Oskar° stratified storage tank

Maximum energy efficiency through precise heat stratification

ratiotherm
Smart Energy Systems

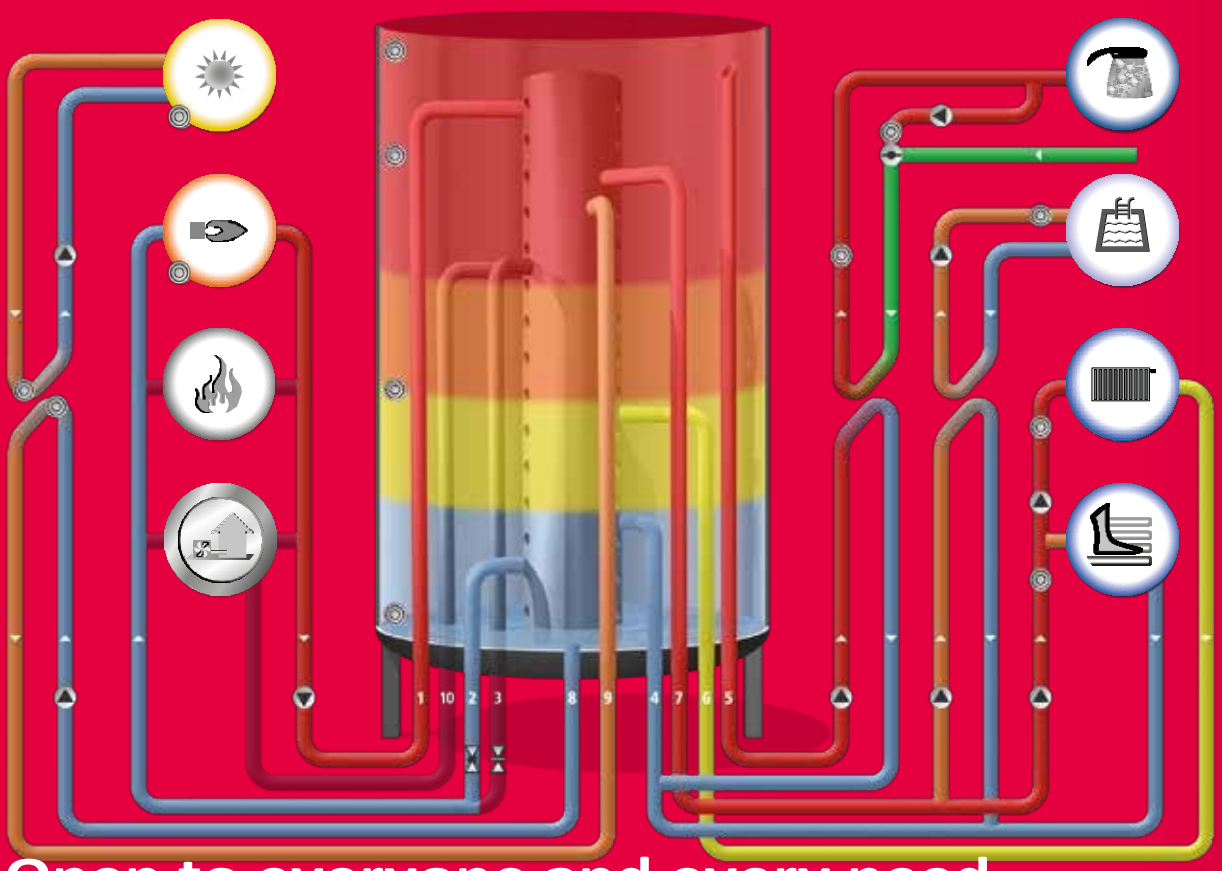
More than just heat generation

When developing Oskar°, we quickly realised that energy-saving burners alone are not enough. And that tax incentives and prices are hardly suitable for assessing the efficiency and value of a heating system.
Rather, an ideal heating system depends on each individual component. From heat generation and storage to control and heat distribution.

An ideal heating system utilises the laws of nature instead of fighting against them with unnecessary high-tech solutions. An ideal heating system not only saves energy, but also provides heat when and where the user needs it. And finally, an ideal heating system can still be used without any problems in 20 or 30 years' time, when new, more efficient forms of heat generation and use come onto the market.

Oskar° meets all these requirements.

At its heart is a highly efficient and intelligent heat storage unit that makes perfect use of water's natural property of forming layers with very different temperatures when at rest.



Open to everyone and every need

The Oskar° stratified storage tank can be combined with a wide variety of heat generators and heat sources.
Whether it's a tiled stove, combined heat and power plant, seasonal storage tank, solar system, heat pump or, of course, gas, oil and wood burners. No matter what useful technologies the future brings, the Oskar° stratified storage tank makes them even more efficient and convenient.
At the same time, the Oskar° stratified storage tank can be easily adapted to your heating requirements.

Whether in a single-family home or apartment building, commercial or agricultural enterprise, hotel or public buildings such as schools or hospitals. The Oskar° stratified storage tank demonstrates its strengths in every size.
Thanks to its simple design and the absence of heat exchangers or mechanical parts inside, the Oskar° stratified storage tank is extremely robust and wear-free. The arrangement of the ready-to-connect and highly efficient heat transfer and heat transport modules outside the storage tank also makes it particularly easy to maintain.

Efficient add-on modules for the Oskar° stratified storage tank

Even though the Oskar° stratified storage tank can be easily combined with heating system components from other manufacturers, it is only when used with our own highly efficient and coordinated add-on modules for heat transfer and heat transport that it becomes a well-thought-out whole in every detail.

Each individual module has its own advantages, but it is only when they are combined and arranged and configured correctly that they can realise their full potential.

FRESH WATER

The compact drinking water heater extracts the heat stored in the heating water from the Oskar° stratified storage tank and transfers it to the cold drinking water in a matter of seconds, which is then heated as it flows.

HEATING CIRCUITS

The heating circuit assemblies provide a heating temperature determined precisely by the controller and transport the heat to panel heating systems or radiators with maximum efficiency.

SOLAR THERMAL

The compact solar station consists of two separate heating circuits connected by a high-quality stainless steel heat exchanger.
The primary side is filled with antifreeze and leads to the collectors.
The secondary side is filled with heating water and transfers the heat to the storage tank.

Technical data OSKAR

Type		750	1000	1300	200	3000	4000
Shift deployment (SE)	m³	1.5/WPS	1.5/WPS	1.5/WPS	1.5/5.0/WPS	1.5/5.0/WPS	1.5/5.0/WPS
Total height without insulation	mm	1770	2150	2030	2100	1940	2440
Total height with insulation	mm	1890	2270	2150	2220	2080	2560
Diameter without insulation	mm	790	790	1000	1200	1600	1600
Diameter with insulation	mm	990	990	1200	1440	1840	1840
Max. tilt dimension	mm	1850	2220	2080	2260	2200	2650
Weight without insulation	approx. kg	140	155	220	285	470	550
Maximum operating temperature	°C	95	95	95	95	95	95

OSKAR° 10

OSKAR° 10 is recommended for buildings with an area of over 150 m²and in older buildings, as well as for heating outputs of up to 30 kW with a SE 1.5 layer insert and up to 100 kW with an SE 5.0 layer insert.

There are virtually no limits to its use when connecting different heat generators and heat consumers at the same time. Oskar° 10 also shows its advantages when expanding the solar system and offers the option of temporarily storing excess hot water in an additional storage tank.

Oskar° 10 is particularly future-proof and can be expanded with new water-bearing heat generators from any manufacturer without having to modify the piping.

OSKAR° WPS

Oskar° WPS heat pump storage tank has been specially developed and optimised for integration with heat pumps.

The WPS storage tank simplifies the hydraulic connection of a heat pump to the central heat storage tank without affecting the stratification in the storage tank. The upper part of the storage tank remains completely intact for hot water preparation.

The storage tank allows direct heating into the heating circuit; the heat pump only has to produce what is actually needed.

An additional advantage is that this storage tank can easily bridge the utility company's off-peak periods.

On-site welding (up to 6 bar)

In cases of restricted access or special conditions, we offer on-site storage welding.

The storage tank is delivered to the construction site in individual parts, can then be brought into the boiler room and welded there.

Finally, a pressure test is carried out to ensure the same quality standards as for a factory-welded storage tank.

Special storage tanks

Our heat storage tanks are available in a wide range of standard sizes as well as in any special sizes from 5,000 to 6,000,000 litres, depending on the requirements of the project.

We offer customised storage tanks in almost any diameter and height, with project-specific hydraulic connections for producers and consumers.

Special layer inserts

Stratification inserts with project-specific requirements can also be implemented. The focus here is on customer-specific solutions, which are developed as complete system solutions according to requirements.

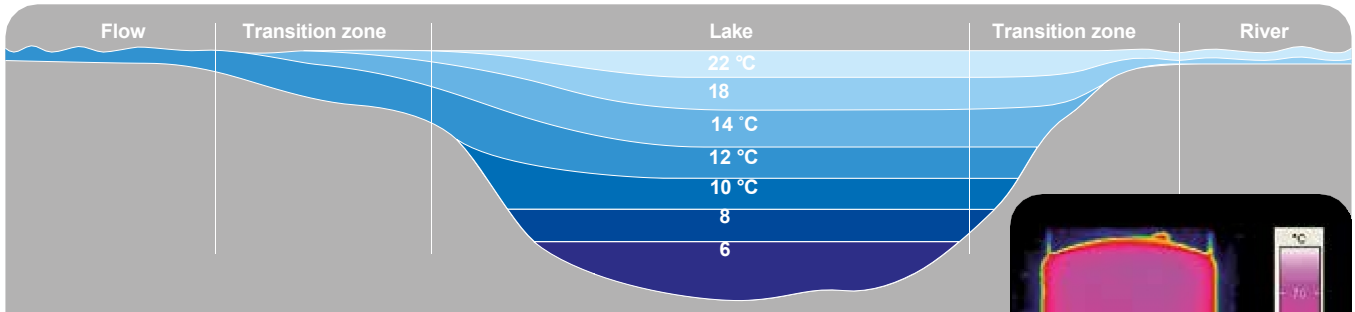
The Oskar° principle is fundamentally system-independent and can be integrated into any heating system.

Layered insert –
the organisational talent at the heart of Oskar

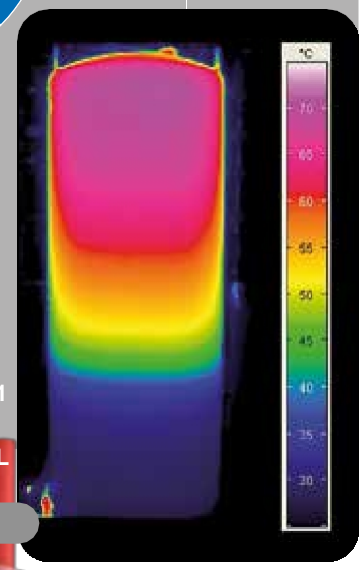
Everything perfectly sorted – including temperatures

Water is suitable for the Oskar° heating system in several ways. It stores more heat than almost any other substance.
At the same time, it has very different densities depending on the temperature. This means that water sorts itself into different temperature layers without any further action.
This is an effect that you can experience for yourself in stagnant waters in summer. While it is still nice and warm at the top, your feet are already in significantly cooler layers of water.

However, this only works if the water is not stirred up. That is why the Oskar° stratified storage tank "calms" the inflowing water with the aid of a patented, spiral-shaped construction that expands the volume of the inflowing water and thus massively reduces the flow velocity. In addition, the water is fed into the appropriate layer of the storage tank according to its temperature.



For example, hot water from the burner at the top, very warm water from the solar system below, and lukewarm water from the return flow further down. This allows the heating water to be stored and drawn off at different temperatures. Water with residual heat or lukewarm water from solar systems can also be used very efficiently in this way. The result: energy savings of up to 30% or more, depending on the heating configuration.
Thanks to the layered storage of water at different temperatures, the Oskar° stratified storage tank can flexibly supply various heat sources and heat consumers in an optimal manner.



The separation and pre-sorting of the different heat flows before they enter the 5-chamber layer insert causes the water to settle and enables it to rise and fall without turbulence in
the layer chamber.

When the heating water driven by the pump enters the inner chamber, it displaces the water standing there and pushes it into the layer chamber.
The increase in volume due to the screw-like design reduces the flow velocity on the way there.
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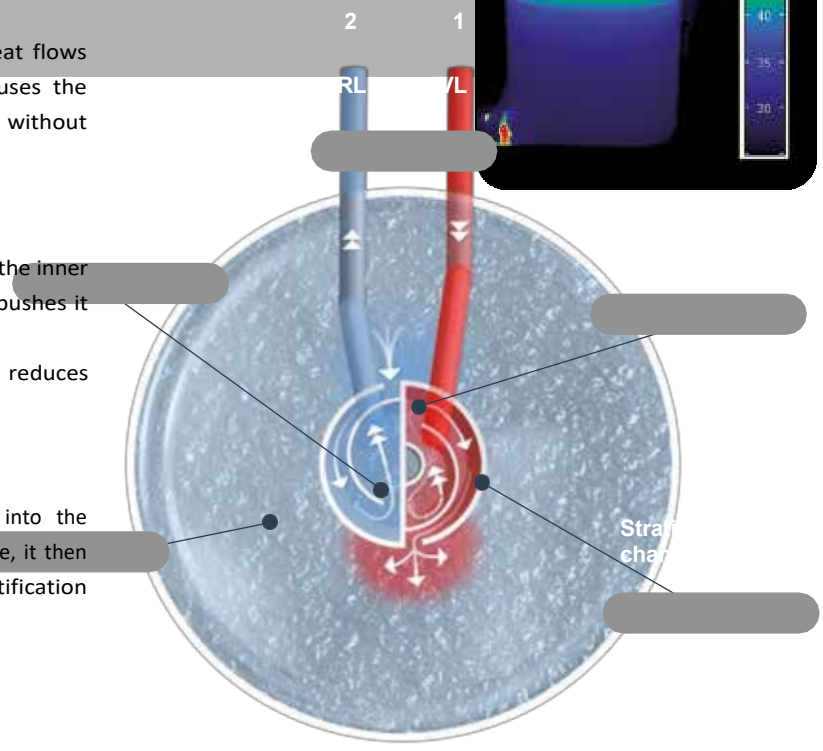
The water, which has now been calmed, flows into the appropriate temperature layer due to its density. There, it then exits through corresponding openings in the stratification insert into the actual storage volume.



Your advantages at a glance

For users

- High-quality, coordinated components ensure maximum efficiency in heat transfer and minimum energy consumption
- Less space required thanks to modules attached to the storage tank
- Future-proof – with 10 inlets and outlets at different storage and retrieval heights, the system can be modified as required
- Maintenance-free – no moving or wearing parts are used in Oskar
- Fault-free – no cumbersome fixtures such as flaps, corrugated pipes, etc. The function is purely bionic.
- Smart grid/smart home ready
- Reduction in the use of fossil fuels

For tradespeople and installation companies

- Easy integration into the customer's existing heating system
- Perfectly suited for renovation in existing buildings
- Easy installation thanks to complete pre-assembly at the factory
- Easy configuration and adjustment of hydraulics and control technology
- ratiotherm covers the entire portfolio of renewable heating technology
- Convenient commissioning by our service team on request
- Online monitoring and remote adjustment of the entire system possible

For the environment and the energy transition

- CO_2reduction for progress in the heat transition
- Conservation of existing resources through significant energy savings
- Shifting of generation peaks towards heat (Power-2-Heat) possible

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