Regulus

www.regulus.eu

PS K+

Installation and Operation Manual

THERMAL STORES
PS 400 K+, PS 500 K+, PS 600 K+, PS 700 K+, PS 900 K+, PS 1100 K+

EN

PS K+

CONTENTS

1 Description 2
1.1 Models 2
1.2 Tank Protection 2
1.3 Thermal Insulation 2
1.4 Connection points on the tank 2
1.5 Packaging..... 2
2 General Information 2
3 Dimensions and Other Technical Data 3
4 Operation..... 4
5 Typical Layout Examples with Thermal Store 4
6 Installation and Commissioning 6
6.1 Connection to heat sources 6
6.2 Connection to a solar thermal system 6
6.3 El. heating element installation 6
6.4 Commissioning 6
7 Installing Insulation on the Tank 6
8 Maintenance..... 8
9 Disposal 8
10 Warranty 8

1 - Description

PS K+ Thermal Stores of reduced height are intended for storing and subsequent distribution of thermal energy from solid-fuel fired boilers, heat pumps, solar collectors, electric boilers etc. These tanks do not enable installation of tube heat exchangers, only direct installation of an electric heating element. 230V or 3x230V/400V heating elements (2-12 kW output) can be installed directly into the 6/4” connections. Tanks are fitted with nine connections for heat sources and a heating system, four connections for installing sensor sheaths and one connection for a safety valve. A 100mm thick insulation for these tanks can be purchased as a separate item.

1.1 - Models

Six models of 403, 477, 560, 737, 861 and 1085 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

Thermal insulation is available as a separate item. For easier handling, the insulation shall not be fitted on the tank untilit reaches its definite place of installation. The insulation is made of fleece, 100 mm thick, with a hard polystyrene surface. It is closed by a quick lock.

1.4 - Connection points on the tank

8× side connections in a circular section of 90°, G 6/4“ F thread
1× top connection, G 6/4“ F thread“
4× side connections for sensor sheaths, G 1/2“ F thread
1× connection for installation of a 3bar safety valve, G 1/2“ F thread

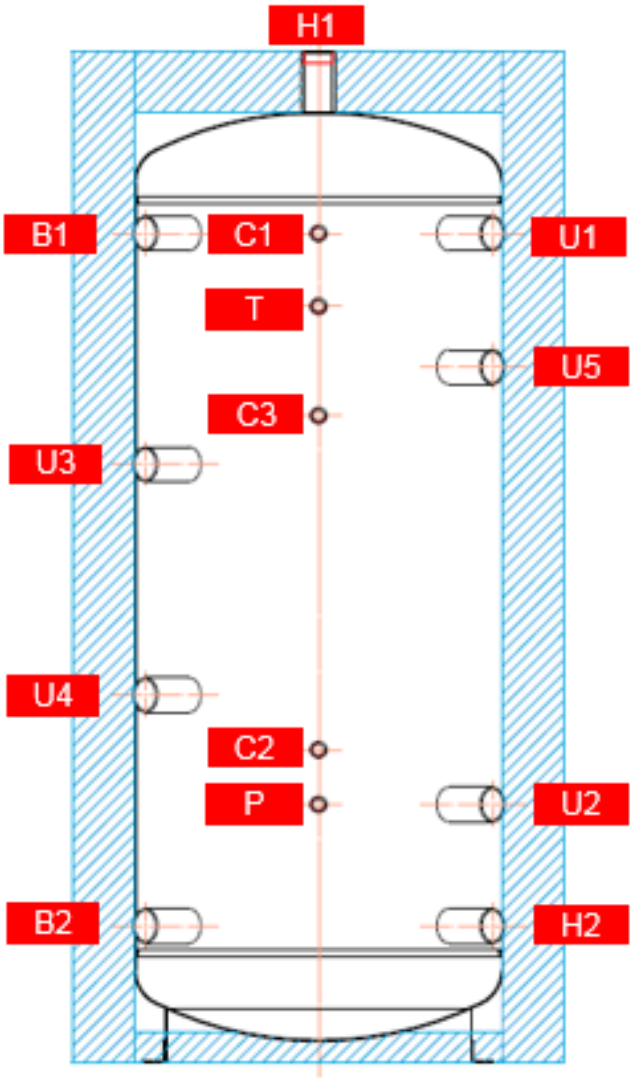
1.5 - Packaging

Thermal stores are delivered standing, each screwed to its separate pallet, packed in bubble wrap.

2 - General Information

This 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 thermal energy of heating water and distribute it subsequently. It must 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 must not be used as a hot water storage tank!

3 - Dimensions and Other Technical Data



		PS 400 K+	PS 500 K+	PS 600 K+	PS 700 K+	PS 900 K+	PS 1100 K+
pos.	connections	height [mm]					
Heat sources							
B1	G6/4" F	1365	1375	1385	1395	1415	1435
B2	G6/4" F	225	235	245	255	275	300
Heating system							
H1	G6/4" F	1665	1685	1705	1725	1765	1815
H2	G6/4" F	225	235	255	255	275	300
Control and safety							
C1	G1/2" F	1365	1375	1385	1395	1415	1435
C2	G1/2" F	515	570	535	545	565	585
C3	G1/2" F	1065	1075	1085	1095	1115	1135
T	G1/2" F	1245	1255	1265	1275	1295	1315
P	G1/2" F	425	425	425	425	425	445
Control and safety							
U1	G6/4" F	1365	1375	1385	1395	1415	1435
U2	G6/4" F	425	425	435	445	465	490
U3	G6/4" F	985	995	1005	1015	1035	1055
U4	G6/4" F	605	615	625	635	655	675
U5	G6/4" F	1145	1155	1520	1175	1195	1220

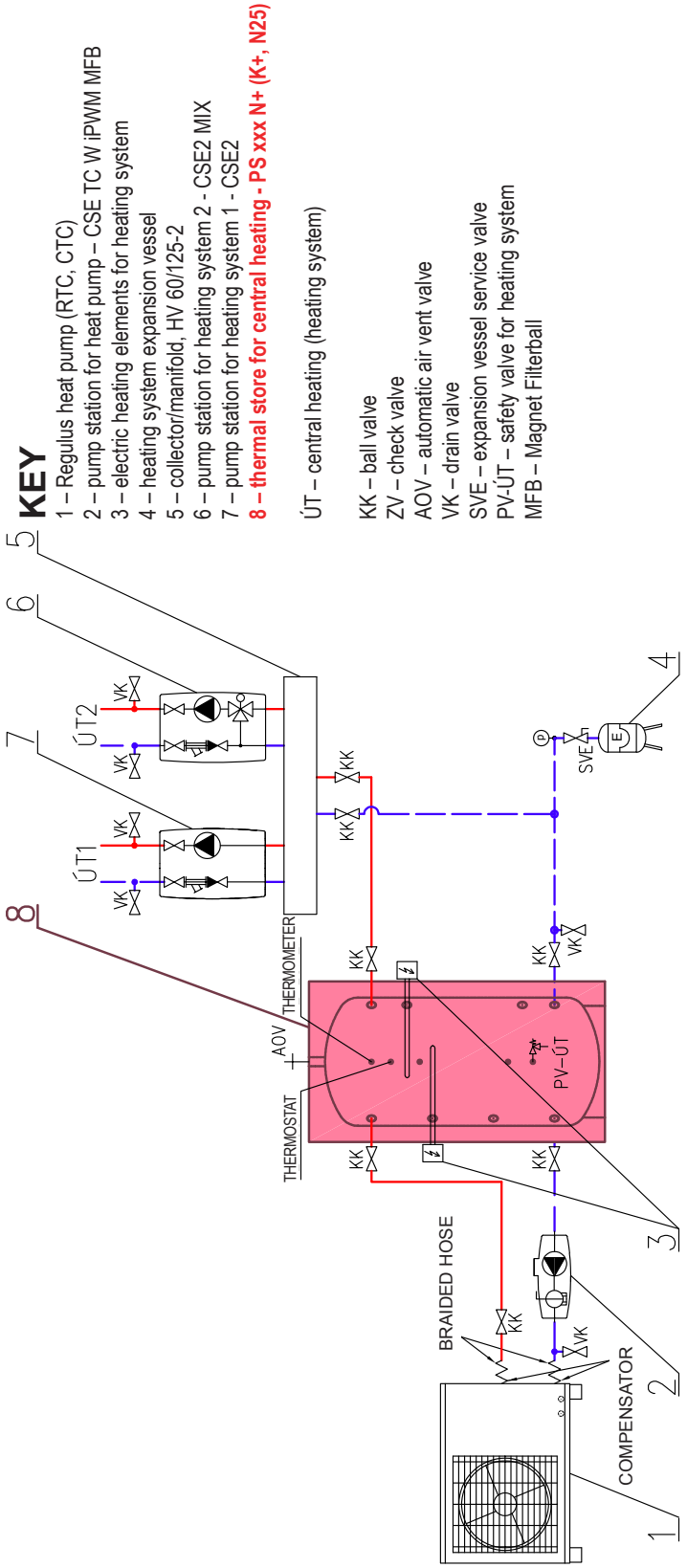
Thermal store		PS 400 K+	PS 500 K+	PS 600 K+	PS 700 K+	PS 900 K+	PS 1100 K+
Code	Tank	15285	15288	15291	15294	15297	16119
	Insulation (accessory)	19338	19307	19314	19300	19326	19323
Application		Storage and subsequent distribution of thermal energy from solid-fuel boilers, heat pumps or other heat sources.					
Energy efficiency data (as per EC Regulation No. 813/2013)		with insulation					
Energy efficiency class		C	C	x	x	x	x
Standing loss		85 W	93 W	102 W	116 W	125 W	144 W
Storage volume		403 l	477 l	560 l	737 l	861 l	1085 l
Technical data							
Total tank volume		403 l	477 l	560 l	737 l	861 l	1085 l
Max. working temperature in tank		95 °C	95 °C	95 °C	95 °C	95 °C	95 °C
Max. working pressure in tank		4 bar	4 bar	4 bar	4 bar	4 bar	3 bar
Heating elements max. length/output		680 mm / 9 kW	700 mm / 9 kW	755 mm / 9 kW	815 mm / 12 kW	815 mm / 12 kW	955 mm / 12 kW
Materials							
Tank material		S235JR					
Dimensions, tipping height, weight							
Tank diameter		600 mm	650 mm	700 mm	790 mm	850 mm	950 mm
Tank diameter with insulation		800 mm	850 mm	900 mm	990 mm	1050 mm	1150 mm
Tank overall height		1665 mm	1685 mm	1705 mm	1725 mm	1765 mm	1815 mm
Tipping height without insulation		1700 mm	1720 mm	1750 mm	1780 mm	1820 mm	1850 mm
Weight		65 kg	68 kg	76 kg	93 kg	114 kg	123 kg
Accessories							
El. heating element		ETT-A, C, D2, M, R, U, F2, P, S					

4 - Operation

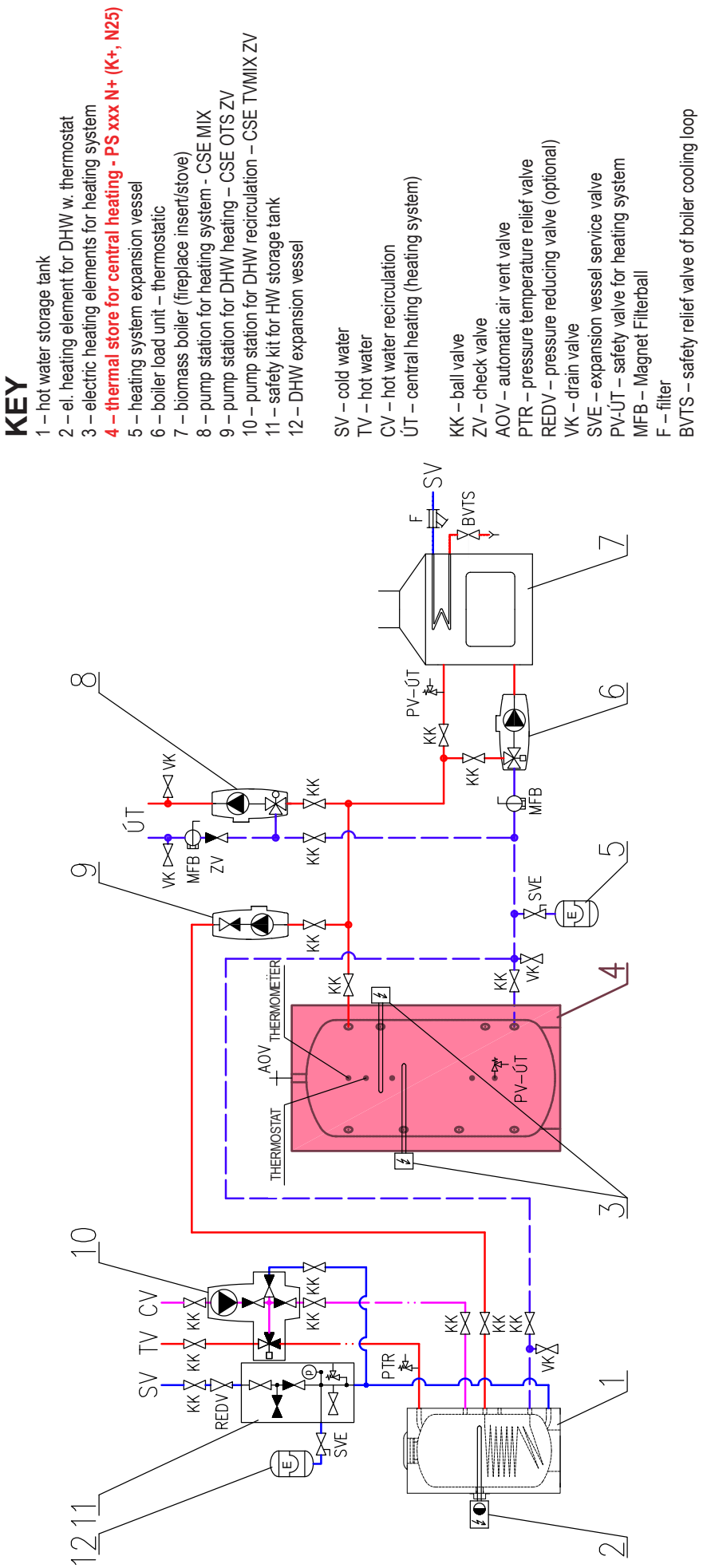
In a thermal store, heating water can be heated up by various types of hot-water boilers, renewable energy sources (heat pumps, solar collectors), or possibly also by electric heating elements.
The thermal store is connected to the energy source using a G 6/4“ connection fitting. Should the tank be connected to a solar thermal system, a heat exchanger shall be used for the connection because heating water is not used as the heat transfer fluid in a solar thermal system. The individual tank outlets are fitted according to the circuits to be connected.

5 - Typical Layout Examples with Thermal Store

Example I.
Heat pump and electric heating element.



Example II.
Biomass boiler (fireplace insert/stove) and electric heating element.



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 heatingsystem using a suitable cleaning agent, e.g. BP 400 PLUS.
Anti-corrosion protective liquid should be also used, e.g. BP 100 PLUS.

6.1 - Connection to heat sources

Place the tank on the floor, as close to your heat source as possible. Fit the insulation, cf. Installing Insulation on the Tank. Connect the heating system according to the recommended connection layout - see Chap. 5.Install a drain valve at the lowest point of the system. Install an air vent valve at the highest point of the system. If an electric heating element is installed in the tank, install a safety valve. There must not be any shut-off valve between the tank and the safety valve. Insulate all the connecting piping.

6.2 - Connection to a solar thermal system

This thermal store is primarily not designed to be connected to a solar thermal system. However, when needed, such a connection can be done by means of a heat exchanger between the solar thermal system and the thermal store. In such an event, all the connecting piping between the tank and this heat exchanger shall be thoroughly insulated.

6.3 - El. heating element installation

These thermal stores can be equipped with electric heating elements of output up to 12 kW depending on the volume of the thermal store - see the table of max. output of heating elements in hot water tanks and thermal stores. They can be connected either directly (elements with integrated thermostat) or via the controller of the entire heating system.
All electric heating elements shall be protected by a safety thermostat.
The electric heating element shall be wired by a professionally qualified person only.

6.4 - Commissioning

Ground the tank before commissioning.
This tank is not designed for DHW heating.
The tank shall be filled up together with the heating system, respecting valid standards and rules. 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 quality 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.
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.

7 - Installing Insulation on the Tank

Product description

Fleece insulation with a hard polystyrene surface, closed by a quick lock.

Warning

Insulation installation shall be done in two or three persons, depending on its size. The PU leather surface coated fleece 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.
Do not use any tools for installation.
Keep away from open fire.

Installing insulation

1. Put the bottom insulation under the tank and place 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 centre evenly in both directions until the insulation adheres to the tank's surface completely and no bubbles are left.
3. Use the holes for connections 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 quick lock from the side.
5. Put on the upper insulation and cover.
6. Push on the covering plastic rosettes depending on the size of connections, 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 another 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.

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 tank connections for leaks.

9 - Disposal

Packaging 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 Centre. 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..

©2025 We reserve the right to errors, changes and improvements without prior notice.

v1.5-09/2025

REGULUS spol. s r.o.
E-mail: sales@regulus.eu
Web: www.regulus.eu