

Shell & Tube Heat Exchangers

ENGINEERED SERIES: CENTURY® C400 Series

Southgate Process Equipment, Inc.

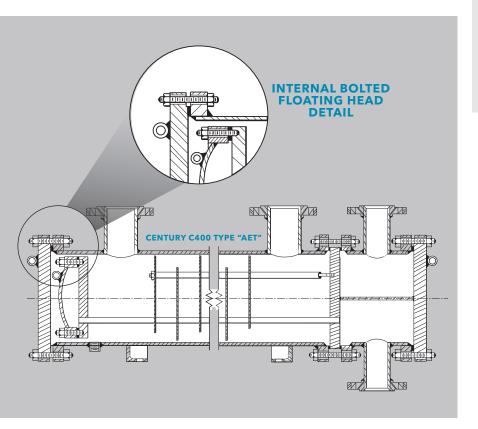
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CENTURY® C400



CENTURY® C400 STANDARD DESIGN CAPABILITIES

	DESIGN PRESSURE	DESIGN TEMPERATURE
Tube Side	75 - 450 psi 517 - 3,102 kPa	-20 - 650°F -29 - 343°C
Shell Side	75 - 300 psi 517 - 2,068 kPa	-20 - 650°F -29 - 343°C

Note: Custom designs to 3,600 psi/24,816 kPa and 1000°F/538°C, depending on shell diameter and design temperature.

DETAILS

- Straight tube, internally bolted floating head, pull-through construction with removable bundle.
- Multi-pass tube arrangements for maximum efficiency over a wide variety of tube side flow volumes.
- Standard shell sizes from 8 inches through 42 inches in diameter; custom designs up to 60 inches in diameter.

ADVANTAGES:

Bundle can be removed from shell for cleaning or maintenance.

Lack of packed joints allows for handling volatile or toxic fluids.

Large bundle entrance area.

Allows for differential thermal expansion between shell and tubes.

Bundle can be pulled without removing floating head cover.

LIMITATIONS:

Less heat transfer surface area given shell and tube size than other removable bundle designs.

The costliest of all basic types of heat exchanger designs.

Gasket leak detection not possible on floating head.

TEMA Type AET or BET. Can meet TEMA "B", "C" and "R", ASME Section VIII Div. 1 and ASME Section III "N" stamp.

MATERIALS

Standard Designs

Shells

 Shells - Steel, 304SS, 316SS, 304LSS, 316LSS up to 42-inch diameter

Bonnets/Channels

 Bonnets/channels - Steel, 304SS, 3136SS, 304LSS, 316LSS, Cast Iron, Cast Bronze, Ductile Iron.

Tubesheets

 Tubesheets - Aluminum Bronze, 90/10 CuNi, Muntz, RNB, 304SS, 316SS, 304LSS, 316LSS Steel.

Tubes

 Tubes - Carbon Steel, Stainless Steel, Nickel and Nickel Alloys, Titanium and other Alloys. Bare and Lo-Fin Tubing.

CAPABILITIES

- Hydraulic tube expansion
- Seal and strength welding of tubes to tubesheet
- Expansion joints (flanged and flued head as well as bellows type)
- Surface finish analysis
- Heat transfer test laboratory (4,000 ft2)
- Helium leak testing
- Radiographic, ultrasonic and magnetic particle testing (sub-contracted)
- API oil flushing

DESIGN CAPABILITIES

Custom Designs

Materials

- Stainless steel(s) (including Alloy 20, 317SS, AL6XN, 904LSS, etc.)
- Hastelloy Titanium Monel
- 90/10 CuNi 70/30 CuNi Inconel
- Incoloy® Avesta 254SMO

(Note: Weld qualifications may have to be developed)

Diameter

 Up to 42 inches for standard designs; custom designs up to 60 inches

Length

 Up to 30 feet for standard steel designs and 21 feet for standard stainless steel designs; custom designs up to 40 feet.

Temperature

• From -20°F (-29°C) up to 655°F (343°C) with standard designs; custom designs from -300°F (-184°C) up to 1000°F (538°C).

Weight

• 50 tons maximum

SPECIFICATIONS

- ASME Section III "N" stamp
- ASME Section VIII Division 1
- TEMA Classes "B", "C" and "R"
- API
- ABS
- US Navy (Mil C-15730)
- The Pressure Equipment Directive (97/23/EC)

MODELS OF EFFICIENCY













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