

For Semiconductor Industry UC Grade ZT17 Pressure Transducers ZT15 Pressure Transmitters

OUTLINE

These are pressure transducers and pressure transmitters with ultraclean specifications, developed for semiconductor industry, in which pressures are converted into electric signals and transmitted by the sensing portion equipped with an evaporation type semiconductor strain gauge and a built-in electronic circuit.

These transducers and transmitters provide high reliability and are applicable for the process of semiconductor industry and for gas of a high degree of purity.

FEATURES

- Leakage to the outside has been minimized.
- Few dead zone, where gas stagnates, exists.
- The grade of measuring gas contacting surface finish is of submicron class. The occurrence of gas adsorption and particle is prevented.
- As these transducers and transmitters are of small type, making installations compact becomes possible.
- Available to supply the CE marking conformity products. (EMC standard: EN55011, EN50082-2)



SPECIFICATION

Fluid:

Various kinds of process gases

Operating condition:

Under the normal condition, where there is no inflammable gas or liquid which cause the ignition or explosion.

Configuration:



Connection:

1/4", 3/8"

UJR fitting, VCR fitting, JSK fitting, MCG fitting, CVC fitting)

Pressure sensor seal method:

Welding type

Gas contact parts:

Fitting 316Lst.st.

Pressure sensor Co-Ni Alloy

* For the fitting material, CRP treatment and the double vacuum melting materials are also available. Please contact us for further details.

Pressure range:

0 ~ 0.3 → 0 ~ 20MPa (0 ~ 3 → 0 ~ 200kgf/cm²)

-0.1 ~ 0.3 → -0.1 ~ 2MPa (-1 ~ 3 → -1 ~ 20kgf/cm²)

Max. allowable pressure:

200% of rated pressure

Operating temperature:

-20 ~ 70°C

Storage temperature:

-30 ~ 70°C

Accuracy:

±1.0%F.S. or ±0.5%F.S. (More than 0.5MPa range)

Temperature coefficient:

±0.1%F.S./°C (Zero) [Accuracy ±1.0%F.S.]

±0.1%F.S./°C (Span) [Accuracy ±1.0%F.S.]

or

±0.05%F.S./°C (Zero) [Accuracy ±0.5%F.S.]

±0.05%F.S./°C (Span) [Accuracy ±0.5%F.S.]

Electrical characteristics:

Pressure transducer (ZT17)

Power source 5V DC

Input and output Impedance 3.5kΩ (typ.)

* Transducer are always used with digital indicators or ZT amplifier.

Pressure transmitter (ZT15)

Transmission system: 2 wire system

Power source 24V DC ±10%

Transmission system: 3 wire system

Power source 24V DC ±10%

or 12V DC ±10%

Output 4 ~ 20mA DC

Load resistance 500Ω max.

Output 1 ~ 5mA DC

Load resistance 10kΩ min.

Construction:

Indoor use

Surface treatment of gas contact parts:

Ultra-clean (UC) treatment

Based on the thorough quality control from the manufacturing to the shipment, we offer "the total clean system" especially our technology for surface treatment, welding and super cleaning is very much characterized and we are very much paying attention to such technology.

Leakage: (Helium leak rate)

5.07×10^{-12} Pa · m³/s or less (5×10^{-11} atm · cc/s or less)

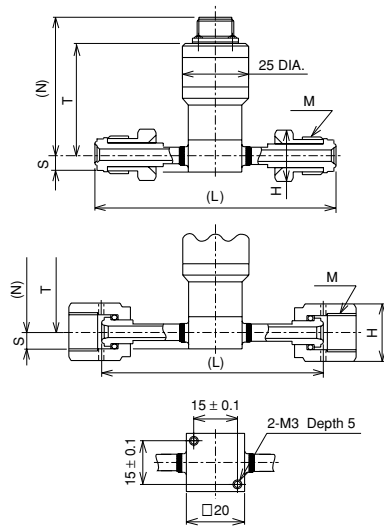
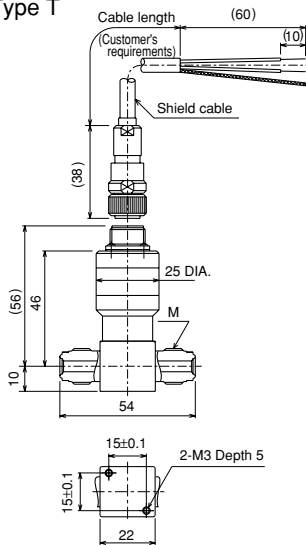
Particle:

Zero count for size 0.1μm or greater (In our inspection standard)

DIMENSIONS 1

ZT17 Pressure Transducer

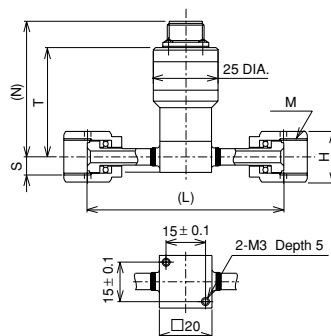
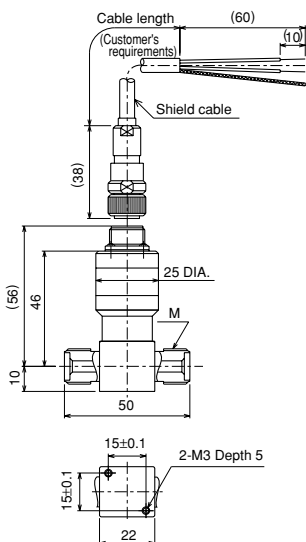
Type T



Model No.	Connection of fitting	Piping DIA.	Size M
ZT17-136	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions				
				N	T	S	H	L
ZT17-1E6	Male nut (TOM JOINT) *1	1/4"	9/16-18UNF	52	42	6	16×18.5 Hex.	90
ZT17-1F6		3/8"	7/8-14UNF	57.5	47.5	7	24×27.7 Hex.	95
ZT17-1G6	Female nut (SUPER TOM JOINT) *1	1/4"	9/16-18UNF	52	42	6	19×21.9 Hex.	79
ZT17-1H6		3/8"	7/8-14UNF	57.5	47.5	7	27×31.2 Hex.	83
ZT17-1J6	VCR Male nut	1/4"	9/16-18UNF	52	42	6	16×18.5 Hex.	86
ZT17-1K6		3/8"	7/8-14UNF	57.5	47.5	7	24×27.7 Hex.	90.5
ZT17-1L6	VCR Female nut *2	1/4"	9/16-18UNF	52	42	6	19×21.9 Hex.	80.8
ZT17-1M6		3/8"	7/8-14UNF	57.5	47.5	7	27×31.2 Hex.	81.8
ZT17-1N6	UJR Male nut	1/4"	9/16-18UNF	52	42	6	17×19.6 Hex.	87
ZT17-1P6		3/8"	7/8-14UNF	57.5	47.5	7	23×26.6 Hex.	100
ZT17-1Q6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	52	42	6	19×21.9 Hex.	87
ZT17-1R6		3/8"	7/8-14UNF	57.5	47.5	7	26×30 Hex.	100

* 1 Compatible with VCR
* 2 Bearings are not included.



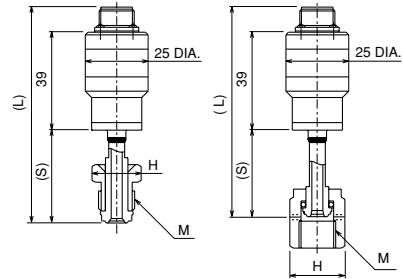
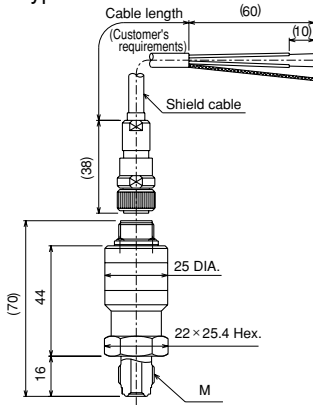
Model No.	Connection of fitting	Piping DIA.	Size M
ZT17-166	MCG Male	1/4"	M14×1.25
ZT17-176		3/8"	M18×1.5
ZT17-1A6	JSK Male	1/4"	M14×1.25
ZT17-1B6		3/8"	M18×1.5

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions				
				N	T	S	H	L
ZT17-186	MCG Female nut	1/4"	M14×1.25	52	42	6	17×19.6 Hex.	76
ZT17-196		3/8"	M18×1.5	57.5	47.5	7	22×25.4 Hex.	80
ZT17-1C6	JSK Female nut	1/4"	M14×1.25	52	42	6	17×19.6 Hex.	76
ZT17-1D6		3/8"	M18×1.5	57.5	47.5	7	22×25.4 Hex.	80

DIMENSIONS 2

ZT17 Pressure Transducer

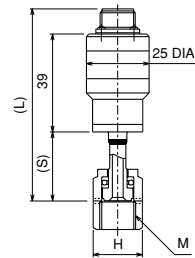
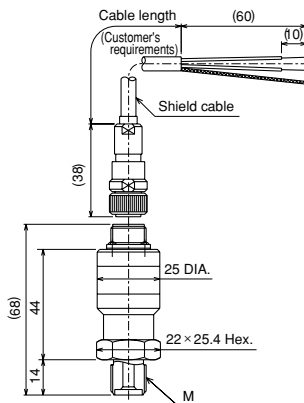
Type S



Model No.	Connection of fitting	Piping DIA.	Size M
ZT17-236	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions		
				L	H	S
ZT17-2E6	Male nut (TOM JOINT) *1	1/4"	9/16-18UNF	79.5	16 x 18.5 Hex.	30.5
ZT17-2G6	Female nut (SUPER TOM JOINT) *1	1/4"	9/16-18UNF	79.5	19 x 21.9 Hex.	30.5
ZT17-2J6	VCR Male nut	1/4"	9/16-18UNF	79.5	16 x 18.5 Hex.	30.5
ZT17-2L6	VCR Female nut *2	1/4"	9/16-18UNF	80.4	19 x 21.9 Hex.	31.4
ZT17-2N6	UJR Male nut	1/4"	9/16-18UNF	86	17 x 19.6 Hex.	37
ZT17-2Q6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	83.5	19 x 21.9 Hex.	34.5

* 1 Compatible with VCR
* 2 Bearings are not included.



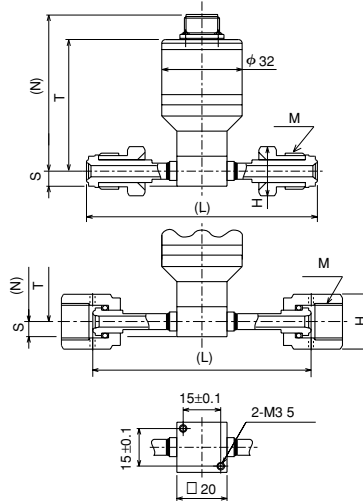
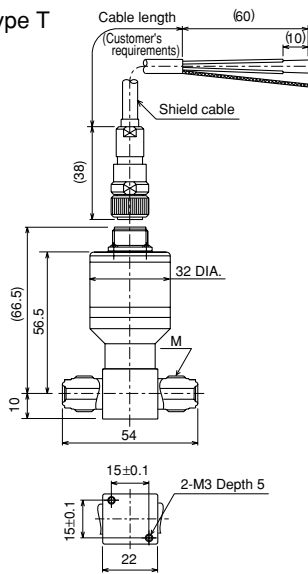
Model No.	Connection of fitting	Piping DIA.	Size M
ZT17-266	MCG Male	1/4"	M14 x 1.25
ZT17-2A6	JSK Male	1/4"	M14 x 1.25

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions		
				L	H	S
ZT17-286	MCG Female nut	1/4"	M14 x 1.25	76.4	17 x 19.6 Hex.	27.4
ZT17-2C6	JSK Female nut	1/4"	M14 x 1.25	78	17 x 19.6 Hex.	29

DIMENSIONS 3

ZT15 Pressure Transmitter

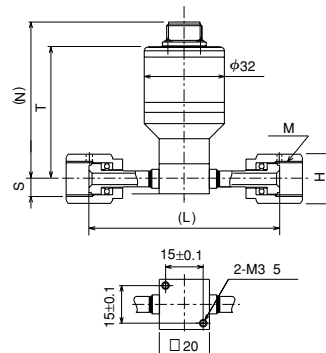
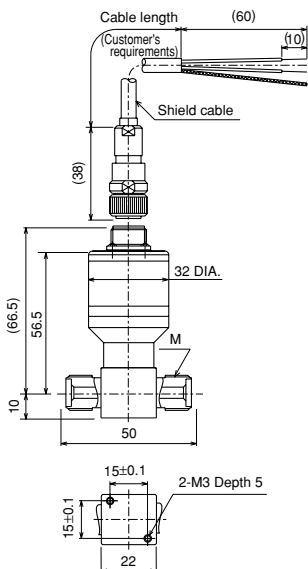
Type T



Model No.	Connection of fitting	Piping DIA.	Size M
ZT15-136	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions				
				N	T	S	H	L
ZT15-1E6	Male nut (TOM JOINT) *1	1/4"	9/16-18UNF	62.5	52.5	6	16×18.5 Hex.	90
ZT15-1F6		3/8"	7/8-14UNF	68	58	7	24×27.7 Hex.	95
ZT15-1G6	Female nut (SUPER TOM JOINT) *1	1/4"	9/16-18UNF	62.5	52.5	6	19×21.9 Hex.	79
ZT15-1H6		3/8"	7/8-14UNF	68	58	7	27×31.2 Hex.	83
ZT15-1J6	VCR Male nut	1/4"	9/16-18UNF	62.5	52.5	6	16×18.5 Hex.	86
ZT15-1K6		3/8"	7/8-14UNF	68	58	7	24×27.7 Hex.	90.5
ZT15-1L6	VCR Female nut *2	1/4"	9/16-18UNF	62.5	52.5	6	19×21.9 Hex.	80.8
ZT15-1M6		3/8"	7/8-14UNF	68	58	7	27×31.2 Hex.	81.8
ZT15-1N6	UJR Male nut	1/4"	9/16-18UNF	62.5	52.5	6	17×19.6 Hex.	87
ZT15-1P6		3/8"	7/8-14UNF	68	58	7	23×26.6 Hex.	100
ZT15-1Q6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	62.5	52.5	6	19×21.9 Hex.	87
ZT15-1R6		3/8"	7/8-14UNF	68	58	7	26×30 Hex.	100

* 1 Compatible with VCR
* 2 Bearings are not included.



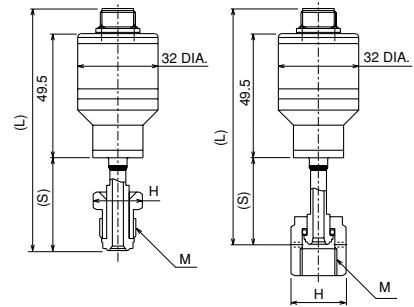
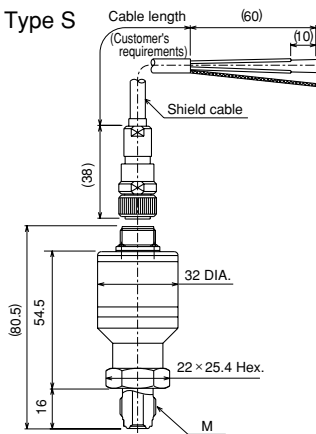
Model No.	Connection of fitting	Piping DIA.	Size M
ZT15-166	MCG Male	1/4"	M14×1.25
ZT15-176		3/8"	M18×1.5
ZT15-1A6	JSK Male	1/4"	M14×1.25
ZT15-1B6		3/8"	M18×1.5

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions				
				N	T	S	H	L
ZT15-186	MCG Female nut	1/4"	M14×1.25	62.5	52.5	6	17×19.6 Hex.	76
ZT15-196		3/8"	M18×1.5	68	58	7	22×25.4 Hex.	80
ZT15-1C6	JSK Female nut	1/4"	M14×1.25	62.5	52.5	6	17×19.6 Hex.	76
ZT15-1D6		3/8"	M18×1.5	68	58	7	22×25.4 Hex.	80

DIMENSIONS 4

ZT15 Pressure Transmitter

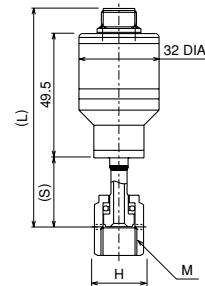
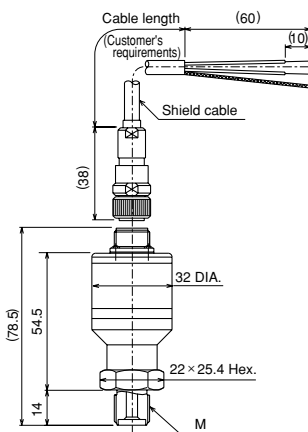
Type S



Model No.	Connection of fitting	Piping DIA.	Size M
ZT15-236	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions		
				L	H	S
ZT15-2E6	Male nut (TOM JOINT) *1	1/4"	9/16-18UNF	90	16x18.5 Hex.	30.5
ZT15-2G6	Female nut (SUPER TOM JOINT) *1	1/4"	9/16-18UNF	90	19x21.9 Hex.	30.5
ZT15-2J6	VCR Male nut	1/4"	9/16-18UNF	90	16x18.5 Hex.	30.5
ZT15-2L6	VCR Female nut *2	1/4"	9/16-18UNF	90.9	19x21.9 Hex.	31.4
ZT15-2N6	UJR Male nut	1/4"	9/16-18UNF	96.5	17x19.6 Hex.	37
ZT15-2Q6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	94	19x21.9 Hex.	34.5

* 1 Compatible with VCR
* 2 Bearings are not included.

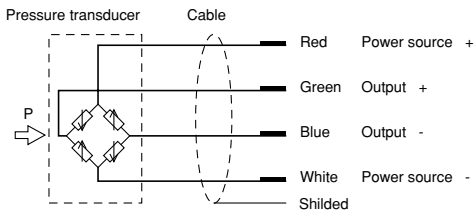


Model No.	Connection of fitting	Piping DIA.	Size M
ZT15-266	MCG Male	1/4"	M14 x 1.25
ZT15-2A6	JSK Male	1/4"	M14 x 1.25

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions		
				L	H	S
ZT15-286	MCG Female nut	1/4"	M14 x 1.25	86.9	17x19.6 Hex.	27.4
ZT15-2C6	JSK Female nut	1/4"	M14 x 1.25	88.5	17x19.6 Hex.	29

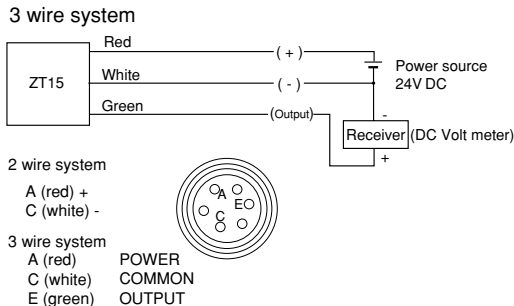
WIRING

ZT17 Pressure transducer



Note: Output stability is directly determined by the power supply stability.
Use a power supply which is properly stabilized.

ZT15 Pressure transmitter



Type No. constitution

Please specify Type No., each specification and range, when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.

Z	T	1	5	Pressure transmitter	UC grade
Z	T	1	7	Pressure transducer	UC grade

Model

3 Grade • Gas contact parts

6 CoNi Alloy

Selection spec.

Additional spec. (Option)

8 Other additional spec.

15 Document

1 Configuration

- 1 Type T
- 2 Type S
- M EMC Type T ZT15 only
- N EMC Type S ZT15 only

2 Connection

- 3 1/4" Male *
- 6 1/4" MCG Male
- 7 3/8" MCG Male Type Tonly
- 8 1/4" MCG Female nut
- 9 3/8" MCG Female nut Type Tonly
- A 1/4" JSK Male
- B 3/8" JSK Male Type Tonly
- C 1/4" JSK Female nut
- D 3/8" JSK Female nut Type Tonly
- E 1/4" Male nut * (Tom joint)
- F 3/8" Male nut * (Tom joint) Type Tonly
- G 1/4" Female nut * (Super Tom joint)
- H 3/8" Female nut * (Super Tom joint) Type Tonly
- J 1/4" VCR Male nut
- K 3/8" VCR Male nut Type Tonly
- L 1/4" VCR Female nut (Bearings are not included)
- M 3/8" VCR Female nut Type Tonly (Bearings are not included)
- N 1/4" UJR Male nut
- P 3/8" UJR Male nut Type Tonly
- Q 1/4" UJR Female nut (With pure ring)
- R 3/8" UJR Female nut (With pure ring) Type Tonly

* Compatible with VCR

4 Pressure range (MPa)
(When ordering, please specify pressure range & unit.)

- 1 -0.1 ~ 0.3, 0.5, 1, 2
- 2 0 ~ 0.3
- 3 0 ~ 0.5, 1, 2
- 4 0 ~ 3.5, 5, 10
- 5 0 ~ 20

5 Accuracy

- 5 ±0.5%F.S. more than 0.5MPa range
- 7 ±1.0%F.S.

6 Power source In case of ZT15

- 1 24V DC ±10%
- 6 12V DC ±10% (3 wire system only)

6 Power source In case of ZT17

- D 5V DC

7 Output In case of ZT15

- 1 4 ~ 20mA DC (2 wire system)
- 8 1 ~ 5V DC (3 wire system)

7 Output In case of ZT17

- 0 With digital indicator or amplifier

8 Other additional spec.

- 0 Nil
- 1 Please specify your requirement
Cable length specification
GC84 include pecification (ZT17 only)

15 Document

- 0 Nil
- 1 Please specify your requirement
Drawing one sheet, Instruction manual, Inspection procedure, Mill sheet, Test report

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

NAGANO KEIKI CO., LTD.



UEDA FACTORY (JQA-0794)
MARUKO FACTORY (JQA-0789)

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OVERSEAS SALES NETWORK: AUSTRALIA, HONG KONG, INDONESIA, KOREA, MALAYSIA, PHILIPPINES, SINGAPORE, TAIWAN, THAILAND, U.S.A.