NORGREN

Installation & Maintenance Instructions

20AG Pressure Regulator

Technical data

Fluid: Compressed air

Maximum pressure: 28 bar

Regulator type: Relieving or non-relieving diaphragm

Operating temperature:
- Gauge: -20° to +65°C
- No gauge: -20° to +80°C

Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Main port size: 1/2", 3/4", 1"

Main port thread form: PTF or ISO G

Gauge ports:
- 1/8 PTF with PTF main ports
- Rc1/8 with ISO G main ports

Outlet pressure adjustment ranges:**
- 0.1 to 3.5 bar
- 0.2 to 8.0 bar
- 0.7 to 17 bar (1/2" only)

** Outlet pressure can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

Typical flow with 7 bar inlet pressure, 4 bar set pressure, and a 1 bar droop from set:
- 1/2" ports: 60 dm3/s , 3/4" ports: 80 dm3/s, 1" ports: 100 dm3/s

Materials:
- Body: Zinc
- Bonnet: Aluminum
- Valve: Brass and nitrile
- Valve seat: Brass
- Elastomers: Nitrile

Bottom plug:
- 1/2" ports: Glass filled Nylon
- 3/4" and 1" ports: Aluminium

Replacement Items

Service kits (includes items circled on exploded view)

1/2" Ported Regulators:
- Relieving 20AG-X4-100
- Non-relieving 20AG-4-100

3/4" and 1" Ported Regulators:
- Relieving 20AG-X8-100
- Non-relieving 20AG-8-100

Installation

1. Shut off air pressure. Install regulator in air line
   - with air flow in direction of arrow on body
   - upstream of lubricators and cycling valves
   - as close as possible to the device being serviced
   - at any angle
2. Connect piping to proper ports using pipe thread sealant on male threads only. Do not allow sealant to enter interior of regulator.
3. Install a pressure gauge or plug the gauge ports. Gauge ports can also be used as additional outlets for regulated air.
4. Install a Norgren general purpose filter upstream of the regulator.

Adjustment

1. Before applying inlet pressure to regulator, turn adjustment (1) counterclockwise to remove all force on regulating spring (6).
2. Apply inlet pressure, then turn adjustment (1) clockwise to increase and counterclockwise to decrease pressure setting.
3. Always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting, first reduce to some pressure less than that desired, then bring up to the desired pressure.

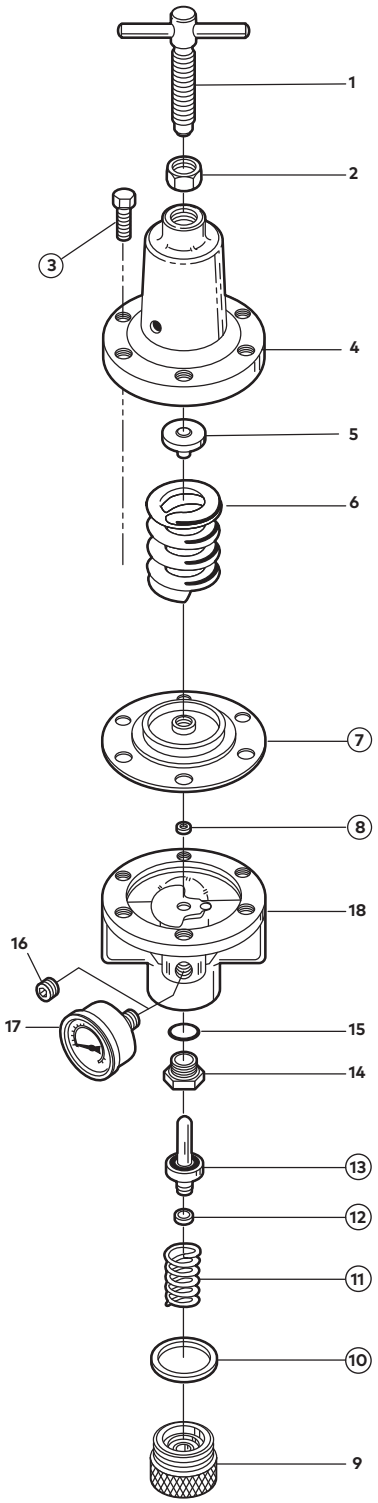
Note

With non-relieving regulators, make pressure reductions with some air flow in the system. If made under no flow (dead-end) conditions, the regulator will trap the over-pressure in the downstream line.

4. Tighten lock nut (2) to lock pressure setting.

Disassembly

1. Regulator can be disassembled without removal from air line.
2. Shut off inlet pressure. Reduce pressure in inlet and outlet lines to zero.
3. Turn adjustment (1) counterclockwise to remove all force on regulating spring (6).
4. Disassemble in general accordance with the item numbers on exploded view. Do not remove valve seat (14) unless replacement is necessary. Remove o-ring (8) using a hook shaped tool, taking care not to damage o-ring seating surfaces and valve seat.



Breakthrough Engineering

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Cleaning

1. Clean parts with warm water and soap.
2. Rinse and dry parts. Blow out internal passages in body with clean, dry compressed air.
3. Inspect parts. Replace those found to be damaged.

Assembly

1. Lubricate o-rings, adjusting screw threads and tip (1), center bore in bottom plug (9), valve stem and body (13), with a light coat of good quality o-ring grease.
2. Assemble the unit as shown on the exploded view.
3. **Torque Table**

Item:	**Torque:**
14 (Valve seat–if applicable)	1.7 to 2.3 Nm
9 (Bottom plug)	Hand tighten
3 (Screw)	4.5 to 5.0 Nm in a diagonal sequence

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »Technical features/data«. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI Precision Engineering, Norgren Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided. System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

Find out more
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