



Pilot Operated Regulator AR425 to 935 Series

Standard Specifications

Model	AR425	AR435	AR625	AR635	AR825	AR835	AR925	AR935
Port size	1/4, 3/8, 1/2		3/4, 1		1 1/4, 1 1/2		2	
Fluid	Air							
Proof pressure	1.5 MPa							
Max. operating pressure	1.0 MPa							
Set pressure range (MPa) ⁽¹⁾	0.05 to 0.83	0.02 to 0.2	0.05 to 0.83	0.02 to 0.2	0.05 to 0.83	0.02 to 0.2	0.05 to 0.83	0.02 to 0.2
Air consumption (for bleed hole) ⁽²⁾	5 L/min (ANR) (at maximum pressure)							
Pressure gauge port size	1/4							
Ambient and fluid temperature	-5 to 60°C (No freezing)							
Construction	Internal pilot relieving type (Pilot air is always bleeding.)							
Weight (kg)	0.7		1.1		2.5		4.5	

Note 1) Outlet pressure range: P2 is 90% of P1 or less.

Note 2) Air consumption differs depending on the set pressure. Due to the construction, the pressure gap between inlet and outlet cannot be set within 0.03 MPa, even if the knob is set at the maximum.

Accessory (Option)/Part No.

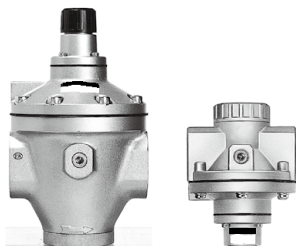
Description	Model	Part no.			
		AR4□5	AR6□5	AR8□5	AR9□5
Bracket		B24P	B25P	—	—
Pressure gauge with limit indicator ^{Note 1)}		G46-10-□02 (Max. 1.0 MPa), G46-2-□02 (Max. 0.2 MPa)			

Note 1) • In the gauge part no. (e.g. G46-10-□02), □ indicate kind of the connecting thread. Put nothing for Rc and "N" for NPT thread.

Note 2) Use caution not to tighten excessively when mounting a pressure gauge, otherwise it may result in a breakdown. Use a sealant tape for sealing.

How to Order

Internal pilot operated relieving type regulator



AR8□5

AR6□5



AR6□5-□□BG

AR4□5-□□BG

AR 4 25 - □ 02 BG - □

Regulator

Body size

4	1/2
6	1
8	1 1/2
9	2

Regulating pressure range

25	0.05 to 0.83 MPa
35 ^{Note)}	0.02 to 0.2 MPa

Note) Compared with AR□25 type, its adjusting spring will only be changed for 0.2 MPa. It is not the product which does not allow the pressure more than 0.2 MPa.

Port size

02	1/4
03	3/8
04	1/2
06	3/4
10	1
12	1 1/4
14	1 1/2
20	2

Thread type

Nil	Rc
N	NPT
F	G

Semi-standard

Nil	None (Standard)
R	Flow direction: Right to left

Accessory

Symbol	Description	Applicable model
Nil	—	—
B	With bracket	AR4□5 to 6□5
G ^(Change)	G46-10-02	AR□25
	G46-2-02	AR□35
P ^{Note)}	G46-P10-02-X30	AR□25
	G46-P2-02-X30	AR□35

Note) Pressure display unit: MPa, psi
* Pressure gauges are shipped with regulator, (but not assembled).

Symbol





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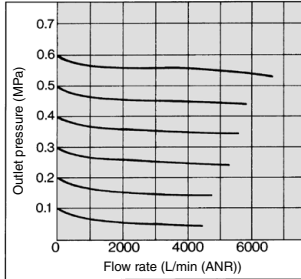
Flow Rate Characteristics (Representative values)

Inlet pressure: 0.7 MPa

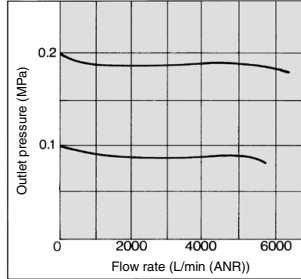
Pressure Characteristics (Representative values)

Conditions:
Inlet pressure: 0.7 MPa
Outlet pressure: 0.2 MPa
Flow rate: 20 L/min (ANR)

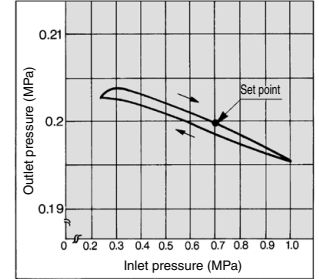
AR425 Rc 1/2



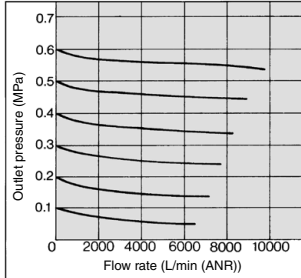
AR435 Rc 1/2



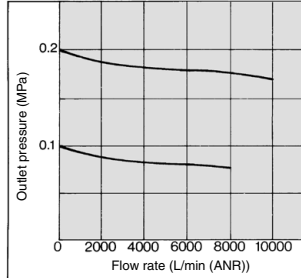
AR425/435 Rc 1/2



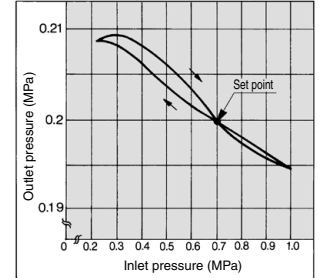
AR625 Rc 1



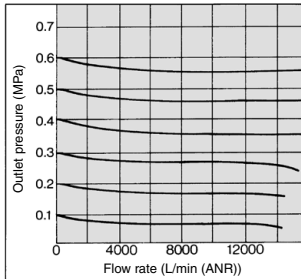
AR635 Rc 1



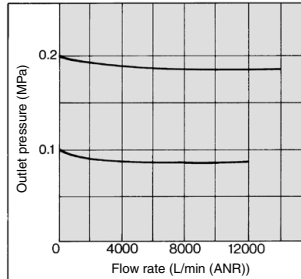
AR625/635 Rc 1



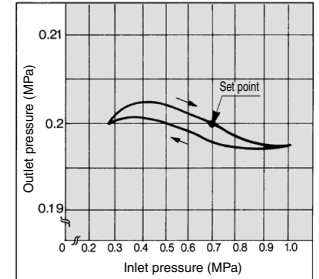
AR825 Rc 1 1/2



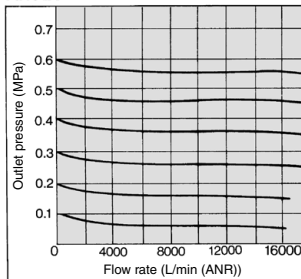
AR835 Rc 1 1/2



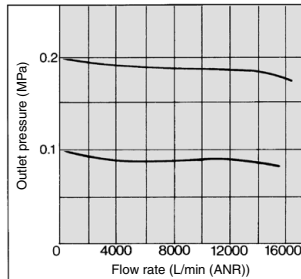
AR825/835 Rc 1 1/2



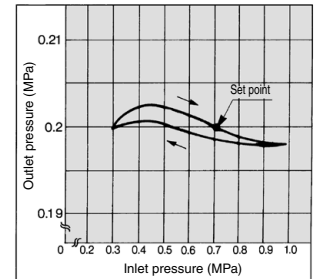
AR925 Rc 2



AR935 Rc 2

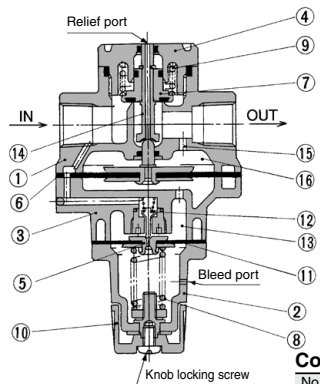


AR925/935 Rc 2



AR425 to 935 Series

Construction



When knob ⑩ is turned clockwise to compress pressure adjustment spring ⑧, the pressure from the IN side passes through diaphragm ①, opens pilot valve ⑫, and enters upper pilot chamber ⑬. This pressure and the force generated by pressure adjustment spring ⑧ act as resistance, resulting in equilibrium. Then, this pressure passes through diaphragm ⑥ of the main valve and stem ⑭, and pushes valve (main valve) ⑦ open, thus guiding the pressure to the OUT side. At the same time, the pressure passes through feedback hole ⑮, and enters diaphragm chamber ⑯, thus establishing the OUT side pressure (outlet pressure).

Component Parts

No.	Description	Material	Note
1	Body	Aluminum die-casted *	Platinum silver painted
2	Bonnet	Aluminum die-casted	Platinum silver painted
3	Chamber	Aluminum die-casted	Platinum silver painted
4	Valve guide	Zinc die-casted *	Platinum silver painted

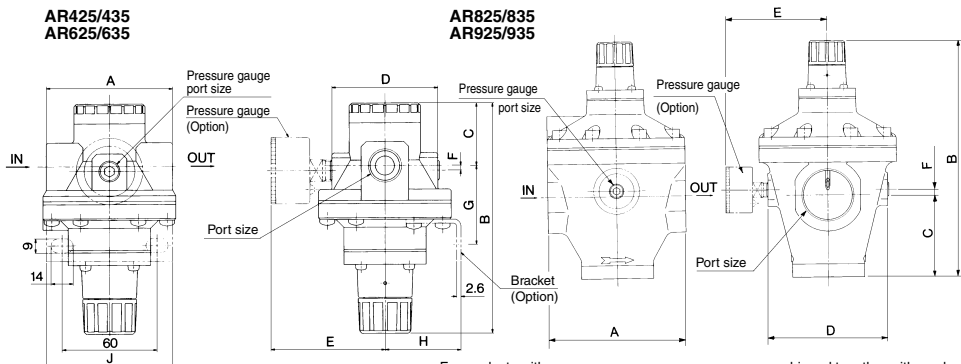
* In the case of AR825/835/925/935, the material is aluminum alloy.

Replacement Parts

No.	Description	Material	Qty.	Part no.			
				AR425, 435	AR625, 635	AR825, 835	AR925, 935
5, 11	Exhaust valve assembly <small>(Note)</small>	—	1	132586A	132586A	132586A	132586A
6	Main valve side diaphragm assembly	—	1	132581A	132659A	13275A	13285A
7	Valve assembly	—	1	132572A	132653A	132752A	132829A
8	Adjusting spring	Steel wire	1	135053 (AR425) 135025 (AR435)	135053 (AR625) 135025 (AR635)	135053 (AR825) 135025 (AR835)	135053 (AR925) 135025 (AR935)
9	Valve spring	Stainless steel	1	135211	132656	132713	13289
10	Knob	ABS	1	13414			

Note) Diaphragm is included.

Dimensions



* For products with pressure gauge, pressure gauges are shipped together with product.

Model	Port size	Pressure gauge port size	A	B	C	D	E	F	Bracket dimensions			Bracket part no.
									G	H	J	
AR425/435	1/4, 3/8, 1/2	1/4	80	145.5	39.5	67	73	3	50.0	48	80	B24P
AR625/635	3/4, 1	1/4	98	155	43	78	78.5	7	85	52	90	B25P
AR825/835	1 1/4, 1 1/2	1/4	126	216	75	110	94.5	5	—	—	—	—
AR925/935	2	1/4	160	241	90	140	109.5	10	—	—	—	—