



ALSHE STW – Compact and efficient

Standard Spiral Heat Exchangers for sludge/water

The ALSHE STW spiral heat exchanger is intended for sludge/water applications. The heat exchanger offers unique abilities within sludge treatment applications such as:

- Heating of sewage sludge in digesters
- Heating stages in pasteurization systems
- Preheating of sludge for enhanced dewatering
- Cooling of industrial sludge and waste waters
- Heat recovery

The ALSHE STW range of spirals can fit most duties.

Features

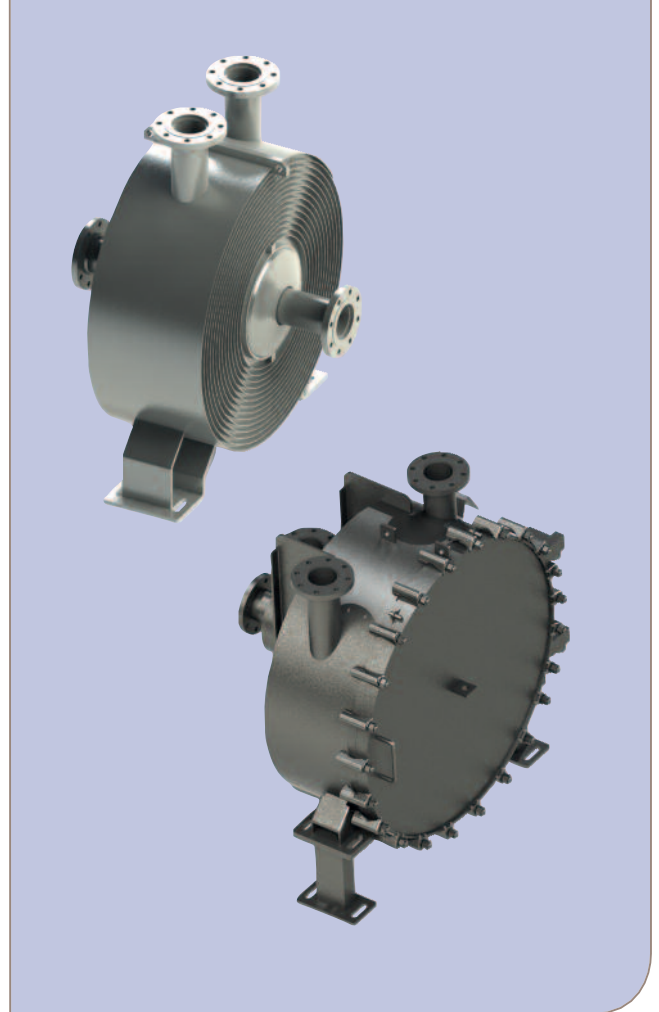
- On the open sludge side the spiral normally is provided with a carbon steel hinged cover fastened to the spiral body with hook bolts.
- The cover is protected from the sludge media by a rubber gasket.
- The hinged cover has no connections. This provides easy opening for manual cleaning, if required. An inspection cover on the sludge inlet provides ready access in case of blockage.
- The spiral body has floor mounted supports with the centre line horizontal.

Advantages

- One single free-flow channel and high shear forces in the fluid provides a 'self-cleaning effect'.
- Counter current flow gives the most efficient heat transfer and makes the unit compact.
- Compact, space saving design, reduces installation cost.
- Low maintenance cost because the 'self cleaning effect' extends the operation period.
- Single door gives easy access to the sludge channel for mechanical cleaning.
- Cleaning-in-place or back flushing also reduces maintenance down time.
- Unobstructed channels provide smooth flow through the unit with constant velocities.
- Low lifetime cost. This is due to high thermal efficiency, small space requirements and low maintenance needs.

Standard & custom ALSHE STW ranges

The ALSHE STW can be offered for any sludge/water duty, either as a pre-designed standard, or as a custom design. The ALSHE STW can also be offered without the door, i.e. as

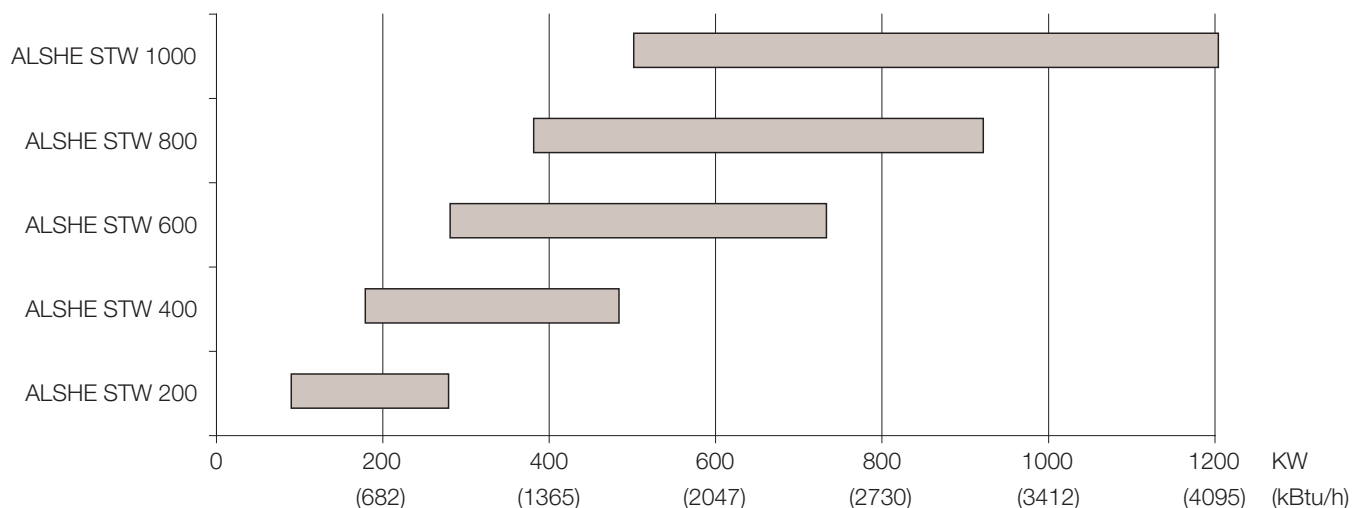


an ALSHE STW FW (Fully Welded). In this case the unit is not openable. The FW version offers the same advantages and features except that it is not possible to open the units for manual cleaning.

Working principle

The ALSHE STW consists of a spiral wound from two sheets of metal strips that form two concentric spiral flow passages. The media flows counter currently in the two channels. The flow is from the centre to the periphery and vice versa. The sludge channel is open on one side and closed on the other and the water channel is closed on both sides. Each channel has one connection in the centre and one on the periphery.

Performance range*



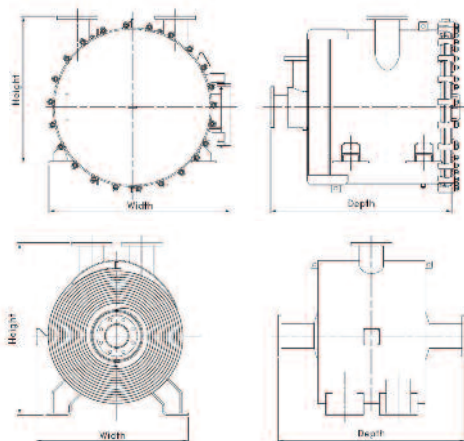
* Performance values shown are typical for sludge digester heating applications

Technical data	ALSHE STW	ALSHE STW FW
Dimensions	See below	See below
Area range	7.2 – 27.7 m ² /78 - 298 sq.ft.	7 - 27 m ² / 75 - 290 sq.ft
Duty range	See above	See above
Sludge channel spacing	25 mm/1 inch	25 mm/1 inch
Material of construction for heat transfer surface	Carbon steel, 316L SST, 304L SST (not FW)	
Pressure vessel code	PED according to 97/23 EC Article 3.3 (SEP) / ASME	
Design pressure	6 barg / 87 psig	5 barg / 72 psig
Design temperature	Min. 0°C – Max. 100° C / 32° – 212° F	

Options

- hatch
- feet
- hinge

Dimensions



ALSHE STW

Model	Height	Width	Depth
ALSHE STW 200	1025/40	1290/51	720/28
ALSHE STW 400	1025/40	1290/51	870/34
ALSHE STW 600	1025/40	1290/51	1070/42
ALSHE STW 800	1025/40	1290/51	1270/50
ALSHE STW 1000	1025/40	1290/51	1470/58

ALSHE STW FW

Model	Height	Width	Depth
ALSHE STW 200FW	1200/47	1060/42	820/32
ALSHE STW 400FW	1200/47	1060/42	970/38
ALSHE STW 600FW	1200/47	1060/42	1185/47
ALSHE STW 800FW	1200/47	1060/42	1310/52
ALSHE STW 1000FW	1200/47	1060/42	1560/61

Measurements in mm/inch

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com