

Form: 90-410\* (revised 04/04)

Questions regarding this form should be directed to one of the following:

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## 27 Modular Series Filter and Coalescing Filter Installation Instructions, Operating Instructions and Parts List

### Application:

The 27 Series modular filter is constructed of lightweight aluminum. A compact configuration combines ease of installation with superior system design flexibility. Each unit is adaptable for conversion to duo or trio systems either with clamps, which connect without disturbing existing piping, or with standard nipples. A modular distribution block allows a portion of the air supply to be directed to a branch line or device.

### Options and Accessories:

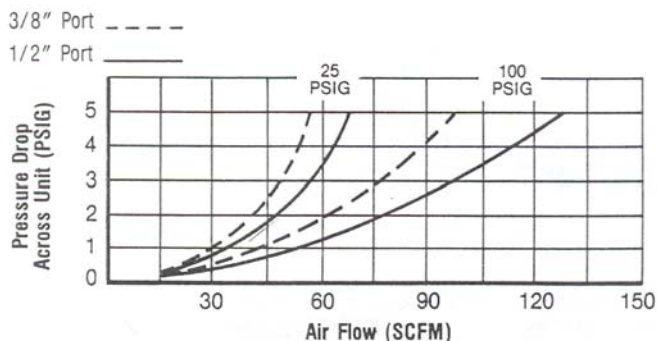
Options*:	Suffix
Automatic Drain .....	D
Metal Bowl without sightglass .....	M
Metal Bowl with sightglass .....	S
Extra Fine Element (5 micron) .....	X

\*Add a dash followed by the suffix(es) in alphabetical order to the model number.

Accessories:	Model No.
Automatic Drain .....	.8851AD
Metal Bowl without sightglass .....	.27F-41M
Metal Bowl with sightglass .....	.27F-41S
Connecting Clamp Kit (includes two connecting clamps, two screws, one o-ring and one allen wrench) . . . .	.27MB01
Wall Mount Connecting Clamp Kit (include one wall mount connecting clamp, one connecting clamp, two screws, one o-ring, and one allen wrench) . . . .	.27MB02
Distribution Block .....	.27DB01



### Filter Performance Data:



### Technical Data:

<b>Maximum Supply Pressure:</b>	
Plastic Bowl .....	150 PSI
Metal Bowl .....	250 PSI

<b>Maximum Operating Temperature:</b>	
Plastic Bowl .....	120° F
Metal Bowl .....	250° F

<b>Filter Element:</b>	
Standard .....	40 micron
Option .....	5 micron

<b>Material:</b>	
Body .....	Die cast aluminum
Standard Bowl .....	Transparent polycarbonate with high impact plastic guard
Optional Bowl .....	Zinc die-cast
Filter Element .....	Porous Polypropylene

<b>Dimensions and Weights:</b>	
Height .....	7 1/2"
Width .....	2 3/4"
Weight .....	1 lb.

## General Description of Operation

### Filter—

Pressurized air enters through a curved inlet and deflector vane plate (3), directing the incoming air in a downward whirling pattern. Centrifugal force hurls the larger solids and liquid water particles outward where they collect on the inner surface of the filter bowl (7). The particles spiral down past a retainer baffle (5) into a quiet chamber. The baffle (5) prevents turbulent air in the upper bowl from re-entering liquid contaminants and carrying them downstream. Then, the dry, clean air follows a convoluted path through the filter element (4), where finer solid particles are filtered out.

### Coalescing Filter—

Contaminated compressed air enters through the inside of the filter and passes through the graded porous element (4). Solid particles are captured and held by direct impact, interception or diffusion, depending on their size. Liquid aerosols are also captured, but are forced through the filter matrix by the compressed air.

The element (4) density lessens toward the outer surface, forcing the collected liquid to agglomerate into larger and larger droplets. As the enlarged droplets emerge on the outside of the element (4), they are conducted to the drain sites by the drain layer. Gravity pulls the collected liquid to the bottom of the bowl (7) and is drained away by opening the draincock (6).

## Cleaning and Maintenance

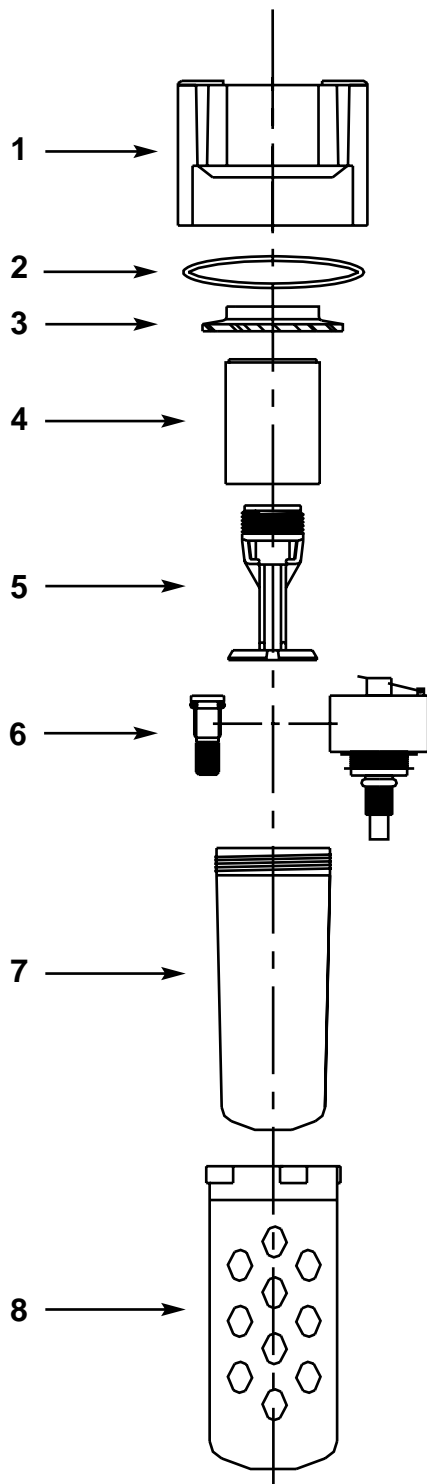
It is necessary to keep the filter clean in order to sustain peak filtering efficiency and avoid excessive pressure drop. A coating of dirt or condensation build-up on the filter element or a pressure drop of 10 PSID or more indicates that cleaning is required.

Removal of the filter from the line for cleaning is not necessary. Disassembly requires no tools and the parts drawing on this page can be used as a guide. Air supply must be shut off and the filter must be depressurized prior to disassembly. The filter element should be replaced and all other parts should be cleaned with nothing stronger than a household detergent. Before reassembly, the body should be blown out to remove any remaining debris.

To drain off any accumulations in the bowl, the draincock is opened by turning it in a clockwise direction. This should be done before the collected fluid reaches the lower baffle.

The bowl guard is removed by depressing the release tab with the thumb, while turning the guard counterclockwise and pulling downward. The guard will become disengaged when the clasps clear the locking points on the body.

The bowl can then be removed by turning it counterclockwise until it is completely unscrewed and free of the body.



## Components:

Chart No.	Description	Model No.
1	3/8" NPT Body	27F3-1
—	1/2" NPT Body	27F4-1
—	3/4" NPT Body	27F6-1
2	Bowl Gasket	27F-16
3	Deflector Vane Plate	27F-11
4	40 micron Element	27F-12
—	5 micron Element	27F-12X
5	Retainer Baffle	27F-13
6	Brass Draincock Assembly	26F-18
—	Internal Automatic Drain	8851AD
7	Polycarbonate Bowl	27F-40L
—	Optional Metal Bowl without Sightglass	27F-40M
—	Optional Metal Bowl with Sightglass	27F-40S
8	Plastic Bowl Guard	27F-50

## Rebuilding Kit

The Filter Bowl Replacement Kit includes items 2, 6, 7 and 8. Use Model No. **27FK01** to order.

We reserve the right to make engineering changes in design or materials without notification.