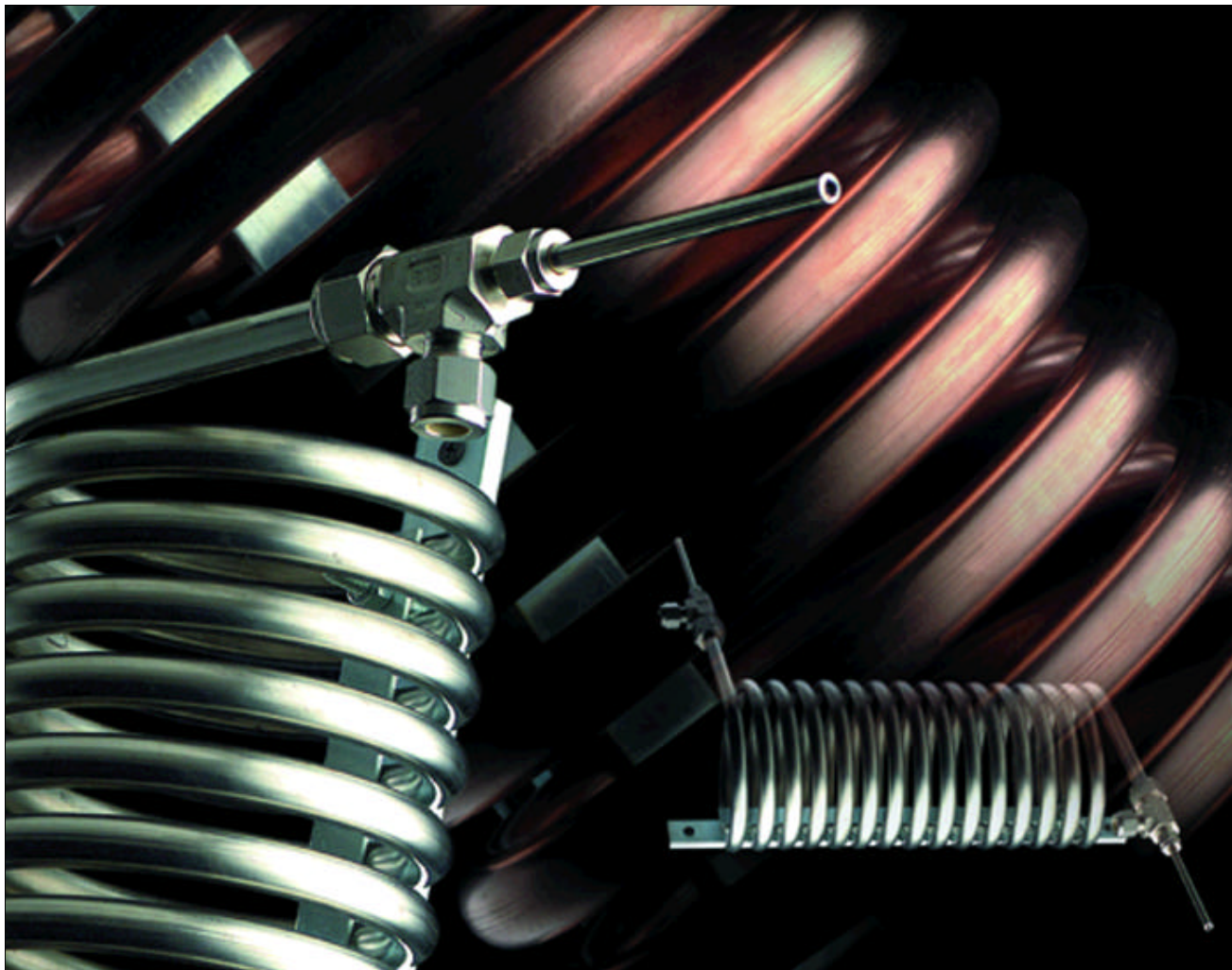




Dual Heat Transfer Coils

*Catalog 4295
Revised, December 1997*



Parker Dual Heat Transfer Coils

Introduction

Parker Dual Heat Transfer Coils have been made at the Instrumentation Connectors Division in Huntsville, Alabama since the early 70's. These unique and reliable heat exchangers assure maximum thermal efficiency for cooling high temperature, high pressure fluid samples.

Available in copper, stainless steel and other materials upon request, the Parker Dual Heat

Transfer Coils are manufactured with tube stub ends. This permits the user to choose from a broad range of end connections such as Parker CPI™, A-LOK®, Weld-lok, Automatic Buttweld, UltraSeal, VacuSeal and 37° flared fittings.

Parker Dual Heat Transfer Coils: Easy to install, efficient and excellent for a variety of applications.



WARNING

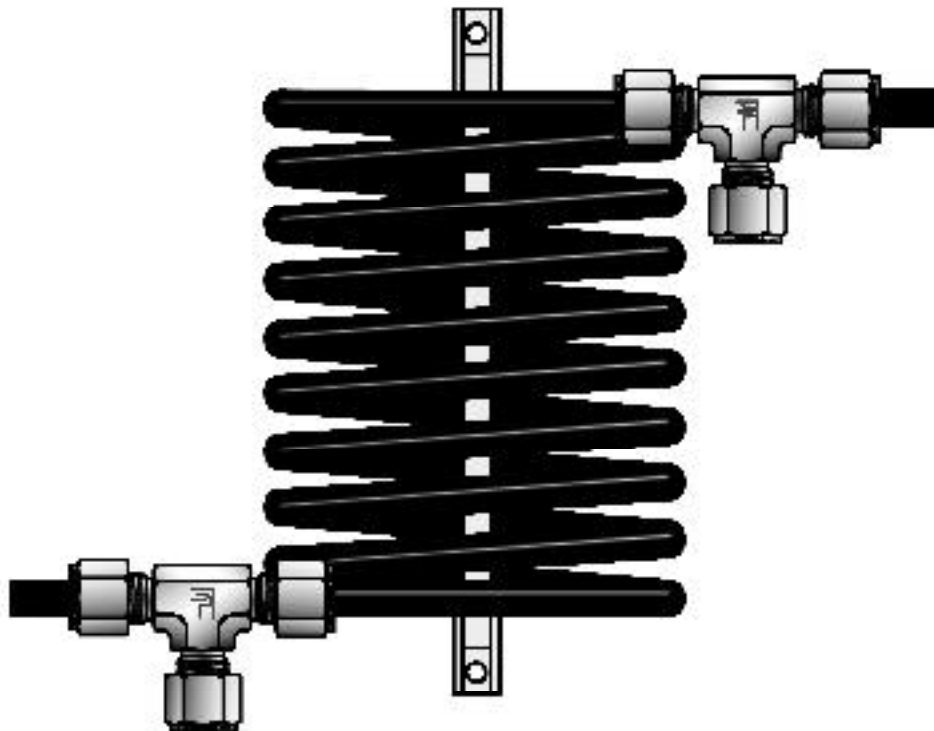
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Features

Parker Dual Heat Transfer Coils are rugged, high efficiency, counter-flow heat exchangers for cooling high temperature, high pressure fluid samples such as boiler steam, boiler feed water, superheat steam, hot chemical solutions and other process fluids.

Applications

They allow the operator to withdraw uncontaminated samples of a process fluid for laboratory testing at room temperature. Coils can also be used in continuous sampling systems for on-line process control.

Rugged Construction

The sturdy tube within a tube design features heavy duty forged terminal fittings.

Tube End Extensions

Permits the installer the flexibility to utilize any connection to hook up the inner tube.

Simple Installation

Convenient two-hole mounting bracket permits coil to be located near the point of measurement.

No Break In Inner Tube

Terminal fittings are designed to permit the inner tube to go through in one piece, like a thermocouple connection.

Forced Counterflow

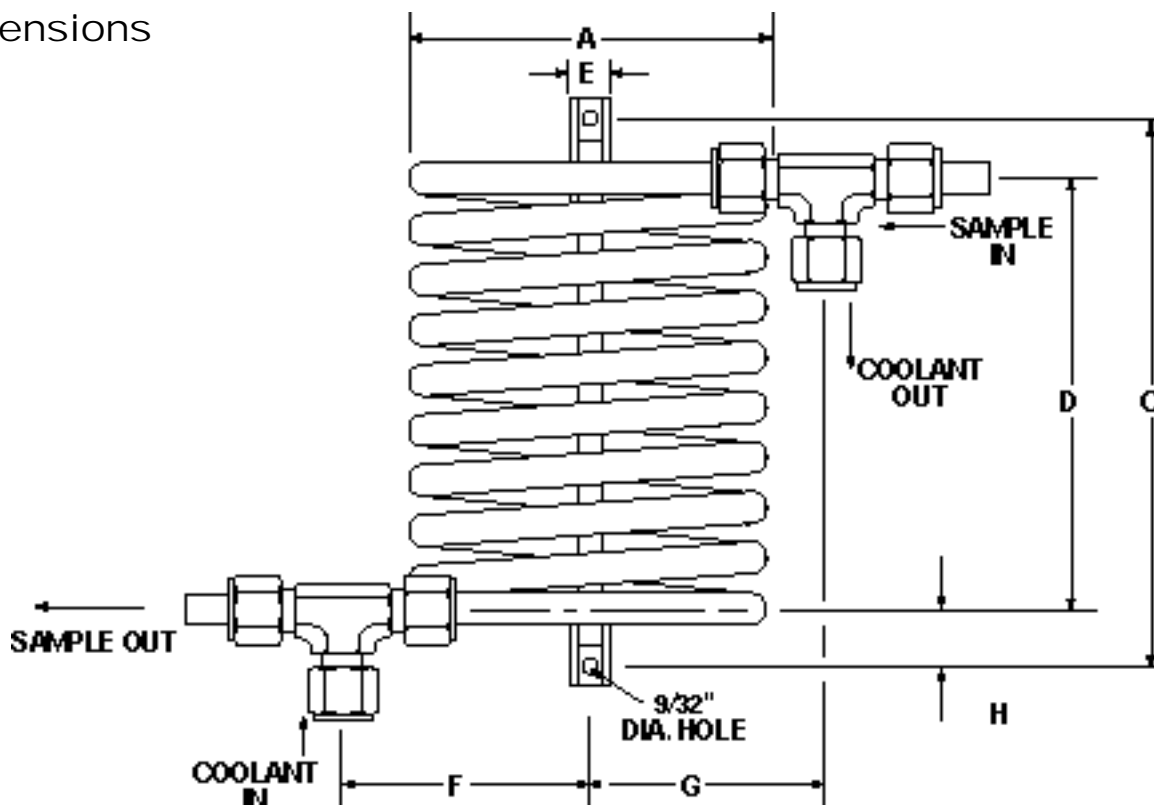
Insures maximum terminal efficiency.

ASME Code Design

Pressure and temperature ratings conform to the applicable ASME Boiler Code allowable stress values.

Parker Dual Heat Transfer Coils

Dimensions



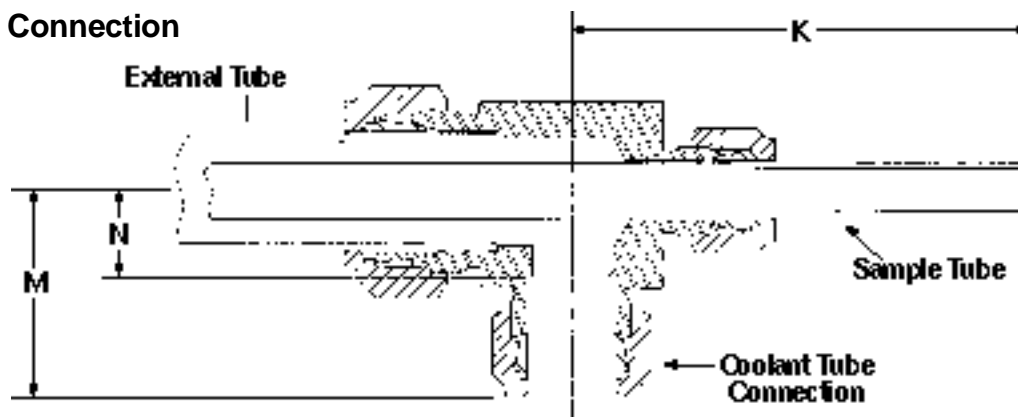
Installation Dimensions

| Inches | | | | | | | | | | | | | | | | |
|--------|-------------|-------------|--------------|---------------|-------------|--------------|-----------|--------------|-------------|------------|---------|--------|-------|-------|-------|-------|
| Size | Sample Tube | | | External Tube | | Coolant Tube | | No. of Coils | Weight Lbs. | Dimensions | | | | | | |
| | O.D. | Wall Thick. | Area Sq. Ft. | O.D. | Wall Thick. | O.D. | Max. Wall | | | A† | C | D† | E | F† | G† | H† |
| -4 | 1/4 | .049 | .80 | 1/2 | .049 | 3/8 | .065 | 15 | 12 | 5 | 13-1/16 | 11-1/4 | 1 | 5 | 5 | 7/8 |
| -6 | 3/8 | .049 | 1.44 | 3/4 | .065 | 5/8 | .083 | 9 | 16 | 8-1/2 | 13 | 9 | 1 | 7 | 7 | 2 |
| -8 | 1/2 | .065 | 1.93 | 1 | .083 | 3/4 | .095 | 10 | 30 | 8 | 16-7/16 | 13-3/4 | 1-1/2 | 6-3/4 | 6-3/4 | 1-7/8 |

| Type of Connection | Inches | | | | | |
|--------------------|--------|------------------|-------------------|------|------|-----|
| | Size | Sample Tube O.D. | Coolant Tube O.D. | K† | M† | N† |
| Tube End Extension | -4 | 1/4 | 3/8 | 4.13 | 1.26 | .57 |
| | -6 | 3/8 | 5/8 | 3.75 | 1.57 | .59 |
| | -8 | 1/2 | 3/4 | 4.63 | 1.67 | .69 |

† Average value

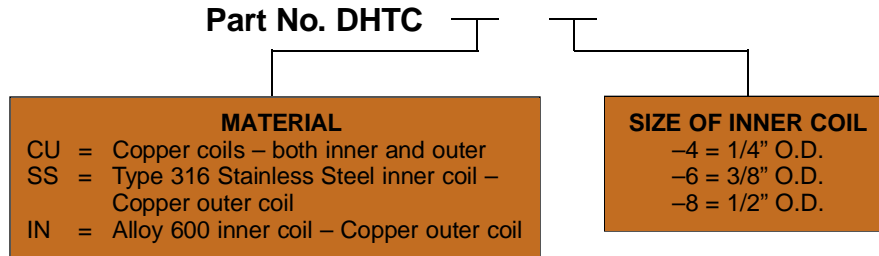
Terminal Connection



Sizing and Design Data

How to order

The correct part number is easy to arrive at by following the procedure below.

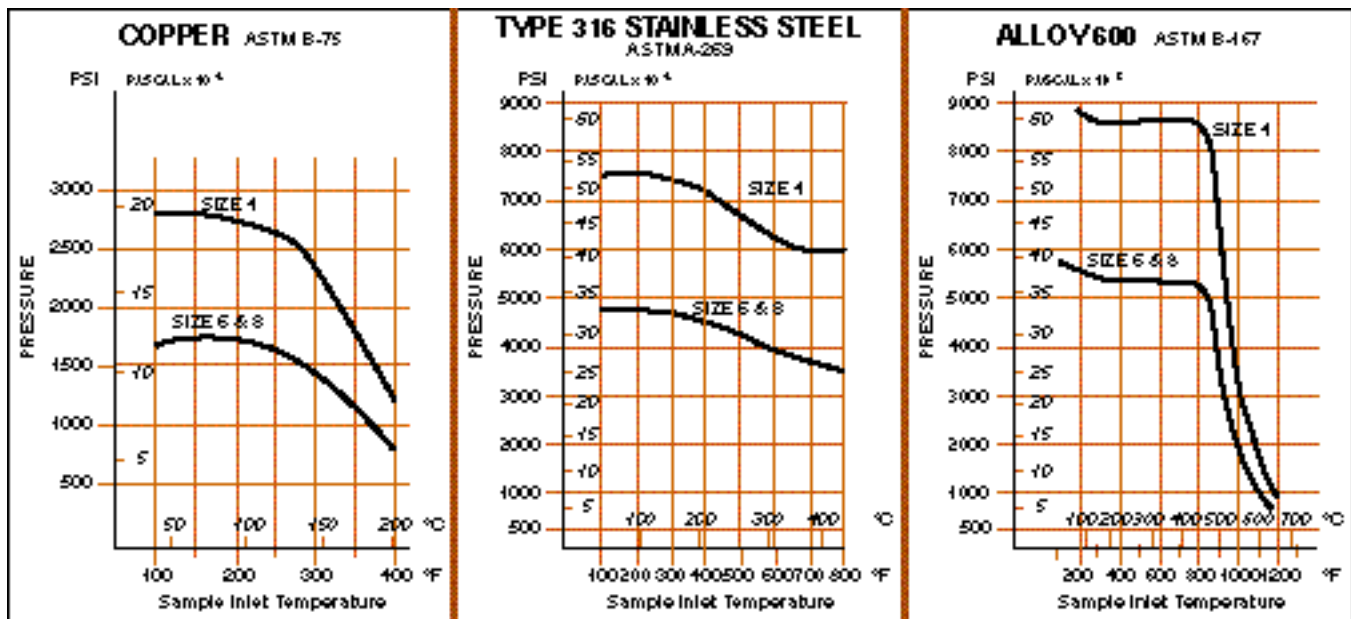


Typical Sample Capacity of Saturated Steam

| DHTC Size | Lbs./Hr. Steam Sample | | | | | Cooling Water Flow, GPM ΔP=15psi | Max. Outer Coil Pressure Psi (Up TO 200°F) |
|--------------|-----------------------|-----------------------------|--------------------|--------------------|--------------------|--|--|
| | Inner Coil Material | | | | | | |
| | Copper | Stainless Steel & Alloy 600 | | | | | |
| | 200 Psia 390°F | 200 Psia 390°F | 1000 Psia 540°F | 2500 Psia 665°F | 3500 Psia 730°F | | |
| 4 | 80 | 80 | 81 | 89 | 94 | 1.8 | 1200 |
| 6 | 202 | 188 | 203 | 223 | 236 | 4.5 | 1100 |
| 8 | 305 | 200 | 270 | 496 | 525 | 10 | 1000 |

Maximum Pressure / Temperature Rating of Sample Side Tube

Based on ASME Section VIII Allowable Stress Values



Availability

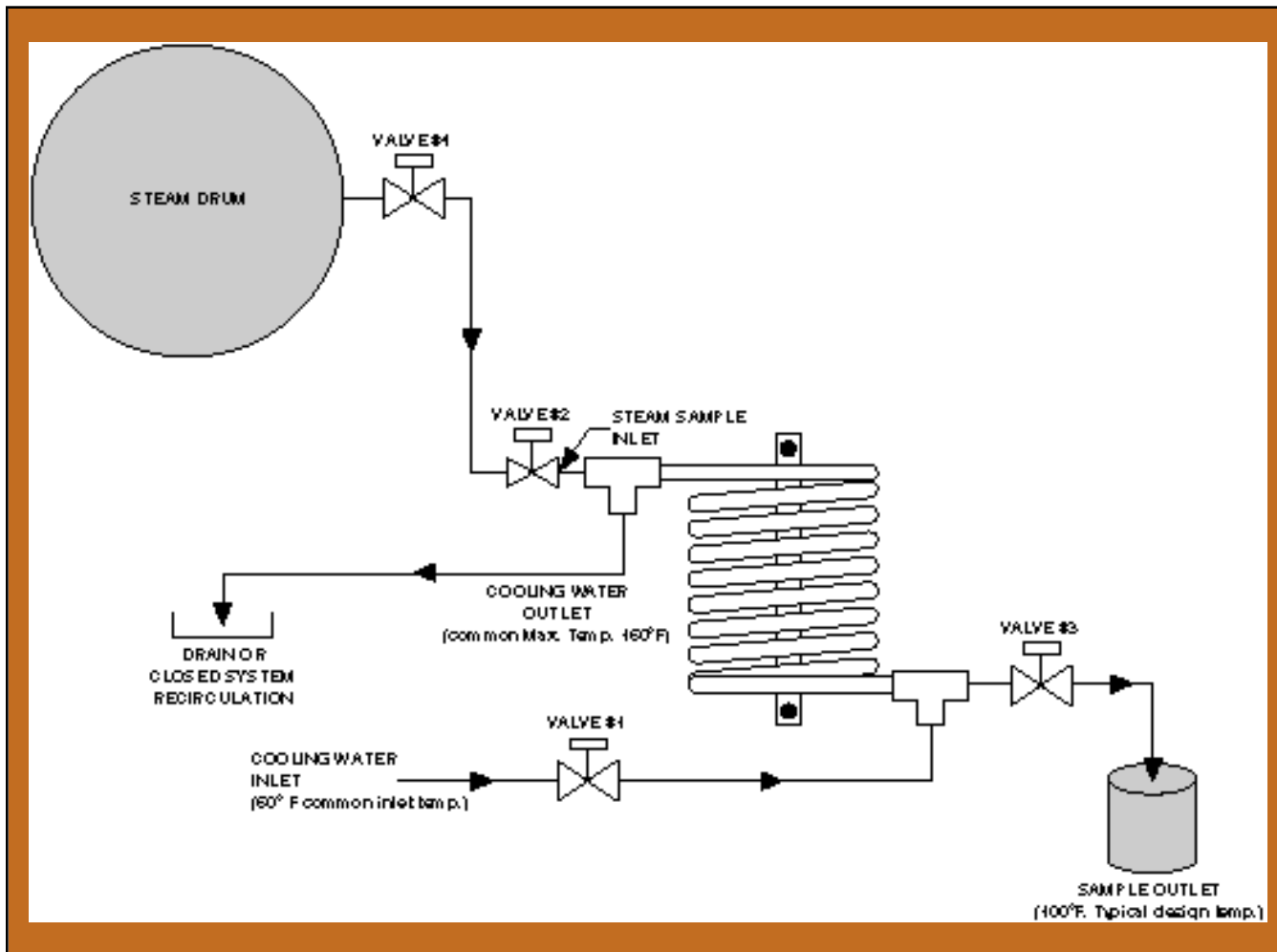
Copper Sample Tube: Available in 1/4", 3/8" and 1/2" with tube end extension.

Stainless Steel Sample Tube: Available in 1/4", 3/8" and 1/2" with tube end extension.

Alloy 600 Sample Tube: Available in 1/4", 3/8" and 1/2" with tube end extension.

Parker Dual Heat Transfer Coils

Typical Installation Diagram



Start Up Sequence

(All Valves Closed)

- Open cooling water valve #1.
- After adequate cooling water flow is established, gradually open valve #4, then sample inlet valve #2.
- Gradually open sample outlet valve #3 until desired sample flow rate is obtained (without exceeding suitable sample temperature).
- The position of sample outlet valve #3 should be maintained for all future sampling.

Shut-Off Sequence

- Close sample inlet valve #2.
- Close cooling water inlet valve #1.

Sampling Sequence

- Open cooling water inlet valve #1.
- After adequate cooling water flow is established, gradually open sample inlet valve #2 (keeping sample outlet valve #3 at its previously determined setting).

Note: Always open cooling water first and shut it off last. (It is good practice to occasionally cycle valve #4 so that when needed, it will be operable.)

Alloy 600 tubing is recommended for DHTC applications where halides may be present in the media.



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