



PROSTOR SC
Single Coil Indirect Vessel

Operation & Maintenance Manual

User Instructions

This manual is an integral part of the cylinder and must be provided to the installer and end user together with the product.

It must be kept in a safe place near the cylinder. In the event that the cylinder is transferred or sold, this user and installation manual must also be passed on to the new owner.

Both the user and installer must read this manual carefully to ensure compliance with the technical and safety instructions for correct operation of the appliance.

Failure to follow the instructions contained herein will invalidate all legal and contractual warranty rights.

Installation, commissioning, maintenance, and deactivation of the equipment must be carried out by a qualified and certified technician.

Correct installation and regular maintenance ensure a long service life for the storage cylinder.

On pressurised DHW systems, the cylinder should be installed according to Building Regulation G3 by a competent installer.

When lifting / hoisting the vessel to its intended location

- Do not lift a vessel using the insulation where fitted straps may crush or damage the insulation casing
- Siting – ensure that the surface the vessel is located on is firm and level to prevent settling, pipe strain or distortion of the vessel. Adequate space to enable installation and servicing and access to the inspection hatch and all connections must be allowed for.

Installation, Commissioning, and Maintenance Instructions

The following instructions are essential for maintaining the validity of the warranty.

1. Installation and commissioning must:

- Be carried out by a qualified installer.
- Include, where necessary, a water pressure-reducing valve on the incoming line.
- Include a safety valve that meets the cylinder's technical specifications.
- Include an expansion vessel installed no more than one metre from the cylinder (see the expansion vessel data sheet). The vessel must be appropriately sized by a competent professional according to the cylinder's capacity.
- Include flushing of the system before commissioning. Any impurities or debris in the hydraulic circuit can cause corrosion and permanently contaminate the cylinder.
- Include filters upstream of the cylinder to prevent heavy particles or installation residues from settling inside the cylinder.

2. Before starting the system:

- Check all hydraulic connections and hatches for leaks.
- Tighten hatch bolts to a torque of 20 Nm (handhole) or 40 Nm (manhole).
- If leakage occurs, inspect the expansion vessel assembly.

3. Installation location:

- Install the cylinder in a plant area equipped with suitable drainage in case of leakage.

4. Filling and heating:

- Do not activate any connected heat source until the cylinder has been completely filled with water.

5. Electrical and material compatibility:

- If using materials different from those of the cylinder, provide dielectric insulation between dissimilar metals.
- The equipotential grounding must be carried out for both the cylinder and connected piping, and must comply with current regulations.

6. System pressure and contamination prevention:

- To prevent contamination of domestic water and alteration of the antifreeze mixture in solar circuits, ensure the pressure in the heat exchanger is always lower than the pressure in the storage cylinder. Automatic control of the differential pressure between primary and secondary circuits is recommended.

7. Protection against freezing and stagnation:

- In the event of freezing risk, the cylinder and heat exchanger must be heated or completely drained.
- If the cylinder will not be used for a long period, drain it completely to prevent internal corrosion and bacterial growth caused by stagnant water.

8. Temperature limits:

- The internal temperature of the cylinder must not exceed 95°C.

9. Anode inspection:

- To prevent corrosion, inspect the magnesium anodes every 12 months.
- In areas with aggressive water, inspections should be carried out every 6 months.
- If the anode diameter is less than 23 mm, it must be replaced.
- If the anode is covered with limescale, it should be cleaned.

10. Water quality:

- The Langelier Index at operating temperature must range between 0 and +0.4.
- Water hardness must be between 10°F and 20°F.
- Maximum chloride concentration: 70 mg/l.
- Minimum conductivity: 150 μ S/cm.

User Instructions

Warranty Conditions

The manufacturing company guarantees its products, which are identified by a serial code.

Claims for defects must be made in writing within 8 days of discovery, by contacting CHWS.

In the event of a valid claim, and after inspection of the defect and its causes, the warranty covers repair on site or replacement of the product, free of charge for freight, upon return of the defective item.

Installation costs are excluded unless otherwise agreed.

The warranty is subject to the following conditions:

- Claims must be made before the product is modified or transferred to a third party.
- Installation must be performed by a qualified installer, and the cylinder must be equipped with a safety valve and an appropriately sized expansion vessel.
- The instructions provided in this manual regarding installation, commissioning, and maintenance must be strictly followed.
- Water heaters must be used and maintained correctly, with strict adherence to operating temperature and pressure limits.
- The magnesium anode must be inspected regularly (ideally every 6 months) and replaced as soon as the anode is reduced to 23mm diameter in any area.
- Water parameters must comply with: Langelier Index between 0 and +0.4, hardness 10–20°F, maximum chloride 70 mg/l, and minimum conductivity 150 μ S/cm.

The warranty excludes damages resulting from:

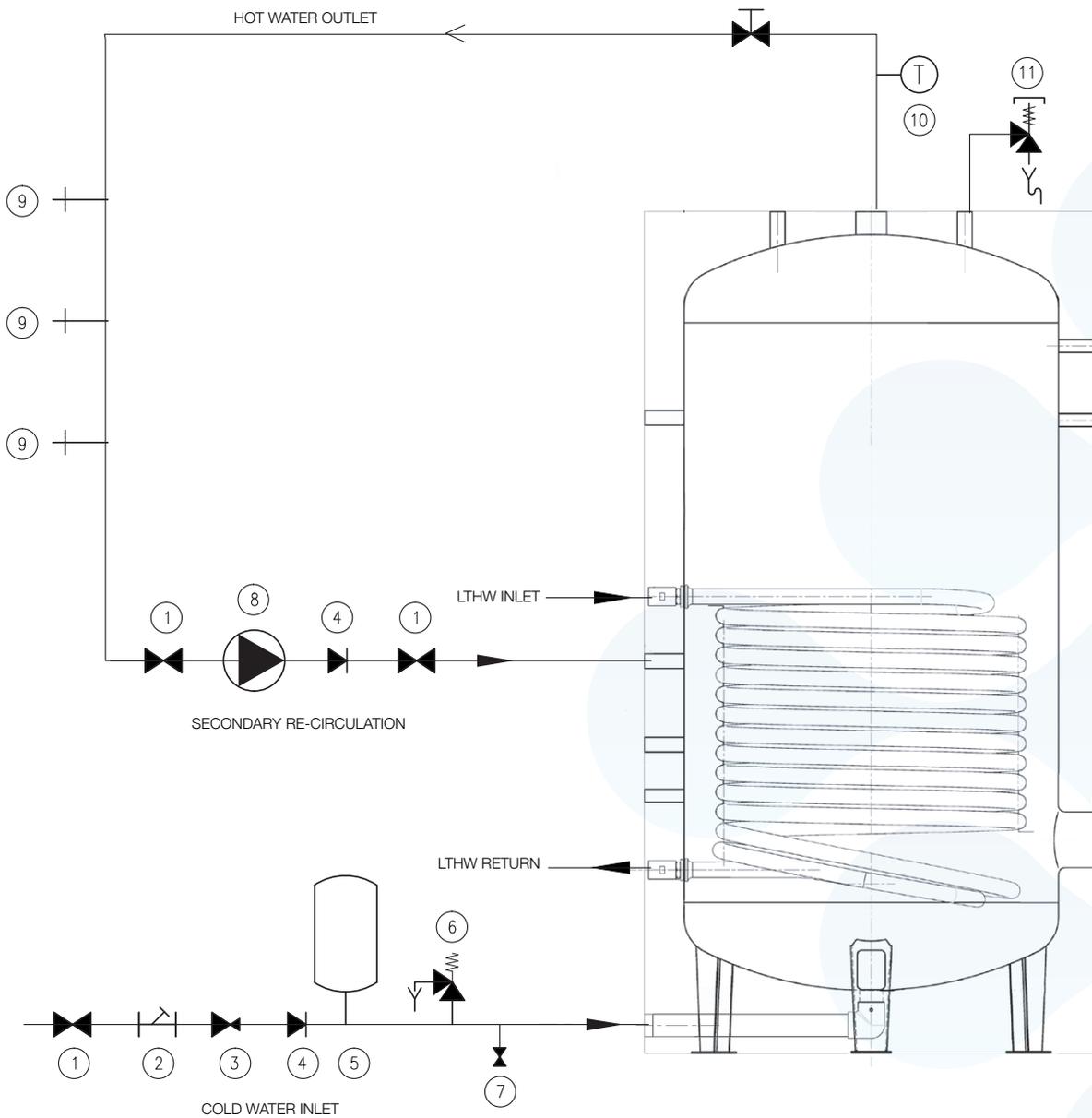
- Incorrect installation, commissioning, or improper use of the water heater.
- Damage not caused by manufacturing defects (e.g. impact during installation, handling, or transport).
- Ingress of foreign materials during installation or damage from improperly fitted or unsealed gaskets.
- Paint imperfections, cracks, or peeling on carbon steel cylinders. These are aesthetic and result from high-temperature manufacturing processes (enamelling, pickling, welding, etc.). They do not affect performance or durability, and therefore are not grounds for replacement or compensation.
- Damage to insulation detected after installation.
- Rust or moisture on threaded connections — these are normal phenomena that do not affect functionality. The installer may clean the threads before assembly if necessary.
- Any claim does not entitle the customer to reduce the purchase price, delay payment, or seek compensation.

Additional Notes

We reserve the right to reject warranty claims if the purchaser has not fulfilled payment obligations.

No further compensation, particularly for direct or indirect damages to persons or property, will be accepted.

Installation Diagram



Key

- ① Isolating Valve
- ② Strainer
- ③ Pressure Reducing Valve
- ④ Non Return Valve
- ⑤ Expansion Vessel
- ⑥ Safety Relief Valve

- ⑦ Drain
- ⑧ Circulation Pump (Optional)
- ⑨ Drawn-off Points
- ⑩ Temperature Gauge (Optional)
- ⑪ T&P Valve

Technical Specs & General Specifications

Connector Type		Model							
		300	400	500	600	800	1000	1500	2000
1	Domestic Cold Water Inlet	1 ½"	2"	2"	2"	2"	2"	2 ½"	2 ½"
2	Coil Heat Exchanger Outlet	1"	1"	1"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
3	BMS Sensor Tappings x 2	½"	½"	½"	½"	½"	½"	½"	½"
4	Destratification Outlet	¾"	¾"	¾"	¾"	¾"	¾"	¾"	1"
5	Domestic Hot Water Return	¾"	¾"	¾"	¾"	¾"	¾"	1"	1"
6	Coil Heat Exchanger Inlet	1"	1"	1"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
7	Destratification Inlet	¾"	¾"	¾"	¾"	¾"	¾"	1"	1"
8	Domestic Hot Water Outlet	1 ½"	2"	2"	2"	2"	2"	2 ½"	2 ½"
9	T&P Relief Valve	½"	¾"	¾"	¾"	¾"	¾"	1"	1"
10	Vent	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ½"	1 ½"	1 ½"	1 ½"
11	Hi-Limit Temperature Stat	½"	½"	½"	½"	½"	½"	½"	½"
12	Optional Immersion Heater	1 ½"		1 ½"		1 ½"	1 ½"	1 ½"	1 ½"
13	Flanged Inspection Hatch	180/120	180/120	180/120	180/120	180/120	180/120	290/220	290/220
14	Sacrificial Anode	1 ¼"		1 ¼"		1 ½"	1 ½"	1 ½"	1 ½"

MAXIMUM WORKING PRESSURE 8/10 bar, MAXIMUM WORKING TEMPERATURE 95 C

General Specifications	Unit	SC 300	SC 400	SC 500	SC 600	SC 800	SC 1000	SC 1500	SC 2000
Contents	litres	273	400	475	560	738	930	1300	1900
Empty Weight	kg	115	140	155	190	215	245	290	515
Heat Loss w/hr	W	85	115	130	147	174	193	250	305
Max. operating pressure	bar	10	10	10	10	10	10	8	8
Max. water temperature	°C	95	95	95	95	95	95	95	95

Dimensions	Unit	SC 300	SC 400	SC 500	SC 600	SC 800	SC 1000	SC 1500	SC 2000
Total height	mm	1615	1475	1705	1975	1875	2205	2085	2470
Diameter (without insulation)	mm	500	650	650	650	790	790	1000	1100
Diameter (with insulation)	mm	600	750	750	750	990	990	1200	1300
Height to Centre of Inspection Hatch	mm	320	380	380	380	460	460	550	550
Coil Heat Exchanger Inlet	mm	1100	790	910	990	1165	1165	1625	1475
Height to Sensor Tapping (1)	mm	375	430	430	430	515	515	615	580
Height to Sensor Tapping (2)	mm	1185	960	1140	1340	1285	1535	1390	1815
Height to Destratification Inlet	mm	1270	1045	1235	1435	1370	1660	1505	2015
Height to Domestic Hot Water Outlet	mm	1370	1160	1390	1665	1485	1815	1750	2145
Height to Secondary Return	mm	1010	880	1050	1250	1035	1410	1285	1630
Height to Optional Immersion	mm	1225	915	1000	1065	1325	1250	1210	1570
Height to Destratification Outlet	mm	485	590	590	650	670	670	745	830
Coil Heat Exchanger Outlet	mm	225	270	270	270	345	345	425	380

Warranty Terms

CHWS ProStor® SC/WW Cylinder Warranty

The warranty on the CHWS ProStor® SC/WW range of products applies only to cylinders/vessels supplied for use with sanitary/drinking water. CHWS Ltd will provide a 5 Year warranty period on CHWS ProStor® SC/WW models.

The warranty for the ProStor® SC/WW model covers the cylinder and pipework assembly only. The warranty will only apply subject to observance of the following conditions:

The cylinder must be installed in accordance with the manufacturer's installation instructions. The cylinder must be installed in accordance with National and Local Building Regulations and observing all relevant installation regulations at the time of installation.

The cylinder is only used for the purpose it was designed for, that being the heating and storing of sanitary/drinking water.

The cylinder must be installed in a position that allows full unhindered access to all anodes, connections, drain offs, valves and clean out ports. The design water temperatures or pressure values displayed on the cylinder data plate must not be exceeded during use at any time.

The cylinder is installed in a suitable area that is not in a damp or corrosive environment.

In hard water areas, suitable water conditioning or softening equipment must be installed to condition the sanitary water prior to heating.

The acceptable level of water quality is between 0 and +0.4 on the Langelier's Saturation Index (LSI) of water measured at the cylinder's working temperature.

The conductivity of the water must not be less than 125 $\mu\text{S}/\text{cm}$ and/or the hardness (alkaline earth ions) of the water being less than 1.00 mmol/ litre. In all cases water quality should be within the parameters of 0.0 and +0.4 on the Langelier's Saturation Index (LSI)

Enamel lined Cylinders/Vessels being used to heat and/or store heated potable/drinking water should always be fitted with cathodic protection. If sacrificial anodes are used for this, these must be replaced and renewed when, and as soon as the anode is reduced to 23mm diameter in any area. When power anodes are used, these must be regularly checked and documented to ensure that they continue to work properly.

The cylinder must be maintained in accordance with the manufacturers servicing schedule which will include maintaining any sacrificial or powered anodes installed into the cylinders in a serviceable condition.

Damage to the cylinder by an external factor, misuse, neglect (this includes frost damage), unauthorised modifications or attempts to repair any leak or defect (other than by an authorised and approved service engineer) will invalidate any claim.

The water heater remains installed at the original site of installation.

ALL claims must be authorised by CHWS Ltd before any work or replacement of defective components takes place.

