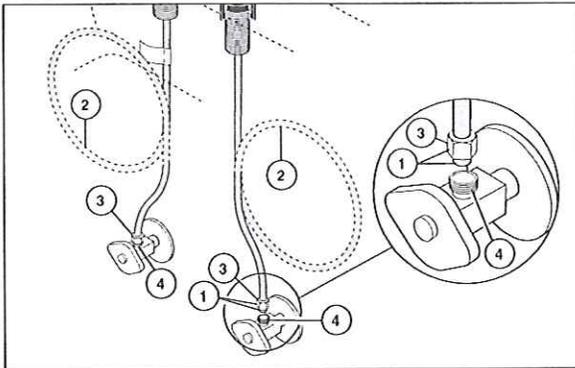
- A.** Slide gasket (1) up over tubes and mounting shanks. Install under faucet body (2). Place tubes through mounting holes and slide faucet down until it rests on mounting surface. **Note: If mounting surface is uneven, use silicone under the gasket.**
- B.** Align faucet so it is parallel to the sink edge, then, thread lock-nuts (1) onto mounting shanks (2). Hand tighten.

- A.** Deslice el empaque (1) a lo largo de los tubos y espigas de montaje. Instale por debajo del cuerpo de la llave de agua (grifo) (2). Coloque los tubos a través de los agujeros de montaje y deslice hacia abajo la llave de agua hasta que quede sobre la superficie de montaje. **Nota: Si la superficie de montaje está desnivelada, use silicón debajo del empaque.**
- B.** Alinee la llave de agua (grifo) de manera que quede paralela al borde del lavamanos, a continuación, atornille las contra-tuercas (1) sobre las espigas de montaje (2). Apriete a mano.

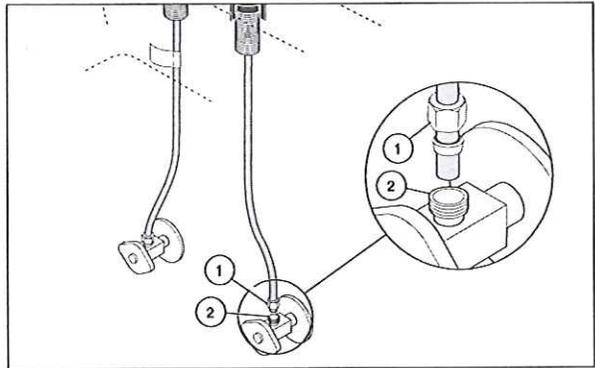
- A.** Glissez le joint vers le haut (1) sur les tubes et les tiges de montage. Placez-le sous le corps du robinet (2). Introduisez les tubes dans les trous de montage et abaissez le robinet jusqu'à ce qu'il s'appuie sur la surface de montage. **Note: Si la surface de montage est inégale, appliquer du composé d'étanchéité à la silicone sous le joint.**
- B.** Placez le robinet de manière qu'il soit parallèle au bord de l'évier. Vissez ensuite les écrous freinés (1) sur les tiges de montage (2). Serrez-les à la main.

# 3

## Standard Connections Conexiones Estándares Branchements Standard



## Custom Fit Connections Conexiones Especiales Branchements Spéciaux



### Standard Connections

Ensure all fittings and end connections are free of debris. Faucet fittings (1) are 3/8" compression. Loop tubing (2) if it is too long. **Note:** Recommended tubing minimum bend diameter is 8". Secure metal nut (3) on faucet tube to supply valve connection (4) and hand tighten, then tighten one additional turn with wrench. **DO NOT OVERTIGHTEN.** Repeat for other tube. **WARNING: Do not use pipe dope or other sealants on water line connections.**

### Custom Fit Connections

**NOTICE:** If you determine the PEX supply tubing for this faucet is too long and must be shorter to create an acceptable installation, be sure to read the instructions and plan ahead. When cutting the supply tubing the installer accepts the responsibility to do so in a way that allows a leak-free joint to be created. Delta is not responsible for tubing that is cut too short or cut in a way that will not allow for a leak-free joint.

For custom fit installations, you must use RP50952 sleeves supplied with model and nuts included on supply lines. **Tube cut must be straight.** See plastic sleeve installation instructions found in RP50952 and included in this document for more information.

Secure metal nut (1) on faucet tube to supply valve connection (2) and hand tighten, then tighten an additional 2 turns with wrench. **DO NOT OVERTIGHTEN.** Repeat for other tube.

### Potential Problems and Remedies

- **Tubing is not cut perpendicular to the axis of the tube:** carefully make an additional cut, being careful not to cut the tube too short.
- **Tubing is cut too short:** buy a coupling union and a replacement supply line that mate together from a store. The coupling union end intended to connect to the faucet must mate to the standard 3/8" connection nuts and plastic sleeves supplied with the faucet.
- **The plastic sleeve or connection nut is lost:** purchase a replacement nut and/or plastic sleeve that are designed to seal with PEX tubing. **NOTICE: DO NOT use a metal sleeve, RP51243 gasket (supplied with faucet) or ferrule in the place of the plastic sleeve supplied, it may not create a leak-free joint. WARNING: Do not use pipe dope or other sealants on water line connections.**

### Conexiones Estándares

Asegúrese que todos los accesorios y las conexiones finales estén libres de residuos. Los accesorios (1) son de compresión de 3/8". Enlace las tuberías (2) si es muy larga. **Nota:** La curva mínima recomendada es de 8" de diámetro. Fije la tuerca de metal (3) en el tubo de la llave de agua a la conexión (4) y apriete a mano, luego apriete con una vuelta adicional con una llave de tuercas. **NO APRIETE DEMASIADO.** Repita con el otro tubo. **AVISO: No use compuesto para tuberías u otros selladores en las conexiones de la tubería de agua.**

### Conexiones Especiales

**AVISO:** Si usted determina que la tubería PEX para el suministro de agua para esta llave de agua es muy larga y debe recortarse para crear una instalación aceptable, asegúrese leer las instrucciones y planifique de antemano. Cuando corte la tubería de suministro el instalador acepta la responsabilidad de hacerlo de una manera que permite crear una articulación sin filtraciones. Delta no se responsabiliza por las tuberías que se han cortado demasiado cortas o cortadas de una manera que no permite una articulación libre de filtración.

Para instalaciones hechas a la medida, usted debe usar mangas RP50952 incluidas con el modelo y las tuercas incluidas en las tuberías de suministro. El corte del tubo debe ser recto. Vea las instrucciones para la instalación de la manga plástica incluida con el RP50952 y para más información incluida en este documento.

Fije la tuerca de metal (1) en la tubería de la llave de agua / grifo a la conexión de la válvula de suministro (2) y apriete a mano, entonces apriete las 2 vueltas adicionales con la llave. **NO APRIETE DEMASIADO.** Repita con la otra tubería.

### Problemas Potenciales y Soluciones

- **La tubería no está cortada perpendicular al eje del tubo:** cuidadosamente haga un corte adicional, teniendo cuidado de no cortar el tubo demasiado corto.
- **La tubería está cortada demasiado corta:** compre en un almacén un acoplamiento de unión y una tubería de suministro de repuesto que acople. El extremo de la unión de acoplamiento que es para conectar a la llave de agua debe acoplarse con las tuercas estándares de 3/8" y mangas de plástico incluidas con la llave de agua / grifo.
- **La manga plástica o la tuerca de conexión se ha perdido:** compre una tuerca de repuesto y/o manga plástica diseñada para sellar con la tubería PEX. **AVISO: No use una manga de metal, RP51243 empaque (suministrado con el grifo) o casquillo, en vez de la manga incluida puede no crear una articulación sin filtración. AVISO: No use compuesto para tuberías u otros selladores en las conexiones de la tubería de agua.**

### Branchements Standard

Assurez-vous que tous les raccords sont exempts de corps étrangers. Le branchement est effectué au moyen de raccords de robinetterie (1) 3/8 po à compression. Faites une boucle avec le tube (2) s'il est trop long. **Note :** Le diamètre minimal de la courbure doit être d'au moins 8 po. Vissez l'écrou métallique (3), qui se trouve sur le tube du robinet, sur le raccord du robinet d'alimentation (4) et serrez-le à la main, puis faites un tour supplémentaire avec une clé. **SERREZ GARDE DE TROP** SERRER. Raccordez l'autre tube de la même manière. **MISE EN GARDE :** N'utilisez pas de pâte à joint ni d'autres produits d'étanchéité sur les raccords de tuyauterie.

### Branchements Spéciaux

**NOTIFICATION :** Si le tube d'alimentation en PEX de ce robinet est trop long et doit être raccourci, lisez les instructions et prenez le temps de réfléchir. Vous devez couper le tube de manière à obtenir un joint étanche. Delta n'accepte aucune responsabilité si le tube a été coupé trop court ou d'une manière qui empêche le joint d'être étanche.

Dans le cas des installations sur mesure, vous devez utiliser les manchons RP50952 fournis avec le robinet et les écrous qui se trouvent sur les arrivées d'eau. Le tube doit être coupé d'équerre. Pour obtenir plus de renseignements, veuillez consulter les instructions d'installations des manchons en plastique qui se trouvent dans le kit RP50952 et qui sont incluses dans le présent document.

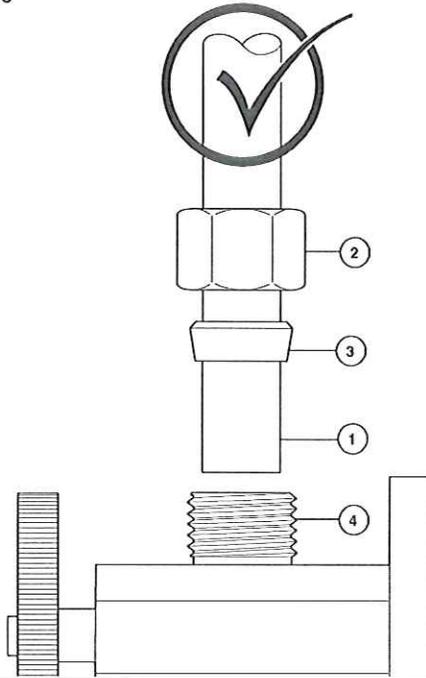
Vissez l'écrou métallique (1), qui se trouve sur le tube du robinet, sur le raccord du robinet d'alimentation (2) et serrez-le à la main, serrez alors les 2 tours additionnels avec la clé. **SERREZ GARDE DE TROP** SERRER. Raccordez l'autre tube de la même manière.

### Problèmes possibles et correctifs

- **Le tube n'est pas sectionné perpendiculairement à son axe :** Faites une nouvelle coupe en prenant garde de ne pas trop raccourcir le tube.
- **Vous avez coupé le tube trop court :** Achetez un raccord-union et un tube d'arrivée d'eau de rechange dans un magasin. L'extrémité du raccord-union à raccorder au robinet doit être compatible avec les écrous 3/8 po standard et les manchons en plastique fournis avec le robinet.
- **Vous avez perdu un manchon en plastique ou un écrou de raccordement :** Achetez un écrou et/ou un manchon en plastique conçus pour former un raccord étanche avec un tube PEX. **NOTIFICATION: Évitez d'utiliser un manchon métallique, RP51243 le joint (fournie avec le robinet) ou une virole à la place du manchon en plastique fourni. Le joint ne sera pas étanche. MISE EN GARDE :** N'utilisez pas de pâte à joint ni d'autres produits d'étanchéité sur les raccords de tuyauterie.

**Custom Fit Connections - Plastic Sleeve Installation Instructions**  
**Conexiones Especiales - Instrucciones d'instalaciones de le manchon en plastique**  
**Spéciaux Branchement - Instrucciones para la Instalación del la Manga Plástica**

**Correct method**  
**Método Correcto**  
**Bonne méthode**

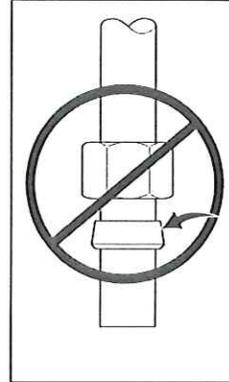


1. Identify desired length of tube (1). Leave 1" - 2" of extra length to allow for easier installation and cut tube. Ensure cut is straight and burr free.
2. Slide nut (2) and plastic sleeve (3) onto cut tube. Ensure sleeve is oriented as shown.
3. Insert tube into outlet fitting (4). Tube should touch bottom of hole inside fitting.
4. Slide plastic sleeve down tube until it engages top of fitting. **NOTICE: Failure to use plastic sleeve in the correct orientation will result in disconnection and possible water damage.**
5. Slide nut over plastic sleeve. With wrench, tighten nut 2 turns past finger tight.

1. Identifique la longitud deseada del tubo (1). Deje 1" - 2" de soltura para una instalación más fácil y sin rebabas. Asegure que el corte sea recto y sin rebabas.
2. Resbale la tuerca (2) y la manga plástica (3) sobre el tubo cortado. Asegure la manga se orienta según lo demostrado.
3. Introduzca el tubo dentro del accesorio (4). El tubo debe tocar el fondo del agujero dentro del accesorio.
4. Deslice la manga plástica hacia abajo en el tubo hasta que encaje en la parte superior del accesorio. **AVISO: El no usar la manga plástica en la orientación correcta resultará en desconexión y posible daño por agua.**
5. Deslice la tuerca sobre la manga plástica. Con la llave de tuercas, apriete la tuerca dándole 2 vueltas más de si fuera apretado a mano.

1. Identifiez la longueur désirée du tube (1). Laissez 1 à 2 pouces de la longueur supplémentaire pour faciliter l'installation et coupez le tube. Faites une coupe d'équerre et enlevez les bavures.
2. Glissez l'écrou (2) et la manchon en plastique (3) sur le tube coupé. Assurez la manchon est orienté comme montré.
3. Introduisez le tube dans le raccord (4). Le tube doit toucher le fond du trou à l'intérieur du raccord.
4. Faites glisser le manchon en plastique dans le tube jusqu'à ce qu'il pénètre dans la partie supérieure du raccord. **NOTIFICATION : Si le manchon en plastique n'a pas été installé dans l'orientation correcte, le raccord peut se défaire et l'eau peut occasionner des dommages.**
5. Faites glisser l'écrou sur le manchon en plastique. Serrez-le à la main, puis faites deux tours à l'aide d'une clé.

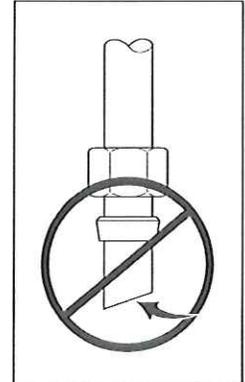
**Incorrect Installation**  
**Instalación Incorrecta**  
**Installation Incorrecte**



**Do not install sleeve upside down.**

**No instale la manga boca abajo.**

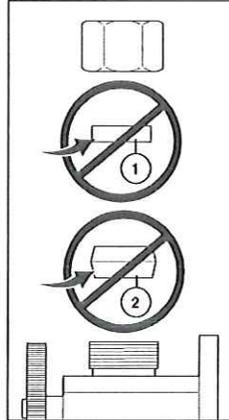
**N'installez pas le manchon à l'envers.**



**Ensure cut is straight.**

**Asegúrese que el corte esté recto.**

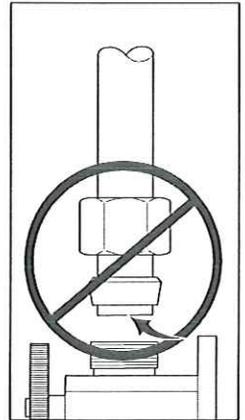
**Assurez-vous que la coupe est droite.**



**Do not use RP51243 gasket (1) supplied with PEX tubing or brass ferrule (2) supplied with valve stops.**

**No use RP51243 empaque (1) suministrado con el tubería de PEX o el casquillo de bronce (2) suministrado con las válvulas de cierre.**

**N'utilisez pas RP51243 le joint (1) fournie avec la tuyauterie de PEX ou la bague en cuivre (2) fournie avec les robinets d'arrêt.**

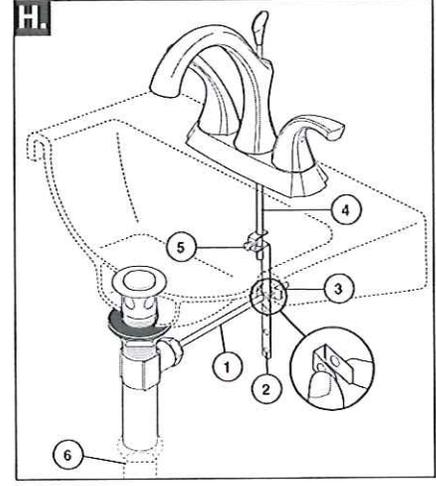
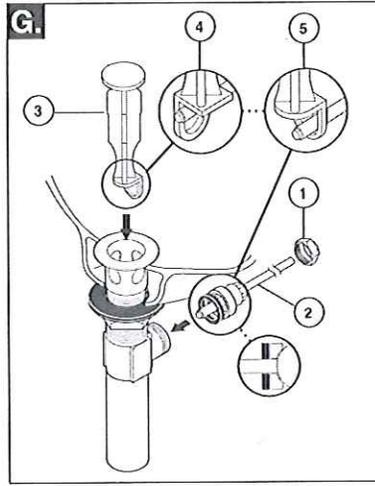
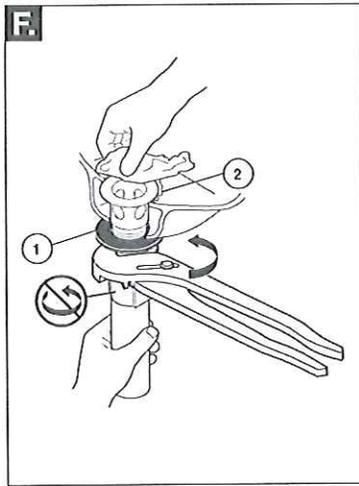
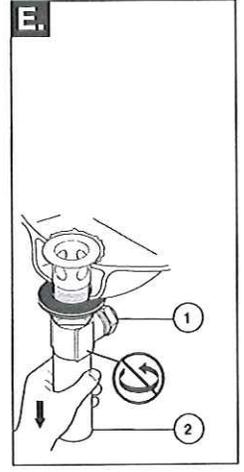
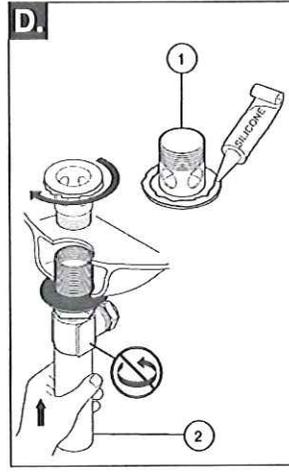
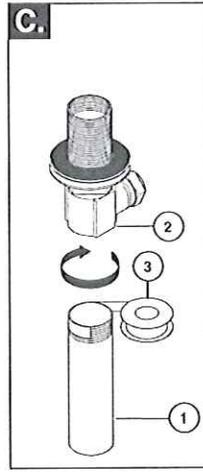
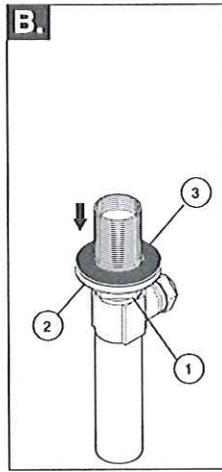
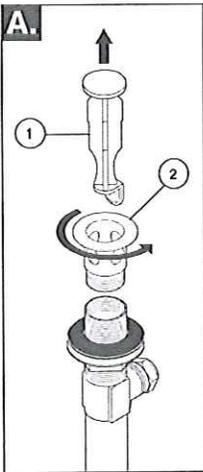


**Ensure tube is fully inserted into stop before sliding sleeve down to engage top of fitting.**

**Asegúrese que el tubo este completamente introducido dentro del tope antes de deslizar la manga hacia abajo para encajar la parte superior del accesorio.**

**Assurez-vous que le tube est introduit entièrement dans le robinet d'arrêt avant de faire glisser le manchon vers le bas pour le fixer à la partie supérieure du raccord.**

# 4



### Metal Pop-up

- A.** Remove stopper (1) and flange (2).
- B.** Screw nut (1) all the way down. Push washer (2) and gasket (3) down.
- C.** Remove tailpiece (1) from body (2), add plumber tape (3), replace tailpiece.

- D.** Apply silicone (1) to underside of flange (2). Insert body (2) into sink. Screw flange (1) into body (2).
- E.** Pivot (1) must face faucet. Pull assembly (2) down firmly and hold in place. DO NOT TWIST.
- F.** Tighten nut/washer/gasket (1), clean off excess silicone (2). DO NOT TWIST.

- G.** Remove pivot nut (1). Install horizontal rod (2) and stopper (3) as removable (4) or non-removable (5). Hand tighten pivot nut (1).
- H.** Attach horizontal rod (1) to strap (2) using clip (3). Insert lift rod (4) into strap and tighten screw (5). Connect assembly to drain (6).

### Desagüe automático de metal

- A.** Quite el tapón (1) y el reborde (2).
- B.** Atornille la tuerca (1) completamente hasta abajo. Empuje la arandela/roldana (2) y el (3) hacia abajo.
- C.** Quite el tubo de cola (1) del cuerpo (2), aplique cinta para plomero (3), coloque otra vez el tubo de cola.

- D.** Aplique silicona a la parte interior del reborde (1). Inserte el cuerpo (2) en el lavamanos. Atornille el reborde (1) en el cuerpo (2).
- E.** El pivote (1) debe de estar de frente a la llave. Hale el ensamble (2) hacia abajo firmemente y sujételo en sitio. NO LO GIRE.
- F.** Apriete la tuerca/arandela/empaque (1), limpie el exceso de silicona (2). NO LO GIRE.

- G.** Quite la tuerca del pivote (1). Instale la barra horizontal (2) y el tapón (3) como desmontable (4) o fijo (5). Apriete a mano la tuerca del pivote (1).
- H.** Conecte la barra horizontal (1) a la barra chata (2) usando el gancho (3). Inserte la barrita del desagüe (4) en la barra chata y apriete con el tornillo (5). Conecte el ensamble al desagüe (6).

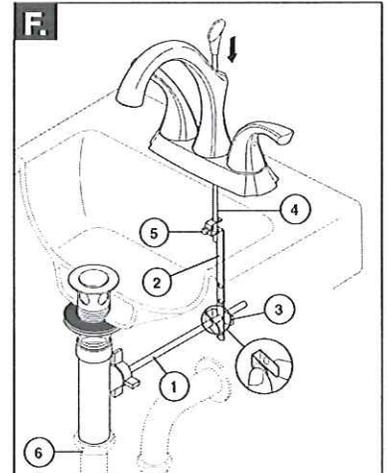
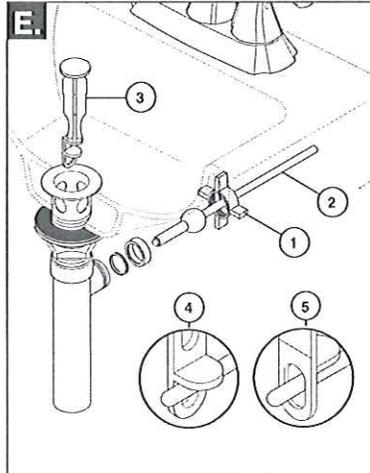
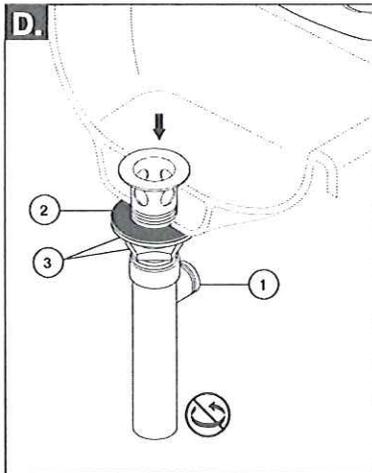
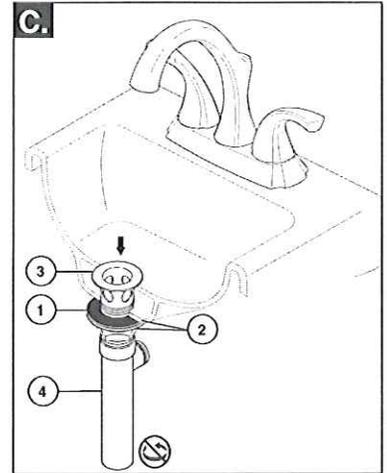
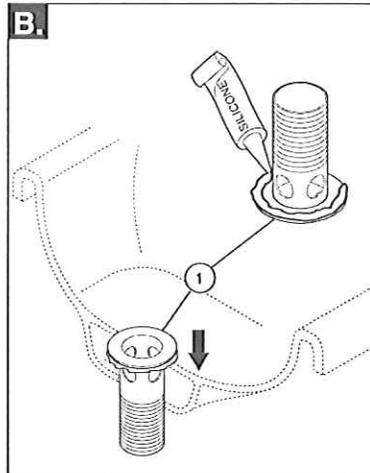
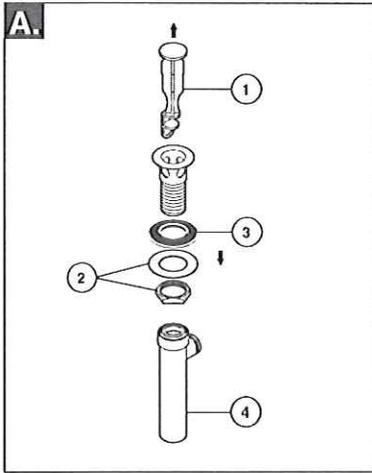
### Renvoi mécanique en métal

- A.** Enlevez la bonde (1) et la collerette (2).
- B.** Serrez l'écrou (1) pour le faire descendre complètement. Poussez la rondelle (2) et le joint (3) vers le bas.
- C.** Enlevez le raccord droit de vidange (1) du corps (2), appliquez du ruban de plomberie

- (3), puis remettez raccord droit en place.
- D.** Appliquez du composé à la silicone sous la collerette (1). Introduisez le corps (2) dans le lavabo, puis vissez la collerette (1) dans corps (2).
- E.** Le pivot (1) doit faire face au robinet. Tirez l'ensemble (2) vers le bas fermement et maintenez-le en place. PRENEZ GARDE DE LE TORDRE.
- F.** Serrez l'écrou contre la rondelle et le joint (1), puis enlevez le surplus de composé à la sil-

- cone (2). PRENEZ GARDE DE TORDRE LE PIVOT.
- G.** Enlevez l'écrou du pivot (1). Installez la tige horizontale (2) et la bonde (3) de manière que la bonde soit amovible (4) ou non amovible (5). Serrez l'écrou (1) du pivot à la main.
- H.** Fixez la tige horizontale (1) au feuillard (2) à l'aide de l'agrafe (3). Introduisez la tirette (4) dans le feuillard et serrez la vis (5). Raccordez l'ensemble au renvoi (6).

# 4



### Pop-Up with Metal Flange and Plastic Tail Piece

- A.** Remove stopper (1), brass nut & washer (2), black gasket (3) and tail piece (4).
- B.** Apply silicone to underside of flange (1). Insert flange into sink.
- C.** Install black gasket (1), washer and brass nut (2) onto flange (3) from below sink, but do not tighten brass nut (2). Screw on tail piece (4) and hand tighten.

- D.** With pivot (1) facing toward faucet, pull pop-up straight down into drain hole and secure gasket (2), brass nut and washer (3). **DO NOT TURN POP-UP WHILE TIGHTENING BRASS NUT OR SEALANT MAY NOT SEAL DRAIN.** Remove excess sealant.

- E.** Remove pivot nut (1). Install horizontal rod (2) and stopper (3) as removable (4) or non-removable (5). Hand tighten pivot nut (1).
- F.** Attach horizontal rod (1) to strap (2) using clip (3). Insert lift rod (4) into strap and tighten screw (5). Connect assembly to drain (6).

### Drenaje automático con brida de metal y la pieza de cola plástica

- A.** Quite el tapón (1), la tuerca de bronce y la arandela (2), el empaque negro (3) y la pieza de cola (4).
- B.** Aplique silicón por debajo de la brida (1). Introduzca la brida dentro del lavamanos.
- C.** Instale el empaque negro (1), la arandela y la tuerca de bronce (2) en la brida (3) desde la parte interior del lavamanos pero no apriete la tuerca de bronce (2). Atornille la pieza de cola (4) y apriete a mano.

- D.** Con el pivote (1) de frente a la llave, hale el desagüe automático directamente hacia abajo dentro del drenaje y fije el empaque (2), la tuerca de bronce y la arandela (3). **NO GIRE EL DRENAJE AUTOMÁTICO MIENTRAS APRIETE LA TUERCA DE BRONCE O EL SELLADOR PUEDE NO SELLAR EL DRENAJE.** Quite el exceso de sellador.

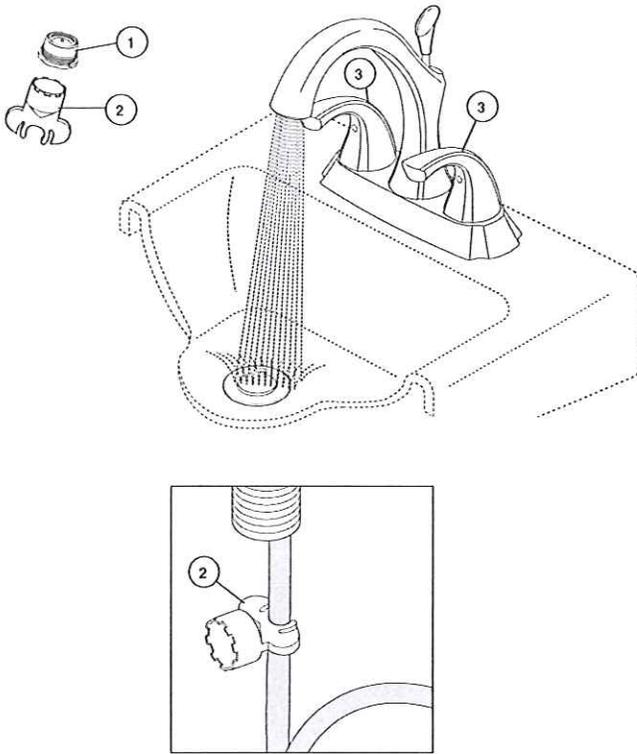
- E.** Quite la tuerca del pivote (1). Instale la barra horizontal (2) y el tapón (3) como desmontable (4) o fijo (5). Apriete a mano la tuerca del pivote (1).
- F.** Conecte la barra horizontal (1) a la barra chata (2) usando el gancho (3). Inserte la barra del desagüe (4) en la barra chata y apriete con el tornillo (5). Conecte el ensamble al desagüe (6).

- A.** Enlevez la bonde (1), l'écrou en laiton et la rondelle (2), le joint noir (3) et le raccord droit de vidange (4).
- B.** Appliquez de composé à la silicone sous la collerette (1). Introduisez la collerette dans l'évier.
- C.** Montez le joint noir (1), la rondelle et l'écrou en laiton (2) sur la collerette (3) par dessous l'évier sans serrer l'écrou en laiton (2). Vissez le raccord droit de vidange (4) et serrez-le à la main.

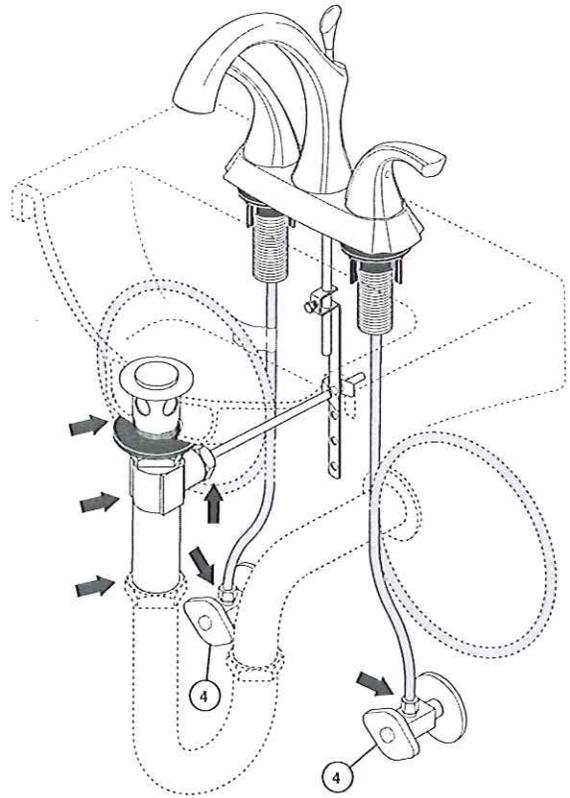
- D.** Alors que le pivot (1) fait face au robinet, tirez le renvoi directement vers le bas dans l'orifice de l'évier, puis fixez le joint (2), l'écrou en laiton et la rondelle (3). **NE TOURNEZ PAS LE RENVOI PENDANT QUE VOUS SERREZ L'ÉCROU EN LAITON CAR LE COMPOSÉ À LA SILICONE POURRA NE PAS ASSURER L'ÉTANCHÉITÉ DU RENVOI.** Enlevez l'excès de composé d'étanchéité.

- E.** Enlevez l'écrou du pivot (1). Installez la tige horizontale (2) et la bonde (3) de manière que la bonde soit amovible (4) ou non amovible (5). Serrez l'écrou (1) du pivot à la main.
- F.** Fixez la tige horizontale (1) au feuillard (2) à l'aide de l'agrafe (3). Introduisez la tirette (4) dans le feuillard et serrez la vis (5). Raccordez l'ensemble au renvoi (6).

# 5



Remove aerator (1) using supplied wrench (2) and turn faucet handles (3) to the full on mixed position. Turn on hot and cold water supplies (4) and flush water lines for one minute. **Important: This flushes away any debris that could cause damage to internal parts.** Verify the seal is attached to aerator then reinstall. **Note: For future use, aerator wrench (2) can be clipped to the supply line after flushing faucet.**



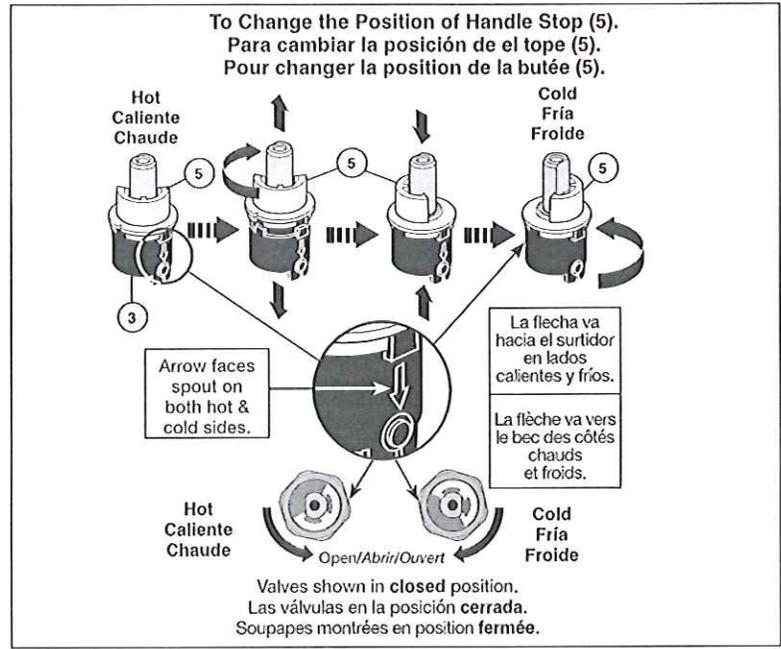
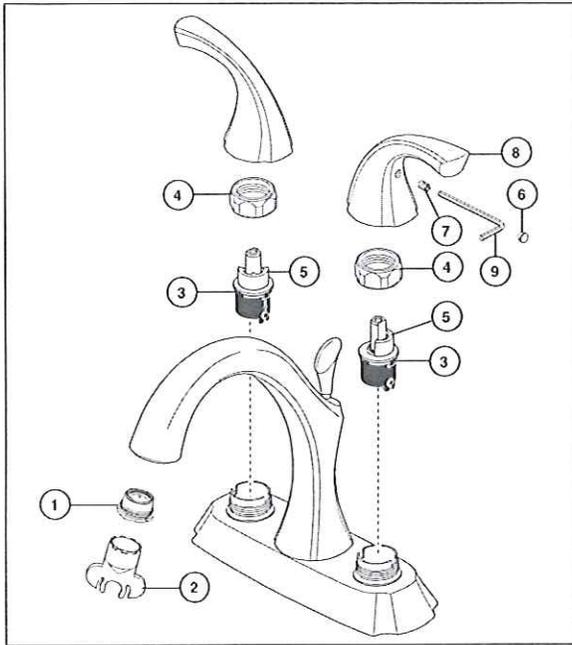
Check all connections at arrows for leaks. Re-tighten if necessary, but do not overtighten.

Quite el aereador (1) usando la llave de tuercas (2) proporcionada con su llave de agua y mueva la manija de la llave de agua (3) a la posición completamente abierta. Abra los suministros de agua caliente y fría (4) y deje correr en agua por las líneas por un minuto. **Importante: Esto limpia cualquier escombros que pudiera causar daño a las partes internas.** Reemplace el aereador. **Nota: Para el uso futuro, la llave del aereador (2) se puede acortar a la línea de fuente después de limpiar el grifo con un chorro de agua.**

Examine todas las conexiones donde señalan las flechas por si hay filtraciones de agua. Apriete de nuevo si es necesario, pero no apriete demasiado.

Retirez l'aérateur (1) en utilisant la clé (2) et placez la poignée (3) du robinet en position d'écoulement maximum de l'eau chaude et de l'eau froide. Rétablissez l'alimentation en eau chaude et en eau froide (4) et laissez couler l'eau pendant une minute. **Important: Il faut laisser s'écouler l'eau pour évacuer les saletés qui pourraient abimer les éléments internes du robinet.** Remettez l'aérateur en place. **Note: Pour le futur usage, la clé d'aérateur (2) peut être coupée à la canalisation d'alimentation après rinçage du robinet.**

Vérifiez l'étanchéité de tous les raccords identifiés par une flèche. Resserrez les raccords au besoin, mais prenez garde de trop les serrer.



## Maintenance

### If faucet exhibits very low flow:

- A. Remove and clean aerator (1) with supplied wrench (2), or  
 B. SHUT OFF WATER SUPPLY VALVES. Replace valve assembly (3).  
 \*When reinstalling parts, make sure bonnet nut (4) is tightened securely with a wrench.

### If faucet leaks from under handle:

Using a wrench, ensure bonnet nut (4) is tight.

If leak persists—SHUT OFF WATER SUPPLY VALVES. Replace valve assembly (3). \* When reinstalling parts, make sure bonnet nut (4) is tightened securely with a wrench.

If faucet leaks from spout outlet—SHUT OFF WATER SUPPLY VALVES. Replace valve assembly (3). \* When reinstalling parts, make sure bonnet nut (4) is tightened securely with a wrench.\*

\*Install valve assembly (3) correctly for proper handle rotation.

### If faucet leaks from spout outlet—SHUT OFF WATER SUPPLY VALVES.

Replace valve assembly (3). \* When reinstalling parts, make sure bonnet nut (4) is tightened securely with a wrench.\*

\*Install valve assembly (3) correctly for proper handle rotation. Replacement DST valves are shipped in the HOT orientation. For COLD valve operation, lift the stop (5), rotate it 90 degrees clockwise and push it back down into position. Install valve with arrow toward spout.

### If handles are too tight or loose upon installation:

- A. Remove handle button (6) (if provided) and set screw (7) from handle (8) using wrench (9).  
 B. Remove handle from stem (5), re-seat handle back on stem.  
 C. Replace set screw (7) securely into the handle (8) using wrench - replace button (if provided).  
 D. Repeat process for the second handle, if required.

## Mantenimiento

### Si la llave de agua exhibe un flujo de agua muy bajo:

- A. Quite y limpie el aereador (1) con la llave de tuercas suministrada (2), ó  
 B. CIERRE LAS VÁLVULAS DE LOS SUMINISTROS DE AGUA. Reemplace el ensamble de la válvula de agua (3). \* Cuando reinstale las piezas, asegúrese que la tuerca tapa (4) esté apretada fijamente con una llave de tuercas.

Si la llave de agua tiene una filtración desde la parte de abajo de la manija: Usando una llave de tuercas, asegúrese que la tuerca tapa (4) esté apretada.

Si la filtración o escape persiste – CIERRE LAS VÁLVULAS DE LOS SUMINISTROS DE AGUA. Reemplace el ensamble de la válvula (3). \* Cuando reinstale las piezas, asegúrese que la tuerca tapa (4) esté apretada fijamente con una llave de tuercas.

Si la llave de agua tiene una filtración o escapa desde la salida del surtidor—CIERRE LAS VÁLVULAS DE LOS SUMINISTROS DE AGUA. Reemplace el ensamble de la válvula (3). \* Cuando reinstale las piezas, asegúrese que la

tuerca tapa (4) esté apretada fijamente con una llave de tuercas.

\*Instale el ensamble de la válvula (3) correctamente para obtener una rotación apropiada de la manija. Las válvulas de repuesto DST se envían con orientación CALIENTE/HOT. Para el funcionamiento de la válvula en FRIO, levante el tope (5), gire 90 grados en las agujas del reloj y empujelo hacia abajo en su posición. Instale la válvula con la flecha hacia el surtidor.

### Si las manijas están demasiado ajustadas o sueltas durante la instalación:

- A. Retire el botón de la manija (6) (si está incluido) y ajuste el tornillo (7) (8) con una llave inglesa (9).  
 B. Retire la manija de la espiga (5), vuelva a asentar la manija en la espiga.  
 C. Vuelva a colocar el tornillo de ajuste (7) firmemente en la manija (8) con una llave de herramientas - vuelva a colocar el botón (si está incluido).  
 D. Repita el proceso con la segunda manija, si es necesario.

## Entretien

### Si le débit du robinet est très faible :

- A. Enlevez l'aérateur (1) à l'aide de la clé fournie (2) et nettoyez-le, ou  
 B. FERMEZ LES ROBINETS D'ALIMENTATION Remplacez la soupape (3). \* Lorsque vous réinstallez les éléments, assurez-vous que l'écrou-chapeau (4) est serré solidement en vous servant d'une clé.

### Si le robinet fuit sous la manette :

Assurez-vous que l'écrou-chapeau (4) est bien serré en vous servant d'une clé.

Si la fuite persiste, FERMEZ LES ROBINETS D'ALIMENTATION. Remplacez la soupape (3). \* Lorsque vous réinstallez les éléments, assurez-vous que l'écrou-chapeau (4) est bien serré en vous servant d'une clé.

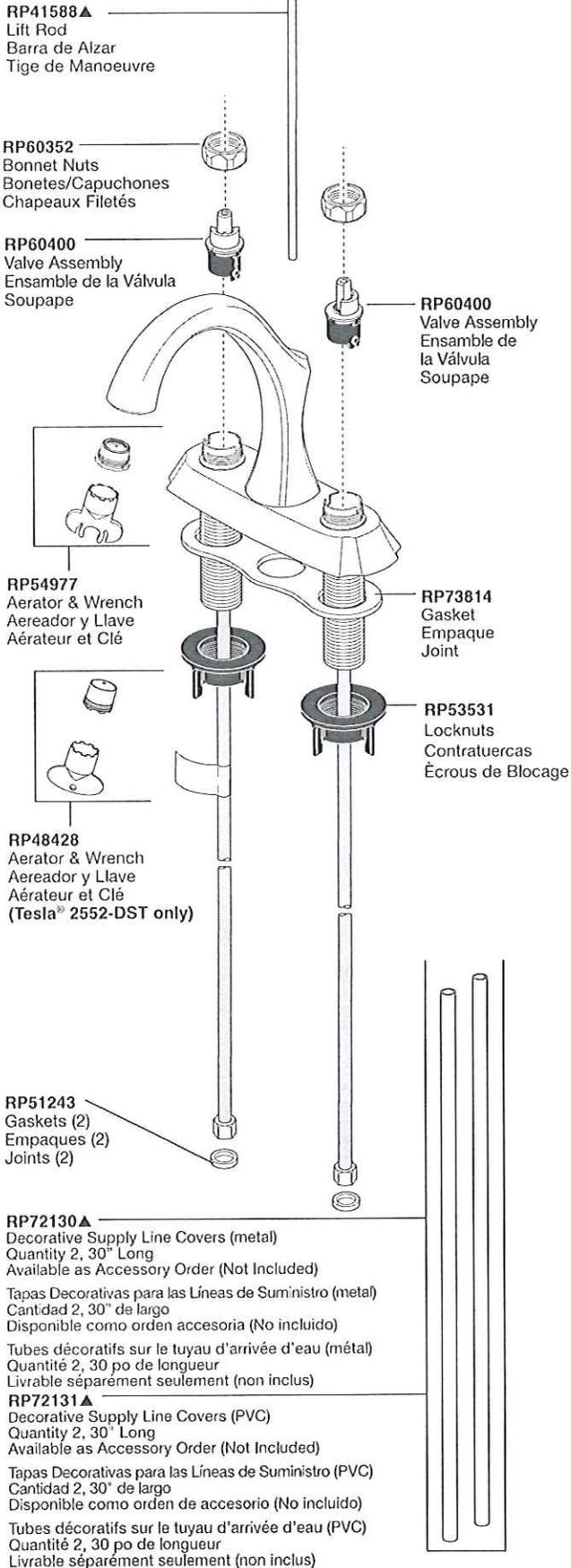
Si le robinet fuit par la sortie du bec, FERMEZ LES ROBINETS D'ALIMENTATION Remplacez la soupape (3). \* Lorsque vous réinstallez les éléments, assurez-vous que l'écrou-chapeau (4) est bien serré en vous servant d'une clé.\*

\*Installez la soupape (3) correctement de sorte que la manette pivote dans le bon sens. Les soupapes DST de rechange sont expédiées en configuration eau CHAUDE. Pour modifier la configuration et utiliser la soupape pour l'eau FROIDE, soulevez la butée (5), tournez-la de 90 degrés dans aiguilles d'une montre, puis enfoncez-la dans son logement. Installez la valve avec la flèche vers le bec.

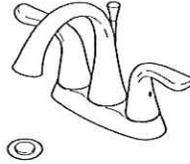
### Si les manettes sont trop serrées ou trop lâches au moment de l'installation :

- A. Enlevez le bouton (6) (s'il est fourni) et la vis de calage (7) de la manette (8) au moyen de la clé (9).  
 B. Enlevez la manette de la tige (5), puis recalez la manette sur la tige.  
 C. Vissez solidement la vis de calage (7) dans la manette (8) au moyen de la clé. Remplacez le bouton (s'il est fourni).  
 D. Répétez les étapes pour la deuxième manette, s'il y a lieu.

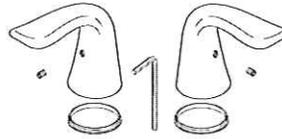
## All Models



2538-DST



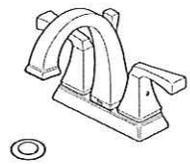
H238▲



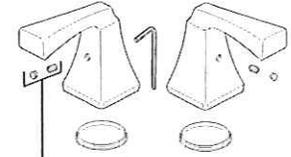
**RP54971▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette



2551-DST



H251▲



**RP52658▲**  
Set Screw and Button (2)  
Tornillo de Ajuste y Botón (2)  
Vis de Calage et Bouton (2)

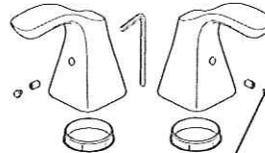
**RP90910▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette



2552-DST



H252▲



**RP78524▲**  
Button Covers  
Cubre botón  
Couvres-boutons

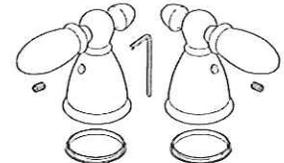
**RP90912▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette



2555-DST



H216▲

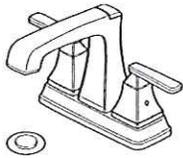


**RP91401▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette

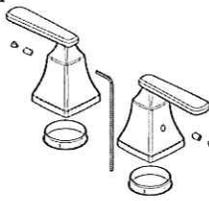


▲ Specify Finish / Especificque el Acabado / Précisez le Fini

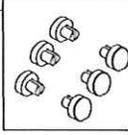
2564-DST



H264▲



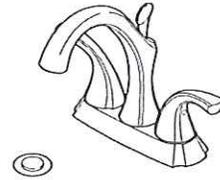
**RP83791**  
Set Screw Covers  
(1 Red / 1 Blue / 2  
Gray / 2 Black)  
Tornillo Cubre  
(1 Rojo y 1 Azul / 2  
Gris / 2 Negro)  
vis couvre  
(1 Red / 1 Blue / 2  
Gray / 2 Noir)



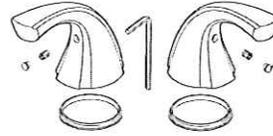
**RP90913▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette



2592-DST



H292▲



**RP78524▲**  
Button Covers  
Cubre botón  
Couvre-boutons

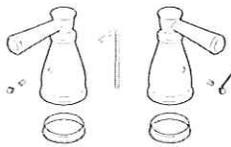
**RP90909▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette



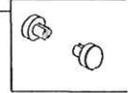
2593-DST



H293▲



**RP84705**  
Set Screw Covers  
(1 Gray / 1 Black)  
Tornillo Cubre  
(1 Gris / 1 Negro)  
vis couvre  
(1 Gray / 1 Noir)



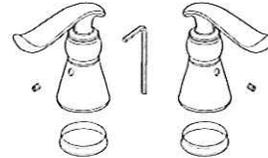
**RP90911▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette



2594-DST



H294▲

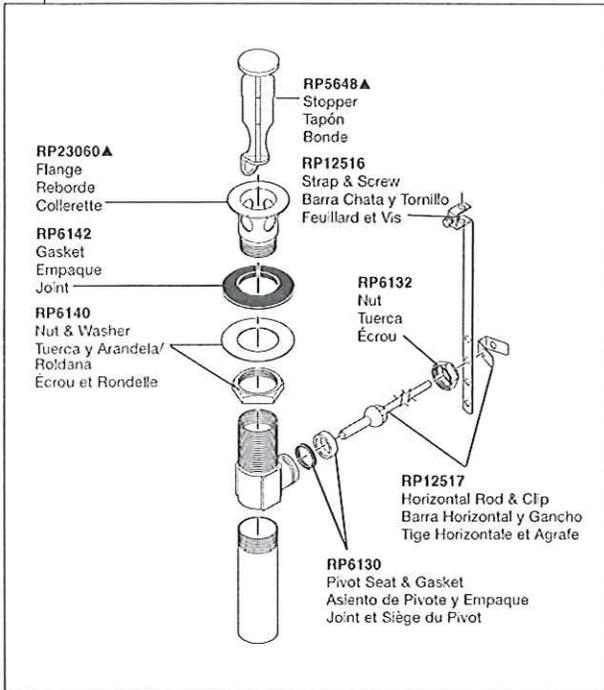


**RP90911▲**  
Lift Rod & Finial  
Barra de Alzar y Pomo  
Tige de Manoeuvre et  
Grain de la Tirette



**RP26533▲**

Metal Pop-Up Assembly Less Lift Rod  
Ensamble de Metal del Desagüe Automático Sin la Barra de Alzar  
Renvoi Mécanique en Métal Sans la Tige de Manoeuvre



**RP50952**

Plastic Sleeves  
Mangas Plásticas  
Manchons en plastique

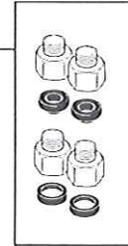


**RP63263**

Adapters  
3/8"-24 UNEF to 1/2"-20 UN &  
3/8"-24 UNEF to 1/2"-14 NPSM

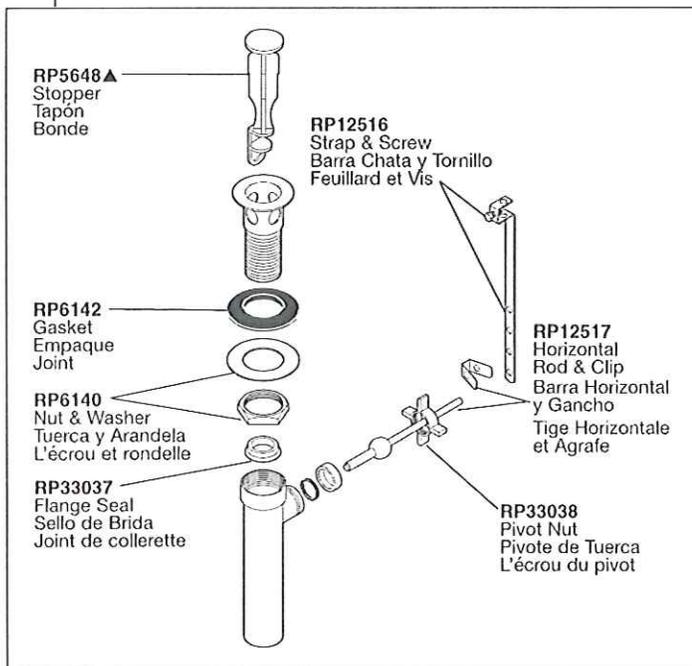
Adaptadors  
3/8"-24 UNEF to 1/2"-20 UN &  
3/8"-24 UNEF to 1/2"-14 NPSM

Adapteurs  
3/8 po-24 UNEF to 1/2 po-20 UN et  
3/8 po-24 UNEF to 1/2 po-14 NPSM



**RP38958▲**

Pop-Up with Metal Flange and Plastic Tail Piece Less Lift Rod  
\*For Use With Track-Pack Models  
Drenaje automático con brida de metal y la pieza de cola plástica menos la barra de alzar  
\*Para uso con los modelos Track-Pack  
Renvoi mécanique avec colerette en métal et raccord droit de vidange en plastique sans la tige de manoeuvre  
\*Pour utilisation avec les modèles Track-Pack



▲Specify Finish / Especificque el Acabado / Précisez le Fini

## CLEANING AND CARE

Care should be given to the cleaning of this product. Although its finish is extremely durable, it can be damaged by harsh abrasives or polish. To clean, simply wipe gently with a damp cloth and blot dry with a soft towel.

### Limited Warranty on Delta® Faucets

#### Parts and Finish

All parts (other than electronic parts and batteries) and finishes of this Delta® faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for as long as the original consumer purchaser owns the home in which the faucet was first installed or, for commercial users, for 5 years from the date of purchase.

#### Electronic Parts and Batteries (if applicable)

Electronic parts (other than batteries), if any, of this Delta® faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for 5 years from the date of purchase or, for commercial users, for one year from the date of purchase. No warranty is provided on batteries.

Delta Faucet Company will replace, FREE OF CHARGE, during the applicable warranty period, any part or finish that proves defective in material and/or workmanship under normal installation, use and service. If repair or replacement is not practical, Delta Faucet Company may elect to refund the purchase price in exchange for the return of the product. **These are your exclusive remedies.**

Delta Faucet Company recommends using a professional plumber for all installation and repair. We also recommend that you use only genuine Delta® replacement parts.

Delta Faucet Company shall not be liable for any damage to the faucet resulting from misuse, abuse, neglect or improper or incorrectly performed installation, maintenance or repair, including failure to follow the applicable care and cleaning instructions. Replacement parts may be obtained by calling the applicable number below or by writing to:

#### In the United States and Mexico:

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1-800-345-DELTA (3358)  
customerservice@deltafaucet.com

#### In Canada:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1-800-345-DELTA (3358)  
customerservice@mascocanada.com

Proof of purchase (original sales receipt) from the original purchaser must be made available to Delta Faucet Company for all warranty claims unless the purchaser has registered the product with Delta Faucet Company. This warranty applies only to Delta® faucets manufactured after January 1, 1995 and installed in the United States of America, Canada and Mexico.

DELTA FAUCET COMPANY SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LABOR CHARGES) FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THE FAUCET. Some states/provinces do not allow the exclusion or limitation of special, incidental or consequential damages, so these limitations and exclusions may not apply to you. This warranty gives you special legal rights. You may also have other rights which vary from state/province to state/province.

This is Delta Faucet Company's exclusive written warranty and the warranty is not transferable.

If you have any questions or concerns regarding our warranty, please view our Warranty FAQs at [www.deltafaucet.com](http://www.deltafaucet.com), email us at [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) or call us at the applicable number above.

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## LIMPIEZA Y CUIDADO DE SU LLAVE

Tenga cuidado al ir a limpiar este producto. Aunque su acabado es sumamente durable, puede ser afectado por agentes de limpieza o para pulir abrasivos. Para limpiar su llave, simplemente frótelas con un trapo húmedo y luego séquelas con una toalla suave.

### Garantía Limitada de las Llaves de Agua (grifos) Delta®

#### Piezas y acabado

Todas las piezas (excepto las piezas electrónicas y las pilas) y los acabados de esta llave de agua Delta® están garantizados al consumidor comprador original de estar libres de defectos en material y fabricación durante el tiempo que el comprador original posea la vivienda en la que la llave de agua fue originalmente instalada o, para los consumidores comerciales, durante 5 años a partir de la fecha de compra.

#### Componentes electrónicos y pilas (si aplicable)

Todas las piezas (salvo las pilas), si hay, de esta llave de agua Delta® están garantizadas al consumidor comprador original de estar libres de defectos en materiales y fabricación durante 5 años a partir de la fecha de compra o, para los usuarios comerciales, por un año a partir de la fecha de compra. No se garantizan las pilas.

Delta Faucet Company reemplazará, SIN CARGO, durante el período de garantía aplicable, cualquier pieza o acabado que prueba tener defectos de material y/o fabricación bajo la instalación, uso y servicio normal. Si la reparación o su reemplazo no es práctico, Delta Faucet Company tiene la opción de reembolsarle su dinero por la cantidad del precio de compra a cambio de la devolución del producto. **Estos son sus únicos recursos.**

Delta Faucet Company recomienda que use los servicios de un plomero profesional para todas las instalaciones y reparaciones. También le recomendamos que utilice sólo las piezas de repuesto originales de Delta®.

Delta Faucet Company no será responsable por cualquier daño a la llave de agua que resulte del mal uso, abuso, negligencia o mala instalación o mantenimiento o reparación incorrecta, incluyendo el no seguir los cuidados aplicables y las instrucciones de limpieza.

Las piezas de repuesto se pueden obtener llamando al número correspondiente más abajo, o escribiendo a:

#### En los Estados Unidos y México:

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1 800 345 DELTA (3358)  
customerservice@deltafaucet.com

#### En Canadá:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1 800 345 DELTA (3358)  
customerservice@mascocanada.com

La prueba de compra (recibo original) del comprador original debe ser disponible a Delta Faucet Company para todos los reclamos a menos que el comprador haya registrado el producto con Delta Faucet Company. Esta garantía le aplica sólo a las llaves de agua de Delta® fabricadas después del 1 de enero 1995 e instaladas en los Estados Unidos de América, Canadá y México.

DELTA FAUCET COMPANY NO SE HACE RESPONSABLE POR CUALQUIER DAÑO ESPECIAL, INCIDENTAL O CONSECUENTE (INCLUYENDO LOS GASTOS DE MANO DE OBRA) POR EL INCUMPLIMIENTO DE CUALQUIER GARANTÍA EXPRESA O IMPLÍCITA DE LA LLAVE DE AGUA. Algunos estados/provincias no permiten la exclusión o limitación de daños especiales, incidentales o consecuentes, por lo que estas limitaciones y exclusiones pueden no aplicarla a usted. Esta garantía le otorga derechos legales. Usted también puede tener otros derechos que varían de estado/provincia a estado/provincia.

Esta es la garantía exclusiva por escrito de Delta Faucet Company y la garantía no es transferible.

Si usted tiene alguna pregunta o inquietud acerca de nuestra garantía, por favor, vea nuestra sección de preguntas frecuentes FAQ sobre la garantía en [www.deltafaucet.com](http://www.deltafaucet.com), también puede enviarnos un correo electrónico a [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) o llámenos al número que le correspondía anteriormente incluido.

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## INSTRUCTIONS DE NETTOYAGE

Il faut le nettoyer avec soin. Même si son fini est extrêmement durable, il peut être abîmé par des produits fortement abrasifs ou des produits de polissage. Il faut simplement le frotter doucement avec un chiffon humide et le sécher à l'aide d'un chiffon doux.

### Garantie limitée des robinets Delta®

#### Pièces et finis

Toutes les pièces (à l'exception des composants électroniques et des piles) et tous les finis de ce robinet Delta® sont protégés contre les défauts du matériau et les vices de fabrication par une garantie qui est consentie au premier acheteur et qui demeure valide tant que celui-ci demeure propriétaire de la maison dans laquelle le robinet a été installé. Dans le cas d'une utilisation commerciale, la garantie est de 5 ans à compter de la date d'achat.

#### Composants électroniques et piles (le cas échéant)

Si ce robinet Delta® comporte des composants électroniques, ces composants (à l'exception des piles) sont protégés contre les défauts du matériau et les vices de fabrication par une garantie consentie au premier acheteur qui est d'une durée de 5 ans à compter de la date d'achat. Dans le cas d'une utilisation commerciale, la garantie est d'un an à compter de la date d'achat. Aucune garantie ne couvre les piles.

Delta Faucet Company remplacera, GRATUITEMENT, pendant la période de garantie applicable, toute pièce ou tout fini qui présentera une déficience du matériau et/ou un vice de fabrication pour autant que le robinet ait été installé, utilisé et entretenu normalement. S'il est impossible de réparer ou de remplacer le robinet, Delta Faucet Company pourra décider de rembourser le prix d'achat du produit pour autant que celui-ci lui soit retourné. **Il s'agit de vos seuls recours.**

Delta Faucet Company recommande de confier l'installation et la réparation à un plombier professionnel. Nous vous recommandons également d'utiliser uniquement des pièces de rechange authentiques Delta®.

Delta Faucet Company se dégage de toute responsabilité à l'égard des dommages causés au robinet en raison d'un mauvais usage, d'un usage abusif, de la négligence ou de l'utilisation d'une méthode d'installation, de maintenance ou de réparation incorrecte ou inadéquate, y compris les dommages résultant du non-respect des instructions de nettoyage et d'entretien applicables.

Pour obtenir des pièces de rechange, veuillez appeler au numéro applicable ci-dessous ou écrire à l'adresse applicable ci-dessous.

#### Aux États-Unis et au Mexique :

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1-800-345-DELTA (3358)  
customerservice@deltafaucet.com

#### Au Canada:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1-800-345-DELTA (3358)  
customerservice@mascocanada.com

La preuve d'achat (reçu original) du premier acheteur doit être présentée à Delta Faucet Company pour toutes les demandes en vertu de la garantie, sauf si le produit a été enregistré auprès de Delta Faucet Company. La présente garantie s'applique uniquement aux robinets Delta® fabriqués après le 1er janvier 1995 et installés aux États-Unis d'Amérique, au Canada et au Mexique.

DELTA FAUCET COMPANY SE DÉGAGE DE TOUTE RESPONSABILITÉ À L'ÉGARD DES DOMMAGES PARTICULIERS, CONSÉCUTIFS OU INDIRECTS (Y COMPRIS LES FRAIS DE MAIN-D'ŒUVRE) QUI POURRAIENT RÉSULTER DE LA VIOLATION D'UNE GARANTIE IMPLICITE OU EXPLICITE QUELCONQUE SUR LE ROBINET. Dans les États ou les provinces où il est interdit de limiter ou d'exclure la responsabilité à l'égard des dommages particuliers, consécutifs ou indirects, les limites et les exclusions susmentionnées ne s'appliquent pas. La présente garantie vous donne des droits précis qui peuvent varier selon l'État ou la province où vous résidez.

La présente garantie écrite est la garantie exclusive offerte par Delta Faucet Company et elle n'est pas transférable.

Si vous avez des questions ou des préoccupations en ce qui concerne notre garantie, veuillez consulter la page Warranty FAQs à [www.deltafaucet.com](http://www.deltafaucet.com), faire parvenir un courriel à [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) ou nous appeler au numéro applicable.

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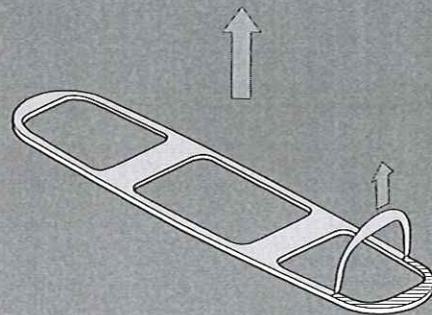
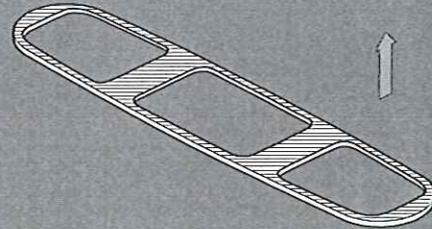
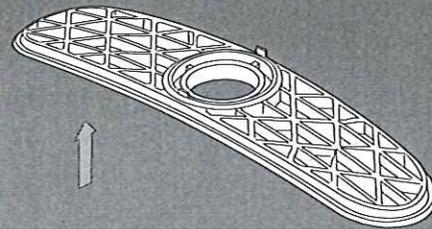


**If using optional 10" escutcheon RP64472 (must order separately), begin here. If not, continue on to EZ Anchor Installation - page 5.**

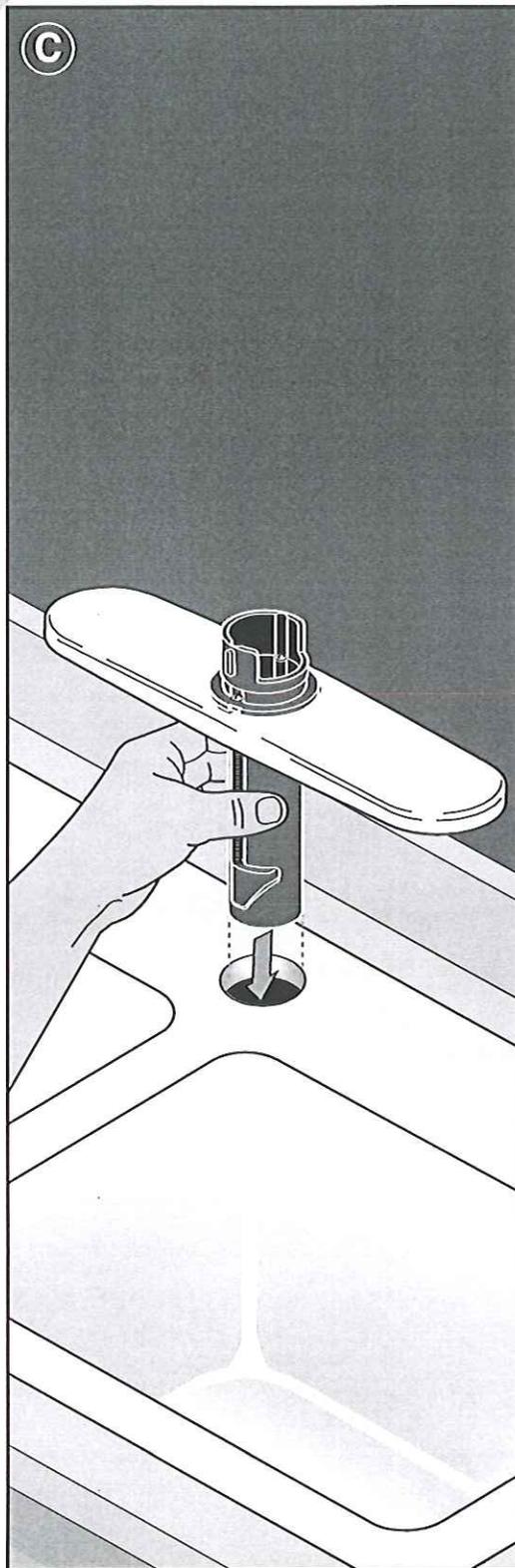
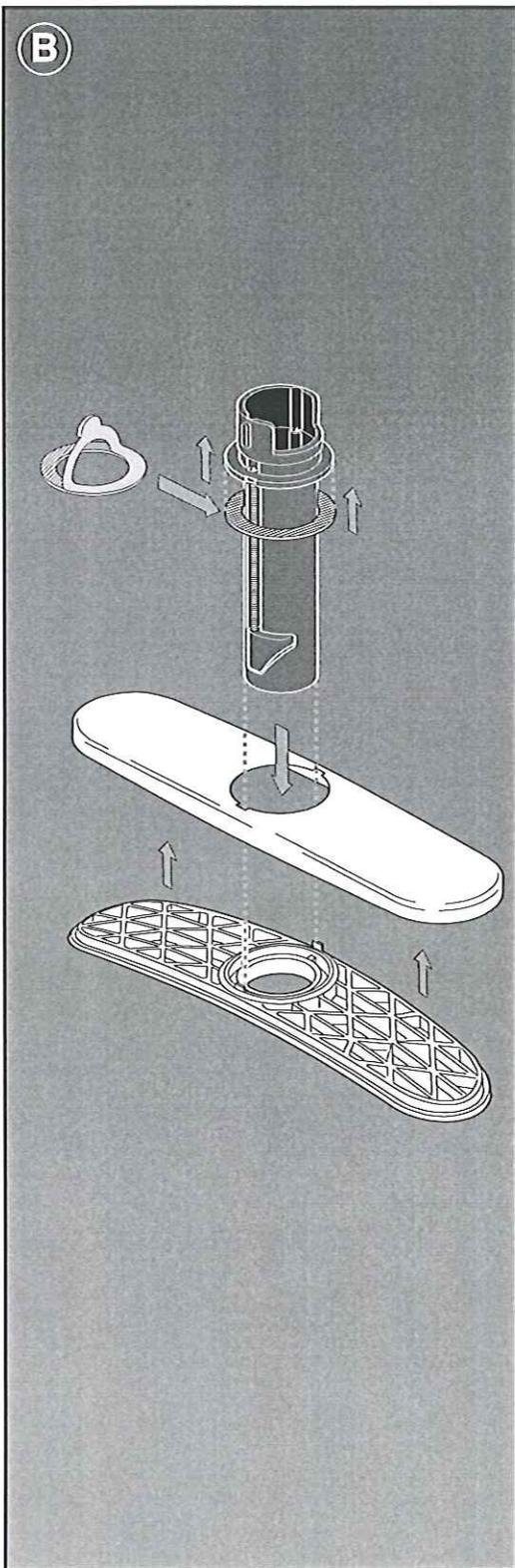
**Si utiliza la chapa de cubierta opcional de 10" RP64472 (debe ordenar separado), comience aquí. Si no, continúe con la instalación EZ Anchor - página 5.**

**Si vous utilisez la plaque de finition facultative de 10 po RP64472 (à commander séparément), veuillez prendre connaissance des instructions qui suivent. Dans le cas contraire, allez à Installation du dispositif EZ Anchor à la page 5.**

**A**



1

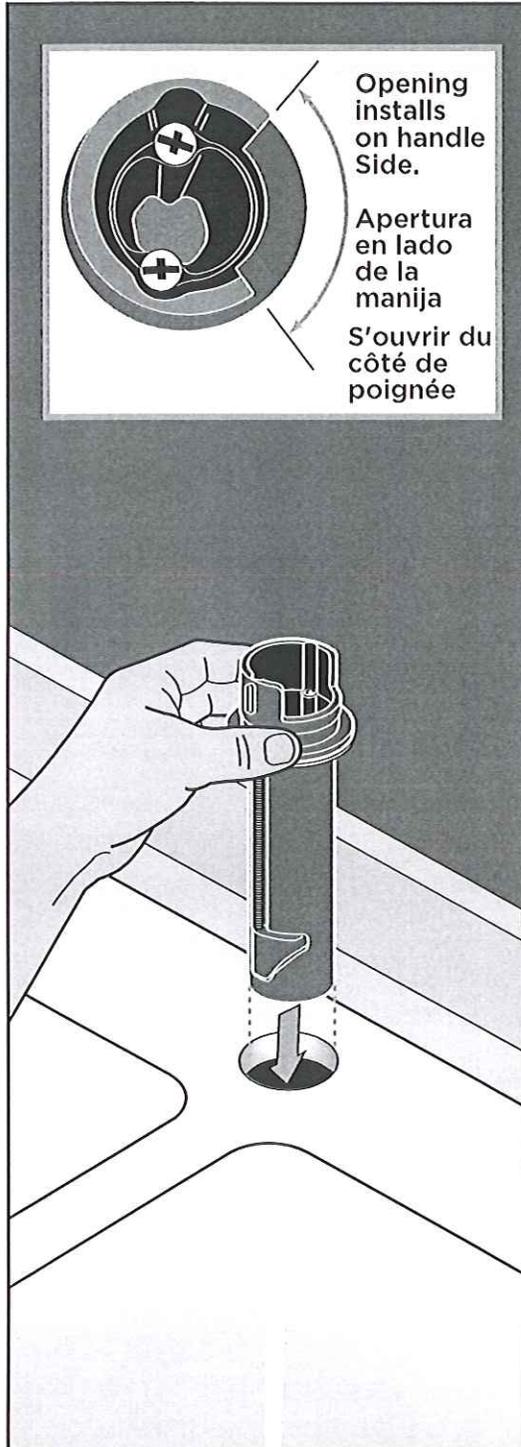




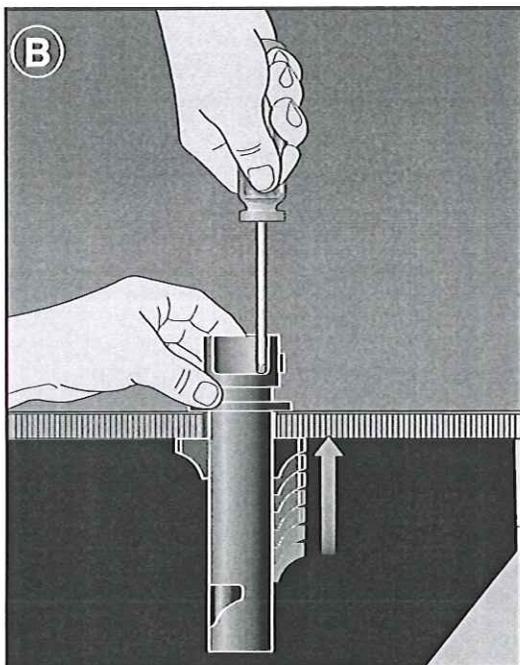
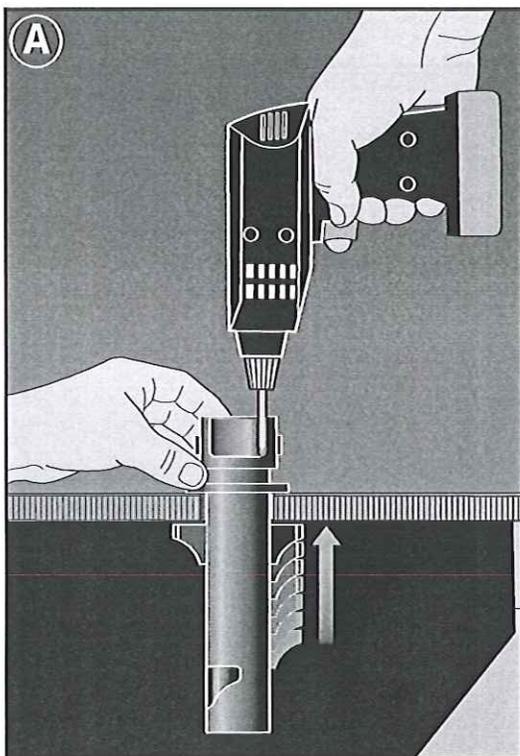
Standard  
Installation

Instalación  
Estándar

Installation  
Standard



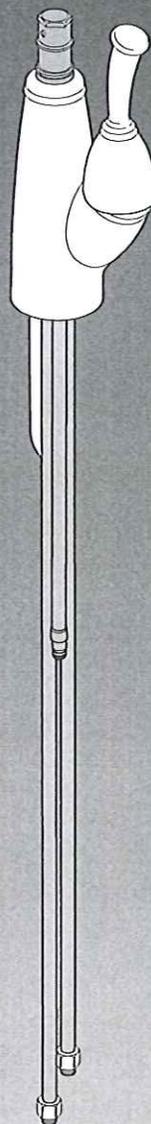
2



**Parts for Step 2.**

**Piezas para el Paso 2.**

**Pièces pour l'étape 2.**

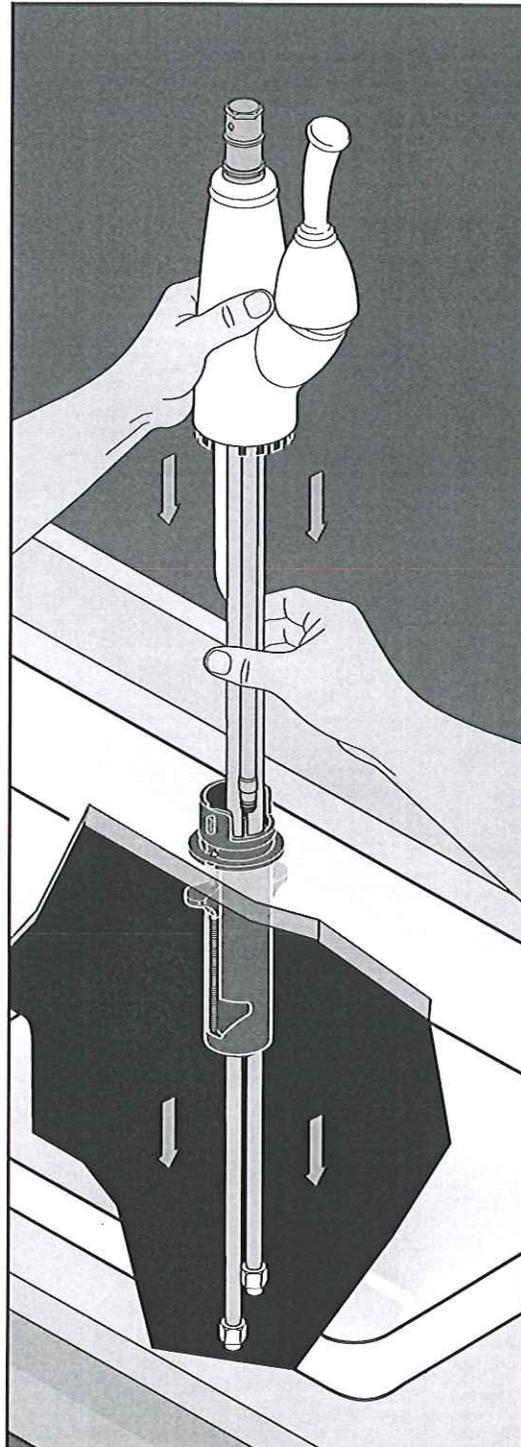
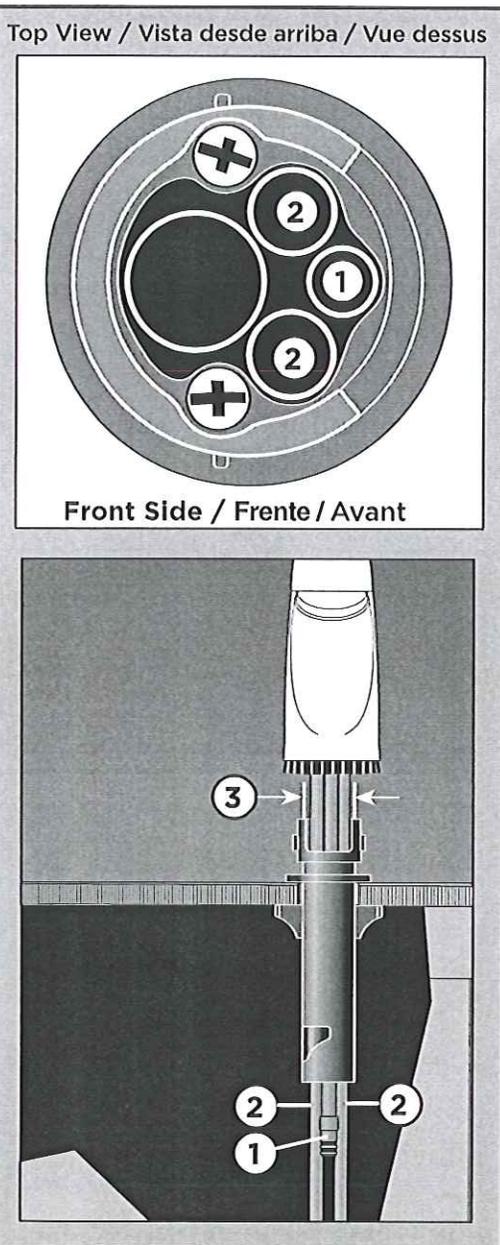


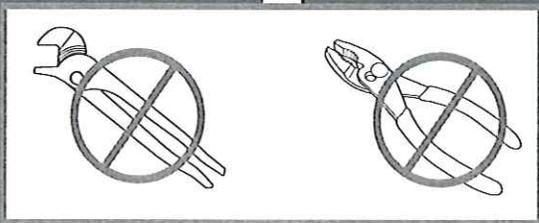
Prior to inserting tubes into anchor, ensure small outlet tube (1) is in front (to the right) of the two larger supply tubes (2) (see diagram) and the handle is aligned with the anchor cutout (3).



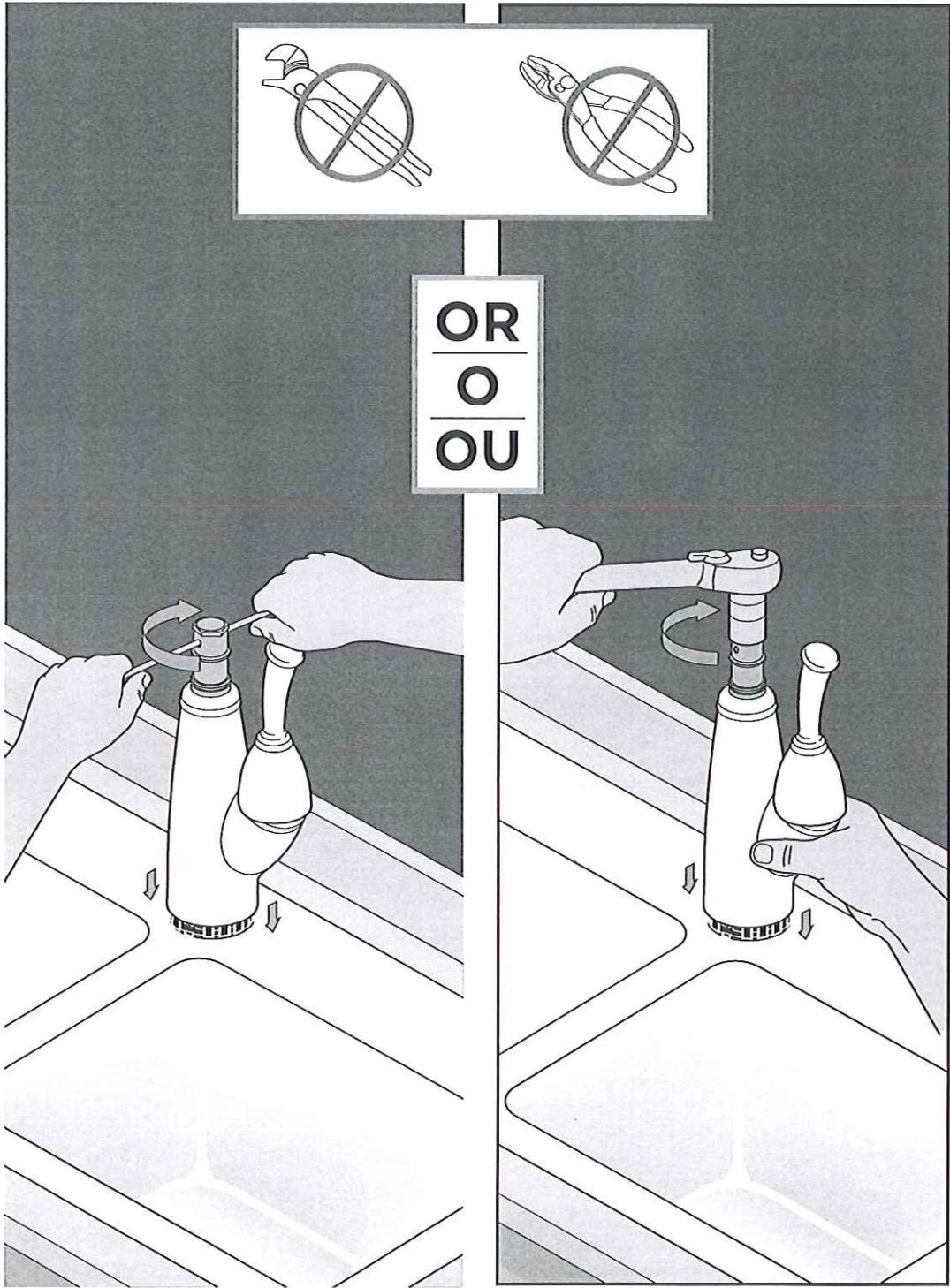
Asegúrese que el tubo de salida pequeño (1) está en frente (a la derecha) de los dos tubos más grandes de alimentación (2) (ver la figura) y la manija está alineada con el recorte del anclaje (3) antes de insertar los tubos en el ancla.

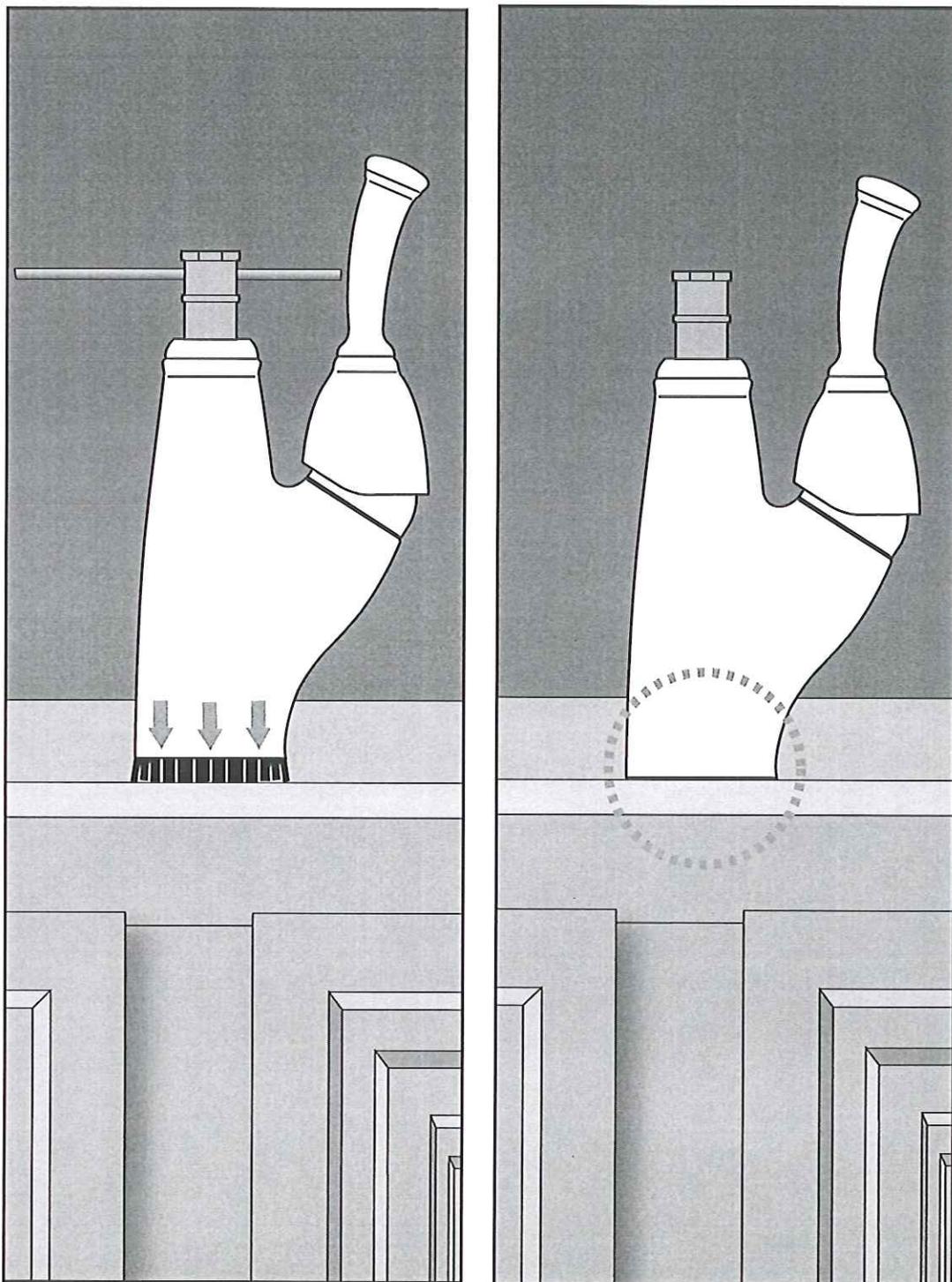
Assurez-vous que le tube de sortie (1) est en avant (à droite) des deux tubes d'alimentation plus gros (2) (reportez-vous au schéma) et que la manette est orientée vers l'encoche de l'ancrage (3) avant d'introduire les tubes dans l'ancrage.





OR  
O  
OU



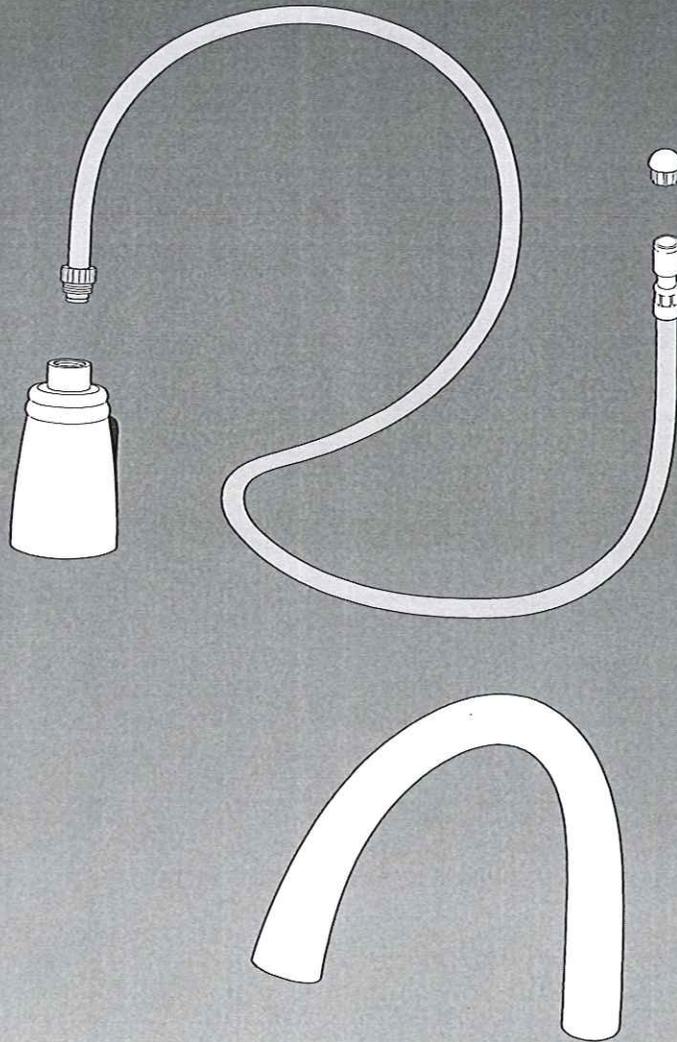


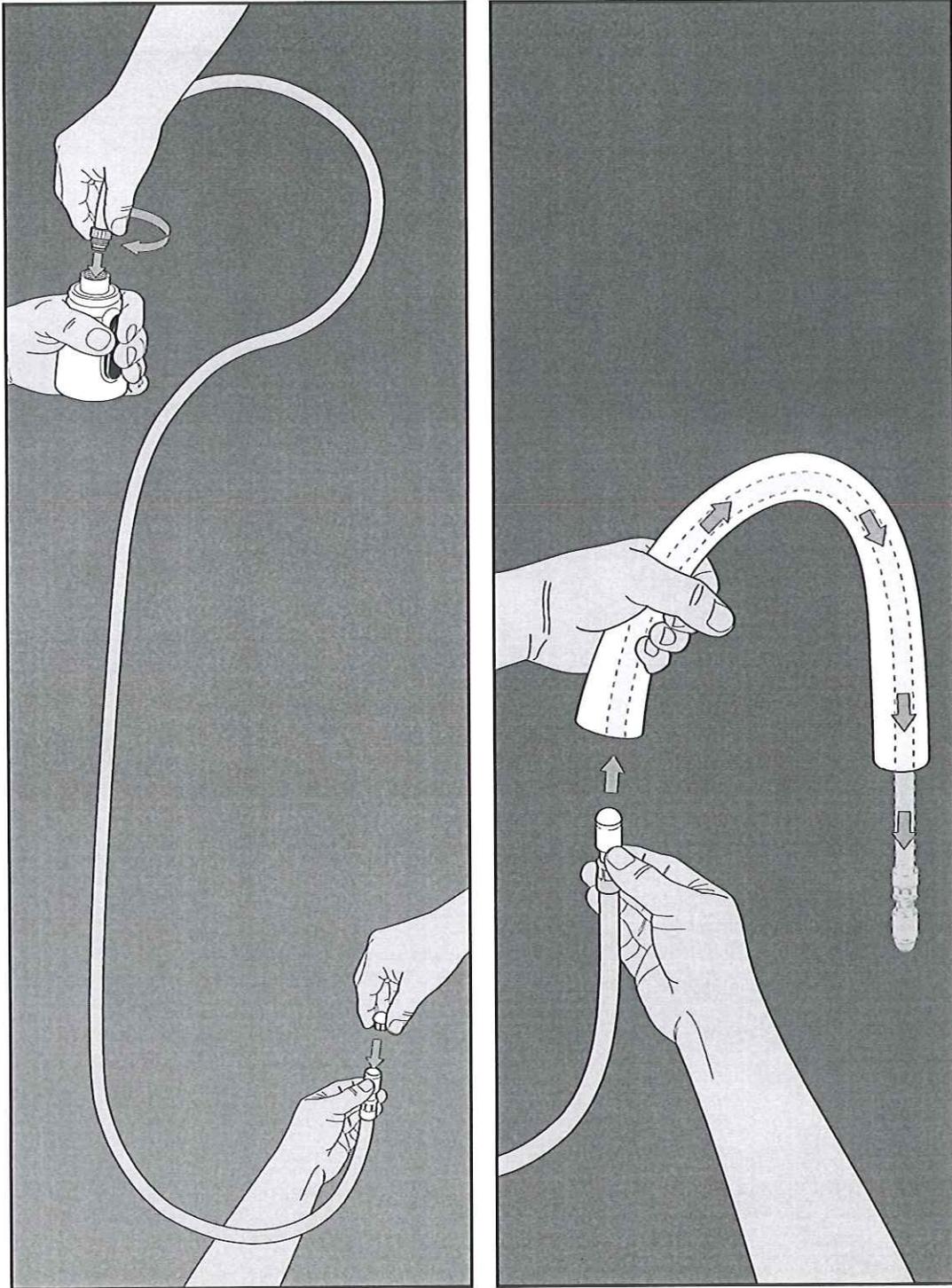
3

**Parts for Step 3.**

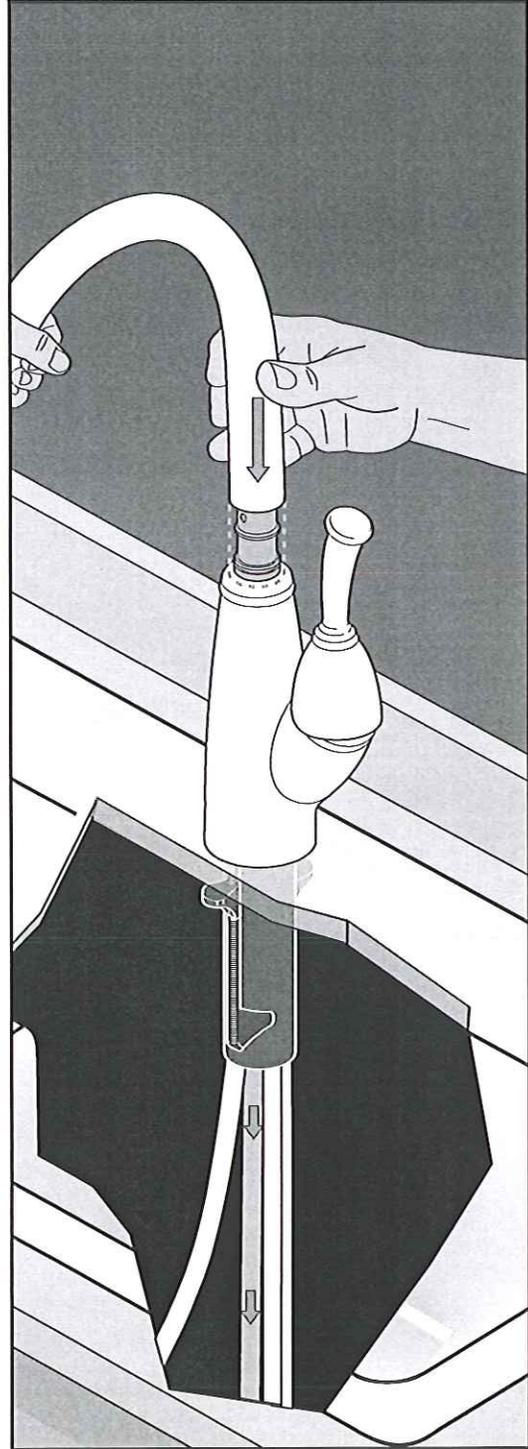
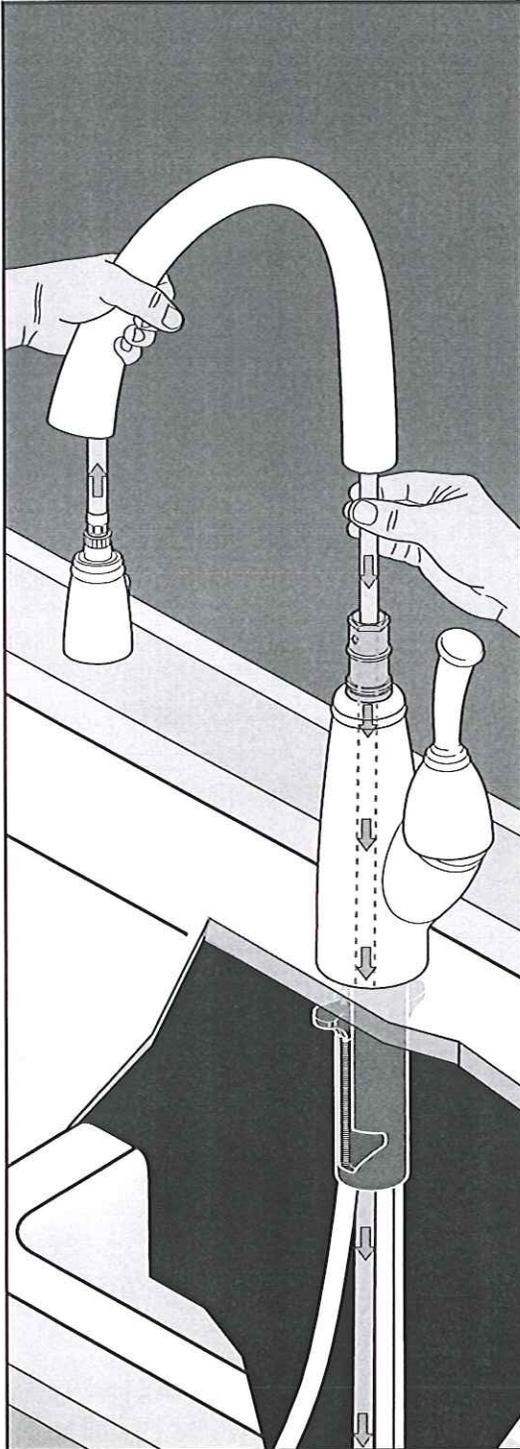
**Piezas para el Paso 3.**

**Pièces pour l'étape 3.**





3

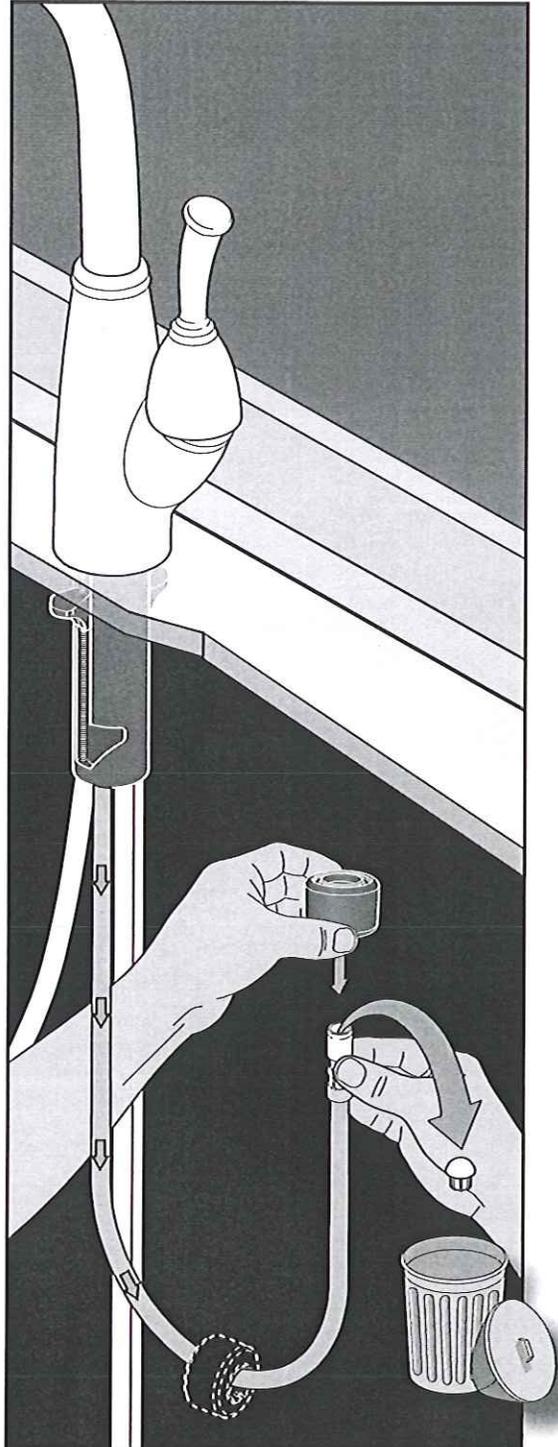


4

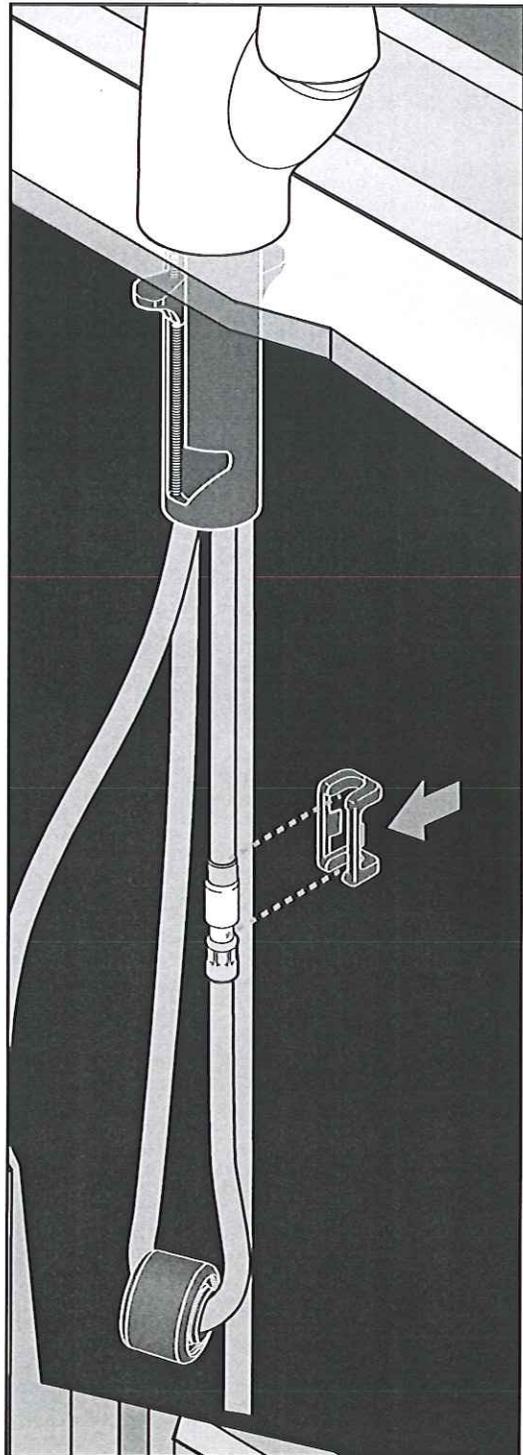
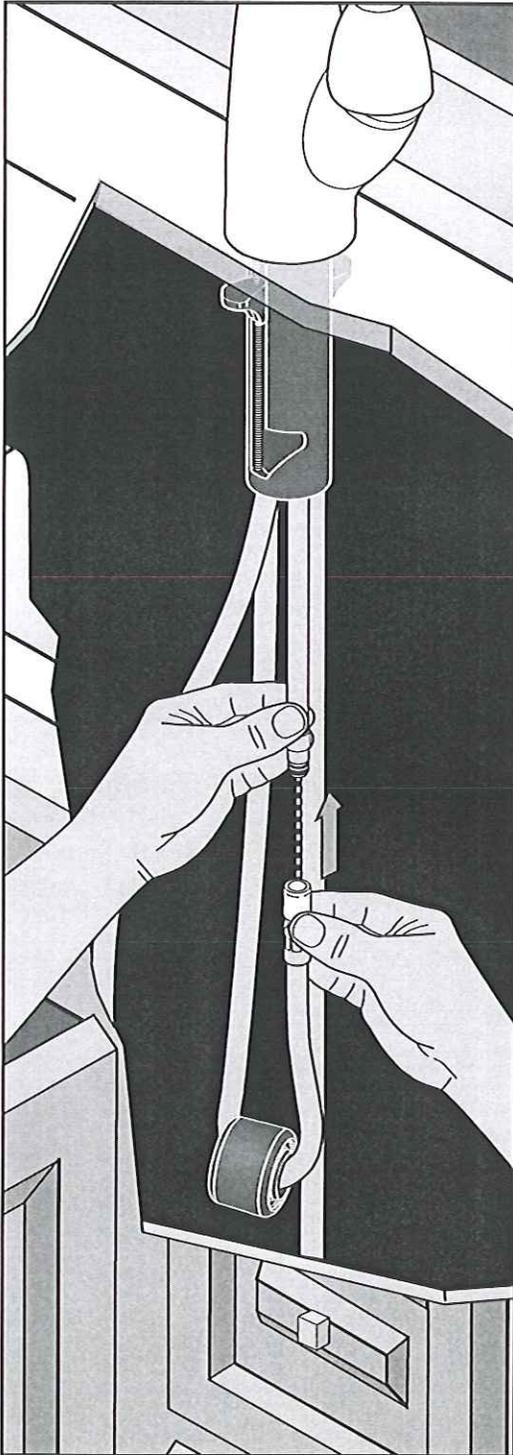
**Parts for Step 4.**

**Piezas para el Paso 4.**

**Pièces pour l'étape 4.**

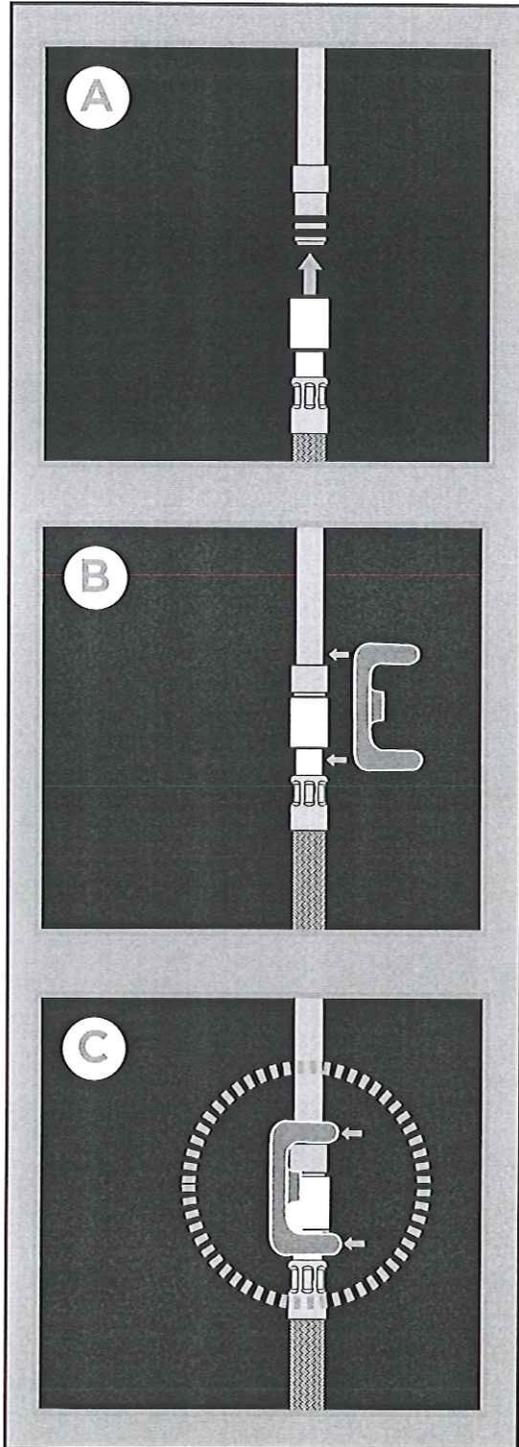


4





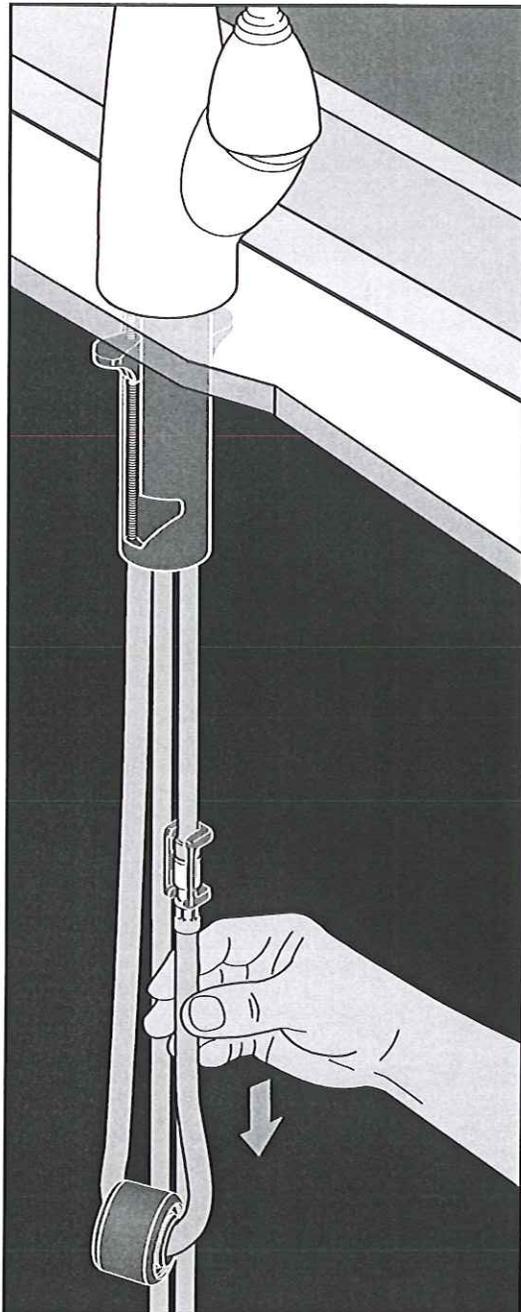
**Side View**  
**Vista lateral / Vue latérale**

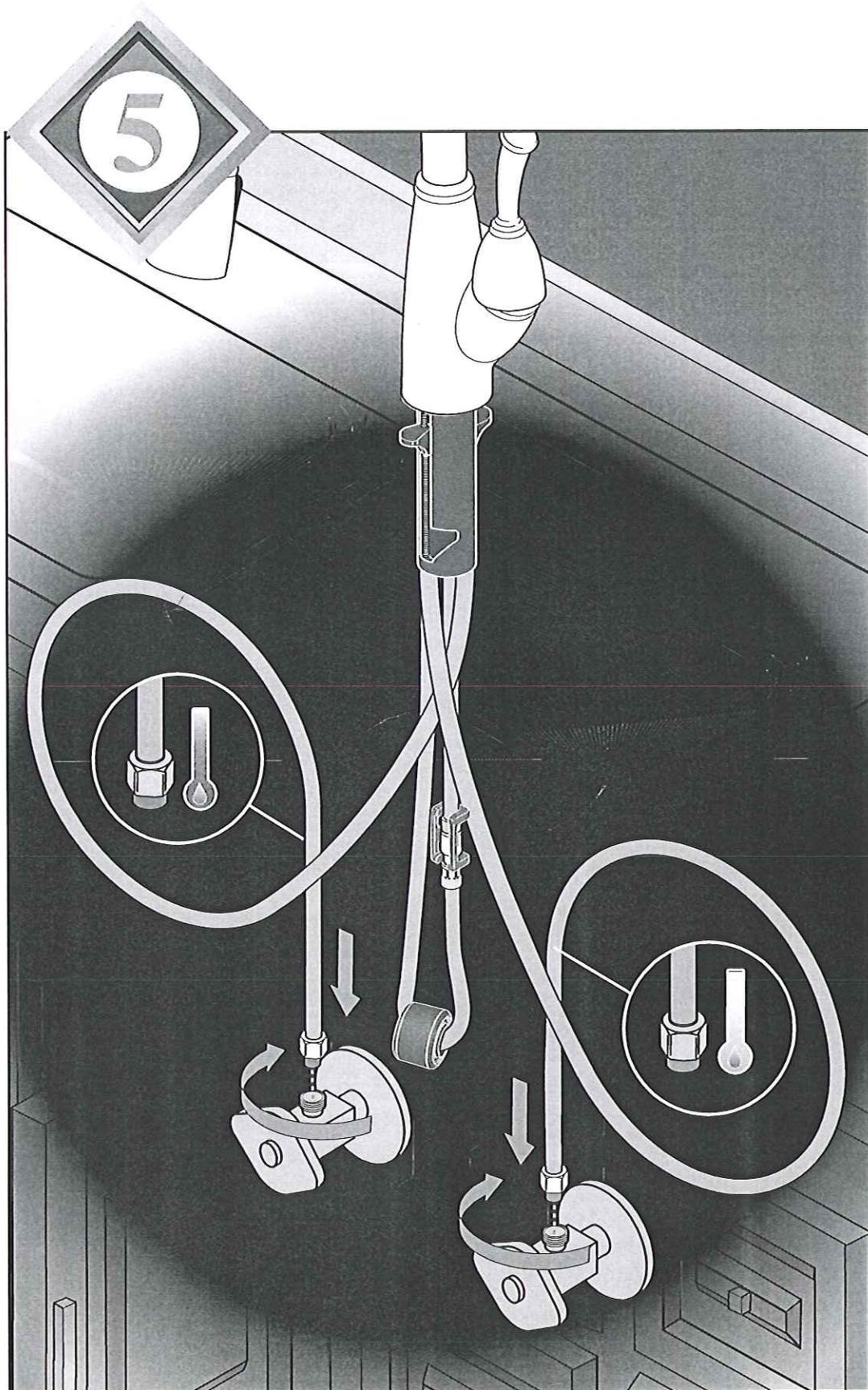


Pull down moderately to ensure connection has been made.

Hale, hacia abajo, moderadamente para asegurar que ha hecho la conexión.

Tirez modérément sur le tuyau pour vous assurer qu'il est bien fixé.







Finger tighten. (Both hot & cold sides)

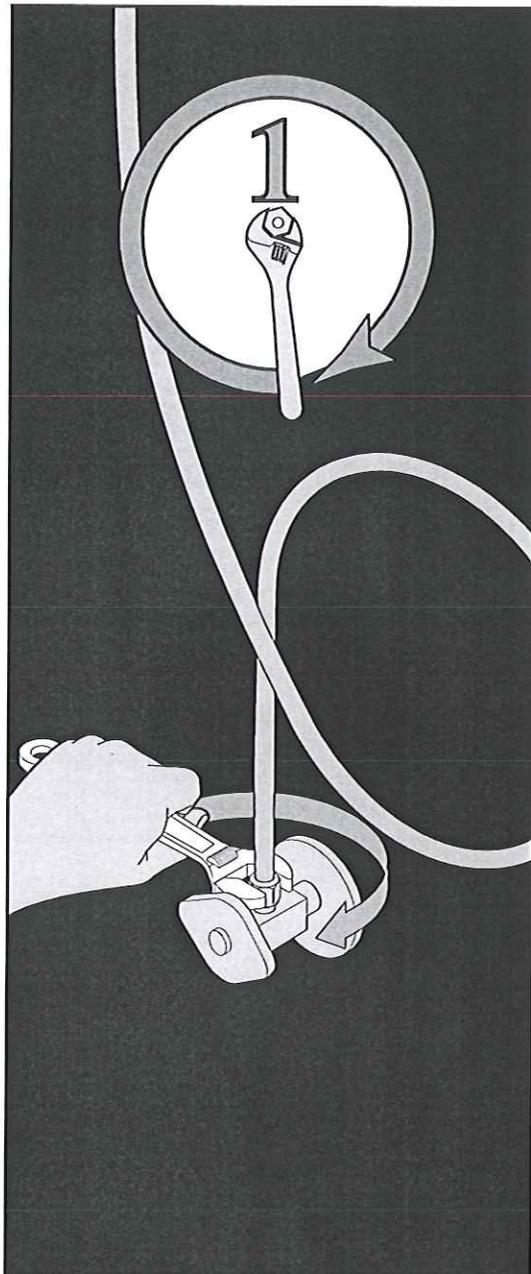
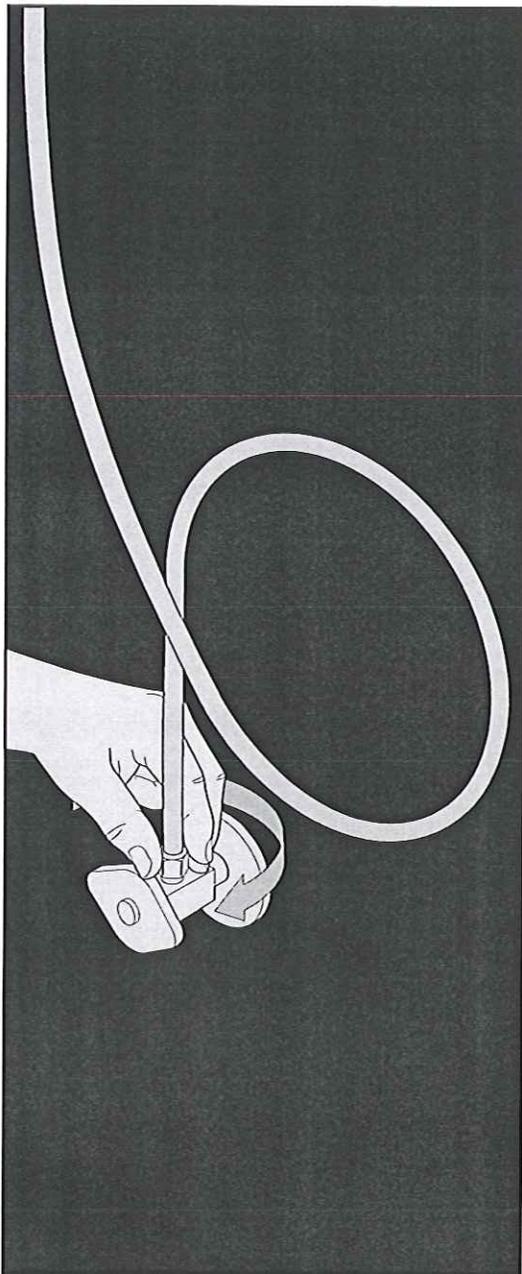
Apriete con los dedos

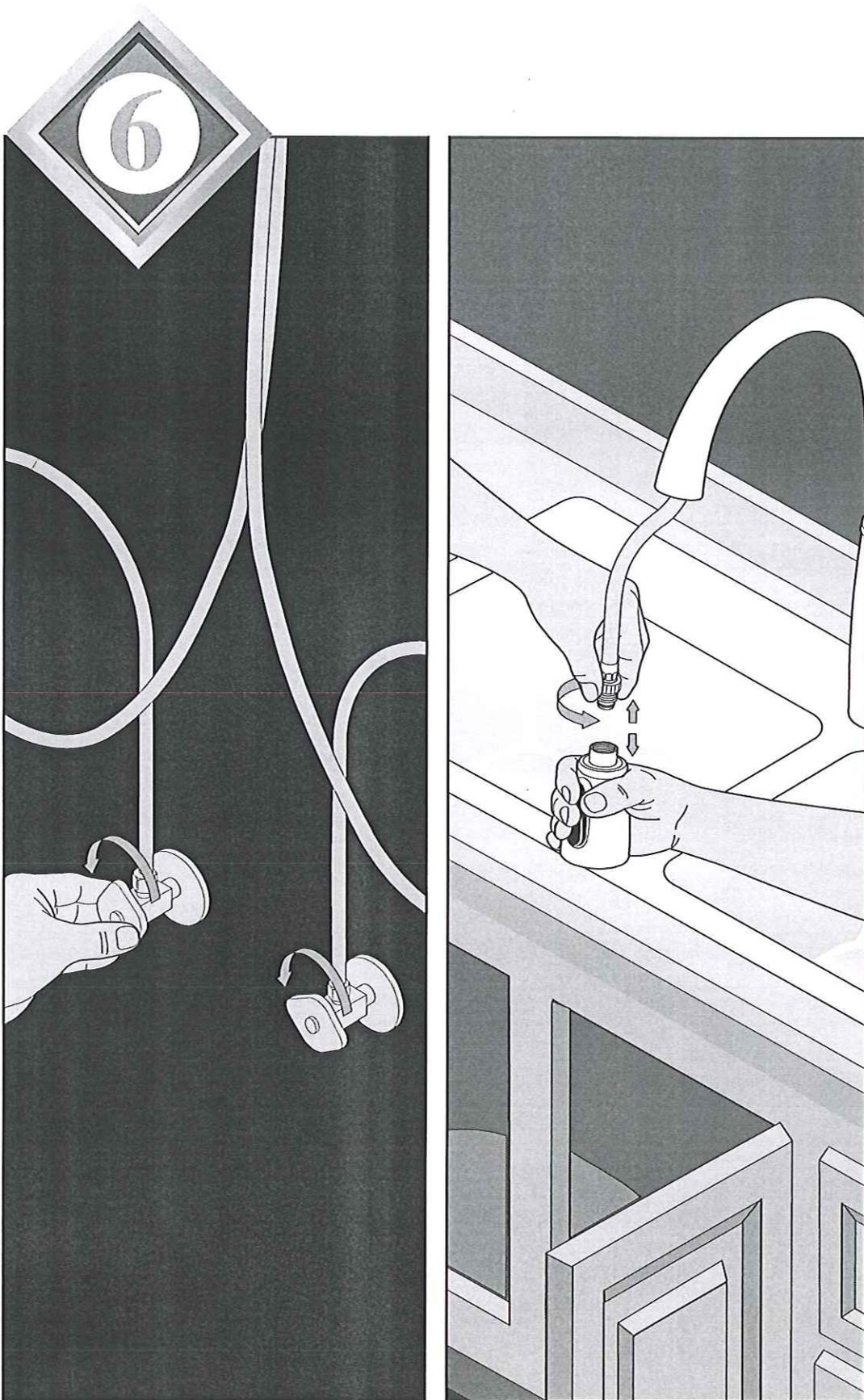
Serré à la main

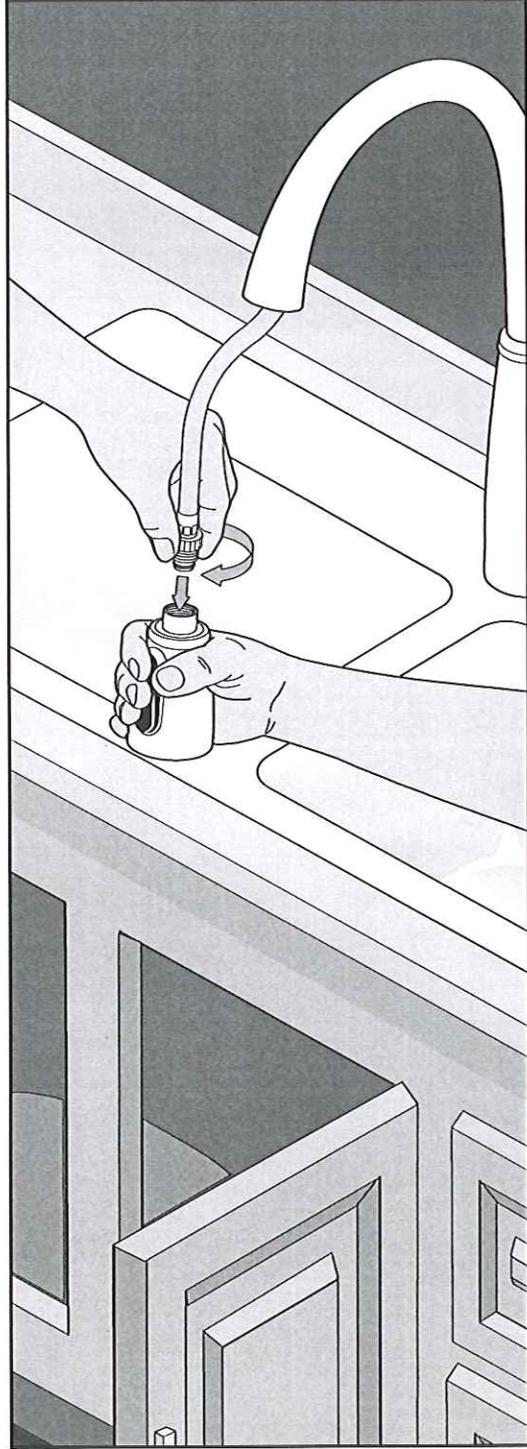
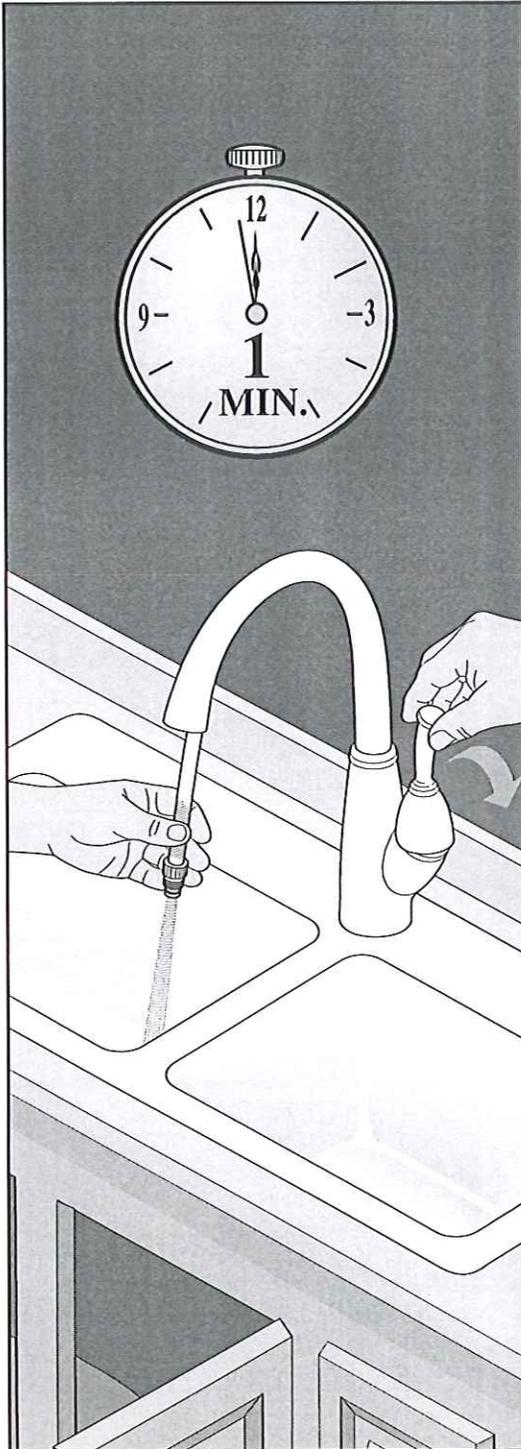
One additional turn with wrench.

Una vuelta adicional usando una llave de herramientas

1 tour supplémentaire avec une clé





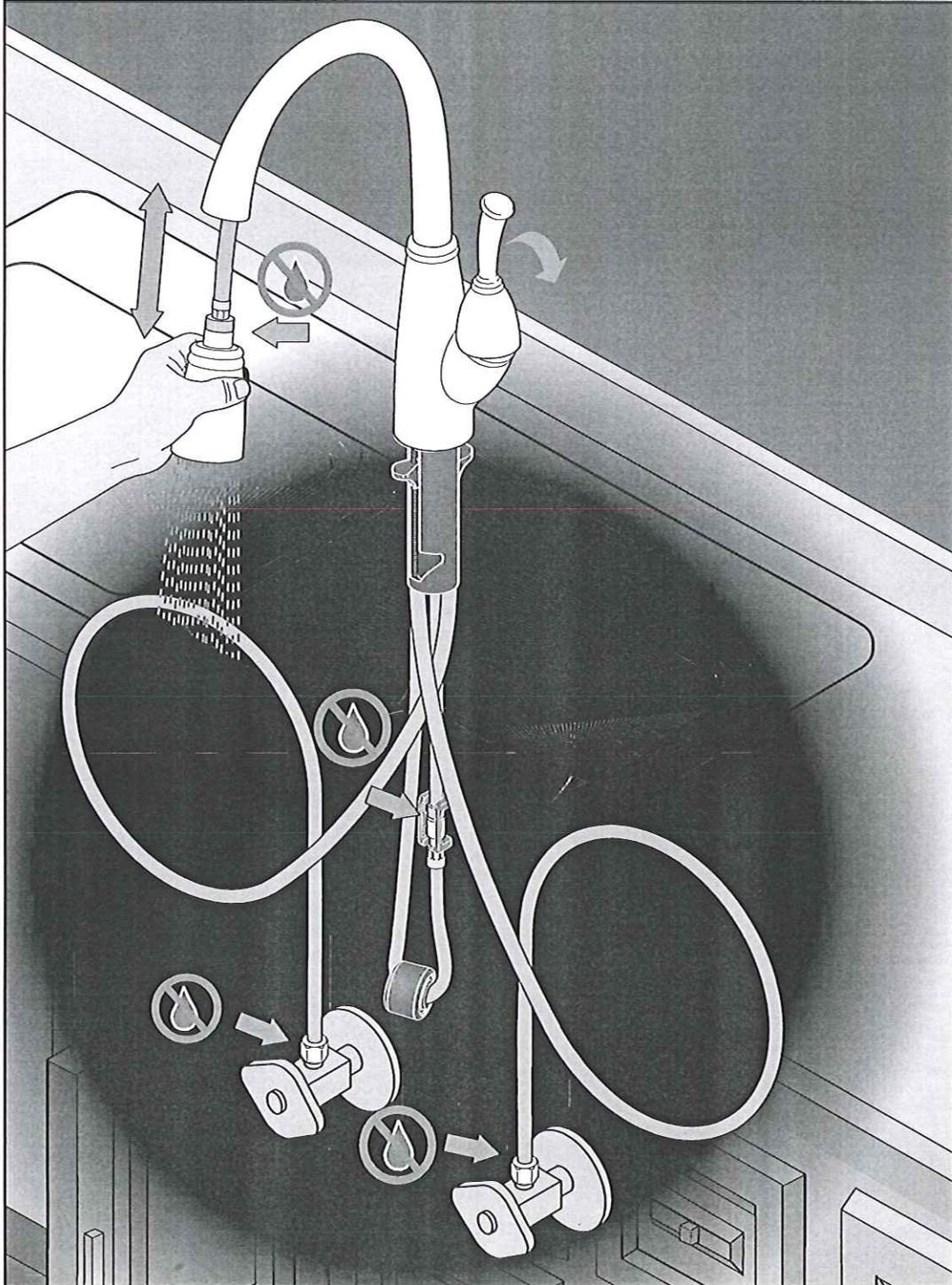




Check all connections at arrows for leaks.

Revisar todas las conexiones señaladas con las flechas en busca de fugas.

Vérifiez tous les raccords aux endroits indiqués par les flèches.



**RP53102▲** (model 989)  
 Sprayer Assembly  
 (includes aerator)  
 Ensemble de rociador  
 (incluye el aireador)  
 Pulvérisateur  
 (inclut aérateur)

**RP47667▲**  
 Aerator  
 Aireador  
 Aérateur

**RP80977**  
 Wand Retainer &  
 Replacement Kit  
 Soporte para el mango y  
 piezas de repuesto  
 Trousse de rechange  
 et pièce de retenue de  
 douchette

**RP62850**  
 EZ Bar  
 Bar EZ  
 EZ Barre

**RP32529▲**  
 Aerator  
 Aireador  
 Aérateur

**RP53101▲** (model 999)  
 Sprayer Assembly  
 (includes aerator)  
 Ensemble de rociador  
 (incluye el aireador)  
 Pulvérisateur  
 (inclut aérateur)

**RP51243**  
 Gaskets  
 Empaques  
 Joints

**RP70107**  
 EZ Anchor™  
 Assembly  
 Ensemble EZ  
 Anchor™  
 Dispositif  
 EZ Anchor<sup>MC</sup>

**RP47271▲**  
 Set Screw & Button  
 Tornillo de Presión y Botón  
 Vis de calage et bouton

**RP70105**  
 Spout Retainer  
 Aro para el Surtidor  
 Anneau du bec

**RP47270▲**  
 Lever Handle  
 Manijas de Palanca  
 Manette

**RP51502▲**  
 Cap  
 Casquete  
 Embase

**RP51503**  
 Bonnet  
 Bonete  
 Chapeau

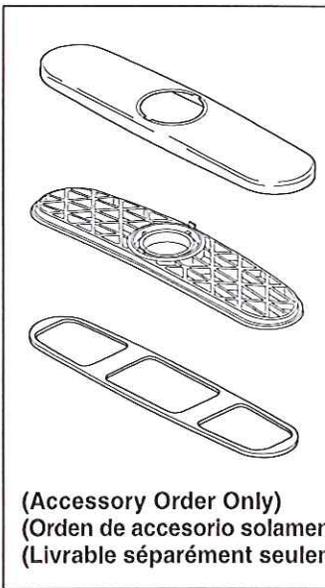
**RP50587**  
 Valve Assembly  
 Ensemble de la válvula  
 Soupape

**RP13938**  
 O-Ring  
 Anillo "O"  
 Joint torique



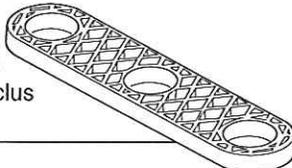
**RP50952**  
 Cut -To - Fit Plastic Sleeves  
 Casquillos cortados a la medida  
 Bagues d'extrémité pour tubes  
 coupés

▲ Specify Finish  
 Especificque el Acabado  
 Précisez le fini



**(Accessory Order Only)**  
**(Orden de accesorio solamente)**  
**(Livrablé séparément seulement)**

**(Accessory Order Only)**  
**(Orden de accesorio solamente)**  
**(Livrablé séparément seulement)**  
 Not Included / No incluido / Non inclus



**RP37490**  
 Stabilization Plate  
 La Chapa estabilizadora  
 La Plaque de Stabilisation

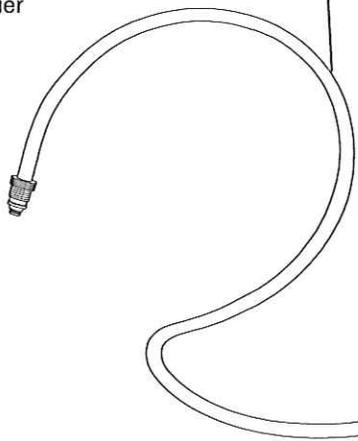
**RP64472▲**  
 Escutcheon, Plate and Gasket  
 Chapa, Placa, Tuerkas y Empaque  
 Plaque de finition, Plaque, écrous et joint

**RP30395**  
 Vented Funnel  
 Embudo con Ventiladero  
 Entonnoir



**RP50390**  
 54" Hose Assembly & Clip  
 Ensemble de la Manguera y Presilla - 54"  
 Tuyau souple et Agrafe - 54 po

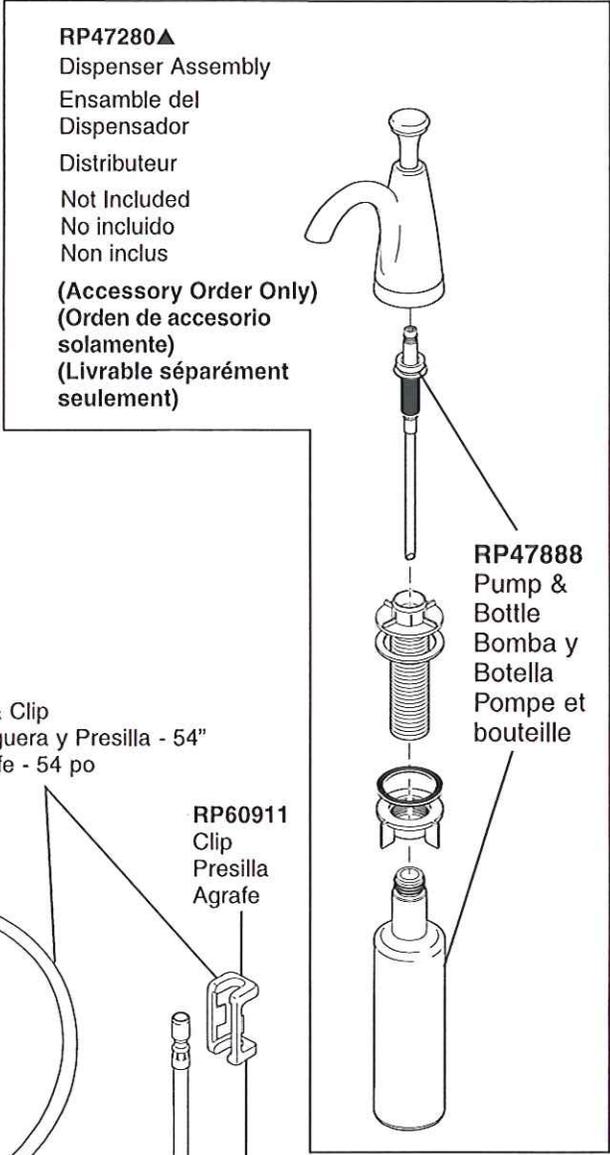
**RP80523**  
 Steel Weight Assembly  
 Ensemble de la Pesa de Acero  
 Masselotte en acier



**RP60911**  
 Clip  
 Presilla  
 Agrafe



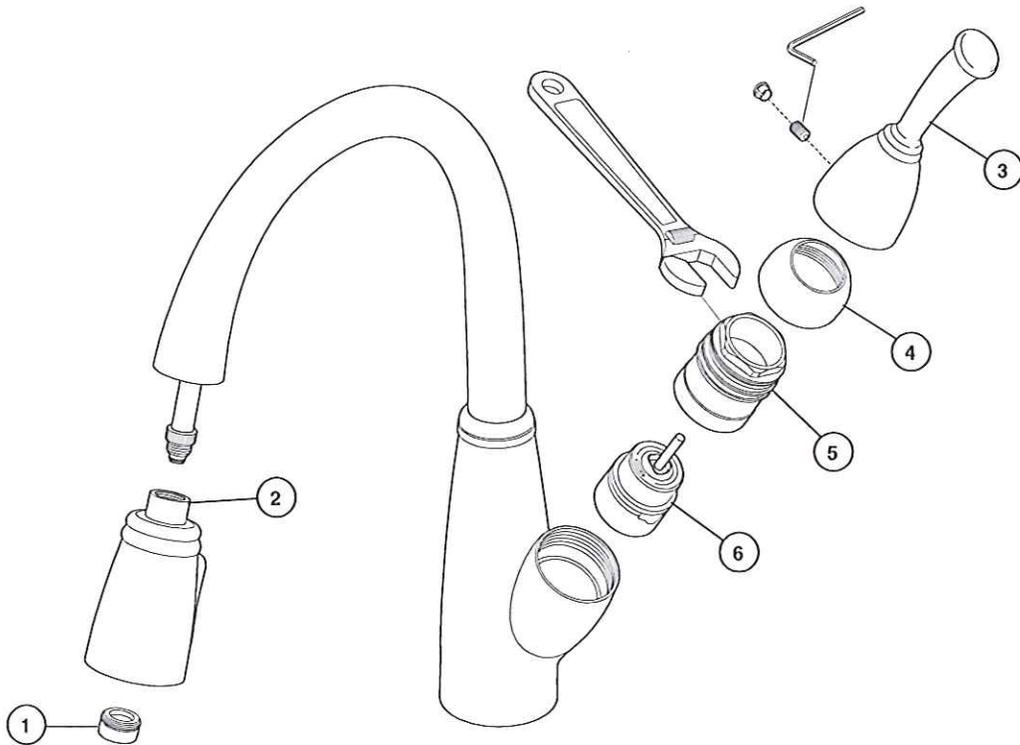
**RP62057**  
 62" Hose Assembly & Clip  
 Ensemble de la Manguera y Presilla - 62"  
 Tuyau souple et Agrafe - 62 po



**RP47280▲**  
 Dispenser Assembly  
 Ensemble del Dispensador  
 Distributeur  
 Not Included  
 No incluido  
 Non inclus

**(Accessory Order Only)**  
**(Orden de accesorio solamente)**  
**(Livrablé séparément seulement)**

**RP47888**  
 Pump & Bottle  
 Bomba y Botella  
 Pompe et bouteille



## Maintenance

### If faucet exhibits very low flow

- A. Remove and clean aerator (1) or
- B. Unscrew hose from spray head and clean debris from screen (the screen is located just inside the spray (2).

**IMPORTANT:** Reinstall screen to the spray head. (Failure to reinstall the screen could damage internal parts.)

**If faucet leaks from under handle:** Remove handle (3) and cap (4). Using a wrench, ensure bonnet nut (5) is tight.

**If leak persists—SHUT OFF WATER SUPPLIES.** Replace valve cartridge (6). When reinstalling parts, make sure bonnet nut (5) is tightened securely with a wrench.\*

**If faucet leaks from spout outlet—SHUT OFF WATER SUPPLIES.** Replace valve cartridge (6). When reinstalling parts, make sure bonnet nut (5) is tightened securely with a wrench.\*

**\* WARNING: Failure to securely tighten bonnet nut with a wrench could result in water damage.**

**Note:** A small amount of water may run out the spout or drip for a very short period after the faucet is shut off. This is a natural occurrence caused by the long flexible hose.

**Note:** Do not attempt to disassemble cartridge (6). There are no repairable parts inside.

## Cleaning and Care

Care should be given to the cleaning of this product. Although its finish is extremely durable, it can be damaged by harsh abrasives or polish. To clean, simply wipe gently with a damp cloth and blot dry with a soft towel.

## Limited Warranty on Delta® Faucets

### Parts and Finish

All parts (other than electronic parts and batteries) and finishes of this Delta® faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for as long as the original consumer purchaser owns the home in which the faucet was first installed or, for commercial users, for 5 years from the date of purchase.

### Electronic Parts and Batteries (if applicable)

Electronic parts (other than batteries), if any, of this Delta® faucet are warranted to the original consumer purchaser to be free from defects in material and workmanship for 5 years from the date of purchase or, for commercial users, for one year from the date of purchase. No warranty is provided on batteries.

Delta Faucet Company will replace, FREE OF CHARGE, during the applicable warranty period, any part or finish that proves defective in material and/or workmanship under normal installation, use and service. If repair or replacement is not practical, Delta Faucet Company may elect to refund the purchase price in exchange for the return of the product. **These are your exclusive remedies.**

Delta Faucet Company recommends using a professional plumber for all installation and repair. We also recommend that you use only genuine Delta® replacement parts.

Delta Faucet Company shall not be liable for any damage to the faucet resulting from misuse, abuse, neglect or improper or incorrectly performed installation, maintenance or repair, including failure to follow the applicable care and cleaning instructions.

Replacement parts may be obtained by calling the applicable number below or by writing to:

#### In the United States and Mexico:

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1-800-345-DELTA (3358)  
customerservice@deltafaucet.com

#### In Canada:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1-800-345-DELTA (3358)  
customerservice@mascocanada.com

Proof of purchase (original sales receipt) from the original purchaser must be made available to Delta Faucet Company for all warranty claims unless the purchaser has registered the product with Delta Faucet Company. This warranty applies only to Delta® faucets manufactured after January 1, 1995 and installed in the United States of America, Canada and Mexico.

DELTA FAUCET COMPANY SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LABOR CHARGES) FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THE FAUCET. Some states/provinces do not allow the exclusion or limitation of special, incidental or consequential damages, so these limitations and exclusions may not apply to you. This warranty gives you special legal rights. You may also have other rights which vary from state/province to state/province.

This is Delta Faucet Company's exclusive written warranty and the warranty is not transferable.

If you have any questions or concerns regarding our warranty, please view our Warranty FAQs at [www.deltafaucet.com](http://www.deltafaucet.com), email us at [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) or call us at the applicable number above.

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## Garantía Limitada de las Llaves de Agua (grifos) Delta®

### Piezas y acabado

Todas las piezas (excepto las piezas electrónicas y las pilas) y los acabados de esta llave de agua Delta® están garantizados al consumidor comprador original de estar libres de defectos en material y fabricación durante el tiempo que el comprador original posea la vivienda en la que la llave de agua fue originalmente instalada o, para los consumidores comerciales, durante 5 años a partir de la fecha de compra.

### Componentes electrónicos y pilas (si aplicable)

Todas las piezas (salvo las pilas), si hay, de esta llave de agua Delta® están garantizadas al consumidor comprador original de estar libres de defectos en materiales y fabricación durante 5 años a partir de la fecha de compra o, para los usuarios comerciales, por un año a partir de la fecha de compra. No se garantizan las pilas.

Delta Faucet Company reemplazará, SIN CARGO, durante el período de garantía aplicable, cualquier pieza o acabado que pruebe tener defectos de material y/o fabricación bajo la instalación, uso y servicio normal. Si la reparación o su reemplazo no es práctico, Delta Faucet Company tiene la opción de reembolsarle su dinero por la cantidad del precio de compra a cambio de la devolución del producto. **Estos son sus únicos recursos.**

Delta Faucet Company recomienda que use los servicios de un plomero profesional para todas las instalaciones y reparaciones. También le recomendamos que utilice sólo las piezas de repuesto originales de Delta®.

Delta Faucet Company no será responsable por cualquier daño a la llave de agua que resulte del mal uso, abuso, negligencia o mala instalación o mantenimiento o reparación incorrecta, incluyendo el no seguir los cuidados aplicables y las instrucciones de limpieza.

Las piezas de repuesto se pueden obtener llamando al número correspondiente más abajo, o escribiendo a:

#### En los Estados Unidos y México:

Delta Faucet Company  
Product Service  
55 E. 111th Street  
Indianapolis, IN 46280  
1 800 345 DELTA (3358)  
customerservice@deltafaucet.com

#### En Canadá:

Masco Canada Limited, Plumbing Group  
Technical Service Centre  
350 South Edgeware Road  
St. Thomas, Ontario, Canada N5P 4L1  
1 800 345 DELTA (3358)  
customerservice@mascocanada.com

La prueba de compra (recibo original) del comprador original debe ser disponible a Delta Faucet Company para todos los reclamos a menos que el comprador haya registrado el producto con Delta Faucet Company. Esta garantía le aplica sólo a las llaves de agua de Delta® fabricadas después del 1 de enero 1995 e instaladas en los Estados Unidos de América, Canadá y México.

DELTA FAUCET COMPANY NO SE HACE RESPONSABLE POR CUALQUIER DAÑO ESPECIAL, INCIDENTAL O CONSECUENTE (INCLUYENDO LOS GASTOS DE MANO DE OBRA) POR EL INCUMPLIMIENTO DE CUALQUIER GARANTÍA EXPRESA O IMPLÍCITA DE LA LLAVE DE AGUA. Algunos estados/provincias no permiten la exclusión o limitación de daños especiales, incidentales o consecuentes, por lo que estas limitaciones y exclusiones pueden no aplicarle a usted. Esta garantía le otorga derechos legales. Usted también puede tener otros derechos que varían de estado/provincia a estado/provincia.

Esta es la garantía exclusiva por escrito de Delta Faucet Company y la garantía no es transferible.

Si usted tiene alguna pregunta o inquietud acerca de nuestra garantía, por favor, vea nuestra sección de preguntas frecuentes FAQ sobre la garantía en [www.deltafaucet.com](http://www.deltafaucet.com), también puede enviarnos un correo electrónico a [customerservice@deltafaucet.com](mailto:customerservice@deltafaucet.com) o llámenos al número que le corresponda anteriormente incluido.

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