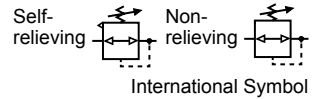


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TI-P504-09
 CH Issue 2

MR1M, MRN1M and MR2M Monnier Miniature Compressed Air Regulators



Description

The MR_M Monnier range of miniature compressed air regulators provide accurate pressure control for general purpose pneumatic systems where space is restricted and flowrates are low.

Principal features:

- Good flow characteristics.
- Good regulation characteristics.
- Fast response.
- Dead tight shut-off on no-flow.
- For bracket or panel mounting.
- External black anodised finish.

Available types:

MR1M	Self-relieving
MRN1M	Non-relieving
MR2M	Self-relieving

Optional extras

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

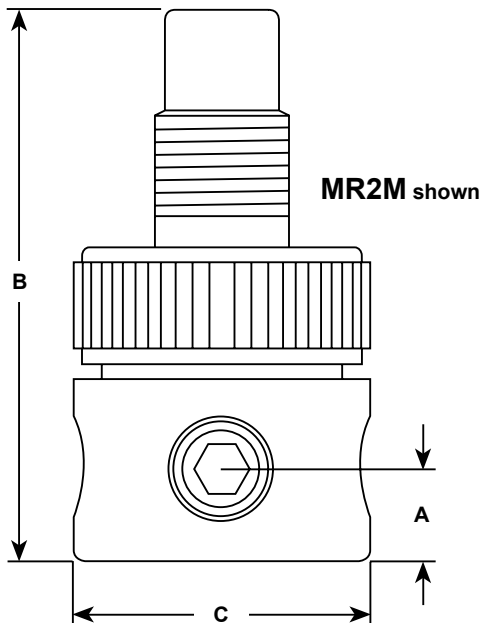
- Type 8 mounting bracket (MR2M) and aluminium mounting ring.
- Type 4 mounting bracket (MR1M and MRN1M only).
- Pressure gauges.
- Mounting kit.

Sizes and pipe connections

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

Dimensions / weights (approximate) in mm and kg

Type	A	B	C	Weight
MR1M	11	89	36	0.095
MRN1M	11	89	36	0.095
MR2M	11	78	36	0.085



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
MR1M, MRN1M and MR2M	Optional spring	0.2 - 2.0 bar g
		0.3 - 4.0 bar g

Note: The MR_M and MRN1M range of miniature compressed air regulators will be supplied with the standard spring unless an alternative option has been specified when placing an order.

Operating limits

Maximum primary pressure	21 bar g
Maximum working temperature	70°C

Materials

Part	Material	
Body	MR1M and MRN1M	Aluminium
	MR2M	Aluminium and polycarbonate
Valve	Nitrile	

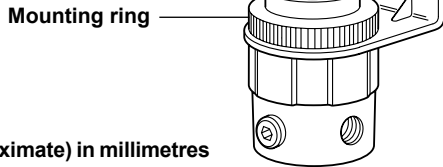
Optional extras

Mounting kit - The MR1M, MR2M and MRN1M regulators may be used with an optional mounting kit consisting of bracket (Type 8 or Type 4), mounting ring and pressure gauge (see options below). Mounting kits are supplied separately. Fasteners are not included.

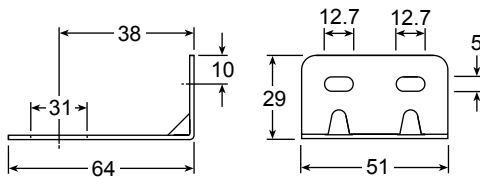
Type 8 mounting bracket and mounting ring (MR2M only)

For panel mounting: An aluminium mounting ring is to be specified.

For bracket mounting: A Type 8 mounting bracket and aluminium mounting ring is to be specified.

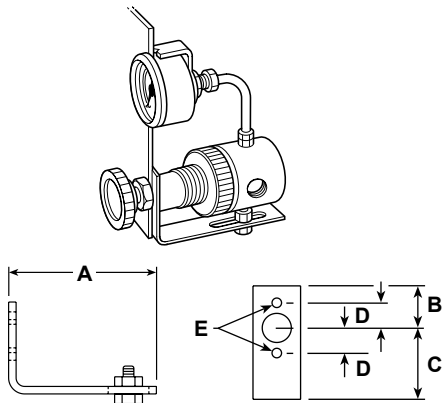


Dimensions (approximate) in millimetres



Type 4 mounting bracket (MR1M only)

An angle bracket in zinc plated mild steel to enable the regulator to be mounted behind the panel. The regulator is attached to the bracket by a screwed nipple.



Dimensions (approximate) in mm

A	B	C	D	E Ø
69	15.9	27	9.5	4BA (3.6 mm)

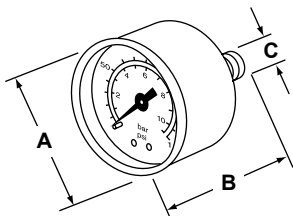
Pressure gauges

Available in two sizes, with 4 pressure ranges. The face is marked in both bar and psi. The 40 mm gauge will be supplied unless the 50 mm is specified on the 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
	0 to 21 bar	0 to 300 psi (50 mm size only)

Dimensions (approximate) in mm

Size	A	B	C	Size	A	B	C
40 mm	40	47	R $\frac{1}{8}$ "	50 mm	49	45	R $\frac{1}{8}$ "



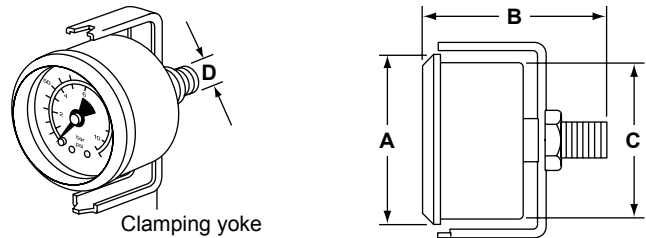
Pressure gauges for panel mounting

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

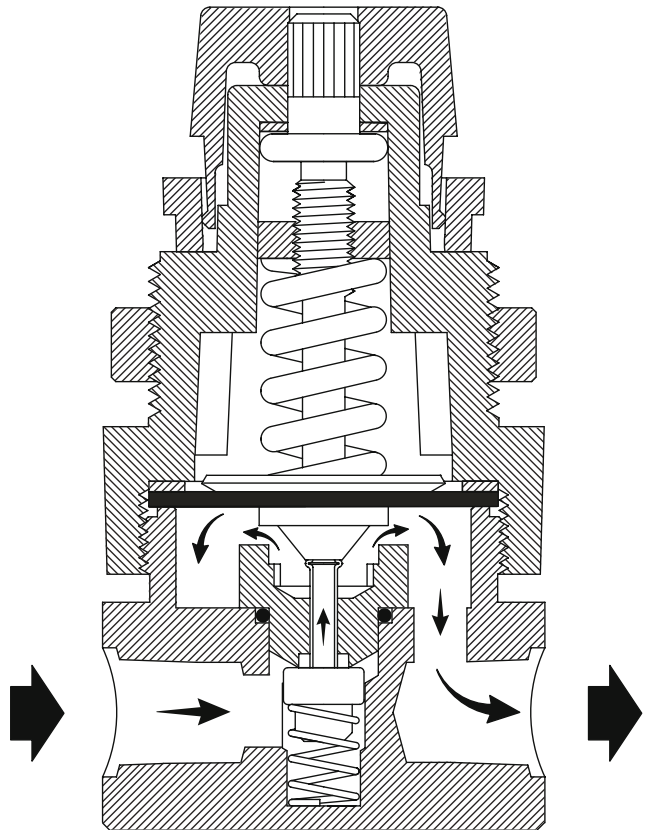
Pressure ranges	0 to 2 bar	0 to 30 psi
	0 to 7 bar	0 to 100 psi

Dimensions (approximate) in mm

A	B	C	D
53	56	48	R $\frac{1}{8}$ "



Principle of operation

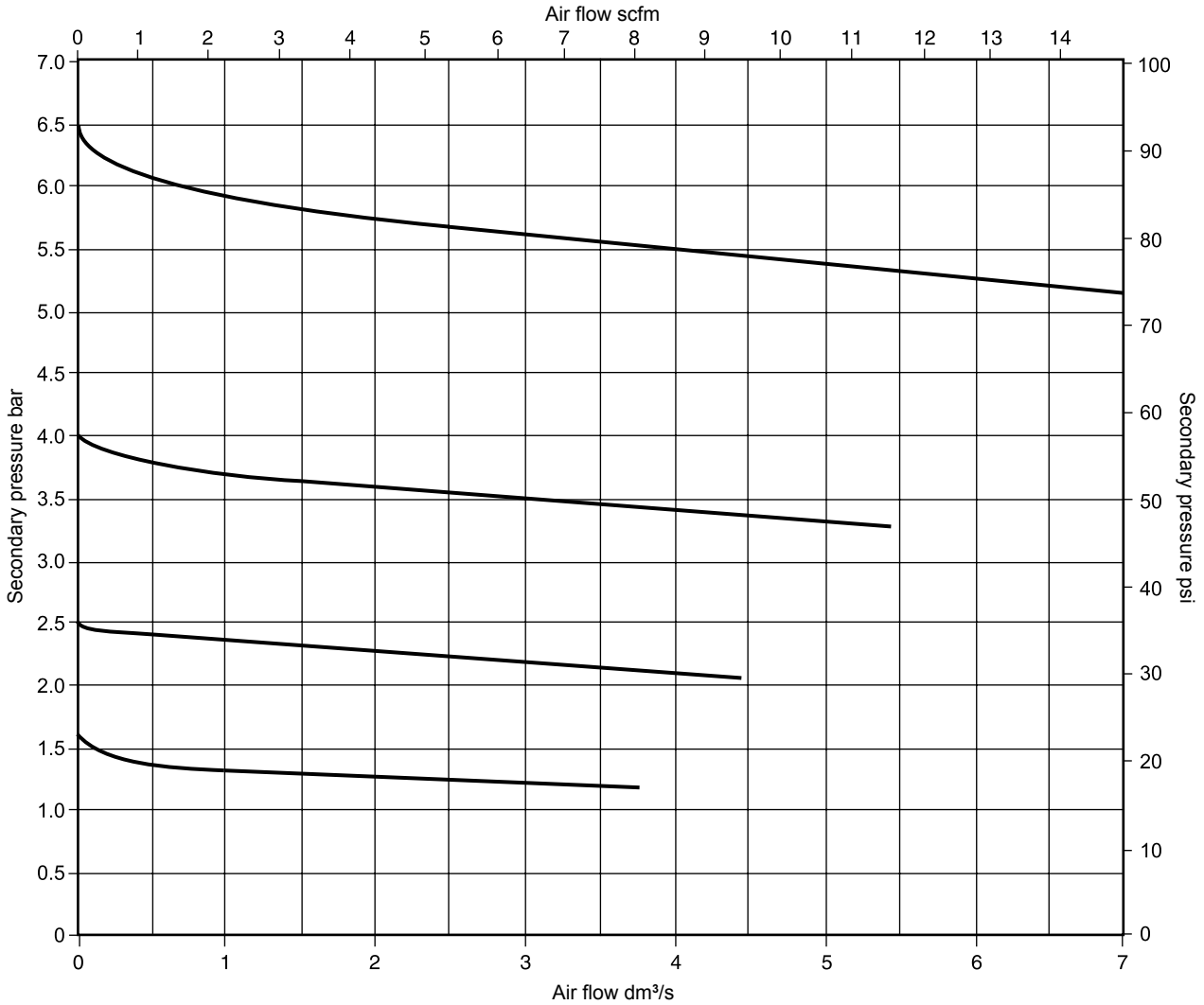


With system pressure on, the regulator poppet valve assembly is in the closed position when the adjusting knob is turned fully counter clockwise (no spring load). By turning the adjusting knob clockwise, the diaphragm/piston moves downward allowing flow to come in through the orifice created between 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

For safety valve sizing purposes the full lift capacity for the MR1M and MR2M is 0.21 K_{Vs}.

Performance (with primary pressure 10 bar)



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P504-10) supplied with the product.

Installation note:

The regulator should be sited as close as possible to the equipment it is serving. Connect the regulator so that air flow is in the direction shown by the arrow on the body. A **pressure gauge** (supplied as an accessory, when ordered) fitted to one of the gauge ports is recommended to show the secondary pressure. A **filter** should be installed in front of the regulator to keep dirt out.

Panel mounting the MR2M

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

How to order

Example: 1 off MR1M Monnier miniature compressed air regulator having 1/4" screwed BSP connections and a 0.2 to 2 bar control spring.

Note: The MR1M or MR2M regulator will be supplied with a 0.7 to 9 bar spring as standard.