



CHRYSSAFIDIS

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# spirax sarco

## MPC1, MPC2 and MPC2A

### Spirax-Monnier

## High Efficiency Compressed Air Filter / Regulators

### Descriptions

The Spirax-Monnier 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 99.99% against BS 3928, BS 4400 and D.O.P. tests.
- Oil carryover at 21°C - less than 0.01 mg/m<sup>3</sup>.
- 100% water removal at line temperature.
- Polycarbonate bowl to BS 6005.

#### Available types supplied as standard

<b>MPC1</b>	ATEX compatible. Metal bowl with manual drain and tamper-proof cap.
<b>MPC2</b>	Polycarbonate bowl with manual drain.
<b>MPC2A</b>	Metal bowl with autodrain.

#### Applications

The MPC 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 MPC1 compressed air filter/regulator is ATEX compatible -

#### Directive 94/9/EC (ATEX95) Declaration

The MPC1 is intended for use in potentially explosive environments as defined by Equipment Group II Category 2.

- We have determined the MPC1 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 assessment, an ignition hazard analysis to EN 13463-1 was conducted with the following outcome:

- We have determined the MPC1 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 MPC1 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-P054-08).

#### Sizes and pipe connections

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

#### Spring range (operating pressure range)

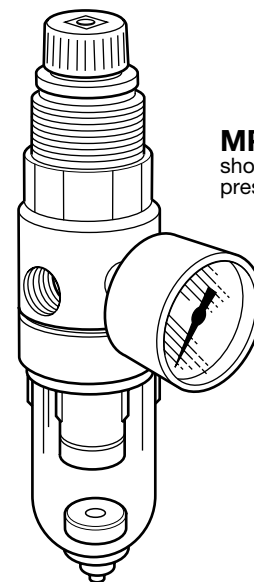
All regulators can be adjusted to zero pressure, or above the figures shown. The operating range is marked on the unit.

<b>Standard spring</b>	Black	0.7 - 9.0 bar g
<b>Optional spring</b>	White	0.2 - 2.0 bar g
	Pink	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

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



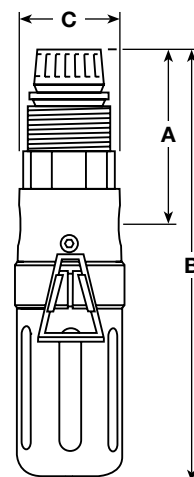
**MPC2**  
shown with optional pressure gauge.

#### Materials

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

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

Unit	Size	A	B	C	E	E1	Weight
<b>MPC1</b>	1/4"	75	167	41	25	-	0.2
<b>MPC2</b>	1/4"	65	155	41	25	45	0.2
<b>MPC2A</b>	1/4"	75	167	41	25	-	0.2



Withdrawal distance: E without bowl guard E1 with bowl guard

**Optional extras**

**MPC optional extras - Selection table**

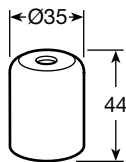
S = Supplied as standard OE = optional extra  = not available

Feature		MPC1	MPC2	MPC2A
Polycarbonate bowl	Without drain	<span style="background-color: #cccccc;"></span>	OE	<span style="background-color: #cccccc;"></span>
	With manual drain	<span style="background-color: #cccccc;"></span>	S	<span style="background-color: #cccccc;"></span>
Bowl guard		<span style="background-color: #cccccc;"></span>	OE	<span style="background-color: #cccccc;"></span>
Metal bowl (no sight glass)	With manual drain	S	OE	<span style="background-color: #cccccc;"></span>
	With autodrain	<span style="background-color: #cccccc;"></span>	<span style="background-color: #cccccc;"></span>	S
Tamper-proof cap	With locking seal	S	OE	OE
Pressure gauge	50 mm Ø	<span style="background-color: #cccccc;"></span>	OE	OE
	40 mm Ø	S	OE	OE
Type 8 mounting bracket		<span style="background-color: #cccccc;"></span>	OE	OE
FK21 fixing kit		S	OE	OE
Aluminium locking ring		S	OE	OE

**Note:** Airsets consist of an MPC with a 40mm Ø pressure gauge, locking seal and FK21 fixing kit. A tamper-proof cap with locking seal is recommended as an optional extra for MPC2 and MPC2A airsets.

**Tamper-proof cap**

Dimensions (approximate) in millimetres



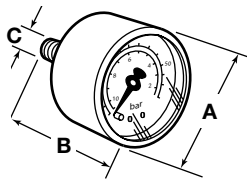
**Pressure gauge (Not for MPC2A)**

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

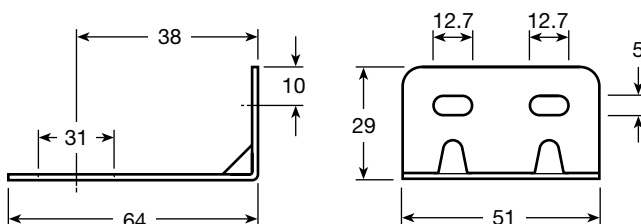
Size	A	B	C
1½"	40	47	R1/8"
2"	48	45	R1/8"



**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 extra  
Tamper-proof cap with locking seal

Optional extra  
Mounting ring



Optional extra  
Type 8 mounting bracket

Optional extra  
Pressure gauge (Not for MPC2A)

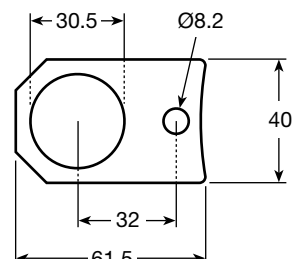
Optional extra  
Bowl (See the MPC optional extras selection table above for availability)

Optional extra assembly  
Bowl guard (MPC2 only).  
**In the interest of safety**  
Spirax Sarco recommend that a bowl guard should be fitted.

**FK21 fixing kit**

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

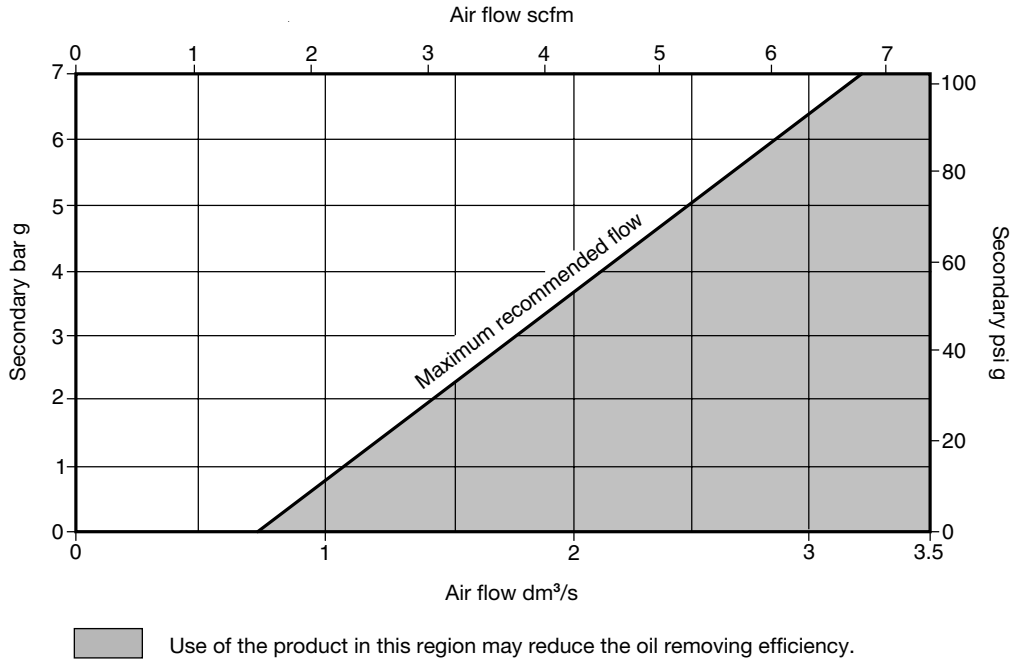
Dimensions (approximate) in millimetres



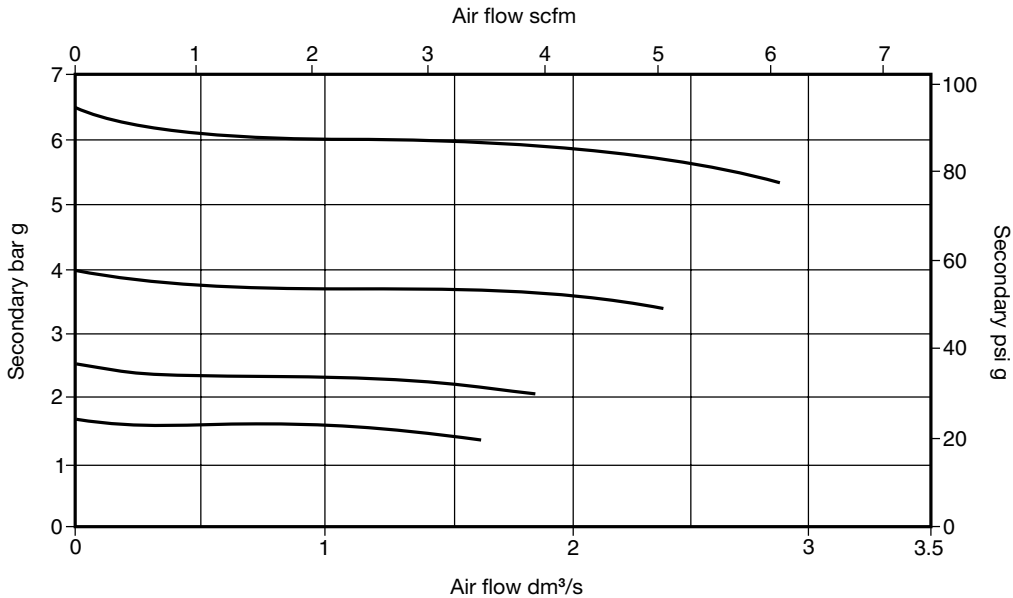
**Performance selection (with primary pressure 10 bar)**

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**



**Droop characteristics**



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-P045-08) 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 Spirax-Monnier ¼" MPC2 high efficiency compressed air filter/regulator having a 0.3 - 4.0 bar g control spring.  
1 off FK21 fixing kit and aluminium mounting ring for fitting an MPC2 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, 4
Bowl guard assembly (MPC2 only)	5, 6, 7

### 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 Spirax-Monnier ¼" MPC2 high efficiency compressed air filter/regulator.

