

Self-Venting Pressure Regulator

Description

See Figure 1. The Nordson self-venting pressure regulator is designed for use with general liquid coatings. It regulates the fluid pressure flow out of high-pressure pumps.

Specifications

Part Number:	1105252
Maximum Inlet Pressure:	689.66 bar (10,000 psi)
Output Pressure Range:	0.35–55 bar (5–800 psi)
Vent and Gauge Ports:	1/4-in. NPT
Inlet and Outlet Ports:	3/8-in. NPT
Flow Capacity:	0.06 C _v
Operating Temperature:	-15 to 165 °F (-26 to 73 °C)
Weight:	2.5 kg (5.5 lb)
Dimensions:	See Figure 1

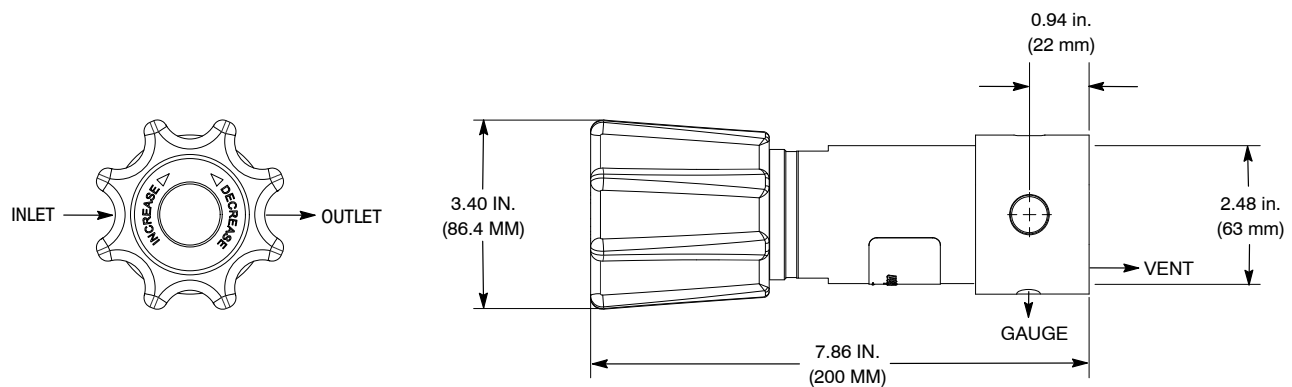
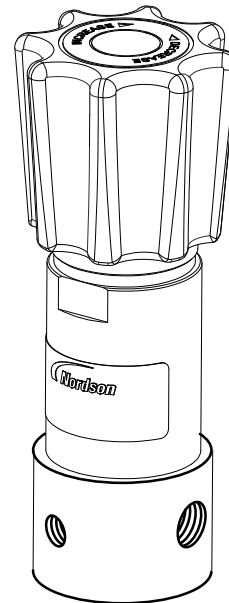


Figure 1 Self-Venting Pressure Regulator

Repair



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

The regulator must be removed from the application system to perform repairs.

Disassembly

See Figure 2.

1. Pry off the cap (1) from the knob (3) using a flat-head screwdriver.
2. Remove the jam nut (2) from the spring cap assembly (6). Remove the hand knob.
3. Place the regulator body (15) into a smooth-jaw vise and tighten. Unscrew the bonnet (4) using a 1⁵/₈-in. open-end wrench. Remove the load spring (7) and the sensor assembly (8) from the regulator body.
4. Remove the set screw (5) that secures the spring cap assembly in the bonnet. Remove the spring cap assembly from the bonnet.
5. Remove the following parts from the regulator body (15):
 - sensor assembly (8)
 - O-ring (9)
 - backup ring (10)
 - O-ring (11)
 - valve retainer (12)
 - connector (13)
6. Use a 1/2-in. socket wrench to unscrew the main valve assembly (14) the regulator body.

Main Valve Assembly Repair

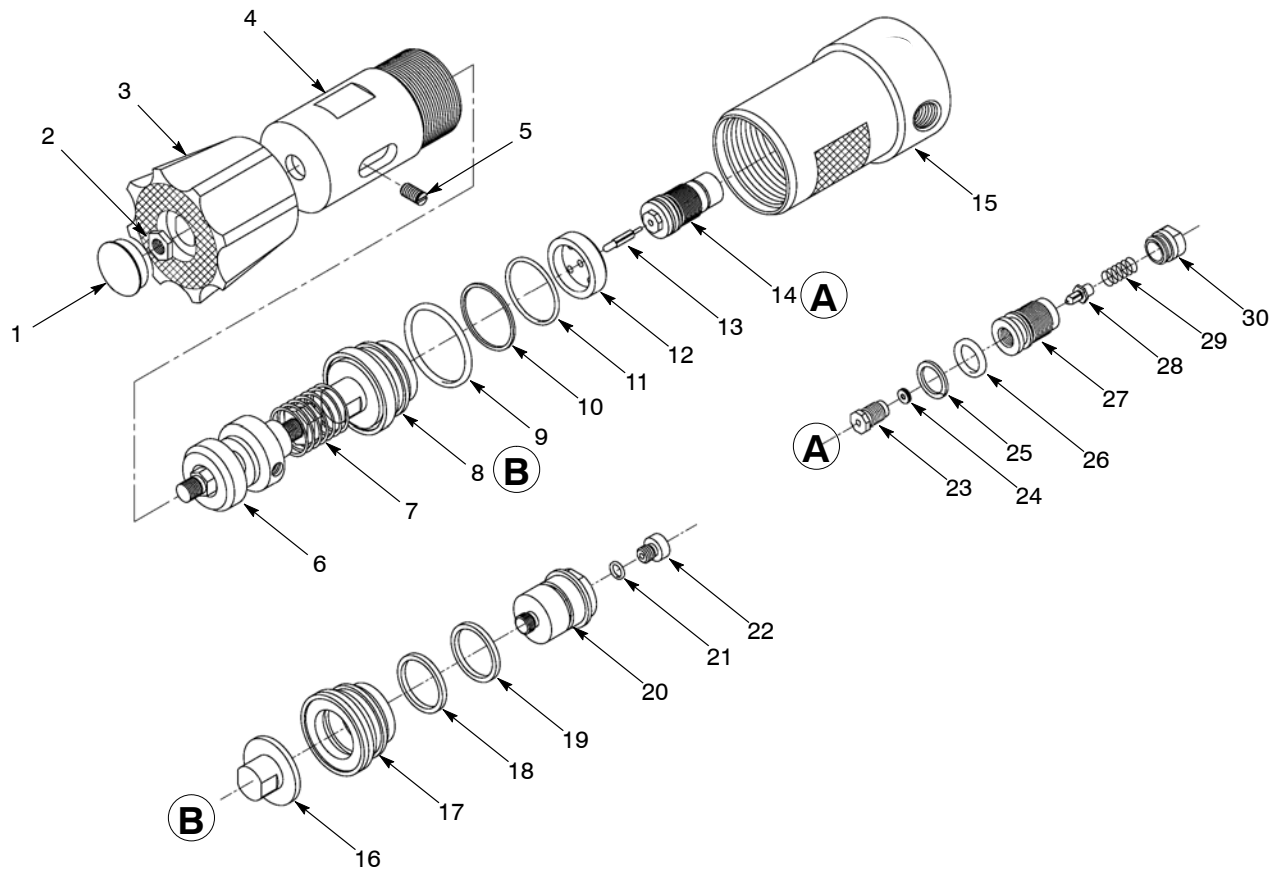
NOTE: Be careful not to mar the surface of the valve body. Use a smooth-jawed vise or pliers with the teeth covered with a soft cloth to prevent scratching the valve body.

See Figure 2, assembly A.

1. Unscrew the seat retainer (23):
 - Place the shoulders of the valve body (27) where the O-ring and backup ring are located into a vise.
 - The seat retainer has left-hand threads. Unscrew the seat retainer.
2. Unscrew the spring retainer (30) from the valve body. Remove the spring (29) and the valve (28).

NOTE: If replacing the seat, apply pipe adhesive to the concave face of the seat. Make sure that the seat is installed concave face down into the valve body.

3. Replace the valve or valve seat (24), if necessary. Install the valve and spring onto the valve body. Screw the spring retainer into the valve body until finger tight.
4. Screw the seat retainer into the valve body counterclockwise. Tighten the seat retainer to 11.5–12.5 N•m (100–110 in.-lb).
5. Remove the O-ring (25) and the backup ring (26) from the valve body. Lubricate a new O-ring. Install the O-ring and a new back-up ring onto the valve body.



A – Main Valve Assembly

B – Sensor Assembly

Figure 2 Replacing Parts

- | | | |
|------------------------|-------------------------|---------------------|
| 1. Cap | 11. O-ring | 21. O-ring |
| 2. Jam nut | 12. Valve retainer | 22. Vent seat |
| 3. Knob | 13. Connector | 23. Seat retainer |
| 4. Bonnet | 14. Main valve assembly | 24. Valve seat |
| 5. Set screw | 15. Regulator body | 25. Backup ring |
| 6. Spring cap assembly | 16. Spring pad | 26. O-ring |
| 7. Load spring | 17. Sensor Backup | 27. Valve body |
| 8. Sensor assembly | 18. Backup ring | 28. Valve |
| 9. O-ring | 19. Backup ring | 29. Spring |
| 10. Backup ring | 20. Sensor | 30. Spring retainer |

Sensor Assembly Repair

See Figure 2, assembly B.

1. Remove the spring pad (16) from the sensor backup (17).
2. Pull the sensor (20) out of the sensor backup.
3. Remove and replace the back-up rings (18, 19).
4. Remove the vent seat (22) from the sensor. Remove the O-ring (21). Lubricate and install a new O-ring.
5. Push the piston into the sensor backup until it snaps into place.
6. Install the spring pad on the piston assembly and tighten to 11.5–13.5 N•m (100–120 in.-lb).
7. Screw the vent seat into the sensor until it bottoms out.

Assembly

See Figure 2.

1. Apply lubricant to all O-ring surfaces.
2. Screw the main valve assembly (14) into the regulator body (15) and hand tighten.
3. Install the connector (13) and valve retainer (12) onto the main valve assembly.
4. Install the the following parts into the regulator body in this order:
 - O-ring (9)
 - Backup ring (10)
 - O-ring (11)



CAUTION: To prevent damage to the O-rings, be careful when installing the sensor assembly into the body.

5. Carefully install the sensor assembly (8) into the regulator body.
6. Insert the spring cap assembly (6) into the bonnet (4).
7. Align the threaded hole of the spring cap assembly to the opening in the bonnet. Tighten the set screw (5) securely.
8. Install the load spring (7) onto the spring pad (16).
9. Install the bonnet onto the body.

NOTE: When tightening the bonnet, it may be necessary to loosely thread a fitting into one of the ports to use as a stop in the vise.

10. Place the regulator body into a smooth-jawed vise. Tighten the bonnet to 135 N•m (100 ft-lb).
11. Install the knob (3) onto the spring cap assembly. Install the jam nut (2) and tighten to 8.5 N•m (75 in.-lb).

Service Kit

Order Self-Venting Service Kit 1105714 to replace wear items.