



WATTS 600945 OneFlow OFPSYS Anti-Scale System Installation Guide

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It is recommended that all personnel responsible for operation and maintenance of this product read all installation instructions and product safety information thoroughly before beginning the installation of this product to ensure the best possible installation. Failure to read and follow all safety and use information can result in serious personal injury, property damage, or damage to the equipment. This manual contains important operation, maintenance and precautionary information. Please retain this manual for future reference for parts, maintenance or troubleshooting and present this manual to user/operator/ owner after installation.



The OneFlow® system is built with the finest and most advanced materials and each system is quality inspected and pressure tested prior to shipment. 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.

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Introduction

The OneFlow® Innovative Scale Control System provides protection from hard scale formation on internal plumbing surfaces. The OneFlow® system is a single cartridge-based system that must be installed on a cold water line prior to a single water heating device (water heater or tankless water heater) that requires protection from the ill effects of hard water.

OneFlow® uses template assisted crystallization (T.A.C.) 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 are no longer a concern. OneFlow® is not a water softener. It does not need additional chemicals. It is a hard scale prevention device with proven third party laboratory test data and years of successful commercial, residential and foodservice applications. OneFlow® is the intelligent scale solution and is a great alternative to water softening or scale sequestering devices.

OFPSYS EU

- Reduces sediment, chlorine taste and odor
- OneFlow® converts hardness minerals to harmless, inactive microscopic crystals making OneFlow® an effective alternative to water softeners
- Virtually maintenance free – No salt bags or other chemicals required
- No energy consumption (different compared to other scale control technologies)
- Contributes to reduce water and electric consumption, no control valve needed
- Innovative technology with an enhanced respect of the environment, salt free, without additional chemicals
- Improves efficiency of all water heating devices and downstream plumbing components
- Simple sizing & installation – standard 3/4" connections

- Perfect solution for homes where equipment protection is desired for longer equipment life and reduced energy consumption
- Inlet ball valve for easy isolation shutoff and filter changes
- OneFlow® cartridge-based systems are easily maintained; change the TAC cartridge once every two years
- Mounting bracket and wrench for cartridge change-outs included

Exceeding maximum flow can reduce effectiveness and void warranty. Pressure drop at peak flow rate is less than 1 bar at 27°C feed water.

This system is delivered with 3/4" MNPT x 3/4" MBSPT fittings. The fitting marked with red should be connected to the inlet/outlet of the system.

See more information on our website: www.watts-oneflow.com

System Specifications

Inlet/outlet connections: 3/4" FNPT with BSP threaded fittings

Nominal flow rate OFPSYS: up to 38l/min

Flow capacity (continuous flow rate): up to 38l/min, 24/7/365 for 2 years for the OFPSYS cartridge

Maximum pressure: 90psi / 6.2 bar

Maximum temperature: 38°C

Minimum temperature: 5°C

Capacity: Elements present in the water will gradually degrade the effectiveness of the cartridge. Change the OPSYS cartridges at least once every two years.

A OneFlow® Innovative Scale Control system shall be installed on the cold water service line to condition the tap water just prior to the service line feeding the equipment it is designed to protect. The system will be sized for maximum or peak flow rate based on the specification of said equipment. A OneFlow® system may also be installed to protect multiple pieces of equipment from the ill-effects of hard water scale provided the aggregate peak flow rate for each piece of equipment it is protecting has been considered. The system shall be plumbed with a bypass valve to allow isolation of filter housing to allow the bypass of untreated water in the event that service or cartridge replacement be necessary. Bypass is recommended but not required. The installation area should be suitable in size for the housing to be serviced without encumbrance. The OneFlow® system does not require additional water to backwash, flush, or regenerate once put into service. The system shall not require any chemical additives and shall not require electricity for operation.

Feed Water Chemistry Requirements

pH	6.5-8.5
Hardness (maximum)	28.8°dH, 51.3°F (513 mg/L CaCO ₃)*
Water Pressure	1 bar – 6.2 bar
Temperature	5°C – 38°C
Free Chlorine	<2 mg/l
Iron (maximum)	0.3 mg/l**
Manganese (maximum)	0.05 mg/l**
Copper	1.3 mg/l***
Oil & H ₂ S	Must be Removed
Total Phosphates	< 3.0 mg/l
Silica (maximum)	20 mg/l†
TDS	1500 mg/l††

All these water chemistry requirements are corresponding to the average parameters of the water delivered usually, please contact your water supplier or local authorities in order to confirm the compliance.

Notice

Systems using OneFlow® technology are effective at controlling limescale formation inside the plumbing system at influent hardness levels up to 513mg per liter (28.8°D, 51.3°F) of calcium carbonate. Due to variances in water chemistry, 513mg per liter is a recommended hardness maximum due to potential aesthetic issues related to soft scale residue formation outside the plumbing system. Testing should be performed to determine proper application where hardness levels exceed 513mg per liter.

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.

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 mg/l limitation is for aesthetic purposes.

All other water contaminants must meet the requirements of the local water control agency of each specific country where OneFlow® is sold and installed. Specific Mineral and Metal Maximum Contaminants Level's, identified in the above Feed Water Chemistry Requirements list, supersedes those requirements. Water known to have heavy loads of dirt and debris may require a pre-filtration prior to OneFlow®.

Installation

Installation Precautions

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 upflow working operation of the system requires a lot of space to allow the media 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 "Notice" 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.

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.

Contaminant Treatment

Sediment / Particulates: 20 microns with a dirt holding capacity up to 1 kg (2.2 lbs.)

Chlorine Reduction: 189270.6 liters (50,000 gallons) @ 3 gpm (11.34 lpm)

Scale Prevention: Up to 3 years

according to lab test of carbon block manufacturer

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: www.watts-oneflow.com

Notice

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

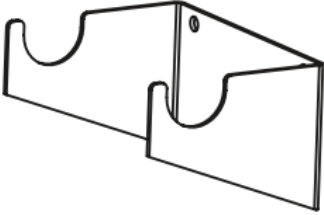
1. The system can stand upright in the desired location without the need to affix to a wall with a mounting bracket. However, a mounting bracket is included as a separate part (Item 1).
2. Place the system in the desired location. Make sure that the location is level and sturdy enough to support the 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" BSP 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.

SOFT SCALE SPOTTING

Depending on hardness of the water, soft scale spotting may occur on external plumbing surface. But in most cases, these spots can be easily wiped down with a damp cloth and will not form hard scale deposits.

OneFlow® System Parts

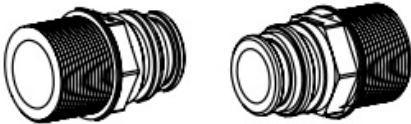
1. Bracket



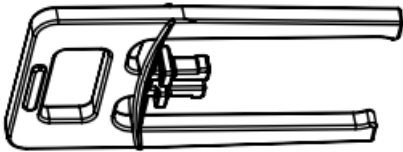
2. OneFlow® 2 Housing



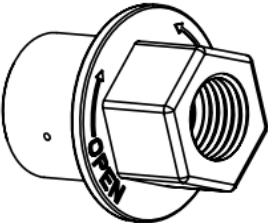
3. BSP Threaded Inlet/Outlet Adapters (x2)



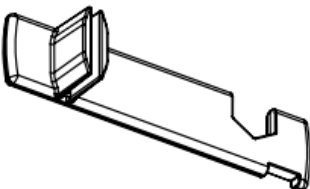
4. Inlet/Outlet red Adapter Locking Pins (x2)



5. Pressure Relief Valve



6. Multifunction Tool



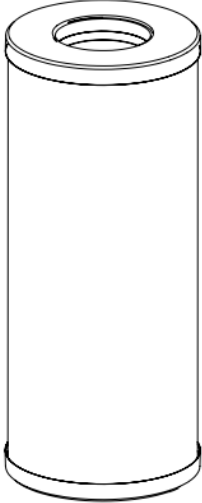
7. OneFlow® Head Assembly



8. Outlet Connector



9. Sediment/Carbon Filter Cartridge (20 microns)



10. OneFlow® Scale Reduction (TAC) Cartridge



Maintenance

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 7) 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.

Diagram A

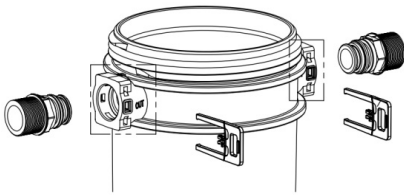


Diagram B

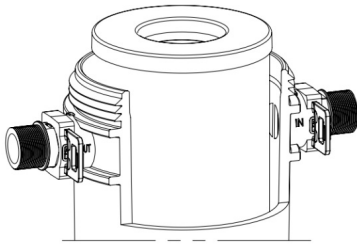


Diagram C

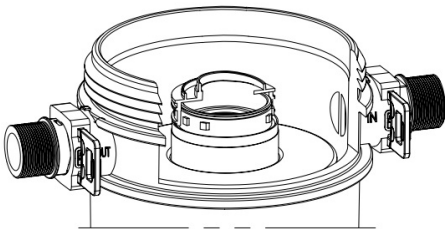


Diagram D

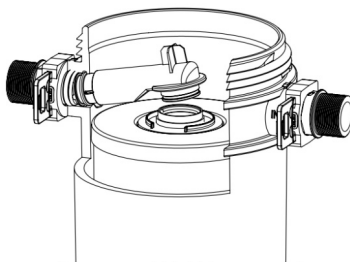


Diagram E

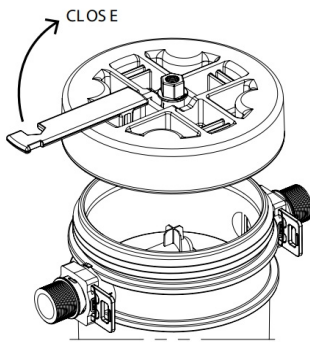


Diagram F

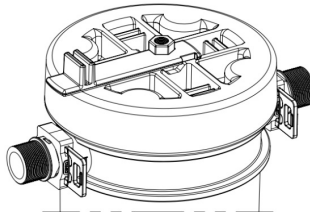


Diagram G

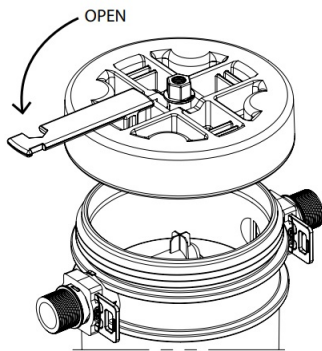
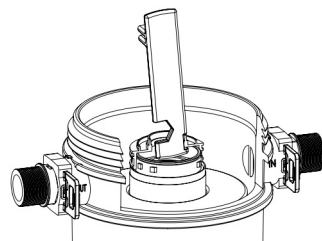


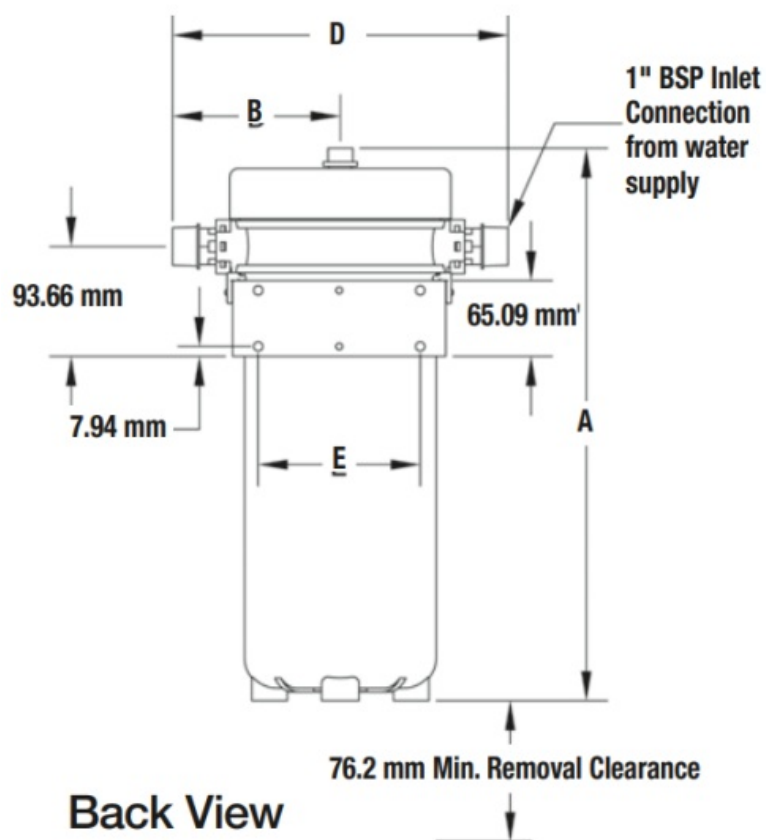
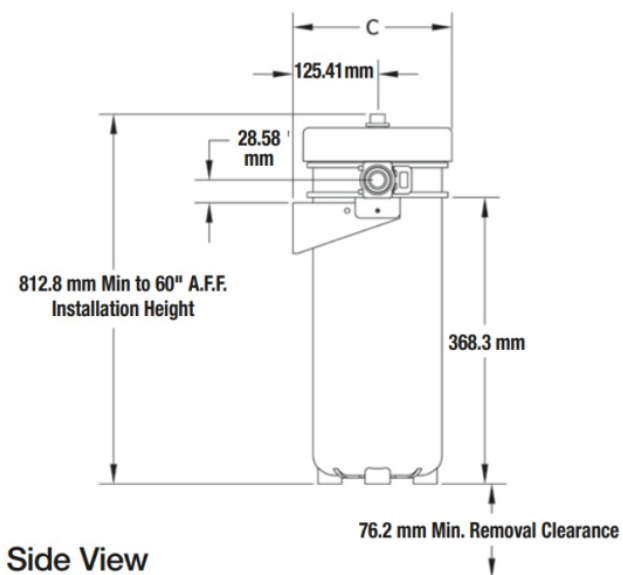
Diagram H



Notice

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

Dimensions



Dimensions — Weights

Model						
	A	B	C	D	E	Weight
	mm	mm	mm	mm	mm	kg
OFPSYS	476	144	205	289	140	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.

OneFlow® Complete System			
7100638	OFPSYS	OneFlow™+ OFPSYS type	
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	OFPA	Inlet/Outlet Red Adapter Locking Pin	
7300761	OFPA	1-” BSP Inlet / Outlet Adapterss	
7300762	OFPOC	Outlet Connector	
7300763	OFPTOOL	Multifunction Tool	
7300764	OFPMB	System Mounting Bracket	

Guarantee

Watts products are thoroughly tested. The said guarantee covers solely replacement or – at the full sole discretion of WATTS – repair, free of charge, of those components of the goods supplied which in the sole view of Watts present proven manufacturing defects. The period of limitation for claims based on defects and defects in title is two years from delivery/the passage of risk. This warranty excludes any damage due to normal product usage or friction and does not include any modified or unauthorized repair for which Watts will not accept any request for damage (either direct or indirect) compensation (for full details see our website). All sales subject to the Watts terms to be found on www.watts-oneflow.com.

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Società unipersonale del gruppo Watts Italy Holding Srl – soggetta a direzione e coordinamento ai sensi degli artt. 2497 e s.m.i. del C.C.
OFPSYS_IOM_IT_W_UK_05_21_Rev1



Documents / Resources

 The image shows the cover of the installation guide for the Watts 600945 OneFlow OFPSYS Anti-Scale System. It features the product name, a small image of the device, and the Watts logo.	<p>WATTS 600945 OneFlow OFPSYS Anti-Scale System [pdf] Installation Guide 600945, OneFlow OFPSYS Anti-Scale System</p>
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References

- INC.uk
- [OneFlow: Het duurzame en effectieve alternatief voor een waterontharder](#)
- [Инженерная сантехника Watts: системы отопления, системы водоснабжения и](#)

[водоподготовки для жилых, коммерческих и общественных зданий.](#)

- [!\[\]\(6841ca9b0e023296428e7c9e683b9367_img.jpg\) Watts Industries Español S.r.l. | Watts Water Technologies](#)
- [!\[\]\(e258e347e7683f87061f627f84598eb5_img.jpg\) WATTS EUROPE](#)
- [!\[\]\(1233990ad3f0b7475c568d7bf16af31f_img.jpg\) Watts Industries Italia S.r.l. | Watts Water Technologies.](#)
- [!\[\]\(18570b67a4686b081406cd3de636c1c3_img.jpg\) Engineering plumbing Watts](#)
- [!\[\]\(411af059a517db12f1097bc63c4fbe36_img.jpg\) Hydraulika Inżynieria Watts](#)

Manuals+.