

# OneFlow<sup>®</sup> OFTWH-R, OFTWH

Innovative Scale Control

## Installation manual

**UK** Installation and Operation Manual



OFTWH

OFTWH-R

## Contents

|  |          |
|--|----------|
| <b>1. Introduction .....</b>               | <b>3</b> |
| <b>2. System specifications .....</b>      | <b>3</b> |
| 2.1 Feed water chemistry requirements      |          |
| <b>3. Installation .....</b>               | <b>4</b> |
| 3.1 Installation precautions               |          |
| 3.2 Installation                           |          |
| <b>4. Operation .....</b>                  | <b>6</b> |
| <b>5. Maintenance .....</b>                | <b>6</b> |
| 5.1 Filter cartridge replacement intervals |          |
| 5.2 Replacement filter cartridges          |          |
| <b>6. Dimensions .....</b>                 | <b>7</b> |



### WARNING!

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. Keep this manual for future reference and for information on components, maintenance and troubleshooting. On completion of installation, hand this manual over to the equipment's user/operator/owner.



### WARNING!

The OneFlow® system is manufactured from the best and most advanced materials available. Each device is quality inspected and pressure tested before shipment. With proper installation and routine maintenance, you will enjoy many years of trouble-free operation and a long service life will be guaranteed.

Please refer to this manual when changing the filter. The instructions make periodic maintenance quick and easy and ensure your system gives maximum benefit.

## 1. Introduction

OneFlow® is an innovative scale control system designed to prevent the build-up of scale on the inner surfaces of plumbing systems. OneFlow® is a single-cartridge system for installation on the cold water supply, upstream of a single water heating device (storage tank water heater or tankless water heater) that requires protection against the damaging effects of hard water.

OneFlow® uses innovative technology to trap the minerals that cause hard water and convert them into inert microscopic crystals, which remain suspended in the water until they are expelled. The system is extremely easy to maintain and does not require any backwashing, salts or electricity. It neutralises the damaging effects of hard water, especially the build-up of scale in heating elements, pipes, water heaters and boilers. OneFlow® is not a water softener and does not require the addition of chemicals. It is a device for preventing the build-up of hard scale, and its effectiveness has been proven by independent laboratory tests and years of successful use in residential, commercial and catering applications. OneFlow® is an intelligent anti-scale solution that provides the ideal alternative to water softening systems and chemical treatment.

### OFTWH-R - OFTWH

- OneFlow® converts hardness minerals into inert microscopic crystals, and is therefore an effective alternative to conventional water softeners
- Low maintenance – no salts or chemical additives required
- No electricity needed (unlike other scale control technologies)
- Helps reduce water and electricity consumption, does not require control valves
- Innovative technology for a more eco-friendly approach, without using salts or chemical additives
- Improves the efficiency of all heating devices and plumbing system components
- Easy to size and install – standard 3/4" fittings
- The ideal solution for protecting domestic appliances, maximising their service life and reducing energy consumption
- OneFlow® cartridge systems are extremely easy to maintain: simply change the cartridge every two years
- Supplied complete with fixing bracket and wrench for changing the cartridge

\* Exceeding maximum flow rate may reduce effectiveness and void the warranty. The pressure drop at peak flow rate is less than 1 bar if the feed water temperature reaches 27°C.

\*\* The system is equipped with 3/4" female connections

\*\*\* For further information, visit [www.watts-oneflow.com](http://www.watts-oneflow.com)



## 2. System specifications

**Inlet and outlet connections:** BSP 3/4" threaded fittings

**OFTWH-R rated flow** up to 23L/min

**OFTWH rated flow** up to 38L/min

**Flow capacity (continuous flow rate):**

**OFTWH-R:** up to 15.2L/min, 24/7/365 for 2 years for the OFTWH-R cartridge

**OFTWH:** up to 22.7L/min, 24/7/365 for 2 years for the OFTWH cartridge

**Maximum pressure:** 90psi / 6.2 bar

**Maximum temperature:** 38°C

**Minimum temperature:** 5°C

**Weight:** OFTWH = 6.2kg | OFTWH-R = 5.7kg

**Capacity:** The cartridges do not have a grain removal capacity; however, other elements found in the water will gradually impair their effectiveness. Change the cartridges at least once every two years.

Install the OneFlow® scale control system on the cold water line, upstream of the network/system to be treated. The system must be sized on the basis of the peak or rated flow, as indicated in the specifications for the device in question. The OneFlow® system can also be installed to protect multiple appliances against the damaging effects of scale and hard water, taking care to check the total peak flow of the devices to be protected. Install a bypass so that the system can be isolated when performing maintenance or changing the cartridge. The bypass is recommended but not mandatory. Install the system in an area that is large enough to make it possible to carry out maintenance operations. Once activated, the OneFlow® system does not waste water on backwashing, flushing or regeneration and does not require chemical additives or electricity to operate.

## 2.1 Feed water chemistry requirements

|                          |  |
|--------------------------|--|
| pH                       | 6.5-8.5  |
| Hardness (maximum)       | 28.8°dH, 51.3°F (513 mg/L CaCO <sub>3</sub> )* |
| Water pressure           | 1.03 to 6.2 bar                                |
| Temperature              | 5 to 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 and H <sub>2</sub> S | must be removed in advance                     |
| Total phosphates         | < 3.0 mg/l                                     |
| Silica (maximum)         | 20 mg/l†                                       |
| TDS                      | 1500 mg/L††                                    |

These chemical specifications correspond to the average parameters of the normal water supply. Contact your local water company to check the specifications of the water.

### Note

\* Systems using OneFlow® technology are effective at preventing scale formation in plumbing systems at significant hardness levels of up to 513 mg per litre (28.8°D, 51.3°F) of calcium carbonate. Due to variations in the chemical specifications of water, the maximum recommended hardness is 513 mg/L, in order to avoid potential cosmetic problems caused by the formation of traces of scale on the outside of pipes.

\*\*As with conventional water softening media, OneFlow® granules need to be protected from excess levels of certain metals that can easily coat the active surface, reducing effectiveness over time. Water from the public mains does not pose this problem, except in rare cases; if you are using water from a private well, however, check that the levels of iron (Fe) and manganese (Mn) are below 0.3 mg/L and 0.05 mg/L respectively. Also check that the levels of copper (Cu) are below 1.3 mg/L at all times.

### Note

† OneFlow® systems do 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 limescale residue difficult to remove from the outside of plumbing system components. This 20 mg/l limitation is for aesthetic purposes.

†† All other water contaminants must meet the requirements set down by the water regulatory authority in the country where OneFlow® is sold and installed. The maximum level of contamination by specific minerals and metals, classified in the above chemical specifications of the water supply, replaces the aforementioned requirements. If the water contains excessive quantities of impurities and debris, ensure that it is pre-filtered before using OneFlow®.

## 3. Installation

### 3.1 Installation precautions

#### Note

Consult the local and national building and plumbing codes and regulations prior to installation. If this information is not consistent with local building or plumbing codes, the local codes should be followed. Inquire with governing authorities for additional local requirements. Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions and/or unauthorised adjustments or repair could make OneFlow® unsuitable for its intended use. Regular checking, cleaning of the valve's internal components and scheduled inspection help ensure maximum service life and proper functioning. Frequency of cleaning and inspection depends upon local water conditions.

- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection upstream or downstream of the system.
- Connect system ONLY to COLD water supply. Water temperature must not exceed 38°C. Do NOT install the system on HOT water pipes. Failure to limit line temperature to 38°C may result in damage to the housing and cartridge.
- Do NOT allow the system to freeze. Turn off the water supply and drain the housing if temperature falls below 5°C.
- Install a shut-off valve upstream and downstream from the OneFlow® device so that it can be isolated for maintenance.
- Do NOT install the system in direct sunlight or where it is exposed to harsh chemicals or may be struck by moving equipment, carts, mops or any other item that may cause damage.
- NEVER install the OneFlow® system near any heat source or above any device or area that is susceptible to damage by water.
- DO NOT install the system if the pressure exceeds 6.2 bar; where appropriate, fit a pressure reducing valve on the inlet.
- Do NOT install the system backwards with the feed water line connected to the outlet. The direction of flow through the OneFlow® system is always from the inlet to the outlet and never the other way round; bear this in mind when selecting the installation position.
- The system must be installed vertically, with the inlet and outlet connections horizontal.
- You are advised not to use other anti-scale systems upstream or downstream of OneFlow®.
- DO NOT use liquid pipe compounds for the BSP 3/4" male fittings. Use two to three wraps of PTFE tape.
- Do NOT perform welding on the head connection unions. High temperatures may damage or deform the product.
- Do NOT overtighten the (optional) ball valves on the OneFlow® female head inlet and outlet connections.
- When installing OneFlow®, always hold the valves and fittings steady with a wrench to prevent the system from turning.

### SOFT SCALE SPOTTING

Depending on the hardness of the water, small amounts scale may form on the outside of pipes. In most cases, these spots can be easily wiped off with a damp cloth and will not form hard scale deposits.

- Install the OneFlow® unit in a suitable location.
- LEAVE at least 8-10 cm of clearance below the housing so that there is enough space to change the cartridge.
- DO NOT install the unit behind other equipment where it may be difficult to access for the purpose of changing the filter.
- If there is a risk of water hammer, install a water hammer arrestor.
- Where there is a large amount of debris in the water, you are advised to fit a pre-filtration system.



#### WARNING!

### Installation with copper (Cu)

\*\*\* You are advised not to install OneFlow® on new copper pipes or devices. Excessive copper levels can foul the OneFlow® granules. If NEW copper pipes or devices have been installed recently, they need to be passivated for a minimum of 4 weeks before the unit is placed into service.



#### WARNING!

### Closed systems/still water

Avoid use in closed circuits (e.g. hydronic systems), low flow installations or with standing water (max. 72 to 120 hours, depending on the quality of the incoming water).

- Carry out periodic inspections and yearly maintenance. Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions and/or unauthorised adjustments or repair could compromise the effectiveness of the product. Regular checking, cleaning of the internal components and scheduled inspection help ensure maximum service life and smooth operation. Frequency of cleaning and inspection depends upon local water conditions.

## 3.2 Installation instructions

1. Turn off the water system. Turn off all the devices to be supplied by the OneFlow® system.
2. Check whether the water supply line is already equipped with a water treatment system. OneFlow® does not work properly in conjunction with other scale control systems. A polyphosphate dispenser can be installed downstream of the OneFlow® system, but never upstream of it, as this would adversely affect its operation.
3. Drill the necessary holes in the wall and insert the wall plugs. Fix the bracket firmly to the wall with the screws. The system must be installed vertically and perfectly straight.
4. Unscrew and separate the OneFlow® housing from the head and make sure the O-ring is correctly in place. When reassembling, take care to position the O-ring correctly
5. Use PTFE tape to connect OneFlow®. Apply two or three turns of PTFE tape to the fitting connection. **Always observe the flow direction indicated by the arrow stamped on the OneFlow® head.**
6. Install a suitably sized pipe connecting the 3/4" full-bore ball valve on the tap water supply line to the inlet ball valve to be installed on the left-hand side of the OneFlow® system. Apply 2-3 turns of PTFE tape and hold the system inlet ball valve steady with a wrench while making the connection.
7. Select a suitably sized pipe for the system to be supplied and connect it to the OneFlow® device outlet. NOTE: DO NOT connect the pipe to the system at this time. Before making the connection to the system, this line will be used to facilitate flushing of the device. As an option, an in-line drain valve in a T-fitting could be installed on the outlet side of the OneFlow® system to facilitate flushing when changing the cartridges.
8. Keeping the OneFlow® inlet valve closed, slowly open the 3/4" full-bore ball valve on the tap water supply line. Check that there are no leaks.
9. If a drain valve has not been installed on the outlet side of the system, place the pipe intended for subsequent connection to the device to be supplied in a clean bucket or over a washbasin or drainage outlet. Slowly open the system inlet supply valve and run the water for about 2 minutes, at the specified flow rate, so as to vent out the air bubbles.
 

**NOTE:** THE OneFlow® SYSTEM DOES NOT REQUIRE ANY COMMISSIONING PROCEDURE TO OPERATE PROPERLY. FLUSHING IS RECOMMENDED, HOWEVER, TO VENT OUT ANY AIR BUBBLES.
10. Make sure the end of the pipe intended for connection to the device to be supplied is clean and sanitised.
11. Connect the pipe to the system. Open all the shut-off valves and check that there are no leaks.
12. If there are no leaks, switch on the device and check that it is working normally.
13. Register your OneFlow® system to ensure smooth operation. We'll send you a reminder one month before your cartridge needs to be changed.



[www.watts-oneflow.com/register](http://www.watts-oneflow.com/register)

## 4. Operation

If the pressure is high enough, the operation of the Watts OneFlow® system is fully automatic. All you need to do to keep it working reliably is change the cartridge periodically and record the completed maintenance operations in the system logbook.

## 5. Maintenance

The routine maintenance of the OneFlow® system involves changing the filter cartridge and/or housing O-rings periodically. If the recommendations on the sizing of the OneFlow® system are adhered to, the cartridge will have a service life of two years.

### 5.1 Filter cartridge replacement intervals

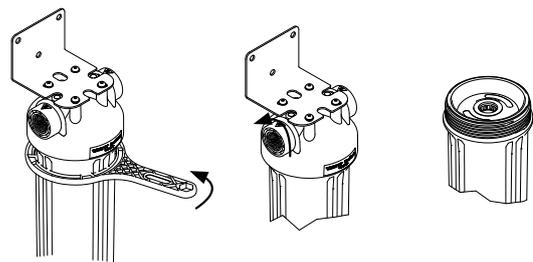
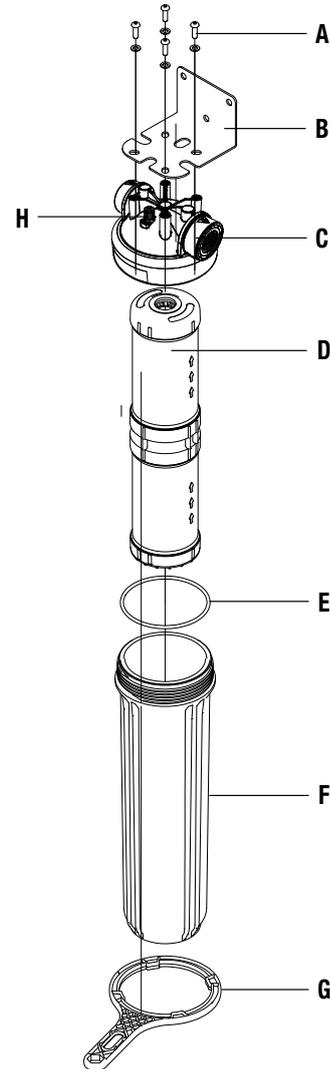
The filters must be changed at the following intervals.  
 OFTWH-R • 24 months after the date of installation or the date when the cartridge was last changed.  
 OFTWH • 24 months after the date of installation or the date when the cartridge was last changed.

### 5.2 Replacement filter cartridges

Use genuine OneFlow® cartridges only. Using replacement cartridges other than those specified will invalidate the warranties and certificates, as well as compromising the safety of the system, the quality of the water and the service life of the unit.

#### Cartridge replacement procedure

- Important notice :** All devices connected to the OneFlow® system must be switched off before shutting off the treated water supply.
- Shut off the flow of water into the OneFlow® system by closing the inlet and outlet ball valves.**
- Vent the pressure by turning the black plastic screw marked "VENT" (H) on the top of the OneFlow® device.**
- Remove the filter cartridge housing using the wrench provided.
- Take the cartridge out of the housing. Clean the inside of the housing with warm water. You can disinfect it if you wish, by pouring in a teaspoonful of ordinary bleach and filling it with water. Leave to stand for 5 minutes, then empty and rinse thoroughly.
- Fit a new cartridge in the housing. The model code of the new cartridge must be the same as the code marked on the fixing bracket.
- Check the O-ring (E) and replace it with a new one if damaged or deformed. For pre-2021 OneFlow® models: use the BLACK O-ring; for models from 2021 onwards: use the BLUE O-ring. Using your fingers (not a fabric or paper cloth), spread a small amount of lubricant onto the O-ring – just enough to cover its entire surface. When spreading the lubricant onto the O-ring, make sure it is free from sand or other debris. Refit the O-ring in the OneFlow® housing, making sure it sits completely level in the groove. Make sure the O-ring is not pinched or twisted and is free from dirt, fluff, hair and other debris. This is necessary to ensure a leak-tight seal. Make sure the O-ring is correctly positioned and refit the filter housing (hand-tighten only.)
- Open the inlet ball valve slightly; open the pressure release screw (H) to vent out any air bubbles, until a small amount of water comes out. Close the screw and open the ball valve completely.
- IMPORTANT:** with the water supply valve OPEN, and having first checked that the water is flowing freely, switch the device back on. If there is no water supply, this could damage the equipment downstream of the device.



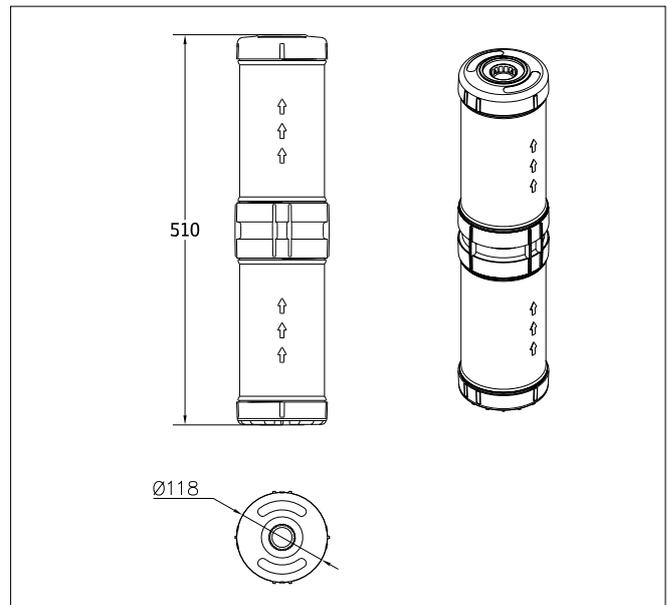
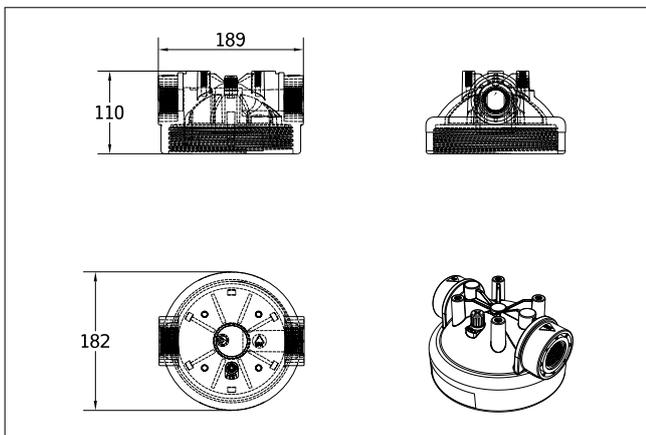
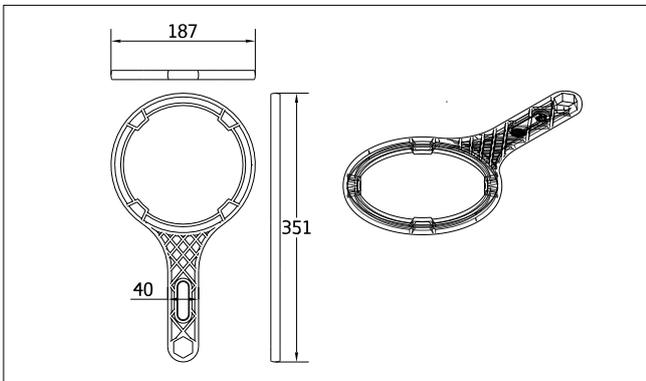
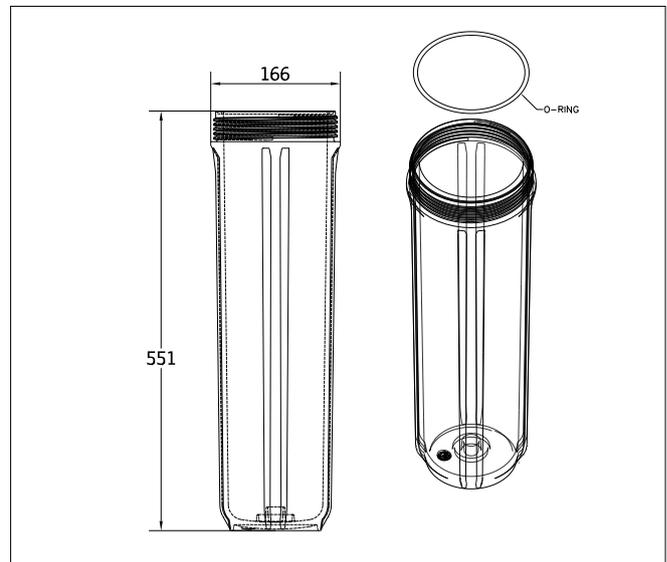
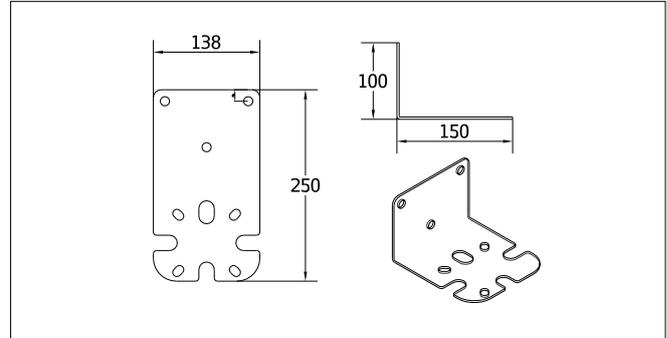
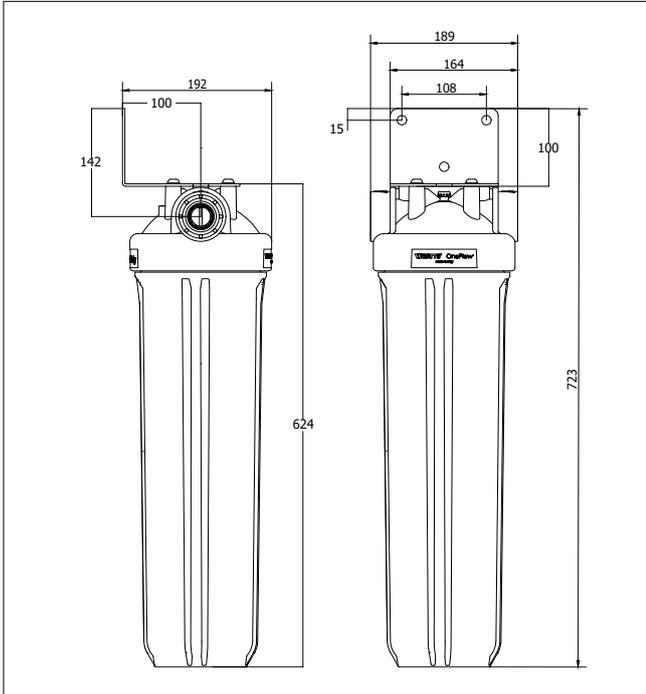
### OneFlow® OFTWH / OFTWH-R components

| Drawing ref. | Description            |
|--------------|------------------------|
| A            | Fixing screws          |
| B            | Fixing bracket         |
| C            | Head                   |
| D            | Cartridge              |
| E            | O-Ring                 |
| F            | Housing                |
| G            | Cartridge wrench       |
| H            | Pressure release screw |

## 6. Dimensions

### NOTE

Leave enough clearance around the system to make the connections and change the cartridge.



The descriptions and photographs contained in this product specification sheet are supplied by way of information only and are not binding. Watts reserves the right to carry out any technical and design improvements to its products without prior notice. Warranty: all sales and contracts for sale are expressly conditioned on the buyer's assent to Watts terms and conditions found on its website at [www.watts.com](http://www.watts.com). Watts hereby objects to any term, different from or additional to Socla terms, contained in any buyer communication in any form, unless agreed to in a writing signed by an officer of Watts.

UK

## Warranty

All WATTS products are extensively tested. The warranty covers only the replacement or repair – at the sole discretion of WATTS – of the components of the products supplied, free of charge, if, in the opinion of WATTS, they exhibit verifiable manufacturing defects. The period of limitation for claims based on defects or defects in title is two years from delivery/the passage of risk. This warranty shall not cover damage deriving from normal wear and tear or friction and any unauthorised modifications or repairs, for which Watts will not accept any request for compensation for direct or indirect damage (for full details see our website). All sales are subject to the Watts terms and conditions set out on [www.watts.eu](http://www.watts.eu).

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