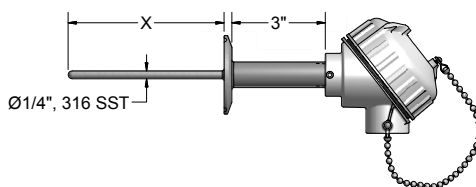


General-purpose CIP sanitary-connected RTD temperature sensors are used in food, dairy, beverage, pharmaceutical, and chemical processing applications where sensor corrosion and product contamination are critical factors. The sanitary caps listed are those most commonly used in such processes. Sanitary caps are welded to the sheath and to a heavier support tube, all made of stainless steel, and then ground and polished to a finish that exceeds the No. 4 minimum finish required by the **3-A Sanitary Standard 74**. Assemblies are supplied with a surface finish that meets or exceeds 32µin R<sub>a</sub>. Surface finishes of 15µin R<sub>a</sub> or better are available upon request. The process contact surfaces are free of pits, crevices, and pockets thus preventing corrosion and bacteria growth. The 3-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. 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.



74-



Maximum temperature limit: 200 °C [392 °F]

### ORDER CODES

Example Order Number:

**R5T185L483**

**04**

**CIP**

**2**

**5**

**63, T**

#### 1-1 Pt100 (α = 0.003 85 °C<sup>-1</sup>) RTD Assemblies

| CODE          | TOLERANCE <sup>[1]</sup> |
|---------------|--------------------------|
| <b>SINGLE</b> |                          |
| RAF185L483    | Class A                  |
| R1T185L483    | Grade B                  |
| R3T185L483    | Class AA                 |
| R5T185L483    | (1/5) Class B            |
| <b>DUPLEX</b> |                          |
| RAF285L483    | Class A                  |
| R1T285L483    | Grade B                  |
| R3T285L483    | Class AA                 |
| R5T285L483    | (1/5) Class B            |

[1] Refer to RTD tolerance information in the General Information section for calculations to determine specific tolerance at temperature.

#### Thermocouple Assemblies

For CIP thermocouple assemblies use T/C types J, K, T, or E and options G for grounded junction or U for ungrounded junction as per example.  
EXAMPLE: TP48G-04 - CIP - 2 - 5 - 63

#### 1-2 Immersion Length "X"

Specify "X" length in inches using 2 digits, plus any fractional length desired  
Examples: 04 = 4", 05(1/2) = 5.5"

#### 2 Sanitary Cap Size

| CODE | TUBE O.D. (inches) | CODE | TUBE O.D. (inches) |
|------|--------------------|------|--------------------|
| 1    | 1(1/2)             | 4    | 3                  |
| 2    | 2                  | 5    | Other (specify)    |
| 3    | 2 (1/2)            |      |                    |

#### 4 Terminations

| CODE                | DESCRIPTION   |
|---------------------|---|
| 91                  | 316L stainless steel screw-cover head   |
| 63                  | White polypropylene screw-cover head  |
| 31,W                | Aluminum screw-cover head with white epoxy coating  |
| 22 (06)             | 6" individual fluoropolymer leads with terminal pins  |
| 02                  | 1/2" O.D., 2 1/4" long extension leadwire transition (requires table 4 & 5 selections from RTD section) |
| <b>Head Options</b> |   |
| T                   | Head-mounted transmitter (see Transmitter Section)  |
| I                   | Stainless steel tags  |
| HS                  | Wire seal security screws   |

#### 3 Sanitary Cap Style

| CODE | DESCRIPTION   |
|------|---|
| 2    | 16A cap - Bevel Seat with 13-H Nut <sup>[1]</sup> 304SS |
| 5    | 16 AMP cap - Tri-Clamp® 316SS                           |
| 7    | 16AI-14I cap <sup>[2]</sup> 304SS                       |
| 8    | Other (describe)  |

[1] Must be manually cleaned

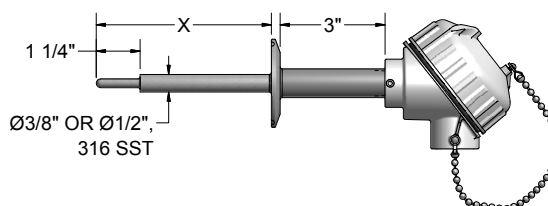
[2] Not 3-A authorized

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General-purpose reduced-tip CIP sanitary-connected RTD temperature sensors are used in food, dairy, beverage, pharmaceutical, and chemical processing applications where sensor corrosion and product contamination are critical factors. The reduced tip construction provides strength along the major sheath length, and faster temperature response times at the reduced tip. The reduced tip sizes listed below are the most common constructions. For other configurations please consult the factory. 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 made of stainless steel, and then ground and polished to a finish that exceeds the No. 4 minimum finish required by the **3-A Sanitary Standard 74**. Assemblies are supplied with a surface finish that meets or exceeds 32µin R<sub>a</sub>. Surface finishes of 15µin R<sub>a</sub> or better are available upon request. The process contact surfaces are free of pits, crevices, and pockets thus preventing corrosion and bacteria growth. The 3-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. 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.



74-



Maximum temperature limit: 200 °C [392 °F]

## ORDER CODES

**Example Order Number:**

**R5T185L68R383**

**- 04 - CIP - 2 - 5 - 63, I**

### 1-1 Pt100 ( $\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$ ) RTD Assemblies

| CODE          |               | TOLERANCE <sup>[1]</sup> | NORMAL SHEATH DIA. O.D. (inches) | TIP DIAMETER OD (inches) |
|---------------|---------------|--------------------------|----------------------------------|--------------------------|
| SINGLE        | DUPLEX        |                          |                                  |                          |
| RAF185L88R483 | RAF285L88R483 | Class A                  | 1/2                              | 1/4                      |
| RAF185L68R383 | RAF285L68R383 | Class A                  | 3/8                              | 3/16                     |
| R1T185L88R483 | R1T285L88R483 | Grade B                  | 1/2                              | 1/4                      |
| R1T185L68R383 | R1T285L68R383 | Grade B                  | 3/8                              | 3/16                     |
| R3T185L88R483 | R3T285L88R483 | Class AA                 | 1/2                              | 1/4                      |
| R3T185L68R383 | R3T285L68R383 | Class AA                 | 3/8                              | 3/16                     |
| R5T185L88R483 | R5T285L88R483 | (1/5) Class B            | 1/2                              | 1/4                      |
| R5T185L68R383 | R5T285L68R383 | (1/5) Class B            | 3/8                              | 3/16                     |

[1] Refer to RTD tolerance information in the General Information section for calculations to determine specific tolerance at temperature.

### Thermocouple Assemblies

For CIP thermocouple assemblies use T/C types J, K, T, or E and options G for grounded junction or U for ungrounded junction as per example.

EXAMPLE: TP68R38G-04 - CIP - 2 - 5 - 63

### 1-2 Immersion Length "X"

Specify "X" length in inches using 2 digits, plus any fractional length desired. Examples: 04 = 4", 05(1/2) = 5.5"

### 2 Sanitary Cap Size

| CODE | TUBE O.D. (inches) | CODE | TUBE O.D. (inches) |
|------|--------------------|------|--------------------|
| 1    | 1(1/2)             | 4    | 3                  |
| 2    | 2                  | 5    | Other (specify)    |
| 3    | 2 (1/2)            |      |                    |

### 4 Terminations

| CODE         | DESCRIPTION   |
|--------------|---|
| 91           | 316L stainless steel screw-cover head   |
| 63           | White polypropylene screw-cover head  |
| 31,W         | Aluminum screw-cover head with white epoxy coating  |
| 22 (06)      | 6" individual fluoropolymer leads with terminal pins  |
| 02           | 1/2" O.D., 2 1/4" long extension leadwire transition (requires table 5 & 6 selections from RTD section) |
| Head Options |   |
| T            | Head-mounted transmitter (see Transmitter Section)  |
| I            | Stainless steel tags  |
| HS           | Wire seal security screws   |

### 3 Sanitary Cap Style

| CODE | DESCRIPTION   |
|------|---|
| 2    | 16A cap - bevel seat with 13-H nut <sup>[1]</sup> 304SS |
| 5    | 16 AMP cap - Tri-Clamp® 316SS                           |
| 7    | 16AI-14I cap <sup>[2]</sup> 304SS                       |
| 8    | Other (describe)  |

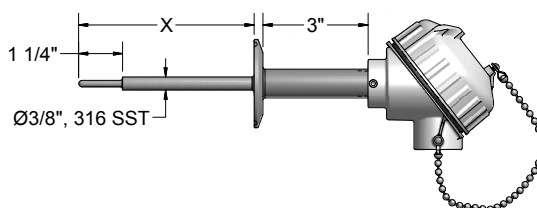
[1] Must be manually cleaned [2] Not 3-A authorized

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The sensors listed below are sanitary-connected RTD temperature sensor assemblies designed to meet the stringent requirements of HTST pasteurization systems. HTST requirements are described in the Grade "A" Milk Pasteurization Ordinance. The sensors listed on this page have response times below four seconds and come standard in accuracies at 100 °C [212 °F] ± 0.5 °C. The below listed assemblies are available in a variety of sanitary connections. All wetted parts are ground and polished to a finish that exceeds the No. 4 minimum finish required by the 3-A Sanitary Standards for Sensors and Sensor Fittings and Connections used on Milk and Milk Product Equipment Standard 74-. Assemblies are supplied with a surface finish that meets or exceeds 32µin R<sub>a</sub>. Surface finishes of 15µin R<sub>a</sub> or better are available upon request. The three-wire constructed sensor assembly consists of a high accuracy platinum element sealed inside a 316 stainless steel sheath and a white FDA compliant polypropylene connecting head. The complete assembly provides excellent wash down protection. 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.



74-



**Maximum temperature limit: 200 °C [392 °F]**  
**Pasteurization Test Response Time: 2 to 3 seconds typical**

### ORDER CODES

**Example Order Number:**

**R5T185L68R383** - **04** - **HTST** - **2** - **5** - **63**

#### 1-1 Pt100 (α = 0.003 85 °C<sup>-1</sup>) RTD Assemblies

| CODE          |               | TOLERANCE <sup>[1]</sup> |
|---------------|---------------|--------------------------|
| <i>SINGLE</i> | <i>DUPLEX</i> |                          |
| R3T185L68R383 | R3T285L68R383 | Class AA                 |
| R5T185L68R383 | R5T285L68R383 | (1/5) Class B            |

[1] Refer to RTD tolerance information in the General Information section for calculations to determine specific tolerance at temperature.

#### 1-2 Immersion Length "X"

Specify "X" length in inches using 2 digits, plus any fractional length desired.  
Examples: 04 = 4", 05(1/2) = 5.5"

#### 2 Sanitary Cap Size

| CODE | TUBE O.D. (inches) | CODE | TUBE O.D. (inches) |
|------|--------------------|------|--------------------|
| 1    | 1(1/2)             | 4    | 3                  |
| 2    | 2                  | 5    | Other (specify)    |
| 3    | 2 (1/2)            |      |                    |

#### 3 Sanitary Cap Style

| CODE | DESCRIPTION   |
|------|---|
| 2    | 16A cap - bevel seat with 13-H nut <sup>[1]</sup> 304SS |
| 5    | 16 AMP cap - Tri-Clamp® 316SS                           |
| 7    | 16AI-14I cap <sup>[2]</sup> 304SS                       |
| 8    | Other (describe)  |

[1] Must be manually cleaned

[2] Not 3-A authorized

#### 4 Terminations

| CODE         | DESCRIPTION   |
|--------------|---|
| 91           | 316L stainless steel screw-cover head   |
| 63           | White polypropylene screw-cover head  |
| 31,W         | Aluminum screw-cover head with white epoxy coating  |
| 22 (06)      | 6" individual Teflon® leads with terminal pins  |
| 02           | 1/2" O.D., 2 1/4" long extension leadwire transition (requires table 5 & 6 selections from RTD section) |
| Head Options |   |
| T            | Head-mounted transmitter (see Transmitter Section)  |
| I            | Stainless steel tags  |
| HS           | Wire seal security screws   |

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Teflon® is a registered trademark of E. I. du Pont de Nemours and Company.