

PREX3000 Vector Involute Type Pneumatic Pressure Transmitters Model KKP 15/16/17/18 (Low Gauge Pressure)



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.

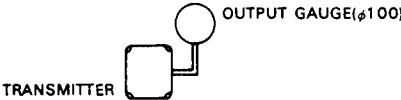
Standard Specifications

Item	Specifications																																								
Measuring range (continuously adjustable)	KKP 15: 0-35 to 0-686 kPa {0-0.35 to 0-7 kgf/cm ² } KKP 16: 0-10 to 0-196 kPa {0-0.1 to 0-2 kgf/cm ² } KKP 17: 0-3.4 to 0-66.6 kPa {0-25 to 0-500 mmHg} KKP 18: 0-0.7 to 0-13.3 kPa {0-5 to 0-100 mmHg}																																								
Working pressure, Overload protection, Process connection (refer to note.)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Model No.</th> <th style="text-align: center;">Working pressure</th> <th style="text-align: center;">Overload protection</th> <th style="text-align: center;">Process connection</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">KKP 15</td> <td style="text-align: center;">-0.1 to +1.05MPa(-1 to +10.5kgf/cm²)</td> <td style="text-align: center;">1.4 MPa (14 kgf/cm²)</td> <td rowspan="4" style="text-align: center; vertical-align: middle;">Rc 1/2 or 1/4 internal thread, 1/2 or 1/4 NPT internal thread</td> </tr> <tr> <td style="text-align: center;">KKP 16</td> <td style="text-align: center;">-100kPa to +300kPa(-1 to +3kgf/cm²)</td> <td style="text-align: center;">400 kPa (4 kgf/cm²)</td> </tr> <tr> <td style="text-align: center;">KKP 17</td> <td style="text-align: center;">-66.6kPa to +66.6kPa(-500 to +500mmHg)</td> <td style="text-align: center;">400 kPa (4 kgf/cm²)</td> </tr> <tr> <td style="text-align: center;">KKP 18</td> <td style="text-align: center;">-13.3kPa to +13.3kPa(-100 to +100mmHg)</td> <td style="text-align: center;">400 kPa (4 kgf/cm²)</td> </tr> </tbody> </table>	Model No.	Working pressure	Overload protection	Process connection	KKP 15	-0.1 to +1.05MPa(-1 to +10.5kgf/cm ²)	1.4 MPa (14 kgf/cm ²)	Rc 1/2 or 1/4 internal thread, 1/2 or 1/4 NPT internal thread	KKP 16	-100kPa to +300kPa(-1 to +3kgf/cm ²)	400 kPa (4 kgf/cm ²)	KKP 17	-66.6kPa to +66.6kPa(-500 to +500mmHg)	400 kPa (4 kgf/cm ²)	KKP 18	-13.3kPa to +13.3kPa(-100 to +100mmHg)	400 kPa (4 kgf/cm ²)																							
Model No.	Working pressure	Overload protection	Process connection																																						
KKP 15	-0.1 to +1.05MPa(-1 to +10.5kgf/cm ²)	1.4 MPa (14 kgf/cm ²)	Rc 1/2 or 1/4 internal thread, 1/2 or 1/4 NPT internal thread																																						
KKP 16	-100kPa to +300kPa(-1 to +3kgf/cm ²)	400 kPa (4 kgf/cm ²)																																							
KKP 17	-66.6kPa to +66.6kPa(-500 to +500mmHg)	400 kPa (4 kgf/cm ²)																																							
KKP 18	-13.3kPa to +13.3kPa(-100 to +100mmHg)	400 kPa (4 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 X Length 3 m+20 cc 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 border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Model No.</th> <th colspan="2" style="text-align: center;">KKP 15 (kPa (kgf/cm²))</th> <th colspan="2" style="text-align: center;">KKP 16 (kPa (kgf/cm²))</th> <th colspan="2" style="text-align: center;">KKP 17 (kPa (mmHg))</th> <th colspan="3" style="text-align: center;">KKP 18 (kPa (mmHg))</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Span</td> <td style="text-align: center;">35 (0.35) to less than 70 (0.7)</td> <td style="text-align: center;">70 (0.7) or over</td> <td style="text-align: center;">10 (0.1) to less than 20(0.2)</td> <td style="text-align: center;">20 (0.2) or over</td> <td style="text-align: center;">3.4 (25) to less than 6.8(50)</td> <td style="text-align: center;">6.8 (50) or over</td> <td style="text-align: center;">0.7 (5) to less than 1.4(10)</td> <td style="text-align: center;">1.4 (10) to less than 9.8(70)</td> <td style="text-align: center;">9.8 (70) or over</td> </tr> <tr> <td style="text-align: center;">Accuracy (%FS)</td> <td style="text-align: center;">±1</td> <td style="text-align: center;">±0.5</td> <td style="text-align: center;">±1</td> <td style="text-align: center;">±0.5</td> <td style="text-align: center;">±1</td> <td style="text-align: center;">±0.5</td> <td style="text-align: center;">±1</td> <td style="text-align: center;">±0.5</td> <td style="text-align: center;">±0.75</td> </tr> <tr> <td style="text-align: center;">Dead band (%FS)</td> <td colspan="2" style="text-align: center;">0.1</td> <td colspan="2" style="text-align: center;">0.1</td> <td colspan="2" style="text-align: center;">0.1</td> <td colspan="3" style="text-align: center;">0.1</td> </tr> </tbody> </table>	Model No.	KKP 15 (kPa (kgf/cm ²))		KKP 16 (kPa (kgf/cm ²))		KKP 17 (kPa (mmHg))		KKP 18 (kPa (mmHg))			Span	35 (0.35) to less than 70 (0.7)	70 (0.7) or over	10 (0.1) to less than 20(0.2)	20 (0.2) or over	3.4 (25) to less than 6.8(50)	6.8 (50) or over	0.7 (5) to less than 1.4(10)	1.4 (10) to less than 9.8(70)	9.8 (70) or over	Accuracy (%FS)	±1	±0.5	±1	±0.5	±1	±0.5	±1	±0.5	±0.75	Dead band (%FS)	0.1		0.1		0.1		0.1		
Model No.	KKP 15 (kPa (kgf/cm ²))		KKP 16 (kPa (kgf/cm ²))		KKP 17 (kPa (mmHg))		KKP 18 (kPa (mmHg))																																		
Span	35 (0.35) to less than 70 (0.7)	70 (0.7) or over	10 (0.1) to less than 20(0.2)	20 (0.2) or over	3.4 (25) to less than 6.8(50)	6.8 (50) or over	0.7 (5) to less than 1.4(10)	1.4 (10) to less than 9.8(70)	9.8 (70) or over																																
Accuracy (%FS)	±1	±0.5	±1	±0.5	±1	±0.5	±1	±0.5	±0.75																																
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	Bellows: SUS 316 Wetted parts gasket: Teflon Cover: Carbon steel (SF45A) or 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	KKP 15/16: Approx. 5.5 kg (add 0.8 kg for air-set). KKP 17/18: Approx. 8 kg (add 0.8 kg for air-set).																																								

Optional Specifications

Item	Specifications																																									
(1) Suppression and elevation	<table border="1"> <thead> <tr> <th rowspan="2">Model No.</th> <th rowspan="2">Span</th> <th rowspan="2">Suppression (max.)</th> <th>Spring A</th> <th>Spring B</th> <th rowspan="2">Working Pressure (max.)</th> <th rowspan="2">Unit</th> </tr> <tr> <th>Elevation (max.)</th> <th>High Elevation</th> </tr> </thead> <tbody> <tr> <td>KKP 15</td> <td>35 to 686(0.35 to 7)</td> <td rowspan="2">-100 (-1)</td> <td>600 (6)</td> <td>600 to 1015(6 to 10.15)</td> <td>1050 (10.5)</td> <td>kPa (kgf/cm²)</td> </tr> <tr> <td>KKP 16</td> <td>10 to 196(0.1 to 2)</td> <td>180 (1.8)</td> <td>180 to 290(1.8 to 2.9)</td> <td>300 (3)</td> <td>kPa (kgf/cm²)</td> </tr> <tr> <td>KKP 17</td> <td>3.4 to 66.6(25 to 500)</td> <td>-66.6(-500)</td> <td>63.2 (475)</td> <td>—</td> <td>66.6 (500)</td> <td>kPa (mmHg)</td> </tr> <tr> <td>KKP 18</td> <td>0.7 to 13.3(5 to 100)</td> <td>-13.3(-100)</td> <td>12.6 (95)</td> <td>—</td> <td>13.3 (100)</td> <td>kPa (mmHg)</td> </tr> </tbody> </table> <p>(note: elevation+span ≤ maximum operating pressure)</p>						Model No.	Span	Suppression (max.)	Spring A	Spring B	Working Pressure (max.)	Unit	Elevation (max.)	High Elevation	KKP 15	35 to 686(0.35 to 7)	-100 (-1)	600 (6)	600 to 1015(6 to 10.15)	1050 (10.5)	kPa (kgf/cm ²)	KKP 16	10 to 196(0.1 to 2)	180 (1.8)	180 to 290(1.8 to 2.9)	300 (3)	kPa (kgf/cm ²)	KKP 17	3.4 to 66.6(25 to 500)	-66.6(-500)	63.2 (475)	—	66.6 (500)	kPa (mmHg)	KKP 18	0.7 to 13.3(5 to 100)	-13.3(-100)	12.6 (95)	—	13.3 (100)	kPa (mmHg)
Model No.	Span	Suppression (max.)	Spring A	Spring B	Working Pressure (max.)	Unit																																				
			Elevation (max.)	High Elevation																																						
KKP 15	35 to 686(0.35 to 7)	-100 (-1)	600 (6)	600 to 1015(6 to 10.15)	1050 (10.5)	kPa (kgf/cm ²)																																				
KKP 16	10 to 196(0.1 to 2)		180 (1.8)	180 to 290(1.8 to 2.9)	300 (3)	kPa (kgf/cm ²)																																				
KKP 17	3.4 to 66.6(25 to 500)	-66.6(-500)	63.2 (475)	—	66.6 (500)	kPa (mmHg)																																				
KKP 18	0.7 to 13.3(5 to 100)	-13.3(-100)	12.6 (95)	—	13.3 (100)	kPa (mmHg)																																				
(2) Air-set (filter and pressure regulator)	Primary pressure: 200 to 90 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) Steam block (Y29)	Maximum working pressure: 5 MPa (50 kgf/cm ²) 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. (applicable to model KKP15 and KKP16 type)
(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.)
(5) Output pressure gauge (Y185)	Pressure gauge (100 mm diameter) <div style="text-align: center;">  </div>
(6) High vibration resistant type (Y188)	High vibration resistant type with dashpot.

Model Number Table

Ex: KKP15-22A1-5,7

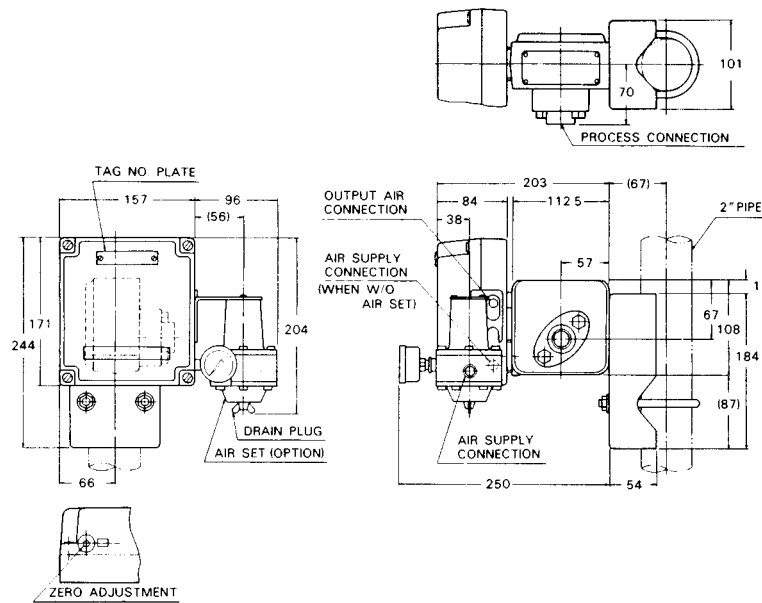
Basic Model No.		Cover Mat'l	Bellows Mat'l	Air Piping Connections	Pressure unit / Output	Options	Description
Model No.	Span						
KKP 1							Pressure transmitter
	5						0-35 to 0-686 kPa {0-0.35 to 0-7 kgf/cm ² }
	6						0-10 to 0-196 kPa {0-0.1 to 0-2 kgf/cm ² }
	7						0-3.4 to 0-66.6 kPa {0-25 to 0-500 mmHg}
	8						0-0.7 to 0-13.3 kPa {0-5 to 0-100 mmHg}
	-1						Carbon steel (SF45A) [KKP17, 18 only]
	-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:
KKP15-22A1-5,7 (Y □).

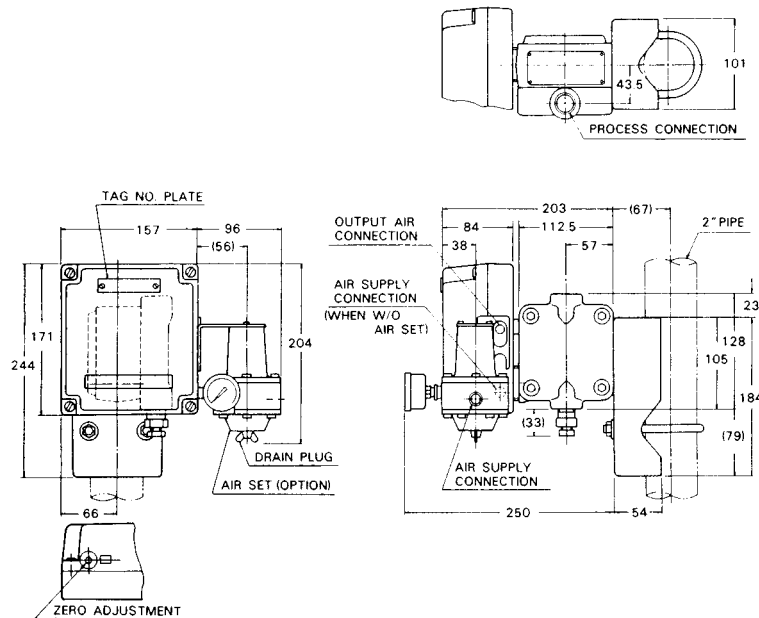
Dimensions

(Unit: mm)

KKP15/16



KKP17/18



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 your Yamatake agent.

Reference instruction manual . . .

OM2-5220-0000/

OM2-5240-1100

Specifications are subject to change without notice.

Yamatake Corporation

Totate International Building
2-12-19 Shibuya
Shibuya-ku Tokyo 150-8316
Tel : 81-3-3486-2216
Fax: 81-3-3486-2503

Yamatake-SIC Control Systems Co., Ltd.	: China	86-10-6510-2505
Shanghai Yamatake Jinshan Control Instruments Co., Ltd.	: China	86-21-6428-8661
Yamatake Korea Co., Ltd.	: Korea	82-2-785-0280-2
Yamatake (Thailand) Co., Ltd.	: Thailand	66-2-210-0900-7
Yamatake Philippines, Inc.	: Philippines	63-2-817-6452
PT. Yamatake Berca Indonesia	: Indonesia	62-21-230-5538
Yamatake Controls Singapore Pte. Ltd.	: Singapore	65-778-5966
YCV Corporation	: U.S.A.	1-602-548-1800

Yamatake Industrial Systems Co.,Ltd.

This has been printed on recycled paper.

YAMATAKE

Savemation

Saving through Automation

<http://www.yamatake.co.jp/>

9908-Y/Y