

PREX3000 Vector Involute Type Pneumatic Pressure Transmitters Model KKP11/12/13/14



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 11: 0–5 to 0–70 MPa {0–50 to 0–700 kgf/cm ² } KKP 12: 0–1.25 to 0–25 MPa {0–12.5 to 0–250 kgf/cm ² } KKP 13: 0–0.35 to 0–7 MPa {0–3.5 to 0–70 kgf/cm ² } KKP 14: 0–0.175 to 0–3.5 MPa {0–1.75 to 0–35 kgf/cm ² }																																				
Working pressure, Overload protection, Process connection	<table><tr><th>Model No</th><th>Working pressure</th><th>Overload protection</th><th>Process connection</th></tr><tr><td>KKP 11</td><td>–0.1 to +70 MPa {–1 to +700 kgf/cm²}</td><td>75 MPa {750 kgf/cm²}</td><td rowspan="4">Welded nipple (φ13.6×50) Rc 1/2 or 1/4 internal thread, 1/2 or 1/4 NPT internal thread</td></tr><tr><td>KKP 12</td><td>–0.1 to +30 MPa {–1 to +300 kgf/cm²}</td><td>32 MPa {320 kgf/cm²}</td></tr><tr><td>KKP 13</td><td>–0.1 to +10.5 MPa {–1 to +105 kgf/cm²}</td><td>14 MPa {140 kgf/cm²}</td></tr><tr><td>KKP 14</td><td>–0.1 to +5.25 MPa {–1 to +52.5 kgf/cm²}</td><td>7 MPa {70 kgf/cm²}</td></tr></table>	Model No	Working pressure	Overload protection	Process connection	KKP 11	–0.1 to +70 MPa {–1 to +700 kgf/cm ² }	75 MPa {750 kgf/cm ² }	Welded nipple (φ13.6×50) Rc 1/2 or 1/4 internal thread, 1/2 or 1/4 NPT internal thread	KKP 12	–0.1 to +30 MPa {–1 to +300 kgf/cm ² }	32 MPa {320 kgf/cm ² }	KKP 13	–0.1 to +10.5 MPa {–1 to +105 kgf/cm ² }	14 MPa {140 kgf/cm ² }	KKP 14	–0.1 to +5.25 MPa {–1 to +52.5 kgf/cm ² }	7 MPa {70 kgf/cm ² }																			
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KKP 14	–0.1 to +5.25 MPa {–1 to +52.5 kgf/cm ² }	7 MPa {70 kgf/cm ² }																																			
Air supply connection	Rc 1/4 or 1/4 NPT internal thread																																				
Air supply pressure	140±14 kPa {1.4±0.14 kgf/cm ² }																																				
Output	20–100 kPa {0.2–1.0 kgf/cm ² }																																				
External load	ID 4 mm × Length 3 m+20 cm ³ 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	<table><tr><th>Model No.</th><th colspan="2">KKP 11</th><th colspan="2">KKP 12</th><th colspan="2">KKP 13</th><th colspan="2">KKP 14</th></tr><tr><th>Span (MPa {kgf/cm²})</th><td>5 {50} to less than 10 {100}</td><td>10 {100} or over</td><td>1.25 {12.5} to less than 2.5 {25}</td><td>2.5 {25} or over</td><td>0.35 {3.5} to less than 0.7 {7}</td><td>0.7 {7} or over</td><td>0.175 {1.75} to less than 0.35 {3.5}</td><td>0.35 {3.5} or over</td></tr><tr><td>Accuracy (%FS)</td><td>±1</td><td>±0.5</td><td>±1</td><td>±0.5</td><td>±1</td><td>±0.5</td><td>±1</td><td>±0.5</td></tr><tr><td>Dead band (%FS)</td><td colspan="2">0.1</td><td colspan="2">0.1</td><td colspan="2">0.1</td><td colspan="2">0.1</td></tr></table>	Model No.	KKP 11		KKP 12		KKP 13		KKP 14		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	Accuracy (%FS)	±1	±0.5	±1	±0.5	±1	±0.5	±1	±0.5	Dead band (%FS)	0.1		0.1		0.1		0.1	
Model No.	KKP 11		KKP 12		KKP 13		KKP 14																														
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Accuracy (%FS)	±1	±0.5	±1	±0.5	±1	±0.5	±1	±0.5																													
Dead band (%FS)	0.1		0.1		0.1		0.1																														
Operating temperature	Meter body (process fluid): —40 to +120°C Transmitter (ambient): —30 to + 80°C																																				
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	Bourdon tube: SUS316 Wetted parts gasket: Teflon Cover: SUS316 Transmitter case: Aluminium alloy																																				
Finish	Acryl baking finish Color: Light beige (munsell 4Y7.2/1.3)																																				
Mounting	On vertical or horizontal 2-inch pipe.																																				
Net weight	Approx. 5.5 kg (add 0.8 kg for air-set)																																				

Optional Specifications

Item

(1) Suppression and elevation

Specifications

(unit: MPa (kgf/cm²))					
Model No.	Span	Suppressor (max.)	Spring A Elevation (max.)	Spring B High Elevation	Working Pressure (max.)
KKP 11	5 to 70 (50~700 kgf/cm²)	~100 kPa {-1}	65 (650)	—	70 (700)
KKP 12	1.25 to 25 (12.5~250 kgf/cm²)		22.5 (225)	22.5 to 28.75 (225~287.5)	30 (300)
KKP 13	0.35 to 7 (3.5~70 kgf/cm²)		6 (60)	6 to 10.15 (60~101.5)	10.5 (105)
KKP 14	0.175 to 3.5 (1.75~35 kgf/cm²)		3 (30)	3 to 5.075 (30~50.75)	5.25 (52.5)

(note: elevation+span≤maximum operating pressure)

(2) Air-set (filter and pressure regulator)

Primary pressure:

200 to 990 kPa (2~9.9 kgf/cm²)

Secondary pressure:

140 kPa {1.4 kgf/cm²}

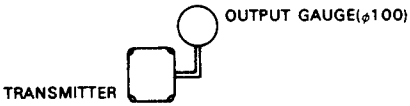
Filter mesh diameter:

5 microns

Connections:

Rc 1/4 or 1/4NPT internal thread

Optional Semi-standard Specifications

Item	Specifications
(1) Steam block (Y29)	Maximum working pressure: 5 MPa (50 kgf/cm²) Maximum operating temperature: 250°C (except meter body whose temperature must not exceed 120°C) Steam piping connections: Rc 1/4 or 1/4 NPT internal thread Material of block: Carbon steel (SF45A)
(2) SUS304 bolts for meter body clamping (Y66)	Working pressure: The same as the standard specifications.
(3) Oil free (Y67)	Wetted parts treatment: Treated for degreasing
(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.)
(4) Output pressure gauge (Y185)	Pressure gauge (100 mm diameter) 
(5) High vibration resistant type (Y188)	High vibration resistant type with dashpot.

Model Number Table

Ex: KKP11-22A1-5, 7

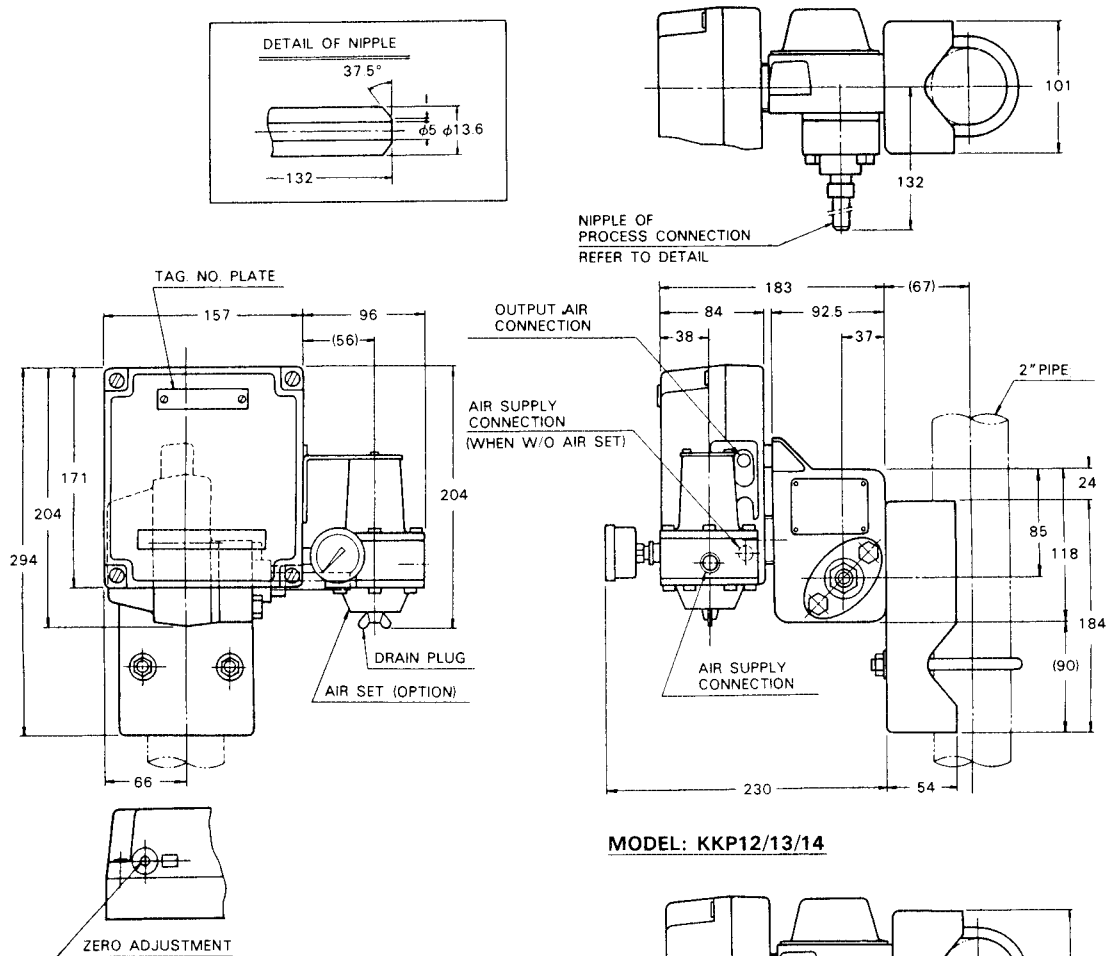
Basic Model No		Cover Mat'l	Bourdon Tube Mat'l	Air Piping Connections	Pressure unit / Output	Options	Description
Model No.	Span						
KKP 1							Pressure transmitter
	1						0-5 to 0-70 MPa {0-50 to 0-700 kgf/cm ² }
	2						0-1.25 to 0-25 MPa {0-12.5 to 0-250 kgf/cm ² }
	3						0-0.35 to 0-7 MPa {0-3.5 to 0-70 kgf/cm ² }
	4						0-0.175 to 0-3.5 MPa {0-1.75 to 0-35 kgf/cm ² }
		-2					SUS316
			2				SUS316
				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:
KKP11Y-22A1-5,7 (Y □).

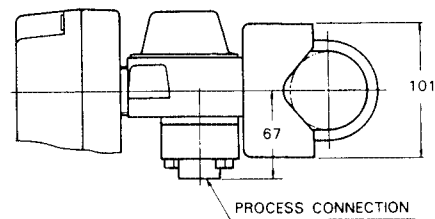
Dimensions

MODEL: KKP11

(Unit:mm)



MODEL: KKP12/13/14



Ordering Information

When ordering, please specify:

- 1) Model No.
- 2) Measuring range
- 3) Optional specification
- 4) Optional semi-standard specification

Reference instruction manual . . .
 OM2-5220-0000/ OM2-5240-1100

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