



# Shell & Tube Heat Exchangers

**PRE-ENGINEERED SERIES: HFF** 



# Heat Exchangers

## Qualifies for the QUICK SHIP PROGRAM



# MATERIALS

SHELL	Brass
TUBES	Copper with option for 90/10 or 70/30 CuNi Tube Diameter Options: $\frac{1}{4}$ , $\frac{3}{8}$ , and $\frac{5}{8}$ ,
HUBS	Brass with optional SAE four bolts connections
BONNETS	Cast Iron with option for Cast Bronze
FEET & BOLTING	Carbon Steel

#### BCF/HCF/HFF STANDARD DESIGN CAPABILITIES

	DESIGN PRESSURE	DESIGN TEMPERATURE
Tube Side	150 psi 10.5 kg/cm²	300⁰F 148.9℃
Shell Side	300 psi 21.1 kg/cm²	300⁰F 148.9℃

## DETAILS

- Compact design with shell diameters 2" to 8", standard tube lengths 8" to 72" with custom tube lengths to 144".
- Available in 1, 2 & 4 tube side pass configurations.
- Same day, three-day, or five-day Quick Ship Program available.
- ASME Code options available.

#### **EXCHANGER TYPE:**

Straight Tube Fixed Tubesheet

#### **ADVANTAGES:**

Less costly than removable bundle exchangers.

Provides maximum heat transfer surface area per given shell and tube size.

Easily interchangeable with designs of various manufacturers.

Flanged lip baffles ensure close tolerance, high efficiency and additional tube support.

Enlarged bundle entrance area of hub/tubesheet design lowers entrance velocity and pressure loss.

Tube side can be steam or mechanically cleaned.

Only tube side fluids exposed to gaskets.

No packed joints.

#### LIMITATIONS:

No provision for differential expansion of tubes and shell.

Shell side may not be mechanically cleaned.