

Installation and Operation Instructions

PS 600 SMART and PS 900 SMART
ACCUMULATION TANKS (THERMAL STORES)



CE

EN
v. 1.1

Regulus

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1 - Description

PS SMART Accumulation Tanks are intended for accumulation and subsequent distribution of thermal energy from solid-fuel fired boilers, heat pumps, solar collectors, electric boilers etc. No heating coils can be installed into these tanks, just an el. heating rod. Heating elements of 2-12 kW output can be installed directly into the 6/4" sleeves that are power supplied either with 230V or 3x230V/400V. Tanks are fitted with three side sleeves to connect heat sources and one for a sensor sheath. As an option, 100mm thick insulation for these tanks is sold separately.

1.1 - Models

Two models of 560 and 859 l capacity.

1.2 - Tank protection

The inner surface has no finish, no anticorrosion protection, the outer surface is lacquered in gray.

1.3 - Thermal insulation

Tank insulation is available as a separate item, for installation on the tank on the spot for easier handling. The insulation is made of 100 mm thick soft polyurethane foam and fitted with a zippered PU leather surface layer.

1.4 - Connection points on the tank

3 side sleeves, G 6/4" F thread

1 top sleeve, G 6/4" F thread

1 side sleeve for sensor sheath, G 1/2" F thread

1.5 - Packing

Tanks are delivered standing, each screwed to its pallet, packed in bubble wrap.

2 - General Information

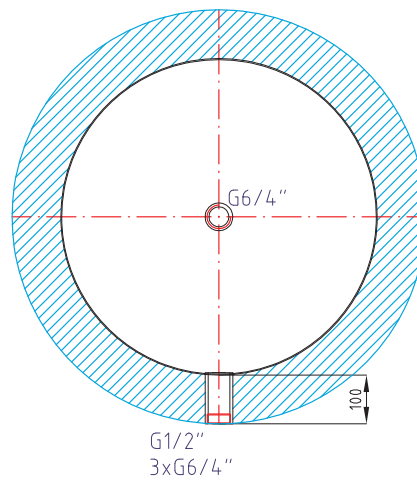
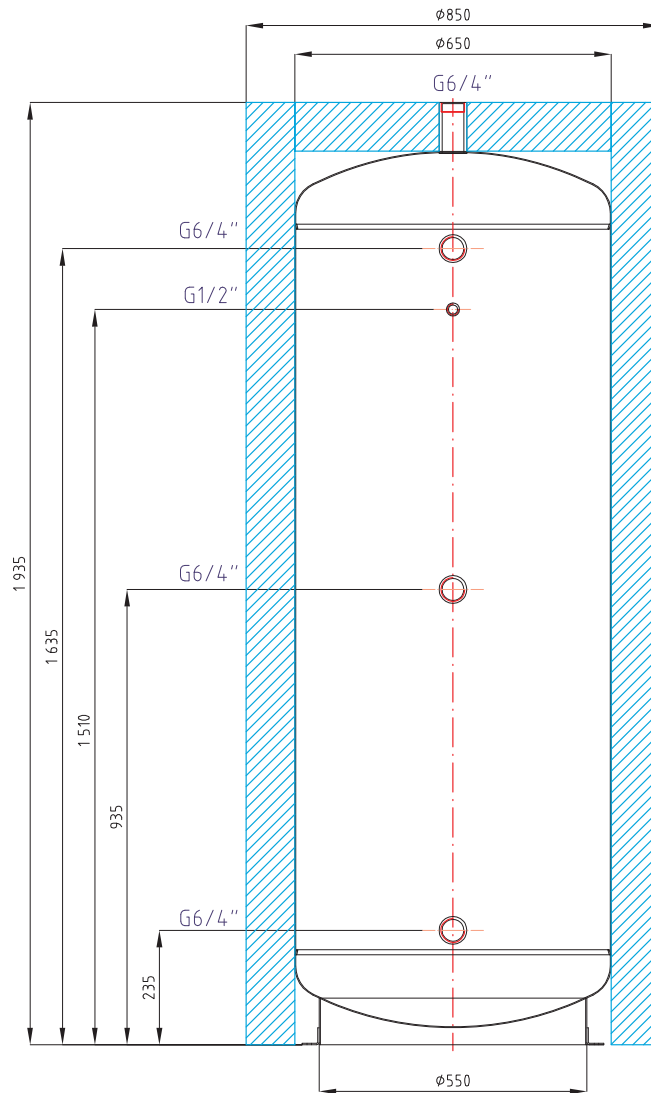
This Owners Manual is an integral and important part of the product and must be handed over to the User. Read carefully the instructions in this Manual as they contain important information concerning safety, installation, operation and maintenance. Keep this Manual for later reference. The appliance shall be installed by a qualified person according to valid rules and Manufacturer's Instructions, otherwise the warranty is null and void.

This appliance is designed to accumulate heating water and distribute it subsequently. It shall be connected to a heating system and heat sources.

Using the thermal store for other purposes than above described is forbidden and the manufacturer accepts no responsibility for damage caused by improper or wrong use. The thermal store shall not be used as a DHW tank!

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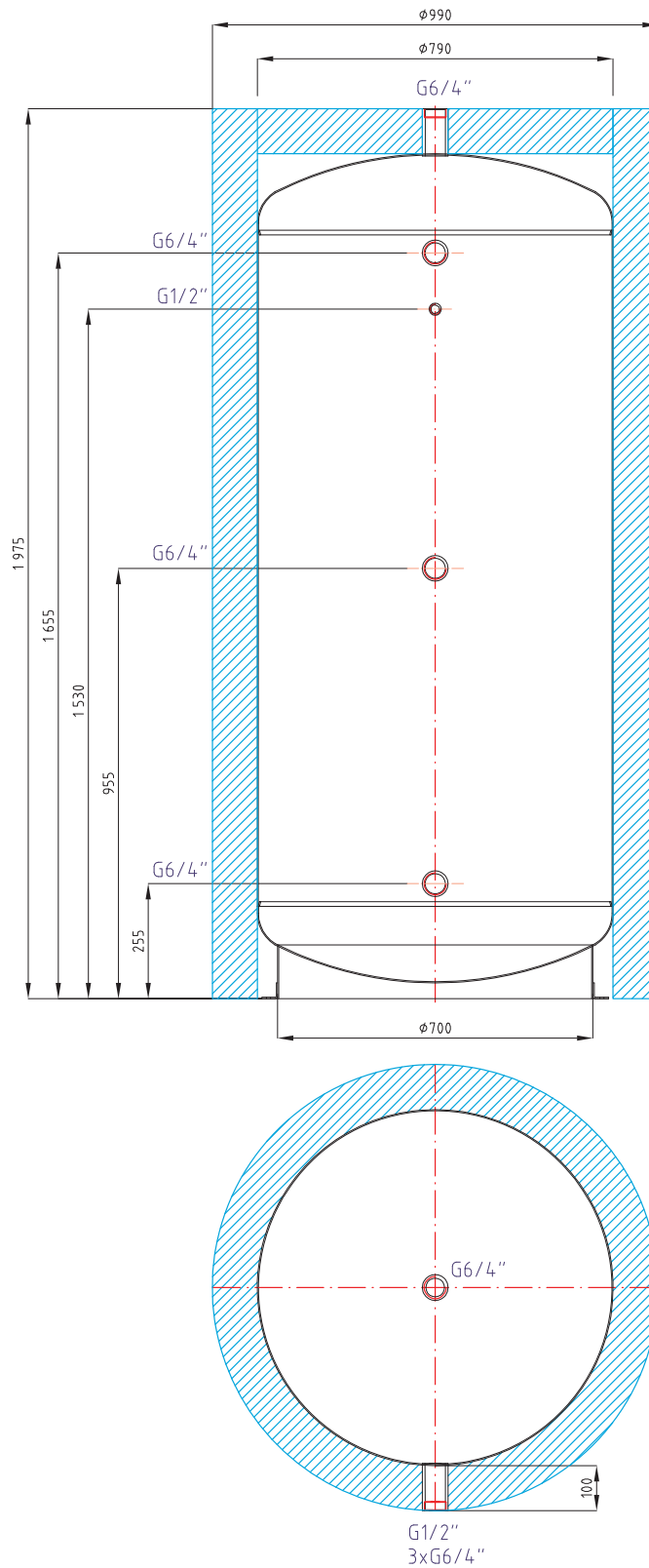
code: 9037 insulation code: 13343



Total fluid volume in tank:	560 l
Max. working temperature in tank:	95 °C
Max. working pressure in tank:	4 bar
Empty weight:	74 kg
Tipping height without insulation:	1960 mm

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code: 9038 insulation code: 13344



Total fluid volume in tank:	859 l
Max. working temperature in tank:	95 °C
Max. working pressure in tank:	4 bar
Empty weight:	100 kg
Tipping height without insulation:	2015 mm

4 - Operation

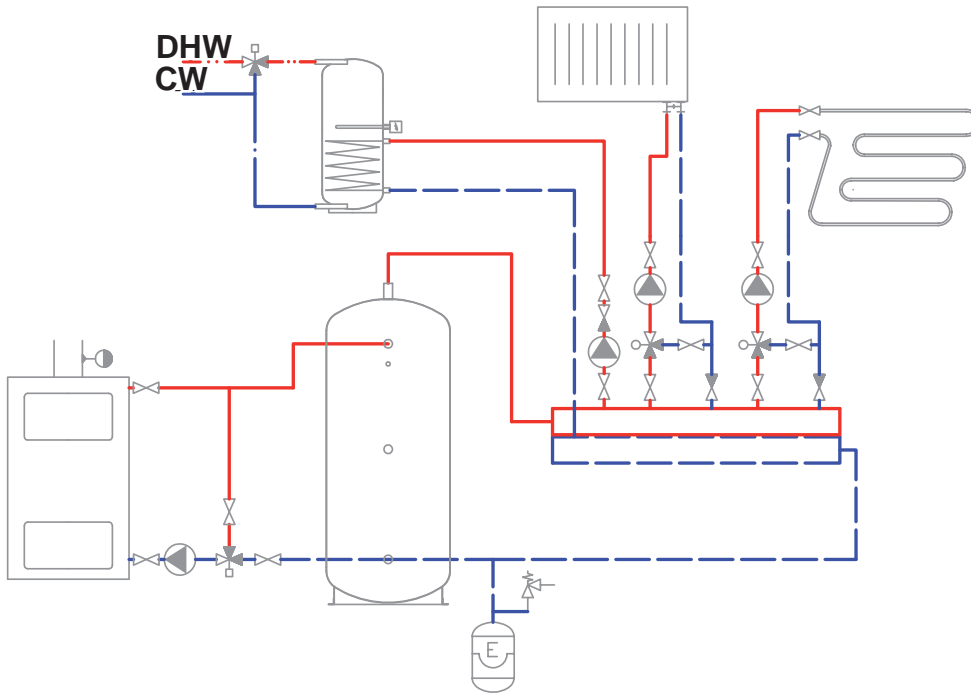
In the accumulation tank, heating water is heated up from several heat sources like various types of hot-water boilers, renewable energy sources (heat pumps, solar collectors), or electric heating elements.

The accumulation tank shall be connected to a heat source through G 6/4" threaded fittings. Should the tank be connected to a solar system, this must be done via a heat exchanger because solar systems are not filled with heating water. Individual connection points are assigned according to the circuits to be connected. There is a wide choice of combinations, just some examples are described in the following chapter.

5 - Typical installation examples

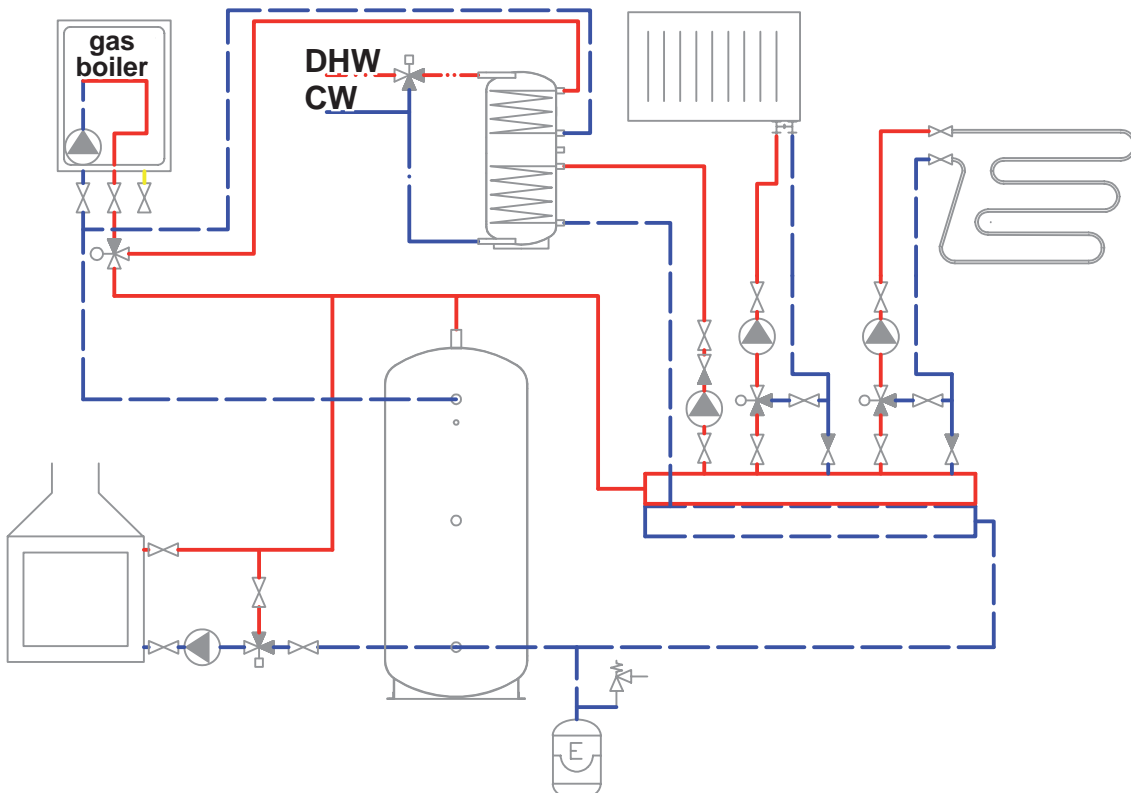
Example I.

Solid fuel boiler



Example II.

Gas fired boiler and hydronic fireplace..



6 - Installation and Commissioning

Installation shall meet valid rules and may be done by qualified staff only.

Defects caused by improper installation, use or handling are not covered by warranty.

After the tank is installed and connected to an existing heating system, it is recommended to clean the entire heating system using a suitable cleaning agent, e.g. MR-501/R.

Anti-corrosion protective liquid should be also used, e.g. MR-501/F.

6.1 - Connection to heat sources

Place the tank on the floor, as close to your heat source as possible. Mount the insulation, cf. Installing Insulation on the Tank. Connect the heating circuits to inlets and outlets respecting the thermal stratification in the tank. Install a drain valve at the lowest point of the tank. Install an air vent valve at the highest point of the system. Insulate all the connecting piping.

6.2 - Connection to a solar system

The tank can is not primarily intended for use with a solar system but if needed, this can be done via a heat exchanger between the solar system and the tank. In such a case, insulate well all the piping between the tank and the solar system.

6.3 - El. heating element installation

The tank may be fitted with electric heating elements up to 12kW output. They can be power-supplied either directly (elements with built-in thermostat) or via a controller for the entire heating system.

All electric heating elements shall be protected by a safety thermostat!

Electric heating elements shall be installed by an authorized person only.

6.4 - Commissioning

This tank is not designed for DHW heating!

Fill the heating circuits with the appropriate fluids and air-bleed the entire system. Check all connections for leaks and verify the system pressure. Set the heating controller in compliance with the documentation and manufacturer's recommendations. Check regularly proper function of all control and adjustment elements.

In order to minimize corrosion, special additives for heating systems should be used. The quality of heating water depends on the quality of filling water at commissioning, on the top-up water and on the frequency of topping up. This has a strong influence on the lifetime of heating systems. Poor quality of heating water may cause problems like corrosion or incrustation, esp. on heat transfer surfaces.

7 - Installing Insulation on the Tank

Instructions

Product description

Thermal insulation of soft polyurethane foam with a zippered surface layer.

Warning

Insulation installation shall be done in two or three persons, depending on its size. The zippered, PVC coated flexible-foam insulation **must not be installed at temperatures below 20 °C**. If this cannot be avoided, the insulation shall be pre-warmed in another room to at least 20 °C. It is impossible to install insulation of lower temperature, there is a risk of damage, esp. to the zipper.

Do not use any tools for installation.

Keep away from open fire.

How to install PVC coated flexible foam insulation

1. Fix the tank following installation instructions.
2. Wrap the insulation around the tank carefully. Check that the insulation adheres to its body perfectly. This can be reached by rubbing and patting the insulation by hand from its center evenly in both directions until the insulation adheres to the tank's surface completely and no bubbles are left.
3. Use the holes for sleeves as a rest during the insulation installation.
4. At least one person presses the insulation to the tank, pulling both ends together. The other person closes the zipper, see pics.
5. Put on the upper insulation and cover.
6. Push on the covering plastic rosettes depending on the size of sleeves, or put on the flange plug(s) with insulation.
7. Finish the tank installation in compliance with the respective instructions and valid standards and rules.

Warranty on insulation

The insulation is covered by a 24-month warranty. This period starts the next day after the insulation is sold.

□ Warranty shall become null and void if:

- the procedure described in the Installation Manual was not respected,
- the product was used for other purposes than intended.

□ Warranty does not cover:

- usual wear and tear,
- damage caused by fire, water, electricity or a natural disaster,
- defects caused by failure to use the product in compliance with its intended purpose, by improper use and insufficient maintenance,
- defects caused by mechanical damage to the product,
- defects caused by tampering or incompetent repair.



Pictures showing how to mount PVC coated flexible foam insulation on a storage tank.

8 - Maintenance

If the tank is fitted with a heating element, disconnect it from the mains first. Clean the exterior of the tank with a soft cloth and a mild detergent. Never use abrasive cleaners or solvents. Check all connections for leaks.

9 - Disposal

Packing shall be disposed of in compliance with the valid rules. When the product reaches the end of its life, it shall not be disposed of as household waste. It shall be dropped off at a Local Waste Recycling Center. Insulation shall be recycled as plastic and the steel vessel as scrap iron.

10 - Warranty

This product is covered by warranty according to the conditions described in this Manual and according to the Warranty Certificate. A Warranty Certificate is an integral part of the supply.



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