

Back Pressure Diaphragm Regulator

Description

The Nordson back pressure regulator is a self-contained, spring-loaded, diaphragm-type fluid pressure regulator designed for use with general liquid coating materials. The regulator maintains the system pressure at the set point by opening to bleed-off fluid whenever the system pressure rises above the set point or closing when the pressure falls below the set point.

NOTE: All upstream fittings must be rated for 82.7 bar (1200 psi).

One service kit is available to repair the regulator. Refer to *Parts* for more information.

The regulator is typically mounted with an optional mounting bracket. Refer to *Parts* for the bracket part number.

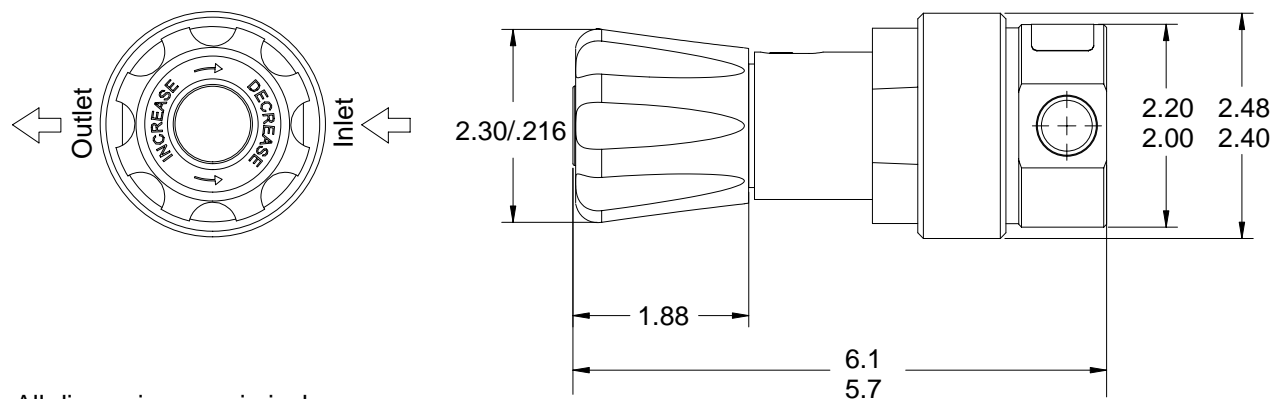
Specifications

Operating Temperature:	-9.4 - 74 °C (15 - 165 °F)
Inlet and Outlet Ports:	3/8-in. NPT
Body:	316 Stainless Steel
Seat Material:	Vespel
Diaphragm:	PTFE (Gylon)
Flow Capacity (Cv):	0.20

Pressures	bar (psi)
Minimum-Maximum inlet pressure	6.89-82.7 (100-1200)
Proof pressure	124.1 (1800)
Burst pressure	330.9 (4800)

Dimensions

See Figure 1.



All dimensions are in inches

Figure 1 Regulator Dimensions

1200523A

Repair



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.



WARNING: High Pressure Fluid Hazard. Relieve system fluid pressure before disconnecting fluid lines or servicing the regulator.

Required Tools and Materials

- Adjustable wrenches
- Large flat-bladed screwdriver
- hex wrench set
- Soft-jawed vise
- Regulator service kit

Disassembly

1. Disconnect the fluid hoses from the regulator fittings.
2. Remove the two screws and lockwashers securing the mounting bracket from the panel, then loosen the two bracket screws and remove the regulator from the mounting bracket.
3. Remove the fittings from the regulator, noting the fitting orientation.
4. See Figure 2. Place the regulator body (3) flats in a soft-jawed vise. Rotate the hand knob (1) in the DECREASE direction all the way to the stop.

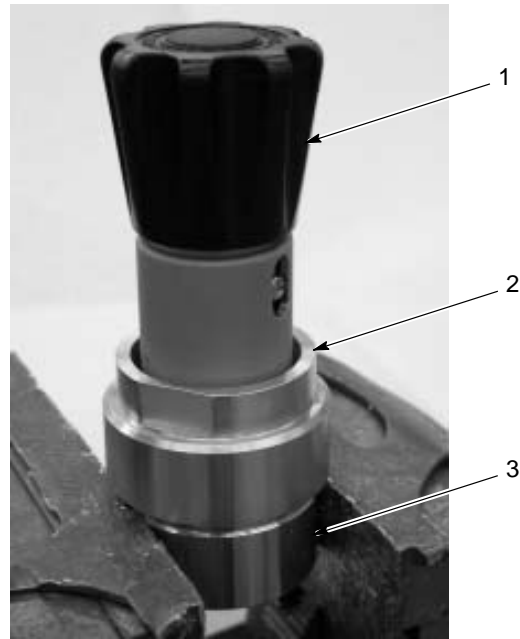


Figure 2 Body Flats in Vise

- | | |
|----------------|---------|
| 1. Hand knob | 3. Body |
| 2. Bonnet ring | |

5. Use an 18-in. adjustable wrench to unscrew the bonnet ring (2) from the body.
6. Remove the bonnet assembly from the body. The diaphragm assembly should hold the load spring and other parts in the bonnet (see Figure 6).
7. See Figure 3. Unscrew the seat retainer from the body with a large screwdriver, turning the seat retainer counterclockwise.

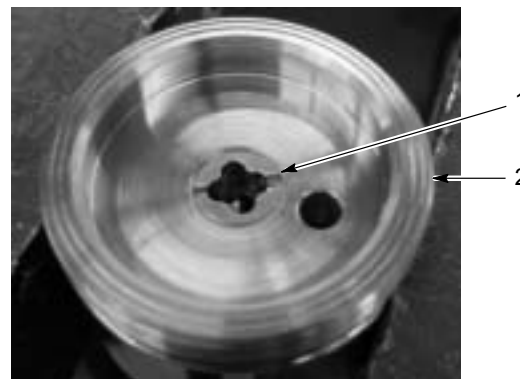


Figure 3 Body and Seat Retainer

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|------------------|---------|
| 1. Seat retainer | 2. Body |
|------------------|---------|

8. Push the seat out of the seat retainer with a blunt tool inserted into the slotted end.
9. Use two adjustable wrenches to take apart the diaphragm assembly, carefully noting how the parts fit together and their orientation.
10. Clean the body, seat retainer, and diaphragm sub-assembly parts.

Assembly

1. Install the new seat included in the service kit in the seat retainer, with the chamfered side of the seat toward the diaphragm assembly.
2. Lubricate the seat retainer threads with Dupont Krytox 240AC or equivalent, then screw the seat retainer into the body and tighten to 3.4 - 3.9 N•m (30 - 35 in-lbs).
3. See Figure 4. Rebuild the diaphragm assembly. Parts marked with an asterisk (*) are included in the service kit.

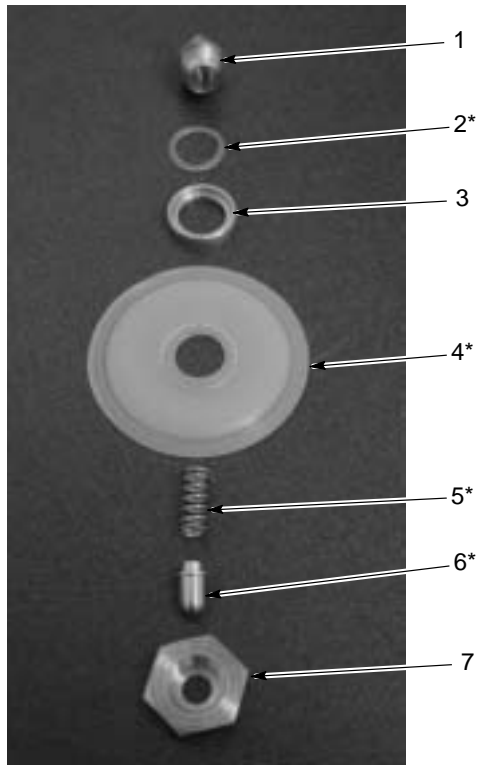


Figure 4 Diaphragm Assembly

- | | |
|---------------------|------------------|
| 1. Diaphragm button | 5. Spring* |
| 2. Seal* | 6. Valve stem* |
| 3. Seal retainer | 7. Diaphragm nut |
| 4. Diaphragm* | |

4. If removed, install the load spring, spring button, and diaphragm backup into the bonnet.

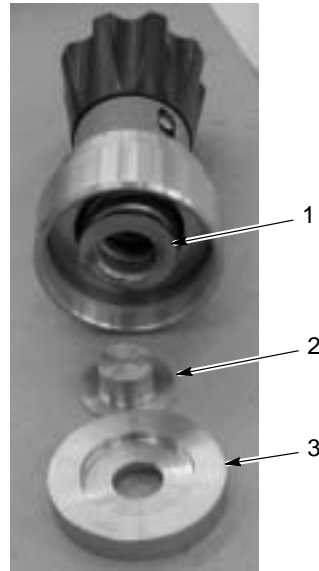


Figure 5 Assembling Bonnet Assembly

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|------------------|---------------------|
| 1. Load spring | 3. Diaphragm backup |
| 2. Spring button | |

5. See Figure 6. Install the diaphragm assembly into the bonnet ring.

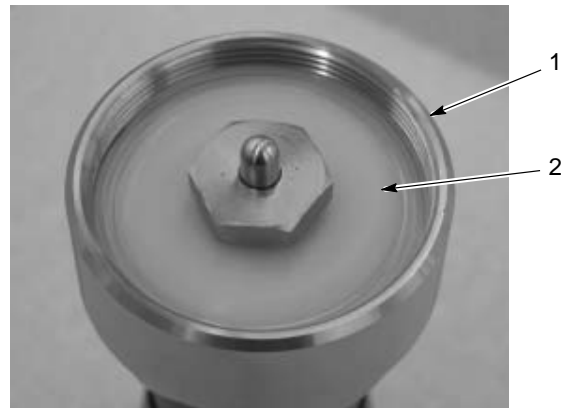


Figure 6 Installing Diaphragm Assembly

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|----------------|-----------------------|
| 1. Bonnet ring | 2. Diaphragm assembly |
|----------------|-----------------------|

6. Lubricate the body threads with Dupont Krytox 240AC or equivalent, then thread the bonnet ring onto the body, making sure the valve stem slides into the seat retainer. Tighten the bonnet ring to 68 - 75 N•m (50 - 55 ft-lbs).

7. Coat the fitting threads with thread adhesive/sealant, then install the fittings in the body, orienting the fittings in their original locations.
8. Install the mounting bracket on the regulator and install the regulator back on the panel.

Parts

For technical support and parts, call the Nordson Finishing Customer Support Center at (800) 433-9419, or contact your local Nordson representative.

Regulator

Part	Description	Note
1060229	REGULATOR, back pressure, diaphragm	

Regulator Service Kit

Part	Description	Note
1060240	SERVICE KIT, diaphragm regulator	
-	• STEM, valve	
-	• SEAT, valve, Vespel	
-	• DIAPHRAGM, Gylon, 0.031 in.	
-	• SPRING	
-	• SEAL, 0.62, 0.51, 0.030, TEF	

Optional Mounting Bracket

Part	Description	Note
145393	BRACKET, mounting, regulator	

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