

SANI-FLOW

# SANITARY RTD'S & TEMPERATURE TRANSMITTERS



TRANSMITTER

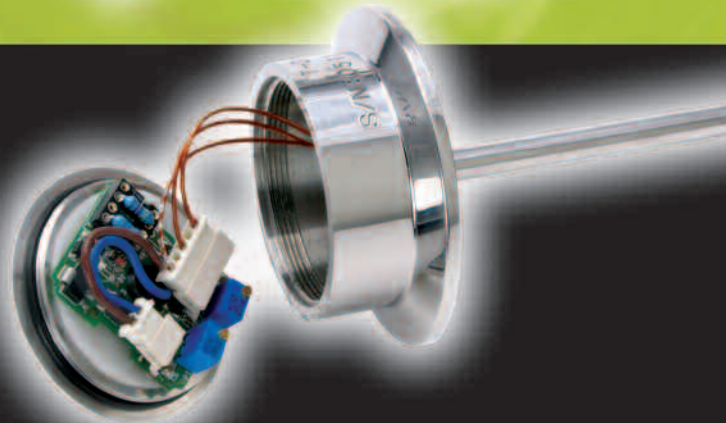


**RTD'S (RESISTANCE TEMPERATURE DETECTORS) include:**

- Platinum 100 Ohm 3 Wire Thin Film Element
- Compact, Durable All Stainless Steel Design
- 12 mm Industrial Connector with Gold Plated Copper Contacts
- NEMA 4X, IP-67 Rated

**TEMPERATURE TRANSMITTERS also include:**

- 4 to 20 mA Output
- Easy Span and Zero Adjustments
- Field Replaceable Circuit Board



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# SANITARY RTD'S & TEMPERATURE TRANSMITTERS

Chicago Stainless Equipment has been an innovator in manufacturing sanitary equipment for approximately 70 years. As with all of our products, **quality** is the most important aspect and is backed up by unmatched customer service.

The quality is evident in the unique compact design of our electronic temperature sensors. Our Sani-Flow RTD and Temperature Transmitters have been designed to withstand the harshest environment. They have a standard 12 mm industrial connector to allow for easy installation and removal. No complicated wiring or leaking heads; simply plug in the connector and it is ready to use. CSE RTD and Temperature Transmitters use 100ohm, 3 wire Platinum (PT-100 ohm) elements, designed for direct immersion in sanitary process applications for the quickest most accurate reading possible.

**FEATURES**

**Compact Design:** Means that these units will fit just about any location. No need to design around a bulky RTD or temperature transmitter.

**Durability:** All exterior surfaces are 316L stainless steel with a near mirror finish and the connector contacts are gold plated copper to assure maximum corrosion resistance and cleanliness. All components are surface mounted to protect the electronics from damage caused by vibration. Transmitters incorporate enhanced EMI/RFI rejection circuitry to prevent interference from outside sources.

**Cleanability:** These 3-A approved hermetically sealed sensors are IP-67 (NEMA 4X) rated for temporary submersion and can be aggressively washed down. They can be cleaned in place (C.I.P), steamed in place (S.I.P) and the transmitter is even capable of being autoclaved. The exterior has a clean, sanitarian preferred watershed design that is self draining.

**Connectorized:** Both the RTD and the Temperature Transmitter come with a standard 12mm industrial connector with gold plated contacts. This allows for quick and easy installation and removal. No complicated leaking wiring heads or tools required, simply plug in the connector and go. Cable can be purchased from CSE or from most industrial supply warehouses.

**Accuracy:** Sensor elements are accurate up to  $\pm 0.1^{\circ}\text{C}$ . Our PT-100 (Platinum 100 Ohm) 3 wire thin film RTD element ensures durability and the quickest most accurate reading possible.

**Repairable:** Designed with realization that nothing is indestructible, our sensors have been engineered to be repairable for a fraction of the replacement cost. The electronics can even be field replaced.

**Field Calibratable:** The zero and span of CSE Temperature Transmitters can be adjusted easily. They can even be calibrated or have their range changed in the field by a knowledgeable technician.

**Traceability:** All CSE sensors are permanently marked with model and serial numbers which allows for easy identification. We can even mark them with your numbers if preferred.

**Service:** As with all CSE products, these sensors come with our outstanding customer service where you can always talk to a knowledgeable engineer. Our sensors are available with many different fittings - most shipped from stock. We can also make special probe lengths to your exact requirements. All of this with a no hassle return policy and no restocking charges on standard items makes CSE RTD and Transmitters the perfect solution for your temperature sensing requirements.

**SPECIFICATIONS**

**RTD and TT**

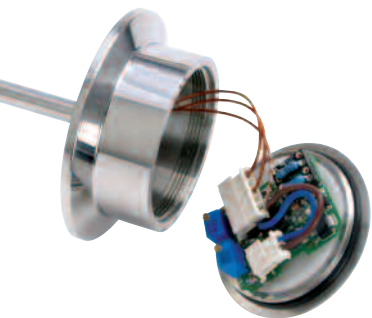
Description:	3 Wire PT-100 (Platinum – 100 Ohm resistor)
Coefficient:	Alpha = 0.00385 Ohms/Ohm/°C (Per DIN 43760)
Stability:	Less than 0.05°C drift per year (at 0°C)
Material:	316L SS wetted surfaces
Surface Finish:	R <sub>a</sub> max = 8 micro-inches
Ratings:	Nema 4X, IP-67
Connector:	Std. 12mm industrial connector, Gold plated copper contacts & Polyamide insert
CIP/SIP:	Yes

**RTD Element**

Accuracy:	$\pm 0.1^{\circ}\text{C}$ ( $\pm 0.18^{\circ}\text{F}$ )
Process Temperature	
Limits:	-50°C to 200°C (-58°F to 392°F)*

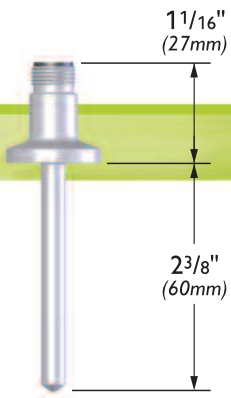
**TT - Temperature Transmitter**

Output:	4 to 20 mA analog
Input:	8 to 38 Volts DC loop power
Accuracy:	0.2% of full scale
Range:	-30°C to 150°C (-22°F to 302°F) factory or field rangeable**
Span:	20°C (36°F) Minimum – 200°C (360°F) Maximum
Linearity:	Better than $\pm 0.05\%$ of span referred to sensor temperature
Stability:	PT-100 (100°C span): 0.03% of span/°C
Autoclavable:	Yes, with cap and electronics removed
Case:	316L SS Hermetically "O"-ring sealed
Max Load:	R <sub>max</sub> = (V <sub>supply</sub> - 8V)/20mA
Burnout:	Upscale
Isolation:	Non-Isolated (Enhanced RMI-EMI rejection circuitry)
Wiring:	Standard 12mm industrial connector
Calibration:	Field calibratable, zero and span adjustments, rangeable**
Zero Adjustment:	Pot adjustable to 20% of full scale
Span Adjustment:	Pot adjustable to 20% of full scale

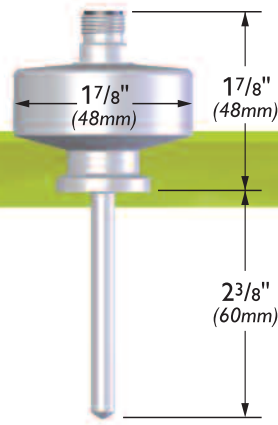


\* For higher temperature applications please consult factory.

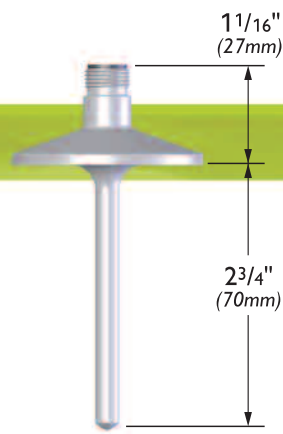
\*\* By a knowledgeable technician.



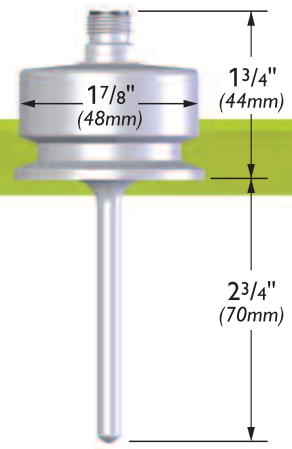
**3/4" Tri-Clamp RTD**



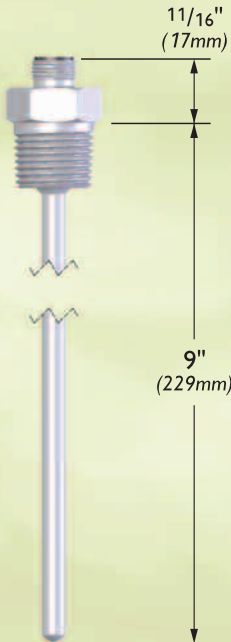
**3/4" Tri-Clamp Transmitter**



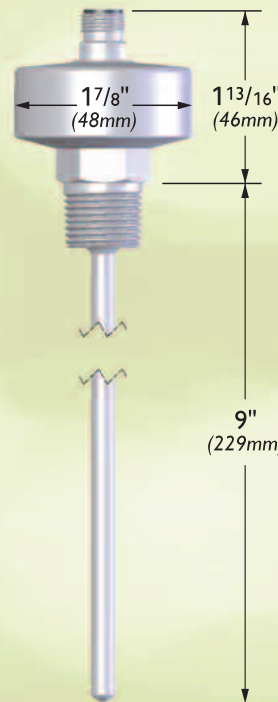
**1 1/2" Tri-Clamp RTD**



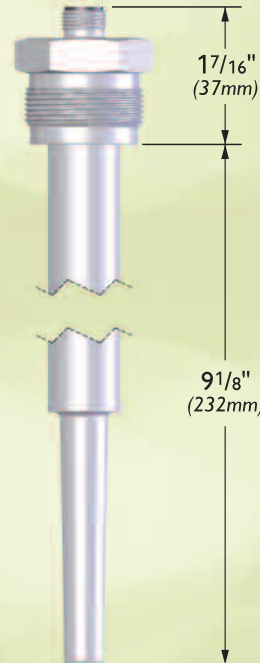
**1 1/2" Tri-Clamp Transmitter**



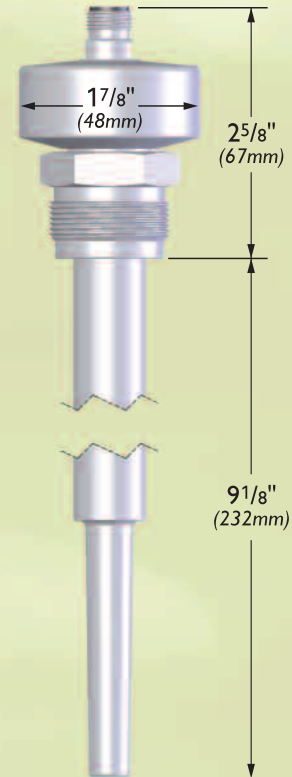
**1/2" NPT RTD**



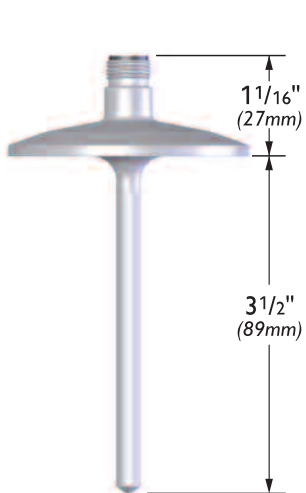
**1/2" NPT Transmitter**



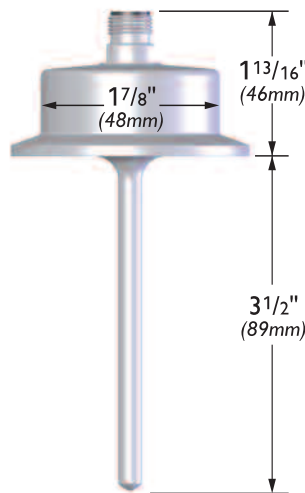
**9 1/8" Projectile Well RTD**



**9 1/8" Projectile Well Transmitter**



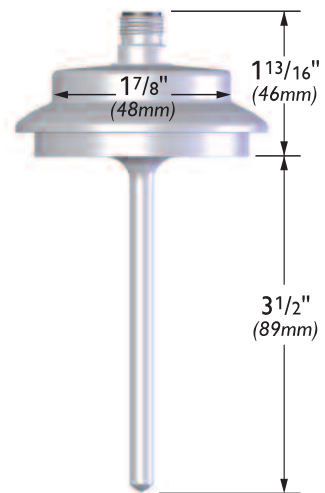
**2" Tri-Clamp RTD**



**2" Tri-Clamp Transmitter**



**2" I-Line RTD**



**2" I-Line Transmitter**



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SANITARY RTD'S & TEMPERATURE TRANSMITTERS ORDERING INFORMATION

Below are typical examples of models with their descriptions.

EXAMPLE 1: RTD - 1 1/2U - E1

Describes a Sani-Flow Resistive Temperature Device with a 1 1/2" Tri-Clamp Fitting with a Single Element.

EXAMPLE 2: TT - 9PW

Describes a Sani-Flow Temperature Transmitter with a 9" Projectile Well Fitting.

EXAMPLE 3: TT - 1/2NPT

Describes a Sani-Flow Temperature Transmitter with a 1/2" Male NPT Fitting.

MODEL NUMBER CONSISTS OF: SERIES - FITTING - ELEMENT\* RTD - 1 1/2U - E1

Please make a selection from each category below:

SERIES

- RTD - Sani-Flow Resistive Temperature Device
TT - Sani-Flow Temperature Transmitter

SANITARY FITTINGS

(Fittings available in 1/2", 3/4", 1 1/2", 2", 2 1/2", 3" & 4")

- H - G&H "H" Line Male
I - Cherry-Burrell Male I-Line
K - APC "K" Clamp
Q - Cherry-Burrell Q-Line
T - #13H Captive Nut & #14 Bevel Seat
U - Tri-Clamp®

(Specify size, then adapter type such as 1 1/2U for 1 1/2" Tri-Clamp adapter.)

OTHER FITTINGS

- (Specify probe length)
A - Air Space
M - Umbrella Fitting
NPT - 1/4", 3/8", 1/2", 5/8" or 3/4" Pipe Thread
PW - Projectile Well with 1 1/4 - 18 UNEF Male Thread
SP - Split Ferrule
VP - VAT Well Fitting with #13H Captive Nut
OF - No Fitting

ELEMENT\*

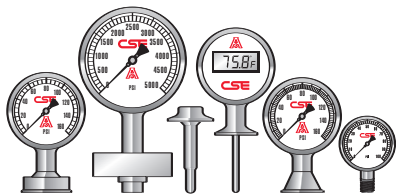
- E1 - Single Element
E2 - Dual Element

\* Available for RTD only.

For special length probes add SP and the required probe length at the end of the part number; such as SP2.75 for a 2-3/4" long probe.

Cable sold separately. Please refer to our Electronic Sensors Cable Brochure.

Visit our website or request a catalog to see our complete line of high quality, precision products including: Sani-Flow Pressure Gauges, Homogenizer Pressure Gauges, Industrial Stainless Steel Pressure Gauges, Digital Thermometers, Pharma-Flow Pressure Gauges, Chem-Flow Pressure Gauges, Electronic Sensors Cable, Sanitary Temperature Sensors & Thermowells.



DISTRIBUTED BY:

For more information or for a distributor in your area, contact us: Chicago Stainless Equipment 800-927-8575 www.chicagostainless.com ts@chicagostainless.com