

▶ SECTION 6: SANITARY SENSORS

- Authorized to carry 3-A symbol for sanitary applications
- Fast response for food, beverage and pharmaceutical processing
- Accurate 100 ohm platinum elements, single or dual
- Three styles: probe, connection head assembly, thermowell assembly

Probes	6-2
Assemblies	6-3
Installation and accessories	6-4

Sanitary RTD Probes

Overview

Install directly into process lines for fast response. Cases, made of polished 316 stainless steel, are free of cracks and crevices that might shelter bacteria. External cables will withstand wash-down; optional stainless steel armor prevents abrasion wear.

Tri-clamp® caps are standard. Contact Minco for other styles. Note that clamp and gasket are not part of the assembly. Get more information on page 6-4.

Specifications

Sensing element: Platinum RTD, 100 Ω ±0.1% at 0°C, TCR = 0.00385 Ω/Ω/°C (Meets EN60751, Class B).

Temperature range:

Probe: -100 to 200°C (-148 to 392°F).
External leadwires: -100 to 121°C (-148 to 250°F).

Material: 316 stainless steel.

Finish:

Standard: #4 finish per 3-A standard 74-02, 32 microinches max. Pharmaceutical (optional): Polished to mirror finish and passivated. 10 microinches typical.

Pressure rating: 500 psi (34.5 bar).

Leadwires: AWG 22, polyimide insulation; optional stainless steel armor. Polyolefin shrink tubing wrap standard over either option.

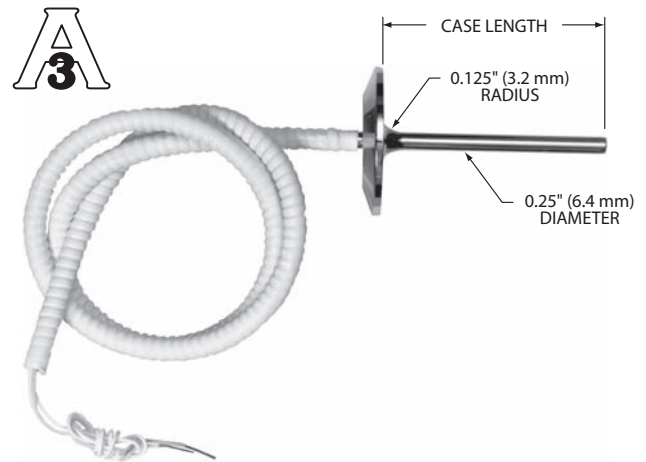
Time constant: 2 seconds.

Self-heating: 50 mW/°C typical in moving water.

Insulation resistance:

Single element probes: 1000 megohms minimum at 500 VDC, leads to case.

Dual element probes: 100 megohms minimum at 100 VDC, between elements and leads to case.



Specification and order options

S5020PD	Model number: S5020PD: Single element S5022PD: Dual element
Z	Number of leads per sensing element: Y = 2 leads Z = 3 leads
30	Case length in 0.1" increments: Standard lengths: 30 = 3.0" 40 = 4.0" 50 = 5.0"
A	Lead covering: T = Tubing A = Armor
60	Lead length in inches
TC	Sanitary cap style: TC = Tri-clamp®
20	Nominal diameter: 10 = 1.0" 15 = 1.5" 20 = 2.0"
P	Case finish: S = Standard finish P = Pharmaceutical finish
S5020PDZ30A60TC20P = Sample part number	

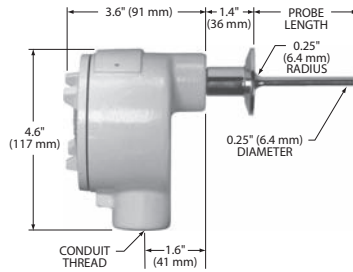
Specify and order products at:
www.minco.com/sensors_config

Specifications subject to change

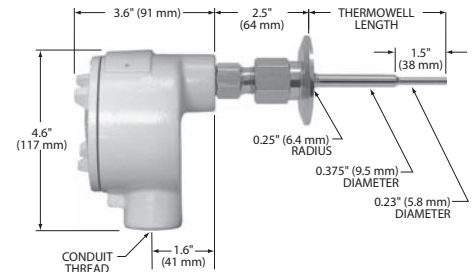
Sanitary RTD Assemblies



CH328 EPOXY-COATED ALUMINUM HEAD SHOWN.
SEE PAGES 4-2 FOR OTHER MODELS.
· CAST IRON: MODEL CH103
· POLYPROPYLENE: MODEL CH366;
· STAINLESS STEEL: MODEL CH335, CH360



PROBE ASSEMBLY



THERMOWELL ASSEMBLY

Overview

These assemblies include a connection head for terminating RTD leads to external wiring. The fast-response thermowell assembly lets you remove the RTD probe without breaking into process lines. Cases and thermowells, made of polished 316 stainless steel, are free of cracks and crevices that might shelter bacteria.

Specifications

Sensing element: Platinum RTD, 100 $\Omega \pm 0.1\%$ at 0°C, TCR = 0.00385 $\Omega/\Omega/^\circ\text{C}$ (Meets EN60751, Class B).

Temperature range: -100 to 200°C (-148 to 392°F).

Material:

Probe: 316 stainless steel.

Spring-loaded holder on thermowell version: 300 series stainless steel.

Finish:

Standard: #4 finish per 3-A standard 74-02, 32 microinches max. Pharmaceutical (optional): Polished to mirror finish and passivated. 10 microinches typical.

Pressure rating: 500 psi (34.5 bar).

Leadwires: Polyimide insulated leads, 4" (102 mm) long.

Time constant:

Probe assembly: 2 seconds.

Thermowell assembly: 4 seconds.

Self-heating: Typical value in moving water.

Probe assembly: 50 mW/°C

Thermowell assembly: 25 mW/°C.

Insulation resistance:

Single element probes: 1000 megohms min. at 500 VDC, leads to case.

Dual element probes: 100 megohms min. at 100 VDC, between elements and leads to case.

Temperature Transmitters

Minco's Temptran™ transmitters provide a 4 to 20 mA signal or HART® Protocol that can be sent over long distances with a simple 2-wire system. See Section 5 for complete temperature transmitter specifications.

Contact Minco if transmitter is required.

Specification and order options

AS5000PD	Model number: Probe assembly: AS5010PD: Single element AS5012PD: Dual element Thermowell assembly: AS5000PD: Single element AS5002PD: Dual element
Z	Number of leads per element: Y = 2 leads Z = 3 leads
50	Probe or thermowell length in 0.1" increments: Standard lengths: 30 (3.0"), 40 (4.0"), 50 (5.0")
TC	Sanitary cap style: TC = Tri-Clamp®
15	Nominal diameter: 10 = 1.0" 15 = 1.5" 20 = 2.0"
E	Connection head: C = Cast iron E = Epoxy coated alum. N = White polypropylene S = Stainless steel (CH335) SS = Stainless steel (CH360)
3	Conduit thread: 3 = 1/2 - 14 NPT 4 = 3/4 - 14 NPT (N/A with N or S connection heads)
S	Case finish: S = Standard finish P = Pharmaceutical finish
AS5000PDZ50TC15E3S = Sample part number	

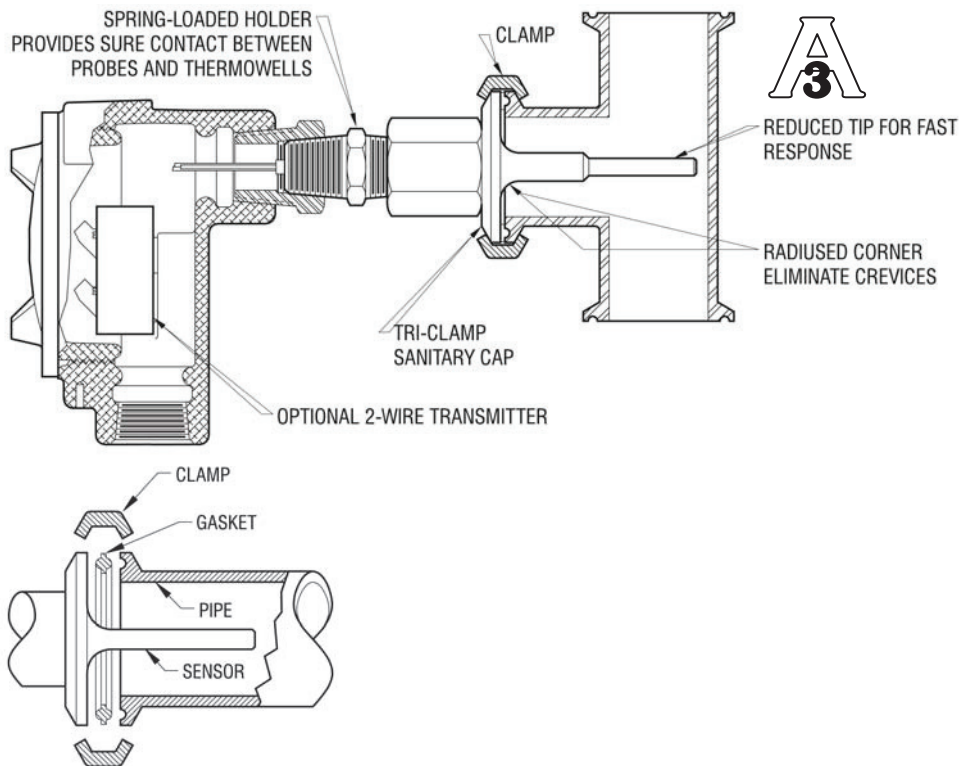
SANITARY SENSORS

Specifications subject to change



Installation and Accessories

Installation



Accessories

Tri-Clamp fittings, manufactured by Tri-Clover, consist of two identical pipe faces with a gasket between them. A hinged clamp holds the two flanges together.

Pipe diameter	Clamp part #
1.5"	AC101656
2.0"	AC101657

Specify and order products at:
www.minco.com/sensors_config



Clamp for sanitary fitting

Specifications subject to change