

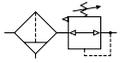


Cert. No. LRQ 0963008

ISO 9001

spirax sarco

MP2 and MPN2 Spirax-Monnier

TI-P054-01
 CH Issue 4


International Symbol

Miniature Compressed Air Filter/Regulators

Description

The Spirax-Monnier miniature compressed air filter/regulators provide high quality compressed air, with accurate pressure control, for general purpose pneumatic systems where space is restricted and flowrates are low.

Principal features:

- Compact combined miniature filter/regulator.
- Long life 5 µm element.
- Improved moisture separation with multi-bladed whirl disc.
- Fast response.
- Polycarbonate bowl to BS 6005.
- For line, bracket or panel mounting.
- Good flow and regulation characteristics.
- Easy fit bowl guard available.
- Black epoxy finish for improved protection.

Available types:

MP2	Self-relieving
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MPN2	Non-relieving
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Optional extras

For further technical information regarding the following options, see page 2:

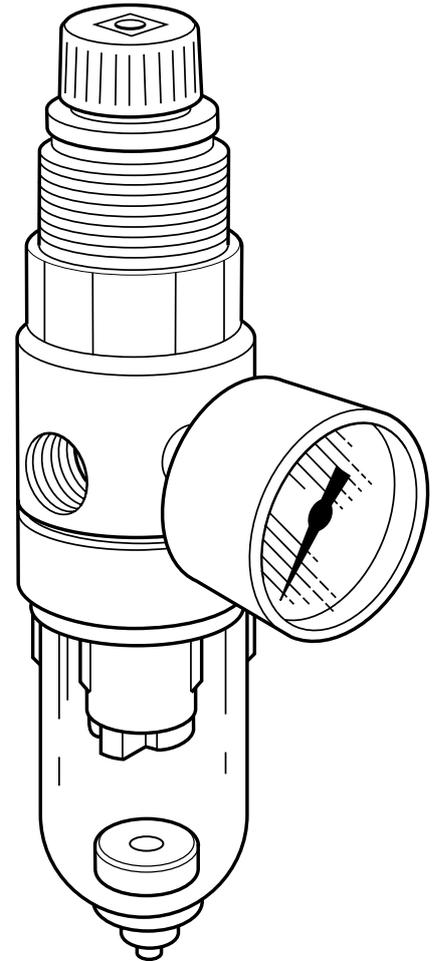
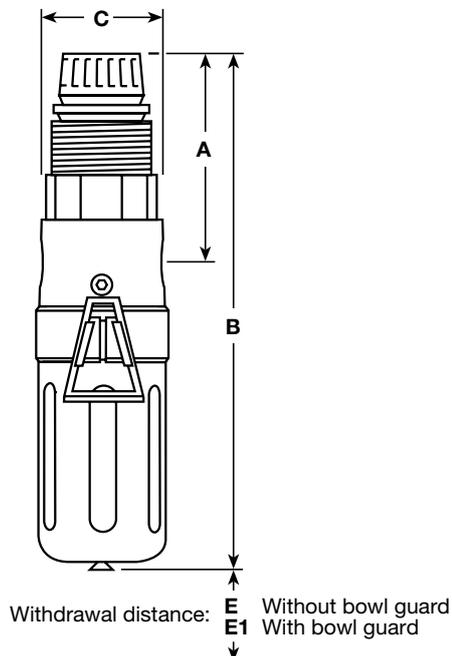
- Mounting bracket.
- Pressure gauge.
- Bowl guard.

Sizes and pipe connections

¼" screwed BSP (BS 21-Rp)

Dimensions / weight (approximate) in mm and kg

A	B	C	E	E1	Weight
65	155	41	25	45	0.2



Spring range (operating pressure range)

All regulators can be adjusted to zero pressure, or above the figures shown. The operating range is marked on the unit.

Standard spring	Color	Operating range (bar g)
Black	Black	0.7 - 9.0
White	White	0.2 - 2.0
Pink	Pink	0.3 - 4.0

Note: The MP2 will be supplied with the standard spring unless an alternative option has been specified when placing an order.

Operating limits

Maximum working pressure	10 bar g
Maximum working temperature	50°C

Materials

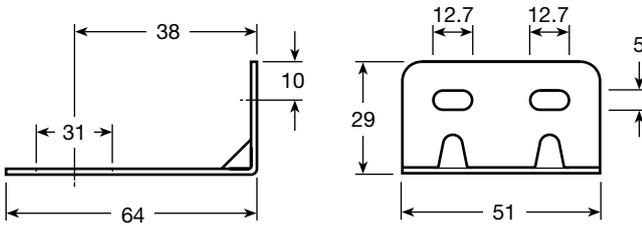
Part	Material
Body	Aluminium and polycarbonate
Valve	Brass, rubber faced
Bowl	Polycarbonate
Element (5 µm)	Sintered polypropylene

Optional extras

Type 8 mounting bracket and mounting ring

The filter / regulator can be mounted using a zinc plated mild steel bracket and aluminium mounting ring (not shown). **Both** items must be specified when placing an order.

Dimensions (approximate) in millimetres



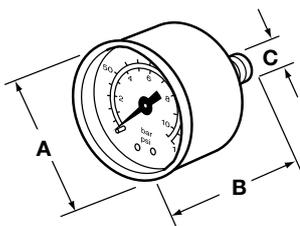
Pressure gauge

Available in two sizes, with 4 pressure ranges. The face is marked in both bar and psi. Please state, size and pressure range when placing an order.

	0 to 2 bar	0 to 30 psi
	0 to 7 bar	0 to 100 psi
	0 to 11 bar	0 to 160 psi
	0 to 21 bar	0 to 300 psi (2" size only)

Dimensions (approximate) in millimetres

Size	A	B	C
1½"	40	47	R½"
2"	48	45	R½"



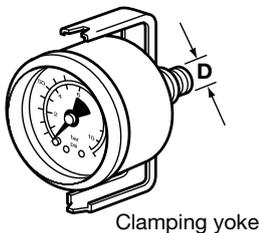
Pressure gauges for panel mounting

With chromium plated bezel available in two ranges, the face being marked in bar and psi as follows:-

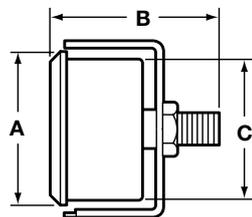
	0 to 2 bar	0 to 30 psi
	0 to 7 bar	0 to 100 psi

Dimensions (approximate) in millimetres

A	B	C	D
53	56	48	R½"

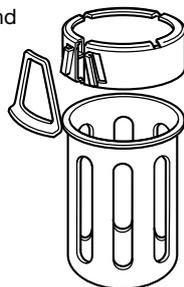


Clamping yoke

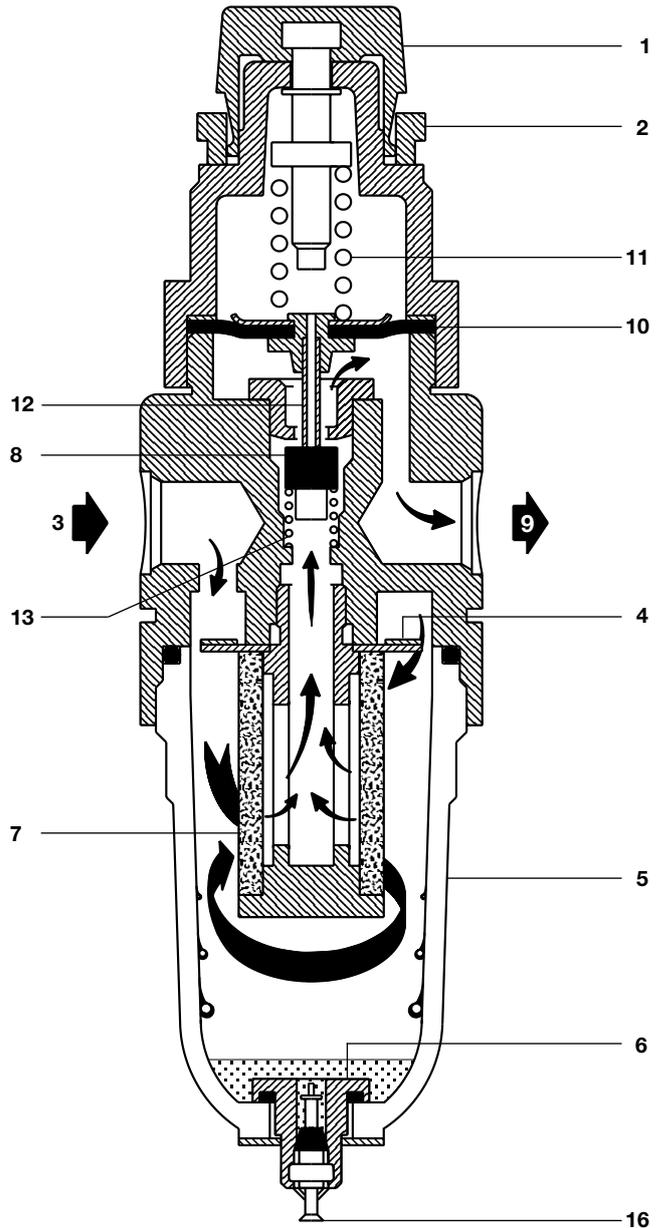


Bowl guard

In the interest of safety Spirax Sarco recommend that a bowl guard should be fitted. See the 'Warning' under 'Safety information, installation and maintenance'.



How do they work



The filter portion of the Spirax-Monnier MP2 combines the advantages of a centrifugal separator and a fine mesh filter element. Contaminated compressed air (3) is directed to the inside of the bowl (5) by the multi-bladed whirl disc (4). The preliminary separation allows most of the liquids and the larger solid particles to pass down into the sump (6) away from any turbulence. The air is then filtered by a 5 micron element (7) before flowing past the main valve (8) of the regulator portion of the unit.

With the adjustment knob (1) rotated fully anticlockwise, the valve return spring (13) will keep the main valve (8) shut. Clockwise rotation of the adjustment knob will compress the main control spring (11), deflect the diaphragm assembly downwards (10), opening the main valve (8). As air flows to the downstream (9) side of the filter/regulator, the secondary pressure increases. The secondary pressure is sensed on the underside of the diaphragm. As the controlled pressure varies, so does the force on the underside of the diaphragm. When this force (proportional to the secondary pressure) equals the compression in the main control spring, the main valve will shut. Any fall in secondary pressure will cause the main valve to open sufficiently to meet the air flow requirements and accurately maintain the set secondary pressure.

Any appreciable rise in the secondary pressure from its set value will cause the diaphragm and the pushrod (12) to lift. This will allow air to escape through the centre of the pushrod to atmosphere. When excess pressure has vented, the orifice in the pushrod will reseat on the main valve.

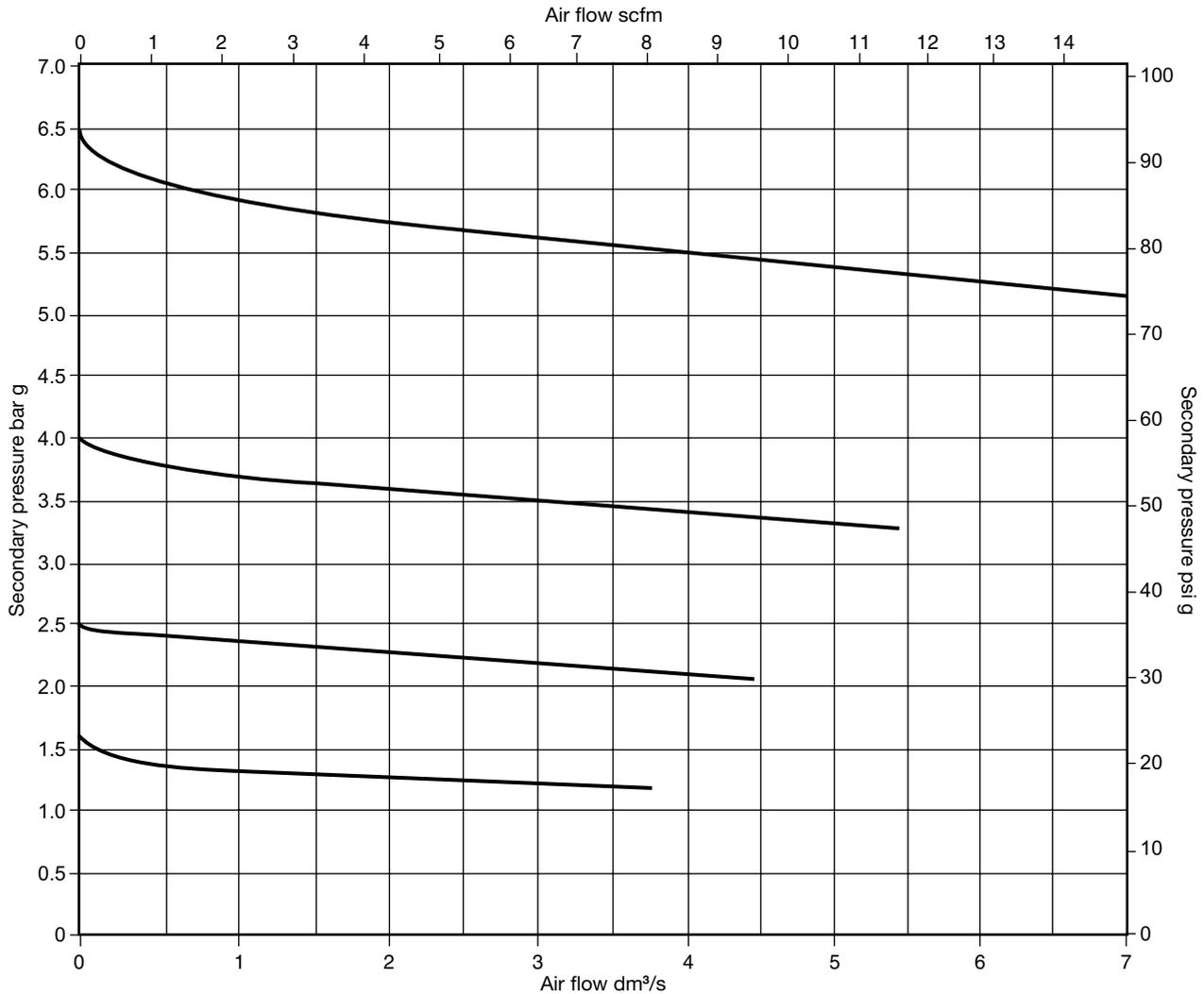
Ensure that the bowl is regularly drained by means of the quick action drain valve (16).

Capacities

The full lift capacities for safety valve sizing purposes is 0.21 K_{vs}.

Performance selection (with primary pressure 10 bar)

For any specified primary filtration pressure, there is a maximum recommended air flowrate. Keeping within this, will ensure that the element performance maintains the stated high efficiency levels.



The graph utilises some typical values for secondary flow/pressure to demonstrate droop

$$\text{Droop} = \frac{\text{Pressure droop @ Relevant flowrate}}{\text{Set point}}$$

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P054-07) supplied with the product.

Warning

Polycarbonate bowls are attacked by phosphate ester fluids, solvents, paint thinners and carbon tetrachloride. These and similar substances should never be allowed to come into contact with the bowl. Certain compressor lubricating oils also contains additives harmful to polycarbonate and, where there is any doubt we recommend, in the interests of safety, that a bowl guard be fitted.

Installation note:

Fit in a horizontal pipe, with the bowl vertically downwards, as close as possible to the equipment it is serving. Connect the unit so that the air flow is in the direction shown by the arrow cast on the body. A pressure gauge fitted to one of the ports is recommended (to show the secondary pressure). The port(s) not in use should be blanked off with the plugs supplied.

Panel mounting:

The panel must not exceed 8 mm thick. The required hole is 31 mm diameter.

How to order

Please state quantity, size and type and any options which are required. Unless otherwise stated, the filter/regulator will be supplied with the 0.7 - 9.0 bar g control spring and a polycarbonate bowl with drain.

Example:

1 off Spirax-Monnier ¼" MP2 self-relieving miniature compressed air filter/regulator having a 0.2 - 2.0 bar g control spring.
1 off Bowl guard.

Spare parts

The spare parts available are detailed below. No other parts are supplied as spares.

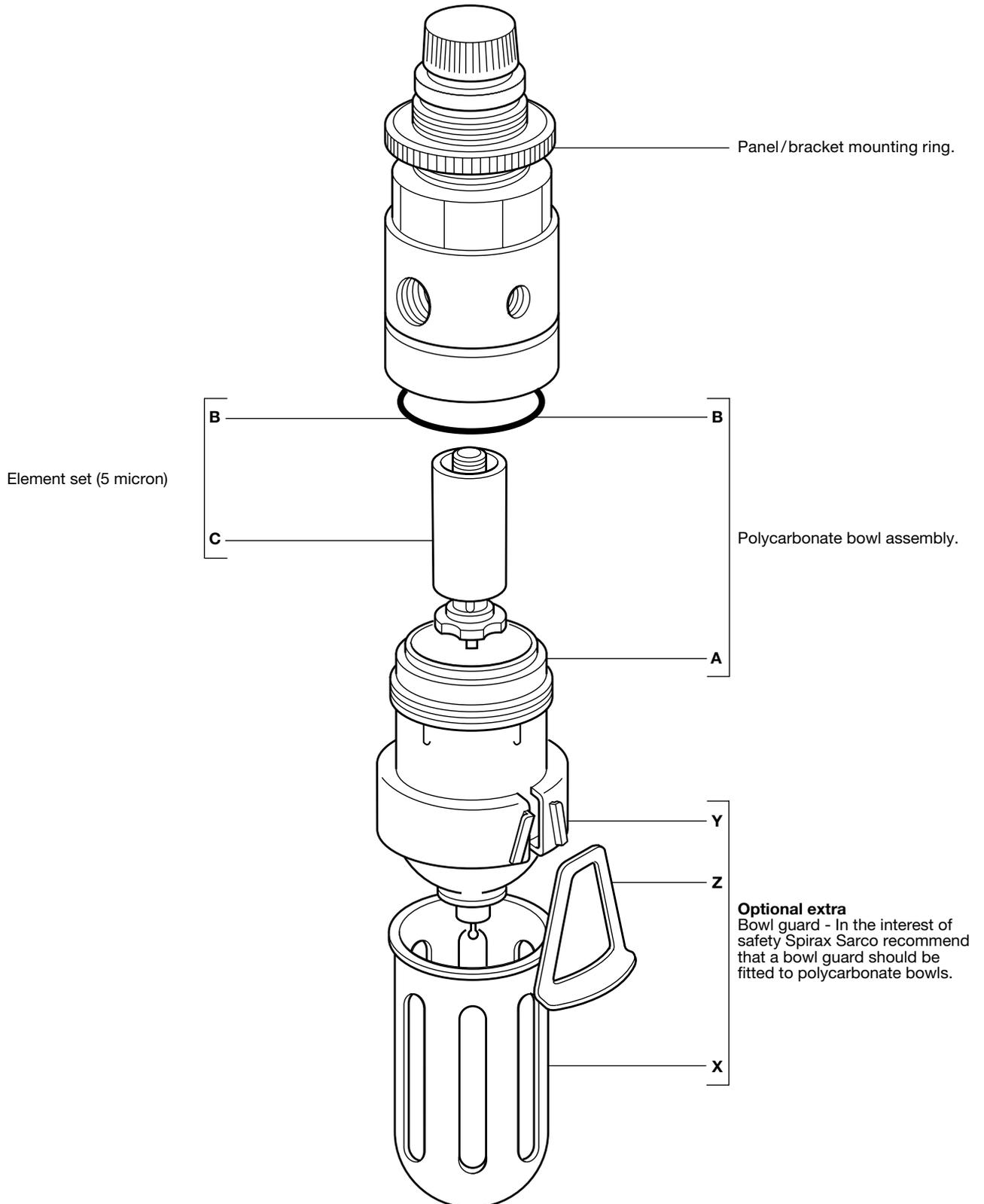
Available spares

Polycarbonate bowl assembly	A, B
Element set 5 micron (packet of 3)	B, C
Bowl guard assembly	X, Y, Z
Panel/bracket mounting ring	D

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of unit.

Example: 1 - Element set (5 micron) for a Spirax-Monnier 1/4" MP2 self-relieving miniature compressed air filter/regulator.



Optional extra
 Bowl guard - In the interest of safety Spirax Sarco recommend that a bowl guard should be fitted to polycarbonate bowls.