



TI-P504-07
 CH Issue 2

MPC1M, MPC2M and MPC2AM Monnier

High Efficiency Compressed Air Filter/Regulators

Descriptions

The MPC_M Monnier 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/m³ (40 ppm) inlet concentration.
- Oil carryover less than 0.0255 mg/m³ (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.

Available types supplied as standard

MPC1M	ATEX compatible. 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.

The MPC1M compressed air filter / regulator is ATEX compatible -

Directive 94/9/EC (ATEX95) Declaration

The MPC1M is intended for use in potentially explosive environments as defined by Equipment Group II Category 2.
 • We have determined the MPC1M is a 'simple' mechanical product. It is therefore not covered by the scope of the ATEX directive and consequently does not need to carry any marking.

As part of our conformity assesment, an ignition hazard analysis to EN 13463-1 was conducted with the following outcome:

- We have determined the MPC1M does not have its own effective sources of ignition - even in the event of rare failures.

Note: As defined by the European ATEX Standing Committee... "Electrostatic charges caused by the flow-through of a medium are not considered as "own" ignition source in the sense of Directive 94/9/EC."

The MPC1M may be used in a potentially explosive environment, as defined by Equipment Group II Category 2, when used in accordance with its Installation and Maintenance Instructions (IM-P504-08).

Sizes and pipe connections

1/4" screwed BSP (BS 21-Rp, ISO 7).

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_M 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



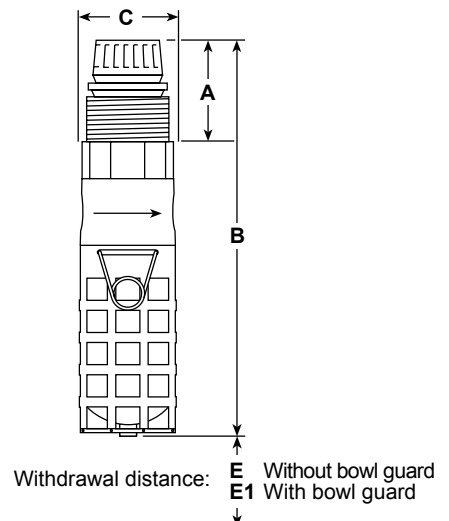
MPC2M
 shown with optional pressure gauge.

Materials

Part	Material
Body	Aluminium - anodised
Bowl	Polycarbonate or aluminium alloy
Bonnet assembly	Aluminium
Filter element	Microfibre / stainless steel
Valve	Nitrile

Dimensions (approximate) in mm and kg

Unit	Size	A	B	C	E	E1	Weight
MPC1M	1/4"	75	167	38	25	-	0.2
MPC2M	1/4"	67	156	38	25	45	0.2
MPC2AM	1/4"	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_M optional extras' table below).

MPC optional extras - Selection table

S = Supplied as standard OE = optional extra = not available

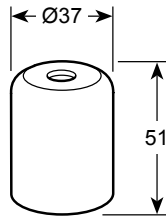
Feature		MPC1M	MPC2M	MPC2AM
Polycarbonate bowl	Without drain	<input type="checkbox"/>	OE	<input type="checkbox"/>
	With manual drain	<input type="checkbox"/>	S	<input type="checkbox"/>
Bowl guard		<input type="checkbox"/>	OE	<input type="checkbox"/>
Metal bowl (no sight glass)	With manual drain	S	OE	<input type="checkbox"/>
	With autodrain	<input type="checkbox"/>	<input type="checkbox"/>	S
Tamper-proof cap	With locking seal	S	OE	OE
Pressure gauge	50 mm Ø	<input type="checkbox"/>	OE	OE
	40 mm Ø	S	OE	OE
Type 8 mounting bracket		<input type="checkbox"/>	OE	OE
FK21 fixing kit		S	OE	OE
Aluminium mounting ring		S	OE	OE

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

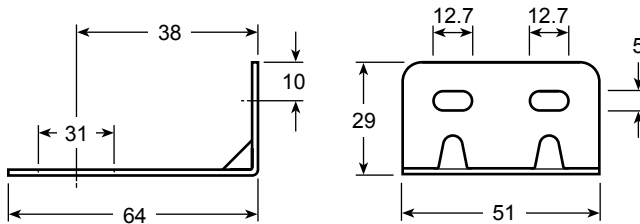


Type 8 mounting bracket and mounting ring

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.

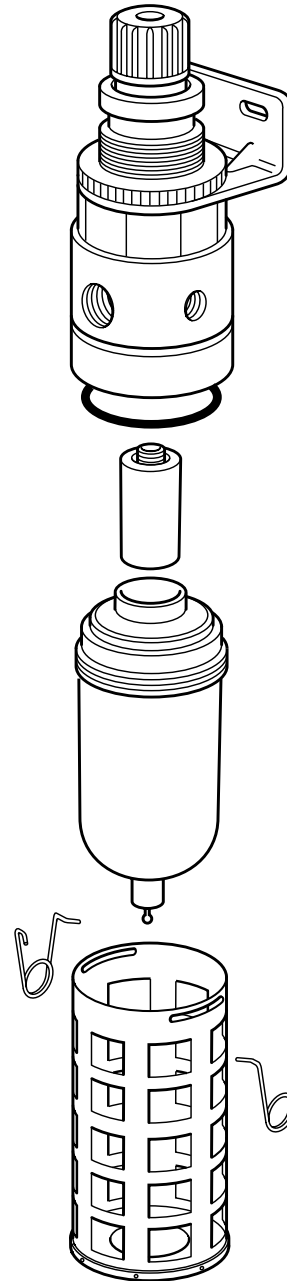
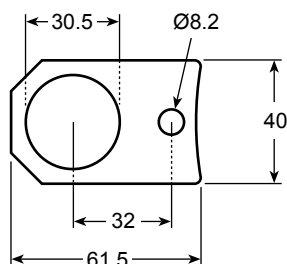
Dimensions (approximate) in millimetres



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

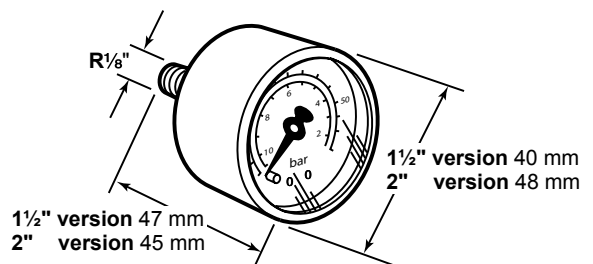


Optional pressure gauge (Not for MPC2AM)

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.

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

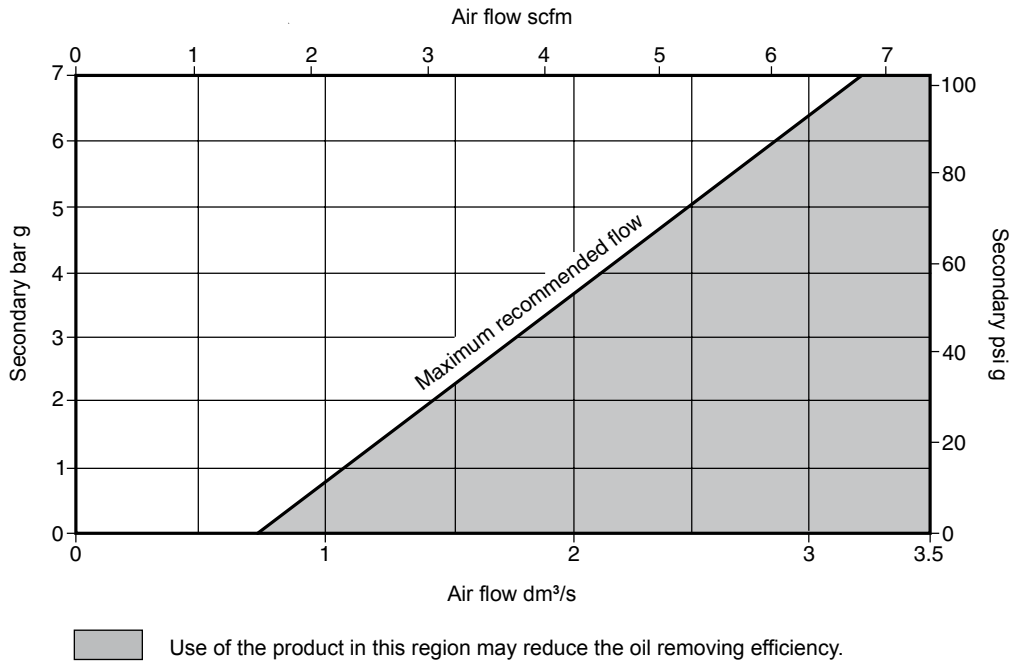
Dimensions (approximate) in millimetres



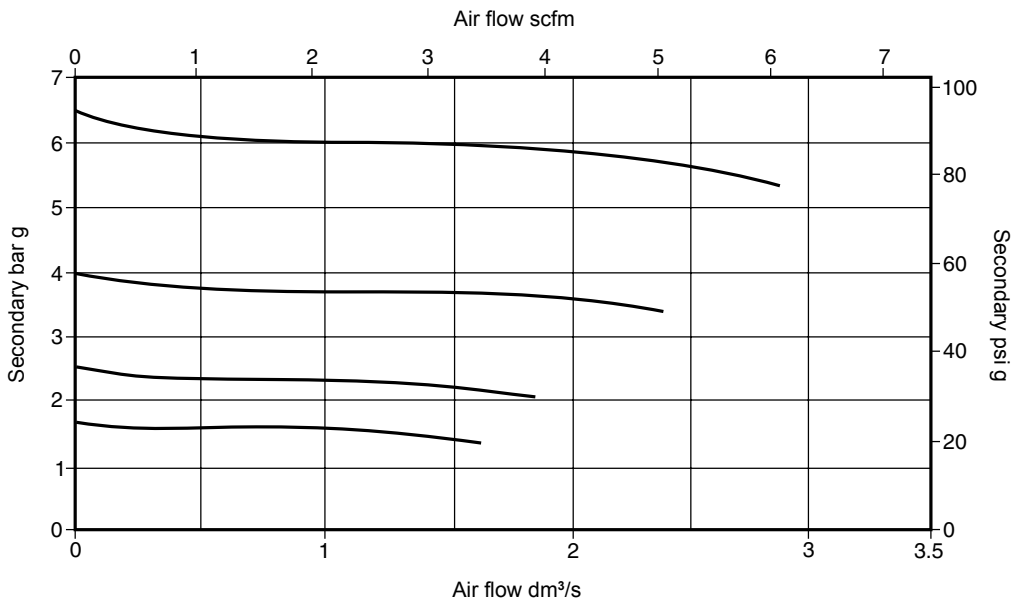
Performance selection (with primary pressure 10 bar)

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



Drop characteristics



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

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

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P504-08) 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 Monnier 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 1/4" MPC2M Monnier high efficiency compressed air filter / regulator.

