



# MPC1M, MPC2M and MPC2AM

## High Efficiency Compressed Air Filter/Regulators

### Description

The MPC range of (self-relieving) high efficiency oil removing filter/regulators provide very high quality compressed air, with accurate pressure control, for pneumatic actuators and general purpose systems.

### Principal features

- Compact miniature oil removing filter/regulator.
- Self-relieving.
- High efficiency - Exceeding 99.95% against D.O.P. tests.
- Efficiency testing carried out in accordance with ISO 12500 at 51 mg/m<sup>3</sup> (40 ppm) inlet concentration.
- Oil carryover less than 0.0255 mg/m<sup>3</sup> (0.02 ppm).
- 100% water removal at line temperature.
- Polycarbonate bowl.
- External black anodised finish.
- Particle efficiency: 99.96%
- Inlet dry pressure drop: 1.5 psi d.

### MPC2M

shown with optional pressure gauge.



### Available types supplied as standard

**MPC1M** Metal bowl with manual drain and tamper-proof cap.

**MPC2M** Polycarbonate bowl with manual drain.

**MPC2AM** Metal bowl with autodrain.

### Applications

The MPC\_M is used to provide very high quality compressed air.

There are many applications where compressed air of a particularly high quality is required. Typical examples include air bearings on machine tools, air gauging equipment, instrument air supplies, fluidic systems, breathing air, pneumatic positioners, etc.



#### Caution

ONLY the MPC1M is suitable for hazardous area environments. This device is classified as out of scope because it has been assessed as being unable to generate a temperature increase or source of ignition during operation.

#### Important

In hazardous environments, a standard pressure gauge MUST NOT be used. Please use the pressure gauges supplied with the Spirax Sarco positioner as a reference for the correct setting of inlet pressure to the positioner. The MPC2M and MPC2AM MUST NOT be used in hazardous environments.

## Sizes and pipe connections

¼" screwed BSP T Rp (ISO 7-1).

## 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	0.7 - 9.0 bar g
Optional spring	0.2 - 2.0 bar g
	0.3 - 4.0 bar g

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

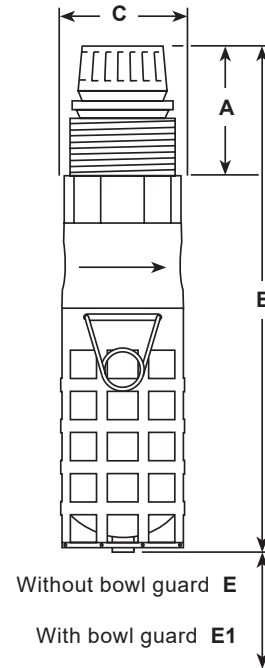
## Operating limits

Maximum pressure/temperature	Polycarbonate bowl	10 bar g @ 50°C
	Metal bowl	17 bar g @ 80°C

## Materials



## Dimensions (approximate) in mm and kg



No.	Part	Material
1	Body	Aluminium - anodised
2	Bowl	Polycarbonate or aluminium alloy
3	Bonnet assembly	Aluminium
4	Filter element	Microfibre/stainless steel
5	Valve	Nitrile

Unit	Size	A	B	C	Withdrawal distance		Weight
					E	E1	
MPC1M	¼"	75	167	38	25	-	0.2
MPC2M	¼"	67	156	38	25	45	0.2
MPC2AM	¼"	75	167	38	25	-	0.2

## Optional extras

### Airsets

The MPC2M, MP2AM filter/regulators are also available as airsets, consisting of Type 8 or FK21 bracket, mounting ring and pressure gauge (see the 'MPC optional extras' table below).

### MPC optional extras - Selection table

Feature		MPC1M	MPC2M	MPC2AM
Polycarbonate bowl	Without drain		OE	
	With manual drain		S	
Bowl guard			OE	
Metal bowl (no sight glass)	With manual drain	OE	OE	
	With autodrain			S
Tamper-proof cap	With locking seal	OE	OE	OE
Pressure gauge	50 mm Ø		OE	OE
	40 mm Ø	OE	OE	OE
Type 8 mounting bracket			OE	OE
FK21 fixing kit		OE	OE	OE
Aluminium locking ring		OE	OE	OE
Suitable for hazardous environments		Yes <sup>1</sup>	No	No



#### 1. Important Note

In hazardous environments, a standard pressure gauge MUST NOT be used. Please use the pressure gauges supplied with the Spirax Sarco positioner as a reference for the correct setting of inlet pressure to the positioner.

S = Supplied as standard

OE = optional extra

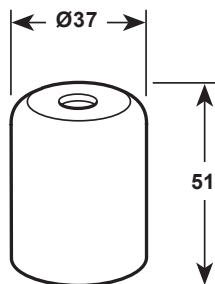
■ = not available

**Note:** A tamper-proof cap with locking seal is recommended as an optional extra for MPC2M and MPC2AM airsets.

### Tamper-proof cap

(Standard on MPC1M)

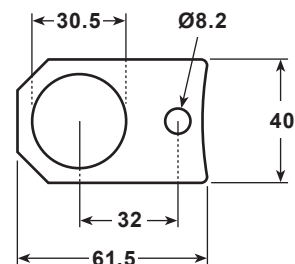
**Dimensions** (approximate) in millimetres



### FK21 fixing kit

The FK21 fixing kit is required to mount the MPC\_M onto the Spirax Sarco range of PN pneumatic actuators. The aluminium mounting ring must also be specified.

**Dimensions** (approximate) in millimetres



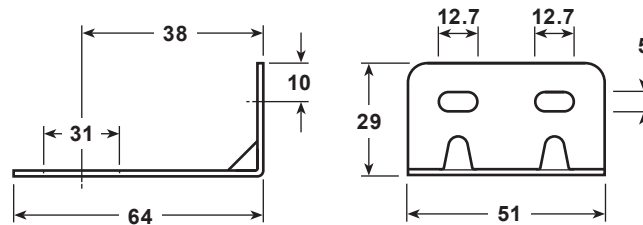
Optional extras continued on next page

## Optional extras (continued)

### Type 8 mounting bracket and mounting ring

**For general installation.** The filter/regulator can be mounted using this zinc plated mild steel bracket and aluminium mounting ring. Both items must be specified when placing an order.

**Dimensions** (approximate) in millimetres

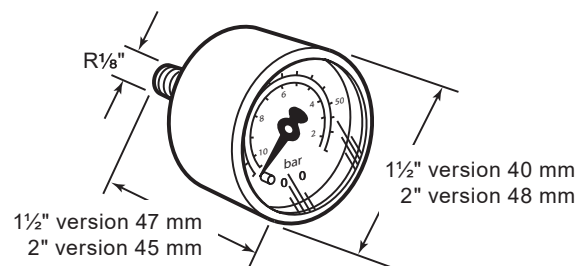


### Optional pressure gauge

Available in two sizes (1½" and 2"), with 3 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
Pressure ranges	0 to 7 bar	0 to 100 psi
	0 to 11 bar	0 to 160 psi

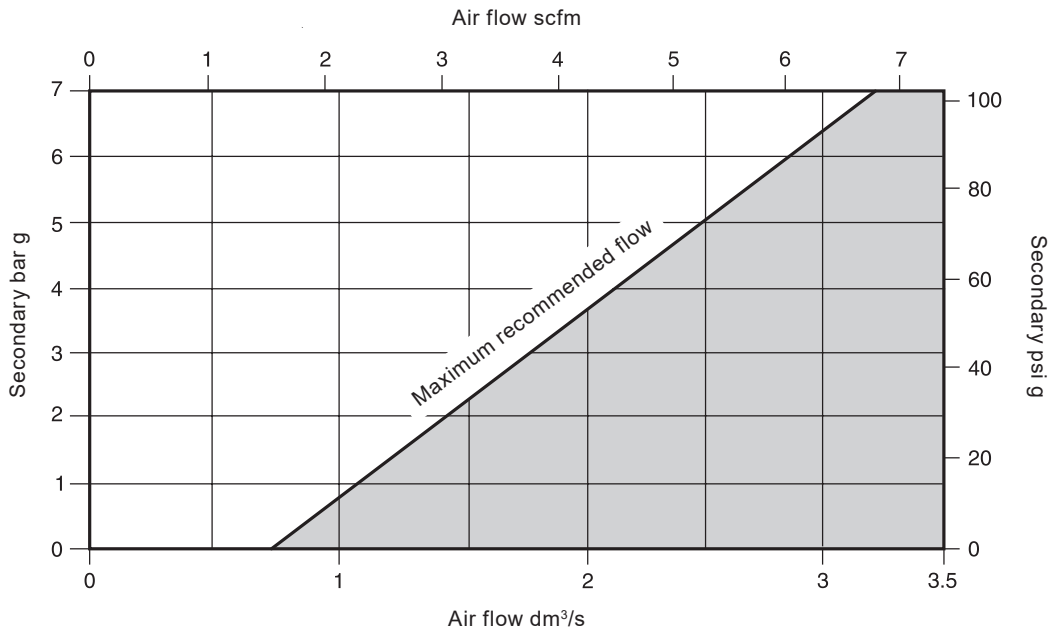
**Dimensions** (approximate) in millimetres



## Performance selection (with primary pressure 10 bar)

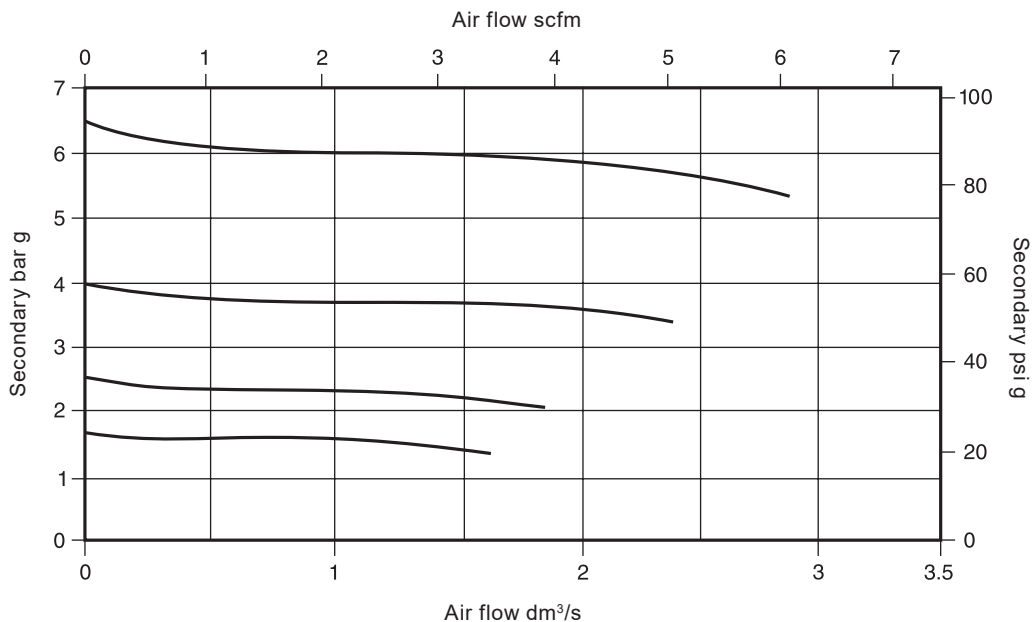
For any specified primary filtration pressure, there is a maximum recommended air flowrate. Keeping within this, will ensure that the element performance maintains the stated high efficiency levels, particularly for the removal of oil and water contaminants.

### Maximum secondary flow at peak performance



Use of the product in this region may reduce the oil removing efficiency.

### Drop characteristics



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

$$\text{Drop} = \frac{\text{Pressure drop}}{\text{Set point}} @ \text{Relevant flowrate}$$

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P504-08) supplied with the product.

### 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 ¼" MPC2M high efficiency compressed air filter/regulator having a 0.3 - 4.0 bar g control spring.

1 off Airset kit for fitting an MPC2M onto a Spirax Sarco PN pneumatic actuator.

### Spare parts

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

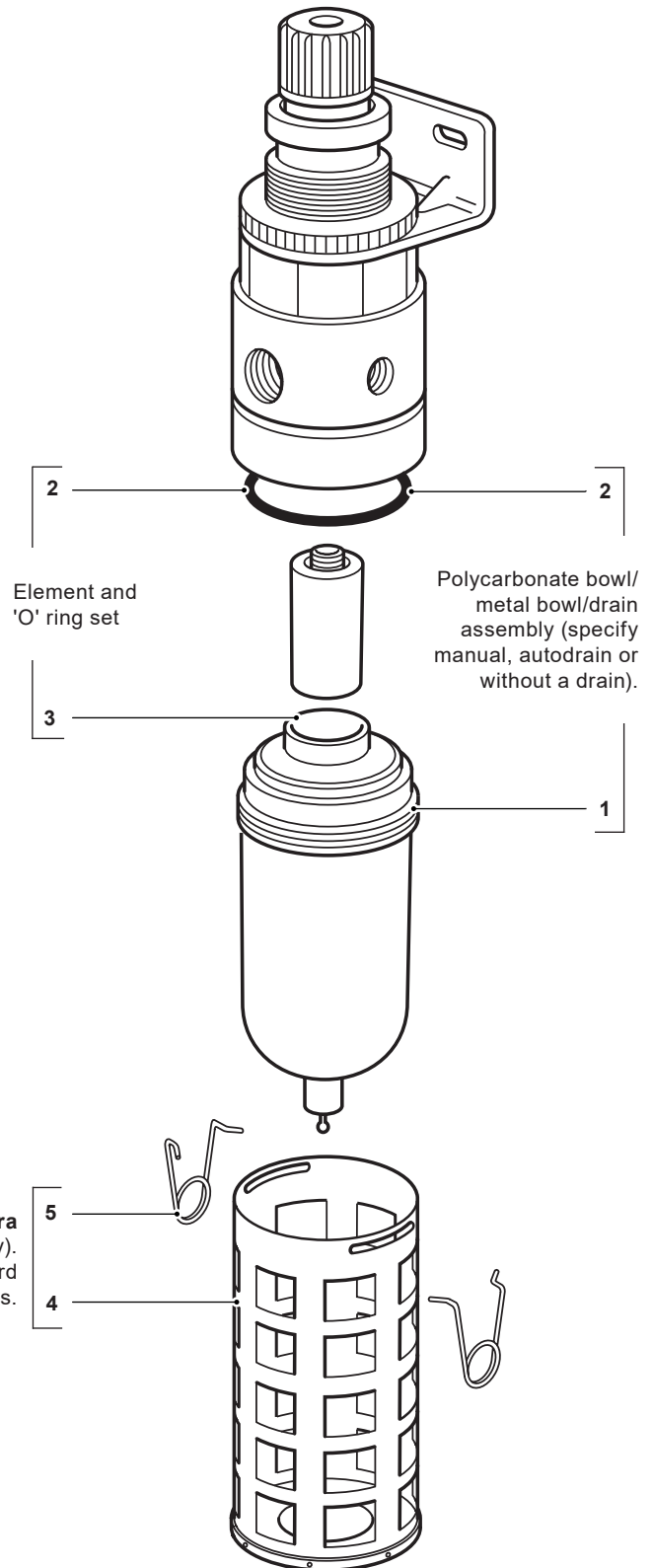
#### Available spares

Polycarbonate bowl/metal bowl/drain assembly (specify with or without drain)	1, 2
Element and 'O' ring set	2, 3
Bowl guard assembly (optional extra)	4, 5

#### 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 and 'O' ring set for a ¼" MPC2M high efficiency compressed air filter/regulator.



**Optional extra**  
Bowl guard (MPC2M only).  
In the interest of safety Spirax Sarco recommend that a bowl guard should be fitted to polycarbonate bowls.