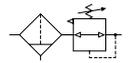


# spirax sarco

## MP2M and MPN2M Monnier Miniature Compressed Air Filter/Regulators

TI-P504-05  
 CH Issue 2



International Symbol

### Description

The 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.
- For line, bracket or panel mounting.
- Good flow and regulation characteristics.
- External black anodised finish.

#### Available types:

**MP2M** Self-relieving

**MPN2M** Non-relieving

#### Optional extras

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

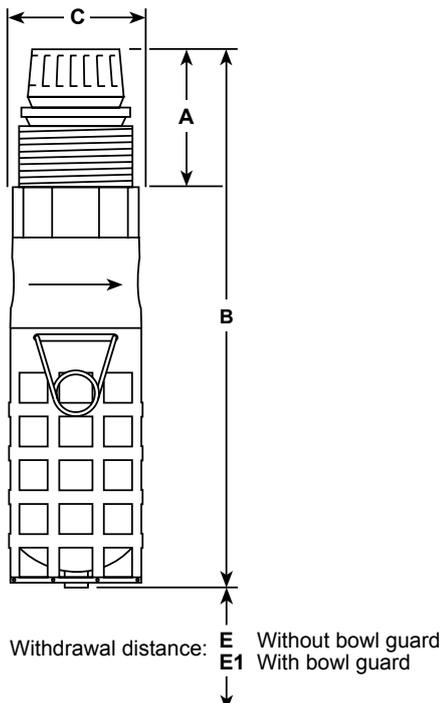
- Airset kit.
- Easy fit stainless steel bowl guard.

### Sizes and pipe connections

¼" screwed BSP (BS 21-Rp)

#### Dimensions / weight (approximate) in mm and kg

A	B	C	E	E1	Weight
67	156	38	25	45	0.2



**MP2M**  
 shown with optional  
 pressure gauge

#### Spring range (operating pressure range)

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

**Standard spring** 0.7 - 9.0 bar g

**Optional spring** 0.2 - 2.0 bar g

0.3 - 4.0 bar g

**Note:** The MP2M 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	Nitrile rubber
Bowl	Polycarbonate
Element (5 µm)	Sintered polypropylene
Bowl guard (optional extra)	Stainless steel

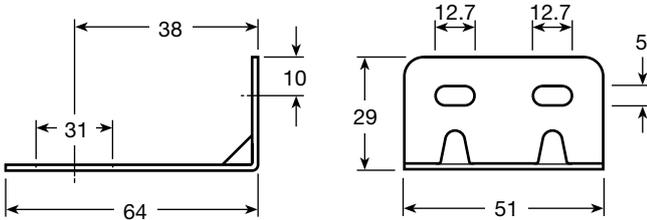
### Optional extras

**Airsets** - The MP2M, MPN2M regulators are also available as airsets consisting of Type 8 bracket, mounting ring and pressure gauge (see options below).

#### 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

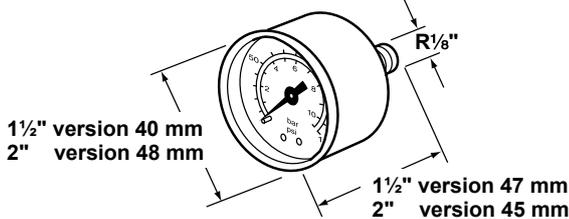


#### Pressure gauge

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.

Pressure ranges	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



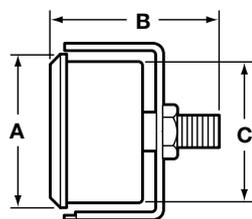
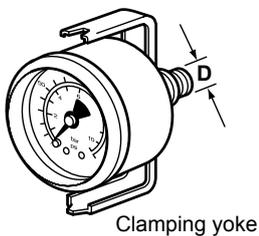
#### Pressure gauges for panel mounting

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

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

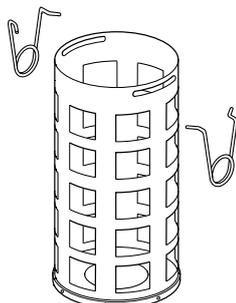
Dimensions (approximate) in millimetres

A	B	C	D
53	56	48	R1/8



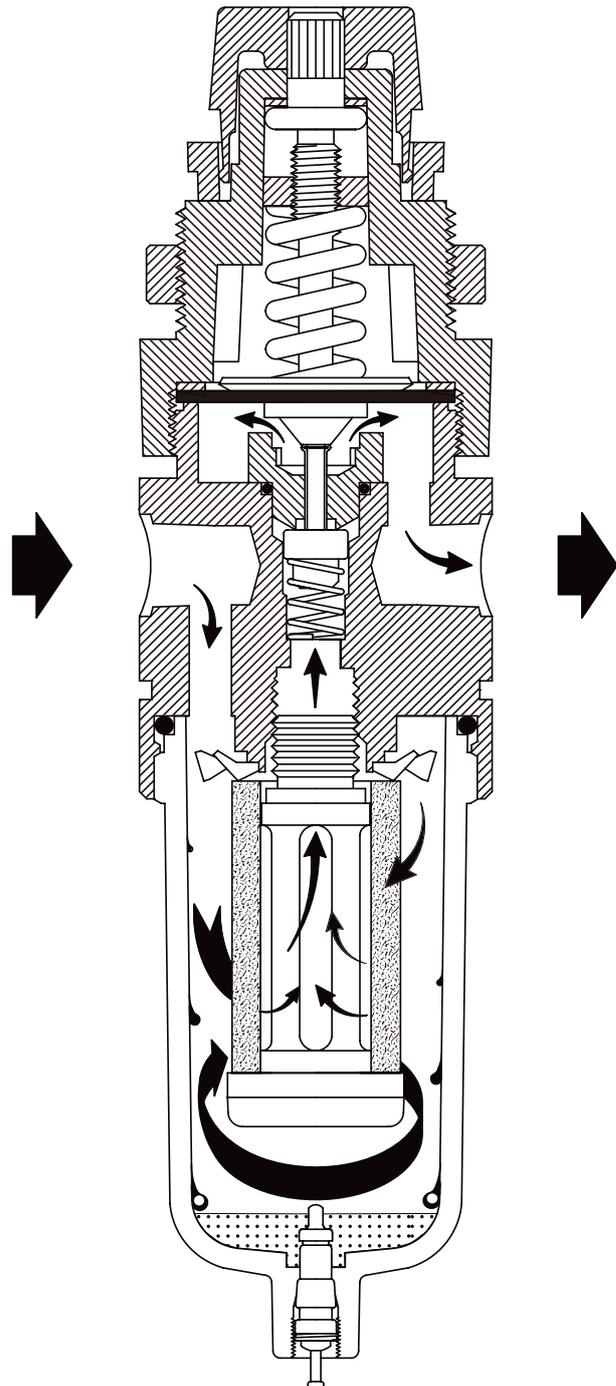
#### Bowl guard

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



### Principle of operation

With system pressure on, the regulator poppet valve assembly is in the closed position when the adjusting knob is turned fully counter clockwise (no spring load). By turning the adjusting knob clockwise, the diaphragm/piston moves downward allowing filtered air to flow in through the orifice created between the poppet assembly and seat. The control diaphragm/piston offsetting the load spring senses pressure downstream. Increasing downstream pressure causes the poppet assembly to move upward until the load of the spring and diaphragm/piston are balanced. The outlet pressure has now been reduced. If a valve is opened downstream, the increased demand for pressure creates a reduced pressure under the control diaphragm/piston. The poppet assembly moves downward due to the load of the control spring opening the seat area and air is allowed to meet the downstream pressure demand. Thus, the area of the opening meters the downstream flow.

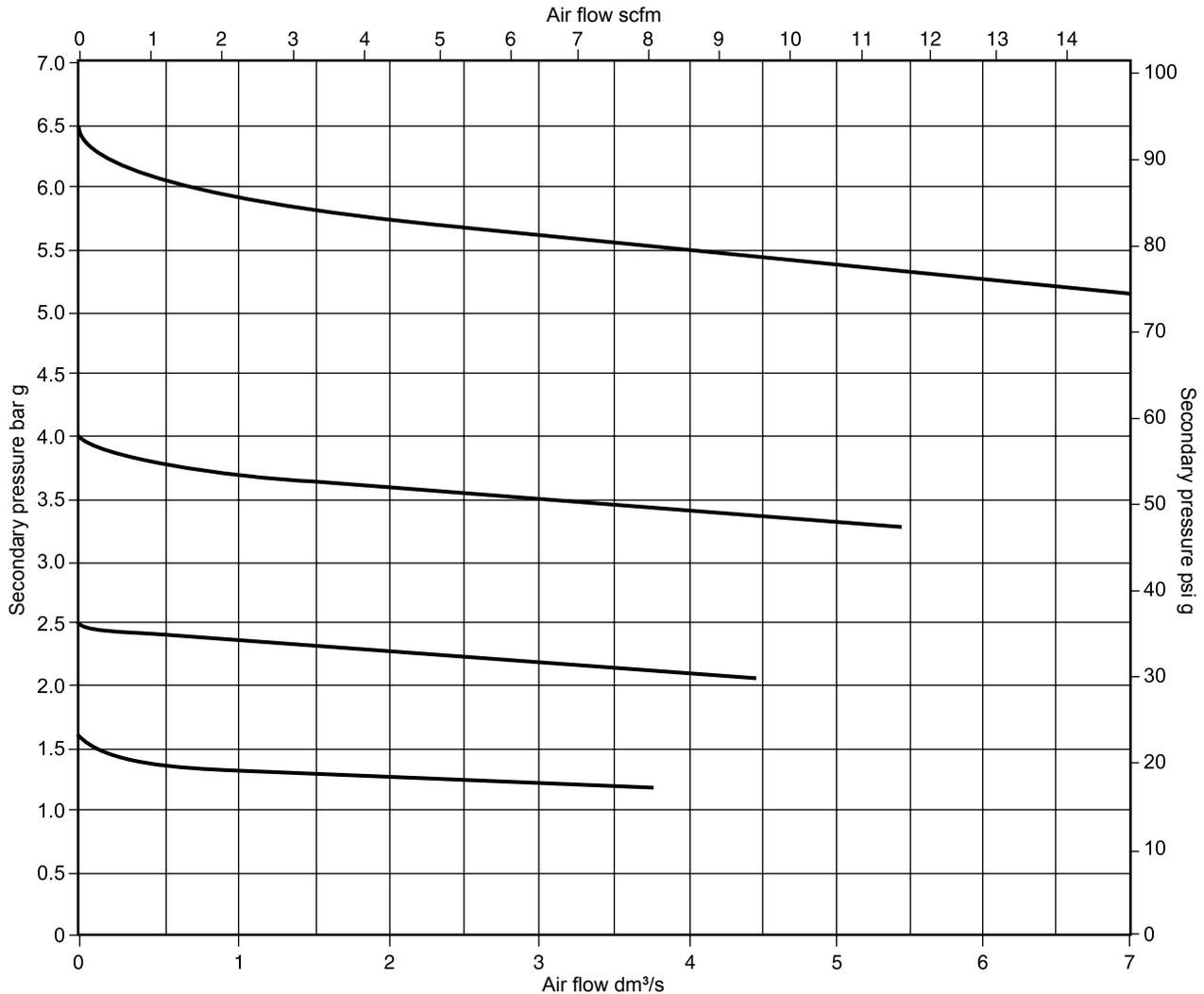


## Capacities

The full lift capacities for safety valve sizing purposes is 0.21 K<sub>VS</sub>.

## 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

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

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P504-06) 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 MP2M Monnier self-relieving miniature compressed air filter/regulator having a 0.2 - 2.0 bar g control spring and 1/4" BSP connections.  
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
Stainless steel bowl guard and 2 off spring clips (optional extra)	X, Y
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 ¼" Monnier MP2M self-relieving miniature compressed air filter/regulator.

