3 Specifications (continued)

2.1 How to Order

LEVER TYPE

| IP8000 - 0 | X84 | Q |

PRESSURE GAUGE

| 0 | None |
| 1 | 2 MPa (150) |
| 2 | 3 MPa (150) |
| 3 | 5 MPa (150) |

ACCESSORIES

1. NO ACCESSORIES STANDARD LEVER
2. WITH PILOT VALVE 0.75mV DIA ORIFICE FOR RESTRICTING OUTPUT
3. WITH PILOT VALVE 0.09mV DIA ORIFICE FOR RESTRICTING OUTPUT
4. WITH FEEDBACK LEVER UNIT FOR STROKE 25~49mm WITHSTAND STANDARD LEVER
5. WITH FEEDBACK LEVER UNIT FOR STROKE 50~140mm WITHSTAND STANDARD LEVER
6. WITH CAM SUSPENSION SPRING IN WITHSTAND STANDARD SPRING

NOTE: WHEN MORE THAN 2 ACCESSORIES ARE REQUIRED, SPECIFY IN ALPHABETICAL ORDER.

4 Mounting

4.1 Mounting IP8000 to Actuator

The IP8000 positioner is compatible with IP6000 and IP6000 mounting pitch. If you are using the IP6000 on IP6000 already, the bracket for these positioners can be used to mount the IP8000 to the actuator.

3.3 Piping

CAUTION

Before piping make sure to clean away chips, cutting oil, dust etc.

When installing piping or fittings, sealant seal material does not enter inside the port.

When using seal tape, leave 1.5 to 2 threads exposed on the end of the piping.

Tighten fittings according to appropriate tightening torque.
5 Adjustment (continued)

(1) For this positioner, span and zero point adjustment of each actuator is necessary. Adjustment should be carried out based on each actuator size.
(2) Keep in mind that the span and zero point adjustment interfere with each other.
(3) Characteristics change due to change of mounting position, ambient temperature and supply pressure.
(4) If the positioner takes a long time to operate after initial adjustment, check and adjust the product again.
(5) Sensitive adjustment is effective for only double acting actuators.
(6) Manual change function is effective for single acting actuators which are controlled by using 2 KT1.

5.1 Electrical wiring

This product has a potentiometer and p.c.board built into it. This is for confirming the actuator's opening by 4-20 mA DC output signal produced by supplying initial power to the PCB. This supply power can be set freely between 12-35 VDC.

According to the operating direction of the actuator or feed back lever, the clockwise potentiometer direction gives regular operation, and the counter-clockwise direction gives opposite operation.

5.1.1 Wiring of Input signal & Power source

(1) Connect the input signal wires (for positioner control) to 1 (+) and 2 (-) of the terminal board in the terminal box.
(2) Connect the power source wires (for powering the output current detection circuit) to 3 (+) and 4 (-) of the terminal board.
(3) Connect an ammeter in series between (+) side and 3 (+) of terminal board, and (+) side and 4 (-) terminals.

NOTE 1: Allowable load resistance depends on supply voltage

(4) The allowable load resistance is determined using the formula below. Allowable load resistance = (Supply voltage-12V) / 20 mADC (Ω)

Normal output current is not obtained if the load resistance value exceeds the results of the formula. Please confirm internal resistance when selecting an ammeter.

5.2 Zero / Span adjustment (Output)

Zero point / Span adjustment of the output current of the positioner (with potentiometer) should be carried out after initial zero / span adjustments in Fig.7.

This product requires zero / span adjustment zero / span adjustment of the output current according to the stroke of the actuator (Lever type) i.e. oscillating angle of the feedback lever.

Please follow the procedure below:

(1) Set the output current to 0% (20mA DC in the standard specifications) and turn the zero adjusting knob by hand to set it to the actuator starting point.
(2) Then set the input current to 100% (20mADC in the standard specification) (refer to Fig.9).
(3) Set the input current to 0% (4mADC in the standard specification) and turn the zero adjusting knob by hand to set it to the actuator starting point.
(4) Repeat the above operations until the positioner stroke of the actuator is obtained at the nominal value.
(5) Set the input current to 0% (20mA DC in the standard specifications) and turn the zero adjusting knob by hand to set it to the actuator starting point.

Adjustment procedures

(1) Adjust the zero / span and point alternately and repeatedly as they interact with each other. Since this variable resistor can be wound endlessly, do not wind, otherwise internal equipment might be damaged. Adjust while monitoring the output signal.

5.3 Change of Operating Direction (IP8000 Lever type)

The IP8000 lever type positioner needs accurate mounting & adjustment to satisfy its performance. The following are 2 points to note:

(1) The potentiometer is difficult to adjust, therefore the operating direction should not be changed by the end user. This is factory set for Direct/Reverse operation.

5 Adjustment (continued)

CAUTION

To mount the IP8000 (Lever type) positioner to the actuator, the valve stem and lever should be set at right angles, when the input signal is 90° (Fig.5).

If this angularity is out by more than +/-5°, there are some cases where zero adjustment cannot be achieved. Do not change the fixed position of the potentiometer, but instead change the zero adjustment setting (Refer to Fig.7).

8 Maintenance

WARNING

• After installation, repair and disassembly, connect compressed air and perform a proper function test and leak test. If bleed noise is louder than the initial state, or operation is abnormal, stop operation and check if the installation is correct.

CAUTION

• Check if supply air is clean or not. Inspect compressed air cleaning system periodically so that dust, oil and humidity do not enter the unit. This can cause malfunction or failure of the unit.

• If handed improperly, compressed air can be dangerous. Maintenance and replacement of unit parts should only be performed by trained and experienced personnel for instrumentation equipment, as well as following the product specifications.

• Check the positioner once a year. When an excessively worn diaphragm, O-ring or other seals of any unit that has been damaged is found, replace with new ones.

• Treatment at an early stage is especially important if the positioner is used in a place of severe environment, such as coastal areas.

• Before removing the positioner for maintenance, or replacing unit parts after installation, ensure the supply pressure is shut off and all residual air pressure is released from the piping.

• When the fixed orifice is clogged with carbon particles or other material, remove the pilot valve Auto/Manual change over screw (built in fixed aperture) and clean it by carefully inserting a 0.3mm diameter wire into the aperture.

• When disassembling the pilot valve, coat the O-ring of the sliding section with grease. (Use TORAY SILICONE SH45 grease).

• Check for air leaks from the compressed air piping. Air leaks could reduce the performance characteristics of the positioner. Air is normally discharged from a bleed port, but this is necessary air consumption based on the construction of the positioner, and is not abnormal if the air consumption is within the specified range.