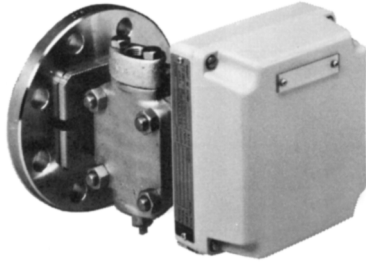


# PREX 3000 Vector Involute Type Pneumatic Differential Pressure Transmitters Model KDP61/62 (Flange Type)



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

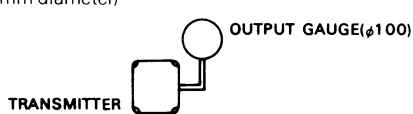
| Item   | Specifications   |                      |  |   |  |   |  |                         |  |  |  |   |  |
|--|--|----------------------|--|---|--|---|--|-------------------------|--|--|--|---|--|
| <b>Measuring range<br/>(continuously adjustable)</b> | KDP 61: 0–25 to 0–500 kPa {0–2,500 to 0–50,000 mmH <sub>2</sub> O}<br>KDP 62: 0–2.5 to 0–53.9 kPa {0–250 to 0–5,500 mmH <sub>2</sub> O}  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Process connection</b>                            | Measuring side (liquid level): Flange connection<br><table border="0" style="margin-left: 20px;"> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">Flush diaphragm type</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">80 mm-JIS 10K, 30K (RF) equivalent flange</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">3"-ANSI 150, 300 (RF) equivalent flange</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">Extended diaphragm type</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">100 mm-JIS 10K, 30K (RF) equivalent flange</td> <td></td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">4"-ANSI 150, 300 (RF) equivalent flange</td> <td></td> </tr> </table> Reference side: Rc 1/2 or 1/2 NPT internal thread | Flush diaphragm type |  | 80 mm-JIS 10K, 30K (RF) equivalent flange |  | 3"-ANSI 150, 300 (RF) equivalent flange |  | Extended diaphragm type |  | 100 mm-JIS 10K, 30K (RF) equivalent flange |  | 4"-ANSI 150, 300 (RF) equivalent flange |  |
| Flush diaphragm type                                 |  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| 80 mm-JIS 10K, 30K (RF) equivalent flange            |  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| 3"-ANSI 150, 300 (RF) equivalent flange              |  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| Extended diaphragm type                              |  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| 100 mm-JIS 10K, 30K (RF) equivalent flange           |  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| 4"-ANSI 150, 300 (RF) equivalent flange              |  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Air supply connection</b>                         | Rc 1/4 or 1/4 NPT internal thread  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Air supply pressure</b>                           | 140±14 kPa {1.4±0.14 kgf/cm <sup>2</sup> }   |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Output</b>  | 20–100 kPa {0.2–1.0 kgf/cm <sup>2</sup> }  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>External load</b>                                 | ID 4 mm × Length 3 m+20 cm <sup>3</sup> or over  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Air supply capacity</b>                           | 20Nℓ/minute or over, with 6.7 kPa {50 mmHg} change   |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Air consumption</b>                               | 5Nℓ/minute or less (when balanced at output 100%)  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Accuracy</b>                                      | KDP 61: ±0.5% FS (for spans 0–50 to 0–500 kPa {0–5,000 to 0–50,000 mmH <sub>2</sub> O})<br>±1.0% FS (for spans 0–25 to 0–less than 50 kPa {0–2,500 to 0–Less than 5,000 mmH <sub>2</sub> O})<br>KDP 62: ±0.5% FS (for spans 0–5 to 0–53.9 kPa {0–500 to 0–5,500 mmH <sub>2</sub> O})<br>±1.0% FS (for spans 0–2.5 to 0–less than 5 kPa {0–250 to 0–Less than 500 mmH <sub>2</sub> O})  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Dead band</b>                                     | 0.1% FS  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Working pressure</b>                              | –50 kPa {–0.5 kgf/cm <sup>2</sup> } to maximum flange rated pressure,<br>(differs by material of cover) <span style="float: right;">[refer to Fig. 1, 4]</span>  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Operating temperature</b>                         | Meter body (process fluid): –40 to +120°C<br>Transmitter (ambient): –30 to +80°C   |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Operating humidity</b>                            | 10 to 90% RH <span style="float: right;">[refer to Fig. 1]</span>  |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Overload protection</b>                           | Up to maximum flange rated pressure in either direction.   |                      |  |   |  |   |  |                         |  |  |  |   |  |
| <b>Construction</b>                                  | Dustproof and waterproof, meets IEC IP54, NEMA Type 3R,<br>JIS F8001 Class 3 splashproof, JIS C0920 rainproof  |                      |  |   |  |   |  |                         |  |  |  |   |  |

| Item              | Specifications  |
|-------------------|---|
| <b>Materials</b>  | Center body: SUS304<br>Wetted parts of flange side and those of center body:<br>SUS316 (diaphragm: SUS316L), SUS316L, Monel, Tantalum<br>Meter body cover: Reference side: Carbon steel (SF45A), SUS316, Monel,<br>PVC (reinforced with SUS304 plates,<br>working pressure range: -0.01 to<br>1.5 MPa {-0.1 to +15 kgf/cm <sup>2</sup> })<br>operating temperature range: 0 to 55°C)<br>Measuring side: Carbon steel (SF45A), SUS304<br>Flange: Carbon steel (SF45A), SUS304<br>Gasket (reference pressure side): Teflon<br>Transmitter case: Aluminium alloy |
| <b>Finish</b>     | Acryl baking finish Color: Light beige (munsell 4Y 7.2/1.3)   |
| <b>Mounting</b>   | Directly flange mounted to process flange.  |
| <b>Net weight</b> | Approx. 13 kg (80 mm-JIS 10K flange, add 0.8 kg for air-set)  |

## Optional Specifications

| Item   | Specifications  |                    |                  |                    |                  |        |                         |             |             |        |                        |             |             |
|--|---|--------------------|------------------|--------------------|------------------|--------|-------------------------|-------------|-------------|--------|------------------------|-------------|-------------|
| <b>(1) Suppression and elevation</b>               | (unit: kPa {mmH <sub>2</sub> O})<br><table border="1"> <thead> <tr> <th>Model No.</th> <th>Span</th> <th>Suppression (max.)</th> <th>Elevation (max.)</th> </tr> </thead> <tbody> <tr> <td>KDP 61</td> <td>25 to 500{2,500-50,000}</td> <td>500{50,000}</td> <td>475{47,500}</td> </tr> <tr> <td>KDP 62</td> <td>2.5 to 53.9{250-5,500}</td> <td>53.9{5,500}</td> <td>51.4{5,250}</td> </tr> </tbody> </table><br>(note: elevation+span ≤ maximum span, suppression ≤ maximum span) | Model No.          | Span             | Suppression (max.) | Elevation (max.) | KDP 61 | 25 to 500{2,500-50,000} | 500{50,000} | 475{47,500} | KDP 62 | 2.5 to 53.9{250-5,500} | 53.9{5,500} | 51.4{5,250} |
| Model No.  | Span  | Suppression (max.) | Elevation (max.) |                    |                  |        |                         |             |             |        |                        |             |             |
| KDP 61   | 25 to 500{2,500-50,000}   | 500{50,000}        | 475{47,500}      |                    |                  |        |                         |             |             |        |                        |             |             |
| KDP 62   | 2.5 to 53.9{250-5,500}  | 53.9{5,500}        | 51.4{5,250}      |                    |                  |        |                         |             |             |        |                        |             |             |
| <b>(2) Air-set (filter and pressure regulator)</b> | Primary pressure: 200 to 990 kPa {2-9.9 kgf/cm <sup>2</sup> }<br>Secondary pressure: 140 kPa {1.4 kgf/cm <sup>2</sup> }<br>Filter mesh diameter: 5 microns<br>Connections: Rc1/4 or 1/4NPT internal thread  |                    |                  |                    |                  |        |                         |             |             |        |                        |             |             |

## Optional Semi-standard Specifications

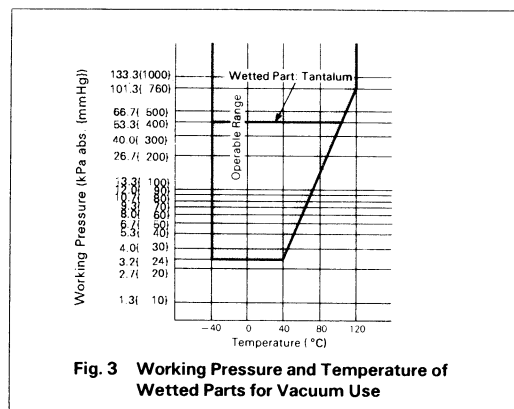
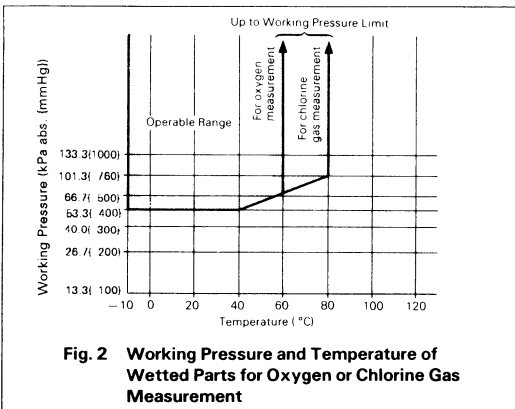
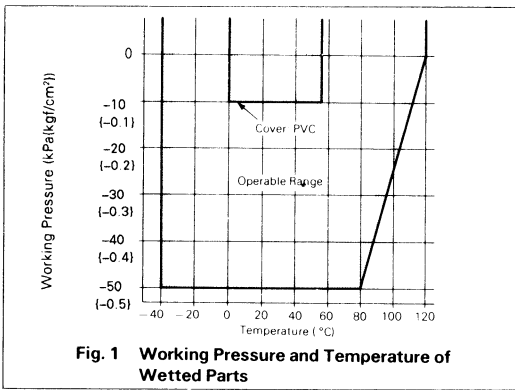
| Item   | Specifications  |
|--|---|
| <b>(1) For vacuum use (Y23)</b>                                    | Y169, Y182 and Y183 are not available for Y23. [refer to Fig. 3, 4]   |
| <b>(2) SUS304 bolts for meter body clamping (Y66)</b>              | Maximum working pressure:<br>Carbon steel, SUS316, or Monel cover: 6 MPa {60 kgf/cm <sup>2</sup> }<br>PVC cover: 1.5 MPa {15 kgf/cm <sup>2</sup> }  |
| <b>(3) Corrosion-resistant and silver finish (Y138)</b>            | Corrosion resistant (acryl baking) finish (Y138A): Resistant against corrosive gases.<br>Corrosionproof (epoxy baking) finish (Y138B): Resistant against corrosive liquids.<br>Silver-normal (acryl baking) finish (Y138C):<br>To prevent temperature rise of instrument caused by direct sunlight or radiation from other source of heat.<br>Silver-corrosion-resistant (acryl baking) finish (Y138D):<br>To prevent temperature rise the same as above, plus resistance against corrosive gases<br>(Note: Silver finish is not applicable for alkaline gases) |
| <b>(4) Damping adjustment (Y169)<br/>(continuously adjustable)</b> | Time constant: Minimum 3 sec. or less, Maximum 15 sec. or over<br>(when KDP61 is incorporated with Y182 or Y183, the minimum time constant is 0.5 sec. or less and the maximum time constant is 3 sec. or more)   |
| <b>(5) For oxygen measurement (Y182)</b>                           | Measuring element material: SUS316 or SUS316L<br>Liquid fill: Fluorine oil (specific gravity: 1.915 at 25°C)<br>Operating temperature (fluid and ambient temperature): -10 to +60°C<br>Wetted parts treatment: Treated for degreasing [refer to Fig. 2, 4]  |
| <b>(6) For chlorine gas measurement (Y183)</b>                     | Measuring element material: Tantalum<br>Liquid fill: Fluorine oil (specific gravity: 1.915 at 25°C)<br>Operating temperature (fluid and ambient temperature): -10 to +80°C<br>Wetted parts treatment: Treated for degreasing [refer to Fig. 2, 4]   |
| <b>(7) Output pressure gauge (Y185)</b>                            | Pressure gauge (100 mm diameter)<br>  |
| <b>(8) High vibration resistant type (Y188)</b>                    | High vibration resistant type with dashpot.   |

**Model Number Table**

Ex: KDP62-1122100A1-5, 7

| Basic Model No. | Flange & Cover Mat'l |                | Wetted Parts Mat'l |                | Flange Rating | Length of Extended Part of Flange | Air Piping Connection | Pressure unit / Output | Options | Description  |
|-----------------|----------------------|----------------|--------------------|----------------|---------------|-----------------------------------|-----------------------|------------------------|---------|--|
|                 | Measuring Side       | Reference Side | Measuring Side     | Reference Side |               |                                   |                       |                        |         |  |
| KDP 61          |                      |                |                    |                |               |                                   |                       |                        |         | 0-25 to 0-500 kPa(0-2,500 to 0-50,000 mmH <sub>2</sub> O)                    |
| KDP 62          |                      |                |                    |                |               |                                   |                       |                        |         | 0-2.5 to 0-53.9 kPa(0-250 to 0-5,500 mmH <sub>2</sub> O)                     |
|                 | -1                   |                |                    |                |               |                                   |                       |                        |         | Carbon steel (SF45A)   |
|                 | -7                   |                |                    |                |               |                                   |                       |                        |         | SUS304   |
|                 |                      |                | 1                  |                |               |                                   |                       |                        |         | Carbon steel (SF45A)   |
|                 |                      |                | 2                  |                |               |                                   |                       |                        |         | SUS316   |
|                 |                      |                | 3                  |                |               |                                   |                       |                        |         | Monel  |
|                 |                      |                | 5                  |                |               |                                   |                       |                        |         | PVC  |
|                 |                      |                |                    | 2              |               |                                   |                       |                        |         | SUS316 (diaphragm: SUS316L)  |
|                 |                      |                |                    | 3              |               |                                   |                       |                        |         | Monel (excluding extended diaphragm type)                                    |
|                 |                      |                |                    | 4              |               |                                   |                       |                        |         | Tantalum (excluding extended diaphragm type)                                 |
|                 |                      |                |                    | 8              |               |                                   |                       |                        |         | SUS316L  |
|                 |                      |                |                    |                | 2             |                                   |                       |                        |         | SUS316 (diaphragm: SUS316L)  |
|                 |                      |                |                    |                | 3             |                                   |                       |                        |         | Monel  |
|                 |                      |                |                    |                | 4             |                                   |                       |                        |         | Tantalum   |
|                 |                      |                |                    |                | 8             |                                   |                       |                        |         | SUS316L  |
|                 |                      |                |                    |                | 1             |                                   |                       |                        |         | Flush diaphragm type<br>80mm-JIS10K (RF) equiv. flange                       |
|                 |                      |                |                    |                | 2             |                                   |                       |                        |         | Flush diaphragm type<br>80mm-JIS30K (RF) equiv. flange                       |
|                 |                      |                |                    |                | 3             |                                   |                       |                        |         | Flush diaphragm type<br>3"-ANSI150 (RF) equiv. flange                        |
|                 |                      |                |                    |                | 4             |                                   |                       |                        |         | Flush diaphragm type<br>3"-ANSI300 (RF) equiv. flange                        |
|                 |                      |                |                    |                | 5             |                                   |                       |                        |         | Extended diaphragm type<br>100mm-JIS10K (RF) equiv. flange                   |
|                 |                      |                |                    |                | 6             |                                   |                       |                        |         | Extended diaphragm type<br>100mm-JIS30K (RF) equiv. flange                   |
|                 |                      |                |                    |                | 7             |                                   |                       |                        |         | Extended diaphragm type<br>4"-ANSI150 (RF) equiv. flange                     |
|                 |                      |                |                    |                | 8             |                                   |                       |                        |         | Extended diaphragm type<br>4"-ANSI300 (RF) equiv. flange                     |
|                 |                      |                |                    |                |               | 00                                |                       |                        |         | Flush diaphragm type   |
|                 |                      |                |                    |                |               | 10                                |                       |                        |         | Extended diaphragm type 100 mm   |
|                 |                      |                |                    |                |               | 15                                |                       |                        |         | Extended diaphragm type 150 mm   |
|                 |                      |                |                    |                |               |                                   | A                     |                        |         | Rc 1/4 internal thread   |
|                 |                      |                |                    |                |               |                                   | B                     |                        |         | 1/4 NPT 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<br>(equality to 0.2 to 1.0 kgf/cm <sup>2</sup> )       |
|                 |                      |                |                    |                |               |                                   |                       | -X                     |         | No option  |
|                 |                      |                |                    |                |               |                                   |                       | -5                     |         | Elevation  |
|                 |                      |                |                    |                |               |                                   |                       | -6                     |         | Suppression  |
|                 |                      |                |                    |                |               |                                   |                       | -7                     |         | Air-set  |

Note)  
When ordering "Y" options, please write as:  
KDP62Y-112100A1-5,7 (Y □).

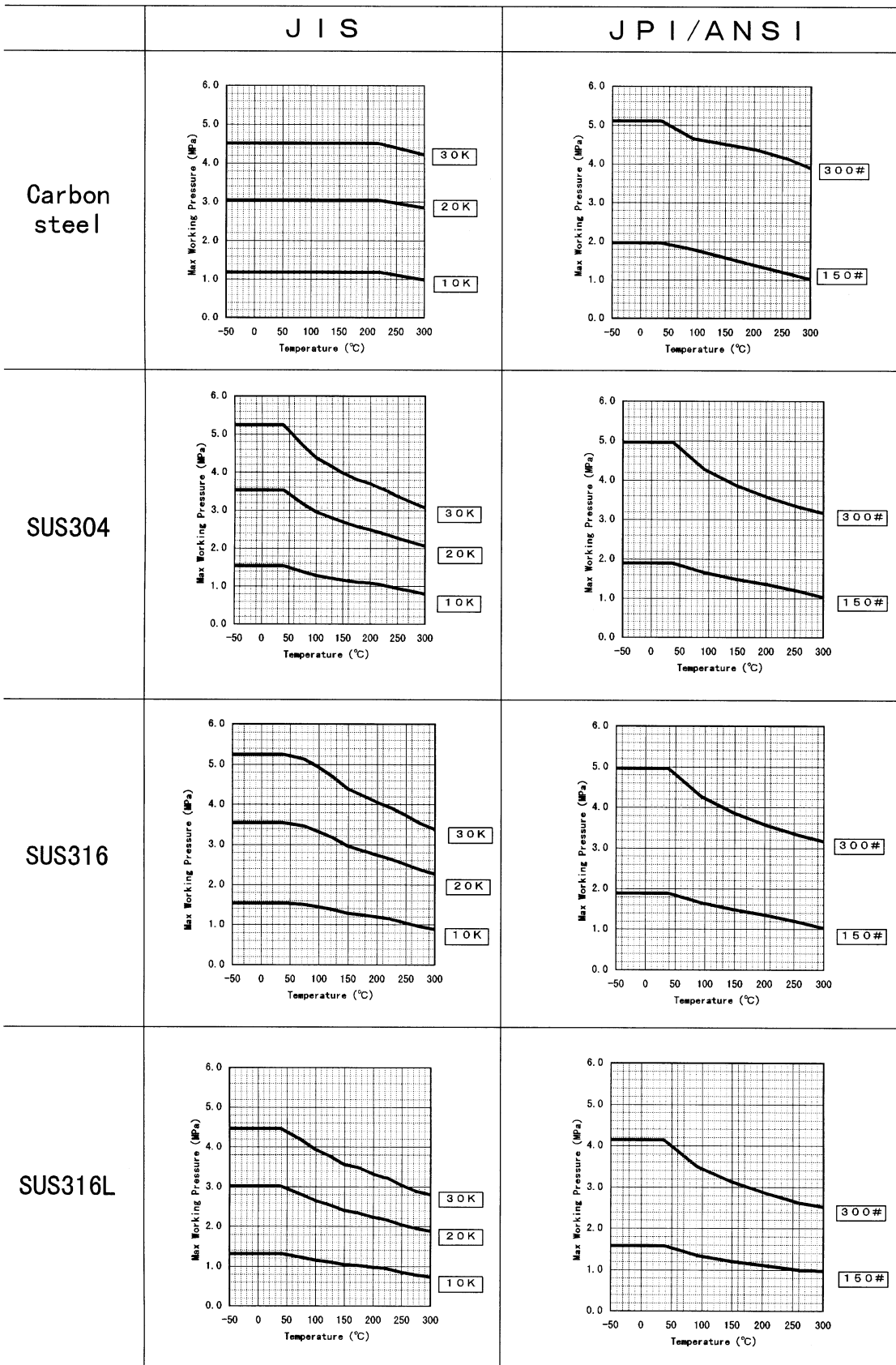


## Fig4. Max Working Pressure

Note1. Max Working Pressure depends on flange rating , flange materials and operating temperature. Please refer to the following data.

Operating range of temperature depends on specification of transmitters

Note2. In case of remote sealed type (KKP75,KFKB□□-75), Max Working Pressure depends on the smaller value of either 1.05MPa or following data.



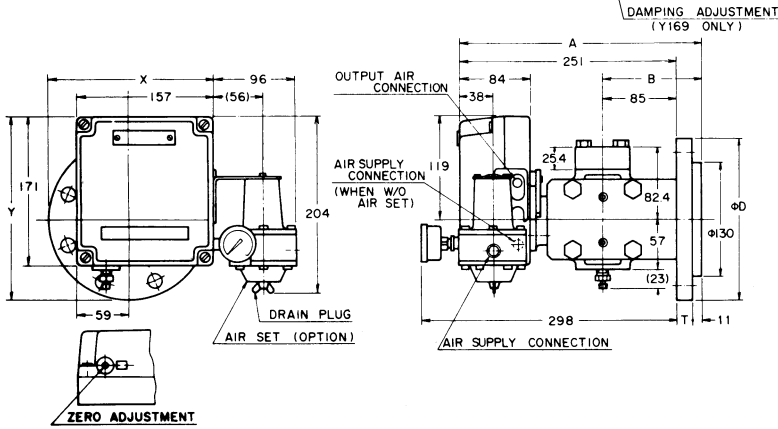
# Dimensions

## Flush Diaphragm Type

(Unit:mm)

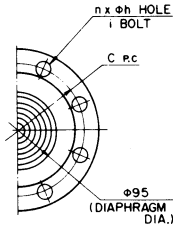
### Main Dimensions

| ITEM | FLANGE RATING      | A   | B   | X     | Y     |
|------|--------------------|-----|-----|-------|-------|
| 1    | 80 mm JIS 10K RF   | 280 | 114 | 190.5 | 211.5 |
| 2    | 80 mm JIS 30K RF   | 290 | 124 | 203   | 224   |
| 3, A | 3" ANSI/JPI 150 RF | 286 | 120 | 193.5 | 214.5 |
| 4, B | 3" ANSI/JPI 300 RF | 291 | 125 | 203   | 224   |



### Flange Dimensions

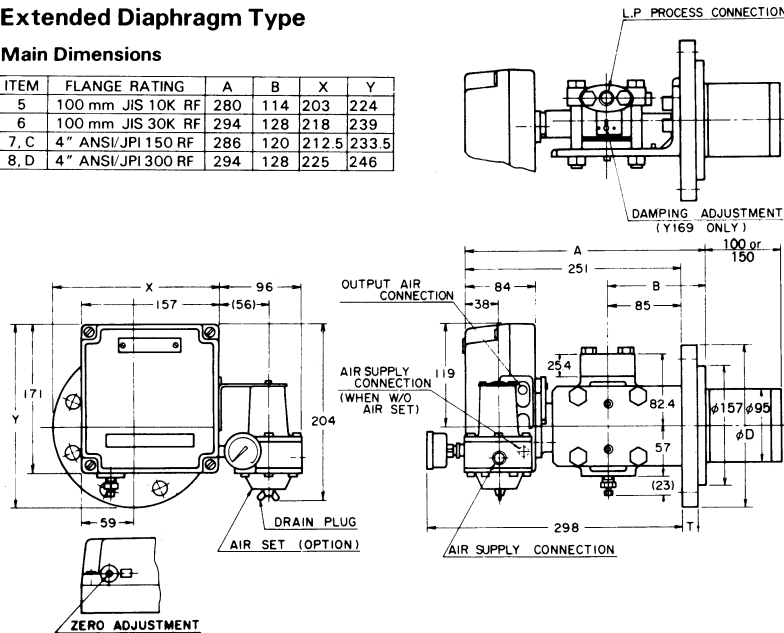
| ITEM | FLANGE RATING    | D   | T  | C     | n | h  | i | BOLT |
|------|------------------|-----|----|-------|---|----|---|------|
| 1    | 80 mm JIS 10K RF | 185 | 18 | 150   | 8 | 19 |   | M16  |
| 2    | 80 mm JIS 30K RF | 210 | 28 | 170   | 8 | 23 |   | M20  |
| 3    | 3" ANSI 150 RF   | 191 | 24 | 152.4 | 4 | 19 |   | 5/8  |
| 4    | 3" ANSI 300 RF   | 210 | 29 | 168.3 | 8 | 22 |   | 3/4  |
| A    | 3" JPI 150 RF    | 191 | 24 | 152.4 | 4 | 19 |   | 5/8  |
| B    | 3" JPI 300 RF    | 210 | 29 | 168.3 | 8 | 22 |   | 3/4  |



## Extended Diaphragm Type

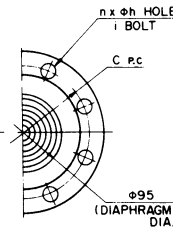
### Main Dimensions

| ITEM | FLANGE RATING      | A   | B   | X     | Y     |
|------|--------------------|-----|-----|-------|-------|
| 5    | 100 mm JIS 10K RF  | 280 | 114 | 203   | 224   |
| 6    | 100 mm JIS 30K RF  | 294 | 128 | 218   | 239   |
| 7, C | 4" ANSI/JPI 150 RF | 286 | 120 | 212.5 | 233.5 |
| 8, D | 4" ANSI/JPI 300 RF | 294 | 128 | 225   | 246   |



### Flange Dimensions

| ITEM | FLANGE RATING     | D   | T  | C     | n | h  | i | BOLT |
|------|-------------------|-----|----|-------|---|----|---|------|
| 5    | 100 mm JIS 10K RF | 210 | 18 | 175   | 8 | 19 |   | M16  |
| 6    | 100 mm JIS 30K RF | 240 | 32 | 195   | 8 | 25 |   | M22  |
| 7    | 4" ANSI 150 RF    | 229 | 24 | 190.5 | 8 | 19 |   | 5/8  |
| 8    | 4" ANSI 300 RF    | 254 | 32 | 200   | 8 | 22 |   | 3/4  |
| C    | 4" JPI 150 RF     | 229 | 24 | 190.5 | 8 | 19 |   | 5/8  |
| D    | 4" JPI 300 RF     | 254 | 32 | 200   | 8 | 22 |   | 3/4  |



### 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 us.

Reference instruction manual . . .

OM2-5220-0000/  
OM2-5220-1100





Please, read 'Terms and Conditions' from following URL before the order and use.

<http://www.azbil.com/products/bi/order.html>

*Specifications are subject to change without notice.*

**azbil**

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