OSO HOTWATER

SuperStream

SuperStream Installation, Operation & Maintenance Instructions

Please leave this instruction booklet with the home owner as it contains important guarantee, maintenance and safety information.

Read this manual carefully before commencing installation.
This manual covers all OSO SuperStream systems based on SuperStream vessel and Upstream Kit. Please read and follow OSO unvented cylinder manual for the correct unvented cylinder installation.

WRAS APPROVED PRODUCT

CE

5year guarantee

PRODUCT DESCRIPTION

OSO SuperStream system consists of one key assembly, OSO SuperStream vessel complete with upstream kit and it is supplied with OSO unvented cylinder.

APPLICATION

SuperStream is designed to offer stored clean, potable cold water under pressure for all domestic or small commercial applications where mains water is insufficient to offer consistent and reliable water services.

Installation parameters must not exceed the values given in the technical specifications.

- **OSO SuperStream system must not be used for any other application without the written consent of OSO Hotwater Limited.**
- **This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.**
- **Children should be supervised to ensure that they do not play with the appliance.**

Please read installation details carefully as they are intended to ensure this product provides long, trouble free service. Failure to install the unit in accordance with the installation instructions will lead to invalidation of the warranty. These instructions must be left with the product.

STORAGE

If this product is not to be installed immediately on receipt, ensure that it is stored in a dry, frost and vibration free location in its original packaging.

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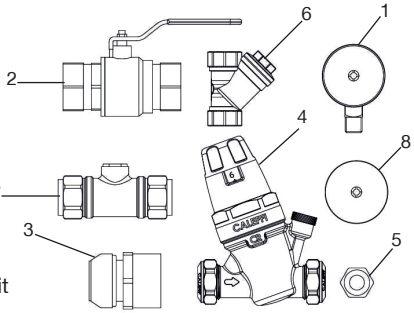
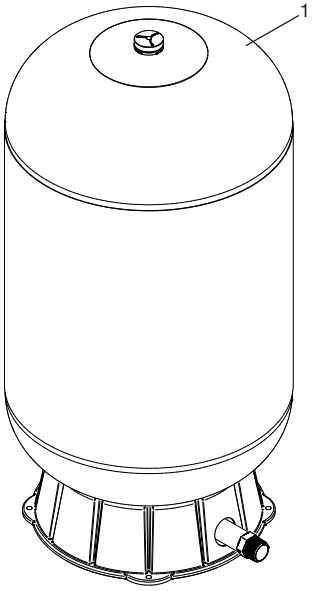
CHECKLIST

IMPORTANT: Please check the contents within 24 hours of receipt and if any component is damaged, please contact OSO Hotwater Ltd immediately.



Package 1
Upstream kit
Fig. 1



Package 2
SuperStream vessel
Fig. 2

Item		Description	Qty	Item		Description	Qty
Package 1	1	¼ " BSP pressure gauge	1	Package 2	1	SuperStream vessel	1
	2	Lever isolating ball valve	1				
	3	Pressure vessel connector fitting	1				
	4	6 bar pressure regulating valve	1				
	5	¼ x ½ " BSP Brass bush	1				
	6	Y pattern inline strainer	1				
	7	Double check valve	1				
	8	¼ " BSP Pressure gauge	1				

Your product may vary slightly from the picture above.
Other packages may also be delivered check the checklist on OSO unvented cylinder manual.

Cont ...

1 INTRODUCTION

1.1 Congratulations on buying a OSO SuperStream system, designed to offer consistent and reliable water services throughout the property.

1.2 **How the OSO SuperStream System works:**
The SuperStream vessel stores water from the rising main in a sealed water chamber, separated from the air space by a rubber diaphragm and pressurised to an optimum setting. When water is drawn off by downstream services, the water from the mains is supplemented by the water from the SuperStream unit to provide a balanced supply at consistent pressure to downstream services.

Cont ...

2 IMPORTANT FACTS READ BEFORE COMMENCING INSTALLATION

A. **Water temperature**

This unit is designed for cold water applications only which should not exceed the following values:

2.11 The maximum allowable water temperature is 35 °C.

2.12 The minimum allowable water temperature is 4 °C.

B. **Pipework - General**

2.13 **Secure pipework:** Ensure pipework to and from the SuperStream is independently supported & clipped to prevent forces being transferred.

2.14 **Flux:** Solder joints must be completed and flux residues removed prior to completing the installation **(flux damage will void any warranty)**.

2.15 **Pipework design:** Care should be taken in the design of pipework runs to minimize the risk of air locks e.g. use drawn bends rather than 90° bends.

C. **Plumbing Installation Regulations**

2.16 The plumbing installation must comply with the current water and building regulations.

2.17 The plumbing installation must be installed by a qualified person.

D. **SuperStream vessel**

2.18 Ensure the SuperStream vessel is installed correctly before operating the unit, to avoid damage.

Do not attempt to dismantle the SuperStream vessel

The SuperStream vessel is pressurised to a pre-set level at the factory see Section 7.11 - Commissioning for details.

Cont ...

3 LOCATION - GENERAL

3.11 **Access:** For emergencies and maintenance the SuperStream must be easily accessible.

3.12 **Protection:** The system must be located in a dry position, and protected from freezing. Avoid environments which have a high ambient temperature, high humidity or excessive condensation and salt damage, etc.

3.13 **Incoming mains water pressure:** The incoming water pressure of at least 1.5 bar is required and should not exceed 5 bar.

3.14 Ensure that location of the unit allows adequate space to give reasonable access to all parts to accommodate service/commissioning.

3.15 **Pipework:** Pipework should be sized to ensure optimum performance of the system.

3.16 **Direction of flow:** See Fig. 3 to identify the suction and discharge connections.

Cont ...

4 TERMINOLOGY

4.11 **System Designation:**
It is important to understand what upstream and downstream refers to before starting the installation.

4.12 **Upstream**
The term 'Upstream' refers to the system configuration from the consumer's stopcock to the point where the supply reaches the inlet port of the SuperStream vessel.

4.13 **Downstream**
The term 'Downstream' refers to the system configuration from the outlet tapping on the SuperStream vessel, along the distribution header (if configured in this way) and into the distribution pipework and outlets. This includes hot and cold services where both are present (see Fig. 3).

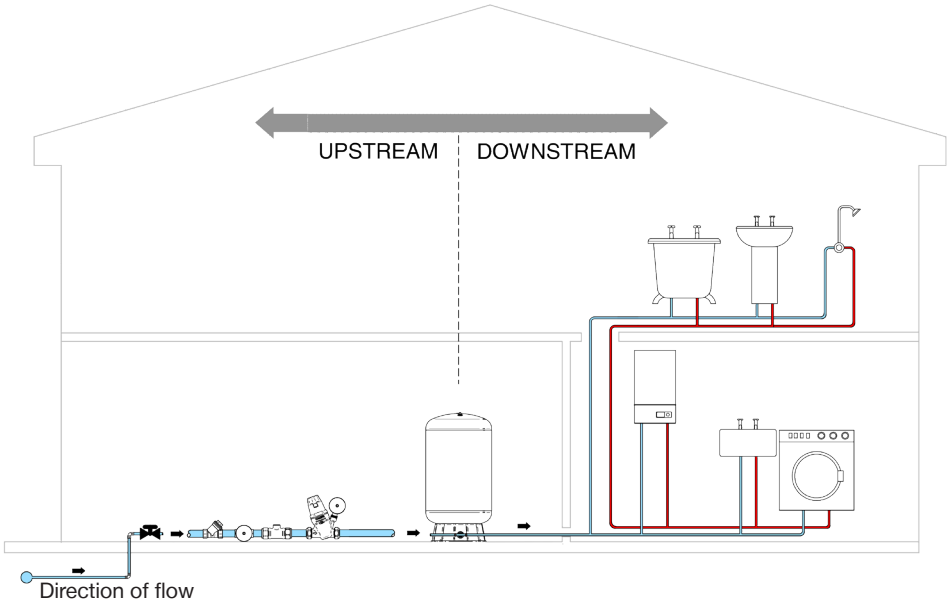


Fig. 3 System designation

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5 CONFIGURATION

5.11 OSO SuperStream is a very flexible solution, offering a patent protected packaged system to suit any type or size of building no matter how large or small the demand is. The following illustrations depict just the typical SuperStream system.

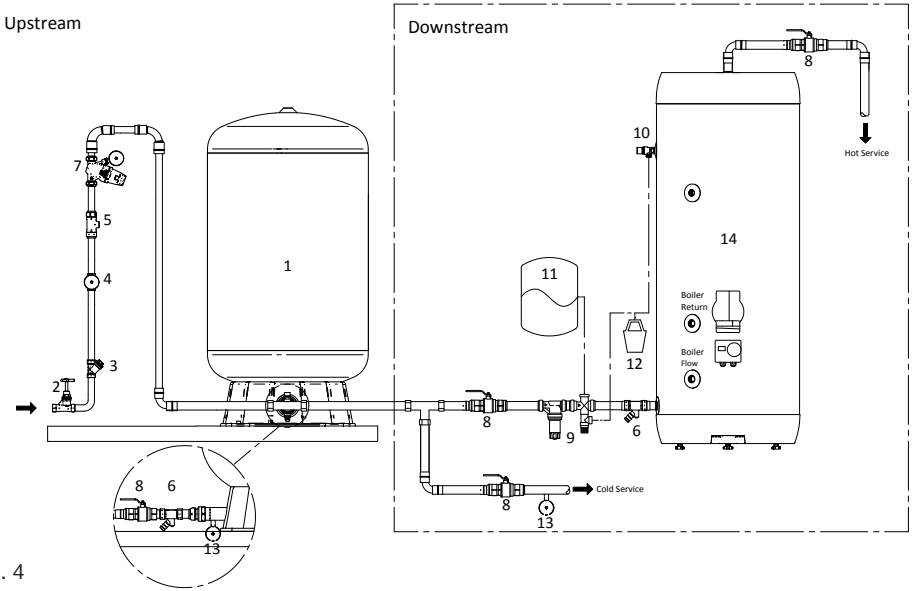

Fig. 4

Item	Description	Item	Description
1	SuperStream Accumulator Vessel	8	Full Bore Isolation Valve
2	Stopcock (not supplied)	9	Multibloc Valve
3	Inline Strainer	10	Temperture & Pressure Relief Valve
4	Pressure Gauge	11	Expansion vessel (not supplied)
5	Double Check Valve	12	Tundish
6	Drain Cock (not supplied)	13	Extra Gauge Locations
7	Pressure Reducing Valve c/w gauge	14	OSO Unvented Cylinder

5.12 **Water softener:**

Note: If a water softener is to be fitted it **must** be located between the upstream line-in kit and the vessel.

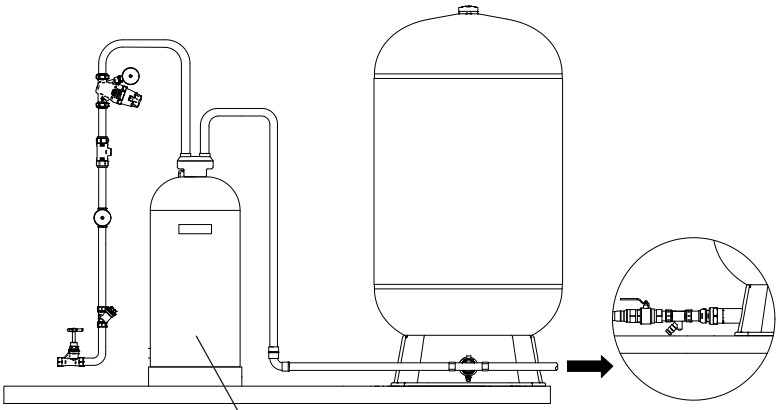

Fig. 5

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6 INSTALLATION

Step 1:

Remove the OSO SuperStream vessel from its packaging and check to ensure it is not damaged.

- **WARNING: depending on cylinder size this may require two people to complete safely.**
- **Ensure the floor is sufficiently strong enough to take the total weight of the unit when full of water (see Technical Specification section). Take care when manoeuvring the unit so as not to damage it.**

6.11 **Vertically mounted OSO SuperStream vessels**

a) Screw the SuperStream vessel connector (item 3) provided in the upsteam kit on to the tank inlet pipe at the base using suitable thread seal such as PTFE tape or liquid thread lock (see Fig. 6).

b) Cut a piece of 28 mm dia. copper pipe to 100 mm and push into the vessel connector.

c) Fit the isolating valve provided to the copper tail.

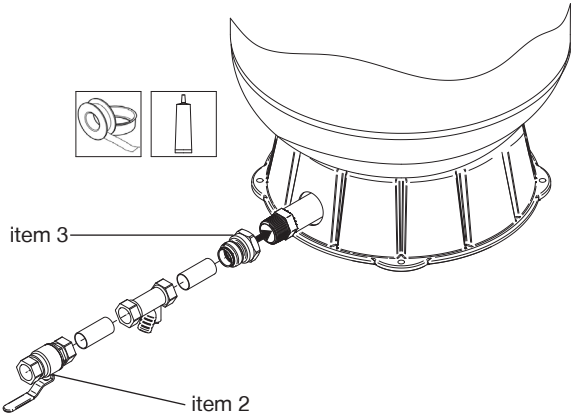

Fig. 6

d) The vessel assembly should then be positioned and checked to ensure there is sufficient space to install the upstream line-in kit between the stopcock and pressure vessel inlet. Refer to the chart (Fig. 8) as a guide.

e) Fix the SuperStream vessel securely to the floor using appropriately selected and sized fixings.

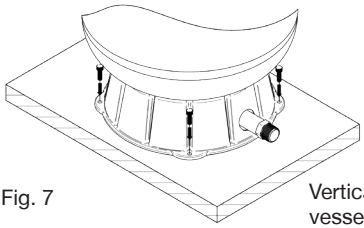

Fig. 7 Vertically mounted vessels

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Note: **Do not** forget if a water softener is to be installed this has to be included in this pipe run, and additional space must be allocated for this.
Do not fit smaller pipework than the upstream line-in kit accepts as this will impair performance.

Step 2:
Upstream kit
The upstream kit includes:

1 - inline strainer
2 - pressure gauge (upstream)
3 - double check valve
4 - pressure reducing valve
5 - pressure gauge (fitted to pressure reducing valve)
6 - SuperStream vessel connector (see step 1)

The above components must be installed in the correct order to ensure safe and satisfactory system operation.

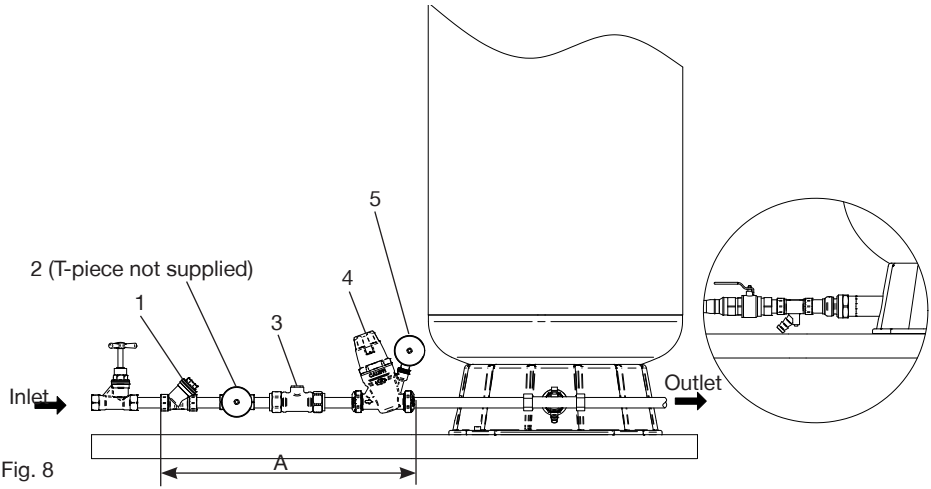

Fig. 8

Pipe Size	Minimum pipe length required to install the upstream line-in kit (mm) (A)
22 mm	480 mm
28 mm	580 mm
35 mm	630 mm
40 mm	735 mm
54 mm	820 mm

To completed installation read OSO unvented cylinder installation manual.

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7 COMMISSIONING

7.11 **Check vessel pre-charge pressure:**
It is important to have the correct pre-charge pressure in the vessel for your site conditions to optimise performance. The SuperStream vessel is supplied with a pre-charge pressure of 1.4 bar.
Checking and adjustment to the vessel pre-charge air pressure can only be carried out when the vessel is empty (contains no water).

7.12 **Check mains dynamic pressure:**

- Open outlets and check pressure gauge after 'Y' strainer - for dynamic mains pressure and note it.
- Turn stopcock off and leave outlet taps open.

7.13 Please adjust the pressure reducing valve on the OSO hot water cylinder to deliver 3.2 bar pressure. Should the standing pressure in the water main be lower than 3 bar, reduce the pre-charge pressure in the OSO SuperStream vessel to 1.8 bar, less than the standing pressure of the incoming cold water main. The SuperStream pre-charge pressure should not be reduced below 0.5 bar.
Using a pressure gauge check the vessel and adjust to suit through the schrader valve.
Warning: Note PRV setting must not exceed 5.0 bar.

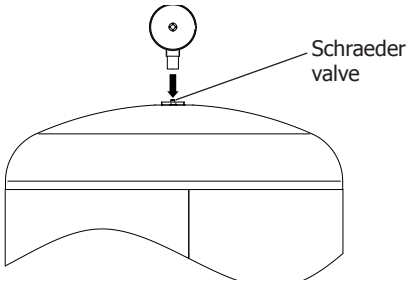

Fig. 9

7.14 On completion of the installation, follow the commissioning process below.

- **Leave all outlet valves closed.**
- **Turn on stopcock and open inlet ballvalve, both pressure gauges on inlet and PRV will start to show movement as the mains pressure fills the system.**
- **Check for leaks on all joints made.**
- **The incoming mains pressure will start to fill the vessel with water.**

The time taken to fill the vessel will vary depending on the vessel size and mains water pressure.

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8 TECHNICAL SPECIFICATION

OSO SuperStream Vessel							
General	Construction			Continuous strand fiberglass with epoxy resin			
	Membrane			Butyl rubber			
	WRAS approval			1501305			
	System patent no.			2349908			
	Guarantee			5 years			
Performance	Maximum head (closed valve)			4.3 bar			
	Maximum working pressure*			860 kPa (8.6 bar)			
	Maximum ambient air temperature			40 °C			
	Min / Max water temperature			Min 4 °C / Max 35 °C			
Composite vessels	**Model**	**Vessel capacity (litres)***	**Dimensions (mm)**	**Weight empty (Kg)**	**Total weight (Kg)**	**Maximum weight (Kg)**	**Connectors supplied**
	OSO 130	71	1230 X 420	15	86	145	1 " BSP x 28 mm
	OSO 200	110	1100 X 550	21	131	221	1¼ " BSP x 28 mm
	OSO 250	132	1350 X 550	26	158	276	1¼ " BSP x 28 mm
	OSO 350	174	1450 X 620	34	208	384	1¼ " BSP x 28 mm
	OSO 450	248	1830 X 620	45	293	495	1¼ " BSP x 28 mm

*working pressure

OSO Hotwater reserve the right to amend the specification in line with its policy of continuous development of its products.

*Note: The maximum pressure that can be applied to the pump under any installation conditions.

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9 TROUBLE SHOOTING GUIDE

Symptoms	Probable Cause	Recommended Action
Poor flow.	ISO valve not opened on pressure vessel.	Check valve is fully open.
	Filter blocked.	Isolate system and clean out strainer.
Poor pressure.	Mains pressure dropped.	Check pressure gauge on supply (2) Fig. 10. If below 1.5 bar at peak times, recommend use of Mainsboost Plus pump.
	PRV set incorrectly.	Check PRV. Gauge should read between 1.5 and 3.0 bar, adjust to suit. Note: Pressure gauge (2) reading has to exceed desired pressure on (4).
System works but runs out of water.	Insufficient vessel capacity.	Call OSO Hotwater Ltd

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10 YOUR GUARANTEE

Congratulations on purchasing an OSO SuperStream system.

We are confident this product will give you many years of trouble free service as all our products are manufactured to the very highest standard.

The SuperStream benefits from a five year guarantee.

Within the guarantee period we will repair, free of charge, any defects in the SuperStream resulting from faults in material or workmanship, repairing or exchanging the part affected or whole unit as we may reasonably decide.

Not covered by this guarantee: Damage arising from incorrect installation, improper use, unauthorised repair, normal wear and tear and defects which have a negligible effect on the value or operation of the unit.

Reasonable evidence must be supplied that the product has been purchased within the guarantee term prior to the date of claim (such as proof of purchase or the product serial number).

This guarantee is in addition to your statutory rights as a consumer. If you are in any doubt as to these rights, please contact your local Trading Standards Department.

You should obtain appropriate insurance cover for any loss or damage which is not covered by OSO Hotwater Ltd in this provision.

Please record here for your records.

TYPE NO.	SERIAL NO.	DATE PURCHASED

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