

**HSK 600 PV Combination Thermal Store**

| Main Features |  |
|---------------|--|
|               | <p><b>Application</b></p> <p>This combination Thermal Store utilizes a heat pump with PV panels as a heat source for both space and DHW heating; DHW is being prepared in 2 integrated stainless-steel heat exchangers; a tightly fitting separating metal plate increases the heat pump's seasonal coefficient of performance, a dedicated PV heating element is placed in the lower tank section; more electric heating elements can be installed if needed.</p> |
|               | <p><b>Working fluid</b></p> <p>Water (heat exchanger), water; water-glycol mixture (max. 1:1) or water/glycerine mixture (max. 2:1 (thermal store)).</p>   |
|               | <p><b>Thermal store code</b> 16158</p>   |
|               | <p><b>Insulation code</b> 18839</p>  |

**Energy Efficiency Data (as per EC Regulation No. 812/2013)**

|                                |   |
|--------------------------------|---|
|                                | valid for a thermal store with insulation |
| <b>Energy efficiency class</b> | N/A                                       |
| <b>Static loss</b>             | 99 W                                      |
| <b>Storage volume</b>          | 557 l                                     |

**Technical data**

|   |                    |
|---|--------------------|
| Total thermal store volume                                    | 557 l              |
| Fluid volume in thermal store                                 | 525 l              |
| Fluid volume above separating plate                           | 235 l              |
| Fluid volume below separating plate                           | 290 l              |
| Fluid volume of DHW heat exchanger above the separating plate | 21.0 l             |
| Fluid volume of DHW heat exchanger below the separating plate | 11.0 l             |
| Surface area of DHW heat exchanger above the separating plate | 6.0 m <sup>2</sup> |
| Surface area of DHW heat exchanger below the separating plate | 3.0 m <sup>2</sup> |
| Max. working temperature in thermal store                     | 95 °C              |
| Max. working temperature in DHW heat exchanger                | 95 °C              |
| Max. working pressure in thermal store                        | 4 bar              |
| Max. working pressure in DHW heat exchanger                   | 10 bar             |
| Thermal store diameter  | 650 mm             |
| Thermal store diameter with insulation                        | 850 mm             |
| Thermal store overall height                                  | 1935 mm            |
| Tipping height without insulation                             | 2050 mm            |
| Thermal store perimeter insulation thickness                  | 100 mm             |
| Thermal store bottom insulation thickness                     | 50 mm              |
| Thermal store top insulation thickness                        | 100 mm             |
| Empty weight without insulation                               | 113 kg             |

**Accessories**

|                             |                          |
|-----------------------------|--------------------------|
| Electric heating element    | types ETT-C, P, F2, M, U |
| Heating element max. length | 555 mm                   |

## HSK 600 PV Combination Thermal Store

### Materials

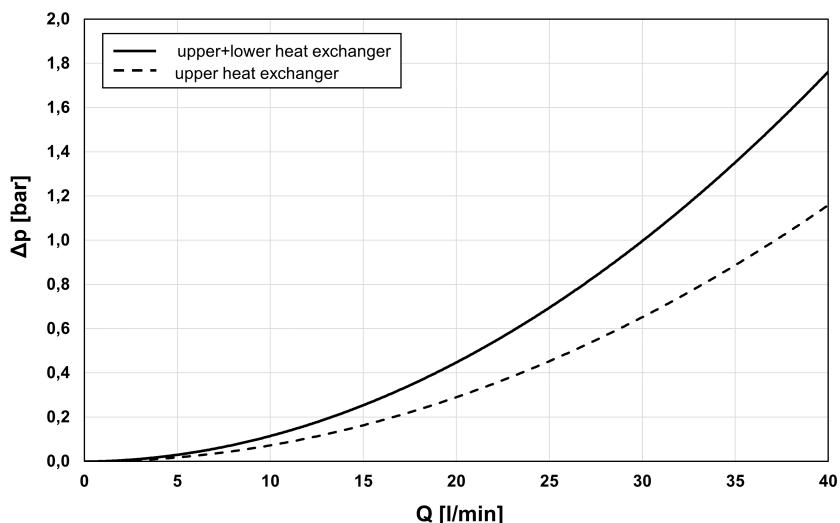
|   |                  |
|---|------------------|
| Thermal store material                  | S235JR           |
| Thermal store perimeter insulation      | fleece           |
| Thermal store outer surface insulation  | hard polystyrene |
| Top and bottom thermal store insulation | fleece           |
| DHW heat exchanger                      | AISI 316 L       |

*Insulation thermal conductivity  $\lambda \leq 0.037 \text{ W/mK}$ , thermal resistance (short/long term) 150/100 °C, fire class E.*

### Volume of supplied DHW (heated from 10 °C to 40 °C)

| Heated volume     | Temperature in thermal store | Backup heater | Flow rate [l/min] | Hot water volume [l] |
|-------------------|------------------------------|---------------|-------------------|----------------------|
| Entire            | 50 °C                        | 10 kW         | 8                 | 315                  |
|                   |                              |               | 12                | 287                  |
|                   |                              |               | 20                | 213                  |
| Entire            | 50 °C                        | none          | 8                 | 283                  |
|                   |                              |               | 12                | 247                  |
|                   |                              |               | 20                | 175                  |
| Above metal sheet | 50 °C                        | 10 kW         | 8                 | 167                  |
|                   |                              |               | 12                | 152                  |
|                   |                              |               | 20                | 105                  |
| Entire            | 60 °C                        | 10 kW         | 8                 | 1094                 |
|                   |                              |               | 12                | 835                  |
|                   |                              |               | 20                | 406                  |
| Entire            | 60 °C                        | none          | 8                 | 669                  |
|                   |                              |               | 12                | 651                  |
|                   |                              |               | 20                | 567                  |
| Above metal sheet | 60 °C                        | 10 kW         | 8                 | 320                  |
|                   |                              |               | 12                | 287                  |
|                   |                              |               | 20                | 257                  |
| Entire            | 80 °C                        | none          | 8                 | 1037                 |
|                   |                              |               | 12                | 1007                 |
|                   |                              |               | 20                | 924                  |

### DHW heat exchanger pressure drop graph



**HSK 600 PV Combination Thermal Store**

| Dimensions                      |                                     |            |             |
|---------------------------------|-------------------------------------|------------|-------------|
|                                 |                                     |            |             |
| CONNECTIONS                     |                                     |            |             |
| pos.                            | description                         | connection | height [mm] |
| <b>Heat sources</b>             |                                     |            |             |
| <b>B1</b>                       | Supply from heat source             | G 6/4" F   | 985         |
| <b>B2</b>                       | Return to heat source               | G 6/4" F   | 235         |
| <b>B3</b>                       | Supply from heat source             | G 6/4" F   | 1570        |
| <b>B4</b>                       | Return to heat source               | G 6/4" F   | 1090        |
| <b>B5</b>                       | Supply from heat source             | G 1" F     | 1570        |
| <b>B6</b>                       | Supply from heat source             | G 6/4" F   | 660         |
| <b>Heating system</b>           |                                     |            |             |
| <b>H1</b>                       | Flow to heating system              | G 1" F     | 1030        |
| <b>H2</b>                       | Return from heating system          | G 1" F     | 365         |
| <b>Electric heating element</b> |                                     |            |             |
| <b>E1</b>                       | El. heating element (DHW)           | G 6/4" F   | 1150        |
| <b>E2</b>                       | El. heating element (space heating) | G 6/4" F   | 890         |
| <b>E3</b>                       | El. heating element (space heating) | G 6/4" F   | 890         |
| <b>E4</b>                       | El. heating element (for PV system) | G 6/4" F   | 310         |
| <b>DHW heating</b>              |                                     |            |             |
| <b>W1</b>                       | Cold water                          | G 1" M     | 285         |
| <b>W2</b>                       | Domestic hot water                  | G 1" M     | 1110        |
| <b>W3</b>                       | Recirculation                       | G 1" M     | 1110        |
| <b>W4</b>                       | Domestic hot water                  | G 1" M     | 970         |
| <b>Control and safety</b>       |                                     |            |             |
| <b>C1</b>                       | Temperature sensor                  | G 1/2" F   | 1000        |
| <b>C2</b>                       | Temperature sensor                  | G 1/2" F   | 625         |
| <b>C3</b>                       | Temperature sensor                  | G 1/2" F   | 1310        |
| <b>C4</b>                       | Temperature sensor                  | G 1/2" F   | 1220        |
| <b>T</b>                        | Thermometer                         | G 1/2" F   | 1635        |
| <b>M</b>                        | Pressure gauge                      | G 1/2" F   | 510         |
| <b>P</b>                        | Safety valve                        | G 1/2" F   | 400         |
| <b>Air discharge</b>            |                                     |            |             |
| <b>O</b>                        | Air vent valve                      | G 1/2" F   | 1935        |