

# PREX3000 Vector Involute type

## Pneumatic Differential Pressure Transmitter (Standard type for High and Medium Differential Pressures)

### Model KDP11/22

#### OVERVIEW

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

##### **Measuring range (continuously adjustable)**

KDP11: 0-25 to 0-500 kPa {0-2,500 to 0-50,000 mmH<sub>2</sub>O}

KDP22: 0-2.5 to 0-53.9 kPa {0-250 to 0-5,500 mmH<sub>2</sub>O}

##### **Process connection**

Rc1/2 or 1/2NPT internal thread

##### **Air supply connection**

Rc1/4 or 1/4NPT internal thread

##### **Air supply pressure**

140? 4 kPa {1.4? .14 kgf/cm<sup>2</sup>}

##### **Output**

20-100 kPa {0.2-1.0 kgf/cm<sup>2</sup>}

##### **External load**

ID 4 mm ? Length 3 m + 20 cm<sup>3</sup> or over

##### **Air supply capacity**

20 ℓ/minute (N) or over, with 6.7 kPa {50 mmHg} change

##### **Air consumption**

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

##### **Accuracy**

###### **KDP11:**

? .5% F.S. (for span 50 to 500 kPa {5,000 to 50,000 mmH<sub>2</sub>O})

? .75% F.S. (for span 25 less than 50kPa {2,500 to less than 5,000 mmH<sub>2</sub>O})

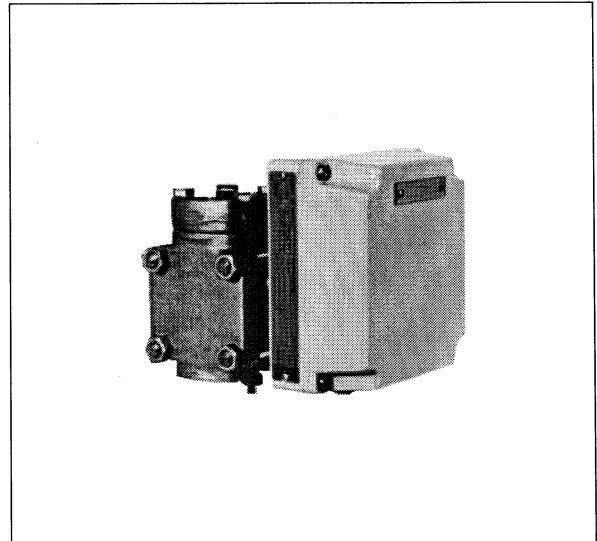
###### **KDP22:**

? .5% F.S. (for span 5 to 53.9 kPa {500 to 5,500 mmH<sub>2</sub>O})

? .75% F.S. (for span 2.5 to less than 5 kPa {250 to less than 500 mmH<sub>2</sub>O})

##### **Dead band**

0.1% F.S.



##### **Working pressure**

-50 kPa to 10 MPa {-0.5 to 100 kgf/cm<sup>2</sup>} (differs by material of cover) [Refer to Figure 1]

##### **Operating temperature**

###### **Meter body (process fluid)**

-40 to +120°C

###### **Transmitter (ambient)**

-30 to +80°C

[Refer to Figure 1]

##### **Operating humidity**

10 to 90% RH

##### **Overload protection**

10 MPa {100 kgf/cm<sup>2</sup>} (on one side)

##### **Construction**

Dustproof and waterproof meets

IEC IP54, NEMA Type 3R.

JIS F8001 Class3 splashproof, JIS C0920 rainproof

##### **Materials**

###### **Center body**

SUS304

###### **Wetted parts of center body**

SUS316 (diaphragm: SUS316L)

SUS316L, Monel, Tantalum



**Operating temperature range (fluid and ambient temperature)**  
 -10 to +60°C

**Wetted parts treatment**

Treated for degreasing [Refer to Figure 2]

**(8) For chlorine gas measurement (Y183)**

**Measuring element material**

Tantalum

**Liquid fill**

Fluorine oil (specific gravity: 1.915 at 25°C)

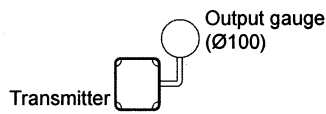
**Operating temperature (fluid and ambient temperature)**  
 -10 to +80°C

**Wetted parts treatment**

Treated for degreasing [Refer to Figure 2]

**(9) Output pressure gauge (Y185)**

Pressure gauge (100mm diameter)



**(10) High vibration resistant type (Y188)**

High vibration resistant type with dashpot.

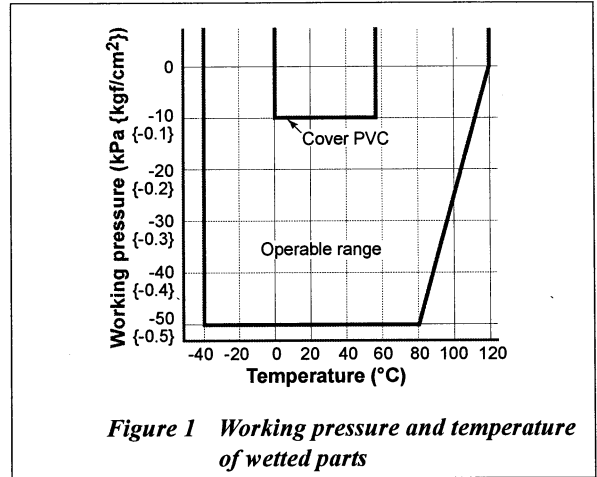


Figure 1 Working pressure and temperature of wetted parts

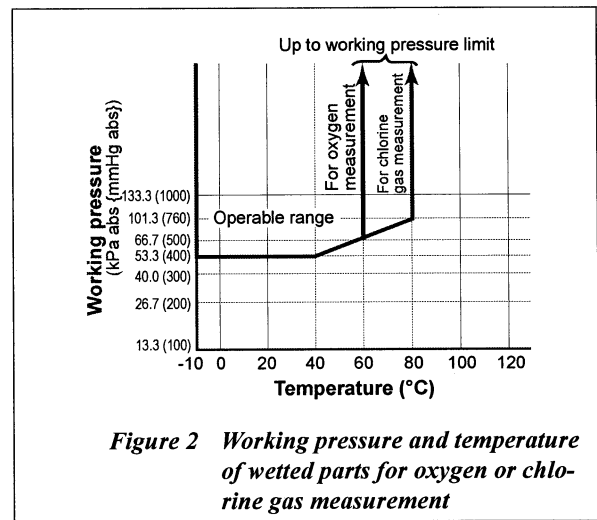


Figure 2 Working pressure and temperature of wetted parts for oxygen or chlorine gas measurement

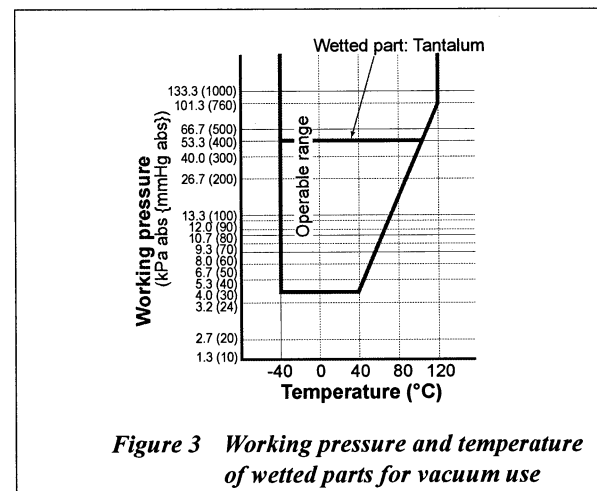


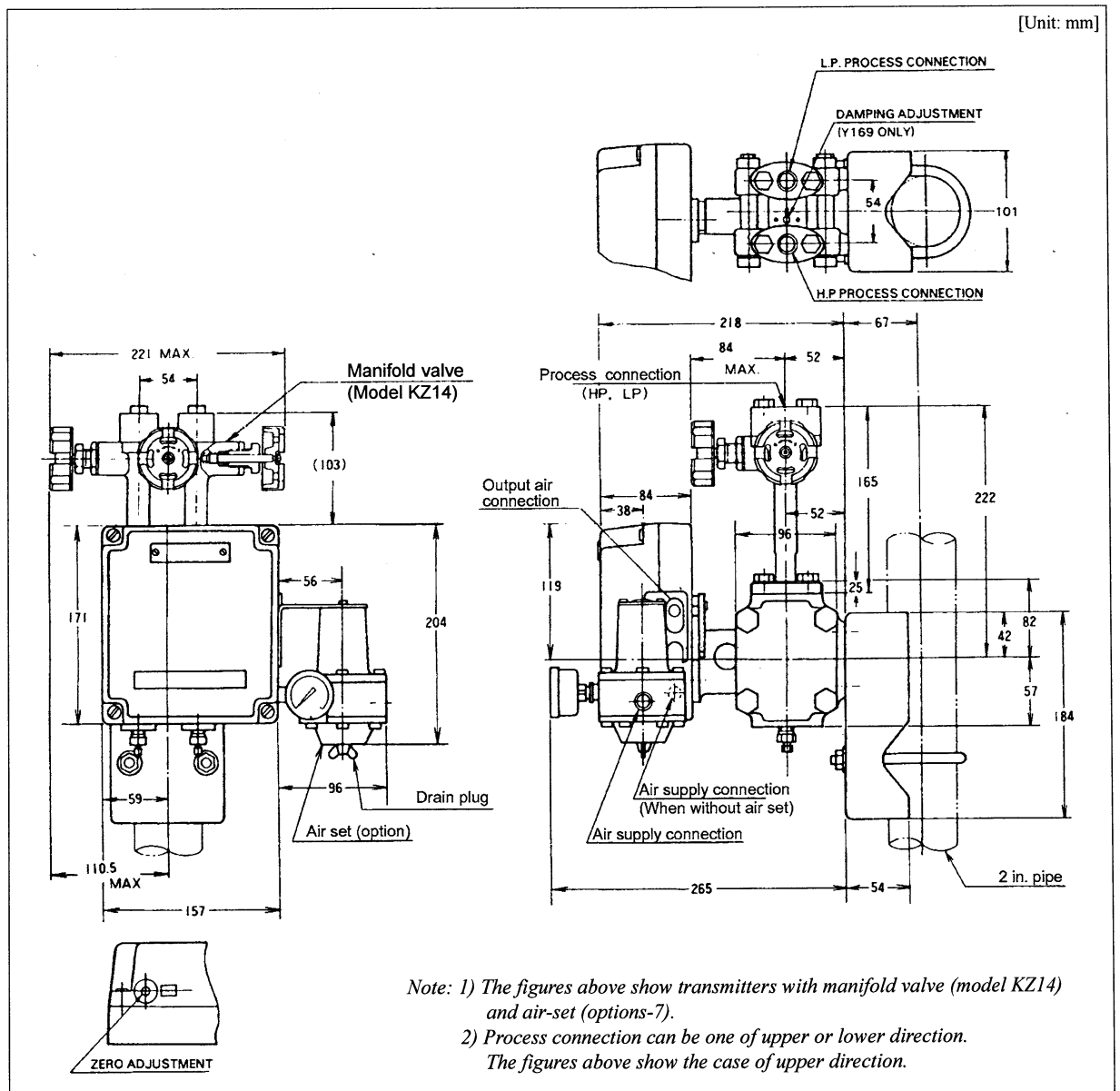
Figure 3 Working pressure and temperature of wetted parts for vacuum use

**MODEL SELECTION**

Basic model no.	Cover material		Wetted parts material		Airpiping connections	Pressure unit/ Output	Options	Description
	HP	LP	HP	LP				
KDP11								0-25 to 0-500 kPa {0-2,500 to 0-50,000 mmH <sub>2</sub> O}
KDP22								0-2.5 to 0-53.9 kPa {0-250 to 0-5,500 mmH <sub>2</sub> O}
	-1							Carbon steel (SF45A)
	-2							SUSF316
	-3							Monel
	-5							PVC
		1						Carbon steel (SF45A)
		2						SUSF316
		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			Rc1/4 internal thread
					B			1/4NPT internal thread
						1		kgf/cm <sup>2</sup> (or mmH <sub>2</sub> O) / 0.2 to 1.0 kgf/cm <sup>2</sup>
						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 <sup>2</sup> }
							-X	No option
							-5	Elevation
							-6	Suppression
							-7	Air-set
							-H	High circuracy (refer to optional specifications)

Note) When ordering "Y" options, please write as: KDP22Y-2222A 1-5, 7 (Y□)

**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 ID2-5220-0020.

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