F22 Filter/Regulator

Installation & Maintenance Instructions

Industrial Automation

IMI Norgren

F22 - 40★ - ★★D★

- Option
  - 2....With indicator
  - 0....Without indicator
- Drain
  - A....Automatic 1/4" (Acetal)
  - T....Automatic 1/4" (Stainless steel)
  - M...Manual
- Element
  - 1....5 µm
  - 2....25 µm
- Thread Form
  - A...PTF
  - G...ISO G

TECHNICAL DATA

Fluid: Compressed air*
Maximum pressure: 17 bar (250 psig)
Operating temperature: -20° to +80°C (-4°F to +175°F)**

*Confirm compatibility with materials of construction. Use in gas applications must be in a well vented or outdoor area. Products are designed with an allowable leakage and should only be used within the specifications printed on the data sheet or the product label for pressure, temperature, etc. It is the responsibility of the user to apply the product in a safe environment free from potential fire or explosive materials or components. IMI Precision Engineering will not be responsible for any injury or damage caused by the use of the product in an unsafe application.

**Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Particle removal: 5 µm or 25 µm filter element
Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)
Typical flow with 25 µm element at 6.3 bar (90 psig) inlet pressure, and 0.5 bar (7 psig) pressure drop: 57 dm^3/s (120 scfm)
Manual drain connection: No tube connection
Automatic drain connection:
- 00 option: 1/4-18" NPTF
- 05 option: 1/8" - will fit 1/8-27 and 1/8-28 pipe thread

Automatic drain operating conditions (float operated):
- Bowl pressure required to close drain: Greater than 0.3 bar (5 psig)
- Bowl pressure required to open drain: Less than 0.2 bar (3 psig)
- Minimum air flow required to close drain: 1 dm^3/s (2 scfm)
- Nominal bowl size: 0.24 liter (8 fluid ounce)

Materials - Metallic parts are NACE (National Association of Corrosion Engineers) approved metals meeting hardness requirements. NACE Recommendation MR-01-1975 (1980 Revision) "Material requirement - sulfite stress cracking resistant metallic material for oil field equipment".
- Body, bowl: 316 Stainless steel
- Manual drain: 316 Stainless steel, Nitrile
- Automatic drain: 316 Stainless steel, Nylon, Acetal, Nitrile
- Bowl sight glass: Pyrex
- Bracket: Stainless steel
- Element: Sintered 316 stainless steel
- Elastomers: Nitrile
- Service life indicator (factory option)-
  - Body: 316 Stainless steel
  - Lens: Transparent nylon
  - Internal parts: Acetal
  - Spring: 18-8 Stainless steel
  - Elastomers: Nitrile

REPLACEMENT ITEMS

Service kit, 1/8", auto-drain (3, 14, 15, 16, 26, 27, 29)
- 5µm element.....F22-100A(5)
- 25µm element F22-100A

Service kit, manual drain (3, 18, 19, 20, 21, 22, 23, 26, 27, 29)
- 5µm element.....F22-100M(5)
- 25µm element F22-100M

Element kits (26, 27)
- 5µm element.....6317-99
- 25µm element 6317-98

Replacement drain
- Automatic, 1/4", (Stainless steel) (10, 11, 12, 13).....3000-85
- Automatic, 1/4", (Acetal) (10, 11, 12, 13).....3000-90
- Manual (18, 19, 20, 21, 22).....2273-18

Bowl repair kit (3, 7, 8, 9).....2273-08
Wall mounting bracket.....18-001-962
Service indicator (factory option) (30)5796-47

INSTALLATION

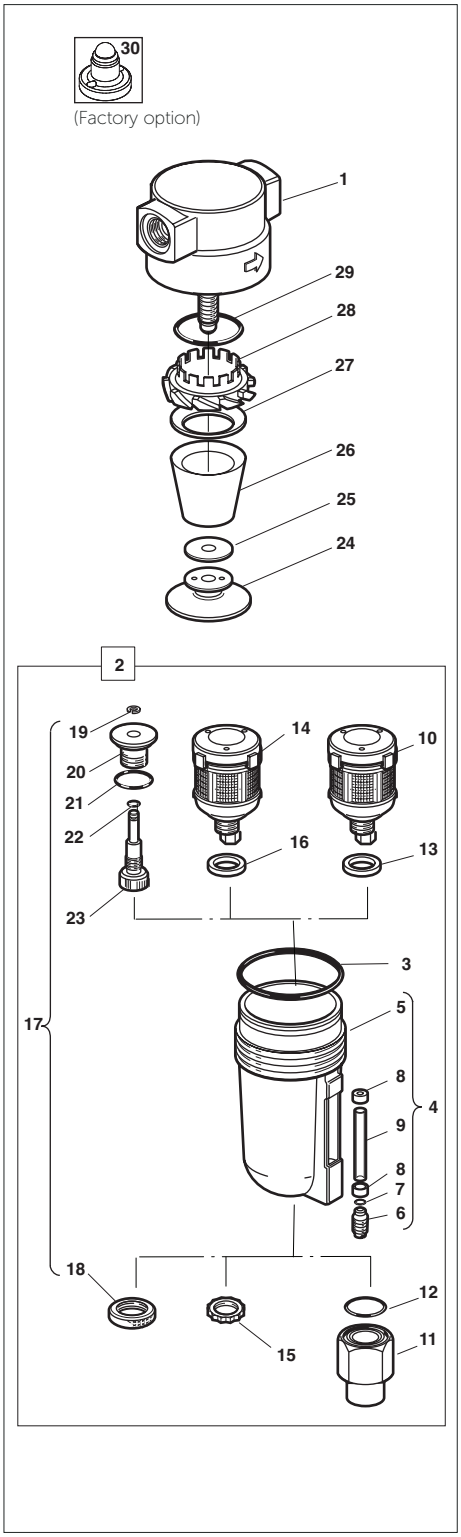
1. Shut-off air pressure. Install filter in air line -
   - vertically (bowl down),
   - with air flow in direction of arrow on body,
   - upstream of regulators, lubricators, and cycling valves,
   - as close as possible to the air supply when used as a main line filter,
   - as close as possible to 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. Flexible tube with 3 mm (0.125") minimum I.D. can be connected to the automatic drain. Avoid restrictions in the tube.
4. Before pressurizing, turn bowl clockwise into body until stop (approximately 5 turns), then unscrew no more than one full turn to position sight glass for best visibility.

SERVICING

1. Open manual drain to expel accumulated liquids. Keep liquids below baffle (24).
2. Replace filter element (26) when dirty or when pressure drop across element exceeds 0.7 bar (10 psig).

DISASSEMBLY

1. Filter can be disassembled without removal from air line.
2. Shut off inlet pressure. Reduce pressure in inlet and outlet lines to zero.
3. Disassemble in general accordance with the item numbers on exploded view. Do not remove the drains unless replacement is necessary. Remove and replace drains only if they malfunction.



CLEANING

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

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 bowl.
2. Assemble filter as shown on the exploded view.
3. Torque Table

Item	Torque in Nm (Inch-Pounds)
6 (retainer)	0.8 to 1.1 (7 to 10)
11, 15, 18 (nut)	2.3 to 2.8 (20 to 25)
24 (baffle)	1.1 to 1.4 (10 to 12)

CAUTION

Do not over torque retainer (6) as damage to gauge glass (9) will occur.

4. Turn bowl clockwise into body until stop (approximately 5 turns), then unscrew no more than one full turn to position sight glass for best visibility. Do not attempt to turn bowl when filter is pressurized.

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.

Do not substitute any other bowl for the stainless steel bowl furnished with these products

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