Installation, Operation and Maintenance Manual

Anti-Scale System
OneFlow®

OneFlow®+ Salt-Free Scale Prevention and Water Filtration System

Model OFPSYS

OneFlow® + is certified by the Water Quality Association (WQA) to NSF / ANSI Standard 372 for lead free.

OFPSYS

⚠ 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.

THINK SAFETY FIRST

⚠ WARNING

If you are unsure about installing your Watts OneFlow®+ system contact a Watts representative or consult a professional plumber.

You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product. **FAILURE TO COMPLY WITH PROPER INSTALLATION AND MAINTENANCE INSTRUCTIONS COULD RESULT IN PRODUCT FAILURE WHICH CAN CAUSE PROPERTY DAMAGE, PERSONAL INJURY AND/OR DEATH.** Watts is not responsible for damages resulting from improper installation and/or maintenance. 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.

Save manual for future reference.

Refer to the enclosed for operating parameters to ensure proper use with your water supply.

- Use only lead-free solder and flux for sweat-solder connections, as required by state, province and federal codes.
- Handle all components of the system with care. Do not drop, drag or turn components upside down.
- Be sure the floor under the system is clean, level and strong enough to support the unit if the OneFlow®+ system is situated on the floor.
- Install the system in a protected area.
- Do not attempt to treat water over 100°F (38°C) with the system.
- Always connect the system to the main water supply pipe before the water heater.
- Do not expose the system to freezing temperatures. Water freezing in the system causes equipment damage.
- Do not install in direct sunlight. Ultraviolet rays from the sun may cause damage.
- Do not use on water that is microbiologically unsafe or of unknown quality.

Table of Contents

Introduction

The OneFlow®+ system is an economical and environmentally friendly physical water treatment technology that protects pipes, extends the life of appliances, and provides better tasting water through filtration. The OneFlow®+ system is a dual cartridge-based system with a radial flow 20 micron carbon block cartridge which reduces sediment, chlorine taste and odor, and an integrated OneFlow® scale prevention cartridge.

The OneFlow®+ system uses template assisted crystallization to attract hardness minerals and convert them into harmless, inactive microscopic crystal particles.

These crystals stay suspended in the water and are passed to drain. The system requires very little maintenance, no backwashing, no salt and no electricity. Typical hardness problems, especially build-up of scale in heating elements, pipes, water heaters, boilers and on fixtures, are reduced.

The OneFlow®+ system is not a water softener. It does not add chemicals. It is a scale prevention device with proven third party laboratory test data and years of successful commercial, residential and food service applications. The OneFlow®+ system is the intelligent scale solution and is a great salt-free alternative to water softening (ion exchange) or scale sequestering devices.

WATTS®

Setup

Unpack and check the system components for damage or missing parts.

Installation Considerations

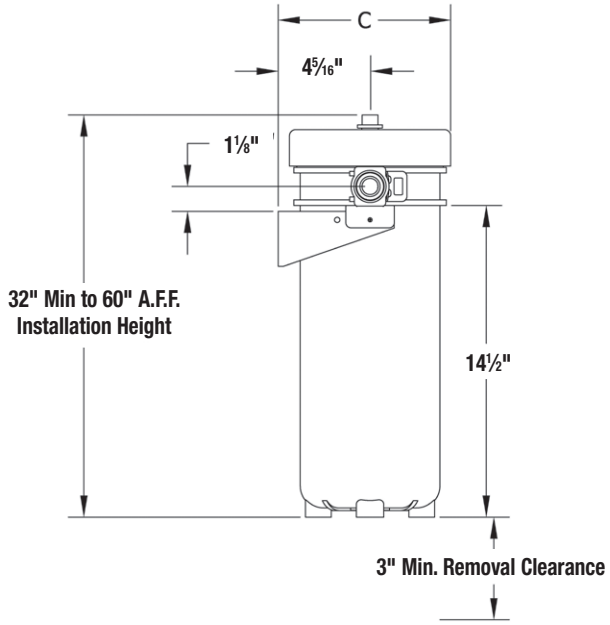
Consider the following points when determining where to install the system:

- Do not install the system where it would block access to the water heater, main water shutoff, water meter, or electrical panels.
- Install the system in a place where water damage is least likely to occur if a leak develops.

Using OneFlow®+ systems with other water treatment equipment.

There are some unique requirements for using OneFlow®+ systems in conjunction with other forms of water treatment.

1. OneFlow®+ system must be the last stage in the treatment chain. Do not install any filters after the OneFlow® system or before any devices for which scale prevention is required.
2. Do not apply antiscalant before or after the OneFlow®+ system.



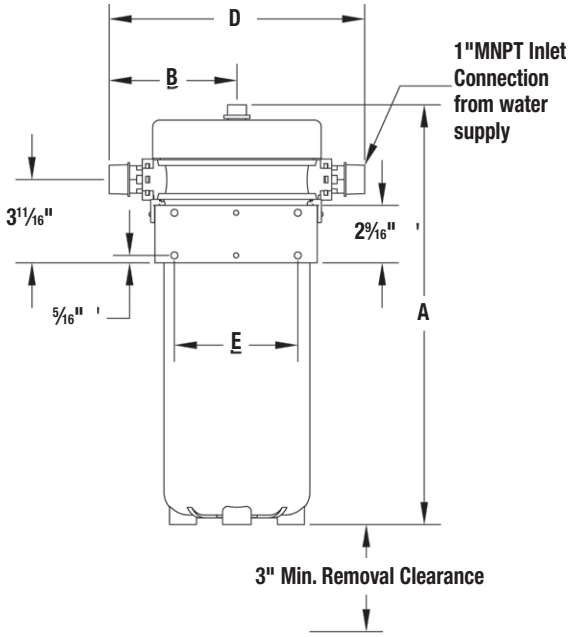
Side View

OneFlow®+ System Benefits

- Reduces sediment, chlorine taste and odor
- Chemical-free scale prevention and protection – converts hardness minerals to harmless, inactive microscopic crystals making OneFlow®+ systems an effective salt-free alternative to ion exchange water softeners
- Virtually maintenance free – No salt bags or other chemicals to constantly add or maintain
- No control valve, no electricity and no wastewater
- Environmentally friendly technology adds no salt or chemicals to the water system
- Improves efficiency of all water heating devices and downstream plumbing components
- Simple installation – standard 1" connections
- Excellent system for homes where equipment protection is desired for longer equipment life and reduced energy consumption
- OneFlow®+ cartridge-based systems are easily maintained
- Easily installed mounting bracket and multi-function tool included to allow cartridge change-outs when necessary

Equipment Specifications

Watts OneFlow®+ systems are complete, self-contained, loaded with media and ready to use. A simple inlet and outlet connection is all that is required for installation. Please review operating pressures, temperatures and water chemistry limitations to ensure compatibility and performance.



Back View

Dimensions — Weights

Model	Dimensions										Weight	
	A		B		C		D		E			
	in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs.*	*kgs*
0FPSYS	18 3/4	476	5 11/16	144	8 1/16	205	11 3/8	289	5 1/2	140	16.6	7.5

The overall height and the height of the inlet fitting varies due to material variations and assembly tolerances. Please allow additional clearance above the filter for making connections.

Feed Water Chemistry Requirements

pH	6.5-8.5
Hardness (maximum)	75 grains (1282 ppm CaCO3)
Water Pressure	10 psi to 90 psi (0.69 bar to 6.21 bar)
Temperature	40°F to 100°F (5°C to 38°C)
Free Chlorine	3 ppm
Iron (maximum)*	0.3 ppm
Manganese (maximum)*	0.05 ppm
Copper**	1.3 ppm
Oil & H2S	Must be Removed Prior to OneFlow®+
Silica (maximum)***	20 ppm

Notes About Certain Contaminants

*Iron and Manganese

Just as with conventional water softening media, OneFlow®+ media needs to be protected from excess levels of certain metals that can easily coat the active surface, reducing its effectiveness over time. Public water supplies rarely, if ever, present a problem, but if the water supply is from a private well, confirm that the levels of iron (Fe) and manganese (Mn) are less than 0.3 mg/L and 0.05 mg/L respectively.

**Copper

Pursuant to the EPA drinking water standards, the OneFlow®+ Feed Water Chemistry Requirements permit up to 1.3 ppm of copper. High levels of copper can otherwise foul the OneFlow®+ system. If the plumbing upstream of the OneFlow®+ system contains copper or new copper plumbing is installed upstream of the OneFlow®+ system, wait a minimum of four weeks before using the OneFlow®+ system. This will allow the copper surfaces to be fully flushed and develop a natural protective surface.

To further minimize any problem with excess copper, avoid applying excessive flux on the inner surfaces of the pipe and use a low-corrosivity water soluble flux listed under the ASTM B813 standard.

The OneFlow®+ system should not be used on closed loop systems.

***Silica

OneFlow®+ media does not reduce silica scaling. While silica tends to have a less significant effect on scale formation than other minerals, it can act as a binder that makes water spots and scale residue outside the plumbing system difficult to remove.

NOTICE

Contaminant Treatment

Sediment / Particulates:	20 microns with a dirt holding capacity up to 2.2 lbs (1 kg)
Chlorine Reduction:	50,000 gallons (189,000 liters)† @ 3 gpm (11.34 lpm)
Scale Prevention:	Up to 3 years

† according to lab test of carbon block manufacturer

⚠ CAUTION

- Do not let the system freeze. Damage to the housing may result.
- System must be operated in a vertical position. Do not lay it down during operation. The system may be placed in any position for shipping and installation but must be operated in the vertical position.
- Place the system on a smooth, level surface. Because the system operates in an UP-Flow, fluidized bed mode, having a level surface is more important than with a softener or media filter.
- A bypass valve should be installed on every system to facilitate installation and service.
- Observe all local plumbing and building codes when installing the system.
- All new copper pipe and fittings used in the installation of this system should be allowed to self passivate, under normal operation and water flow, for a period of 4 weeks minimum before placing the unit into service.
- If making a soldered copper installation, do all sweat soldering before connecting pipes to the bypass valve. Torch heat will damage plastic parts.
- When turning threaded pipe fittings onto plastic fittings, use care not to cross-thread.
- Use PTFE tape on all external pipe threads. Do not use pipe joint compound.
- Support inlet and outlet plumbing in some manner (use pipe hangers) to keep the weight off of the bypass fittings.
- Do not use on water that is microbiologically unsafe or of unknown quality.

NOTICE

Notes to the Installer

The OneFlow®+ system differs from a conventional softener or media filter in a number of key respects.

- The system is light and only partially filled with media. This is normal. The UP-flow operation of the system requires a lot of freeboard to allow the bed to fully fluidize.
- The system has no underbed so you can tip the system over without any fear of upsetting the media. This makes transportation and installation much easier than conventional systems. Must be installed in VERTICAL POSITION.
- Please see the “Notes About Certain Contaminants” section on page 3.
- Please see the note about “Using the OneFlow®+ system with other water treatment equipment” on page 2.
- This system is designed for residential applications only.

Installation Instructions

New system comes with the cartridges and outlet connector pre-installed. Installer should verify this prior to installation.

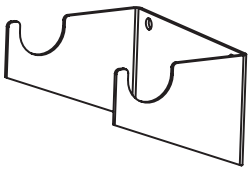
How to install your OneFlow®+ system can also be found at: http://thescalesolution.com/residential

NOTICE

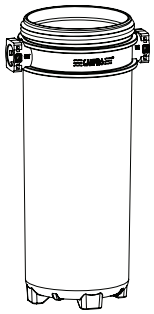
Please confirm that all items required are included in the kit ready for assembly and remove from carton.

1. The system can stand upright in the desired location without the need to affix to a wall with a mounting bracket. However, a mounting bracket is included as a separate part (Item 1).
2. Place the system in the desired location. Make sure that the location is level and sturdy enough to support the weight of the wetted system.
3. Turn off the main water supply to the home and open an inside faucet to relieve any pressure within the plumbing system.
4. Install a supply valve (user supplied) in the supply line and close it.
5. Connect the cold water supply to the inlet of the OneFlow®+ system.
6. Using plumbing tape take the two 1"MPT Threaded Adapters (Item 3) and insert them into the inlet and outlet of the OneFlow®+ Housing (Item 2) as shown in Diagram A.
7. Secure these adapters with the two red adapter Locking Pins (Item 4) as shown in Diagram A.
8. Place a bucket under the outlet port or run a line from the outlet port to a drain.
9. Turn the water back on to the house. Slowly open the supply valve to the OneFlow®+ system. Allow the housing to fill with water. Close the supply valve when a steady stream of water comes out of the outlet port. If the outlet is flowing into a bucket, water could splash on nearby objects. If this threatens the safety, value, structure, or appearance of these objects, protect/remove them or use the outlet hose to drain option.
10. Close the inside faucet.
11. Connect the outlet of the OneFlow®+ system to the cold water supply to the house.
12. Open hot and cold faucets downstream from the OneFlow®+ system to relieve any air from the plumbing system and water heaters. Then close the faucets.
13. Check for leaks. Repair as needed.

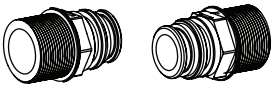
OneFlow®+ System Parts



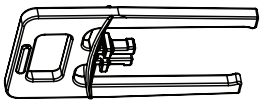
1 Bracket



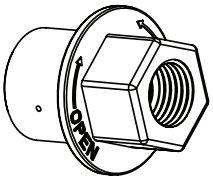
2 OneFlow®+ Housing



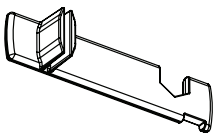
3 MPT Threaded Inlet/ Outlet Adapters (x2)



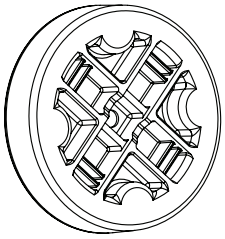
4 Inlet/Outlet red Adapter Locking Pins (x2)



5 Pressure Relief Valve

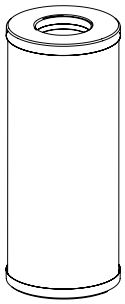


6 Multifunction Tool



7 OneFlow®+ Head Assembly

8 Outlet Connector



9 Sediment/Carbon Filter Cartridge (20 microns)

10 OneFlow®+ Scale Reduction (TAC) Catridge

Diagram A

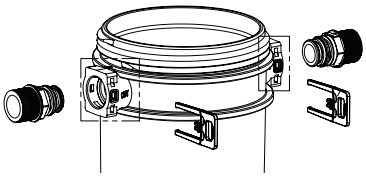


Diagram B

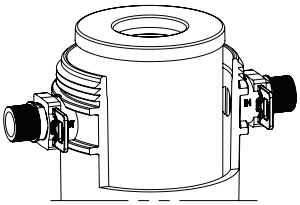


Diagram C

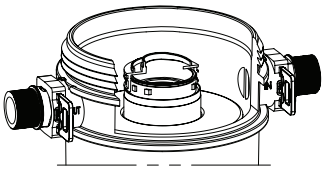


Diagram D

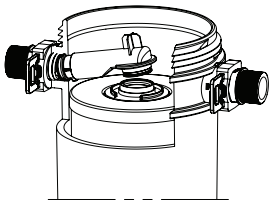


Diagram E

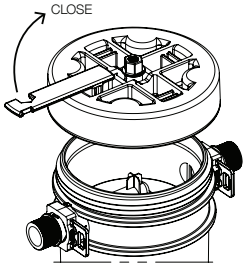


Diagram F

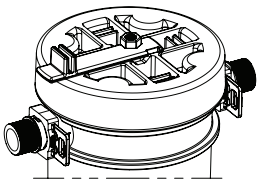


Diagram G

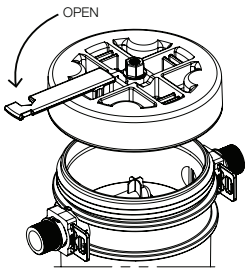
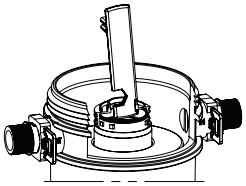


Diagram H



Changing the Filter Cartridges:

1. Turn off water at supply valve or at main valve to home.
2. Use the Multifunction Tool (Item 6) to release air from the system. This is done by taking the tool and unscrewing the Pressure Relief Valve (Item 5) – refer Diagram F.
3. Use Multifunction Tool (Item 6) to unscrew OneFlow®+ Head Assembly (Item 2) counterclockwise and remove from the OneFlow®+ Housing as shown in Diagram G.
4. Remove Outlet Connector (Item 8) from top of OneFlow®+ Scale Reduction (TAC) Cartridge – refer Diagram D.
5. Use Multifunction Tool (Item 6) to remove OneFlow®+ Scale reduction (TAC) cartridge (Item 10) from the Sediment/Carbon Cartridge (Item 9) as shown in Diagram H.
6. Remove the Sediment/Carbon (Item 9) from the OneFlow®+ Housing by hand.
7. Remove new Sediment/Carbon cartridge from packaging and place carefully inside the OneFlow®+ Housing as shown in Diagram B.
8. Insert OneFlow®+ Scale Reduction (TAC) cartridge back into the center of the Sediment/Carbon cartridge making sure that it is sealed correctly as shown in Diagram C.
9. Insert Outlet Connector (Item 8) into outlet port and secure back on top of the OneFlow®+ Scale Reduction cartridge as shown in Diagram D.
10. Place Head Assembly back onto OneFlow®+ Housing and using the multifunction tool tighten by screwing the Head Assembly clockwise as shown in Diagram E.

DO NOT OVER TIGHTEN

11. Close the pressure relief valve by tightening in a counterclockwise direction as shown in Diagram F.
12. Turn water supply on and check for leaks.

NOTICE

1. Where influent pressure exceeds 500 kPa (70 psi) a suitable pressure limiting valve must be installed.
2. Product performance is dependent upon influent water quality.
3. The system must be installed and maintained in accordance with the manufacturer's instructions including replacement of the filter cartridges.
4. Please ensure all o-rings are well lubricated and clean from foreign particles.

Note To The Home Owner

Your OneFlow®+ system will improve the properties of water throughout your home. Here are some things to expect and some recommendations for maximizing the benefits and your enjoyment of OneFlow+:

Sinks and fixtures – should have reduced spotting. If water is allowed to evaporate off a surface, small spots may be left behind. Many times this residue is easier to clean up than the previous hard water spotting.

Dishwasher-Spotting on dishes and on the surface of the dishwasher should be greatly reduced. We recommend that you immediately reduce the amount of dishwashing detergent by approximately 50% as compared to hard water use. Dishwashing detergents low in phosphates are highly recommended as they are better for the environment and phosphates can cause spotting. In very hard water areas, the use of a rinse aid may be advised.

Shower doors and tiles – should have reduced spotting. When water evaporates off a surface, small spots may be left behind. Depending on water chemistry, these spots may be easy to remove with a damp cloth or sponge.

In the bath you should notice that soaps and shampoos lather more than with un-treated water. Soaps and shampoos will also rinse off much easier and faster than they would with traditional soft water. We recommend the use of modern soaps for the best results.

Things to watch for:

During the first 30-90 days:

- Faucet aerators and drains may plug occasionally as old scale is removed from your plumbing system and water heater.
- You may also see milky water while the descaling is taking place. This is simply an increase in the calcium in the water because OneFlow®+ is removing old scale deposits from your pipes.

Good practices:

If your dishwasher is severely coated with scale at the time of installation, we recommend that you purchase a product like Jet-Dry® Dishwasher cleaner to accelerate the cleaning. After this initial cleaning OneFlow®+ should keep it clean.

We also recommend that you drain your water heater tank. This should be done 30 to 60 days after OneFlow®+ is installed, and again in one year. This is a good practice that can dramatically increase the life of your water heating appliance. The OneFlow®+ will help keep the tank and heating elements free of scale and operating at peak efficiency. Please follow the manufacturer's instructions when draining the tank!

Ordering Information

OneFlow®+ Complete System			
7100638	OFPSYS	Scale Prevention and Water System	
OneFlow®+ Water Filter Replacement			
7100639	OFPRFC	Radial Flow Carbon Black Cartridge	F40
7100640	OFPSP	Scale Prevention Cartridge	F41
7100641	OFPCOM	Combo Pack	FP14
OneFlow®+ System Replacement Parts			
7300759	OFPHSG	Housing and Head Assembly	
7300760	OFPAP	Inlet/Outet Red Adapter Locking Pin	
7300761	OFPA	1-In NPT Inlet/Outlet Adapter	
7300762	OFPOC	Outlet Connector	
7300763	OFPTOOL	Multifunction Tool	
7300764	OFPMB	System Mounting Bracket	

Limited Warranty

- The OneFlow®+ cartridge system is warranted to be free of defects in materials and workmanship for 1 year from the date of original shipment.
- The OneFlow®+ cartridge is warranted for performance for a period of 2 years from the date of the original installation when installed and operated in accordance with the instructions in the corresponding Installation and Operation Manual.

Conditions

1. OneFlow®+ systems are warranted for domestic use in residential single family dwelling applications excluding irrigation water treatment. The use of these systems in light commercial, commercial, or industrial applications will void their limited warranty.
2. The OneFlow®+ system must be installed in applications with municipally supplied water adhering to EPA guidelines.
3. Any component failure must not result from abuse, fire, freezing or other acts of nature, violence, or improper installation.
4. Equipment must be installed and operated in compliance with the local plumbing codes and on an approved water supply.
5. Equipment is limited to use at water pressures and temperatures that do not exceed our published specifications.
6. Water supply must not exceed 3.0 PPM chlorine. For water supply exceeding 3.0 PPM chlorine, pretreatment is required. (Please contact your water treatment specialist.)
7. Information, including model number, serial number, and date of installation, must be provided for any claims pertaining to equipment in warranty.
8. Defective parts are subject to inspection by either Watts Regulator Company or any authorized representative before final commitment of warranty adjustment is made.
9. Watts Regulator Company reserves the right to make changes or substitutions in parts or equipment with material of equal quality or value and of then current production.

Limitations

Our obligation under this warranty with respect to the tank or valve is limited to furnishing a replacement for, or at our option, repairing any part or parts to our satisfaction that prove defective within the warranty period stated above. Such replacement parts will be delivered to the owner F.O.B. nearest factory, at no cost, excluding freight and local labor charges, if any.

Our obligation under this warranty with respect to the OneFlow®+ media will be limited to furnishing a replacement for the media within two years from date of original installation. Such replacement media will be delivered to the owner F.O.B. nearest factory, at no cost, excluding freight and local labor charges, if any. Damage to the media due to chlorine, other oxidizers or fouling caused by local water conditions or any other operation outside of the limits shown under Specifications, is not covered by this warranty.

THE WARRANTY SET FORTH HEREIN IS GIVEN EXPRESSLY AND IS THE ONLY WARRANTY GIVEN BY WATTS REGULATOR COMPANY WITH RESPECT TO THE PRODUCT. WATTS REGULATOR COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. WATTS REGULATOR 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 under this warranty shall constitute the sole and exclusive remedy for breach of warranty, and Watts Regulator Company shall not be responsible for any incidental, special or consequential damages, including without limitation, freight, handling, 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 Watts Regulator Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication or improper installation 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 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 THE APPLICABLE WARRANTY PERIODS STATED ABOVE.

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

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