

# R22 Stainless Steel Air Pressure Regulator

## Installation & Maintenance Instructions

### MODELS

**Note:** Compare the model number of your R22 Regulator with the *Outlet Pressure Adjustment Ranges* listed under **Specifications** to be sure your R22 Regulator suits your compressed-air system.

**R22-405-RNFA:** Relieving Type  
**R22-405-RNMA:** Relieving Type  
**R22-405-NNFA:** Nonrelieving Type  
**R22-405-NNMA:** Nonrelieving Type

### RATED OPERATING CONDITIONS

**Fluid:** Compressed air

**Maximum Inlet Pressure:** 300 psig (20 bar)

**Temperature Range:** 21° to 175°F (-6° to 80°C). Below 35°F (2°C), the dewpoint of the supply air must be less than the air temperature.

### SPECIFICATIONS

**Main Ports:** 1/2 inch NPT

**Gauge Ports:** 1/4 inch NPT

**Types:** Relieving and nonrelieving

#### Outlet Pressure Adjustment Ranges

**Model R22-405-RNFA:** 5 to 60 psig (0.4 to 4.2 bar)

**Model R22-405-RNMA:** 5 to 150 (0.4 to 10.4 bar)

**Model R22-405-NNFA:** 5 to 60 psig (0.4 to 4.2 bar)

**Model R22-405-NNMA:** 5 to 150 (0.4 to 10.4 bar)

**Note:** Outlet pressure adjustment ranges are neither minimum nor maximum outlet pressure limits. R22 Regulators can be adjusted to zero psig outlet pressure and, generally, to pressures in excess of those specified. The use of R22 Regulators to control pressures outside of specified ranges is *not* recommended.

### MATERIALS OF CONSTRUCTION

**All Metallic Parts:** Materials that meet the requirements of National Association of Corrosion Engineers (NACE) Standard MR-01-75 (1980 Revision), which defines resistance to corrosion and hydrogen-sulfide stress cracking.

**Regulating Spring:** Stainless Steel

**Valve Spring:** Inconel

**Elastomers:** Nitrile

**Body, Bonnet, Valve, Adjusting Screw:** Type 316 Stainless Steel

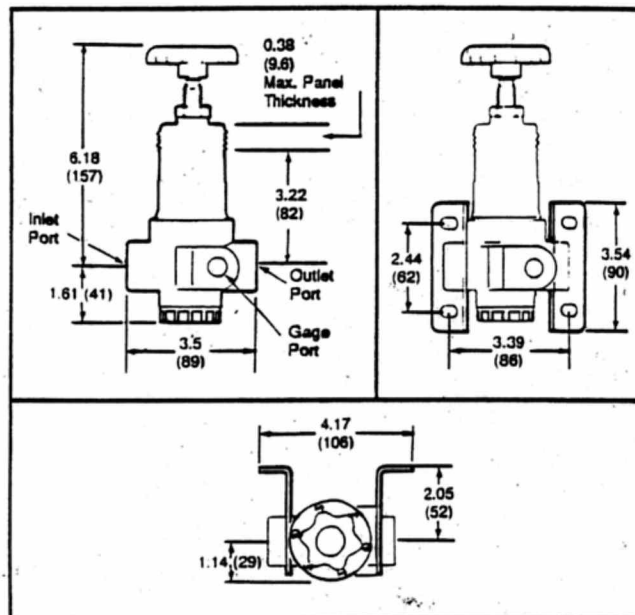
### INSTALLATION

#### General Notes

1. In the following installation procedures, refer to *Figure 1* for part identifications.
2. Install the regulator as close as possible to the device being served. The regulator can be installed at any angle.
3. In compressed-air systems with cyclical demand, install the regulator upstream of cycling-control valves.
4. Install a compressed-air filter upstream of the regulator.
5. Check the ports on the regulator to be sure they are the same size as the compressed-air piping.

### DIMENSIONS

**Note:** All dimensions are in inches (mm).



### PARTS

1. Hand Wheel
2. Lock Nut
3. Bonnet
4. Spring Rest
5. Regulating Spring
6. Slip Ring
7. Diaphragm\*
8. Regulator Body
9. Pipe Plug (2)
10. O-Ring\*
11. Valve\*
12. O-Ring\*
13. Valve Spring\*
14. O-Ring\*
15. Bottom Plug

\*Included in Repair Kits  
 5550-23 (Relieving)  
 5550-24 (Nonrelieving)

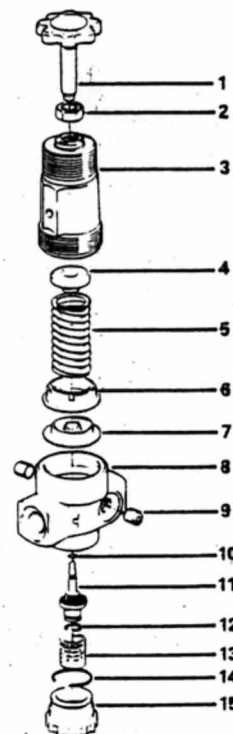


FIGURE 1.



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## Procedures

1. Shut off the air supply and reduce air pressure in inlet and outlet lines to zero.
2. Install wall-mounting brackets (if used) over the regulator ports.
3. Apply a *thin* coat of pipe-thread sealant on **ONLY** the male threads of the compressed-air piping. Loose sealant inside the regulator body could cause the regulator to malfunction.
4. Connect the compressed-air piping to the proper ports on the regulator body. Be sure the arrow on top of the regulator body points in the direction of the compressed-air flow.
5. If desired, connect an outlet pressure gauge to one of the gauge ports on the regulator body. Gauge ports can also be used as additional outlet ports.
6. Plug any unused gage ports with the stainless steel plugs that are provided with the regulator, sealing threads as described above in 3.

## Adjustments

1. Before restoring air supply to the compressed-air system, turn the regulator hand wheel counterclockwise until all load is removed from the regulating spring.
2. Restore air supply to the compressed-air system.
3. Turn the regulator hand wheel clockwise until the desired outlet pressure is reached.
4. To avoid minor readjustments after changing the pressure setting, always approach the desired pressure from a lower pressure. When reducing pressure from a higher to a lower setting, first reduce the pressure to some pressure less than the desired pressure. Then increase pressure to the desired setting.
5. Tighten the lock nut under the hand wheel to lock the pressure setting.

## DISASSEMBLY

1. Norgren R22 Stainless Steel Pressure Regulators can be disassembled without being removed from compressed-air lines.
2. Shut off the air supply and reduce air pressure in inlet and outlet lines to zero.
3. Turn the hand wheel counterclockwise until all load is removed from the regulating spring.
4. Disassemble the regulator as shown in *Figure 1*.

## CLEANING

1. Follow the procedures listed under *Disassembly*.
2. Clean all parts with warm water, soap, and a soft cloth.
3. Rinse and dry all parts thoroughly.
4. Inspect all parts and replace any damaged parts with identical parts. (See *Repair Kits*.)

## REASSEMBLY

### Lubrication

1. Lubricate O-rings (parts 10, 12, and 14) with a wipe coat of good quality O-ring grease.
2. Lubricate the *valve bore* in the bottom plug (part 15) with a wipe coat of good quality o-ring grease.
3. Lubricate the *adjusting screw threads* and *screw tip* of the hand wheel (part 1) with a wipe coat of good quality lubricant for metals.
4. Lubricate the threads on the bonnet (part 3) and the threads on the bottom plug (part 15) with a wipe coat of good quality anti-seize compound.

## Procedures

1. Assemble the R22 Regulator as shown in *Figure 1*.
2. Tighten the bottom plug (part 15) hand tight.
3. Tighten the bonnet (part 3) to 45-to-50 foot-pounds.

## REPAIR KITS

Repair Kit (parts 7, 10, 11, 12, 13, 14)

Relieving . . . . .	5550-23
Nonrelieving . . . . .	5550-24

## ACCESSORIES

Port Mounting-Bracket Kit . . . . .	18-001-962
Bonnet Mounting-Bracket Kit (includes panel-mounting nut) . . . . .	18-001-959
Panel-Mounting Nut . . . . .	5988-02

## WARNINGS

R22 Stainless Steel Pressure Regulators are intended for use in industrial compressed-air systems only. Do not use these regulators where pressure or temperature can exceed **Rated Operating Conditions**.

If outlet pressure in excess of the regulator pressure setting could cause downstream equipment to rupture or malfunction, install a pressure-relief device downstream of the regulator. The relief pressure and flow capacity of the relief device must satisfy system requirements.

The accuracy of the indication of pressure gauges can change, both during shipment (despite care in packaging) and during service life. If a pressure gauge is to be used with these products and if inaccurate indications may be hazardous to personnel or property, the gauge should be calibrated before initial installation and at regular intervals during use. For gauge standards refer to **ANSI B40.1**.

Before using these regulators with fluids other than air, for nonindustrial applications, or for life-support systems, consult NORGREN.

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5400 SOUTH DELAWARE ST. LITTLETON, CO 80120-1663  
PHONE 303/794-2611 TELEX 4-5541 INTL. TELEX 4322030  
FAX 303/795-9487 PRINTED IN U.S.A.