NORGREN

Filter/Regulator
B07 - ★★★ - ★★★★

B07
Installation & Maintenance Instructions

Port	Bowl	Relief Type	Gauge	Substitute
1 ....1/8"	Transparent	Relieving	Without	01
2 ....1/4"	Transparent	Relieving	With	02
	Transparent	Non-relieving	Without	03
	Transparent	Non-relieving	With	23
	Metal	Relieving	Without	33
	Metal	Relieving	With	34
	Metal	Non-relieving	Without	35
	Metal	Non-relieving	With	36

Drain	Element	Spring (Outlet Pressure Range) *	Thread Form
A....Automatic	1 ....5 µm	A....0,1 to 0,7 bar (1 to 10 psig)	A....PTF
M...Manual	3 ....40 µm	E....0,3 to 3,5 bar (5 to 50 psig)	B....ISO Rc taper
		K....0,3 to 7 bar (5 to 100 psig)	G....ISO G parallel

* 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.

TECHNICAL DATA

Fluid: Compressed air
Maximum pressure:
Transparent bowl: 10 bar (150 psig)
Metal bowl: 17 bar (250 psig)
Operating temperature**:
Transparent bowl: -34° to +50°C (-30° to +125°F)
Metal bowl: -34° to +65°C (-30° to +150°F)
** Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).
Particle removal: 5 µm or 40 µm filter element
Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)
Typical flow with a 5µm element at 7 bar (100 psig) inlet pressure, 6,3 bar (90 psig) set pressure, and a droop of 1 bar (15 psig) from set:
1/8" Ports: 6,2 dm^3/s (13 scfm)
1/4" Ports: 6.5 dm^3/s (14 scfm)
Nominal bowl size: 31 ml (1 fluid ounce)
Gauge ports:
1/8" PTF with PTF main ports
1/8" ISO Rc with ISO Rc main ports
1/8" ISO Rc with ISO G main ports
Drain connection: 1/8" pipe thread
Automatic drain operation: Spitter type drain operates momentarily when a rapid change in air flow occurs or when the supply pressure is reduced.
Materials:
Body: Zinc
Bonnet: Acetal
Valve: Brass/nitrile
Valve seat: Acetal
Bowl:
Transparent: Polycarbonate
Metal: Zinc
Element: Sintered polypropylene
Elastomers: Nitrile

REPLACEMENT ITEMS

Service Kit (includes items circled on exploded view):
Relieving, 5 µm element.....3820-02
Nonrelieving, 5 µm element 3820-01
Relieving, 40µm element.....3820-04
Nonrelieving, 40 µm element 3820-03
Manual drain (20, 26) 773-03
Automatic drain (21, 22) (27, 28).....3654-02
Tamper resistant knob (current bonnet) 18-001-092
Tamper resistant seal wire (early bonnet) 2117-01

PANEL MOUNTING DIMENSIONS

Panel mounting hole diameter: 30 mm (1.19")
Panel thickness: 2 to 6 mm (0.06" to 0.25")

INSTALLATION

1. Shut off air pressure. Install filter/regulator in air line -
   - vertically (bowl down),
   - with air flow in direction of arrow on body,
   - upstream of lubricators and cycling valves,
   - as close as possible to the air supply when used as a main line filter,
   - as close as possible to the device being serviced when used as a final filter.
2. Connect piping to proper ports using pipe thread sealant on male threads only. Do not allow sealant to enter interior of unit.
3. On filters equipped with an automatic drain, slip 1/4" I.D. flexible tube over protrusion on bottom of bowl. Avoid restrictions in the tube. Bowl protrusion is also threaded to accept 1/8" pipe thread fitting.
4. Turn bowl fully clockwise into body before pressurizing.
5. Install a pressure gauge or plug the gauge ports. Gauge ports can also be used as additional outlets for regulated air.

ADJUSTMENT

1. Before applying inlet pressure to filter/regulator, turn adjustment (2 or 5A) counterclockwise to remove all force on regulating spring (6).
2. Apply inlet pressure, then turn adjustment (2 or 5A) 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 filter/regulators, make pressure reductions with some air flow in the system. If made under no flow (dead-end) conditions, the filter/regulator will trap the over-pressure in the downstream line.

4. Push adjusting knob down to lock pressure setting; pull up to release. Install tamper resistant knob (see ***Replacement Items***) to make setting tamper resistant.

SERVICING

1. Depress manual drain to expel accumulated liquids. Keep liquids below element (31).
2. Clean or replace filter element when dirty.

DISASSEMBLY

1. Filter/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 (2 or 5A) fully counterclockwise.
4. Turn bowl and bonnet counterclockwise and remove from body.
5. Disassemble in general accordance with the item numbers on exploded view. Do not remove the manual drain unless replacement is necessary. Remove and replace drain only if it malfunctions.

CLEANING

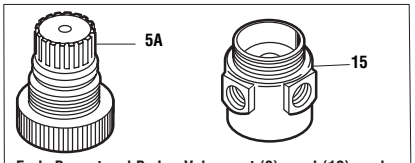
1. Clean plastic bowl with warm water only. Clean other parts with warm water and soap.
2. Rinse and dry parts. Blow out internal passages in body (15, 16) with clean, dry compressed air. Blow air through filter element (31, 34) from inside to outside to remove surface contaminants.
3. Inspect parts. Replace those found to be damaged. Replace plastic bowl with a metal bowl if plastic bowl shows signs of cracking or cloudiness.

ASSEMBLY

1. Lubricate seals and o-rings with o-ring grease. Apply a small amount of anti-seize lubricant to full length of threads on metal bowls.
2. Assemble the unit as shown on the exploded view.
3. Torque Table

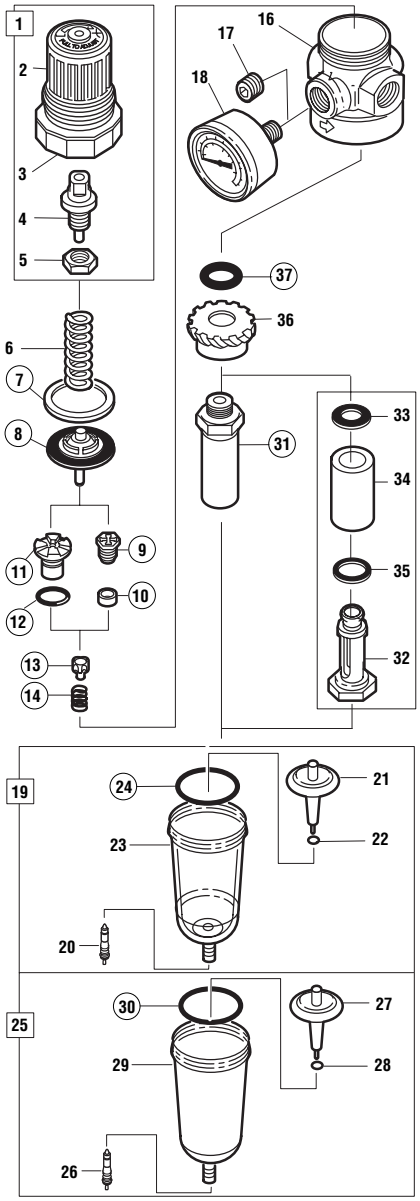
ITEM	TORQUE NM (INCH-POUNDS)
3, 5A (Bonnet)	7,34 to 8,47 (65 to 75)
9 (Early valve seat)	0,45 to 0,68 (4 to 6)†
11 (Current valve seat)	0,34 to 0,56 (3 to 5)†
23, 29, 31, 32 (Element, bowl, stud)	0,56 to 1,13 (5 to 10)
20, 26 (Manual drain valve)	0,17 to 0,28 (1.5 to 2.5)

† Diaphragm pin (8) must slide freely thru valve seat after torquing.



Early Bonnet and Body - Valve seat (9), seal (10), and gasket (37) used with early body. Early body used a stud (32) to secure polypropylene element to the body. Current element (31) replaces the element and stud.

Current Bonnet and Body - Valve seat (11) and seal (12) used only with current body. Gasket (37) also used with current body when sintered bronze element (32, 33, 34, 35) is installed.



NOTES FOR CURRENT AND EARLY BOWLS
Current bowls use a lip on the bowl inside diameter to retain bowl o-ring. Early bowls use a lip on the bowl outside diameter to retain bowl o-ring. Service kits contain current and early bowl o-rings. The larger of the o-rings is used on the early bowls.

CAUTION
Water vapor will pass through these units and could condense into liquid form downstream as air temperature drops. Install an air dryer if water condensation could have a detrimental effect on the application.

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 Data***.

Polycarbonate plastic bowls can be damaged and possibly burst if exposed to such substances as certain solvents, strong alkalies, compressor oils containing ester-based additives or synthetic oils. Fumes of these substances in contact with the polycarbonate bowl, externally or internally, can also result in damage. Clean with warm water only.

Use metal bowl in applications where a plastic bowl might be exposed to substances that are incompatible with polycarbonate.

If outlet pressure in excess of the filter/regulator pressure setting could cause downstream equipment to rupture or malfunction, install a pressure relief device downstream of the filter/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 the 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.

Before using these products with fluids other than air, for non industrial applications, or for life-support systems consult Norgren.