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## PRODUCT INFORMATION

### Heat Pump Storage Tank WP 500



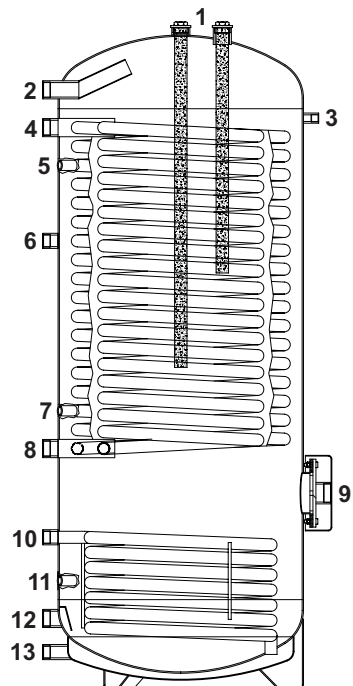
### Technical description

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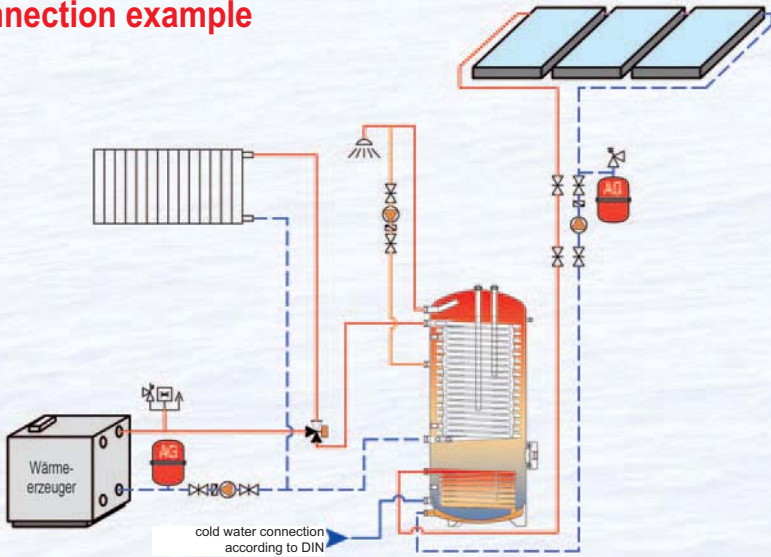
### Advantages of the heat pump storage tank WP 500

- ▶ large surface plain tube heat exchanger
- ▶ additional plain tube heat exchanger for solar systems
- ▶ double bottom for best heat transmission capacity
- ▶ perfectly suitable for boiler systems; the condensing boiler is going to attain the best capacity factor even for domestic hot water preparation due to the vast upper exchanger surface
- ▶ the WP 500 is a high capacity preparator of domestic hot water due to the upper heat exchanger; it even meets the demands of multi-family houses
- ▶ robust design due to high-quality steel (absolutely compression-proof)
- ▶ internal corrosion prevention with double layer enameling (Made in Germany).
- ▶ solid foam PU insulation, non-removable, silver PVC jacket
- ▶ additional cleaning flange, connection of an electric heating element possible.
- ▶ ideal dimensions, fits through all 80cm doors



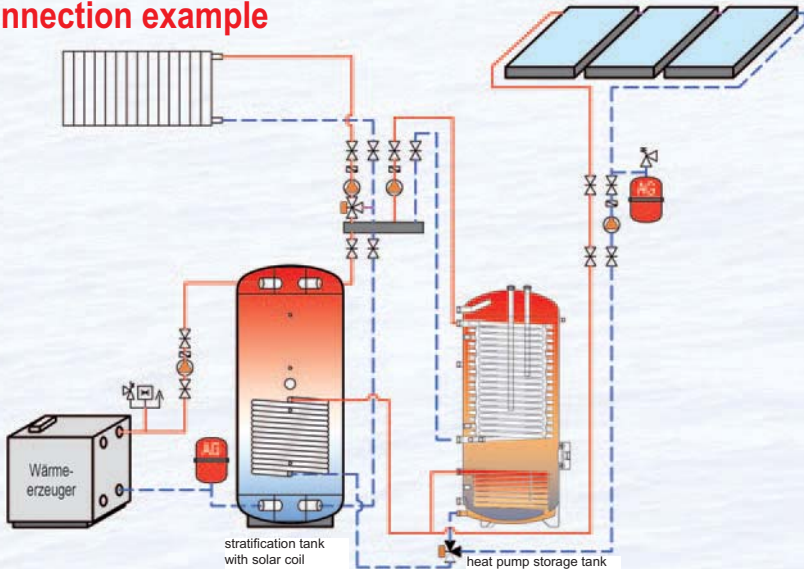
| technical description   |                   | WP 500          |
|---|-------------------|-----------------|
| capacity drinking water   | L                 | 458             |
| diameter (with insulation)  | mm                | 740             |
| height (with insulation)  | mm                | 1774            |
| tilted height   | mm                | 1923            |
| PU solid foam insulation, non-removable (PVC jacket)                    | mm                | 45              |
| approx. weight  | kg                | 258             |
| heating surface upper heat exchanger                                    | m <sup>2</sup>    | 5,9             |
| capacity upper heat exchanger   | L                 | 35              |
| max. operating pressure upper heat exchanger                            | bar               | 10              |
| max. operating temperature upper heat exchanger                         | °C                | 95              |
| volume flow upper heat exchanger  | m <sup>3</sup> /h | 4,6             |
| pressure loss upper heat exchanger (at 3 m <sup>3</sup> /h) approx.     | mbar              | 230             |
| heat pump function output at 55/45 (kW) upper heat exchanger            | l/h               | 651 (26)        |
| stand-by energy consumption in 24 h                                     | kWh/d             | 3,0             |
| continuous output 10/45-80/45 (kW) upper heat exchanger                 | L/h               | 2540 (96)       |
| coefficient of performance N <sub>L</sub> at 70/50 upper heat exchanger | N <sub>L</sub>    | 38              |
| continuous output 10/45-80/60 (kw) lower heat exchanger                 | L/h               | 1290 (52)       |
| coefficient of performance N <sub>L</sub> at 70/50 both heat exchangers | N <sub>L</sub>    | 45,2            |
| max. operating pressure tank  | bar               | 10              |
| max. operating temperature tank   | °C                | 95              |
| heating surface lower solar coil  | m <sup>2</sup>    | 1,8             |
| capacity solar coil/ total incl. double bottom                          | L                 | 6,4 / 14        |
| max. operating pressure solar coil                                      | bar               | 10              |
| max. operating temperature solar coil                                   | °C                | 110             |
| recommended minimal collector surface                                   | m <sup>2</sup>    | 10              |
| recommended collectors Solarbayer Premium series 2.85                   | piece             | 4               |
| anodes  | 1 top             | 2 piece at 1 ¼" |
| hot water   | 2 mm              | 1589 ( 1 ¼" F)  |
| thermometer   | 3 mm              | 1500 (½" F)     |
| flow heating  | 4 mm              | 1489 (1 ¼" F)   |
| sensor, not occupied  | 5 mm              | 1389 (½" F)     |
| circulation   | 6 mm              | 1189 (1" F)     |
| sensor hot water  | 7 mm              | 739 (½" F)      |
| return heating  | 8 mm              | 639 (1 ¼" F)    |
| flange Ø 100 mm (connection electric heating element)                   | 9 mm              | 521 (1½" F)     |
| flow solar  | 10 mm             | 404 (1" F)      |
| sensor solar  | 11 mm             | 289 (½" F)      |
| cold water  | 12 mm             | 189 (1¼" F)     |
| return solar  | 13 mm             | 100 (1" F)      |
| max. dimension electric heating element (optional)                      | kW                | 6               |

**connection example**



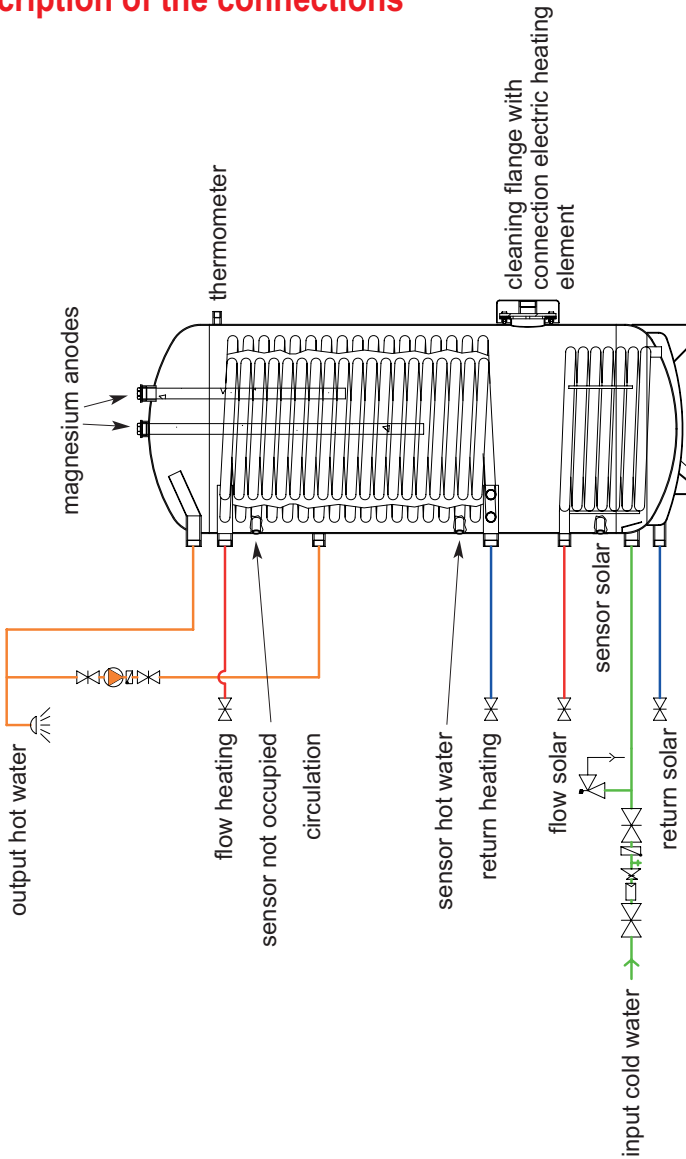
This diagram is only a mounting proposal that does not replace technical planning!

**connection example**



This diagram is only a mounting proposal that does not replace technical planning!

### description of the connections



This diagram is only a mounting proposal that does not replace technical planning!

## General information

### Location

The tank has to be installed in a frost-protected place. Ice formation within the plant can lead to the tank's destruction.

The necessary space for maintenance and repair has to be ensured, as well as the ground's carrying capacity.

### Thermal insulation

**Don't braze, weld, etc. near the insulation. Fire hazard!**

### Piping

The tank is to be connected according to the diagram on page 5. The connections have to be conformed to DIN.

The diameter of the safety valve is at least DN20- $\frac{3}{4}$ ".

One has to pay attention to possible electrochemical reactions when choosing the installation material (mixed installation).

It is generally recommended to restrict the domestic hot water temperature to 60°C by means of a mixing valve!

**The concerning connections components have to be designed for that temperature otherwise restrict the temperature by means of a mixing valve!**

### Operating pressure

Refer back to page 3 for the permitted operating pressures. An overstepping of operating pressures might lead to leaks and destruction of the tank!

### Pressure reducer

The installation of a pressure reducer is recommended. It is necessarily to be installed as long as the potable water supply is run by a higher pressure.

In order to reduce the noise caused by fluxion, the pressure of the pipe work should be adjusted to 3,5 bar.

### Potable water filter

We recommend installing a potable water filter because floating particles may block fittings, etc. and may cause corrosion on the conducts.

**Safety equipment**

The tank has to be equipped with a non-lockable safety valve. Moreover, the expansion vessel has to correspond to the tank's capacity and it has to have a check valve.

Next to the safety valve, or better, right on it, an indication plate has to be installed, saying:

**"Water is leaking from the valve's pipe for safety reasons during the heating. Do not close!"**

**Draining/bleeding**

The tank is to be installed in such a way, that it can be drained without demounting it.

**While draining, hot water might discharge and cause injuries.**

**Electric heating element (optional)**

The tank can be equipped with an electric heating element. You have to respect the instructions and regulations of your local public utility.

Electric heating elements have to be insulated. It's only with insulation that the corrosion protection is guaranteed.

An electric heating element with integrated temperature regulator and a security temperature limiter is available.

**Caution:**

**If electric heating elements are installed without insulation, the tank's warranty expires.**

**Commissioning**

those connections that are not used have to be professionally closed with plugs.

Solidly rinse the conduits and the tank after mounting, fill the tank and the system with water and bleed them.

**Insulation**

|                                       |                   |                 |
|---------------------------------------|-------------------|-----------------|
| solid foam insulation (non-removable) |                   | 45 mm           |
| jacket polystyrol                     |                   | PST foil 1,0 mm |
| jacket colour                         |                   | silver          |
| foam density                          | kg/m <sup>3</sup> | 40 (+/- 5% )    |
| initial heat conductivity             | W/mK              | 0,024 (+/- 5% ) |
| loss of density                       | %                 | 5 max           |
| porosity (capacity closed cells)      |                   | >92%            |



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