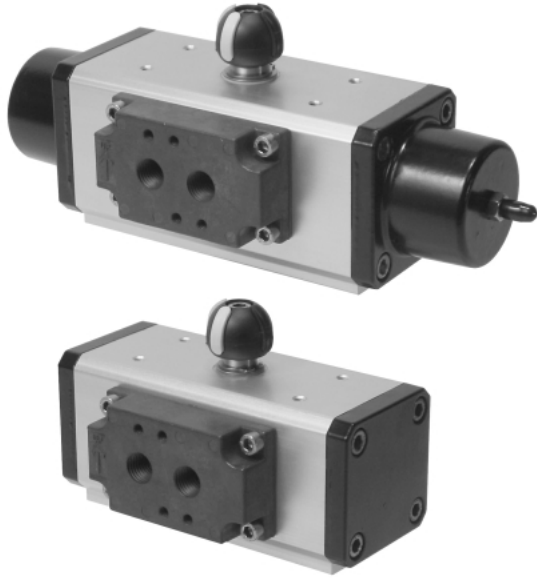


# ASSURED AUTOMATION

## Pneumatic Actuators Installation & Maintenance



assuredautomation.com  
**1-800-899-0553**

### About Assured Automation Actuators

Assured Automation produces a wide range of pneumatic actuators (Double Acting [DA] actuators from 100 to 17,000 inch pounds (8 to 1920 Nm) and Spring Return [SR] Actuators from 130 to 8,500 inch pounds (15 to 960 Nm) which can meet all customers' requirements. Their torque curve has been made higher in the opening and closing phases to overcome the adherence of the seats which may occur when a valve has been in the same position for an extended period of time. A very accurate selection of materials and their careful treatment provide total reliability and high performance.

#### Features:

- CISQ Certified
- Corrosion resistant coating
- NAMUR solenoid mounting pad
- ISO 5211 mounting standard (square 4-bolt pattern)
- Visual position indicator
- High duty cycle
- Permanent lubrication

#### Control Media:

Dry, filtered compressed air, not necessarily lubricated.  
In case of lubricated air, either non-detergent oil or NBR compatible oil, must be used.

#### Temperature Range:

32°F to 176°F (0°C to 80°C)  
-4°F to 176°F (-20°C to 80°C) with dry air

#### Pressure:

minimum pressure - see sizing charts  
112 psig (8.4 bar) maximum pressure

**Note:** Make sure that the torque necessary to operate the valve is compatible with the actuator torque (it depends on both actuator type and air supply.) Please note that the required torque depends not only on the valve, but on the working conditions and the safety criteria of the plant in which it is being installed.

## Mounting Instructions

1. Remove any manual opening device from the valve, leaving the valve stem bare.
2. Make sure that the shape of the stem fits the actuator opening, and that the rotation is not hindered in any way.
3. Mount the actuator onto the valve using four (4) bolts, centering it while on the stem. Make sure that the rotation direction is correct (see diagram.)  
**In any case do not insert your hands inside the valve!!**
4. We strongly recommend checking the cleanliness of the air supply line, especially when the plant is not equipped with filters.
5. A mounting bracket between actuator and valve is necessary for use with high temperature fluids (over 250°F.) For information on mounting brackets, please refer to our website, or contact Assured Automation.

**Note:** A Spring Return (SR) Actuator must be provided with a breather filter on the outlet port to prevent dust and other substances from being sucked up into the actuator.



Breather filter for actuator ports

**Part Number:** BV-18P

Breather filter for NAMUR Interface ports

**Part Number:** BV-28

**Warning!!:** Springs are pre-compressed and must not be disassembled from the caps. Such an operation can be very dangerous.

**Assured Automation will not be held responsible for any damage or injury to people, things, or animals, due to improper use of the product.**

## Maintenance

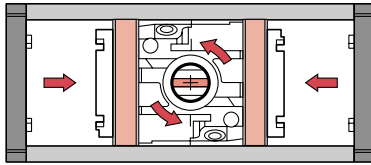
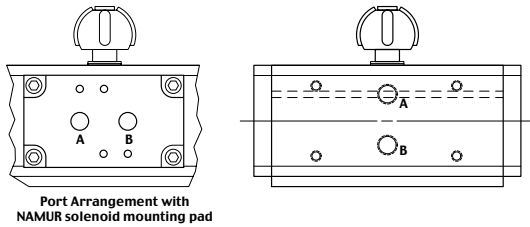
If an Assured Automation actuator is properly installed and operated, it will be maintenance free, as it has been lubricated enough to last a normal working life under normal working conditions. Should it become necessary to replace the seals, we recommend returning it to the Assured Automation factory, where the product will be overhauled and tested by qualified personnel. On request, Assured Automation will provide customers with repair kits and instructions (see table on back.)

**Assured Automation declines any responsibility for products repaired by third parties.**

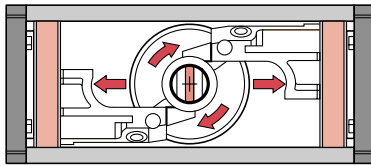
For particular applications and special features, please refer to the Assured Automation catalog, where you will find a wide range of accessories to use with the actuator.

Assured Automation reserves the right to make changes to the information provided in this manual at any time.

## Double Acting [DA] Actuator Working Principle

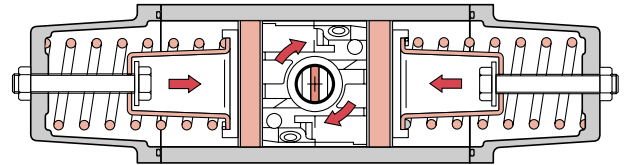
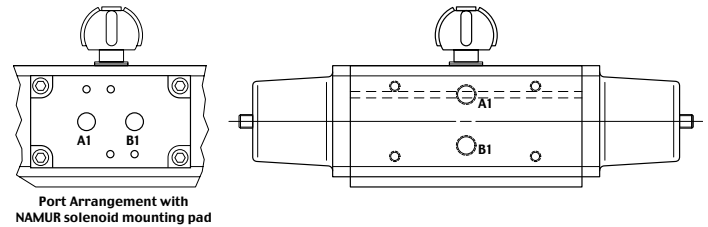


Supplying port A with air, the pistons move towards the center, and there is a counter-clockwise rotation. The drawing shows the final position.

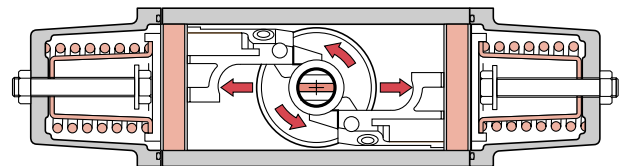


Supplying port B with air, the pistons move outward, and there is a clockwise rotation. The drawing shows the final position.

## Spring Return [SR] Actuator Working Principle



With no air supply, the actuator goes automatically back to its resting position, rotating in a clockwise direction. The drawing shows the final position. Put a small filter on port [A1] to prevent the ingress of dust and airborne particles to the cylinder chamber.



Supplying port [B1] with air, the pistons move outward, compressing the springs, and there is a counter-clockwise rotation. The drawing shows the final position.

| Actuator Model                | Indicator | Namur Interface | Repair kits | Spring Capsules |
|-------------------------------|-----------|-----------------|-------------|-----------------|
| <b>Double Acting</b>          |           |                 |             |                 |
| PD008                         | K102PP10  | KBN10008        | KGDI0010    | NA              |
| PD015                         | K102PP10  | KBN18015        | KGDI0012    | NA              |
| PD030                         | K102PP10  | KBN18030        | KGDI0014    | NA              |
| PD045                         | K102PP10  | KBN18030        | KGDI0015    | NA              |
| PD060                         | K102PP10  | KBN18030        | KGDI0016    | NA              |
| PD090                         | K102PP10  | KBN18030        | KGDI0017    | NA              |
| PD120                         | K102PP16  | KBN18030        | KGDI0018    | NA              |
| PD180                         | K102PP16  | KBN18030        | KGDI0019    | NA              |
| <b>Spring Return (60 PSI)</b> |           |                 |             |                 |
| PS01560                       | K102PP10  | KBN18030        | KGDI0014    | 2251PR14        |
| PS03060                       | K102PP10  | KBN18030        | KGDI0016    | 2251PR16        |
| PS04560                       | K102PP10  | KBN18030        | KGDI0017    | 2251PR17        |
| PS06060                       | K102PP16  | KBN18030        | KGDI0018    | 2251PR18        |
| PS09060                       | K102PP16  | KBN18030        | KGDI0019    | 2251PR19        |
| PS12060                       | K102PP16  | KBN18030        | KGDI0020    | 2251PR20        |
| PS18060                       | K102PP16  | KBN18030        | KGDI0021    | 2251PR21        |
| <b>Spring Return (80 PSI)</b> |           |                 |             |                 |
| PS01580                       | K102PP10  | KBN18030        | KGDI0014    | 2250PR14        |
| PS03080                       | K102PP10  | KBN18030        | KGDI0016    | 2250PR16        |
| PS04580                       | K102PP10  | KBN18030        | KGDI0017    | 2250PR17        |
| PS06080                       | K102PP16  | KBN18030        | KGDI0018    | 2250PR18        |
| PS09080                       | K102PP16  | KBN18030        | KGDI0019    | 2250PR19        |
| PS12080                       | K102PP16  | KBN18030        | KGDI0020    | 2250PR20        |
| PS18080                       | K102PP16  | KBN18030        | KGDI0021    | 2250PR21        |

If you need assistance, please consult the Assured Automation factory at: **1-800-899-0553**