

PREX3000 Vector Involute Type Pneumatic Pressure Transmitters

Model KKP 71 / 72 / 73 / 74 / 75 / 76 (Remote Seal Diaphragm Type)



The PREX3000 instruments are pneumatic type transmitters which employ a combination of vector balance mechanism and involute mechanism.

The instruments are featured by high resistance against adverse environments, high turn-down ratio, high accuracy, and ease of maintenance.

Standard Specifications

Item	Specifications
Measuring range (continuously adjustable)	KKP 71: 0-5 to 0-70 MPa {0-50 to 0-700 kgf/cm ² } KKP 74: 0-0.175 to 0-3.5 MPa {0-1.75 to 0-35 kgf/cm ² } KKP 72: 0-1.25 to 0-25 MPa {0-12.5 to 0-250 kgf/cm ² } KKP 75: 0-0.035 to 0-686 MPa {0-0.35 to 0-7 kgf/cm ² } KKP 73: 0-0.35 to 0-7 MPa {0-3.5 to 0-70 kgf/cm ² } KKP 76: 0-0.01 to 0-0.196 MPa {0-0.1 to 0-2 kgf/cm ² }

Working pressure,
Overload protection
(refer to Fig. 1, 6)

Model No.	Working pressure range (up to 120°C)	Overload protection (unit: MPa {kgf/cm ² })	
		Up to 120°C	Normal temperature
KKP 71	-0.05 to 70 {-0.5 to +700}	70 {700}	
KKP 72	-0.05 to 30 {-0.5 to +300}	32 {320}	
KKP 73	-0.05 to 10.5 {-0.5 to +105}	14 {140}	
KKP 74	-0.05 to 5.25 {-0.5 to +52.5}	7 {70}	
	-0.05 to 5.1 {-0.5 to +51}	5.1 {51}	
	-0.05 to 3.82 {-0.5 to +37}	3.82 {37}	4.96 {50}
KKP 75	-0.05 to 1.05 {-0.5 to +10.5}	1.4 {14}	
KKP 76	-0.05 to 0.3 {-0.5 to +3}	0.4 {4}	

Process connection

Model No.	Con- nec- tion	Screw con.		Flange connection									
		G 1 1/2 (φ 34 button diaphragm)	2" (RF) Wafer	Flush diaphragm type				Extended diaphragm type					
				80 mm- JIS10K	80 mm- JIS30K	3" ANSI 150	3" ANSI 300	100 mm- JIS10K	100 mm- JIS30K	4" ANSI 150	4" ANSI 300		
KKP 71		○											
KKP 72		○	○										
KKP 73			○										
KKP 74			○		○		○			○			○
KKP 75				○		○		○		○		○	
KKP 76				○		○		○		○		○	

Capillary tube length

2, 3, or 5 m

Sp. gr. of liquid fill

0.935 at 25°C

Air supply connection

Rc 1/4 or 1/4 NPT internal thread

Air supply pressure

140±14 kPa {1.4±0.14 kgf/cm²}

Output

20-100 kPa {0.2-1.0 kgf/cm²}

External load

ID 4 mm × Length 3 m+20 cm³ or over

Air supply capacity

20NL/minute or over, with 6.7 kPa {50 mmHg} change

Air consumption

5NL/minute or less (when balanced at output 100%)

Accuracy, Dead band


Model No.	KKP 71		KKP 72		KKP 73		KKP 74		KKP 75		KKP 76	
Span (MPa {kgf/cm ² })	5 {50} to less than 10 {100}	10 {100} or over	1.25 {12.5} to less than 2.5 {25}	2.5 {25} or over	0.35 {3.5} to less than 0.7 {7}	0.7 {7} or over	0.175 {1.75} to less than 0.35 {3.5}	0.35 {3.5} or over	0.035 {0.35} to less than 0.07 {0.7}	0.07 {0.7} or over	0.01 {0.1} to less than 0.02 {0.2}	0.02 {0.2} or over
Accuracy (%FS)	±1	±0.5	±1	±0.5	±1	±0.5	±1	±0.5	±1	±0.5	±1	±0.5
Dead band (%FS)	0.1		0.1		0.1		0.1		0.1		0.1	

Item	Specifications
Operating temperature	Meter body (process fluid): -40 to +120°C Transmitter (ambient): -30 to +80°C [refer to Fig. 1]
Operating humidity	10 to 90% RH
Construction	Dustproof and waterproof, meets IEC IP54, NEMA Type 3R, JIS F8001 Class 3 splashproof, JIS C0920 rainproof
Materials	Flange: Carbon steel (SF45A), SUS304 Wetted parts: SUS316 (diaphragm: SUS316L), SUS316L, Monel, Tantalum Transmitter case: Aluminium alloy
Finish	Acryl baking finish Color: Light beige (munsell 4Y7.2/1.3)
Mounting	Directly flange mounted to process flange (transmitter body is mounted on vertical or horizontal 2 inch pipe.)
Net weight	Approx. 12.5 kg with 80 mm-JIS10K flange (add 0.8 kg for air-set).

Optional Specifications

Item	Specifications																																														
(1) Suppression and elevation	(unit: MPa {kgf/cm ² })																																														
	<table border="1"> <thead> <tr> <th rowspan="2">Model No.</th> <th rowspan="2">Span</th> <th rowspan="2">Sup- pression (max.)</th> <th>Spring A</th> <th>Spring B</th> <th rowspan="2">Working Pressure (max.) (up to 120°C)</th> </tr> <tr> <th>Elevation (max.)</th> <th>High Elevation</th> </tr> </thead> <tbody> <tr> <td>KKP 71</td> <td>5 to 70 {50 to 70}</td> <td rowspan="7">-0.05 {-0.5}</td> <td>65 {650}</td> <td>---</td> <td>70 {700}</td> </tr> <tr> <td>KKP 72</td> <td>1.25 to 25 {12.5 to 250}</td> <td>22.5 {225}</td> <td>22.5 to 28.75 {225 to 287.5}</td> <td>30 {300}</td> </tr> <tr> <td>KKP 73</td> <td>0.35 to 7 {3.5 to 70}</td> <td>6 {60}</td> <td>6 to 10.15 {60 to 101.5}</td> <td>10.5 {105}</td> </tr> <tr> <td rowspan="3">KKP 74</td> <td>2"-ANSI Wafer</td> <td rowspan="3">0.175 to 3.5 {1.75 to 35}</td> <td rowspan="3">3 {30}</td> <td>3 to 5.075 {30 to 50.75}</td> <td>5.25 {52.5}</td> </tr> <tr> <td>80, 100m -JIS 30K</td> <td>3 to 4.925 {30 to 49.25}</td> <td>4.51 {46.0} (Carbon steel) 4.12 {42.0} (SUS304)</td> </tr> <tr> <td>3", 4" -ANSI 300</td> <td>3 to 3.525 {30 to 35.25}</td> <td>3.82 {37}</td> </tr> <tr> <td>KKP 75</td> <td>0.035 to 0.686 {0.35 to 7}</td> <td>0.6 {6}</td> <td>0.6 to 1.015 {6 to 10.15}</td> <td>1.05 {10.5}</td> </tr> <tr> <td>KKP 76</td> <td>0.01 to 0.196 {0.1 to 2}</td> <td>0.18 {1.8}</td> <td>0.18 to 0.29 {1.8 to 2.9}</td> <td>0.3 {3}</td> </tr> </tbody> </table>	Model No.	Span	Sup- pression (max.)	Spring A	Spring B	Working Pressure (max.) (up to 120°C)	Elevation (max.)	High Elevation	KKP 71	5 to 70 {50 to 70}	-0.05 {-0.5}	65 {650}	---	70 {700}	KKP 72	1.25 to 25 {12.5 to 250}	22.5 {225}	22.5 to 28.75 {225 to 287.5}	30 {300}	KKP 73	0.35 to 7 {3.5 to 70}	6 {60}	6 to 10.15 {60 to 101.5}	10.5 {105}	KKP 74	2"-ANSI Wafer	0.175 to 3.5 {1.75 to 35}	3 {30}	3 to 5.075 {30 to 50.75}	5.25 {52.5}	80, 100m -JIS 30K	3 to 4.925 {30 to 49.25}	4.51 {46.0} (Carbon steel) 4.12 {42.0} (SUS304)	3", 4" -ANSI 300	3 to 3.525 {30 to 35.25}	3.82 {37}	KKP 75	0.035 to 0.686 {0.35 to 7}	0.6 {6}	0.6 to 1.015 {6 to 10.15}	1.05 {10.5}	KKP 76	0.01 to 0.196 {0.1 to 2}	0.18 {1.8}	0.18 to 0.29 {1.8 to 2.9}	0.3 {3}
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	(note: elevation+span ≤ maximum operating pressure)																																														
(2) Air-set (filter and pressure regulator)	Primary pressure: 200 to 990 kPa(2 to 9.9 kgf/cm ²) Secondary pressure: 140 kPa (1.4 kgf/cm ²) Filter mesh diameter: 5 microns Connections: Rc1/4 or 1/4NPT internal thread																																														

Optional Semi-standard Specifications

Item	Specifications
(1) For vacuum use (Y23)	Y169, Y182 and Y183 are not available for Y23. [refer to Fig. 3, 6]
(2) High temperature use (Y62)	Operating temperature: Fluid -10 to +280°C (monel, tantalum ... up to 180°C) Ambient -10 to +80°C Liquid fill: Fluorine oil (sp. gr. 1.07 at 25°C) [refer to Fig. 4, 6]
(3) For vacuum use and high temperature (Y23 plus Y62)	Y169, Y182 and Y183 are not available for Y23 plus Y62. [refer to Fig. 5, 6]
(4) Corrosion-resistant and silver finish (Y138)	Corrosion resistant (acryl baking) finish (Y138A): Resistant against corrosive gases. Corrosionproof (epoxy baking) finish (Y138B): Resistant against corrosive liquids. Silver-normal (acryl baking) finish (Y138C): To prevent temperature rise of instrument caused by direct sunlight or radiation from other source of heat. Silver-corrosion-resistant (acryl baking) finish (Y138D): To prevent temperature rise the same as above, plus resistance against corrosive gases. (note: silver finish is not applicable for alkaline gases.)
(5) For oxygen measurement (Y182)	Measuring element material: SUS316 or SUS316L Liquid fill: Fluorine oil (specific gravity: 1.915 at 25°C) Operating temperature (fluid and ambient temperature): -10 to +60°C Wetted parts treatment: Treated for degreasing [refer to Fig. 2, 6]
(6) For chlorine gas measurement (Y183) (applicable to KKP74/75/76 type)	Measuring element material: Tantalum Liquid fill: Fluorine oil (specific gravity: 1.915 at 25°C) Operating temperature (fluid and ambient temperature): -10 to +80°C Wetted parts treatment: Treated for degreasing [refer to Fig. 2, 6]
(7) Output pressure gauge (Y185)	Pressure gauge (100 mm diameter)  OUTPUT GAUGE(φ100) TRANSMITTER
(8) High vibration resistant type (Y188)	High vibration resistant type with dashpot.

Model Number Table

Ex: KKP72-22010200A1-5, 7

Basic Model No.	Flange or Screw Mat'l	Wetted Parts Mat'l	Flange or Screw Rating	Capillary Tube Length	Length of Extended Part of Flange	Air Piping Connections	Pressure unit / Output	Options	Description	
KKP 7									Remote seal diaphragm type	
	1								0-5 to 0-70 MPa (0-50 to 0-700 kgf/cm ²)	
	2								0-1.25 to 0-25 MPa (0-12.5 to 0-250 kgf/cm ²)	
	3								0-0.35 to 0-7 MPa (0-3.5 to 0-70 kgf/cm ²)	
	4								0-0.175 to 0-3.5 MPa (0-1.75 to 0-35 kgf/cm ²)	
	5								0-0.035 to 0-0.686 MPa (0-0.35 to 0-7 kgf/cm ²)	
	6								0-0.01 to 0-0.196 MPa (0-0.1 to 0-2 kgf/cm ²)	
	-1								Carbon steel (SF 45A) [excluding button diaphragm and wafer type]	
	-2								SUS316 [excluding button diaphragm and flange type]	
	-7								SUS304 [excluding wafer type]	
	-8								SUS316L [excluding button diaphragm and flange type]	
		2								SUS316 [diaphragm: SUS316L]
		3								Monel [excluding extended diaphragm type.
		4								Tantalum button diaphragm and wafer type.]
		8								SUS316L
				01						Flush diaphragm type 80 mm-JIS10K (RF) equiv. flange
				02						Flush diaphragm type 80 mm-JIS30K (RF) equiv. flange
				03						Flush diaphragm type 3"-ANSI 150 (RF) equiv. flange
				04						Flush diaphragm type 3"-ANSI 300 (RF) equiv. flange
				05						Extended diaphragm type 100 mm-JIS10K (RF) equiv. flange
				06						Extended diaphragm type 100 mm-JIS30K (RF) equiv. flange
				07						Extended diaphragm type 4"-ANSI 150 (RF) equiv. flange
				08						Extended diaphragm type 4"-ANSI 300 (RF) equiv. flange
				09						2"-ANSI 1500 (RF) equiv. wafer
			11						G 1 1/2 external thread (button diaphragm type)	
				02					ℓ=2 m	
				03					ℓ=3 m	
				05					ℓ=5 m	
					00				Available for flush diaphragm, button diaphragm and wafer type	
					10				L=100 mm (extended diaphragm type)	
					15				L=150 mm (extended diaphragm type)	
						A			Rc 1/4 internal thread	
						B			1/4 NPT internal thread	
							1		kgf/cm ² (or mmH ₂ O) / 0.2 to 1.0 kgf/cm ²	
							2		PSI / 3 to 15 PSI	
							3		bar / 0.2 to 1.0 bar	
							4		Pa / 20 to 100 kPa	
							8		Pa / 19.6 to 98.1 kPa (equality to 0.2 to 1.0 kgf/cm ²)	
								-X	No option	
								-5	Elevation or High elevation	
								-6	Suppression	
								-7	Air-set	

Note)
When ordering "Y" options, please write as:
KKP72Y-22010200A1-5, 7 (Y □).

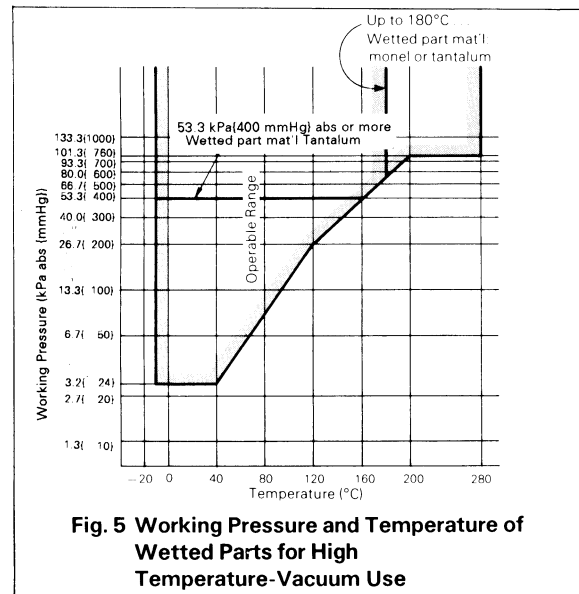
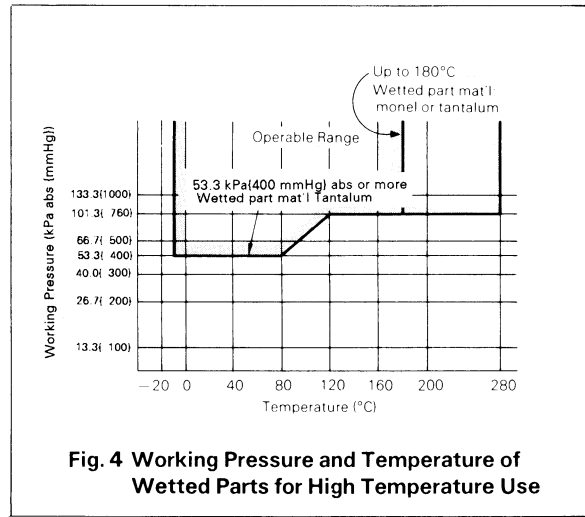
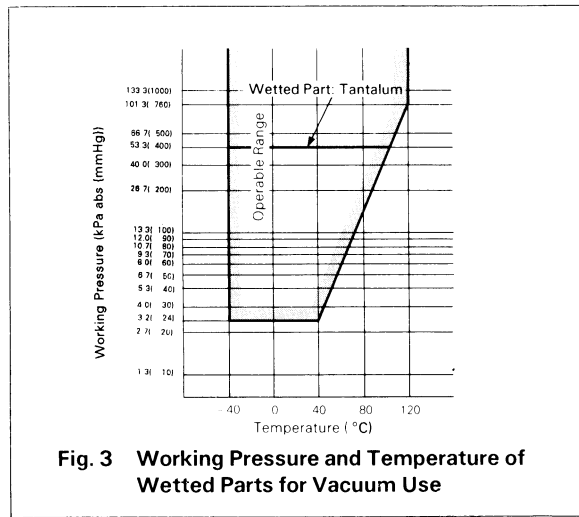
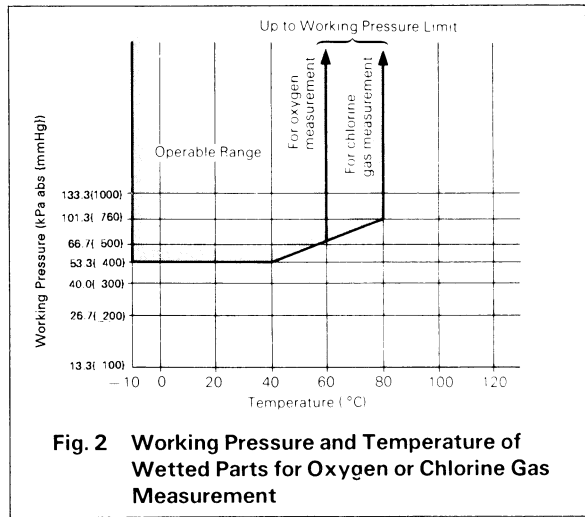
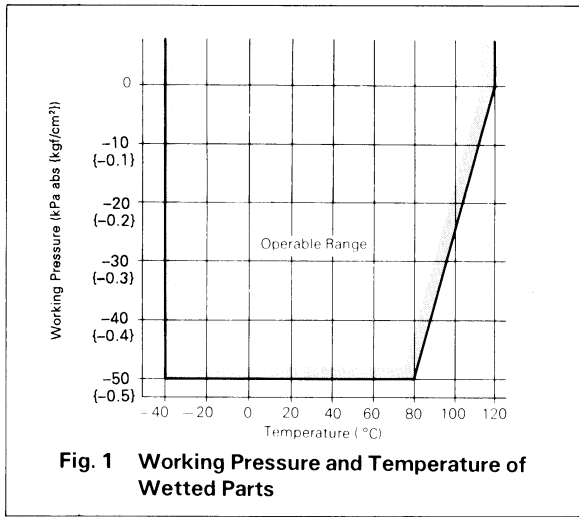
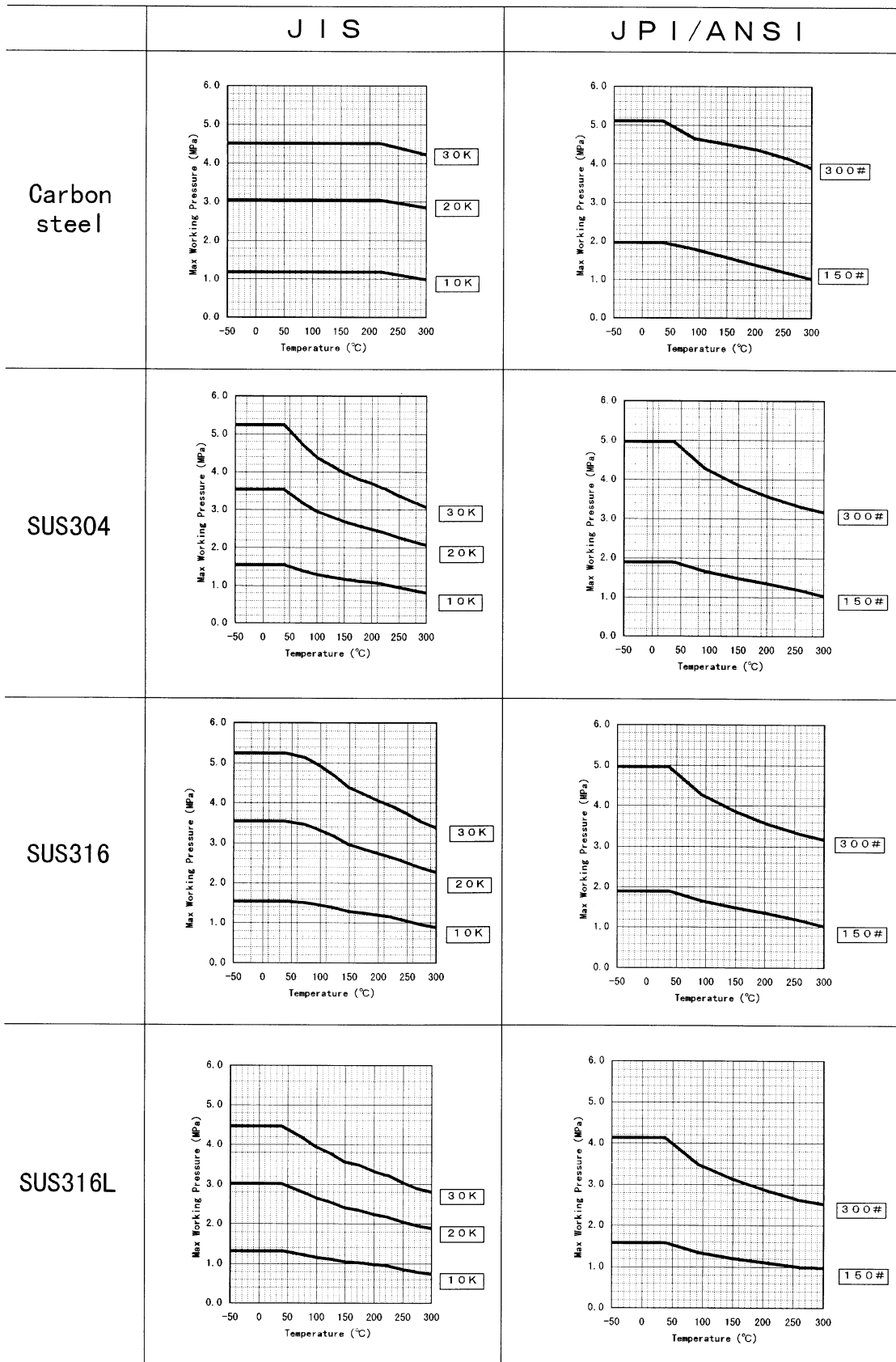


Fig6. Max Working Pressure

Note1. Max Working Pressure depends on flange rating , flange materials and operating temperature. Please refer to the following data.

Operating range of temperature depends on specification of transmitters

Note2. In case of remote sealed type (KKP75,KFKB□□-75), Max Working Pressure depends on the smaller value of either 1.05MPa or following data.



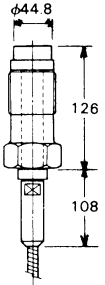
Dimensions

(Unit:mm)

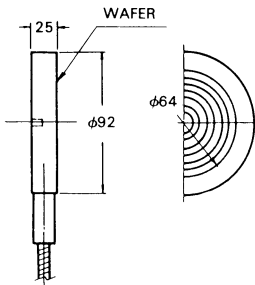
Flange Dimensions

ITEM	FLANGE RATING	D	T	C	n	h	i BOLT
01	80 mm JIS 10 K RF	185	18	150	8	19	M16
02	80 mm JIS 30 K RF	210	28	170	8	23	M20
03, 0A	3" ANSI/ 150 RF	191	24	152.4	4	19	5/8
04, 0B	3" JPI 300 RF	210	29	168.3	8	22	3/4
05	100 mm JIS 10 K RF	210	18	175	8	19	M16
06	100 mm JIS 30 K RF	240	32	195	8	25	M22
07, 0C	4" ANSI/ 150 RF	229	24	190.5	8	19	5/8
08, 0D	4" JPI 300 RF	254	32	200	8	22	3/4

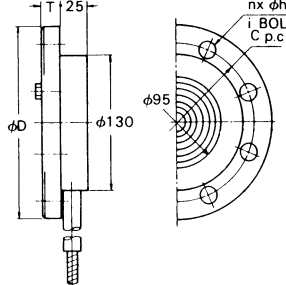
Button Diaphragm



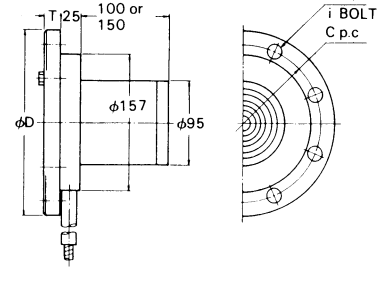
Wafer



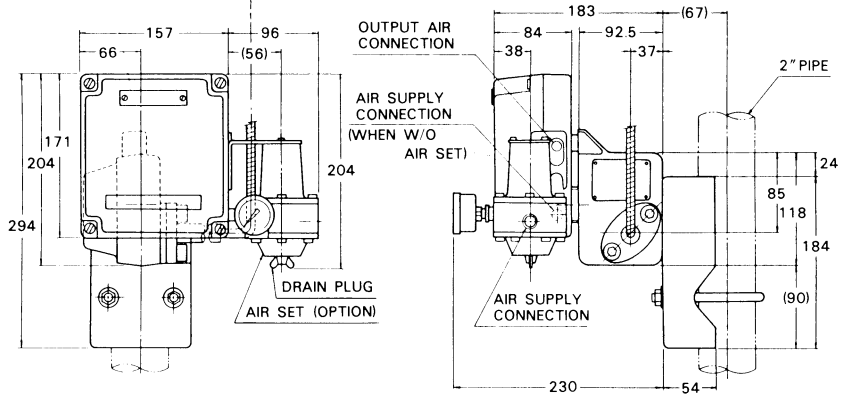
Flush Diaphragm



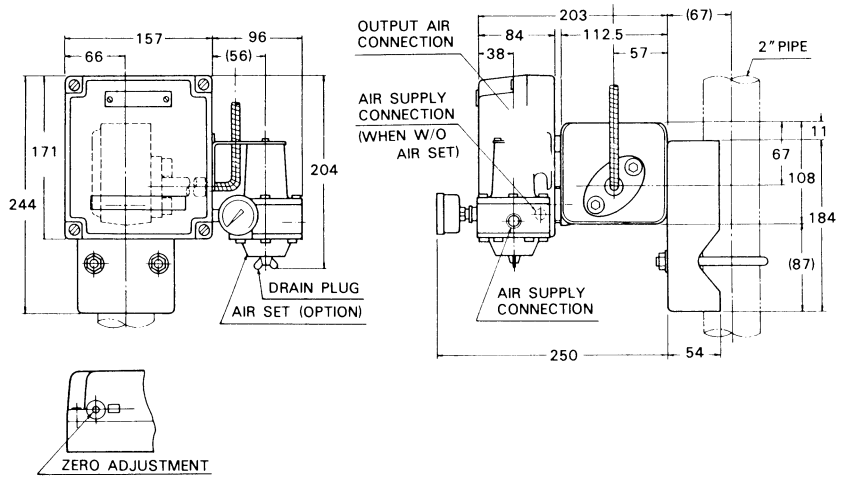
Extended Diaphragm



KKP71/72/73/74



KKP75/76



Ordering Information

When ordering, please specify:

- 1) Model No.
- 2) Measuring range

Note) PREX3000 Transmitter covers a wide measuring range. At a span close to the minimum range point, however, the instrument exhibits particular characteristics. When operating the instrument at this span, refer to Instrumentation Data Sheet ID2-522-002.

- 3) Optional specification
- 4) Optional semi-standard specification

Note) For any combination of two or more Y-specification items, please consult an Azbil Corp. agent.

Reference instruction manual . . .

OM2-5220-0000/
OM2-5220-1100

Please read the "Terms and Conditions" from the following URL before ordering or use:

<http://www.azbil.com/products/bi/order.html>

Specifications are subject to change without notice.



Azbil Corporation
Advanced Automation Company

1-12-2 Kawana, Fujisawa
Kanagawa 251-8522 Japan
URL: <http://www.azbil.com/>

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