CHWS

PROSTOR BV

DHW Buffer Storage Vessel

Operation & Mainenance Manual

User Instructions

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

It must be kept in a safe place near the tank. In the event that the tank 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 tank.

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. (See Appendix B)
- Include a safety valve that meets the boiler's technical specifications. (See Appendix A)
- Include an expansion vessel installed no more than one metre from the tank (see the expansion vessel data sheet). The vessel must be appropriately sized by a competent professional according to the boiler's capacity. (See Appendix B)
- Include flushing of the system before commissioning. Any impurities or debris in the hydraulic circuit can cause corrosion and permanently contaminate the tank.
- Include filters upstream of the tank to prevent heavy particles or installation residues from settling inside the tank.

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 boiler in a technical room equipped with suitable drainage in case of leakage.

4. Filling and heating:

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

5. Electrical and material compatibility:

- If using materials different from those of the tank, provide dielectric insulation between dissimilar metals.
- The equipotential grounding must be carried out for both the tank 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 tank. 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 tank and heat exchanger must be heated or completely drained.
- If the tank 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 tank 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 µS/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 tank 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 µS/cm.

The warranty excludes damages resulting from:

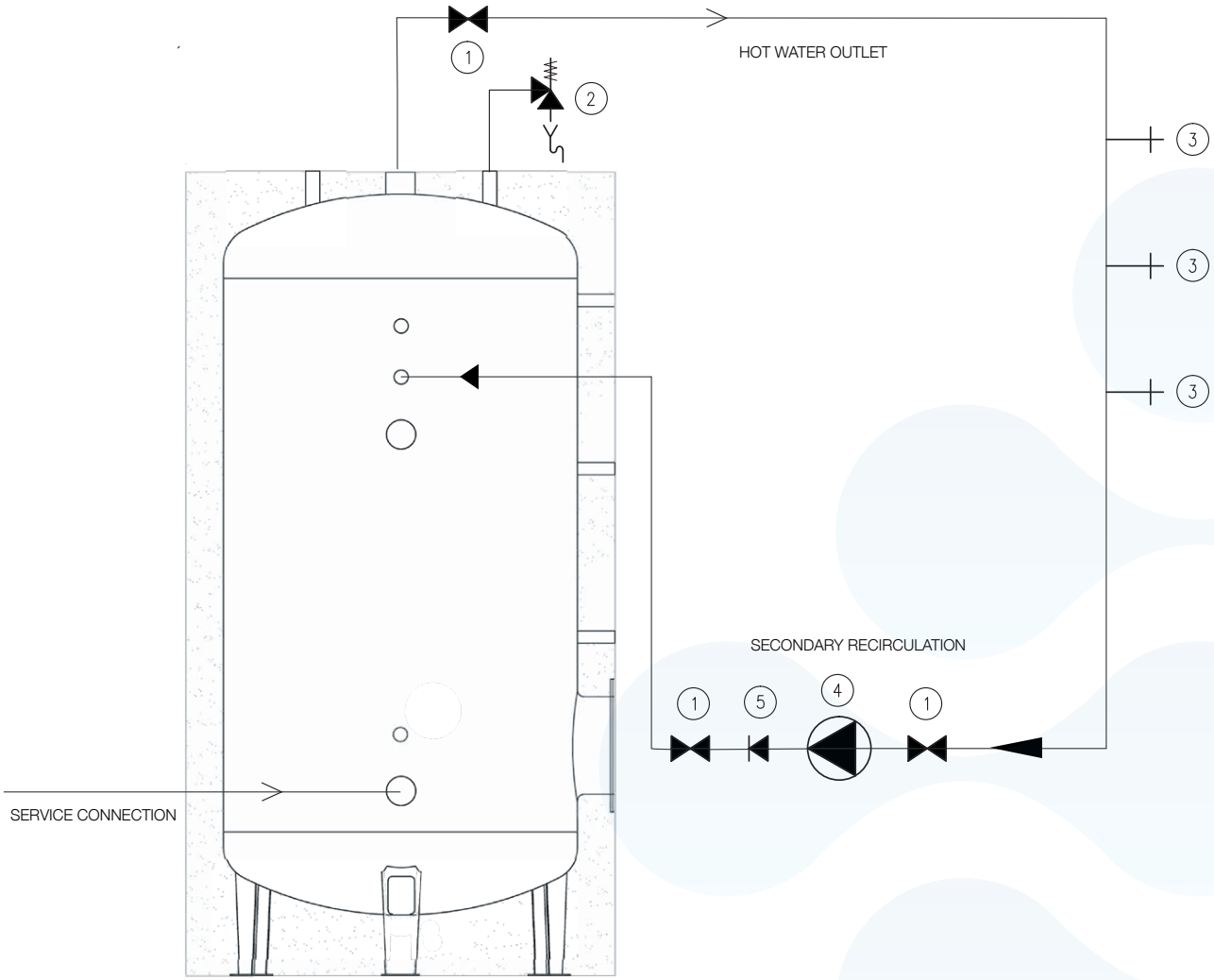
- Incorrect installation, commissioning, or improper use of the water heater.
- Damage not caused by manufacturing defects (e.g. impact during installation, handling, or transport).
- Ingress of foreign materials during installation or damage from improperly fitted or unsealed gaskets.
- Paint imperfections, cracks, or peeling on carbon steel tanks. 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.

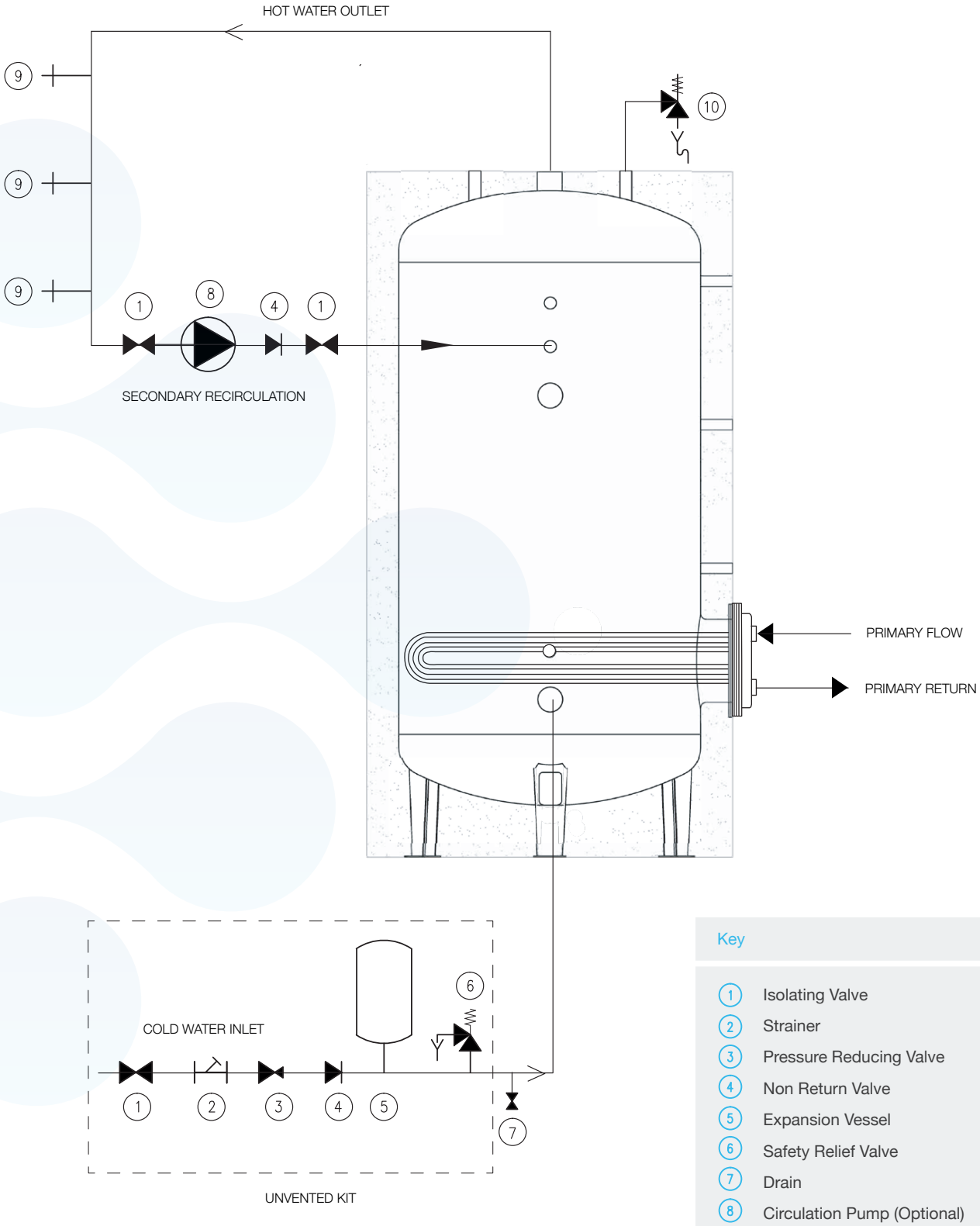
Appendix A



Key

1. Isolating Valve
2. T&P Valve
3. Drawn-off Points
4. Circulation Pump
5. Non Return Valve

Appendix B



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. T&P Valve

Technical Specs & General Specifications

Connector Type		Model						
		300	400	500	800	1000	1500	2000
1	Drain	1”	1”	1”	1”	1 ¼”	1 ¼”	1 ¼”
2	Service Connection	1 ½”	2”	2”	2”	2”	2½”	2½”
3	Destratification Outlet	¾”	¾”	¾”	¾”	¾”	1”	1”
4	Secondary Return Inlet	¾”	¾”	¾”	¾”	¾”	1”	1”
5	Service Connection Optional Immersion	1½”	2”	2”	2”	2”	2½”	2½”
6	Destratification Inlet	¾”	¾”	¾”	¾”	¾”	1”	1”
7	Sacrificial Anode	1¼”	1¼”	1¼”	1¼”	1¼”	1¼”	1¼”
8	Domestic Hot Water Outlet	1½”	2”	2”	2”	2”	2½”	2½”
9	Temp Pressure Relief Valve	½”	¾”	¾”	1”	1”	1”	1 ¼”
10	Hi-Limit Temp stat	½”	½”	½”	½”	½”	½”	½”
11	Sensor Tappings x 2 Flanged	½”	½”	½”	½”	½”	½”	½”
12	Inspection Access & Exchanger Inlet	180 / 120 mm	290 / 220 mm	290 / 220 mm	290 / 220 mm	300 / 220 mm	480 / 400 mm	480 / 400 mm

MAXIMUM WORKING PRESSURE 10 bar, MAXIMUM WORKING TEMPERATURE 95 C

Technical Specs & General Specifications

General Specifications	Unit	BV 300	BV 400	BV 500	BV 800	BV 1000	BV 1500	BV 2000
Contents	litres	285	400	490	749	955	1430	1990
Empty Weight	kg	105	130	145	195	205	285	350
Heat Loss w/hr	W	63	104	118	174	193	250	305
Max. operating pressure	bar	10	10	10	10	10	10	10
Max. water temperature	°C	95	95	95	95	95	95	95

Dimensions	Unit	BV 300	BV 400	BV 500	BV 800	BV 1000	BV 1500	BV 2000
Total height	mm	1680	1525	1890	1875	2205	2185	2470
Diameter (without insulation)	mm	500	650	650	790	790	1000	1100
Diameter (with insulation)	mm	700	850	850	990	990	1200	1300
Height to Drain	mm	140	165	165	240	135	280	250
Height to Centre of Inspection Hatch	mm	345	395	395	470	470	545	555
Height to Sensor Pocket	mm	540	595	595	670	670	760	820
Height to Sensor Pocket	mm	1090	910	1140	1200	1530	1375	1445
Height to Hi Limit Temperature Stat	mm	1380	1175	1405	1500	1830	1725	1990
Height to Destratification Inlet	mm	1255	1050	1280	1375	1705	1560	1730
Height to Secondary Return	mm	1155	965	1195	1260	1590	1440	1535
Height to Service c onnection/immersion	mm	1010	835	1065	1130	1460	1300	1345
Height to Destratification Outlet	mm	540	595	595	670	670	585	595
Height to Service Connection	mm	235	285	285	360	360	435	400
Height to Sacrificial Anode	mm	1380	1175	1405	1500	1830	1725	820
Height to Domestic Hot Water Outlet	mm	1615	1460	1690	1810	2140	2120	2420
Height to T&P Relief Valves	mm	1615	1460	1690	1810	2140	2120	2420

Warranty Terms

CHWS ProStor® BV Cylinder Warranty

The warranty on the CHWS ProStor® BV range of products applies only to cylinders/vessels supplied for use with sanitary/drinking water. CHWS Ltd will provide a 3 Year warranty period on CHWS ProStor® BV models.

The warranty for the ProStor® BV 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 µS/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 40% of its when new volume. 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.

Notes

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