



# SENTRY TSR-STANDARD SINGLE HELICAL TUBE Sample Coolers

## SAMPLE CONDITIONING

The Sentry® TSR sample cooler cools a sample from a process stream. It may seem simple, but it is a uniquely designed small tube in a shell heat exchanger. The sample to be cooled flows through the tube side of the cooler, and the cooling fluid, usually water, flows through the shell side. The cooled sample then is taken to a laboratory for analysis or piped to in-line process instrumentation for continuous monitoring of properties such as conductivity, pH or other chemical constituents.

### MODELS

TSR-4225 / TSR-4225U                      TSR-4BB5  
 TSR-42B5 / TSR-42B5U                    TSR-45B5(S)  
 TSR-4525(S)/TSR-4525U(S)

### BENEFITS

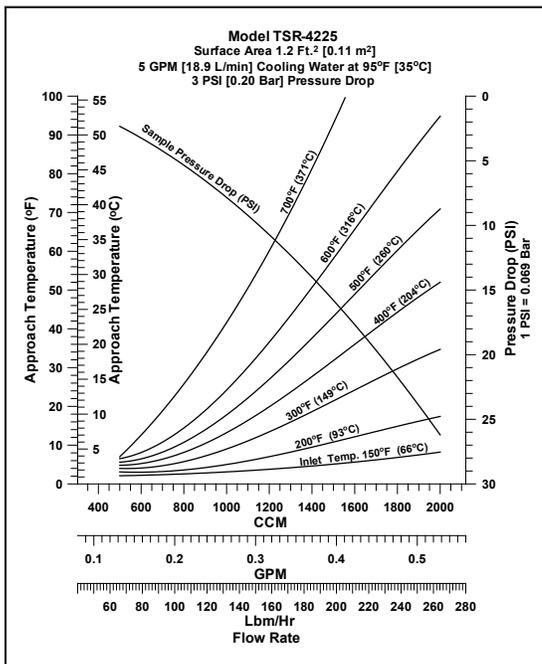
The Sentry TSR sample cooler is compact and provides broad application flexibility through the use of a variety of sample tube materials. It offers optimal service for flows below 1200 cc per minute for single phase heat transfer. Standard tube side materials are 316/316L stainless steel and Alloy 625. See the special materials information sheet for other materials available.

### FEATURES

- Single helical coil design
- Minimize cooling water needs
- Wide variety of exotic alloys for corrosion resistance
- Retained shellside gasket reduces reassembly time
- Formed shell eliminates top shell flange weld interfaces
- Mounting bracket can be installed without removing flange bolts



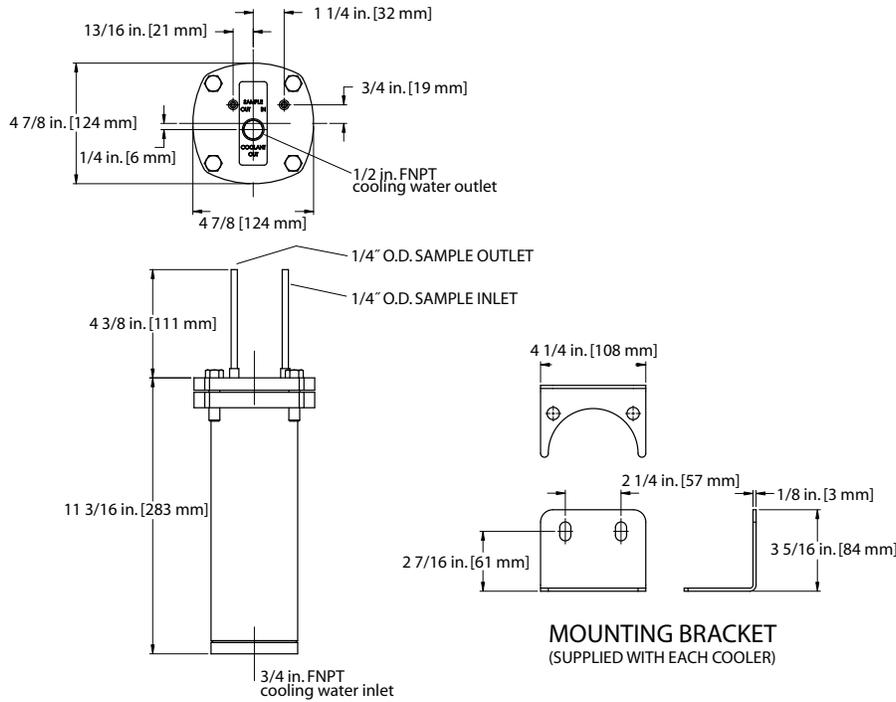
**NOTE:** Not recommended for steam condensing service. See TLR, FLR, FXR series sample coolers for steam applications.



### PERFORMANCE CURVE (Water)



Sample. Monitor. Measure.  
**SENTRY**  
 Any Application. Anywhere.



**SPECIFICATIONS**

models	shell design	tube design	tube material	shell material	area	shipping weight	part number	
TSR-4225	450 psi at 650°F (31 bar at 343°C)	5000 psi at 1000°F (345 bar at 538°C)	316/316L SS 1/4 in OD x 0.049 in AW	304/304L SS	1.2 ft <sup>2</sup> (0.11 m <sup>2</sup> )	14 lb (6 kg)	7-03952A	
TSR-4225U		4400 psi at 1000°F (303 bar at 538°C)	316/316L SS 1/4 in OD x 0.049 in AW				7-03952B	
TSR-42B5		5000 psi at 1100°F (345 bar at 593°C)	Alloy 625 1/4 in OD x 0.035 in AW				7-03952C	
TSR-42B5U		5000 psi at 1100°F (345 bar at 593°C)	Alloy 625 1/4 in OD x 0.035 in AW				7-03952D	
TSR-4BB5		5000 psi at 1100°F (345 bar at 593°C)	Alloy 625 1/4 in OD x 0.035 in AW	Alloy 625			7-03952E	
TSR-45B5(S)		5000 psi at 1100°F (345 bar at 593°C)	Alloy 625 1/4 in OD x 0.035 in AW	316/316L SS			7-03952R	
TSR-4525(S)		430 psi at 650°F (30 bar at 343°C)	5000 psi at 1100°F (345 bar at 538°C)				316/316L SS 1/4 in OD x 0.049 in AW	7-03952Q
TSR-4525U(S)			4400 psi at 1100°F (303 bar at 538°C)				316/316L SS 1/4 in OD x 0.049 in AW	7-05016T

**NOTES:**

- U in model number denotes ASME stamped model.
- Canadian Registration Number available for ASME stamped models only. Consult factory for CRN and other options and information.
- Vessels are exempt from CE marking per PED 2014/68/EU, TÜV. Vessels are below or equal to the limits set forth in Article 4, Sections 1(a), 1(b), 1(c) and Section 2 as applicable, and are designed and manufactured in accordance with sound engineering practice (meets the general requirements of the ASME Section VIII, Division 1, Boiler And Pressure Vessel Code). Nameplate will bear the Sentry name and safety instructions will be included per Article 4, Section 2.

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