

## Spirax Monnier SF3/A Compressed Air Filter Installation and Maintenance Instructions

### How to Fit

Fit in horizontal pipeline with the bowl vertically downwards, and as close as possible to the equipment it is serving. Connect units so that the air flows in the direction shown by the arrow. Should it be necessary to reposition the Sight Level (if fitted): Ensure that there is no air pressure in the system. Slacken off the Bowl Retaining Nut (9), carefully rotate the bowl assembly to the required position, and re-tighten the Nut (9) to 25 Nm.

### How does it Work

#### Filter.

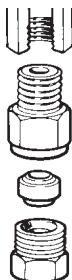
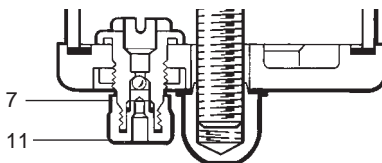
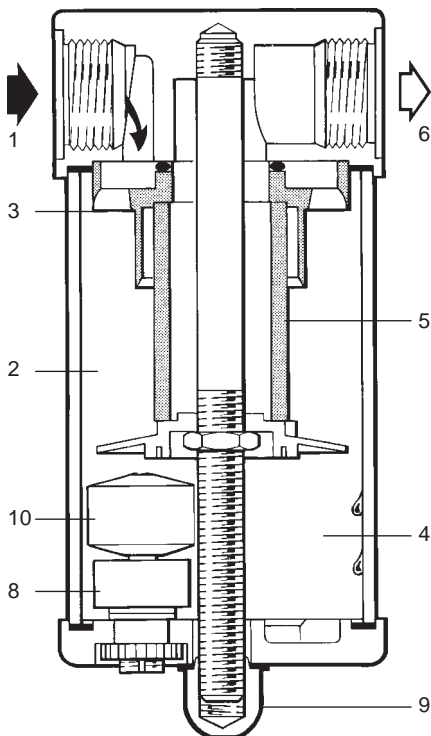
The Spirax Monnier SF3 and SF3A Filters combine the advantages of a centrifugal separator and a line filter. Contaminated compressed air (1) is directed on to the inside of the Bowl (2) by the special whirl disc (3). This preliminary separation allows most of the liquids and the larger solid particles to pass down into the sump (4) away from any turbulence. The air is then filtered by the 25 micron element (5) before passing into the system (6). Ensure that the bowl is regularly drained by either the Manual Drain (7) (SF3) or by the Autodrain (8) (SF3A).

#### Autodrain

Liquids collect in the turbulence free area at the bottom of the bowl. As the liquid rises, the float (10) lifts. System pressure passes through a pilot valve, and then, acting on a piston, opens the main valve. As the liquid is discharged under line pressure, the float falls. The pilot valve closes, and line pressure rapidly shuts the main valve.

#### Manual Drain

To open, twist the Cap (11) Anticlockwise approximately 180°.



#### Discharge tube adaptor

An adaptor can be supplied for the Auto Drain of the SF3A models, to accept 8mm O/D copper or plastic tube, so that the condensate can be piped away.

## Available Spares.

### AVAILABLE SPARE

Bowl Assembly - Metal	A, E, 2 off B
State with or without Sight Level	
Element Set	D, 2 off B
Manual Drain Valve Assembly	C, G, H, J
Autodrain Assembly	U, V, W, X
Set of Gaskets	E, 2 off B
Sight Level Set	M, N, 2 off L

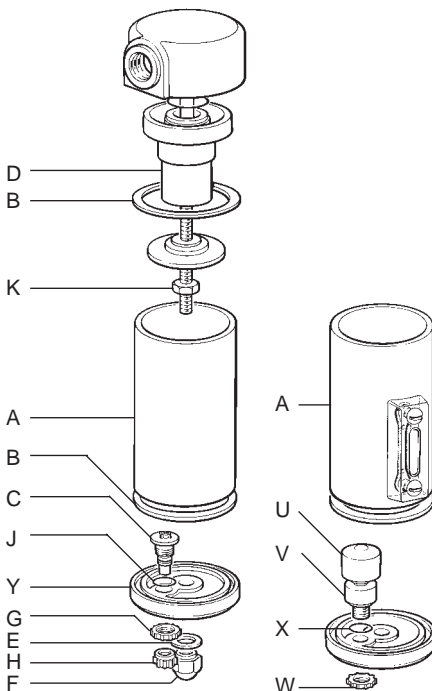
## How to order

Example: 1 - Metal bowl assembly for 1½" SF3.

## To Service

### Filter - Replace Filter Element

1. Shut off main air supply and vent bowl pressure, either by opening manual drain or by gently pushing spigot in Autodrain discharge connection upwards.
2. Unscrew nut (F), remove bottom plate and drain assembly and Bowl. Unscrew Baffle Nut (K), withdraw Baffle, Element and Whirl disc. Clean components and fit new Element. Reassemble in reverse order, replacing gaskets (E) and (B), and tighten Nut (F) to 25 Nm.



## To replace Sight Level.

1. Remove Bowl assembly - see To service filter
2. Unscrew (L) and remove Indicator body. Clean with soap and water only. Fit new seal (N), ensuring that the bowl surface is clean and re-tighten (L) to 1.5 Nm

### Autodrain

This is a sealed assembly, which cannot be serviced.

### Assembly Torque

Bowl Retaining Nut	(F)	25 Nm
Baffle Nut	(K)	2 Nm
Drain Nuts	(G & W)	2.5 Nm
Sight Level Screws	(L)	1.5 Nm

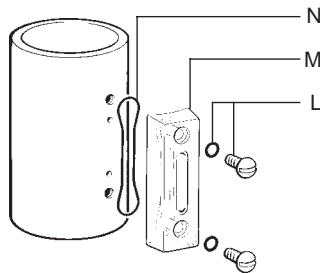
## To convert an SF3 to an Autodrain Filter SF3A

Required: 1 Autodrain Assembly.

1. Isolate unit from air pressure.
2. Unscrew bottom Nut (F), and remove gasket (E) and bottom plate (Y).
3. Remove cap (H), by continuing to rotate anti-clockwise past the normal "open to drain" position.
4. Unscrew locking ring (G) and remove drain body (C) and seal (J).
5. Clean bottom plate.
6. Insert Autodrain body (V) and Seal (X). Fit and tighten locking ring (W).
7. Fit Float (U)
8. Assemble complete bottom plate and Autodrain over tie rod, and refit gasket (E). Tighten Lock Nut (F) to 25 Nm

## Warning

"Trogamid" Sight Levels may be attacked by phosphate ester based fluids, solvents, paint thinners and Carbon Tetrachloride. Certain compressor lubricating oils also contain additives which may be harmful. These and similar substances should not be allowed to come into contact with the Sight Dome or Sight Level.



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# Spirax-Monnier Products

## General Safety, Installation and Maintenance Guidelines

### WARNING

**As with all Pressurised Systems, do NOT attempt ANY Installation or Maintenance function if there is ANY pressure in the product or connected system.**

### Spirax-Monnier

Spirax Monnier compressed air products are of well proven and simple design, with high natural levels of designed safety built in. However, used or installed incorrectly, their performance and that of the system they are protecting or controlling, may suffer. The information given indicates the product limiting conditions, maintenance and installation requirements and any specific component disposal needs.

### Product Maintenance - See Over

#### Installation and Operation

1. Filters, Filter/Regulators, Lubricators, Flow Meters, Separators and Drain Traps should be fitted in horizontal pipelines, with the bowls vertically downwards.
2. Regulators and Ball Valves can be installed in any position.
3. On Pressure Regulators and combined Filter/regulators, a Pressure Gauge can be connected to one of the  $\frac{1}{8}$ " ports. The gauge should be selected to cover the maximum pressure range of the main Control Spring. The gauge will indicate the downstream or controlled pressure.
4. Ensure that the Control Spring range for Regulators and Filter/Regulators fully meets the pressure requirements of the system.
5. There are Maximum Operating Pressures, and Maximum Operating and Environmental Temperatures for each product. These are shown in the table below.
6. Adequate space should be provided around any product to allow easy access for routine servicing requirements.
7. Products fitted with a Bowl ( Polycarbonate or Metal ) should be adequately drained - manually or automatically - to reduce the potentially harmful effects of water carryover.
8. **WARNING** Polycarbonate Bowls and Sight Domes, and Sight Levels fitted to Metal bowls, may be attacked by Phosphate Ester based fluids, Solvents, Chemical cleaners, Carbon Tetrachloride, etc. These and other similar substances should never be allowed to come into contact with these product components. Certain compressor lubricating oils also contain additives harmful to these components. Where there is any doubt, we recommend, in the interests of safety, that Bowl Guards or Metal Bowls are fitted.
9. Local regulations may restrict the use of this product below the conditions quoted.
10. For more detailed information on any individual product, please ask for the appropriate Technical Information Sheet listed in the table.

<b>For Maximum Pressures/Temperatures see overleaf</b>
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## MAXIMUM PRESSURES/TEMPERATURES

FILTERS	Polycarbonate Bowl		Metal Bowl		Metal Bowl with Sight level		DISPOSAL CLASS	TI
	bar	°C	bar	°C	bar	°C		
MF2	10	50	-	-	-	-	1 & 3	P050-05
IF2/D/A	10	50	17	80	17	70	1 & 2	P500-01
IC3/4/DA	10	50	17	80	17	70	1 & 2	P501-01
IX1	10	50	17	70	17	70	1 & 2	P057-01
SF3/A	-	-	17	80	17	70	1 & 3	P050-03

## REGULATORS

MR1/2/3	21 bar 70°C : CONTROL RANGES : 0.2/2. 0.3/4, 0.7/9 bar	1 & 3	P051-01
IRI	20 bar 70°C : CONTROL RANGES : 0.2/3.5, 0.5/1 bar	1 & 2	P058-01
SR2	21 bar 70°C : CONTROL RANGES : 1.3 - 17.0 bar	1 & 3	P570-01
SR3	21 bar 70°C : CONTROL RANGES : 0.2/4, 0.3/9 bar	1 & 3	P570-03

## FILTER REGULATORS

IP2/A/D	10	50	17	80	17	70	1 & 2	P510-01
	RANGES : 0.2/3.5, 0.5/10 bar							
MP2	10	50	-	-	-	-	1 & 3	P054-01
	RANGES : 0.2/2.0, 0.3/4.0, 0.7/9.0 bar							
MPC2	10	50	-	-	-	-	-	P054-04
	RANGES : 0.2/2.0, 0.3/4.0, 0.7/9.0 bar						1 & 3	

## LUBRICATORS

ML3	10	50	-	-	-	-	1 & 3	P052-07
IL1	10	50	17	80	17	70	1 & 2	P059-01
SL3	-	-	17	80	17	70	1 & 3	P052-04

## OTHER PRODUCTS

IFM2	10	50	-	-	-	-	1 & 2	P580-01
S.M.S.	-	-	17	70°C	-	-	1 & 3	P050-17
BALL	all to 15 bar & 45°C							
VALVES (all)	(see performance graph on TI for full details)						1 & 4	P560-01
DRI-LINE	-	-	16	80°C	-	-	1 & 3	P050-07

## DISPOSAL

1. Some plastic and/or rubber components
2. Main body Zinc - epoxy coated
3. Main body Aluminium - epoxy coated
4. Brass and Steel
5. Electronic Components

## Note

Customers are reminded that under UK and EC Health, Safety and Environmental Law, when returning products to Spirax Sarco they must provide information on any hazards and the precautions to be taken due to contamination residues or mechanical damage which may present a health, safety or environmental risk. This information must be provided in writing including Health and Safety data sheets relating to any substances identified as hazardous.