Patented accumulation tank

PATENTED ACCUMULATION TANK WITH AN INTEGRATED WATER TANK

For the most efficient operation of a heating system
This is the most advanced accumulation tank with an integrated hot water tank (“a tank in a tank”) intended for houses with a few different heat sources. If they are controlled in an intelligent manner through an accumulation tank, not only are heating costs reduced, but also is the service period of heat pumps and other heat sources extended, besides, all energy resources are used efficiently depending on the need and outdoor temperatures.

We can offer two sizes of accumulation tanks:

- **HA400TBS** - is a “tank in a tank” of up to 15 kW capacity with an integrated 160-litre hot-water tank. Out of the 160-litre hot-water tank, as much as 335 litres of +40°C temperature water flows out.

- **HA300TBS** - is a “tank in a tank” of up to 10 kW capacity with an integrated 100-litre hot-water tank intended for smaller houses. Out of the 100-litre hot-water tank, about 200 litres of +40°C temperature water flows out.

**Reliability.** HeatAcc accumulation tanks are fully adapted for operation under Northern climate conditions, and even under especially low outdoor temperatures, efficient and appropriate operation of the heating system is ensured.

**Efficiency.** The patented construction of accumulation tanks guarantees the most suitable maintenance of water temperature in the entire tank irrespective of the heat
sources used. Together with an accumulation tank, a few of the following different heat supply appliances can be connected into the common system: a heat pump, boilers using gas, solid fuel, granular fuel, biofuel, electric power, liquid fuel, etc., a fireplace with an option of hot water preparation, solar collectors, a district heating system, etc. Connected heat sources can operate independently from one another, without disturbing the pressure in a tank.

Regardless of a combination of heat supply appliances in a heating system, if you install an accumulation tank, you will always achieve the best effect and reduce heating costs to a minimum.

A chart of a heating system with an integrated accumulation tank:

It is precisely the special construction of HeatAcc accumulation tanks that ensures even 20 percent higher energy accumulation and distribution compared with other similar products in the market.
In addition, these accumulation tanks considerably increase the efficiency of various heat supply appliances – for instance, solar collectors, about 20-25 percent, liquid fuel boilers, about 10-15 percent, etc. The system also operates efficiently if combined with heat pumps: in HA-TBS/K models, a special-form condenser coil has been installed, which makes it possible to increase the efficiency of a heat pump up to 15 percent.

Other advantages. Almost all processes in a HeatAcc accumulation tank are performed mechanically – it has few electric or electronic devices, which guarantees durability and reliability. There isn’t any other similar accumulation tank in the market.

The construction of accumulation tanks is also unique because here, the main tank is separated from additional corner tanks. In such a manner circulating hot water and cold water do not interact and energy is not wasted. Besides, a rectangular accumulation tank provides even 25 percent more volume to one square meter than traditional cylinder accumulation tanks. This is yet another reason for considerably higher efficiency of HeatAcc accumulation tanks compared with other similar products in the market.

Secondly, all corner tanks have been developed as heat diffusers. Each corner tank reduces the speed of the flow of incoming/outgoing water to/from the main tank, which ensures control of directions of the flow and an appropriate temperature level in the main tank. Only one side of corner tanks borders on the main tank, therefore, heat losses are reduced to a minimum. All these characteristics guarantee a unique technology of water temperature exchange in an accumulation tank.

Flexibility. Depending on outdoor temperatures and the need, you can choose the most cost-efficient energy source and the amount of accumulated energy, at the same time preserving the most appropriate operation of a heating system. In the future, the system can be supplemented with new heat sources especially simply (it is not even
required to discharge the water from the system).

**Place of installation.** If you do not have enough space in a boiler-room, due to an attractive design and an option of choosing a desired panel colour, an accumulation tank can be installed even in residential rooms.

![HeatAcc accumulation tanks](image)

**Patented construction.** The advanced construction of HeatAcc accumulation tanks, which ensures functionality and unique distribution of water temperatures, is protected by both Swedish and European patents (Nos 0601114-2 and EPO 07748133).

**Recognition.** In 2007, HeatAcc accumulation tanks were recognized as finalists at the national competition of environmental innovative products MilijoInnovation held in Sweden.

The HA-TBS series of accumulation tanks received the award of the best 2010 HVAC product at the largest HVAC product exhibition held in Norway, Oslo.

Application of accumulation tanks: in private houses, summer houses, terraced houses as well as apartment blocks, sports complexes, hospitals, schools, etc. More information on accumulation tanks for large facilities is available in the section MITSUBISHI ELECTRIC for Business, under the heading Other Products.

**Indoor unit specifications**

Maximum operating pressure of 2.5 bar
Adjustable feet

Isover Cleantec ® G35-S 50 mm Insulation

1.5 kW el. ten hot water tanks (TBS model)

6 kW storage tank controlled el. Ten with thermostat and overheating protection

ESBE CRB100 wireless control

Domestic hot water mixing unit

Provided recirculation

Circulation pump Grundfos

Connections to other heat sources

**HA400TBS/TSS**

Accumulation tanks HA400TBS / TSS volume of 400 liters

Stainless steel domestic hot water tank capacity of 160 liters (TBS). Output about 335l with +40°C temp. of hot water

Accumulated energy of 32.5 kWh

Weight 191 kg (TBS), 200 kg (TSS)

Dimensions 1810x600x700 mm

**HA300TBS/TSS**

Accumulation tanks HA300TBS/TSS volume of 300 liters

Stainless steel domestic hot water tank capacity of 100 liters (TBS). Output about 200l with +40°C temp. of hot water

Accumulated energy of 24.4 kWh

Weight 161 kg (TBS), 170 kg (TSS)

Dimensions 1803x600x715 mm

The heating system expansion tank

Expansion tank solar coil