

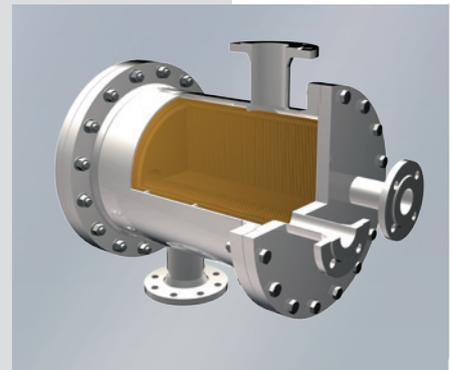
# Quality Heat Exchangers



**DAVID DOWNEY, PRESIDENT**

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# FUNKE



## Fully welded PHE

Shell & Plate Heat Exchangers FP-SP

Funke as a specialist for shell-and-tube and plate-and-frame heat exchangers has combined the advantages of these two designs into a shell-and-plate heat exchanger.

The main components of this shell-and-plate heat exchanger are the circular welded plate pack and the shell enclosing it.

The result is a compact and light weight heat exchanger with a large heat transfer area.

Considering it is a gasket-free design it makes it suitable for high temperature and/or high pressure applications with a good heat exchange ratio.

The circular shape of the plate pack promotes a good distribution of the tension caused by differences in temperature and pressure. Different profiles are available for the plates creating optimized channels depending on the media. The flow directions can be a counter flow, a cross flow or a parallel flow.

The plates are welded using a laser, which results in a larger connection area. At the same time the heat input is minimized to prevent structural changes during cool down. The result is a plate pack with a great security against leakage and few possible corrosion starting points.

The FUNKE shell & plate heat exchangers are available with openings on one or two sides, both with removable plate pack.

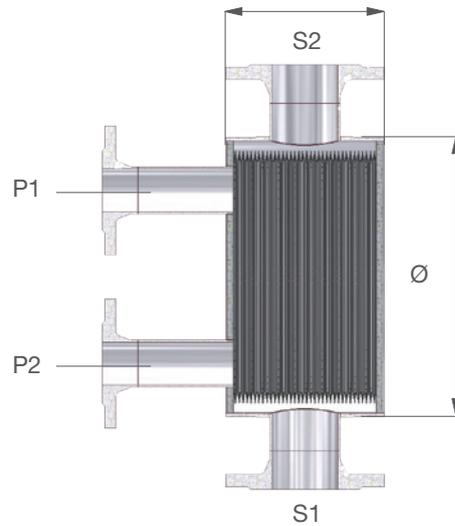
**Applications**

- Chemical and petrochemical industries
- Pharmaceutical industries
- Oil- and gas industries
- Refrigeration engineering
- Power generation

**Operating data**

The maximum operating data depends on the size of the unit, the materials used and the thickness of the material.

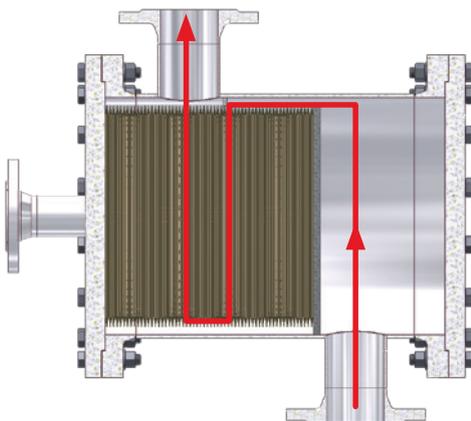
Operating Pressure: -14 to 2200 psi  
 Operating Temperature: -330 to 930 °F  
 Viscosity: up to 8,000 cP



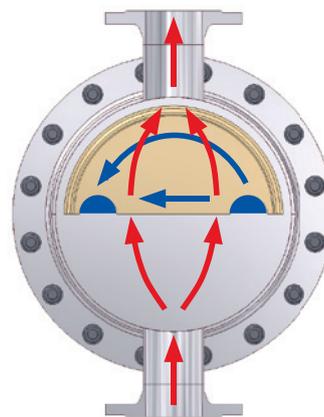
**Dimensions**

	FP-SP 50	FP-SP 100	FP-SP 150	FP-SP 200	FP-SP 300
S1, S2	¾" – 4"	1" – 10"	2" – 14"	2" – 18"	2" – 24"
P1, P2	1"	4"	6"	8"	12"
Ø (inch)	14	24	35	43	55
L (inch)	(depending on no. of plates and design pressure) from 6 to 94				
area (ft²)	16 up to 320	up to 1 100	up to 3 500	up to 5 400	up to 7 500

Thickness of plate material: 0.6 to 1.25 mm. Liquid hold-up varies from 1 to 260 gallons per pressure chamber. All sizes can be delivered with different plate profiles.



Multiple redirection on shell side



Operating media in cross-flow



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