



**ENGINEERING
SERVICES**

ST500-HE™ Series

**shell and tube heat
exchangers**



Design Features

Robust, modular design
Seamless tube with smooth,
Polished surface finish
Secondary (shell) fluid source
Parallel outside diameter

Operational Benefits

Highly efficient heat removal
through fluid conduction

Optional crevice-free design ensures
no contamination and easy to clean.



Turnkey Process Equipment Solutions including:

Barrier Isolators | Glass Lined Equipment | Reactors | Dryers | Storage Tanks | Filters
Thermal Control Systems | Blenders | Columns | Material Handling Systems | Receivers

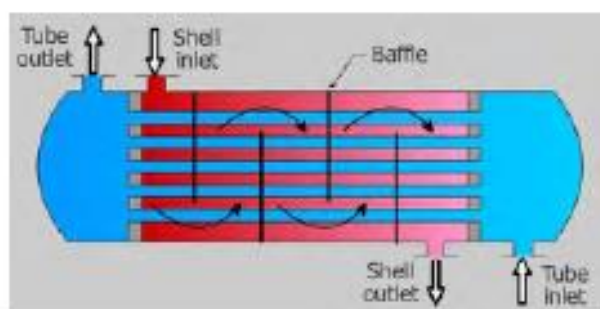
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Shell and Tube Designs

S2 Engineering Services (S2) design, manufacture and install a range of modular shell and tube heat exchangers, engineered to efficiently remove/add heat from a specific application/duty.

Our Shell and Tube heat exchanger systems are highly efficient and are preferred when there is a good quality source of secondary fluid (such as mains or ring water) used for the Shell side of the system.

The ST500-HE range is highly efficient as heat is removed by fluid to fluid conduction, as shown below.



S2 heat exchangers are supplied in a range of materials such as Stainless Steel and Exotic Alloy including Titanium Grade 2 (as shown below).



S2 Customised Heat Exchanger:
Exotic Alloy (T2) Materials x 4m long

Technical Specification

Our standard Shell and Tube heat exchangers are typically supplied to the technical specification below. Customised heat exchangers are designed to suit specific applications.

Heat Transfer Area:	from 1.1m ²
Materials:	316L Stainless Steel Tube, 304L Stainless Steel Shell
Gasket:	PTFE, EPDM, FEP
Surface Finish:	0.3 - 0.8 micrometers MP
Tri-Clamp Connection:	ASME BPE, DIN32676, DIN19864-3, ISO2037. Customised options available.
Shell Connection:	Flange to DIN2635/EN1092, ANSI B16.5. Customised options available.
Pressure Vessel Code:	ASME VIII (PED for Europe)
Temperature:	-15 to 200 Deg C
Pressure:	10 barg (15 psig). Higher pressure versions are available on request.
Design:	U-tube, straight and multipass
Insulation:	Optional Mineral wool (ASTM C785) with Stainless Steel Cladding
Welding:	According to latest ASME
Double Tube Sheet:	Optional as this protects against service media leaking into the product

Applications

Suitable for most hygienic applications as found in the Pharmaceutical, Biotechnology, Chemical, Food, Beverage and API / Bulk Drugs sectors including:

- General plant water systems
- Water for injection (WIP) applications
- Purified water systems
- Purified plus water systems
- Clean -in-Place (CIP) applications
- General product heating and cooling duties
- API Plan 23 applications
- API Plan 21 applications