



Gas



Liquid & Slurry



Solid & Powder



Steam & Water

## Heat Exchangers

# TUBE-IN-TUBE DTC

### SAMPLE CONDITIONING

DTC (dual tube coil) tube-in-tube heat exchangers are spirally wound, full counter flow heat exchangers well suited for a variety of applications where low flow rates of high temperature and/or high pressure fluids need cooling or heating.

#### MODELS

DTC-CU/CU

DTC-SS/CU

DTC-IN/CU

DTC-SS/SS

DTC-IN/SS

#### BENEFITS

The sturdy tube-within-a-tube concept uses heavy duty terminal fittings to provide for a plain tube end interface for the inner tube, and a compression connection for the outer tube. The plain end of the inner tube is easily adapted to a variety of connections including compression, threaded, socket weld, sanitary clamp and many more.

The tube-within-a-tube design also provides for high pressure/temperature capabilities on both sides of the heat exchanger, providing greater application flexibility.

The single continuous inner tube increases reliability and cleanliness and allows the unit to be completely drainable.

#### FEATURES

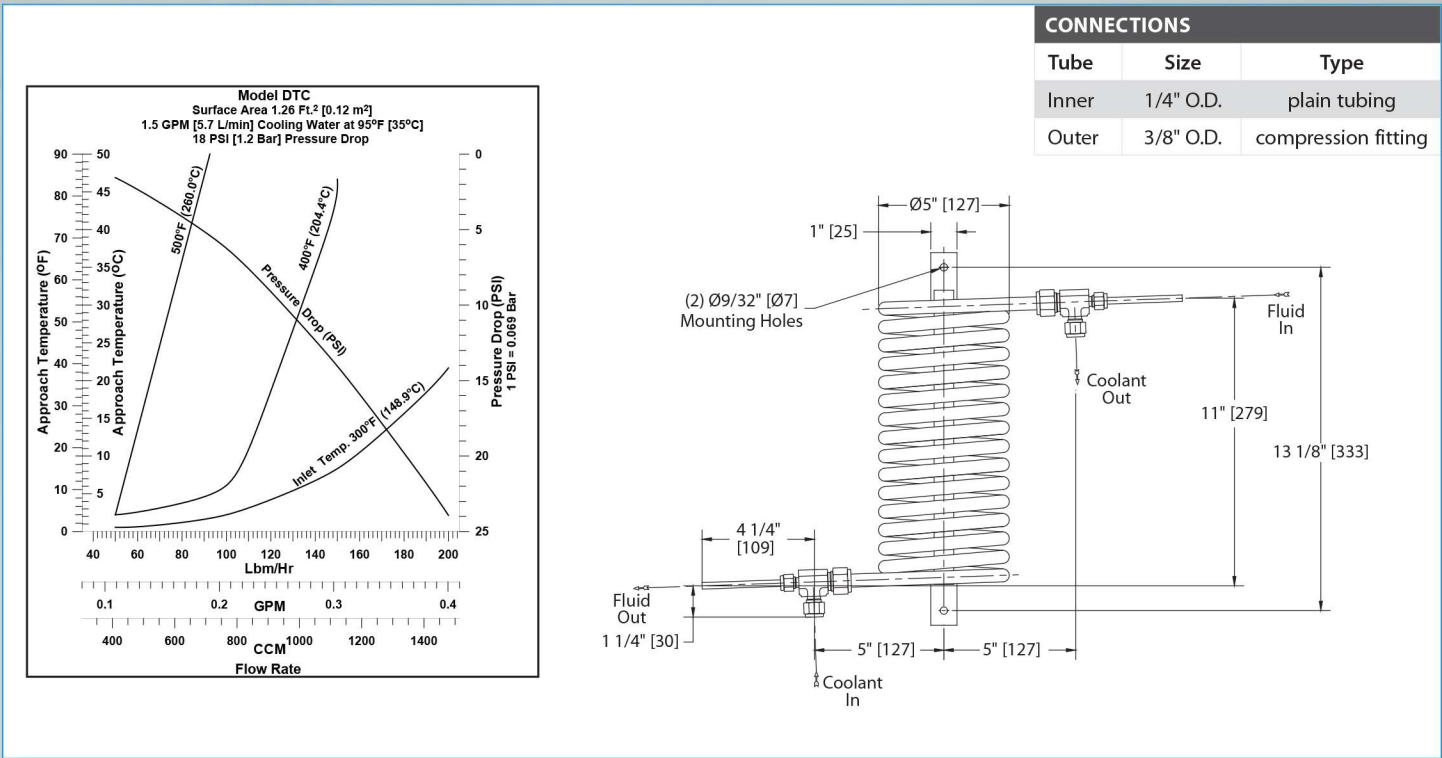
- Fully drainable inner and outer coil
- Spiral wound for maximum counter-flow efficiency
- Constant fluid velocity
- No dead spots or crevices
- Excellent for multi-phase/multi-component fluids and slurries
- Highly resistant to thermal and hydraulic shock
- Materials to meet any application: 300 grade stainless steel, copper, nickel alloys, titanium (inner tube only) or zirconium (inner tube only)



Sample. Monitor. Measure.



Any Application. Anywhere.



| CONNECTIONS |           |                     |
|-------------|-----------|---------------------|
| Tube        | Size      | Type                |
| Inner       | 1/4" O.D. | plain tubing        |
| Outer       | 3/8" O.D. | compression fitting |

**SPECIFICATIONS**

| models    | inner tube design                     | outer tube design                   | inner tube material | outer tube material | heat transfer area                          | weight         |
|-----------|---------------------------------------|-------------------------------------|---------------------|---------------------|---|----------------|
| DTC-CU/CU | 2000 psi at 300°F (137 bar at 148°C)  | 700 psi at 300°F 48 bar at 148°C    | 1/4 in OD copper    | 1/2 in OD copper    | 1.26 ft <sup>2</sup> (0.12 m <sup>2</sup> ) | 12 lb (5.5 kg) |
| DTC-SS/CU | 4900 psi at 1000°F (337 bar at 537°C) | 700 psi at 300°F 48 bar at 148°C    | 1/4 in OD 316SS     | 1/2 in OD copper    | 1.26 ft <sup>2</sup> (0.12 m <sup>2</sup> ) | 12 lb (5.5 kg) |
| DTC-IN/CU | 5450 psi at 1100°F (375 bar at 593°C) | 700 psi at 300°F 48 bar at 148°C    | 1/4 in OD Inconel®  | 1/2 in OD copper    | 1.26 ft <sup>2</sup> (0.12 m <sup>2</sup> ) | 12 lb (5.5 kg) |
| DTC-SS/SS | 4900 psi at 1000°F (337 bar at 537°C) | 2300 psi at 1000°F 158 bar at 537°C | 1/4 in OD 316SS     | 1/2 in OD 316SS     | 1.26 ft <sup>2</sup> (0.12 m <sup>2</sup> ) | 12 lb (5.5 kg) |
| DTC-IN/SS | 5450 psi at 1100°F (375 bar at 593°C) | 2300 psi @1000°F 158 bar @537°C     | 1/4 in OD Inconel®  | 1/2 in OD 316SS     | 1.26 ft <sup>2</sup> (0.12 m <sup>2</sup> ) | 12 lb (5.5 kg) |

Performance data shows approach temperature (outer tube inlet + approach temp. = inner tube outlet temp) for three inner tube inlet temperatures and various flow rates. Data based on thermal properties of water. Cooling water 95°F (35°C) @1.5 GPM (5.7 L/min). Pressure drop <18 psi (1.2 bar). Consult company for other fluids flow, rates and pressure drops.

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