

For Semiconductor Industry

ZT17 High Temperature Pressure Sensor

- Measuring fluid temperature can be up to 120°C
- Safe and secure non liquid-sealed design



RoHS



ZT17 High Temperature Pressure Sensor

Features

- Up to 120°C measuring fluid can be measured
- Safe and secure non liquid-sealed design
- Used with the combination with dedicated amplifier

List of grade

Grade		EP	UC
Roughness of gas contact part		0.18μm Ra Avg.	0.18μm Ra Avg. 0.7μm Rz Max.
Gas contact parts materials	Pressure sensor	SUS316L	Co-Ni alloy
	Fitting	SUS316L	SUS316L
Max. allowable pressure*1		150% of pressure range	200% of pressure range
Leakage (Helium leak rate)		5×10 ⁻¹² Pa • m ³ /s or less	
Particle		Zero count for size 0.1μm or greater (In our inspection standard)	
Cleaning		Ultra clearance (cleaning)	
Recommended gas*2		High-purity gas, semiconductor material gas, etc.	


*1: Allowable maximum pressure is the upper limit to which pressure may be temporarily increased while still allowing normal pressure to be resumed, when pressure levels return to the normal (rated) range. It is not guaranteed to have no impact on functionality in the case of repeated pressure or static pressure increases lasting 10 minutes or more.

*2: Please confirm that the gas contact part material is suitable for the gas to be measured.

Specifications

Item	Descriptions	
Fluid	Various kinds of process gases for semiconductor	
Fitting shape	Type S, Type T integral structure (Forged)	
Connection	Compatible with 1/4 VCR®, Compatible with 1/2(3/8)VCR®, 1/4UJR™	
Pressure sensor seal method	Welding type	
Pressure range	0 to 0.3, 0.5, 1, 2, 3.5, 5, 10, 20MPa -0.1 to 0.3, 0.5, 1, 2, 3.5, 5, 10, 20MPa	
Power supply voltage	10 to 30V DC * When using 4-20mA DC output, please refer to the following numerical formula for relationship between power supply voltage and load resistance.	
Output	4-20mA DC (2-wire system) or 1-5V DC (3-wire system)	
Load resistance	When using 4-20mA DC output: R max (Ω)=50E - 500 [E: Power supply voltage] When using 1-5V DC output: 10kΩ min.	
Accuracy (including dedicated amplifier)	±0.5% F.S. (at 23°C) (including linearity, hysteresis and repeatability)	
Temperature coefficient [ZERO, SPAN] (including dedicated amplifier)	±0.05% F.S./°C	
Operating temperature	Pressure sensor	-20 to 120°C (No icing or condensation)
	Dedicated amplifier	-20 to 50°C (No icing or condensation)
Storage temperature	Pressure sensor	-20 to 120°C (No icing or condensation)
	Dedicated amplifier	-20 to 60°C (No icing or condensation)
Insulation resistance	100MΩ or more (50V DC between housing and all input/output terminals)	
CE marking	Applicable Directive: 2014/30/EU (EMC directive) Applicable Standards: EN61326-1:2013; EN61326-2-3:2013 * Please use it to connect to the indoor power distribution network which is not affected by the lightning surge voltage and power supply system switching transients.	
Case material	Pressure sensor	SUS305, PBT
	Dedicated amplifier	Aluminum alloy (Alumite treatment), ABS
Protection class	Pressure sensor	Equivalent to IP65 (excludes the dedicated amplifier connector section)
	Dedicated amplifier	Rule anonymous
Zero adjustment mechanism	External adjustment method (top of dedicated amplifier)	
Compatible with RoHS	Conforms to the RoHS directive	

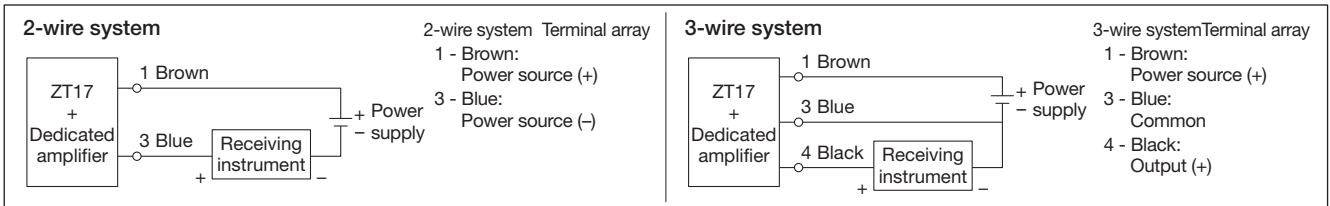
Electrical connections

Connector terminal array	Terminal number	2-wire system	3-wire system	Cable color
	1	Power source +	Power source +	Brown
	2	—	—	White
	3	Power source -	Common	Blue
	4	—	Output +	Black


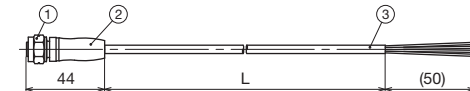
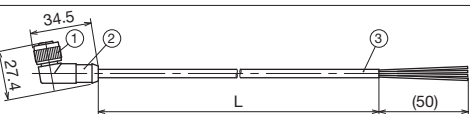
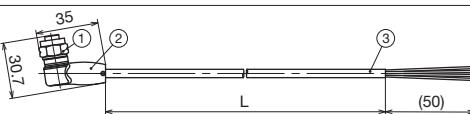
Caution

Do not use the pressure sensor in facility that may cause ignition or explosion under instrument normal operating atmosphere (excluding the object to be measured).

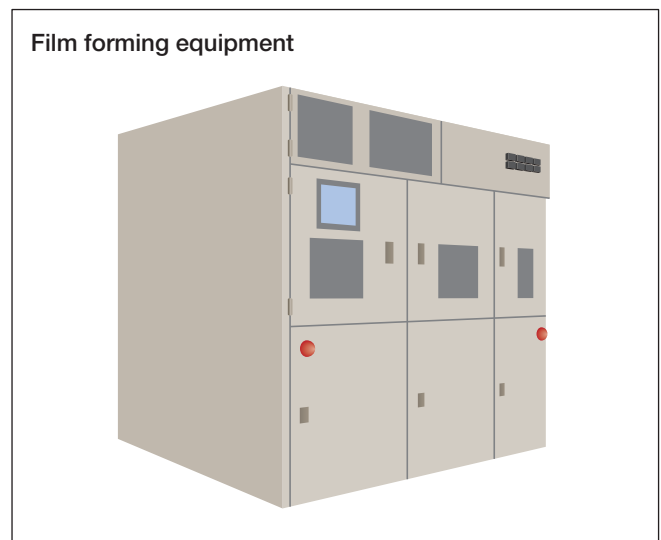
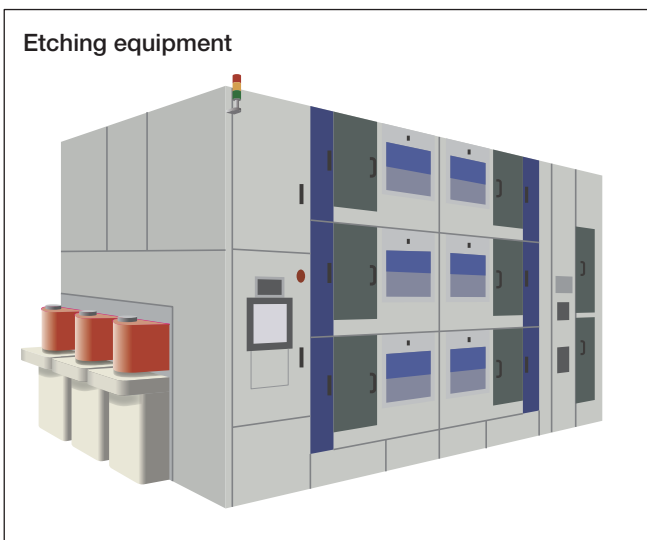
Wiring



Cable with M12 connector (Sold separately)

	PUR Cable (Oilproof)	PVC Cable (Stainless nut)
Straight		
Type L		
Material	① Zinc die-casting (nickel-plated) ② TPU (Green) ③ PUR (Black)	① Stainless ② PP (White) ③ PVC (Gray)
Cable length (L)	3 m or 5 m	3 m or 5 m
Conductor cross section	0.34 mm ² (22AWG)	0.34 mm ² (22AWG)
Core diameter including insulation	1.27 mm	1.26 mm
Sheath outer diameter	4.7 mm	4.7 mm

Application

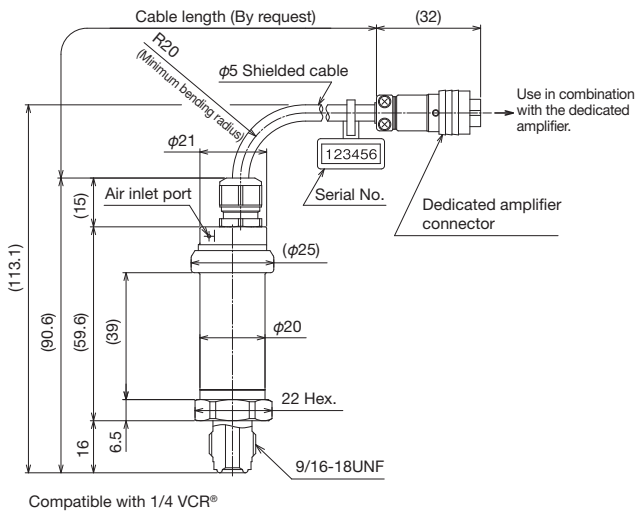
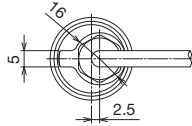


● DIMENSIONS [Pressure sensor: Type S]

Operating condition: -20 to 120°C

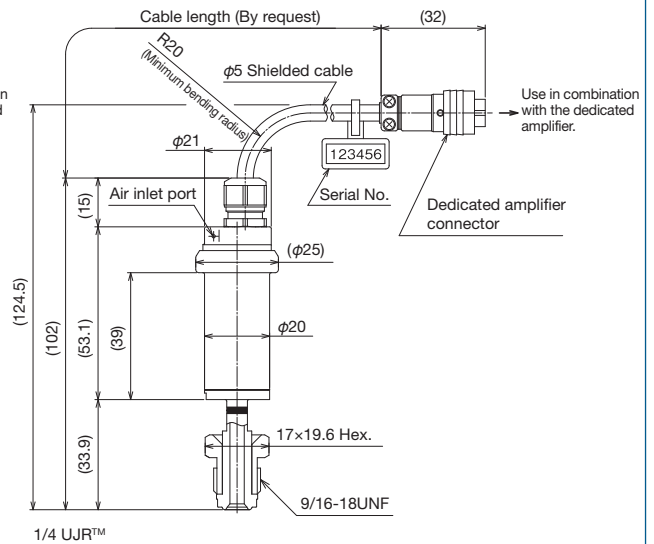
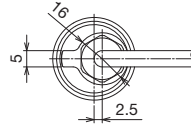
Unit: mm

Type S



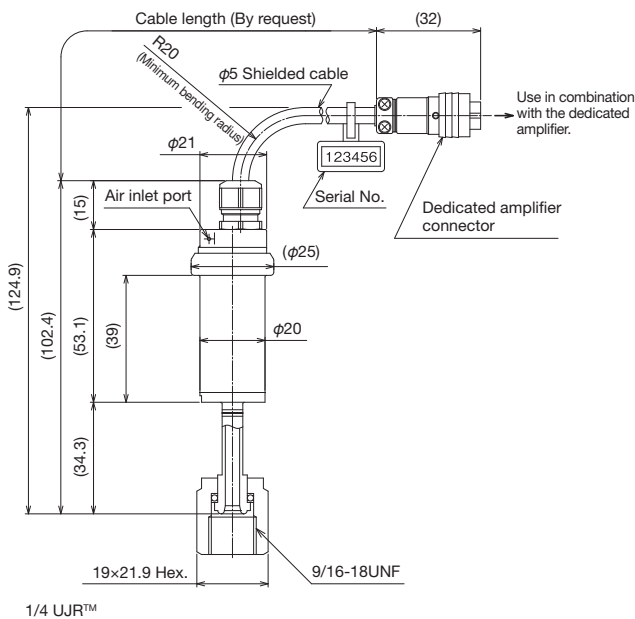
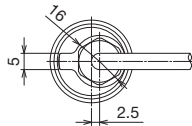
ZT17-93

Type S



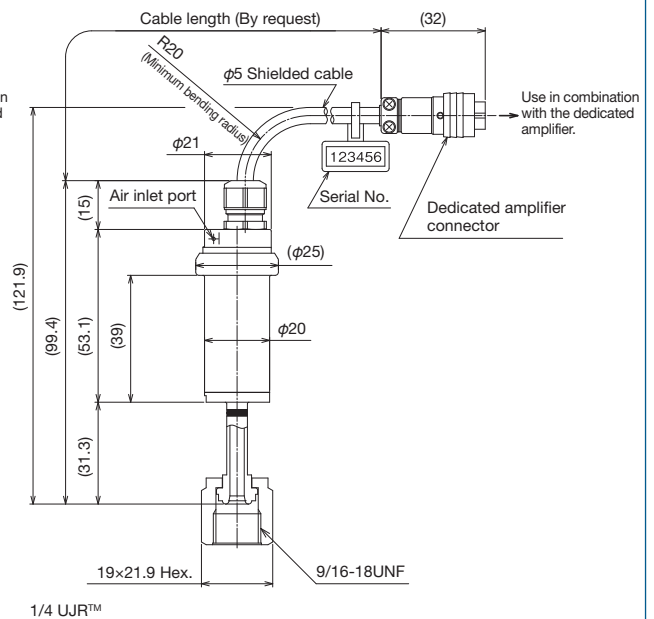
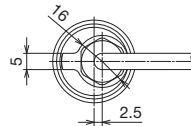
ZT17-9N

Type S



ZT17-9Q6

Type S



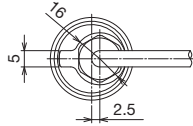
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● DIMENSIONS [Pressure sensor: Type T]

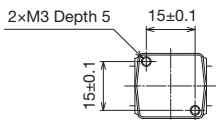
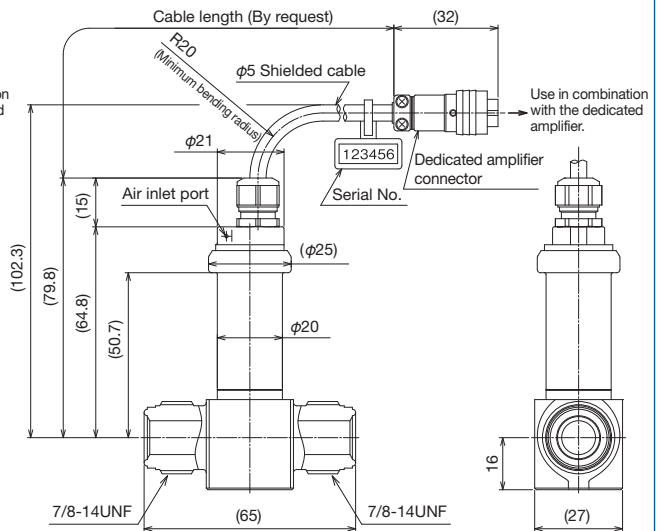
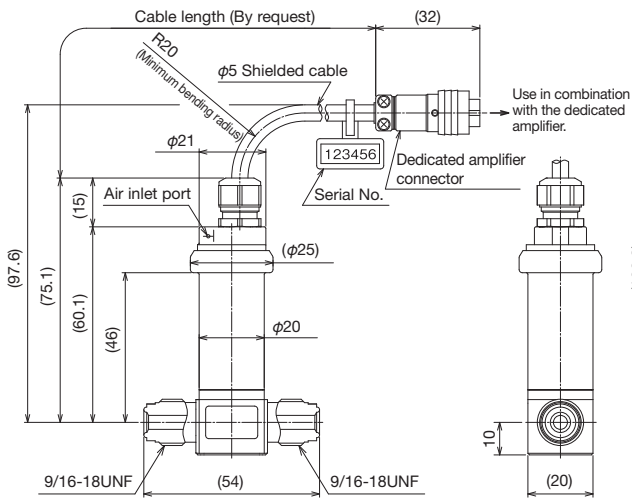
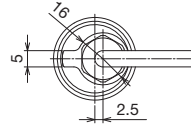
Operating condition: -20 to 120°C

Unit: mm

Type T

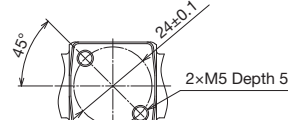


Type T



Compatible with 1/4 VCR®

ZT17-83 □

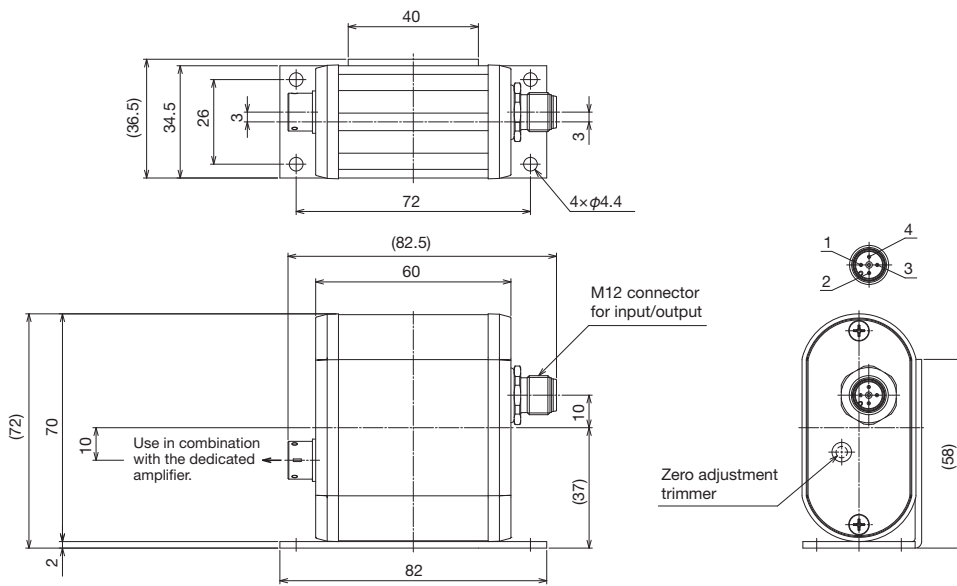


Compatible with 1/2(3/8) VCR®

ZT17-84 □

● DIMENSIONS [Dedicated amplifier]

Operating condition: -20 to 50°C



Dedicated amplifier

Model number configuration Please specify the model number, each specs and the range for ordering.

Model name

Z T 1 7 — [] [] [] — **5 M** [] [] [] [] [] [] [] [] [] [] [] [] []

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Model name	Selective spec.	Additional spec. (option)
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ZT17	Standard spec.	
	Operating temperature: -20 to 120°C (Pressure sensor) Temperature coefficient: ±0.05% F.S./°C -20 to 50°C (Dedicated amplifier) External zero adjustment type (side of dedicated amplifier)	

① Mounting	8	Type T
	9	Type S

② Connection of fitting			Type S	Type T	
	3	1/4	Compatible with VCR® Male Integrated	○	○
	4	1/2 (3/8)	Compatible with VCR® Male Integrated	×	○
	N	1/4	UJR™ Male nut	○	×
	Q	1/4	UJR™ Female nut*1	○	×

③ Grade, Gas contact parts materials	E	EP Grade	• Pressure sensor: SUS316L (all welding) • Fitting: SUS316L
	6	UC Grade	• Pressure sensor: Co-Ni Alloy (all welding) • Fitting : SUS316L

④ Pressure range	C	-0.1 to 0.3 MPa
	D	-0.1 to 0.5 MPa
	E	-0.1 to 1 MPa
	F	-0.1 to 2 MPa
	G	-0.1 to 3.5 MPa
	H	-0.1 to 5 MPa
	J	-0.1 to 10 MPa
	K	-0.1 to 20 MPa
	1	0 to 0.3 MPa
	2	0 to 0.5 MPa
	3	0 to 1 MPa
	4	0 to 2 MPa
	5	0 to 3.5 MPa
	6	0 to 5 MPa
	7	0 to 10 MPa
	8	0 to 20 MPa

⑤ Accuracy	5	±0.5 %F.S.
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⑥ Power supply	M	10 to 30V DC
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⑦ Output	1	4-20mA DC (2-wire system)
	8	1- 5V DC (3-wire system)

⑧ Cable length (L) (Between pressure sensor and dedicated amplifier)	A	Cable length: 0.5 m (standard)
	B	Cable length: 1 m
	C	Cable length: 1 m
	D	Cable length: 3 m (Up to 3 m)
	9	Other designated length*2

⑩ Documents	0	Not required
	1	Required Refer to the price sheet for documents.

*1: EP Grade: Without pure ring
UC Grade: With pure ring

*2: Please contact us for other designated lengths.
Note) M12 connector cable for output is not supplied.
When the M12 connector cable is required, please specify separately.

Types of cables with M12 connector (Sold separately)		
PUR Cable (Oilproof)	Straight	Cable length 3 m
	Type L	Cable length 3 m
PVC Cable (Stainless nut)	Straight	Cable length 3 m
	Type L	Cable length 3 m
PVC Cable (Stainless nut)	Straight	Cable length 5 m
	Type L	Cable length 5 m
PUR Cable (Oilproof)	Straight	Cable length 5 m
	Type L	Cable length 5 m

The contents in the catalog are subject to change without notice.



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