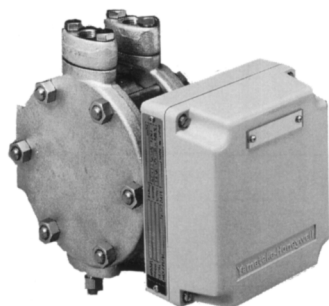


PREX 3000 Vector Involute Type Pneumatic Differential Pressure Transmitters

Model KDP 33

(Standard Type for Low 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.

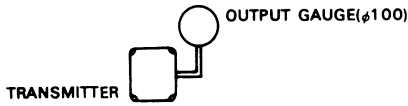
Standard Specifications

Item	Specifications
Measuring range (continuously adjustable)	0-0.5 to 0-6kPa {0-50 to 0-600 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±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	20 Nℓ/minute or over, with 6.7 kPa {50 mmH ₂ O} change
Air consumption	5 Nℓ/minute or less (when balanced at output 100%)
Accuracy	±0.5% FS (for spans 0-1 to 0-6 kPa {0-100 to 0-600 mmH ₂ O}) ±1.0% FS (for span 0-0.5 to 0-less than 1 kPa {0-50 to 0-Less than 100 mmH ₂ O})
Dead band	0.1% FS
Working pressure	-50 kPa to +3.5 MPa {-0.5 to +35 kgf/cm ² } (differs by material of cover) [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 3.5 MPa {35 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: SUS304 Wetted parts of center body: SUS316 (diaphragm: SUS316L), SUS316L, Monel, Tantalum Meter body cover (differential pressure chambers): Carbon steel (SF45A), SUS316, Monel, PVC (reinforced with SUS304 plates, working pressure range: -10 kPa to + 1 MPa {0.1 to +10 kgf/cm ² } operating temperature range: 0 to 50°C) 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
Weight	Approx. 14.6 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;">0.5 to 6 {50-600}</td> <td style="text-align: center;">6 {600}</td> <td style="text-align: center;">5.5 {550}</td> </tr> </tbody> </table>	Span	Suppression (max.)	Elevation (max.)	0.5 to 6 {50-600}	6 {600}	5.5 {550}
	Span	Suppression (max.)	Elevation (max.)				
0.5 to 6 {50-600}	6 {600}	5.5 {550}					
(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: Rc1/4 or 1/4NPT internal thread						

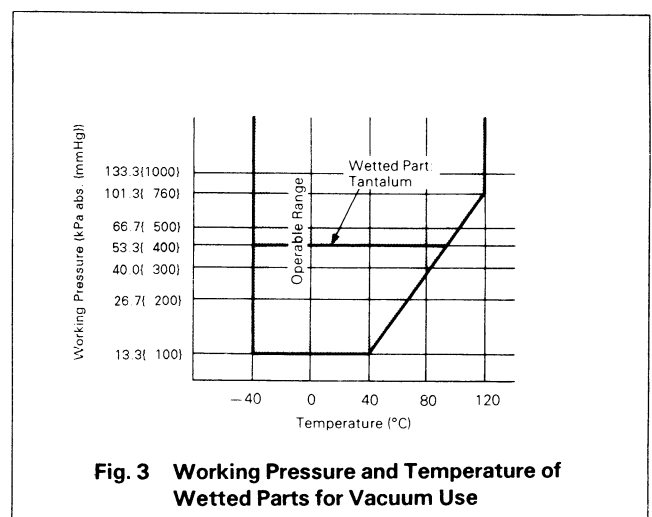
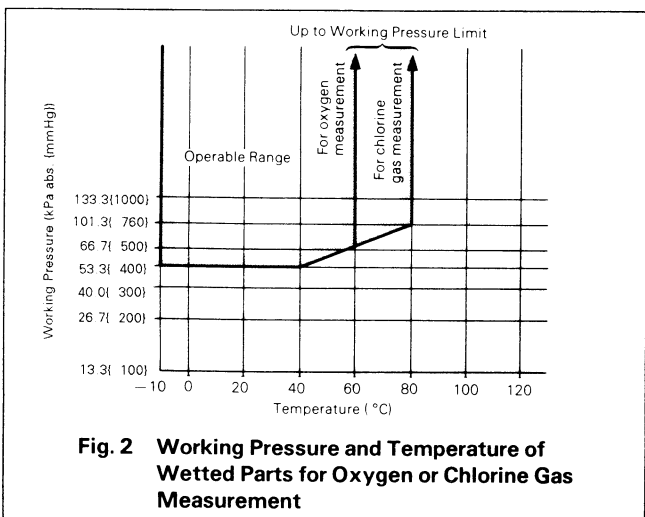
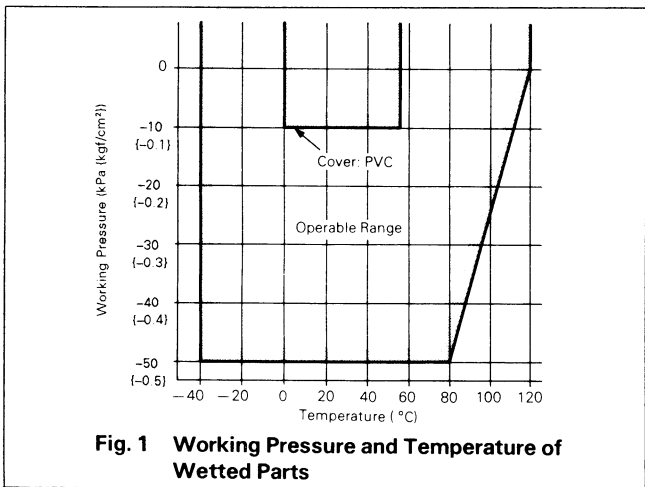
Optional Semi-standard Specifications

Item	Specifications
(1) For vacuum use (Y23)	Y169, Y182 and Y183 are not available for Y23. [Refer to Fig. 3]
(2) Steam block (Y29) (excluding PVC covers and monel covers)	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: Rc1/4 or 1/4 NPT internal thread Material of block: Carbon steel (SF45A)
(3) SUS304 bolts for meter body clamping (Y66)	Maximum working pressure: Carbon steel, SUS16, or Monel cover: 2.5 MPa {25 kgf/cm ² } PVC cover: 1 MPa {10 kgf/cm ² }
(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) Damping adjustment (Y169) (continuously adjustable)	Time constant: Minimum 3 sec. or less, Maximum 15 sec. or over
(6) 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]
(7) For chlorine gas measurement (Y183)	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]
(8) Output pressure gauge (Y185)	Pressure gauge (100 mm diameter) <div style="text-align: center;">  </div>
(9) High vibration resistant type (Y188)	High vibration resistant type with dashpot

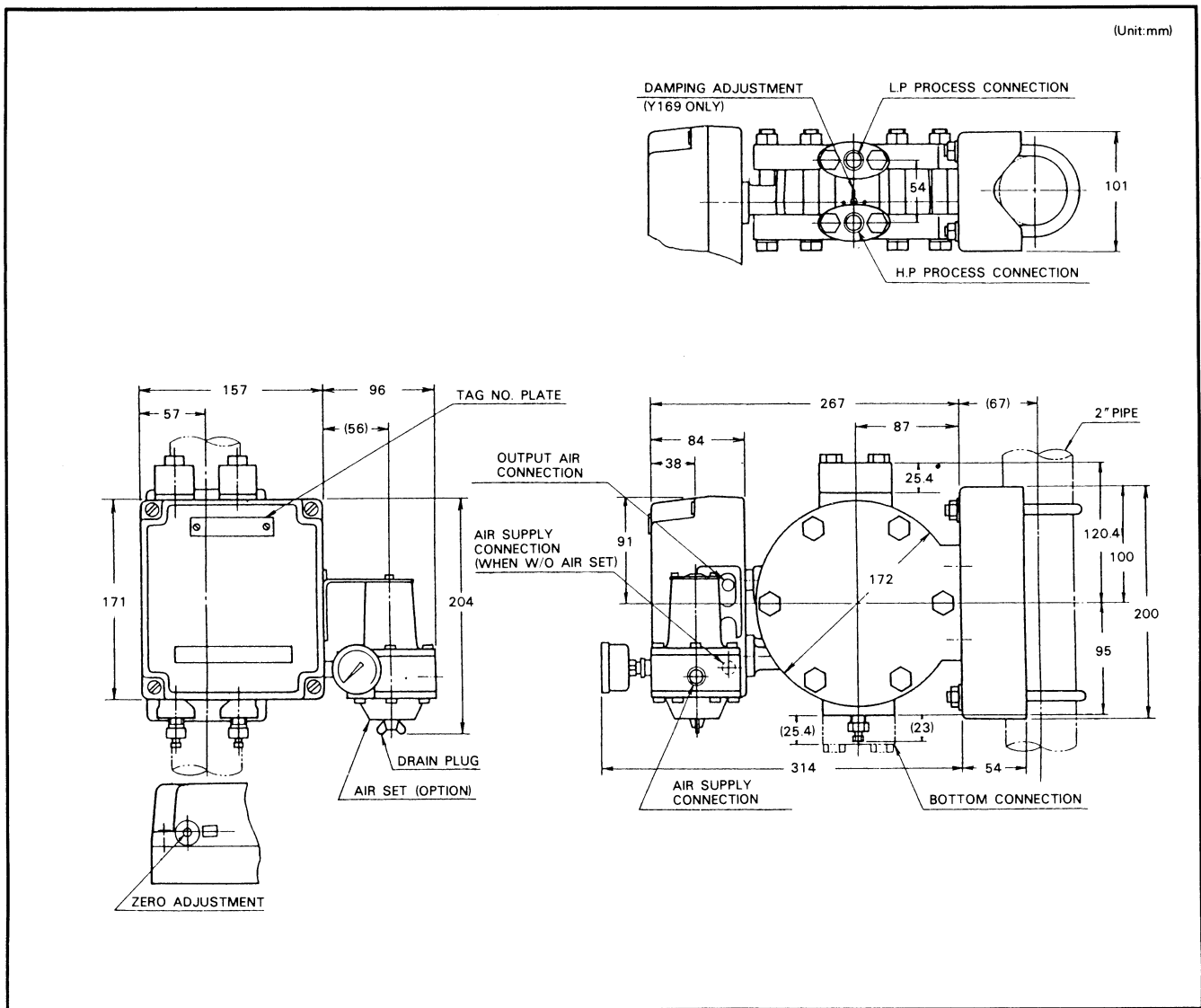
Model Number Table

Ex: KDP33-2222A1-5, 7

Base Model No.	Cover Mat'l		Wetted Parts Mat'l		Air Piping Connections	Pressure unit / Output	Options	Description
	HP	LP	HP	LP				
KDP 33								0-0.5 to 0-6kPa {0-50 to 0-600 mmH ₂ O}
	-1							Carbon steel (SF45A)
	-2							SUS316
	-3							Monel
	-5							PVC
			1					Carbon steel (SF45A)
			2					SUS316
			3					Monel
			5					PVC
				2				SUS316 (diaphragm: SUS316L)
				3				Monel
				4				Tantalum
				8				SUS316L
					2			SUS316 (diaphragm: SUS316L)
					3			Monel
					4			Tantalum
					8			SUS316L
						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. 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/
OM2-5220-1100

Specifications are subject to change without notice.

azbil

Yamatake Corporation
Advanced Automation Company

1-12-2 Kawana, Fujisawa
Kanagawa 251-8522 Japan

URL:<http://www.azbil.com>