

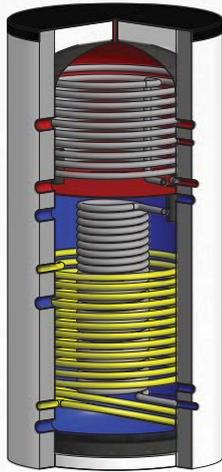
HSK and DUO Thermal Stores



Thermal Stores
with DHW heating
and separating metal sheet



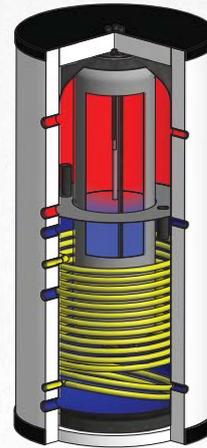
HSK THERMAL STORES



Regulus HSK Thermal Stores with a separating metal sheet and stainless-steel heat exchangers are designed to store heat from solar thermal and photovoltaic systems, heat pumps, hydronic fireplace inserts and other heat sources.

The integrated stainless-steel heat exchanger ensures comfortable hot water supply, preventing the formation of Legionella bacteria. Hot water is heated by all the connected sources efficiently. The inner division into two sections not only brings higher efficiency of alternative sources but also ensures sufficient supply of hot water even when the lower section of the thermal store is exhausted by space heating.

DUO THERMAL STORES



Regulus DUO Thermal Stores are fitted with an immersed DHW tank. They are designed to store heat from solar thermal systems, heat pumps, hydronic fireplace inserts and other heat sources. The immersed DHW tank is used by all the connected sources efficiently.

The inner division into two sections brings higher efficiency of alternative sources, more hot water prepared, and its longer storage even when the thermal store is exhausted for heating.

■ SUFFICIENT HOT WATER SUPPLY

Data sheets for separate tanks contain tables with the volume of hot water supplied under different conditions. As an illustration, one example for HSK 390 P and DUO 390/130 P thermal store:

Volume of hot water supplied (heated from 10°C to 40°C)

| Heated volume | entire tank | | | entire tank | | | entire tank | | | tank top section | | |
|-------------------|-------------|-----|-----|-------------|-----|-----|-------------|-----|-----|------------------|-----|-----|
| Tank temperature | 60 °C | | | 60 °C | | | 80 °C | | | 60 °C | | |
| Backup heating | 10 kW | | | none | | | none | | | 10 kW | | |
| Flow rate [l/min] | 8 | 12 | 20 | 8 | 12 | 20 | 8 | 12 | 20 | 8 | 12 | 20 |
| HSK 390 P [l] | 534 | 359 | 268 | 321 | 290 | 266 | 567 | 528 | 516 | 253 | 235 | 208 |
| DUO 390/130 P [l] | 325 | 219 | 175 | 267 | 230 | 195 | 543 | 511 | 392 | 152 | 132 | 124 |

INSULATION

We supply high quality insulation sets, incl. bottom insulation. This way the energy efficiency class C is reached.

ADVANTAGES OF THERMAL STORES WITH SEPARATING METAL SHEET

Energy savings due to a higher efficiency of a heat pump as well as of a solar thermal system during heating the bottom section.

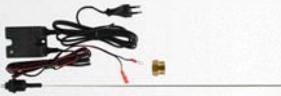
Hot water supply remains available even when the bottom section for heating is exhausted.

Possibility to launch additional energy sources separately for heating and separately for hot water, after a solid fuel boiler is extinguished and heat from the thermal store exhausted.

ACCESSORY

Electronic anode rod for DUO

DUO Thermal Stores come fitted with a magnesium anode rod as standard. However, it can be replaced by an electronic anode rod that does not require regular replacements. If an expansion vessel for DHW is installed, too, you will be granted an extended warranty.



| Item | Length | Thread size | Code |
|-----------------------|--------|-------------|--------|
| El. anode rod for DUO | 750 mm | 3/4" | 13 793 |

When an electronic anode rod is installed, the warranty period for DUO is extended to 5 years.

Pump station

The tank is fitted with 2 pins designed to support a solar pump station. When hung directly on a tank, the pump station offers easier installation and needs shorter connection piping.

Kits with plate heat exchanger for DUO

As accessories to DUO Thermal Stores we also offer a kit with a plate heat exchanger and a pump, or a kit with a plate heat exchanger, a pump and zone valves. These kits permit to connect a solar thermal system to tanks with no tube heat exchanger, or to connect a large solar thermal system. The kit with zone valves enables diverting the heat source to upper or lower section of the tank.

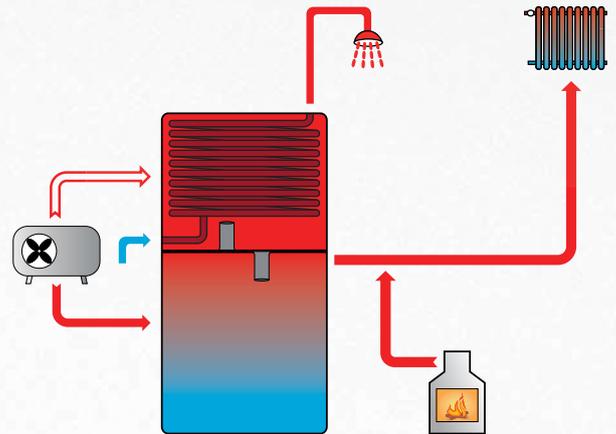


■ HSK P

Thermal Store with a stainless-steel DHW heat exchanger and separating metal sheet

- For heat pumps and biomass boilers

This thermal store is mostly installed in systems where the main heat source for both space and DHW heating is a boiler, hydronic fireplace insert or a heat pump. Heat sources can be combined as an advantage. Besides that, electric heating elements can also be installed for both DHW and space heating.

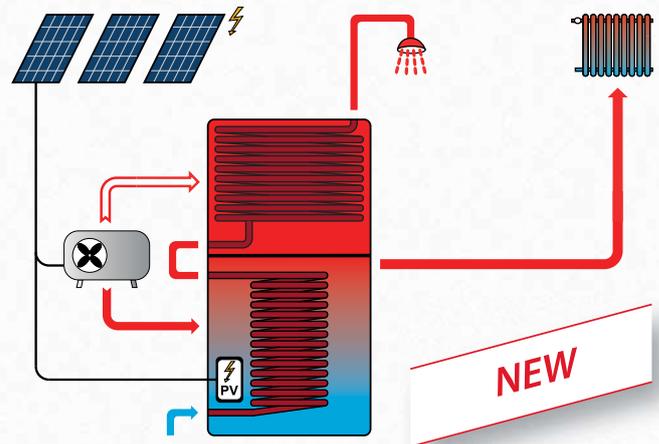


■ HSK PV

Thermal Store with 2 stainless-steel DHW heat exchangers and separating metal sheet

- For PV panels and heat pumps

This thermal store is mostly installed in systems where the main source for both space and DHW heating is a heat pump combined with PV panels. Two stainless steel heat exchangers for DHW are located inside the tank. In the upper tank section sufficient temperature is kept for immediate DHW heating through the upper heat exchanger that is intended also for DHW recirculation heating. The entire tank volume can be utilized to gather more heat from PV excess energy. Hot water is heated in two steps, the lower heat exchanger serving to pre-heat it. Other heat sources can be connected to the tank as well, combined as an advantage. Besides a specially located PV powered heating element, also other electric heating elements can be installed for space or DHW heating.

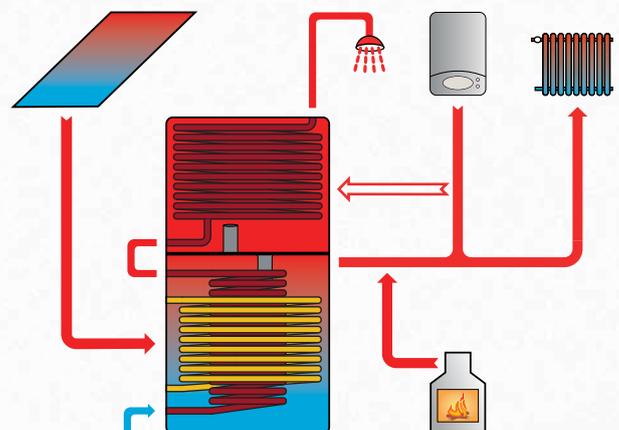


■ HSK PR

Thermal Store with a solar heat exchanger, 2 stainless steel DHW heat exchangers* and a separating metal sheet

- For solar thermal heat and any other source

The tank is used in systems with a solar thermal system for both DHW and support space heating, and with any other heat source. In its lower section, a solar heat exchanger and a stainless steel one for water pre-heating are located. Thanks to this, the solar thermal system works with higher efficiency under lower temperatures. In the upper tank section sufficient temperature is kept for immediate DHW heating through the upper heat exchanger that is intended also for DHW recirculation heating. The main heat source can be a heat pump, hydronic fireplace insert, gas-fired or another boiler. Heat sources can be combined as an advantage. Besides that, also electric heating elements can be installed for DHW or space heating.



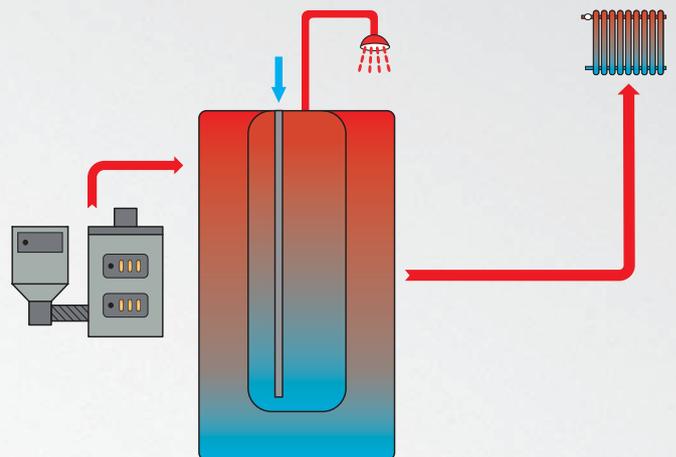
*HSK 390 PR is fitted with only one stainless steel DHW heat exchanger.

DUO

DUO Thermal Store with immersed DHW tank, no separating metal sheet

This thermal store is intended for use with an automatic coal or pellet boiler as the main heat source for space and DHW heating. The system can be upgraded with electric heating elements for space backup heating or background heating during winter holidays or background heating in summer cottages.

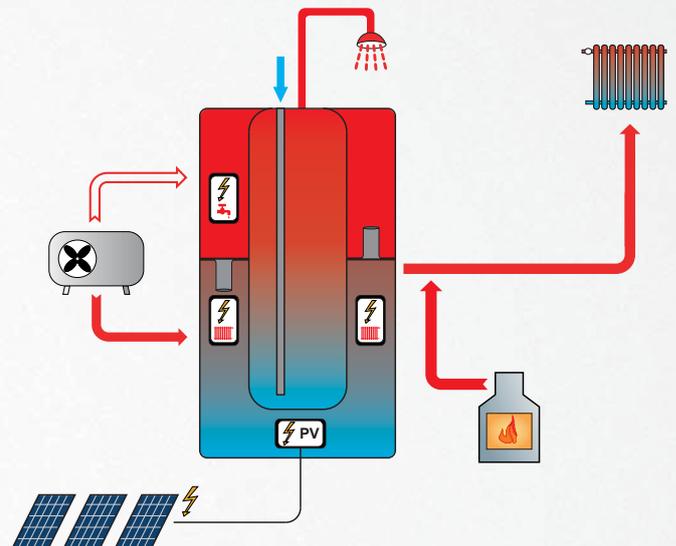
Another heating element can be also installed for DHW heating in the summer when boiler operation just for hot water heating alone would be uneconomic.



DUO P

DUO Thermal Store with immersed DHW tank and separating metal sheet

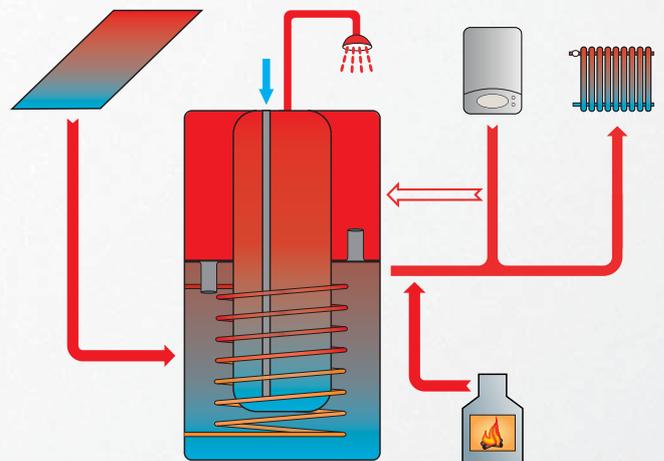
This thermal store is mostly installed in systems with a heat pump as the main heat source for both space and DHW heating, with a hydronic fireplace insert, with electric heating elements for space heating, background heating or out-of-season DHW heating. The existing electric boiler, gas-fired boiler or any other boiler can be connected to the tank, or any other combination of the sources mentioned. The tank permits installation of a heating element that uses electricity surplus from PV panels in the entire volume of the tank.



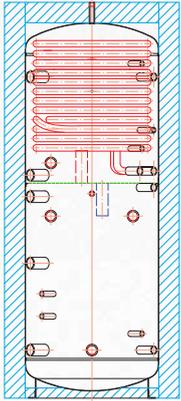
DUO PR

Thermal Store with immersed DHW tank, separating metal sheet and solar heat exchanger

This thermal store is equipped with a solar heat exchanger that permits utilizing the solar thermal system for both DHW and space heating. A heat pump, hydronic fireplace insert, gas-fired or any other boiler can be used as the main heat source, including any combination of the sources mentioned. Besides that, also electric heating elements can be installed for space heating, background heating or out-of-season DHW heating.



■ HSK P Thermal Store with stainless-steel DHW heat exchanger and separating metal sheet



| Model | Height [mm] | Diam. [mm] | Tank volume [l] | Volume of supplied hot water [l]** | Code | Insulation code |
|------------|-------------|------------|-----------------|------------------------------------|--------|-----------------|
| HSK 390 P* | 1905 | 550 | 398 | 321 | 13 517 | 16 318 |
| HSK 600 P | 1935 | 650 | 560 | 468 | 14 175 | 16 320 |
| HSK 750 P | 1975 | 750 | 760 | 548 | 14 178 | 16 323 |
| HSK 1000 P | 2080 | 800 | 925 | 592 | 14 555 | 16 310 |
| HSK 1700 P | 2075 | 1100 | 1687 | 1072 | 14 558 | 16 314 |

Thermal Store:

8* G 1" or G 6/4" F side tapplings
 3 G 6/4" F side tapplings
 5 G 1/2" F side tapplings
 1 G 1/2" F top tapping
 2 M6 pins

- to connect heating system and heat sources
 - to insert el. heating element
 - to insert sheaths for temperature sensors
 - for air vent valve
 - to mount pump station

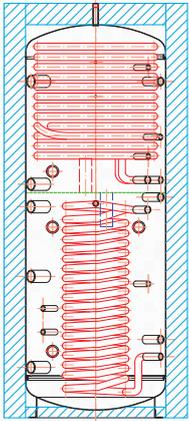
DHW heating:

2 G 1" M side tapplings
 1 G 6/4" F side tapping
 2 G 1/2" F side tapplings

- in, out
 - to insert el. heating element
 - to insert sheaths for temperature sensors

* HSK 390 P is fitted with 7 G 1" F side tapplings to connect a heating system and heat sources

■ HSK PV Thermal Store with 2 stainless steel DHW heat exchangers and separating metal sheet



| Model | Height [mm] | Diam. [mm] | Tank volume [l] | Volume of supplied hot water [l]** | Code | Insulation code |
|-------------|-------------|------------|-----------------|------------------------------------|--------|-----------------|
| HSK 600 PV | 1935 | 650 | 557 | 669 | 16 158 | 16 160 |
| HSK 750 PV | 1975 | 750 | 757 | 784 | 16 177 | 16 179 |
| HSK 1000 PV | 2080 | 800 | 922 | 846 | 16 180 | 16 312 |
| HSK 1700 PV | 2075 | 1100 | 1684 | 1533 | 16 183 | 16 185 |

Thermal Store:

8 G 1" F or G 6/4" F side tapplings
 3 G 6/4" F side tapplings
 5 G 1/2" F side tapplings
 1 G 1/2" F top tapping
 2 M6 pins

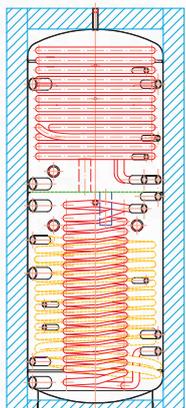
- to connect heating system and heat sources
 - to insert el. heating element
 - to insert sheaths for temperature sensors
 - for air vent valve
 - to mount pump station

DHW heating:

4 G 1" M side tapplings
 1 G 6/4" F side tapping
 2 G 1/2" F side tapplings

- in, out
 - to insert el. heating element
 - to insert sheaths for temperature sensors

■ HSK PR Thermal Store with 2 stainless steel DHW heat exchangers*, separating metal sheet and solar heat exchanger



| Model | Height [mm] | Diam. [mm] | Tank volume [l] | Volume of supplied hot water [l]** | Solar heat exchanger surface area [m ²] | Code | Insulation code |
|-------------|-------------|------------|-----------------|------------------------------------|---|--------|-----------------|
| HSK 390 PR* | 1905 | 550 | 394 | 321 | 1.5 m ² | 14 172 | 16 319 |
| HSK 600 PR | 1935 | 650 | 553 | 669 | 2.4 m ² | 14 187 | 16 321 |
| HSK 750 PR | 1975 | 750 | 753 | 784 | 2.5 m ² | 14 190 | 16 324 |
| HSK 1000 PR | 2080 | 800 | 916 | 846 | 3.2 m ² | 14 012 | 16 311 |
| HSK 1700 PR | 2075 | 1100 | 1676 | 1533 | 4 m ² | 14 013 | 16 315 |

Thermal Store:

8* G 1" or G 6/4" F side tapplings
 2 G 1" F side tapplings
 2 G 6/4" F side tapplings
 5 G 1/2" F side tapplings
 1 G 1/2" F top tapping
 2 M6 pins

- to connect heating system and heat sources
 - to connect solar thermal system
 - to insert el. heating element
 - to insert sheaths for temperature sensors
 - for air vent valve
 - to mount pump station

DHW heating:

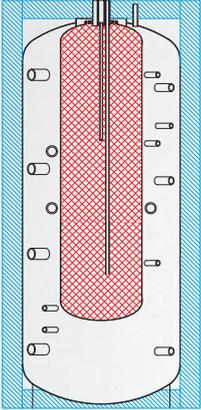
4* G 1" M side tapplings
 1 G 6/4" F side tapping
 2 G 1/2" F side tapplings

- in, out
 - to insert el. heating element
 - to insert sheaths for temperature sensors

* HSK 390 PR is fitted with only 1 stainless steel heat exchanger for DHW, only 7 G 1" F side tapplings to connect a heating system and heat sources, and only 2 G 1" tapplings for DHW heating.

** for tank heated to 60°C with 40°C outlet temperature at flowrate of 8 l/min., no aux. heat.

DUO Thermal Store with immersed DHW tank



| Model | Height [mm] | Diam.* [mm] | Tank volume [l] | Volume of supplied hot water [l]** | Code | Insulation code |
|--------------|-------------|-------------|-----------------|------------------------------------|--------|-----------------|
| DUO 390/130 | 1910 | 550 | 123 | 267 | 14 198 | 16 294 |
| DUO 600/200 | 1935 | 650 | 190 | 440 | 14 201 | 16 300 |
| DUO 750/200 | 1980 | 750 | 190 | 447 | 14 204 | 16 303 |
| DUO 1000/200 | 2080 | 800 | 190 | 518 | 14 210 | 16 255 |
| DUO 1700/200 | 2080 | 1100 | 190 | 762 | 14 213 | 16 291 |

Thermal Store:

- 7 G 1" or G 6/4" F side tapplings
- 3 G 6/4" F side tapplings
- 7 G 1/2" F side tapplings
- 1 G 1/2" F top tapping

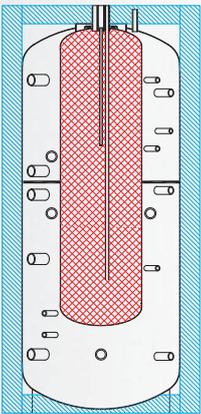
- to connect heating system and heat sources
- to insert el. heating element
- to insert sheaths for temperature sensors
- for air vent valve

Immersed DHW tank:

- 3 G 3/4" M top tapplings
- 1 G 1/2" F top tapping
- 1 magnesium anode rod (G 3/4")

- in, out, recirculation
- to insert a sheath for temperature sensor

DUO P Thermal Store with immersed DHW tank and separating metal sheet



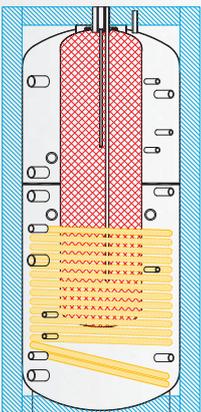
| Model | Height [mm] | Diam.* [mm] | Tank volume [l] | Volume of supplied hot water [l]** | Code | Insulation code |
|----------------|-------------|-------------|-----------------|------------------------------------|--------|-----------------|
| DUO 390/130 P | 1910 | 550 | 123 | 267 | 14 071 | 16 295 |
| DUO 600/200 P | 1935 | 650 | 190 | 440 | 14 272 | 16 301 |
| DUO 750/200 P | 1980 | 750 | 190 | 447 | 14 274 | 16 304 |
| DUO 1000/200 P | 2080 | 800 | 190 | 518 | 14 266 | 16 256 |
| DUO 1700/200 P | 2080 | 1100 | 190 | 762 | 14 268 | 16 292 |

Extra features of DUO P against DUO tanks:

- 1 G 1" or G 6/4" F side tapping
- 1 G 6/4" F side tapping

- to connect heating system and heat sources
- to insert el. heating element

DUO P Thermal Store with immersed DHW tank, separating metal sheet and solar heat exchanger



| Model | Height [mm] | Diam.* [mm] | Tank volume [l] | Volume of supplied hot water [l]** | Heat exchanger surface area [sqm] | Code | Insulation code |
|-----------------|-------------|-------------|-----------------|------------------------------------|-----------------------------------|--------|-----------------|
| DUO 390/130 PR | 1910 | 550 | 123 | 267 | 1.5 | 14 072 | 16 296 |
| DUO 600/200 PR | 1935 | 650 | 190 | 440 | 2.4 | 14 219 | 16 302 |
| DUO 750/200 PR | 1980 | 750 | 190 | 447 | 2.5 | 14 222 | 16 305 |
| DUO 1000/200 PR | 2080 | 800 | 190 | 518 | 3.2 | 14 125 | 16 258 |
| DUO 1700/200 PR | 2080 | 1100 | 190 | 762 | 4.0 | 14 228 | 16 293 |

Extra features of DUO PR against DUO tanks:

- 1 G 1" or G 6/4" F side tapping
- 2 G 6/4" F side tapplings

- to connect heating system and heat sources
- to connect heating system heat exchanger

* diameter without tapplings and insulation

** for tank heated to 60°C with 40°C outlet temperature at flowrate of 8 l/min., no aux. heat.

