

SAMPLE COOLERS

**LARGEST SELECTION OF MODELS
OFFERED BY ANY MANUFACTURER**

WATER • STEAM • PROCESS LIQUID/GAS

www.sentry-equip.com

BACKED BY
OVER 75 YEARS OF
HEAT TRANSFER
EXPERIENCE

Cool, Heat, Condense Or Condition Any Sample

Sentry has more types of sample coolers than any other manufacturer. Flows from 0.25 Gal/Hr (1 L/Hr) to 20 Gal/Min (4542 L/Hr) and pressure/temperature ratings up to 10,000psi/1500°F (690 bar/815°C) are available using single tube Helical Coil, multi-tube Spiral Tube or Tube-in-Tube heat exchanger designs.

With over 75 years of heat transfer experience, Sentry has the manufacturing know-how and engineering expertise to solve even the most complex sample conditioning problem. Special flow

configurations, end connections and exotic materials are our specialties.

A variety of international certifications are available for most of our sample cooler products including ASME and CRN.

Note: Sentry sample coolers are exempt from CE marking per Pressure Equipment Directive 97/23/EC. Vessels are below or equal to the limits set forth in Article 3, Sections 1.1, 1.2, 1.3, and section 2 as applicable, and are designed and manufactured in accordance with sound engineering practice. Specifically, the vessel meets the general requirements of the ASME Section VIII, Division 1 Boiler And Pressure Vessel Code. The nameplate will bear the name of Sentry Equipment Corp. and safety instructions will be included per Article 3, Section 3.

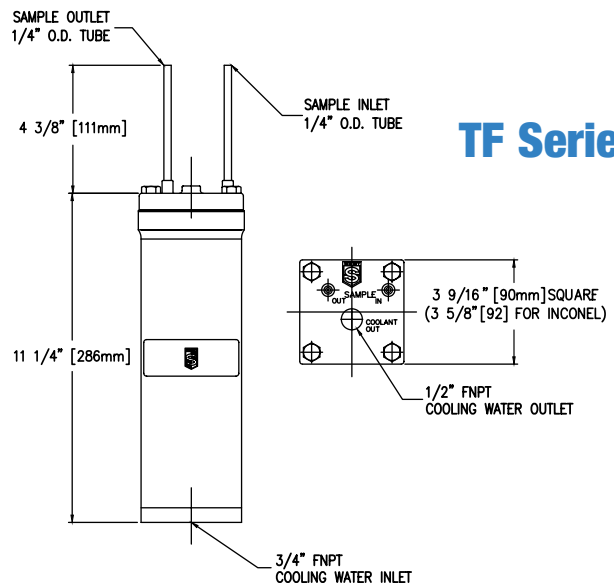
To learn more about Sentry Equipment and download referenced bulletins visit us at: www.sentry-equip.com

Helical Coil

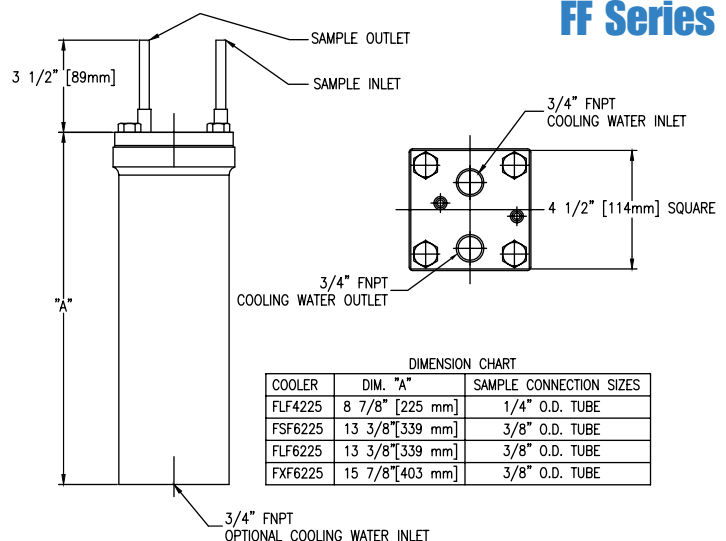


Our helical coil product line includes our most compact and high efficiency sample coolers. A single continuous tube in varying diameters and lengths is helically coiled and fitted in a shell. A variety of materials are available to suit most fluids and gases. Our TF and FF series are our most popular sample coolers since they provide maximum surface area in a compact space, lowering both acquisition and installation cost. Shells on these coolers are removable and are manufactured from stainless steel as a standard. Our WSW sample cooler is designed for high viscosity/low pressure drop service and is useful in cooling slurries and very low pressure samples.

- Flow rates to 1.5 GPM (5.7 LPM)
- Sample conditions to 5000psi/1000°F (345 bar/593°C)
- Single continuous tube
- High efficiency
- Compact design
- Code stamp
- 316SS, Inconel 625, Hastelloy, Titanium and other exotic materials



TF Series



FF Series

DIMENSION CHART

COOLER	DIM. "A"	SAMPLE CONNECTION SIZES
FLF4225	8 7/8" [225 mm]	1/4" O.D. TUBE
FSF6225	13 3/8" [339 mm]	3/8" O.D. TUBE
FLF6225	13 3/8" [339 mm]	3/8" O.D. TUBE
FXF6225	15 7/8" [403 mm]	3/8" O.D. TUBE

Helical Coil *continued*

Specifications - TF Series

Model No.	Shell Design	Tube Design	Tube Material	Shell Material	Area	Weight	Part Number
TSF-4225	450 psi @ 650°F 31 bar @ 345°C	5000 psi @ 1000°F 345 bar @ 540°C	1/4" O.D. 316SS	304SS	1.2 ft ² 0.11 m ²	9 lbs 4 kg	7-00687A
TSF-42B5	450 psi @ 650°F 31 bar @ 345°C	5000 psi @ 1100°F 345 bar @ 593°C	1/4" O.D. Inconel 625	304SS	1.2 ft ² 0.11 m ²	9 lbs 4 kg	7-00687H
TSF-44B5	150 psi @ 250°F 10 bar @ 121°C	5000 psi @ 1100°F 345 bar @ 593°C	1/4" O.D. Inconel 625	Cupronickel	1.2 ft ² 0.11 m ²	9 lbs 4 kg	7-00693F
Reference Bulletin 4.2 for complete TSF technical specifications.							
TLF-4225	450 psi @ 650°F 31 bar @ 345°C	5000 psi @ 1000°F 345 bar @ 540°C	1/4" O.D. 316SS	304SS	2.4 ft ² 0.22 m ²	12 lbs 5.5 kg	7-00686A
TLF-42B5	450 psi @ 650°F 31 bar @ 345°C	5000 psi @ 1100°F 345 bar @ 593°C	1/4" O.D. Inconel 625	304SS	2.4 ft ² 0.22 m ²	12 lbs 5.5 kg	7-00686L
TLF-44B5	150 psi @ 250°F 10 bar @ 121°C	5000 psi @ 1100°F 345 bar @ 593°C	1/4" O.D. Inconel 625	Cupronickel	2.4 ft ² 0.22 m ²	12 lbs 5.5 kg	7-00693E
Reference Bulletin 4.3 for complete TLF technical specifications.							

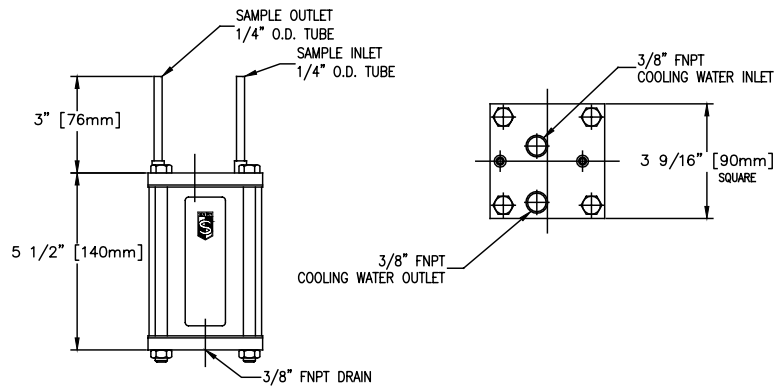
Specifications - FF Series

Model No.	Shell Design	Tube Design	Tube Material	Shell Material	Area	Weight	Part Number
FSF-6225	450 psi @ 650°F 31 bar @ 345°C	5000 psi @ 1000°F 345 bar @ 540°C	3/8" O.D. 316SS	304SS	1.7 ft ² 0.16 m ²	26 lbs 12 kg	7-00757C
FSF-62B3	450 psi @ 650°F 31 bar @ 345°C	3400 psi @ 1100°F 284 bar @ 593°C	3/8" O.D. Inconel 625	304SS	1.7 ft ² 0.16 m ²	24 lbs 11 kg	7-00632H
FSF-64B3	150 psi @ 250°F 10 bar @ 121°C	3400 psi @ 1100°F 284 bar @ 593°C	3/8" O.D. Inconel 625	Cupronickel	1.7 ft ² 0.16 m ²	26 lbs 12 kg	7-00632J
Reference Bulletin 4.4 for complete FSF technical specifications.							
FLF-4225	450 psi @ 650°F 31 bar @ 345°C	5000 psi @ 1000°F 345 bar @ 540°C	1/4" O.D. 316SS	304SS	2.4 ft ² 0.22 m ²	22 lbs 10 kg	7-00759A
FLF-6222	450 psi @ 650°F 31 bar @ 345°C	2485 psi @ 680°F 171 bar @ 360°C	3/8" O.D. 316SS	304SS	3.5 ft ² 0.33 m ²	24 lbs 11 kg	7-00760A
FLF-6225	450 psi @ 650°F 31 bar @ 345°C	5000 psi @ 1000°F 345 bar @ 540°C	3/8" O.D. 316SS	304SS	3.5 ft ² 0.33 m ²	31 lbs 14 kg	7-00757A
FLF-62B3	450 psi @ 650°F 31 bar @ 345°C	3400 psi @ 1100°F 284 bar @ 593°C	3/8" O.D. Inconel 625	304SS	3.5 ft ² 0.33 m ²	31 lbs 14 kg	7-00632K
FLF-64B3	150 psi @ 250°F 10 bar @ 121°C	3400 psi @ 1100°F 284 bar @ 593°C	3/8" O.D. Inconel 625	Cupronickel	3.5 ft ² 0.33 m ²	31 lbs 14 kg	7-00632M
Reference Bulletin 4.5 for complete FLF technical specifications.							
FXF-6223	450 psi @ 650°F 31 bar @ 345°C	2850 psi @ 1000°F 196 bar @ 540°C	3/8" O.D. 316SS	304SS	4.7 ft ² 0.44 m ²	35 lbs 16 kg	7-00757B
Reference Bulletin 4.6 for complete FXF technical specifications.							

Models listed are standard offerings. Consult referenced bulletins or factory for other materials and configurations.

Helical Coil *continued*

TRB Series



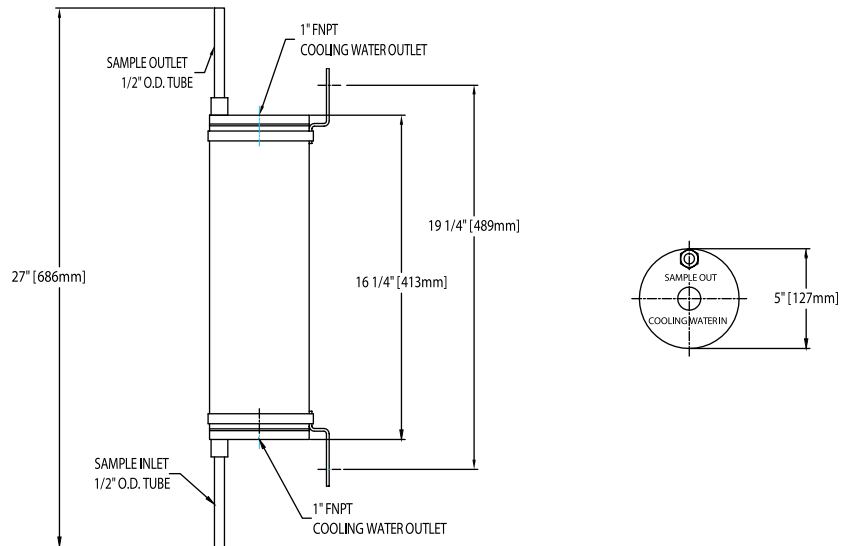
Specifications - TRB Series

Model No.	Shell Design	Tube Design	Tube Material	Shell Material	Area	Weight	Part Number
TRB-4222	250 psi @ 450°F 17 bar @ 232°C	2000 psi @ 635°F 140 bar @ 335°C	1/4" O.D. SS*	304SS	1.2 ft ² 0.11m ²	9 lbs 4 kg	7-00016A

Reference Bulletin 4.1 for complete TRB technical specifications.

* Tubing is 300 series stainless steel with chemical and physical properties equal to or better than T304.

WSW Series



Specifications - WSW Series

Model No.	Shell Design	Tube Design	Tube Material	Shell Material	Area	Weight	Part Number
WSW-8222	150 psi @ 300°F 10 bar @ 150°C	1200 psi @ 650°F 85 bar @ 345°C	1/2" O.D. 316SS	304SS	2.5 ft ² 0.23 m ²	25 lbs 11.5 kg	7-00712A

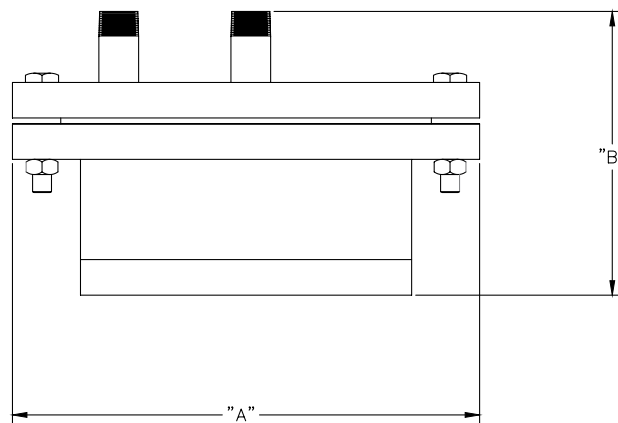
Reference Bulletin 4.7 for complete WSW technical specifications.

Spiral Tube

A spiral tube heat exchanger is a spirally coiled tube and manifold assembly fitted into a compact shell that optimizes heat transfer efficiency and space. The spiral shape of the coil and shell flow paths creates centrifugal force that enhances heat transfer on both sides in a true counterflow arrangement. By varying the number, diameter and length of the coiled tube, efficiency and footprint can be optimized vs. traditional shell and tube designs. Special manifold connections allow for efficient vapor condensing and gas stripping capability.



- Flow rates to 20 GPM (75.7 LPM)
- Sample conditions to 10000psi/1500°F (690 bar/815°C)
- Vapor condensing/gas stripping capabilities
- High flow in a small footprint
- Highly resistant to thermal and hydraulic shock
- Bolted or welded shell
- 316SS, Inconel 625, Hastelloy, Titanium and other exotic materials



Specifications - Spiral Tube

Series*	Tube Configuration				H.T. Area	Dimensions	
	1/4"	3/8"	1/2"	3/4"		A	B
xSxACx	x				3 ft ² 0.3 m ²	10" 254 mm	5" 127 mm
xSxCCx	x	x			4-7 ft ² 0.4-0.7 m ²	14" 355 mm	7"-10" 178-254 mm
xSxDCx	x	x			6-22 ft ² 0.6-2.1 m ²	17" 432 mm	7"-13" 178-330 mm
xSxFCx		x	x		13-44 ft ² 1.21-4.09 m ²	20" 279-559 mm	11"-22" 127 mm
xSxGCx		x	x	x	16-42 ft ² 1.5-3.9 m ²	23" 584 mm	14"-26" 355-660 mm
xSxJCx			x	x	33-117 ft ² 3.1-10.9 m ²	27" 686 mm	15"-30" 381-762 mm

Reference Bulletin 12.1.1 for complete Spiral Tube technical specifications.

Standard tube material - 316SS. Optional materials include: 304SS, Hastelloy, Inconel, Cupronickel and other alloys.
 Standard shell material - Carbon Steel. Optional materials include 304SS, 316SS and Cupronickel.
 Tubeside Pressure/Temperature ratings up to 10000psi/1500°F (9690 bar/815°C), based on tube configuration.
 Standard shell side Pressure/Temperature Rating-150psi/400°F (10 bar/204°C). Other ratings available.
 Consult factory for other configurations.
 One piece welded shell design available.
 * "x" denotes model specific information.

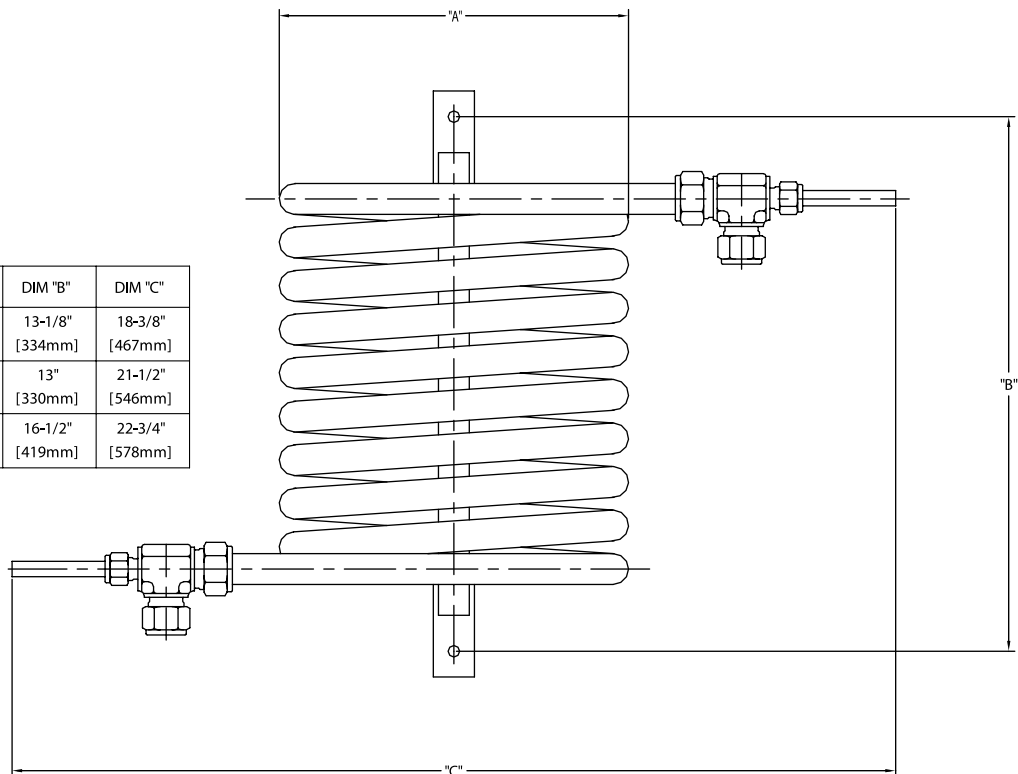
Tube-In-Tube

Our DTC (Dual Tube Coil) products are spirally wound, full counter flow heat exchangers, well suited for a variety of applications where low flow rates of high pressure and/or temperature fluids need heating or cooling. A variety of inner and outer tube sizes are available to meet most application requirements.

- Flow rates to 3 GPM (11.4 LPM)
- Sample conditions to 6000psi/1100°F (414 bar/593°C)
- Single continuous tube
- Fully drainable
- Highly resistant to thermal and hydraulic shock
- Sanitary capability
- Copper, 316SS, Inconel 625, Hastelloy, PTFE, Titanium and other exotic materials



SIZE	DIM "A"	DIM "B"	DIM "C"
DTC-4	5" [127mm]	13-1/8" [334mm]	18-3/8" [467mm]
DTC-6	8-1/2" [216mm]	13" [330mm]	21-1/2" [546mm]
DTC-8	8" [203mm]	16-1/2" [419mm]	22-3/4" [578mm]



Specifications - 4 Series

Model No.	Inner Tube Design	Outer Tube Design	Inner Tube Material	Outer Tube Material	H.T. Area	Weight	Part Number
DTC-CUA/CUA-4-1-1	2800 psi @400°F 193 bar @204°C	1200 psi @200°F 82 bar @93°C	1/4"O.D. Copper	1/2"O.D. Copper	1.26 ft ² 0.12 m ²	12 lbs 5.5 kg	7-02671A
DTC-SSA/CUA-4-1-1	5000 psi @1000°F 345 bar @538°C	1200 psi @200°F 82 bar @93°C	1/4"O.D. 316SS	1/2"O.D. Copper	1.26 ft ² 0.12 m ²	12 lbs 5.5 kg	7-02671B
DTC-NIA/CUA-4-1-1	6000 psi @1100°F 414 bar @593°C	1200 psi @200°F 82 bar @93°C	1/4"O.D. Inconel	1/2"O.D. Copper	1.26 ft ² 0.12 m ²	12 lbs 5.5 kg	7-02671C
DTC-SSA/SSB-4-1-1	5000 psi @1000°F 345 bar @538°C	1200 psi @200°F 82 bar @93°C	1/4"O.D. 316SS	1/2"O.D. 316SS	1.26 ft ² 0.12 m ²	12 lbs 5.5 kg	7-02671D
DTC-NIA/SSB-4-1-1	6000 psi @1100°F 414 bar @593°C	1200 psi @200°F 82 bar @93°C	1/4"O.D. Inconel	1/2"O.D. 316SS	1.26 ft ² 0.12 m ²	12 lbs 5.5 kg	7-02671E

Reference Bulletin 17.1 for complete DTC-4 technical specifications.

Specifications - 6 Series

Model No.	Inner Tube Design	Outer Tube Design	Inner Tube Material	Outer Tube Material	H.T. Area	Weight	Part Number
DTC-CUA/CUB-6-1-1	1600 psi @400°F 110 bar @204°C	1100 psi @200°F 76 bar @93°C	3/8"O.D. Copper	3/4" O.D. Copper	1.90 ft ² 0.18 m ²	16 lbs. 7.3 kg	7-02672A
DTC-SSC/CUB-6-1-1	5000 psi @1000°F 345 bar @538°C	1100 psi @200°F 76 bar @93°C	3/8"O.D. 316SS	3/4" O.D. Copper	1.90 ft ² 0.18 m ²	16 lbs. 7.3 kg	7-02672B
DTC-NIA/CUB-6-1-1	4000 psi @1100°F 276 bar @593°C	1100 psi @200°F 76 bar @93°C	3/8"O.D. Inconel	3/4" O.D. Copper	1.90 ft ² 0.18 m ²	16 lbs. 7.3 kg	7-02672C
DTC-SSC/SSC-6-1-1	5000 psi @1000°F 345 bar @538°C	1100 psi @200°F 76 bar @93°C	3/8"O.D. 316SS	3/4" O.D. 316SS	1.90 ft ² 0.18 m ²	16 lbs. 7.3 kg	7-02672D
DTC-NIA/SSC-6-1-1	4000 psi @1100°F 276 bar @593°C	1100 psi @200°F 76 bar @93°C	3/8"O.D. Inconel	3/4" O.D. 316SS	1.90 ft ² 0.18 m ²	16 lbs. 7.3 kg	7-02672E

Reference Bulletin 17.1 for complete DTC-6 technical specifications.

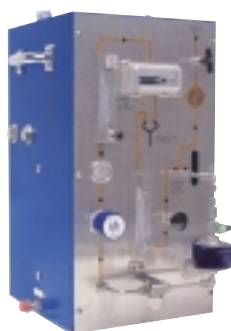
Specifications - 8 Series

Model No.	Inner Tube Design	Outer Tube Design	Inner Tube Material	Outer Tube Material	H.T. Area	Weight	Part Number
DTC-CUB/CUC-8-1-1	1600 psi @400°F 110 bar @204°C	1000 psi @200°F 69 bar @93°C	1/2"O.D. Copper	1"O.D. Copper	2.52 ft ² 0.23 m ²	30 lbs. 13.6 kg	7-02673A
DTC-SSB/CUC-8-1-1	2500 psi @1000°F 172 bar @538°C	1000 psi @200°F 69 bar @93°C	1/2"O.D. 316SS	1"O.D. Copper	2.52 ft ² 0.23 m ²	30 lbs. 13.6 kg	7-02673B
DTC-NIB/CUC-8-1-1	4000 psi @1100°F 276 bar @593°C	1000 psi @200°F 69 bar @93°C	1/2"O.D. Inconel	1"O.D. Copper	2.52 ft ² 0.23 m ²	30 lbs. 13.6 kg	7-02673C
DTC-SSB/SSD-8-1-1	2500 psi @1000°F 172 bar @538°C	1000 psi @200°F 69 bar @93°C	1/2"O.D. 316SS	1"O.D. 316SS	2.52 ft ² 0.23 m ²	30 lbs. 13.6 kg	7-02673D
DTC-NIB/SSD-8-1-1	4000 psi @1100°F 276 bar @593°C	1000 psi @200°F 69 bar @93°C	1/2"O.D. Inconel	1"O.D. 316SS	2.52 ft ² 0.23 m ²	30 lbs. 13.6 kg	7-02673E

Reference Bulletin 17.1 for complete DTC-8 technical specifications.

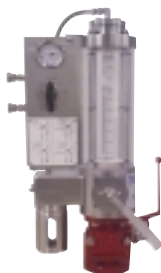
Models listed are standard offerings. Consult referenced bulletins or factory for other materials and configurations.

Here Is A Sampling Of *Sentry's* Product Line



WATER/STEAM SAMPLING

- Sample Coolers
- VREL Pressure Reducers
- Back Pressure Regulator/Relief Valves
- Thermal Shut Off Valves
- Single Line Sample Panels
- Cation Resin Columns
- Degassed Conductivity Panels
- Corrosion Product Samplers
- Temperature Control Units
- Sample Sequencers/Manifold Valves
- Custom Chemical Feed Systems
- Custom Sampling Systems



PROCESS SAMPLING

- Needle Samplers
- Cylinder Samplers
- Tube Stub Samplers
- Back Purge Samplers
- Fixed Volume Samplers
- Custom Process Sample Panels
- Inline Samplers
- Slurry Samplers
- Top Reactor Samplers

**Every Employee an Owner,
Every Customer a Commitment**



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