

PREX 3000 Vector Involute Type Pneumatic Differential Pressure Transmitters

Model KDP 44

(Standard Type for Lowest Differential Pressure)



Introduction

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.

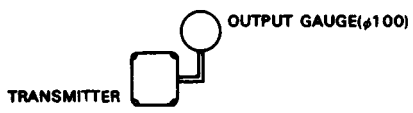
Standard Specifications

Item	Specifications	
Measuring range (continuously adjustable)	0-0.1 to 0-1.2 kPa {0-10 to 0-120 mmH ₂ O}	
Process connection	Rc 1/2 or 1/2 NPT internal thread	
Air supply connection	Rc 1/4 or 1/4 NPT internal thread	
Air supply pressure	140 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	±0.5% FS (for spans 0-0.2 to 0-1.2 kPa {0-20 to 0-120 mmH ₂ O}) ±1.0% FS (for spans 0-0.1 to 0-Less than 0.2 kPa {0-10 to 0-Less than 20 mmH ₂ O})	
Dead band	0.1% FS	
Damping adjustment	Time constant: Minimum 2 sec. or less, Maximum 15 sec. or over	
Working pressure	-1.5 kPa to +500 kPa {-150 mmH ₂ O to +5 kgf/cm ² }	[Refer to Fig. 1]
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	
Overload protection	Up to 0.5 MPa {5 kgf/cm ² } in either direction	
Construction	Dustproof and waterproof, meets IEC IP54, NEMA Type 3R, JIS F8001 Class 3 splashproof, JIS C0920 rainproof	
Materials	Center body: Aluminium alloy Wetted parts of center body: SUS316 Meter body cover (differential pressure chambers): Carbon steel (SF45A), SUS316 Wetted parts gasket: Teflon Transmitter case: Aluminium alloy	
Finish	Acryl baking finish Color: Light beige (munsell 4Y7.2/1.3)	
Mounting	On vertical 2-inch pipe	
Net weight	Approx. 17.5 kg (add 0.8 kg for air-set)	

Optional Specifications

Item	Specifications						
(1) Suppression and elevation	(unit: kPa {mmH ₂ O})						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Span</th> <th style="width: 33%;">Suppression (max.)</th> <th style="width: 33%;">Elevation (max.)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0.1 to 1.2 {10-120}</td> <td style="text-align: center;">1.2 {120}</td> <td style="text-align: center;">1.1 {110}</td> </tr> </tbody> </table>	Span	Suppression (max.)	Elevation (max.)	0.1 to 1.2 {10-120}	1.2 {120}	1.1 {110}
	Span	Suppression (max.)	Elevation (max.)				
0.1 to 1.2 {10-120}	1.2 {120}	1.1 {110}					
(note: elevation+span ≤ maximum span, suppression ≤ maximum span)							
(2) Air-set (filter and pressure regulator)	Primary pressure: 200 to 990 kPa {2-9.9 kgf/cm ² } Secondary pressure: 140 kPa {1.4 kgf/cm ² } Filter mesh diameter: 5 microns Connections: Rc 1/4 or 1/4 NPT internal thread						

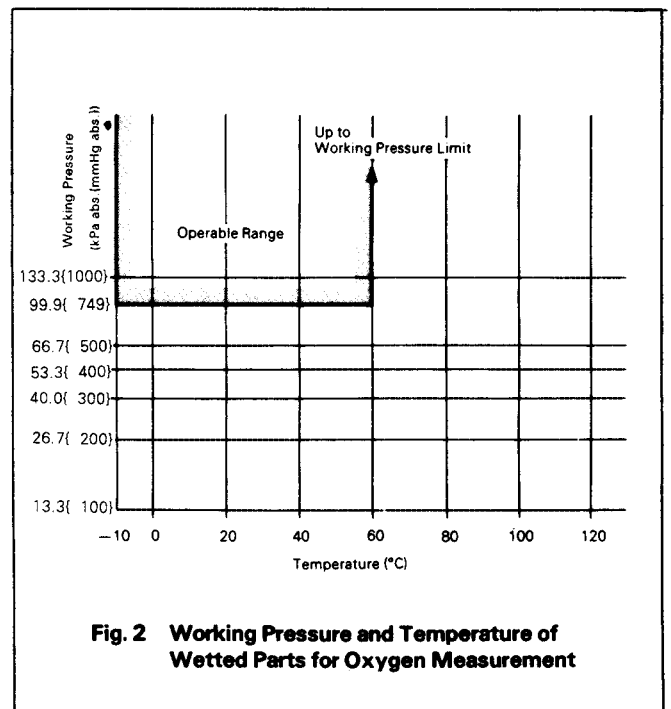
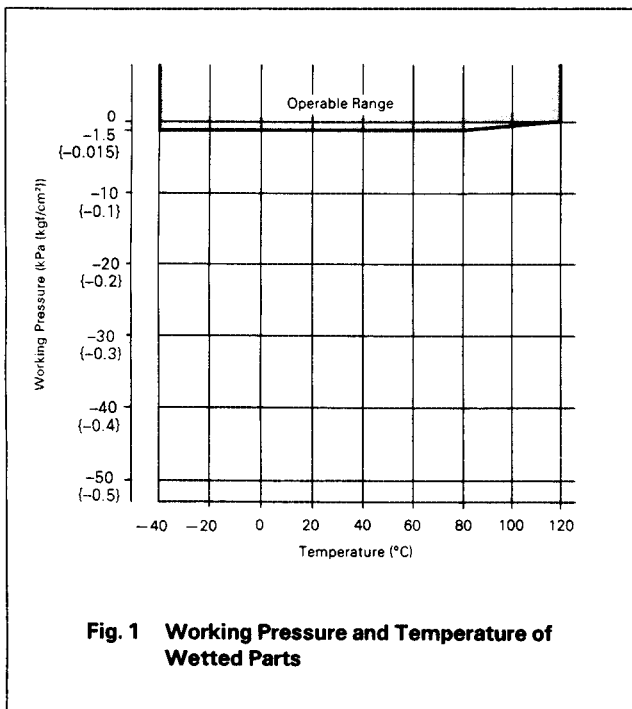
Optional Semi-standard Specifications

Item	Specifications
(1) SUS304 bolts for meter body clamping (Y 66)	Operating pressure: Same as the standard specifications
(2) Corrosion-resistant and silver finish (Y 138)	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.)
(3) For oxygen measurement (Y182)	Measuring element: SUS316 Liquid fill: Fluorine oil (specific gravity: 1.915 at 25°C) Operating temperature (fluid and ambient temperature): -10 to +60°C Wet parts treatment: Treated for degreasing
(4) Output pressure gauge (Y185)	Pressure gauge (100 mm diameter) <div style="text-align: center;">  </div>
(5) High vibration resistant type (Y188)	High vibration resistant type with dashpot

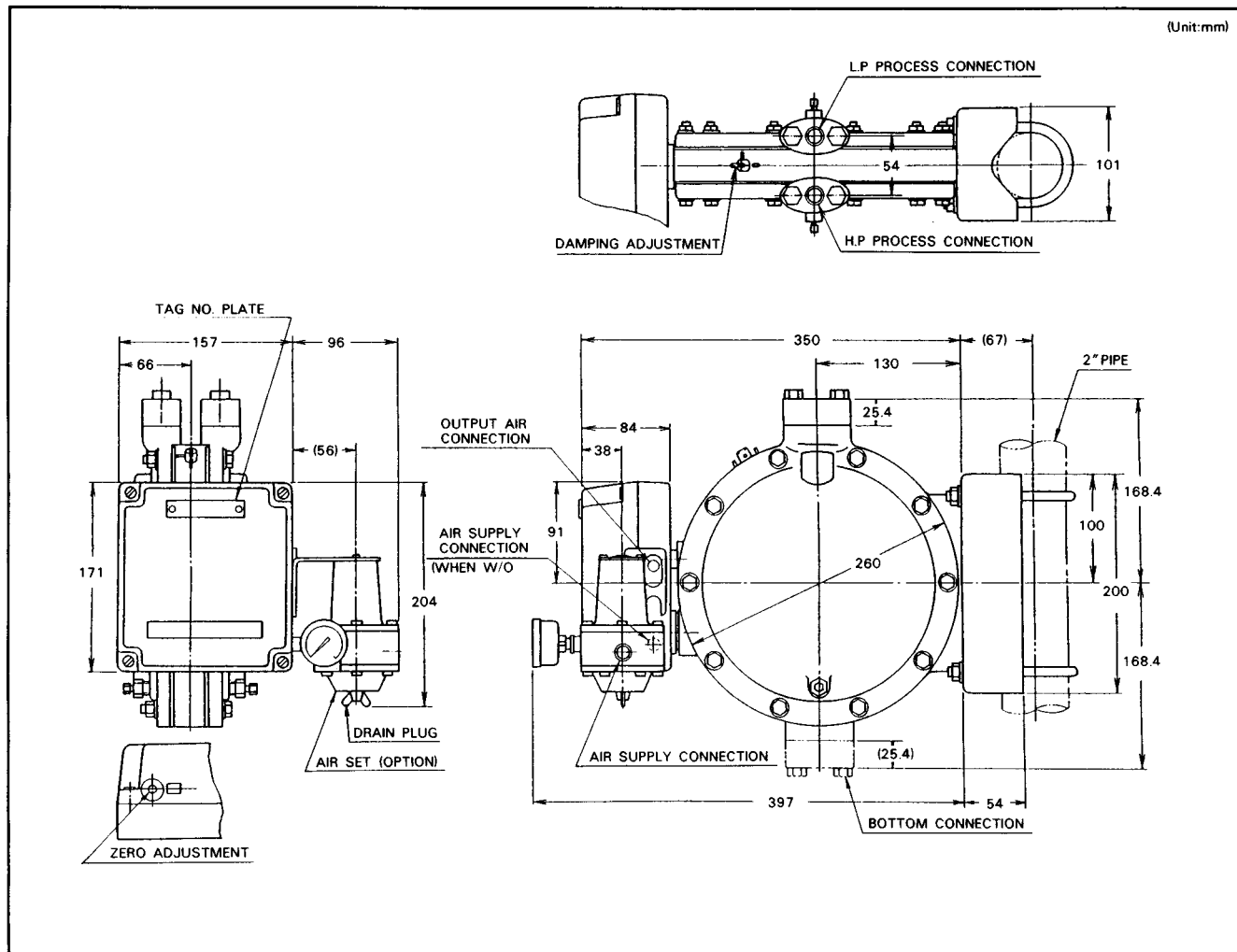
Model Number Table

Ex: KDP44-2222A1-5.7

Base Model No.	Cover Mat'l		Wetted Parts Mat'l		Air Piping Connections	Pressure unit / Output	Options	Description
	HP	LP	HP	LP				
KDP 44								0-0.1 to 0-1.2 kPa (0-10 to 0-120 mmH ₂ O)
	-1							Carbon steel (SF45A)
	-2							SUS316
			1					Carbon steel (SF45A)
			2					SUS316
				2				SUS316
					2			SUS316
						A		Rc 1/4 internal thread
						B		1/4 NPT internal therad
							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	
						-6	Suppression	
						-7	Air-set	



Dimensions



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.

3) Optional specification

4) Optional semi-standard specification

Note) For any combination of two or more Y-specification items, please consult your Yamatake agent.

Specifications are subject to change without notice.

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