Series AR10 to 60 Regulator

How to Order

AR **30** – F **03** **B** -B

Body size

20	30	40	50	60

Accessory

Symbol	Description	Applicable model
Nil	—	—
B	With bracket	

Note) Optional parts are not assembled and are supplied loose at the time of shipment.

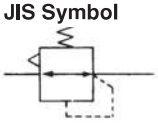
Port size

Symbol	Port size	Body size 20	30	40	50	60
01	1/8	◆	—	—	—	—
02	1/4	◆	◆	◆	—	—
03	3/8	—	◆	◆	—	—
04	1/2	—	—	◆	—	—
06	3/4	—	—	—	◆	—
10	1	—	—	—	—	◆



AR40

JIS Symbol



Standard Specifications

Model	AR20	AR30	AR40	AR50	AR60
Port size G	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	1
Fluid	Air				
Proof pressure	1.5 MPa				
Maximum operating pressure	1.0 MPa				
Set pressure range		0.05 to 0.85 MPa			
Pressure gauge port size (1)	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4
Relief pressure	Set pressure + 0.05 MPa (3) (at relief flow rate of 0.1 ℓ/min (ANR))				
Ambient and fluid temperature	–5 to 60°C (With no freezing)				
Construction	Relieving type				
Weight (kg)	0.26	0.29	0.44	1.17	1.22

Series AR20 to 60

⚠ Precautions

Mounting & Adjustment

⚠ Warning

1. Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the knob excessively can cause damage to the internal parts.

2. The pressure gauge included with regulators for 0.02 to 0.2 MPa setting is for up to 0.2 MPa use only. Exceeding 0.2 MPa of pressure can damage the gauge.

Nevertheless, the gauge for the AR10 regulator with 0.02 to 0.2 MPa setting is for up to 1.0 MPa use.

3. Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

⚠ Caution

1. Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure.

Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.

- Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" that appears in the gap.)
- Push the pressure regulator knob to lock. When the knob is not easily locked, turn it left and right a little and then push it (when the knob is locked, the "orange mark", i.e., the gap will disappear).

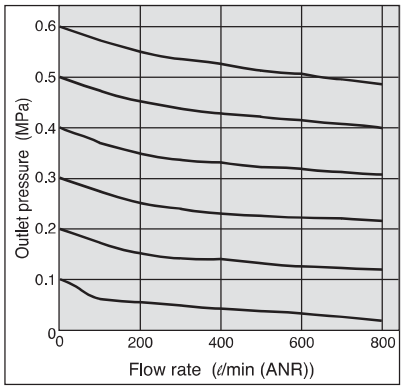


2. Please contact SMC when using the regulator between a solenoid valve and an actuator.

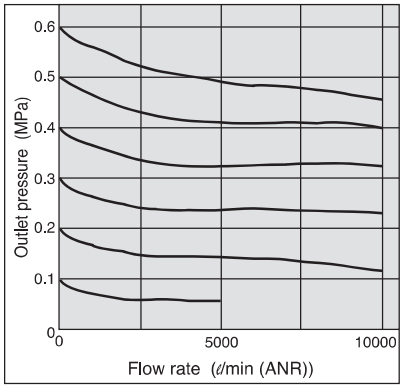
Flow Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa

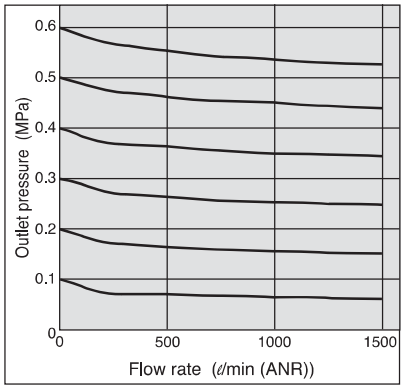
AR20 G 1/4



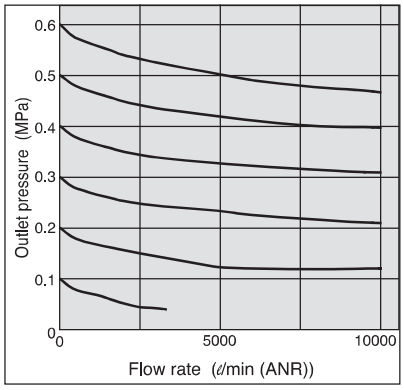
AR50 G 1



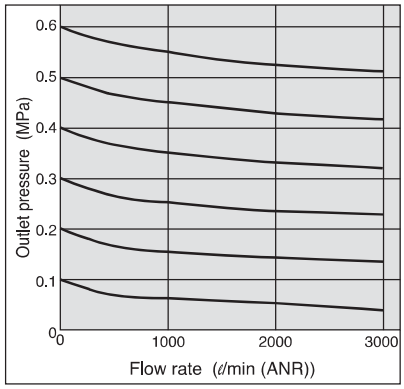
AR30 G 3/8



AR60 G 1



AR40 G 1/2

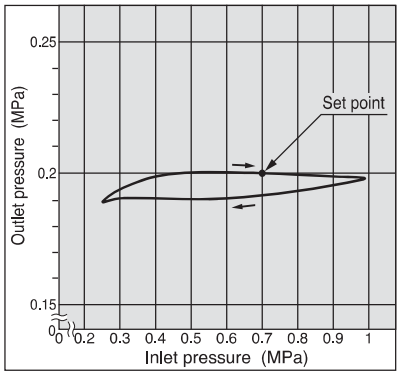


Series AR20 to 60

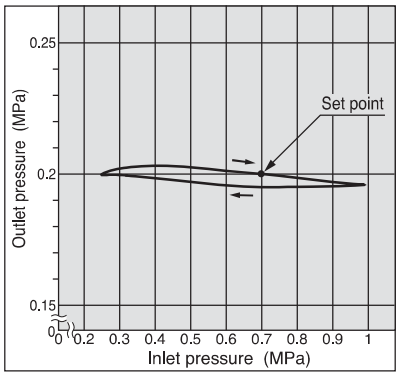
Pressure Characteristics (Representative values)

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

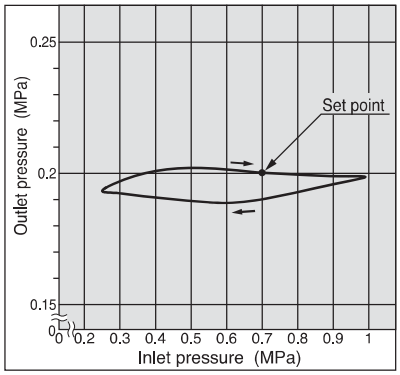
AR20



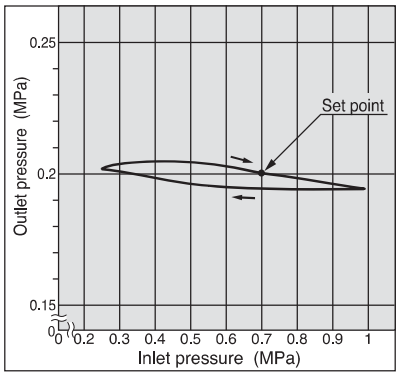
AR50



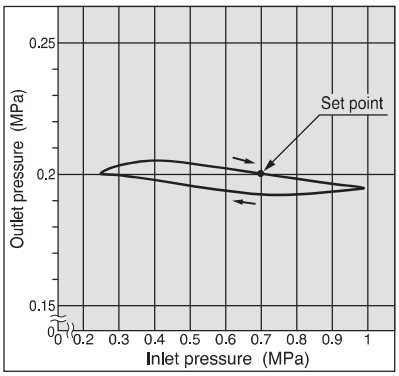
AR30



AR60



AR40



Series AR30K to 50K Regulator w/ Back Flow Mechanism

Regulator with a built-in mechanism that ensures a quick release of the outlet air pressure (built-in check valve with back flow mechanism).



AR40K

How to Order

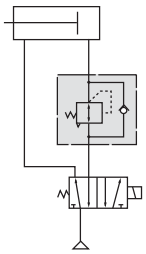
AR 30 K — F 03 B- B

- **Body size**: 30, 40, 50
- **With back flow mechanism**: K
- **Port size**: 03
- **Bracket**: B
- 0

Symbol	Port size	Body size 30	40	50	60
01	1/8	—	—	—	—
02	1/4	◆	◆	—	—
03	3/8	◆	◆	—	—
04	1/2	—	◆	—	—
06	3/4	—	◆	◆	—
10	1	—	—	◆	◆

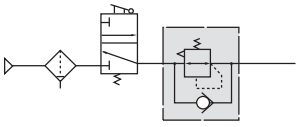
Example 1)
When the pressure in the rear and the front of the cylinder differs:

Circuit diagram

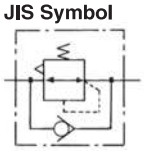


Example 2)
When the air supply is cut off and releasing the inlet pressure to the atmosphere, the residual pressure release of the outlet side can be ensured for a safety purpose.

Circuit diagram



JIS Symbol



Standard Specifications

Model	AR30K	AR40K	AR40K-06	AR50K
Port size G	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Set pressure range (1)	0.05 to 0.85 MPa			
Pressure gauge port size (2)	G 1/8	G 1/4	G 1/4	G 1/4
Relief pressure	Set pressure + 0.05 MPa (at relief flow rate of 0.1 ℓ/min (ANR))			
Ambient and fluid temperature	–5° to 60°C (With no freezing)			
Construction	Relieving type			
Weight (kg)	0.30	0.45	0.48	1.17

Note1)Set the inlet pressure 0.05 MPa or higher than the set pressure.

Regulator with Back Flow Mechanism Series AR30K to 50K

⚠ Precautions

Mounting & Adjustment

⚠ Warning

1. Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
2. Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

⚠ Caution

1. Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure.

   Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.



- Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" that appears in the gap.)
- Push the pressure regulator knob to lock. When the knob is not easily locked, turn it left and right a little and then push it (when the knob is locked, the "orange mark", i.e., the gap will disappear).

Maintenance

⚠ Warning

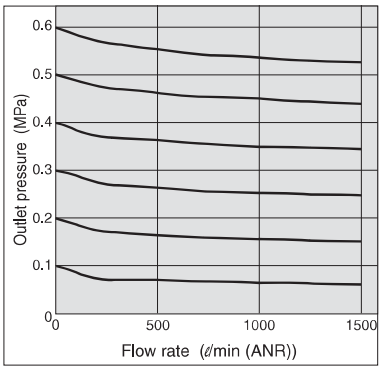
1. When using the regulator between a solenoid valve and an actuator, check the pressure gauge periodically.

   Sudden pressure fluctuations may shorten the durability of the pressure gauge. A digital pressure gauge is recommended for such situation or as deemed necessary.

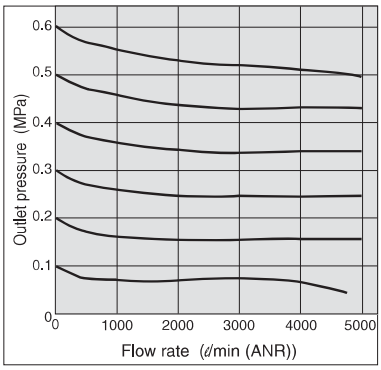
Flow Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa

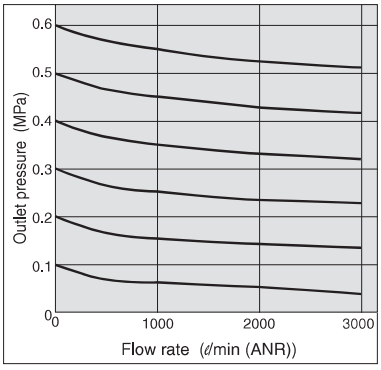
AR30K G 3/8



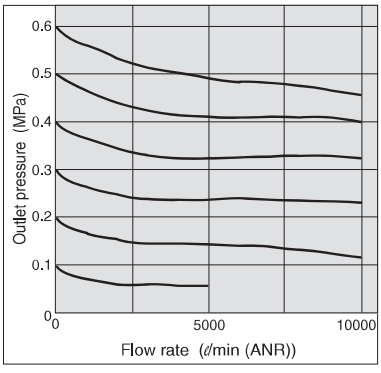
AR40K-06 G 3/8



AR40K G 1/2



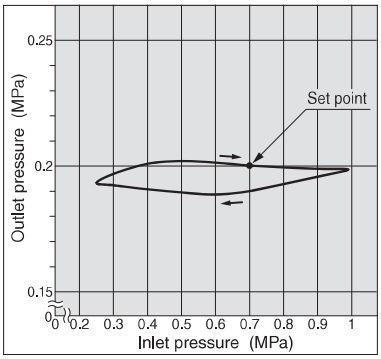
AR50K G 1



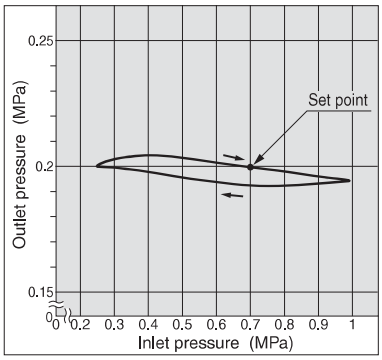
Pressure Characteristics (Representative values)

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

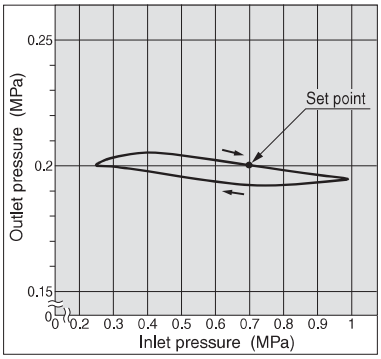
AR30K



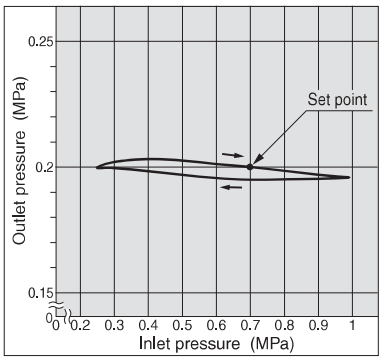
AR40K-06



AR40K



AR50K



Series AR825 to 925 Pilot Operated Regulator

Standard Specifications

Model	AR825	AR925
Port size G	1¼, 1½	2
Fluid	Air	
Proof pressure	1.5 MPa	
Max. operating pressure	1.0 MPa	
Set pressure range (MPa) (1)	0.05 to 0.83	0.05 to 0.83
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)	2.5	4.5

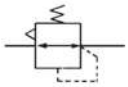
Note1)Outlet pressure range: P2 is 90% of P1 or less.
Note 2) Air consumption differs depending on the set pressure. Due to the construction, the pressure gap between inlet and outlet cannot be set within 0.03 MPa, even if the handle is set at the maximum.

Internal pilot operated relieving type regulator



AR8□5

JIS Symbol



How to Order

* AR 8 25— * 12

Thread Type

Nil	PT
N	NPT

Body size

8	1¼ & 1½
9	2

Port size

12	1¼
14	1½
20	2

Thread Type

Nil	PT
N	NPT

Note1)Thread type per plant specifation.

Series AR825 to 935

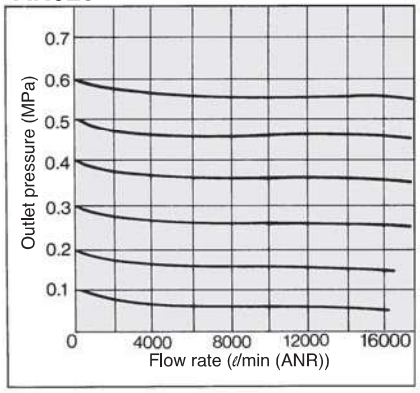
Flow Characteristics

Inlet pressure: 0.7 MPa

AR825 G1½



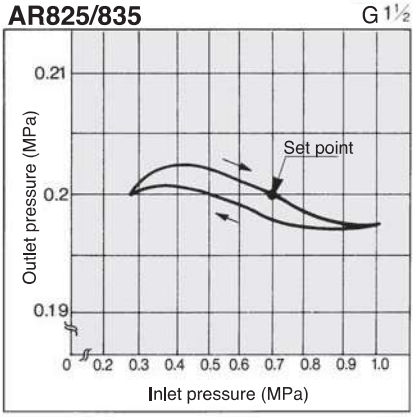
AR925 G2



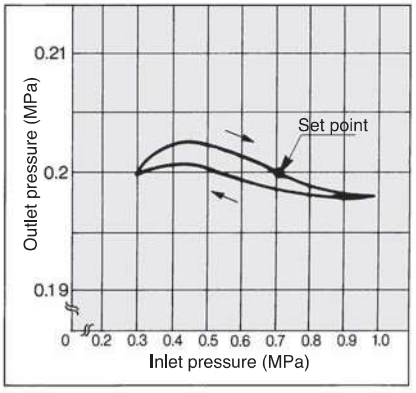
Pressure Characteristics

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

AR825/835 G1½



AR925/935 G2



Series ARX20 Regulator for 2 MPa

How to Order

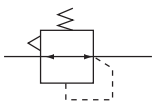
ARX20 – F01 □

Option

Nil	None	
B	Bracket	1348112

Specifications

JIS Symbol



Model	**ARX20**
Regulator construction	Piston type regulator
Relief mechanism	Relieving type
Port size	1/8, G
Pressure gauge port size	1/8, G
Proof pressure	3.0 MPa
Maximum operating pressure	2.0 MPa
Regulating pressure range	0.05 to 0.85 MPa
Fluid	Air
Ambient and fluid temperature	–5 to 60°C (No freezing)
Weight	110 g