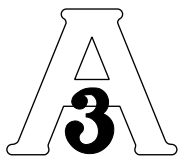


# SPECIAL PURPOSE

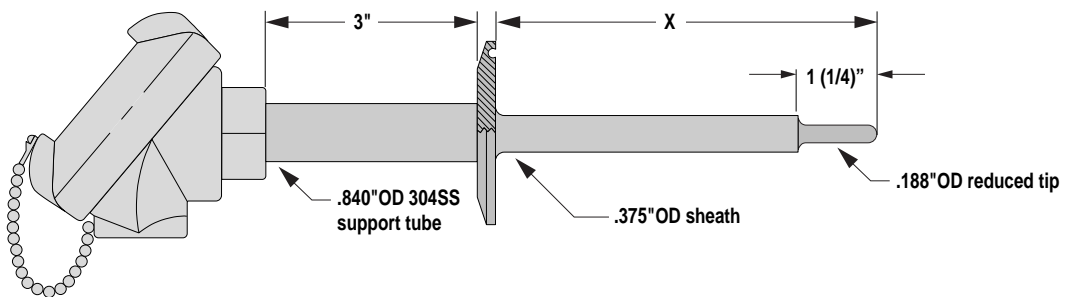
# FAST TEMPERATURE RESPONSE RTDs with CIP FITTINGS

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Some process applications requiring the use of RTD sensors with CIP sanitary connections also require a sensor with a fast response time. One such application requirement is for sensors used with indicating thermometers located on pasteurization pipelines and recorders/controllers for continuous pasteurizers, when these devices are used in the 'High Temperature Short Time' (HTST) Grade A milk pasteurization process system. Response time requirements are discussed in the FDA publication 'Grade A Pasteurized Milk Ordinance', Appendix H, pages 158, 159, and 160, 1985 Revision. The actual testing procedure is outlined in the same publication in Appendix I, Tests 7 and 8 on pages 167 and 168. This is a response time test of the indicating thermometer or the recorder/controller and their integral temperature sensor measuring the milk temperature. A maximum response time of 4 seconds is allowed for indicating thermometers, when the cooled temperature sensor is placed in a heated bath and the time interval is measured between the time the indicator reads 19°F (11°C) below the bath temperature and when it reads 7°F (4°C) below the bath temperature. The recorder/controller test measures the time interval between the instant when the recording thermometer reads 12°F (7°C) below the cut-in temperature and the moment of cut-in by the controller. This time interval for the recorder/controller cannot exceed 5 seconds, thus the sensor response time itself must be faster than the 4 or 5 seconds allowed, in order that the devices can pass the test. The Pyromation reduced tip RTD sensors listed on this page provide a speed of response time fast enough to allow either an indicating thermometer or the recorder/controller to pass this HTST pasteurization process test. The sanitary caps listed are those most commonly used in such processes. The sanitary caps are welded to the sheath and to a heavier support tube, all of stainless steel, and then ground and polished to a finish that exceeds No. 4 minimum finish required by the **3-A Sanitary Council Standard #09-08**. The process contact surfaces are free of pits, crevices, and pockets thus preventing corrosion and bacteria growth. The three wire constructed sensor assembly consists of a high accuracy platinum element sealed inside a 316 stainless steel sheath and is provided with a FDA compliant white thermoplastic gasketed connecting head. The complete assembly provides excellent washdown protection, however it is recommended that once customer connections are made, the connecting terminals be further protected by applying a coating of moisture proof sealant over the connections. See catalog page SP - 1 for sealant.



Authorized  
74-00



Maximum Temperature Rating: 400°F (204°C)

Pasteurization Test Response Time: 3 to 3.5 seconds typical

EXAMPLE  
ORDER NUMBER:

**R5T185L68R38 04 3 - HTST - 2 - 5 - 63**

1-1

100 OHM PLATINUM RTD ASSEMBLIES		
ORDER CODE	TEMP. COEF.	ACCURACY @ 0°C
<b>SINGLE</b>		
R3T185L68R38	.00385	± .03%
R5T185L68R38	.00385	± .01%
R3T191L68R38	.00391	± .03%
<b>DUPLEX</b>		
R3T285L68R38	.00385	± .03%
R5T285L68R38	.00385	± .01%
R3T291L68R38	.00391	± .03%

1-2

IMMERSION LENGTH "X"
Specify " X " Length in Inches Using 2 Digits, Plus any Fractional Length Desired
Examples: 04 = 4", 05(1/2) = 5(1/2)"

2

SANITARY CAP SIZE			
ORDER CODE	TUBE OD INCHES	ORDER CODE	TUBE OD INCHES
1	1(1/2)"	4	3"
2	2"	5	Other (Specify)
3	2(1/2)"		

4

OPTIONS	
ORDER CODE	DESCRIPTION
63	White polypropylene head
31W	White epoxy coated alum. head
0	W/o head with 6" teflon leads
T	Head mounted transmitter (See page RTD - 11)
HS	Head supplied with wire seal security screws
I	Stainless steel tags

3

SANITARY CAP STYLE	
ORDER CODE	DESCRIPTION
1	16A cap - Tri Clover
2	16A cap - Tri Clover w/13-H nut
3	16APV cap - Alloy Products
4	16APV cap-Alloy Prod. w/13-H nut
5	16 AMP cap - Tri Clover
6	3A4 adaptor (.50" OD support tube)
7	16A1-141 cap Cherry Burrell
8	Other (describe)

NOTE: See page SP-1 for cap illustrations