MR Unit (Regulator with Mist Separator)
Series AMR3000 to 6000

Standard Specifications

Model	AMR3000	AMR4000	AMR5000	AMR6000
Port size	1/4, 3/8	1/4, 3/8, 1/2	1/2, 3/4	3/4, 1
Fluid	Air			
Proof pressure	1.5 MPa			
Max. operating pressure	1.0 MPa			
Setting pressure range	0.05 to 0.85 MPa			
Ambient and fluid temperature	–5 to 60°C (No freezing)			
Construction	Relieving type			
Filtration	0.3 μm			
Oil mist density in the outlet side	Max. 1.0 mgf/Nm^3 (≅ 0.8 ppm) (1)(2)			
Rated flow (ℓ/min (ANR)) (3)	750	1500	3500	6000
Mass (kg)	1.8	2.8	3.5	6.7

Note 1) Compressed air density: 30 mgf/Nm^3.
Note 2) An element for the mist separator is included on the inlet side. Mineral grease is applied on the sliding parts inside the regulator. As such, improper use could cause run off of these lubricants to the outlet side. Please contact SMC if problems take place during operation.
Note 3) Inlet pressure: 0.7 MPa Use caution not to supply air more than the rated amount, otherwise oil may flow to the outlet side.

Accessory (Standard)/Part No.

Model name \ Model		AMR3000	AMR4000	AMR5000	AMR6000
Bracket		13576	13556	13587	13568
Pressure gauge (5)(6)	1.0 MPa	G36-10-□01		G46-10-□02	

Accessory (Option)/Part No.

Model name \ Model	AMR3000	AMR4000	AMR5000	AMR6000
Adapter assembly (7)	1/4 : E3-□02 3/8 : E3-□03	1/4 : E4-□02 3/8 : E4-□03 1/2 : E4-□04	1/2 : E5-□04 3/4 : E5-□06	3/4 : E6-□06 1 : E6-□10
Float style auto drain (AMR□100) (8)	AD33-X203	AD33-X202	AD33-X210	AD33-X201
Compact pressure switch	IS1000-01 (0.4 MPa setting)			
Elbow (R x Rc) (9)	135510		135613	

Note 5) • ■ in the gauge part number (e.g. G36-10-■01) indicates thread. Specify no symbol for "Rc", and "N" for "NPT".
• Please consult with SMC if "NPT" gauge is required.
Note 6) Use caution not to tighten excessively when mounting a pressure gauge, otherwise it may result in a breakdown. Use a pipe tape for sealing. Recommened tightening torque for pressure regulator: R 1/8 = 7 to 9 N·m, R 1/4 = 12 to 14 N·m
Note 7) Piping adapter, O-ring, Hexagon socket bolt, Hexagon socket bolt assembly. These are shipped together with products. "■" in the gauge part number indicates thread type. Specify no symbol for "RC", "N" for "NPT", and "G" for "F".
Note 8) Min. operating pressure = 0.1 MPa
Note 9) If a compact pressure switch is mounted later on, an elbow (R x Rc) is necessary.

Mist separator and regulator are combined together.
Filtration 0.3 μm
Space-saving and easy piping.

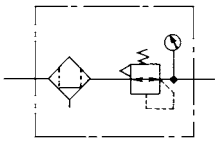
AMR4000 AMR3000

AMR5100

Compact Pressure Switch Specifications (For further information, refer to Best Pneumatics No. 6)

Model	IS1000-01			
Set pressure range (OFF)	0.1 to 0.4 MPa			
Hysteresis	0.08 MPa			
Contact point construction	1a			
Max. contact point capacity	2 VA AC, 2 W DC			
Voltage (AC, DC)	12 V	24 V	48 V	100 V
Max. current	50 mA	50 mA	40 mA	20mA

JIS Symbol



How to Order

AMR 4 0 00 – □ 03 □ □ – □

MR unit

Body size

3	3/8
4	1/2
5	3/4
6	1

Auto-drain

0	None
1	With auto drain

Thread type

Nil	Rc
N	NPT
F	G

Port size

Symbol	Port size
02	1/4
03	3/8
04	1/2
06	3/4
10	1

Pressure gauge

Nil	None
S	With pressure switch

Adapter assembly port size (2 pcs.)

Nil	None
E2	1/4
E3	3/8
E4	1/2
E6	3/4
E10	1

∗ The port size of adapter assembly is same as the port size of the body.

Pressure gauge mounting

Nil	Flow direction: Left to right
R	Flow direction: Right to left

Adapter Assembly (Part number for one piece)

E 3 – 02 □

Adapter assembly

Applicable model

3	AMR3□00-02 to 03
4	AMR4□00-02 to 04
5	AMR5□00-04 to 06
6	AMR6□00-10

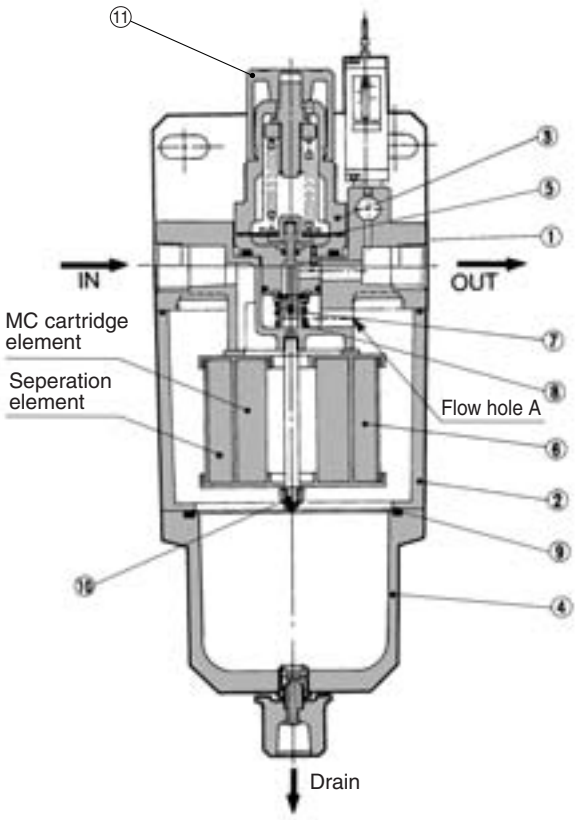
Port size

02	1/4
03	3/8
04	1/2
06	3/4
10	1

Thread type

Nil	Rc
N	NPT
F	G

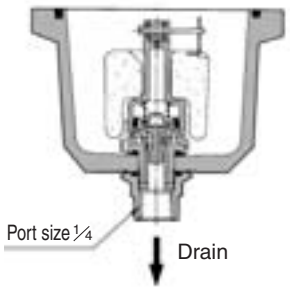
Construction



Working principle

The compressed air from the air source passes from the IN side through the top of element ⑥ and flows inward. The compressed air that flowed in passes through the MC cartridge element provided inside element ⑥, where all dust that is larger than 0.3 μm is removed. Then, the mist is arrested by inertial collision, direct interception, and dissipation through Brownian movement on the surface and the inside of the filtering fibers of the external separation element. The mist then coagulates to form a large drop, becomes separated from the compressed air, accumulates in case ③, and is discharged through the drain valve. Meanwhile, the clean compressed air in housing ② passes through flow hole A of body ①, it is reduced to a specified pressure by the pressure reducing valve, and is discharged from the OUT.

Auto-drain type



Component Parts

No.	Description	Model			
		AMR3000	AMR4000	AMR5000	AMR6000
1	Body	Aluminum die-casted			
2	Housing	Aluminum die-casted			
3	Bonnet	Polyacetal			Aluminum die-casted

Replacement Parts

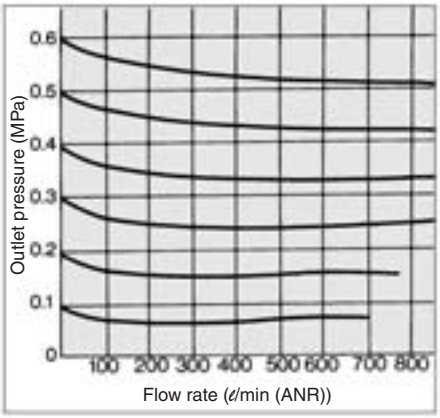
No.	Description	Material	Qty	Part no.			
				AMR3000	AMR4000	AMR5000	AMR6000
4	Bowl assembly	Aluminum die-casted	1	13573A	13553A	13583A	13563A
5	Diaphragm assembly	Weather resistant NBR	1	1349161A	131515A	131515A	131614A
6	Element Note)	—	1	13579	135511	13589	13569
7	Valve assembly	Brass, HNBR	1	135711A	13154A	135811A	135614-1A
8	Valve spring	Stainless steel	1	135011	131514	131613	135413
9	O-ring	NBR	1	G75	G90	G100	G115
10	Gasket	Fiber	1	135714	635327	635327	63555
11	Handle	POM	1	1349167	131534	131534	131634

Note) The MC cartridge element and the separation element are integrated.

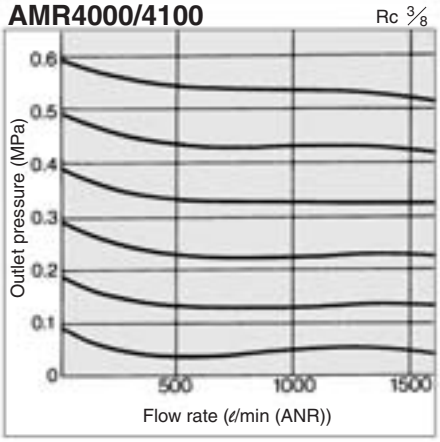
Flow Characteristics (Representative values)

Inlet pressure: 0.7 MPa

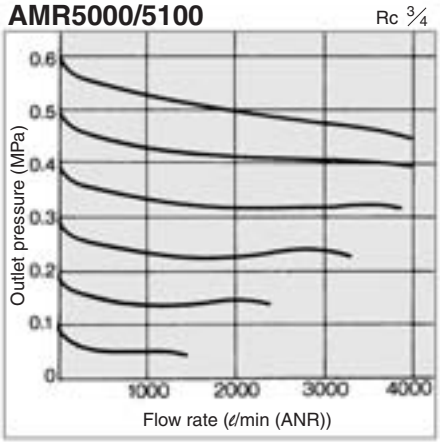
AMR3000/3100 Rc 1/4



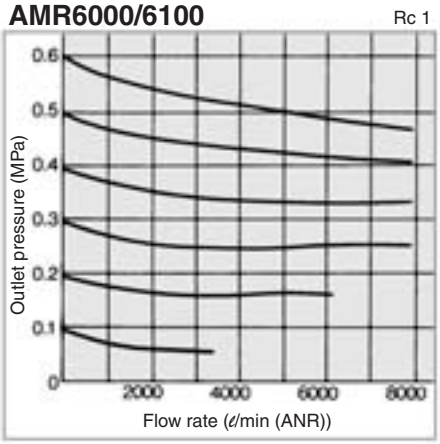
AMR4000/4100 Rc 3/8



AMR5000/5100 Rc 3/4



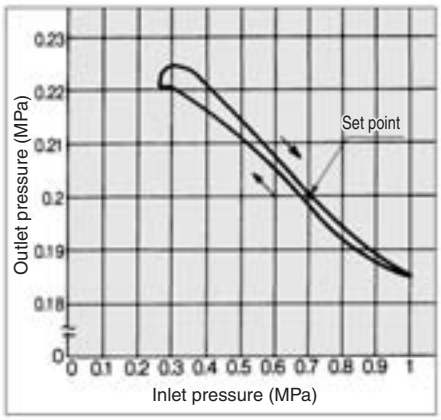
AMR6000/6100 Rc 1



Pressure Characteristics (Representative values)

Inlet pressure: 0.7 MPa Outlet pressure: 0.2 MPa

AMR3000/3100



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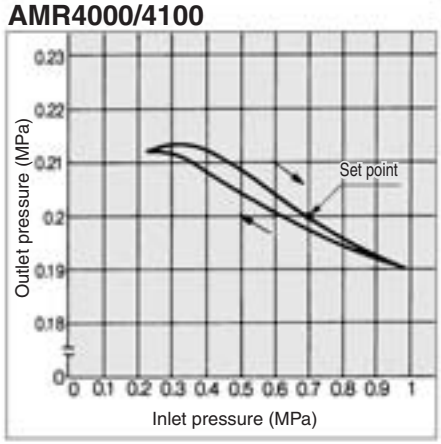

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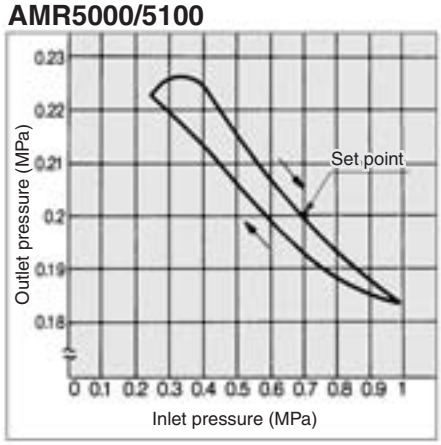
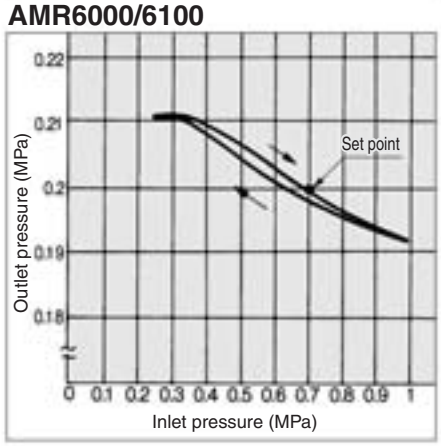


AMR6000/6100



⚠Precautions

Be sure to read before handling. Refer to front matters 42 and 43 for Safety Instructions and pages 287 to 291 for Precautions on every series.

Mounting/Adjustment

⚠ Warning

1. Do not place a magnetic object near the pressure switch. Unintended operation may result.

⚠ Caution

1. Release the lock to adjust the pressure. After the adjustment, engage the lock. Failure to observe this procedure could damage the handle or cause the outlet pressure to fluctuate.

1) On the AMR3000 type, pull the adjustment handle to release the lock and push the handle to engage the lock. If it does not lock easily, turn the handle slightly clockwise or counterclockwise before pushing it.

2) On the AMR4000 to 6000 types, pull the adjustment handle to release the lock. (An orange colored line is provided at the bottom of the adjustment handle for visual checking.) Push the adjustment handle to engage the lock. If it does not locked easily, turn the handle slightly clockwise or counterclockwise; then, push it until the orange colored line is no longer visible.

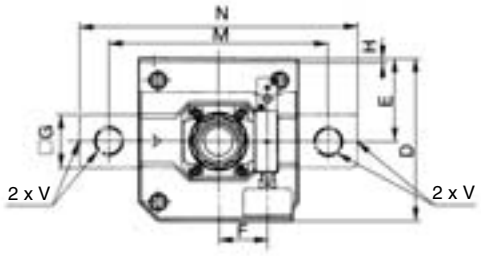
Maintenance

⚠Warning

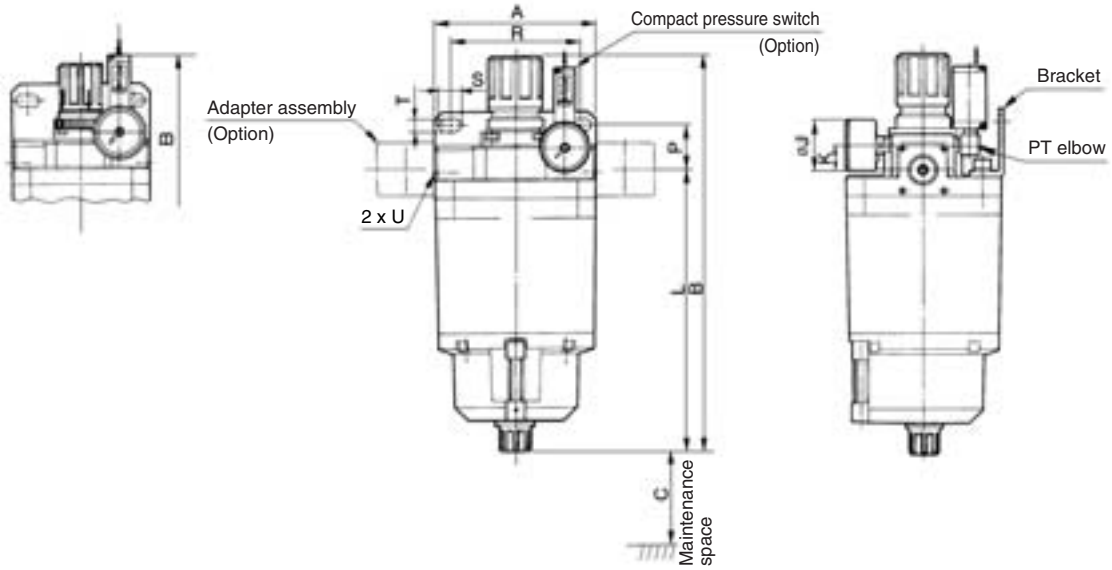
1. Replace the filter element within 2 years of operation or before the pressure drop reaches 0.1 MPa. Failure to observe this precaution could damage the filter element.

Dimensions

AMR4000/5000/6000



AMR3000

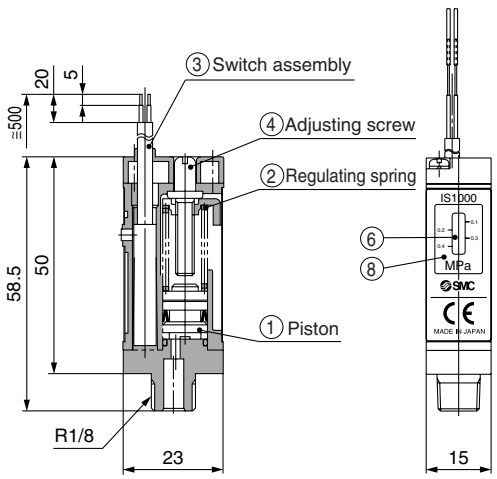


∗ For products with pressure gauge, pressure gauge is shipped together with product.

Model	Port size		A	B	C	D	E	F	G	H	J	K	L	M	N	Bracket dimensions				With auto drain	
	U (Body)	**V** (Adapter)														P	R	S	T	B	L
AMR3000	1/4, 3/8	1/4, 3/8	100	264	10	101	51	28	32	3.2	37	21.5	182	144	180	50	78	8	9	260	178
AMR4000	1/4, 3/8, 1/2	1/4, 3/8, 1/2	120	302	10	121	61	37	40	3.2	37	18	215	166	210	35	97	16	9	298	211
AMR5000	1/2, 3/4	1/2, 3/4	130	370	45	131	66	37	48	4.5	42	16	281	188	246	45	98	21	11	366	277
AMR6000	3/4, 1	3/4, 1	160	440	70	161	81	44	56	4.5	42	18.5	325	230	290	46.5	115	26	11	436	321

Accessory/Compact Pressure Switch: IS1000-01

∗ For details, refer to Best Pneumatics No. 6.



Working principle

When the MR unit's OUT side pressure is applied to piston ①, piston ① moves until it balances with the force of pressure adjustment spring ②. The movement of piston ① is detected by switch assembly ③ and outputs ON and OFF signals.

The set pressure can be adjusted by turning adjustment screw ④, which adjusts the spring force.

Adapter Assembly Installation Procedure

1. Install the O-ring in the O-ring groove of the adapter.
2. Orient the adapter port to the desired direction.
3. Using a hexagon wrench, tighten the four hexagon socket head bolts to install an adapter.
4. Screw in the hexagon socket head cap into the unused port of the adapter.