Accessories - Sheath-type Thermocouples

Pressures to 60,000 psi (4137 bar)

Thermocouples provide reliable temperature measurement within a fluid system.

Similar to low pressure thermocouples, this design also permits direct temperature monitoring at any point in a fluid system. The sheath type thermocouple features grounded junction and rapid response - 100 milliseconds or less at 63.3% of a step charge.

Temperature Rating

Rating to 2,000°F (1093°C) at tip of thermocouple. (Refer to adjacent Pressure/Temperature chart for elevated temperatures.) Minimum operating temperature 0°F (-17.8°C)

Sheath Length

Differs for each size connection for optimum tip contact with fluid stream.

Materials

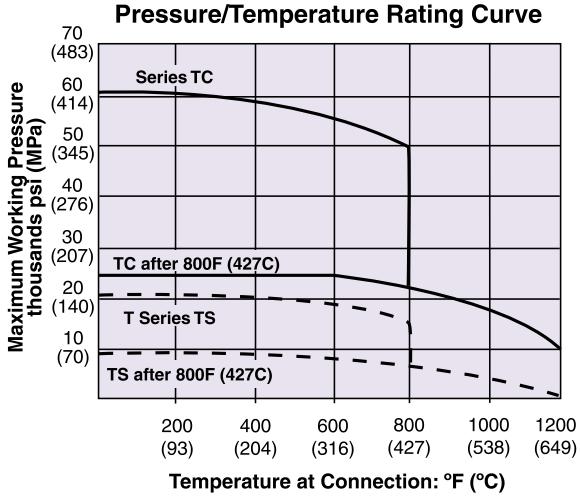
Bodies are 15-5PH stainless steel. 316 sheath brazed into body with gold-nickel alloy brazing material. An aluminum terminal housing is threaded into the body for ready access to terminals. An o-ring seal provides moisture protection.

Ordering Information

To order thermocouples for use in standard Parker Autoclave Engineers tees or crosses, use order numbers listed in table (**fittings not included as standard**). For custom length sheaths, to extend through a vessel wall or cover, calculate sheath length as follows:

1. Add vessel wall or cover thickness to the distance the sheath will extend into vessel.
2. When using a basic 1/4" Autoclave connection, subtract dimension "M" for proper sheath length to order.
3. For all other connection sizes, add dimension "N" to measurement obtained in step 1.
4. Order a custom length sheath by adding desired length in inches as suffix to order number.

Pressure/Temperature Rating Curve



Standard collar and gland are cold worked 316 SS for use up to 1200°F (649°C). When cold worked 316 SS collar and gland are used, the physical properties are permanently altered after use above 800°F (427°C).

CAUTION: While testing has shown O-rings to provide satisfactory service life, both cyclic and shelf life may vary widely with differing service conditions, properties of reactants, pressure and temperature cycling, and age of the O-ring. FREQUENT INSPECTION SHOULD BE MADE to detect any deterioration, and O-rings replaced as required.

CAUTION: See appropriate pressure section in reference to proper selection of tubing.

All general terms and conditions of sale, including limitations of our liability, apply to all products and services sold.

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Accessories - Sheath-type Thermocouples

Series TS 20,000 psi (1379 bar)

Catalog Number	Fits Connection Type	Tubing Size Inches (mm)	Element Type	Dimensions - inches (mm) L	M	N	H	Fitting Pattern
TSJ4	SF250CX	1/4	iron constantan	0.28	0.50		5.78	See Figure 1
TSK4		(3.18)	chromel-alumel	(7.11)	(12.70)		(146.81)	
TSJ6	SF375CX	3/8	iron constantan	1.19		0.19	6.67	
TSK6		(9.52)	chromel-alumel	(30.23)		(4.83)	(166.88)	
TSJ9	SF562CX	9/16	iron constantan	1.19		0.13	6.50	See
TSK9		(14.28)	chromel-alumel	(30.23)		(3.30)	(165.10)	Figure 2
TSJ12	SF750CX	3/4	iron constantan	2.00		0.50	6.88	
TSK12		(19.05)	chromel-alumel	(50.80)		(12.70)	(174.75)	
TSJ16	SF1000CX	1	iron constantan	2.62		0.57	6.94	
TSK16		(25.4)	chromel-alumel	(66.55)		(14.48)	(176.28)	
TSJ24	SF1500CX	1-1/2	iron constantan	3.25		.688	7.062	(See note below)
TSK24		(38.10)	chromel-alumel	(82.55)		(17.48)	(179.38)	

Series TC 60,000 psi (4137 bar)

Catalog Number	Fits Connection Type	Tubing Size Inches (mm)	Element Type	Dimensions - inches (mm) L	M	N	H	Fitting Pattern
TCJ4	F250C	1/4	iron constantan	0.38	0.50		5.88	See Figure 1
TCK4		(3.18)	chromel-alumel	(9.65)	(12.70)		(149.35)	
TCJ6	F375C	3/8	iron constantan	1.38		0.32	6.69	
TCK6		(9.52)	chromel-alumel	(35.05)		(8.13)	(169.93)	See
TCJ9	F562C	9/16	iron constantan	1.62		0.25	6.62	Figure 2
TCK9		(14.28)	chromel-alumel	(41.15)		(6.35)	(168.15)	

Note: All thermocouples are furnished complete with connection components unless otherwise specified.
Basic assembly includes 1/4" connection with adapters for other O.D. tube sizes.

TSJ24 and TSK24 do not extend past the wall of the bore.

Maximum pressure rating is based on the lowest rating of any component.
Actual working pressure may be determined by tubing pressure rating, if lower.

All dimensions for reference only and subject to change.
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

Figure 1

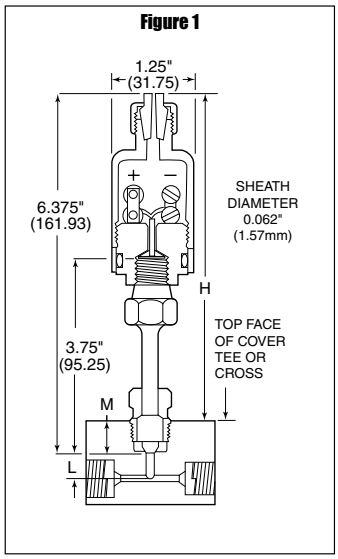
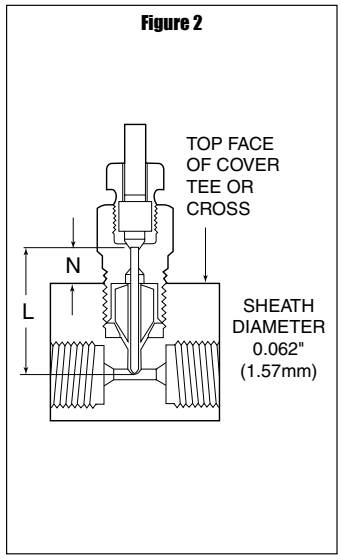


Figure 2



Note: The tee shown in both figures are for reference only. Tee is not included.

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