

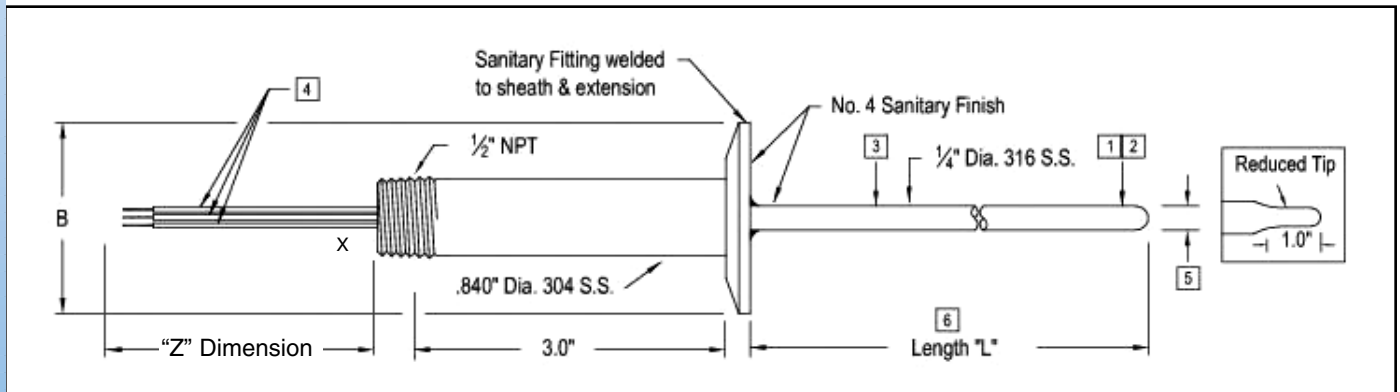
## Model 451 Direct Immersion Sanitary RTD

Designed for temperature measurement applications in food, beverage, pharmaceutical and other applications where sensor corrosion and product contamination are critical.

**Model 451** combines a polished RTD probe with a choice of sanitary cap fittings and connection heads. The probe sheath and sanitary cap are welded to the lagging extension.



- Surfaces are available ranging from 63 to 8 Ra.
- Choice of sanitary fittings.
- Reduced-tip option.
- Choice of connection heads including a special epoxy coated version for protection during caustic washdown.
- No. 4 finish meets 3A standards. (Min.)



### Specifications:

1. Base Model	Base Model/Series Number.	
2. A. Accuracy:	<i>Standard</i>	Class B (no code)
	<i>High</i>	Class A (code H)
	<i>Special</i>	Customer Specified (code S)
B. TCR:	* Industry Standard is DIN Curve (code 01B), Platinum, 100@ 0°C. Conforms to IEC 751.	
	Temperature Coefficient of Resistance is the temperature vs. resistance characteristics of a given metal (Pt, Cu & Ni) used in manufacturing the RTD. Determines the curve of the RTD.	
C. Ice Point Resistance:	R <sub>0</sub> - Resistance at 0°C (32°F)	
D. Response Time:	Dependent on sheath diameter, the narrower the diameter - the faster the response.	
3. Construction:	Code A - 316L SS tube and wire construction, thin film element (.00385055), Teflon insulated lead wire. Code C - 316L SS tube and wire construction, wire wound element, fiberglass insulated lead wire.	
4. Lead Wires:	<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>3 - Wire</p> </div> <div style="text-align: center;"> <p>4 - Wire</p> </div> <div style="text-align: center;"> <p>6 - Wire (Dual 3 - Wire)</p> </div> <div style="text-align: center;"> <p>8 - Wire (Dual 4 - Wire)</p> </div> </div>	
5. Sheath Diameter:	.250" (1/4") is the industry standard.	
6. Sheath Length:	From flange to tip.	
7. Sanitary Fitting:	Select type, size and material.	
8. Leadwire Length:	Length of wires beyond sheath.	

Model	Description		
451	<b>Direct Immersion Sanitary RTD</b>		
1	Code	R <sub>0</sub> & Temperature Coefficient	
	01B	100 ohm Platinum .00385055 TCR 100 ohms @ 0° C - Industry Standard	
	01A	100 ohm Platinum .003902 TCR 100 ohms @ 0° C	
	10A	1000 ohm Platinum .003902 TCR 1000 ohms @ 0° C	
	10B	1000 ohm Platinum .00385055 TCR 1000 ohms @ 0° C	
	12N	120 ohm Nickel .00672 TCR 120 ohms @ 0° C	
	09C	10 ohm Copper (9.035) .004274 TCR 10 ohms @ 25° C	
	Add Code "H" for higher accuracy Add Code "S" for special accuracy Add Code "M_", ME for matched to element, MT for matched to transmitter, MP for matched to probe.		
	2	Code	Construction Temperature Limit
		A	500° F Maximum
C	900° F Maximum		
3	Code	Number of Lead Wires	
	2	2-Wire (No lead Compensation)	
	3	3-Wire (Lead Compensation)	
	4	4-Wire (Complete Compensation)	
	6	Dual 3-Wire (With dual element)	
8	Dual 4-Wire (With dual element)		
4	Code	Sheath Diameter	
	C	.250" (1/4") Diameter	
C/N	.250" (1/4") Diameter Sheath/.156" Diameter Tip		
5	Code	Sheath Length	
	XXX.X	Specify length to nearest 0.1"	
6	Code	Sanitary Fitting	
	A	Ladish Tri-Clover	
G	Cherry -Burrell		
7	Cap	Nominal Size "X"	Actual Size (for reference only)
		0.5	.984
		0.75	.984
		1.0	1.984
		1.5	1.984
		2.0	2.516
		2.5	3.047
	3.0	3.579	
Material	B = 316LSS - Industry Standard		
8	Code	Lead Wire Length	
	Z006	6" Standard with head	
ZXXX	Other - Specify length and type		
451 - 01B - A - 2 - C - 003.5 - A2.0B - Z006		Sample Model Number	
- - - - - - - - - -		Your Model Number	

