

Engineering Specification

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

LEAD FREE*

**Models OF817-8H, OF817-12H,
 OF1019-20H**
**OneFlow® Anti-Scale System
 For Hot Water**

Connection Sizes: 1"

Flow Rates: 8 gpm to 20 gpm (30 lpm to 76 lpm)

The OneFlow® Anti-Scale System for hot water provides protection from scale formation on internal plumbing surfaces where the hot water feed line is being further heated, such as a booster heater. These OneFlow systems use specially designed components to work in applications where the incoming water is heated between 100°F - 140°F (38°C - 60°C)** but has not yet been treated for scale control. These types of applications typically involve protecting and extending the life of equipment and instruments from the damaging effects of hard water scale.

OneFlow prevents scale by transforming dissolved hardness minerals into harmless, inactive microscopic crystal particles. These crystals stay suspended in the water, have a greatly reduced ability to react negatively like dissolved hardness does, and eventually find their way to the drain. OneFlow is particularly useful in higher temperature applications where scale formation is accelerated. The system requires very little maintenance, no backwashing, no salt and no electricity. Typical hardness problems, especially build-up of scale in boilers and steamers is greatly reduced.

OneFlow is not a water softener or a chemical additive (like anti-scalants or sequestrants). It is a scale prevention device with proven third party laboratory test data and years of successful residential and commercial installations. 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.


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

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.
 ** For domestic cold water applications where water temperature is 40°F - 100°F (5°C - 38°C), please consult ES-OF744_844_948_1054.



OF817-8H

OF1019-20H

 OneFlow media is certified by WQA to NSF/ANSI/CAN Standard 61 and NSF/ANSI 372 for Lead Free compliance.
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Features

- Chemical-free scale prevention and protection – converts hardness minerals to harmless, inactive microscopic crystals making OneFlow an effective alternative technology to a water softener for the prevention of scale due to water hardness
- Virtually maintenance free – no control valve
- System and components designed to work specifically with hot water applications
- Uses environmentally friendly technology by using no salt or other chemicals to constantly add, no electricity and no wastewater
- Improves efficiency of water using appliances and equipment
- Simple sizing and installation – all you need to know is pipe size and flow rate
- Built-in bypass valve provides flexibility for off-line service or media replacement
- OneFlow does not remove minerals or add sodium to the water supply
- Long life media requires replacement once every three years
- Effective retro-fit technology where scale control was not previously considered

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. 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.



Models

Model	Ordering Codes	Maximum Flow Rate
OF817-8H	0002128	8 gpm (30 lpm)
OF817-12H	0002133	12 gpm (45 lpm)
OF1019-20H	0002138	20 gpm (76 lpm)

Connection Sizes

Inlet & Outlet Connections 1" FNPT

Replacement Media

OF817-8HRM	Media must be replaced every 3 years
OF817-12HRM	Media must be replaced every 3 years
OF1019-20HRM	Media must be replaced every 3 years

Specifications

A OneFlow scale prevention system for hot water shall be installed on the hot water feed line just prior to the equipment it is intended to protect. The temperature of the feed water should consistently range between 100°F - 140°F (38°C - 60°C) as all of the components are designed to work in this elevated temperature condition. The OneFlow system shall effectively reduce water hardness scale concerns thereby protecting heat-transfer and other surfaces from the negative effects of scale. The system shall be furnished with a factory supplied bypass valve to allow isolation of tank(s) and to allow the bypass of untreated hot water in the event that service or media replacement be necessary. The installation area should be suitable in size for the tank(s) to be serviced without encumbrance and allow the tank to sit upright on a flat level surface.

The system must operate in an upflow manner and does not require additional water to backwash, flush, or regenerate once put into service. The system does not require any chemical additives and does not require electricity for operation.

Standards

Independent scientific testing has confirmed Template Assisted Crystallization (TAC) technology provides scale reduction of over 95+%. Testing was conducted under protocol based on DVGW W512 test to access control of scale formation.

Feed Water Chemistry Requirements:

pH	6.5-8.5
Hardness (maximum)	30 grains (513 ppm CaCO ₃)*
Water Pressure	15 psi to 100 psi (1.03 bar to 6.9 bar)
Temperature	100°F to 140°F (38°C to 60°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.

NOTICE

* Systems using OneFlow technology are effective at controlling lime-scale formation inside the plumbing system at influent hardness levels up to 75 grains per gallon (1282 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 copper concentration 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

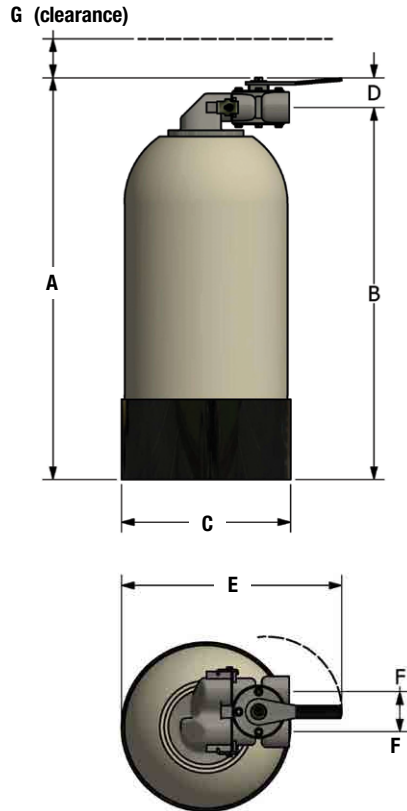
† OneFlow media does not reduce silica scaling. While silica tends to have a less significant effect on scale formation than other minerals, it can act as a binder that makes water spots and scale residue outside the plumbing system difficult to remove. This 20 ppm limitation is for aesthetic purposes.

†† 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, supersedes the USEPA SDWA.

Water known to have heavy loads of dirt and debris may require pre-filtration prior to OneFlow.

NOTICE

Anytime OneFlow systems are installed above the ground floor of a building it is recommended that a **vacuum relief valve** also be installed to protect against tank collapse in the event the plumbing system is drained. If a vacuum relief valve is not used then the system should be placed in bypass anytime the plumbing system is drained. The EDP code for the suggested vacuum relief valve is 0556031 (not included). The vacuum relief valve should be installed on the outlet of the system.



WARNING

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 antiscalant 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.

NOTICE

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).

Dimensions

Model	Dimensions													
	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
OF817-8H	20	508	18 $\frac{5}{8}$	472	8 $\frac{1}{2}$	216	1 $\frac{3}{8}$	36	11	279	2	51	6	152
OF817-12H	20	508	18 $\frac{5}{8}$	472	8 $\frac{1}{2}$	216	1 $\frac{3}{8}$	36	11	279	2	51	6	152
OF1019-20H	22	559	20 $\frac{5}{8}$	523	10 $\frac{1}{2}$	267	1 $\frac{3}{8}$	36	13	330	2	51	6	152

Peak Flow Rates – Weights

Model	OF817-8H		OF817-12H		OF1019-20H	
Maximum Flow Rate	8 gpm	30 lpm	12 gpm	45 lpm	20 gpm	76 lpm
Dry Weight	15 lbs.	6.8 kgs.	16 lbs.	7.3 kgs.	26 lbs.	11.8 kgs.
Service Weight	37 lbs.	16.8 kgs.	38 lbs.	17.3 kgs.	60 lbs.	27.3 kgs.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.



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