

# Welker<sup>®</sup>

## Filter/Dryers

### Models F-4, F-5, F-19, F-23



### Installation, Operation, and Maintenance Manual

## 1.1 Product description

The Welker Filter/Dryers are designed for filtering and drying natural gas in order to prepare it for use as an instrument supply. As product enters the filter, it is dried and removed of unwanted elements.

Specifications	
Products	Gases/Liquids
Materials of Construction	Carbon Steel, and Viton <sup>®</sup> (others available)
Sample Outlet Connection	1/4" NPT (others available)
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Maximum Allowable Operating Pressure*	<b>F-4, F-5, and F-19:</b> 1,500 psi @ -20° F to 100 ° F (103 bar @ -29° C to 37° C)  <b>F-23:</b> 200 psi @ -20° F to 100 ° F (13 bar @ -29° C to 37° C)  (Higher operating pressures available)
Flow rates	40-50 cfm (others available)
Filter media	Silica gel and activated charcoal (standard, others available)
Final filtration	4 micron

- 1.2.1 Plug or install a valve in the drain port on the bottom of the device (see Figure 1).
- 1.2.2 Connect the supply source to the inlet port on the filter.
- 1.2.3 Connect the outlet port on the filter to the inlet of the instrument that will receive the filtered product.
- 1.2.4 Slowly open the supply source valve. Check the connections for leaks.

#### **N** NOTE

When sealing fittings with PTFE tape, refer to the proper sealing instructions for the tape used.

## 1.3 Maintenance

Refer to Figure 2 for the following section.

#### **N** NOTE

We recommend that the unit have annual maintenance. In some cases, a more frequent schedule may be appropriate. All maintenance should be done on a clean surface.

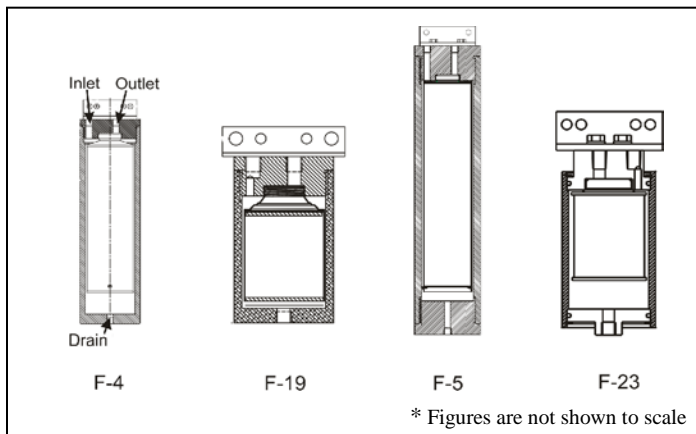


Figure 1

## 1.2 Installation

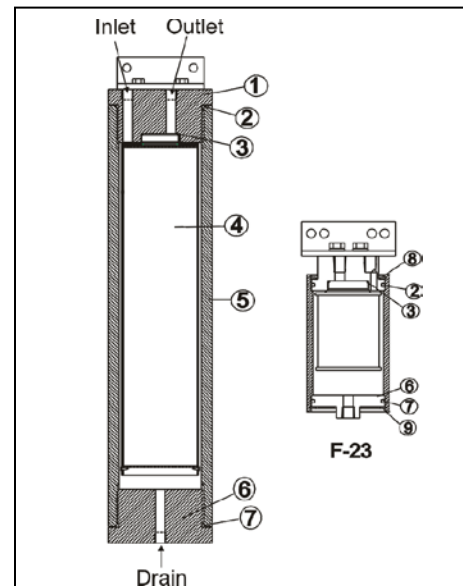


Figure 2

- 1.3.1 Close the supply source valve and shut down instrumentation connected to the unit.

### 1.3 Maintenance (continued)

- 1.3.2 Open the drain port to depressurize the unit.
- 1.3.3 Unscrew the top cap (Part 1) from the body (Part 5). If you have an F-23 filter, you will first need to remove the snap ring (Part 8).
- 1.3.4 Replace the O-rings (Parts 2 and 3) in the top cap.

**N** NOTE

Use Dow Corning 111 (DC 111) grease or equivalent lubricant to lightly grease the O-ring.

- 1.3.5 Remove and replace the cartridge (Part 4) in the top cap.
- 1.3.6 Screw the top cap back onto the body. Replace the snap ring, if applicable.
- 1.3.7 **If you have an F-5 or an F-23 filter:**
  - a) Unscrew the bottom cap (Part 6). If you have an F-23 filter, you will first need to remove the bottom snap ring (Part 9).
  - b) Remove and replace the O-ring (Part 7) in the bottom cap.
  - c) Screw the bottom cap back onto the body. Replace the snap ring.
- 1.3.8 Maintenance is now complete.



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