

WP30 Sanitary Temperature Transmitter

The WP30E Sanitary Temperature Sensor is a core component that directly contacts the measured medium, senses temperature, and converts it into a transmittable signal. It is specially designed for industries with stringent cleanliness requirements, such as food and beverage, pharmaceutical, and biomedical fields. The probe is made of high-quality food-grade 316L material, adopting advanced micro-processing technologies including laser welding and electrolytic polishing, with full-process clean control. It features a sanitary, crevice-free, thread-gap-free structure for accurate real-time temperature measurement of fluids or materials in pipelines and tanks.

The WP30T Sanitary Integrated Temperature Transmitter can convert the resistance signal output by the sanitary sensor into a standard current signal. It features anti-interference, moisture-proof and dust-proof performance, and flexible installation. It can be directly connected to control systems such as PLC and DCS to meet the requirements of remote monitoring and automatic control in sanitary applications, making it a key device for temperature measurement in modern sanitary industries.

Sanitary Design

- **Material Safety:** Parts in contact with the medium are made of 316L stainless steel, free of heavy metal precipitation.
- **Crevice-Free Structure:** Designed with “cavity-free / smooth chamber”. Sensor surface polishing accuracy reaches $Ra \leq 0.8 \mu\text{m}$ (mirror grade), and can be as high as $Ra < 0.38 \mu\text{m}$ (15 μin). No recesses or gaps, preventing medium residue and bacterial growth.
- **Easy Cleaning Compatibility:** Compatible with CIP (Clean-in-Place) and SIP (Sterilize-in-Place) processes.
- **Compliant Sealing:** Seals comply with FDA regulations, including VMQ (default), EPDM, or customer-specified materials. Odorless, non-swelling, preventing medium leakage or seal contamination.
- **Standardized Connections:** Equipped with sanitary quick-fit connectors (e.g., clamp-type connectors) for easy assembly and disassembly, enabling fast equipment maintenance and cleaning to meet rapid production line changeover requirements.

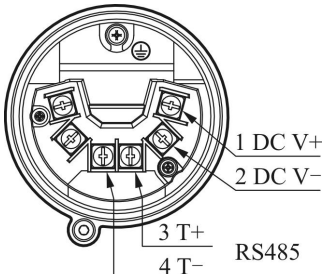
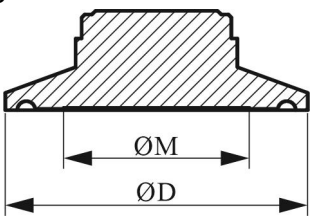
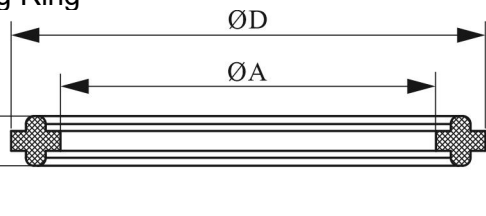
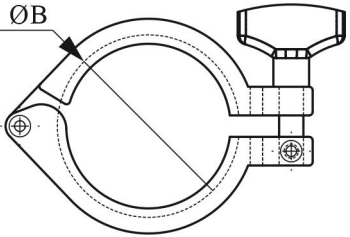
Applications

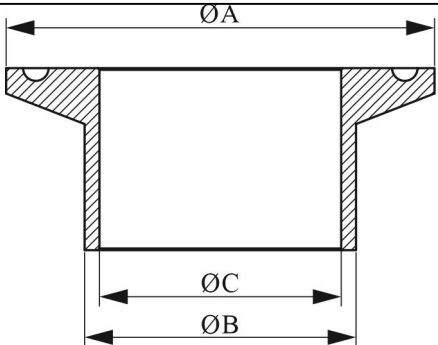
- **Food & Beverage:** On-site temperature monitoring for dairy fermentation tanks, juice filling lines, beer brewing pipelines, etc. (avoids material contamination and supports CIP cleaning).
- **Pharmaceutical & Biotechnology:** On-site temperature measurement for pharmaceutical liquid storage tanks, infusion pipelines, bioreactors (fermenters), etc. (complies with GMP, supports SIP sterilization, and prevents cross-contamination).

- Daily Chemical Industry: Temperature monitoring for cosmetic emulsion mixing tanks, sterile laundry detergent production equipment, etc. (non-toxic materials, no sanitary dead spaces).
- Drinking Water Treatment: Temperature measurement for purified water and mineral water conveying pipelines (ensures water quality is not affected by equipment materials).

Main Parameters

	Temperature Sensor		Temperature Transmitter	
Image	<p>Temperature end tri-clamp fitting Sanitary clamp FDA compliant sanitary gasket in corresponding size Client end tri-clamp fitting Probe</p>		<p>Temperature end tri-clamp fitting Sanitary clamp FDA compliant sanitary gasket in corresponding size Client end tri-clamp fitting Probe</p>	
Measuring Range	(-200~420) °C		(-50~400) °C	
Accuracy	Class A $\pm (0.15+0.002 t)$		$\pm 0.2\%$ of upper range limit, $\pm 0.5\%$ of upper range limit	
Power Supply	None		14~30V DC	
EMC	None		Compliant with IEC61000, Level 3	
Output Signal	Resistance		(4~20) mA、Modbus-RTU / RS485 & others	
Terminal Box	Aviation connector		Stainless steel housing with display	Die-cast aluminum housing
Electrical Interface	M12×1 4-pin aviation connector		M12×1 4-pin aviation connector	1/2NPT (F) / M20×1.5 (F)
	<p>37.40</p>			<p>2-Wire 4~20mA</p> <p>接地 DC24V (4-20) mA TEST</p>
	Identification	2-Wire	Modbus-RTU/RS485	
	1/Brown	Power+	Power+	
	2/White		B-	
	3/Blue		A+	
	4-Wire RS485 Communication			

	4/Black	Power-	Power-			
Sesor	PT100/PT1000					
Sensor Standard	IEC60751 JB/T8622-1997					
Wetted Material	316L					
Wetted Parts Finish	Compliant with 3-A Sanitary Standard. Surface finish of wetted parts: Ra < 0.8 μm (31.5 μin), and can be up to Ra < 0.38 μm (15 μin).					
Sealing ring	FDA compliant VMQ (default), EPDM, or customer-specified					
Protection Class	IP65					
Nominal Pressure	1.6MPa					
Precess Connection	Clamp type			Specification	1-1/2"	2"
				Dimension ΦD mm	50.5	64
				Corrugated Dimension ΦM mm	31	42
	Sealing Ring			Dimension ΦD mm	50.5	64
				Dimension ΦA mm	35.8	47.8
	Clamp Collar			Dimension ΦB mm	53.9	67.4
	Weld Adapter			Dimension ΦA mm	50.5	64

	Dimension ΦB mm	38	51
	Dimension ΦC mm	35.6	48.6

WP30E Sanitary Temperature Sensor

Model	Description
WP30E	Sanitary Temperature Sensor
Code	Sensor Type
1	Resistance Temperature Detector (RTD)
Code	Sensor Code
01	Pt100
02	Pt1000
03	Customer-specified
代碼	Electrical Interface
J	M12×1 4-pin aviation connector
Y	Customized
Code	Process Connection
P1	Clamp type (1.5") Φ50.5 mm
P2	Clamp type (2") Φ64 mm
Y	Customized
Code	Protection Tube Diameter
1	Φ6
2	Φ8
3	Φ12
4	Φ16
Y	Customer-specified
Code	Protection Tube Material
L	316L Stainless Steel
Y	Customer-specified
Code	Insertion Length
(*)	Customer-specified insertion length, e.g. (150) means insertion length 150 mm

WP30T Sanitary Temperature Transmitter

Model	Description	
WP30T	Sanitary Temperature Transmitter	
Code	Sensor Type	
1	Resistance Temperature Detector (RTD)	
Code	Sensor Code	
01	Pt100	
02	Pt1000	
03	Customer-specified	
Code	Extension Tube Specification	
A	Standard type	
B	Extended type 1, 100 mm, for temperatures below 150 °C	
C	Extended type 2, 150 mm, for temperatures below 200 °C	
Y	Customized	
Code	Electrical Interface	Housing
A	NPT 1/2 internal thread	Die-cast aluminum
M	M20×1.5 internal thread	Die-cast aluminum
J	M12×1 4-pin aviation connector	Stainless steel
Y	Customized	
Code	Display	
M	LCD Display	
N	Without display	
Code	Transmitter Output	
I	(4~20) mA DC	
S	Standard smart type (4~20) mA DC with HART protocol	
P	PROFIBUS-PA fieldbus communication	
R	Smart type (4~20) mA DC with RS485 communication	
Y	Customized	
Code	Range	
(*)	Customer-specified range, e.g. (-50~300) means output range (-50~300) °C	
Code	Process Connection	
+P1	Clamp type (1.5") Φ50.5 mm	

+P2	Clamp type (2") Φ 64 mm
Y	Customized
Code	Protection Tube Diameter
1	Φ 6
2	Φ 8
3	Φ 12
4	Φ 16
Y	Customer-specified
Code	Protection Tube Material
L	316L Stainless Steel
Y	Customer-specified
Code	Insertion Length
(*)	Customer-specified insertion length, e.g. (150) means insertion length 150 mm