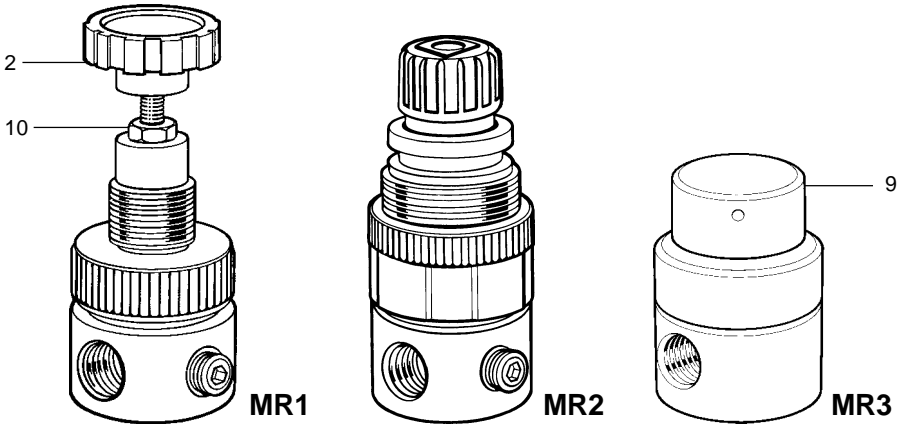


Spirax-Monnier MR Miniature Compressed Air Regulator MR1, MR2 and MR3 Installation and Maintenance Instructions



These products incorporate a common body and internal components, (except for the use of a Non-relieving diaphragm - when specified)

How to fit

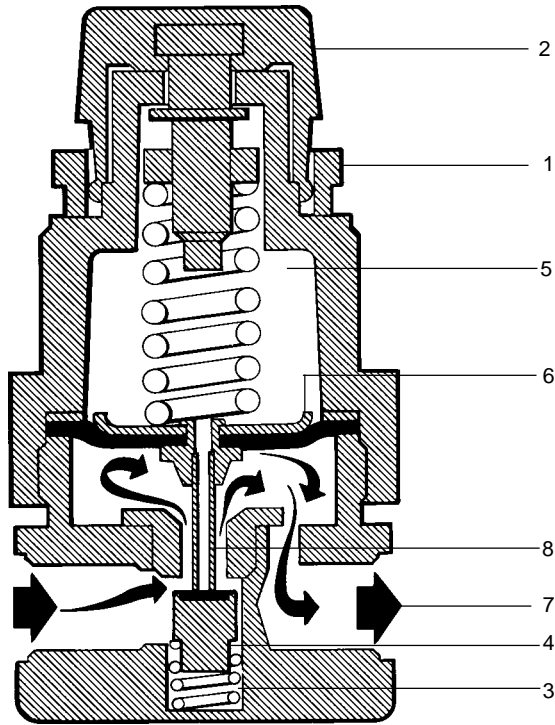
The regulator should be sited as close as possible to the equipment it is serving. Connect regulator so that air flow is in the direction shown by the arrow on the body. A pressure gauge fitted to one of the ports is recommended (to show the secondary pressure) as is a miniature filter in front of the regulator to keep dirt out. The port(s) not in use should be blanked off with the plugs supplied.

Panel Mounting the MR2. The panel must not exceed 8mm thick. The required hole is 31mm.

To adjust

Lift yellow locking ring (1) on MR2, or loosen lock nut on MR1 (10). Turn adjustment knob (2) clockwise to increase secondary pressure, or anticlockwise to decrease. Push down yellow locking ring or retighten locknut to re-lock. It is recommended that adjustments are made under flow conditions. There will be a slight increase in set pressure when flow stops.

Note: Once installed the MR3 regulator is not adjustable under normal circumstances.



Spares are not available for these products

How does it work

With adjustment knob (2) rotated fully anti-clockwise, the valve return spring (3) will keep the main valve (4) shut. Clockwise rotation of the adjustment knob will compress the main pressure control spring (5), deflect the diaphragm assembly (6) downwards, opening the main valve (4). As air flows to the downstream (7) side of the regulator, the secondary pressure increases. The secondary pressure is sensed on the underside of the diaphragm. As the controlled pressure varies, so does the force on the underside of the diaphragm. When this force (proportional to the secondary pressure) equals the compression in the main control spring, the main valve will shut. Any fall in the secondary pressure will cause the main valve to open sufficiently to meet the air flow requirements and accurately maintain the set secondary pressure.

On the Self Relieving versions any appreciable rise in the secondary pressure from its set value will cause the diaphragm and the push rod (8)

to lift off the main valve face. This will allow air to escape through the centre of the push rod to atmosphere. When excess pressure has been vented, the orifice in the push rod will reseat on the main valve.

MR3

As standard, supplied pre-set at 2 bar for primary pressure 6.8 bar and zero flow.

Note: When supplied un-set, the Control cap (9) will be loose. To set under flow conditions:

1. Remove Control Cap,
2. Apply preferred constant primary pressure to inlet connection,
3. Apply a small amount of "Loctite E" or similar metal/metal adhesive to the thread of the Cap,
4. Fit cap and tighten sufficiently to give the required Secondary Pressure (measured on a Downstream pressure gauge).
5. The Loctite will be hard in 4-6 hours.

Spirax-Monnier Products

General Safety, Installation and Maintenance Guidelines

WARNING

As with all Pressurised Systems, do NOT attempt ANY Installation or Maintenance function if there is ANY pressure in the product or connected system.

Spirax-Monnier

Spirax Monnier compressed air products are of well proven and simple design, with high natural levels of designed safety built in. However, used or installed incorrectly, their performance and that of the system they are protecting or controlling, may suffer. The information given indicates the product limiting conditions, maintenance and installation requirements and any specific component disposal needs.

Product Maintenance - See Over

Installation and Operation

1. Filters, Filter/Regulators, Lubricators, Flow Meters, Separators and Drain Traps should be fitted in horizontal pipelines, with the bowls vertically downwards.
2. Regulators and Ball Valves can be installed in any position.
3. On Pressure Regulators and combined Filter/regulators, a Pressure Gauge can be connected to one of the 1/8" ports. The gauge should be selected to cover the maximum pressure range of the main Control Spring. The gauge will indicate the downstream or controlled pressure.
4. Ensure that the Control Spring range for Regulators and Filter/Regulators fully meets the pressure requirements of the system.
5. There are Maximum Operating Pressures, and Maximum Operating and Environmental Temperatures for each product. These are shown in the table below.
6. Adequate space should be provided around any product to allow easy access for routine servicing requirements.
7. Products fitted with a Bowl (Polycarbonate or Metal) should be adequately drained - manually or automatically - to reduce the potentially harmful effects of water carryover.
8. **WARNING** Polycarbonate Bowls and Sight Domes, and Sight Levels fitted to Metal bowls, may be attacked by Phosphate Ester based fluids, Solvents, Chemical cleaners, Carbon Tetrachloride, etc. These and other similar substances should never be allowed to come into contact with these product components. Certain compressor lubricating oils also contain additives harmful to these components. Where there is any doubt, we recommend, in the interests of safety, that Bowl Guards or Metal Bowls are fitted.
9. Local regulations may restrict the use of this product below the conditions quoted.
10. For more detailed information on any individual product, please ask for the appropriate Technical Information Sheet listed in the table.

For Maximum Pressures/Temperatures see overleaf
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MAXIMUM PRESSURES/TEMPERATURES

FILTERS	Polycarbonate Bowl		Metal Bowl		Metal Bowl with Sight level		DISPOSAL CLASS	TI
	bar	°C	bar	°C	bar	°C		
MF2	10	50	-	-	-	-	1 & 3	P050-05
IF2/D/A	10	50	17	80	17	70	1 & 2	P500-01
IC3/4/DA	10	50	17	80	17	70	1 & 2	P501-01
IXI	10	50	17	70	17	70	1 & 2	P057-01
SF3/A	-	-	17	80	17	70	1 & 3	P050-03

REGULATORS

MR1/2/3	21 bar 70°C : CONTROL RANGES : 0.2/2. 0.3/4, 0.7/9 bar	1 & 3	P051-01
IRI	20 bar 70°C : CONTROL RANGES : 0.2/3.5, 0.5/1 bar	1 & 2	P058-01
SR2	21 bar 70°C : CONTROL RANGES : 1.3 - 17.0 bar	1 & 3	P570-01
SR3	21 bar 70°C : CONTROL RANGES : 0.2/4, 0.3/9 bar	1 & 3	P570-03

FILTER REGULATORS

IP2/A/D	10	50	17	80	17	70	1 & 2	P510-01
	RANGES : 0.2/3.5, 0.5/10 bar							
MP2	10	50	-	-	-	-	1 & 3	P054-01
	RANGES : 0.2/2.0, 0.3/4.0, 0.7/9.0 bar							
MPC2	10	50	-	-	-	-	-	P054-04
	RANGES : 0.2/2.0,.0.3/4.0, 0.7/9.0 bar						1 & 3	

LUBRICATORS

ML3	10	50	-	-	-	-	1 & 3	P052-07
IL1	10	50	17	80	17	70	1 & 2	P059-01
SL3	-	-	17	80	17	70	1 & 3	P052-04

OTHER PRODUCTS

IFM2	10	50	-	-	-	-	1 & 2	P580-01
S.M.S.	-	-	17	70°C	-	-	1 & 3	P050-17
BALL	all to 15 bar & 45°C							
VALVES (all)	(see performance graph on TI for full details)						1 & 4	P560-01
DRI-LINE	-	-	16	80°C	-	-	1 & 3	P050-07

DISPOSAL

1. Some plastic and/or rubber components
2. Main body Zinc - epoxy coated
3. Main body Aluminium - epoxy coated
4. Brass and Steel
5. Electronic Components

Note

Customers are reminded that under UK and EC Health, Safety and Environmental Law, when returning products to Spirax Sarco they must provide information on any hazards and the precautions to be taken due to contamination residues or mechanical damage which may present a health, safety or environmental risk. This information must be provided in writing including Health and Safety data sheets relating to any substances identified as hazardous.