



WATTS OF110-1 OneFlow In Line Anti-Scale System Instruction Manual

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WATTS OF110-1 OneFlow In Line Anti-Scale System



Models



Models OF110-1, OF120-2, and OF140-4 OneFlow® Anti-Scale Systems Chemical-Free, Salt-Free Scale Prevention

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.

Introduction

The OneFlow® Anti-Scale System provides protection from scale formation on internal plumbing surfaces. OneFlow is the one water treatment device that effectively provides scale protection and is a great salt-free alternative to water softening (ion exchange) or scale sequestering chemicals.

OneFlow systems are built with the finest and most advanced materials. With proper installation and routine maintenance, you will have years of trouble-free operation.

Please refer to this manual when performing routine filter changes. The instructions make periodic maintenance quick and easy and ensure you will receive maximum benefit from your system.

System Specifications

- **Inlet/Outlet Connections:** 1/2" and 3/4"
- **Flow Rates:** Up to 4 pm (15 pm)
- **Gallon Rating:** OF110-1, OF120-2, OF140-4: There is no gallon capacity for OneFlow. These systems are designed to operate 24/7/365 for 1 year. Contaminants present in the water will gradually degrade the effectiveness of these cartridges. Change the cartridges at least once annually. The wetted surface of this

product contacted by consumable water contains less than 0.25% of lead by weight.

WARNING

You are required to consult the local building and plumbing codes prior to installation. If the information in this manual is not consistent with local building or plumbing codes, the local codes should be followed. Inquire with governing authorities for additional local requirements.

WARNING

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

Feed Water Chemistry Requirements

pH	6.5-8.5
Hardness (maximum)	30 grains (513 ppm CaCO ₃) *
Water Pressure	15psi to 90psi (1.03 bar to 6.2 bar)
Temperature	40°F to 100°F (5°C to 38°C)
Free Chlorine	<2 ppm
Iron (maximum)	0.3 ppm **
Manganese (maximum)	0.05 ppm **
Copper (maximum)	1.3 ppm***
Oil & H ₂ S	Must be Removed Prior to OneFlow
Total Phosphates	<3.0 ppm
Silica (maximum)	20 ppm †
TDS	<1500 mg/L ††

NOTICE

- Not for use on closed-loop systems.
- Systems using OneFlow cartridge technology are effective at controlling lime-scale formation inside the plumbing system at influent hardness levels up to 30 grains per gallon (513 ppm) as calcium carbonate. Due to variances in water chemistry, 30 grains per gallon is a recommended hardness maximum due to potential aesthetic issues related to soft scale residue formation outside of the plumbing system. Testing should be performed to determine proper application where hardness levels exceed 30 grains per gallon.
- 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.

WARNING

Pursuant to the EPA drinking water standards, the copper concentration permitted is up to 1.3 ppm. Typically originating from new copper plumbing, high levels of copper can foul OneFlow media. New Copper lines need to be passivated for a minimum of 4 weeks before placing unit into service. For applications with a copper concentrations greater than 1.3 ppm, please consult Watts Water Quality Technical Service. 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.

NOTICE

- 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. This 20 ppm limitation is for aesthetic purposes.
- All other contaminants must meet the requirements of the USEPA Safe Drinking Water Act. Specific Mineral and Metal MCL's, identified in Watts published Feed Water Chemistry Requirements, supersede the USEPA SDWA. Water known to have heavy loads of dirt and debris may require pre-filtration prior to OneFlow.
- 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

WARNING

- Connect system to cold water supply only. Water temperature cannot exceed 100°F/37.8°C.
- System must be installed in a vertical, upright and level position.
- Do not apply any other antiscalants before or after OneFlow.

Installation Precautions

- Do NOT install the system on line pressure above 90psi.
 - Do NOT install the system on HOT water line. Failure to limit line temperature to 100°F/37.8°C may result in housing failure and damage.
 - Do NOT install the system backward with the feed water line connected to the outlet.
 - Do NOT use liquid pipe compounds for fitting connections. USE two to three wraps of Teflon® tape.
 - Do NOT solder plumbing connections attached to filter housing or inlet valve. The inlet valve and filter housing will be damaged by high temperature.
 - Do NOT allow the system to freeze. Turn off the water supply to housing and drain housing if the temperature falls below 32°F.
 - Do NOT install the system in direct sunlight or where the system is exposed to harsh chemicals or may be subjected to being struck by moving equipment, carts, mops or any other item that may cause damage.
 - ALLOW a minimum of 3" under the housing to allow for filter replacement.
 - IF water hammer is evident, install water hammer arrestors before the OneFlow unit.
 - Do NOT overtighten fitting connections into inlet valve or housing outlet.
 - Always back-up valves and fittings with a wrench when installing a fitting to avoid turning the valve.
 - Do NOT install the unit behind equipment where it may be difficult to access the system for filter replacement.
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Position the OneFlow unit in a suitable location. The direction of flow through the OneFlow unit is always left to right; keep this in mind when determining installation location. Do NOT mount the OneFlow system near any source of heat. Also, do not mount the system above any device or area that would be adversely affected by water.

Using OneFlow with Other Water Treatment Equipment

Due to the unique properties of OneFlow, there are some unique requirements for using OneFlow in conjunction with filtration or other forms of water treatment.

1. OneFlow must be the last stage in the treatment chain. Do not install any filters after OneFlow or before any devices for which scale prevention is required. POU filters, e.g. carbon, RO or Ultraviolet (UV) are exempt from this requirement.
2. Do not apply any other antiscalants before or after OneFlow.
3. The addition of soaps, chemicals, or cleaners, before or after OneFlow treatment, may reverse its anti-scale treatment effects and/or create water with a heavy residue or spotting potential. Any adverse conditions caused by the addition of soaps, chemicals, or cleaners are the sole responsibility of the end user.
4. OneFlow is not a water softener and does not soften the water – Water treatment chemistry (e.g. antiscalants, sequestrants, soaps, chemicals or cleaners etc...) will most likely have to be changed to be compatible with OneFlow treated water.

Laundry and ware-washing chemistry will likewise require adjustments.

Spotting May Occur on External Plumbing Surfaces

- OneFlow media systems perform best in single-pass potable water applications with NO additional chemical additives. Depending on hardness, soft-scale spotting may occur.
- Soft scale spots in most cases can be easily wiped down with a damp cloth and will not form hard scale deposits.
- A Point of Use (POU) Water Softener should be used on mandatory spot-free applications (e.g. glass stemware, dishware).

Installation

1. Turn off all equipment to be fed by the OneFlow system, locate the water supply shut-off valve and turn it OFF.
2. Determine if the water line has an existing water treatment system. If so, examine the system for use of polyphosphate or other scale inhibitors. OneFlow will not be effective if used in conjunction with other scale inhibitors. Remove the scale inhibitors from the water line or discontinue installation.
3. Install a user-supplied ball valve on the water supply side that will feed the water system.
4. Anchor the OneFlow system on a suitable mounting surface that can support the weight of the system while in operation. The system must be vertical and upright.
5. Run a suitable line from the user-supplied ball valve at the tap water source to the inlet ball valve on the left side of the OneFlow system. Use 2-3 wraps of Teflon® tape on the feed water connection and brace the inlet ball valve on the system with a wrench when connecting the feed water line.

NOTICE

DO NOT OVER-TIGHTEN THE CONNECTION FITTING INTO THE BALL VALVE.

6. Select the appropriate size tubing for the equipment being fed and connect it to the outlet of the OneFlow system.

NOTICE

DO NOT connect the tubing to the equipment at this time. Prior to making a connection to the equipment, this line will be used to facilitate flushing the system. As an option, a drain valve in a tee on the outlet side of the OneFlow system could be installed in the line to facilitate flushing when changing filters.

7. With the OneFlow inlet valve closed, slowly open the ball valve at the tap water source. Check for leaks.
8. If a drain valve was not installed on the outlet side of the system, hold the tubing that will connect to equipment in a clean bucket or over a sink or drain. Open the system inlet feed valve and allow water to flush through the system for 2 minutes at the system's rated flow rate to allow air bubbles to escape.

NOTICE

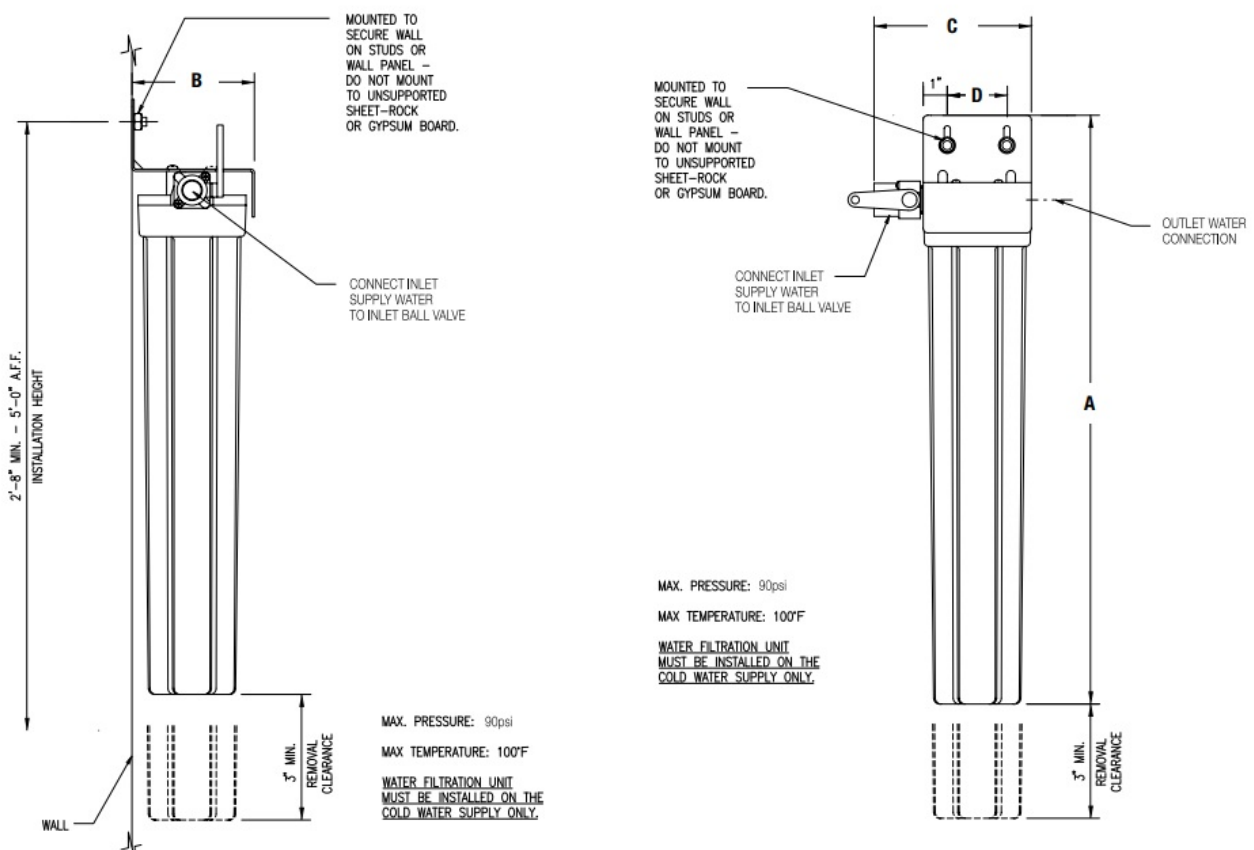
NO ACTIVATION IS REQUIRED FOR THE OneFlow system TO PERFORM PROPERLY. FLUSHING IS RECOMMENDED TO ALLOW AIR TO ESCAPE THE SYSTEM.

9. Make certain that the end of the tubing to be connected to the equipment is clean and sanitary.
10. Connect the tubing to the equipment. Open all water supply valves and check for leaks.
11. If no leaks, turn on the equipment and check for normal operation.
12. Attach the Service Log to the installed OneFlow system and fill in the install date.

The system is now ready for operation.

Teflon® is a registered trademark of The Chemours Company.

Installation Drawings & Dimensions



Dimensions

Model	Ordering Code	Dimensions											
		<i>in.</i>	A	<i>cm</i>	<i>in.</i>	B	<i>cm</i>	<i>in.</i>	C	<i>cm</i>	<i>in.</i>	D	<i>cm</i>
OF110-1	0002148	131/2		34	51/8		13	8		20	21/2		6
OF120-2	0002149	125/8		32	51/2		14	73/4		20	21/2		6
OF140-4	0002150	281/8		71	8		20	97/8		25	53/4		15

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.

Peak Flow Rates — Weights

Model	*Maximum Flow	Dry Weight		Service Weight		
OF110-1	1 gpm	3.8 lpm	5 lbs.	2.3 kgs.	8 lbs.	3.6 kgs.
OF120-2	2 gpm	7.6 lpm	8 lbs.	3.6 kgs.	15 lbs	6.8 kgs.
OF140-4	4 gpm	15.1 lpm	18 lbs.	8.2 kgs.	32 lbs.	15 kgs.

Exceeding maximum flow can reduce effectiveness and void a warranty.

Operation

With sufficient pressure, the operation of the Watts® OneFlow system is completely automatic. The dependable operation involves only periodic filter changes and maintaining service documentation.

Maintenance

Routine maintenance of your OneFlow system involves periodic filter cartridge changes and/or replacement of sump O-rings. If the system sizing recommendations have been followed, the OneFlow Cartridge should last one year.

Filter Change Frequency

The filters should be changed in response to the following conditions.

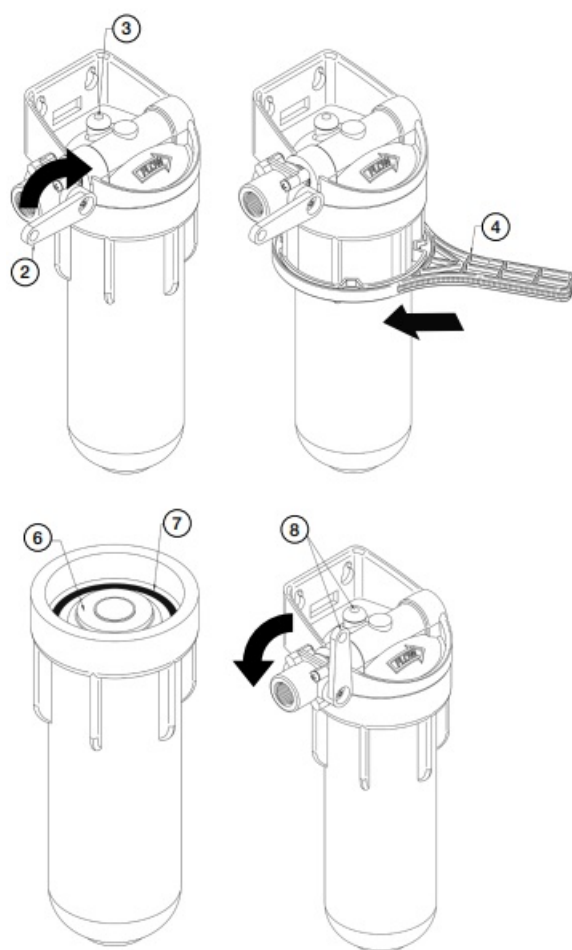
Filter Cartridge Replacement Frequency

System Model Number	Replacement OneFlow Filter Cartridge Model Number	Replacement Frequency
OF110-1	OF110RM	Replace every 12 months
OF120-2	OF120RM	Replace every 12 months
OF140-4	OF140RM	Replace every 12 months

Replacement Filter Cartridges

OneFlow systems can only be used with OneFlow filter cartridges. Use of replacement cartridges other than those specified will void warranties, and certifications and may compromise equipment protection, water quality, and equipment life.

Filter Cartridge Replacement Procedure



NOTICE

Determine whether all equipment connected to the OneFlow system must be turned off prior to shutting off the water supply.

1. If required, turn off equipment.
2. Turn OFF water to the OneFlow system by closing the inlet ball valve.
3. Press the red pressure-relief button on top of the system until water stops flowing from the button.
4. Remove housing – use filter wrench if necessary.

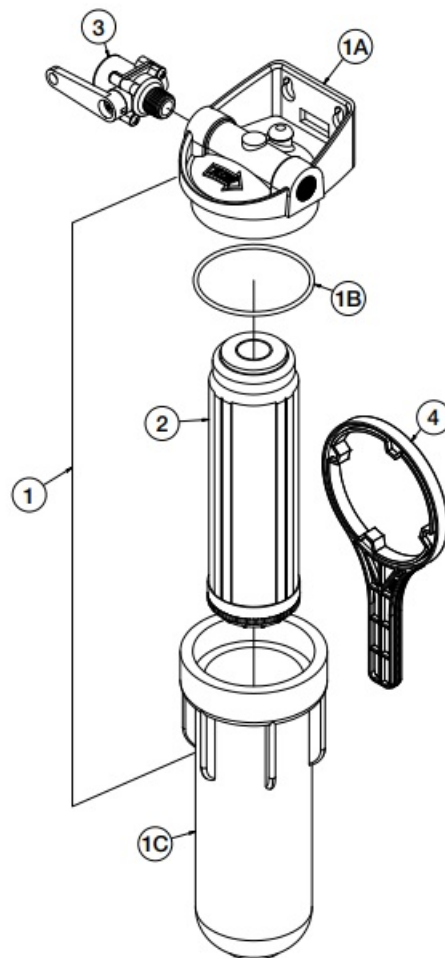
5. Clean the inside of the housing bowl with warm water. If desired, disinfect the housing bowl using a teaspoon of household bleach. Add to housing bowl and fill with water. Let stand for 5 minutes and then discard.
6. Insert new cartridges into the filter housing bowl. Match cartridge model numbers to model numbers on the bracket.
7. Make certain the O-ring is properly positioned and reinstall filter housings (hand tightens only). Check O-ring for damage and replace if damaged or distorted.
8. Slightly open the inlet ball valve and push the red pressure-relief button to release trapped air in the system. Stop pressing the pressure relief button when a small amount of water comes out. Fully open the inlet ball valve.
9. Open the flush valve downline from the filter housing (if equipped) and flush the new cartridges to drain or bucket for two (2) minutes or until water runs clear. If no flush valve is present, disconnect the line from the equipment to flush to drain.

NOTICE

With the water supply inlet valve OPEN and water flow confirmed, turn on the connected equipment. Failure to supply water to equipment may cause serious damage.

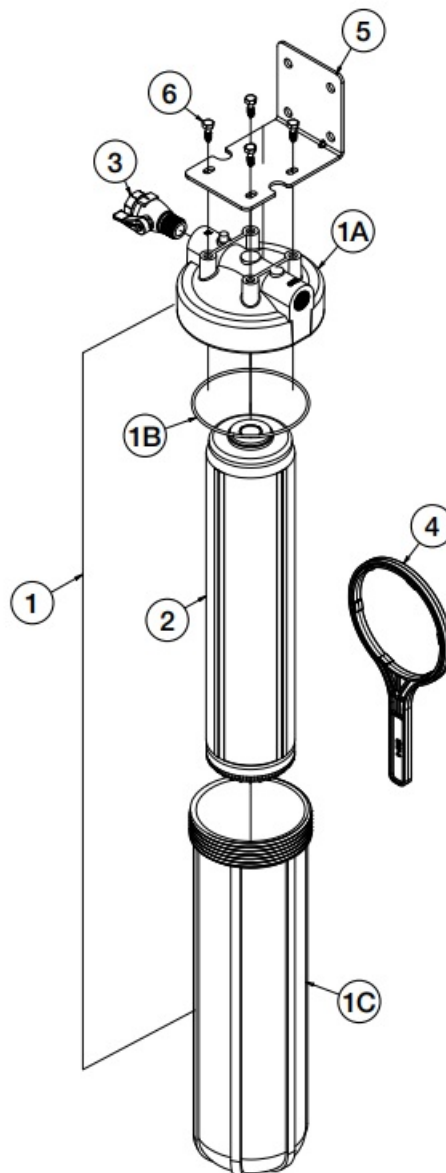
10. Record filter change on the service log.

Replacement Parts for: OneFlow OF110-1 & OF120-2



ITEM	QTY.	DESCRIPTION
1	1	Housing with Pressure Relief and O-ring
1A	1	Housing Lid
1B	1	O-Ring
1C	1	Housing Bowl
2	1	Replacement OneFlow Filter Cartridge
3	1	Inlet Ball Valve
4	1	Filter Housing Wrench

Replacement Parts for: OneFlow OF140-4



ITEM	QTY.	DESCRIPTION
1	1	Housing with Pressure Relief and O-ring
1A	1	Housing Lid
1B	1	O-Ring
1C	1	Housing Bowl
2	1	Replacement OneFlow Filter Cartridge
3	1	Inlet Ball Valve
4	1	Filter Housing Wrench
5	1	Mounting Bracket
6	4	Lag Screw

Limited Warranty

- The OneFlow tank system is warranted to be free of defects in materials and workmanship for 5 years from the date of original shipment.
- The OneFlow media 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. Watts Regulator Company warrants its OneFlow cartridge systems as follows:
- The OneFlow cartridge system is warranted to be free of defects in materials and workmanship for 1 year from the date of original shipment.
- OneFlow cartridges are warranted for performance for a period of one year from the date of original installation when installed and operated in accordance with the instructions in the corresponding Installation and Operation Manual.
- Carbon replacement filter cartridges are not warranted to perform for any period of time because the service life of replacement carbon filter cartridges varies significantly with local water conditions and volume.

Conditions

1. The OneFlow system must be installed in applications with municipally supplied water adhering to EPA guidelines.
2. Any component failure must not result from abuse, fire, freezing or other acts of nature, violence, or improper installation.
3. Equipment must be installed and operated in compliance with the local plumbing codes and on an approved water supply.
4. Equipment is limited to use at water pressures and temperatures that do not exceed our published specifications.
5. Water supply must not exceed 2.0 PPM chlorine. For water supply exceeding 2.0 PPM chlorine, pretreatment is required.
(Please contact your water treatment specialist.)
6. Information, including model number, serial number, and date of installation, must be provided for any claims

pertaining to equipment in warranty.

7. Defective parts are subject to inspection by either Watts Regulator Company or any authorized representative before final commitment of warranty adjustment is made.
8. 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 of F.O.B.'s 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 the date of original installation. Such replacement media will be delivered to the owner F.O.B.'s 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.

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Documents / Resources

	<p>WATTS OF110-1 OneFlow In Line Anti-Scale System [pdf] Instruction Manual OF110-1, OF120-2, OneFlow In Line Anti-Scale System, Line Anti-Scale System, Anti-Scale System, Line Anti-Scale, OF110-1, OneFlow</p>
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References

- [Watts | Plumbing, Heating and Water Quality Solutions](#)