

KP15 **NEW**

Pressure Transmitter

(Low pressure and absolute pressure)

- SUS316L diaphragm to support a wide variety of mediums.
- Performance highly accurate measurement in low pressure and absolute pressure ranges.
- Cutting-edge diaphragm type without collecting of liquid also available.

The SUS316L receiving part responds to various needs.



Standard type



Cutting-edge diaphragm type



High-precision pressure sensor supporting a wide variety of measurement mediums.

Low pressure and absolute pressure measurements at SUS316L receiving part is possible!

The KP15 is a diaphragm-type pressure transmitter that uses SUS316L material for the diaphragm of the receiving part. Because the wetted part is made of stainless steel, it is compatible with a wide variety of measurement mediums, meaning it can be used in a large diversity of industries that require low pressure/absolute pressure measurement.

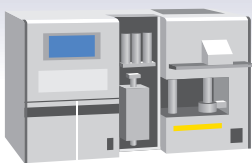
Features

- SUS316L receiving part material
- The cutting-edge diaphragm type **NEW**
- Minimum range 10kPa with standard type **NEW**
(Compound gauge -5 to 5kPa)
- Available for absolute pressure range
*For the cutting-edge diaphragm type, please contact us.
(50kPa abs., 100kPa abs., 200kPa abs.)
- Response speed Within 1 ms
- High accuracy $\pm 0.25\%$ F.S.
(Depends on pressure range)
- Withstand voltage 500V AC
- Dust-protected and excellent waterproof structure (IP65)
- Equipped with zero adjustment trimmer



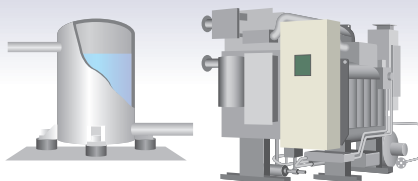
Applications

Device for various kinds of analysis/laboratory instrument
Pressure measurement



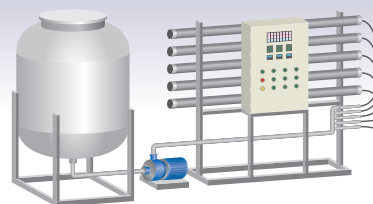
- Absolute pressure measurement
- Liquid measurement also possible (Receiving part material: SUS316L)

Tank pressure measurement
Absorption type refrigerator coolant pressure measurement



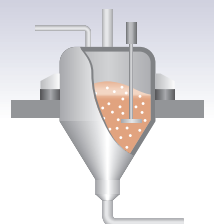
- Good accuracy and thermal behavior
- Compatible with vacuum drawing

Pressure measurement of water treatment (Liquids) devices



- Receiving part material: SUS316L

Powder conveying
Slurry measurement



- Lower risk of contamination with the cutting-edge diaphragm type

Specifications

Item	Descriptions					
Measurement fluid	Liquid or gas (Not corrosive to the wetted parts materials)					
Connection ^{*1}	R1/4, G1/2A (Cutting-edge diaphragm)					
Pressure range ^{*1}	-5 to 5kPa ^{*4} 0 to 10kPa ^{*4}	-10 to 10kPa -20 to 20kPa 0 to 20kPa 0 to 100kPa	-50 to 50kPa -100 to 0kPa 0 to 50kPa	50kPa abs. ^{*5} 100kPa abs. ^{*5}	-100 to 100kPa -100 to 200kPa 0 to 200kPa	200kPa abs. ^{*5}
Accuracy ^{*2}	Standard	±0.5%F.S.	±0.35%F.S.	±0.25%F.S.		
	Cutting-edge diaphragm	—	±0.5%F.S.	±0.3%F.S.		
Temperature coefficient ^{*3} (Both zero and span)	±0.1%F.S./°C	±0.08%F.S./°C	±0.05%F.S./°C		±0.03%F.S./°C	
Max. allowable pressure	100kPa		200kPa	200kPa abs.	400kPa	400kPa abs.
Allowable vacuum pressure	-20kPa	130Pa abs. or higher				
Position difference	30Pa or less/90°					
Insulation resistance	100MΩ or more (50V DC between joint and all input/output terminals)					
Withstand voltage	500V AC (1 minutes between joint and all input/output terminals)					
Shock resistance	1000 m/s ² (3 directions of X, Y, Z) Ordinary temperature					
Vibration resistance	200m/s ² (10 to 2000 Hz, 3 directions of X, Y, Z) Ordinary temperature					
Durability	Repeatable pressure at max. pressure: 10 million times or more					
Operating temperature and humidity range ^{*3}	-40 to 80°C, 85%RH or less (No freezing or condensation) however, connector parts is -25 to 70°C, 20 to 85%RH					
Storage temperature and humidity range	-40 to 85°C, 85%RH or less (No freezing or condensation)					
Supply voltage	9 to 36V DC ^{*6}					
Output	4 to 20mA DC 2-wire					
Response time	1ms or less					
EMC immunity	CE marking will be conformed.					
RoHS Compliance	Conform to EU RoHS					
Protection	IP65 (When connector mating)					
Weight	Approx. 110 g (Except cable)					
Electrical connections	Connector connection (M12, 4-pole)					
External adjusting function	Zero point					
Wetted parts material	Diaphragm: SUS316L *Cutting-edge diaphragm type may contain O ring materials, depending on how it is being used. Joint: SUS316L					
Case material	Case: SUS304 Electrical connection: PBT Trimmer cover: Chloroprene rubber (CR)					
Filled liquid	Silicone oil					

*1: Please contact us for other connections and ranges.

*2: At 25°C includes linearity, hysteresis and repetition.

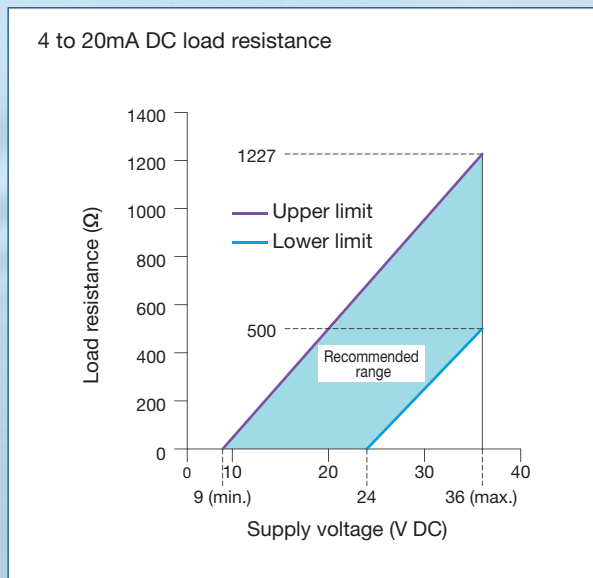
*3: Temperature compensation range: -25 to 75 °C.

*4: Standard type only.

*5: Please contact us for the absolute pressure range of the cutting-edge diaphragm type.

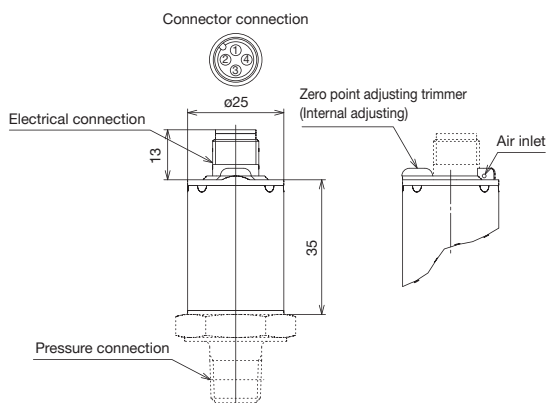
*6: Please consult the below graph in regards to the load resistance and supply voltage.

Load resistance

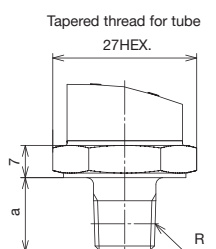


Dimensions

Standard type

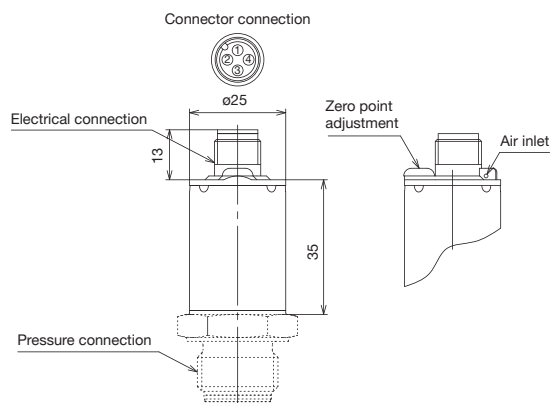


•Pressure connection

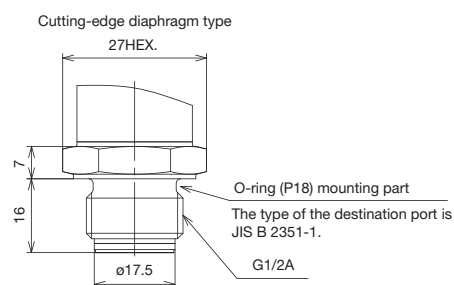


R	a
R1/4	16

Cutting-edge diaphragm type



•Pressure connection



*For factory default, O-ring is not installed.

Electrical connection

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

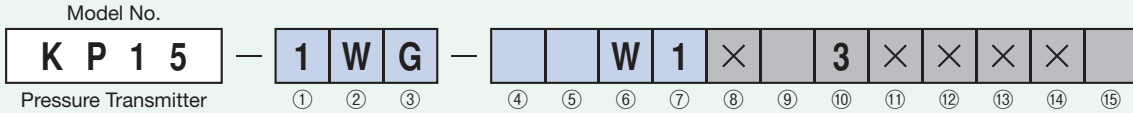
M12 cable with connector (Optional)

	PUR cable (Oilproof)	PVC cable (Stainless nut)
Straight		
L type		
Material	① Zinc die casting (Nickel plating) ② TPU (Green) ③ PUR	① Stainless ② TPU (Black) ③ PVC
Cable length (L)	2m or 5m	2m or 5m
Cross-section area of conductor	0.34mm ² (22AWG)	0.34mm ² (22AWG)
Core diameter including insulation	1.27mm	1.52mm
External cable diameter	4.7mm	5.2mm

*Protection code of the M12 cable with connector is IP65 or higher.

Cutting-edge diaphragm type

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

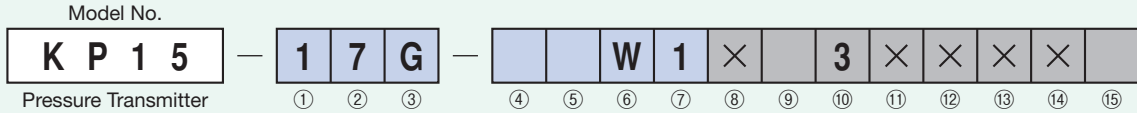


Model number	Selective spec.	Additional spec. (Option)																															
KP15	[Standard specifications] Wetted parts material: SUS316L, Filled liquid: Silicone oil, Connection: G1/2A (Cutting-edge diaphragm), Case construction: IP65																																
①Model	1 Connector type M12 connector (4-pole) External adjusting																																
②Connection* ¹	W G1/2A (Cutting-edge diaphragm)																																
③Wetted parts material	G Diaphragm: SUS316L *O-ring is not installed.																																
④Pressure range (kPa) ⑤Accuracy	<table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th style="width: 5%;">④</th> <th style="width: 5%;">⑤</th> <th style="width: 30%;">④Pressure range (kPa)</th> <th style="width: 15%;">⑤Accuracy</th> </tr> </thead> <tbody> <tr> <td>J</td> <td rowspan="3">5</td> <td>-10 to 10</td> <td rowspan="3">Compound gauge ±0.5%F.S.</td> </tr> <tr> <td>K</td> <td>-20 to 20</td> </tr> <tr> <td>V</td> <td>0 to 20</td> </tr> <tr> <td>L</td> <td rowspan="7">S</td> <td>-50 to 50</td> <td rowspan="4">Compound gauge ±0.3%F.S.</td> </tr> <tr> <td>M</td> <td>-100 to 100</td> </tr> <tr> <td>N</td> <td>-100 to 200</td> </tr> <tr> <td>S</td> <td>-100 to 0</td> </tr> <tr> <td>W</td> <td>0 to 50</td> <td rowspan="3">Vacuum gauge</td> </tr> <tr> <td>X</td> <td>0 to 100</td> </tr> <tr> <td>Y</td> <td>0 to 200</td> </tr> </tbody> </table>	④	⑤	④Pressure range (kPa)	⑤Accuracy	J	5	-10 to 10	Compound gauge ±0.5%F.S.	K	-20 to 20	V	0 to 20	L	S	-50 to 50	Compound gauge ±0.3%F.S.	M	-100 to 100	N	-100 to 200	S	-100 to 0	W	0 to 50	Vacuum gauge	X	0 to 100	Y	0 to 200			
④	⑤	④Pressure range (kPa)	⑤Accuracy																														
J	5	-10 to 10	Compound gauge ±0.5%F.S.																														
K		-20 to 20																															
V		0 to 20																															
L	S	-50 to 50	Compound gauge ±0.3%F.S.																														
M		-100 to 100																															
N		-100 to 200																															
S		-100 to 0																															
W		0 to 50	Vacuum gauge																														
X		0 to 100																															
Y		0 to 200																															
⑥Power source	W 9 to 36V DC																																
⑦Output	1 4 to 20mA DC (2-wire)																																
⑨M12 connector Cable (Noted in the middle part of this catalogue)	<table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th style="width: 5%;">⑨</th> <th style="width: 20%;">Cable</th> <th style="width: 10%;">Straight</th> <th style="width: 10%;">L type</th> <th style="width: 15%;">Cable length</th> </tr> </thead> <tbody> <tr> <td rowspan="4">0</td> <td rowspan="2">1 PUR cable (Oilproof)</td> <td> </td> <td> </td> <td rowspan="2">2 m</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td rowspan="2">2 PVC cable (Stainless nut)</td> <td> </td> <td> </td> <td rowspan="2">5 m</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td rowspan="4">3</td> <td rowspan="2">5 PUR cable (Oilproof)</td> <td> </td> <td> </td> <td rowspan="2">5 m</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td rowspan="2">6 PVC cable (Stainless nut)</td> <td> </td> <td> </td> <td rowspan="2">5 m</td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	⑨	Cable	Straight	L type	Cable length	0	1 PUR cable (Oilproof)			2 m			2 PVC cable (Stainless nut)			5 m			3	5 PUR cable (Oilproof)			5 m			6 PVC cable (Stainless nut)			5 m			
⑨	Cable	Straight	L type	Cable length																													
0	1 PUR cable (Oilproof)			2 m																													
	2 PVC cable (Stainless nut)			5 m																													
3	5 PUR cable (Oilproof)			5 m																													
	6 PVC cable (Stainless nut)			5 m																													
⑩Treatment* ²	3 Use no oil & water (Standard)																																
⑮Documents* ³	<table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th style="width: 5%;">⑮</th> <th style="width: 20%;">Documents</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Nil</td> </tr> <tr> <td>1</td> <td>Required Submission drawings, instruction manual, inspection procedure, inspection / traceability certificate</td> </tr> </tbody> </table>	⑮	Documents	0	Nil	1	Required Submission drawings, instruction manual, inspection procedure, inspection / traceability certificate																										
⑮	Documents																																
0	Nil																																
1	Required Submission drawings, instruction manual, inspection procedure, inspection / traceability certificate																																

Please specify the range and the unit for ordering.

*¹ For other screw specifications, please contact us.
*² Perform drying treatment after degreasing the receiving part.
"Use no oil & water" is standard, but there is no display for this product.
*³ Only "Required or Nil" is available for "Documents." Please provide separate specifications in regards to the content.
•For any special specifications outside of those described above, please contact us for an estimate.

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



Model number		Selective spec.		Additional spec. (Option)	
KP15		[Standard specifications] Wetted parts material: SUS316L, Filled liquid: Silicone oil, Connection: R1/4, Case construction: IP65			
①Model	1	Connector type M12 connector (4-pole) External adjusting			
②Connection*1	7	R1/4			
③Wetted parts material	G	Diaphragm: SUS316L, Joint: SUS316L			
④Pressure range (kPa) ⑤Accuracy	④	⑤	④Pressure range (kPa)	⑤Accuracy	
Please specify the range and the unit for ordering. →	H	5	-5 to 5	Compound gauge	±0.5%F.S.
	U		0 to 10		
	J		-10 to 10		
	K	T	-20 to 20	±0.35%F.S.	
	V		0 to 20		
	L		-50 to 50		
	M	4	-100 to 100	Compound gauge	±0.25%F.S.
	N		-100 to 200		
	S		-100 to 0	Vacuum gauge	
	W		0 to 50		
	X		0 to 100	Absolute pressure	
	Y		0 to 200		
4	0 to 50kPa abs.	Absolute pressure			
5	0 to 100kPa abs.				
6	0 to 200kPa abs.				
⑥Power source	W	9 to 36V DC			
⑦Output	1	4 to 20mA DC (2-wire)			
⑨M12 connector Cable (Noted in the middle part of this catalogue)	0	Nil			
	1	PUR cable (Oilproof)	Straight	Cable length 2 m	
	2		L type		
	3	PVC cable (Stainless nut)	Straight		
	4		L type		
	5	PUR cable (Oilproof)	Straight	Cable length 5 m	
	6		L type		
	7	PVC cable (Stainless nut)	Straight		
8	L type				
⑩Treatment*2	3	Use no oil & water (Standard)			
⑮Documents*3	0	Nil			
	1	Required Submission drawings, instruction manual, inspection procedure, inspection / traceability certificate			

*1 For other screw specifications, please contact us.
 *2 Perform drying treatment after degreasing the receiving part.
 "Use no oil & water" is standard, but there is no display for this product.
 *3 Only "Required or Nil" is available for "Documents." Please provide separate specifications in regards to the content.
 • For any special specifications outside of those described above, please contact us for an estimate.

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



NAGANO KEIKI CO., LTD.

URL : <http://www.naganokeiki.co.jp/>

HEAD OFFICE & OVERSEAS SALES DEPT

1-30-4, HIGASIMAGOME OHTA-KU, TOKYO, JAPAN.

PHONE : +81-3-3776-5328 FAX : +81-3-3776-5447

E-mail : overseas_sales_dept@naganokeiki.co.jp