Swedish technology at its best

PATENTED DESIGN The ingenious design of the tank is protected by both Swedish and European patent (no. 0601114.2 and EPO 07748133.1) covering the functionality and the applied stratification method. The design is mechanical. It does not contain any electronic or electrical devices, giving you a long life of reliability. No similar design is available on the market.

The design features the separation of the main volume from the supplementary corner volumes. This allows the hot and cold water to pass without interaction; thus, no efficiency is lost. The rectangular shape of the tank also delivers 25 percent more volume per square meter footprint than traditional cylindrical tanks. This in turn significantly increases the storage performance of the product compared to other available products on the market.

Secondly, all corner volumes are designed as diffusing thermal stratification tubes. Each diffuser ensures that the speed of all inlet/outlet flows in/out of the tank is reduced to a laminar flow characteristic. This feature controls the direction of the flow and determines the correct temperature level for the main volume. Only one side of the corner volumes is in contact with the main volume, restricting the transfer of unwanted heat. All features combined minimize the risk of thermal stirring of the main volume and provide an unprecedented stratification performance.

PRODUCT RECOGNITION This product has been recognized nationwide at innovation competitions in Sweden. In 2007 it was the finalist in the MiljöInnovation – The Swedish Environmental Innovation Competition.

Organizer: Miljöforum (www.miljoforum.n.se)

AWARD WINNING The HA-TBS product series received the “Best HVAC product of the year 2010” award at VVS-dagene in Oslo, Norway. VVS-dagene is the only trade fair in Norway that addresses the entire HVAC-industry.

“The HA400TBS product has a very neat and innovative design which makes the product very easy to place and its rectangular shape increases the volume by 25% compared to conventional storage tanks. The patented design is unique and creates the foundation for an efficient and flexible heating system with its built-in diffusing thermal stratification tubes. Tank Efficiency, Flexibility, Versatility and Design proved to be decisive for the final nomination according to the jury.”

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THE HA-TBS/K MODEL

To boost performance even further when combining the heating system with a heat pump, the HA-TBS/K model has been developed.

This model includes a built-in two part condenser (hot gas exchanger (DX) and sub cooler) into the tank for an even more efficient and frost-proof heat pump operations.

This innovative design increases the efficiency of the heat pump with additional 10-15%.

TECHNICAL DATA

<table>
<thead>
<tr>
<th></th>
<th>HA300TBS</th>
<th>HA400TBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total volume (liters)</td>
<td>300</td>
<td>400</td>
</tr>
<tr>
<td>of which DHW (liters)</td>
<td>100</td>
<td>160</td>
</tr>
<tr>
<td>Storage capacity (kWh)</td>
<td>24,4</td>
<td>32,5</td>
</tr>
<tr>
<td>Dimensions WxDxH (mm)</td>
<td>600x700x1450</td>
<td>600x700x1830</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>170</td>
<td>200</td>
</tr>
</tbody>
</table>

APPLICATION

Principal layout of a combined HA400TBS technology tank and a HA400V volume tank.

Solar heating primarily serves for the production of all domestic hot water (DHW) and space heating (SH).

- Option 1: Connection to existing oil/gas/wood burner to be used as a backup source or for sudden heat peaks (instead of the built-in electrical heater). Optimal burner efficiency ensured thanks to longer burn cycles when using a larger charging volume while the vital stratification in the tanks is always ensured.
- Option 2: Connection to heat pump ensures a problem-free and environmentally friendly heat source for back-up or for sudden heat peaks (instead of the built-in electrical heater). Heat pump operations supported in dual mode for optimal heat pump efficiency.

All connected heat sources can be in operation simultaneously without affecting the stratification in the tanks. The technology tank is fitted with a bivalent valve (4 way reciprocable valve) which enables a very efficient space heating control of the radiators. The total storage capacity for this combination is 65 kWh or 56 Mkal, based on 70 °C / 50 °C usage in the tanks. If greater demand is required, additional volume tanks are easily docked together in series. Concealed fittings behind the front panel and prepared knock-out holes in the front corners make installation both less costly and very neat. The system can also be extended later on without even needing to empty the heating system.
TECHNOLOGY TANKS
HA-TBS and TBS/K series

CONNECTIONS
1. Feed heating system, Ø 22mm
2. Return heating system, Ø 22mm
3. Feed connection with union joint incl. closure valve for heat source or docking, Female R25
4. Thermometer, Female R20
5. Thermometer, Female R20
6. Feed connection with union joint incl. closure valve for heat source or docking, Female R25
7. Return connection with union joint incl. closure valve for heat source or docking, Female R25
8. 2x Sensor tube (for temperature sensor location)
9. Drainage valve
10. Optional electric heating cartridge, Female DN 50
11. Feed solar heat, Cu Ø 15 mm*
12. Return solar heat, Cu Ø 15 mm*
13. Expansion / venting, Male R20
14. Electric heating cartridge water boiler, R32
15. Warm water out, Ø 22 mm
16. Cold water in, Ø 22 mm
17. Feed 2 heating system, Bivalent valve Ø 22mm
18. Feed 1 heating system, Bivalent valve Ø 22mm
19. Return heating system, Bivalent valve Ø 22mm
20. Electric heating cartridge, RS5
21. TBS/K only: Split solution for heat pump, DX out
22. TBS/K only: Split solution for heat pump, DX in

TECHNICAL DATA
Maximum working pressure: 2.5 bars
Insulation: Isover Cleantec® G35-S
• Sides 50mm
• Top 50≤115mm
Water boiler: Stainless steel
Heating system control: Bivalent valve (4-way reciprocal valve) for optimal space heating control
Back-up heat source: Built-in electric heating cartridge
• Heating system, 6 kW
• Water boiler, 3 kW
*Solar heat exchanger options:
- Standard: 1x connection DN15 ø Cu.
- Medium: 1x connection DN18 ø Cu.
- Large: 2x connection DN18 ø Cu.
*Up to 12 m² collector area
*Up to 30 m² collector area
*Up to 60 m² collector area
Adjustable feet
Manufacturer: Heatacc

APPLICATION
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All connected heat sources can be in operation simultaneously without affecting the stratification in the tanks. The technology tank is fitted with a bivalent valve (4-way reciprocal valve) which enables a very efficient space heating control of the radiators. The total storage capacity for this combination is 65 kWh or 56 Mkal, based on 75 °C / 71 °C usage in the tanks. If greater demand is required, additional volume tanks are easily docked together in series. Concealed fittings behind the front panel and prepared knock-out holes in the front corners make installation both less costly and very neat. The system can also be extended later on without even needing to empty the heating system.
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**TECHNOLOGY TANKS**

**HA-TBS and TBS/K series**

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