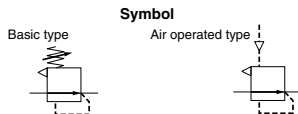


Precision Regulator

IR1000/2000/3000 Series



Standard Specifications

Model	Basic type			Air operated type	
	IR10□0	IR20□0	IR30□0	IR2120	IR3120
Fluid	Air				
Max. supply pressure	Max. 1.0 MPa				
Min. supply pressure (1)	Set pressure + 0.05 MPa			Set pressure + 0.1 MPa	Set pressure + 0.1 MPa
Set pressure range	IR1000: 0.005 to 0.2 MPa IR1010: 0.01 to 0.4 MPa IR1020: 0.01 to 0.8 MPa	IR2000: 0.005 to 0.2 MPa IR2010: 0.01 to 0.4 MPa IR2020: 0.01 to 0.8 MPa	IR3000: 0.01 to 0.2 MPa IR3010: 0.01 to 0.4 MPa IR3020: 0.01 to 0.8 MPa	0.01 to 0.8 MPa	0.01 to 0.8 MPa
Input signal (2) pressure	—			0.01 to 0.8 MPa	0.01 to 0.8 MPa
Sensitivity (3)	Within 0.2% of full span				
Repeatability (3)	Within ±0.5% of full span				
Linearity (4)	Within ±1% of full span				
Air consumption (5) (At supply pressure of 1.0 MPa)	4.4 L/min (ANR) or less	4.4 L/min (ANR) or less	11.5 L/min (ANR) or less	4.4 L/min (ANR) or less	11.5 L/min (ANR) or less
Port size	Rc 1/8	Rc 1/4	Rc 1/4, 3/8, 1/2	Rc 1/4	Rc 1/4, 3/8, 1/2
Pressure gauge port	Rc 1/8 (2 locations)				
Ambient and fluid temperature	-5 to 60°C (No freezing)				
Weight (kg)	0.14	0.30	0.64	0.35	0.71

Note 1) With the condition of no flow on the output side. Together with the set pressure, be sure to maintain a minimum differential pressure of 0.05 MPa for IR1000 and IR2000 series, and 0.1 MPa for IR3000 series.

Note 2) Applicable only to air operated types IR2120 and IR3120. The basic type is excepted.

Note 3) Characteristic values are subject to conditions where other characteristics, such as secular change and temperature change, are not included.

Note 4) Indicates the linearity of the output pressure with respect to the input signal pressure.

Note 5) Air is normally being discharged to the atmosphere from a bleed hole or an exhaust port.

Specification Combinations

○: Standard specifications ○: Combination possible □: Combination not possible



IR3000 series



IR2000 series



IR1000 series

Specifications	Symbol	Applicable model					
		IR1000 IR1010 IR1020	IR2000 IR2010 IR2020	IR2120	IR3000 IR3010 IR3020	IR3120	
Standard specifications	Set pressure Max. 0.2 MPa	0	○	○	○	○	
	Set pressure Max. 0.4 MPa	1	○	○	○	○	
	Set pressure Max. 0.8 MPa	2	○	○	○	○	
	Connection Rc 1/8	01	○				
Standard specifications	Connection Rc 1/4	02		○	○	○	
	Connection Rc 3/8	03			○	○	
	Connection Rc 1/2	04			○	○	
	Accessory	Bracket	B	○	○	○	○
Pressure gauge		G	○	○	○	○	
Bracket, name plate reverse mounted		R	○	○	○	○	
Semi-standard specifications		Connection NPT 1/8	N01	○			
	Connection NPT 1/4	N02		○	○	○	
	Connection NPT 3/8	N03			○	○	
	Connection NPT 1/2	N04			○	○	
	Connection G 1/8	F01	○				
	Connection G 1/4	F02		○	○	○	
	Connection G 3/8	F03			○	○	
	Connection G 1/2	F04			○	○	

* Photos are when a pressure gauge is mounted. Pressure gauge is shipped together, but not assembled.



IR1000/2000/3000 Series

How to Order

IR 2 0 0 0 — 0 2 —

Precision regulator •

Body size •

1	IR1000 series
2	IR2000 series
3	IR3000 series

Type of setting •

0	Basic type (Knob)
1 (Note 1)	Air operated type

Set pressure range •
For IR1000/2000 series

0	0.005 to 0.2 MPa
1	0.01 to 0.4 MPa
2	0.01 to 0.8 MPa

For IR3000 series

0	0.01 to 0.2 MPa
1	0.01 to 0.4 MPa
2	0.01 to 0.8 MPa

Suffix

Nil	—
R (Note 4)	Bracket, Name plate, Mounting on the opposite side

Accessory

Nil	None
B	With bracket
G (Note 3)	With pressure gauge

Port size

Symbol	Size	Application		
		IR1000	IR2000	IR3000
01	1/8	●		
02	1/4		●	●
03	3/8			●
04	1/2			●

Thread type

Nil	Rc
N (Note 2)	NPT
F	G

Note 1) Air operated type is IR2120 and IR3120 only.
 Note 2) For thread type NPT, this product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
 Note 3) For the model with pressure gauge (G), the pressure gauge is shipped together, but not assembled.
 Note 4) The standard mounting position of the name plate is on the front when viewing the precision regulator with the SUP side to the left and OUT side to the right. The bracket is attached to the back.

Accessory (Option)/Part No.

Description	Part no.									
	IR1000	IR1010	IR1020	IR2000	IR2010	IR2020/2120	IR3000	IR3010	IR3020/3120	
Bracket	P36201023			P36202028			P362030-20 ^{*1}			
Pressure gauge ^{*2}	Thread type Rc, G	G33-2-01	G33-4-01	G33-10-01	G43-2-01	G43-4-01	G43-10-01	G43-2-01	G43-4-01	G43-10-01
	Thread type NPT	G33-P2-N01-X30	G33-P4-N01-X30	G33-P10-N01-X30	G43-P2-N01-X30	G43-P4-N01-X30	G43-P10-N01-X30	G43-P2-N01-X30	G43-P4-N01-X30	G43-P10-N01-X30

*1 A bracket and two mounting screws (M5 x 35)

To mount the bracket, remove two body screws (M5 x 30) on the name plate on the opposite side and replace the attached two bracket mounting screws (M5 x 35).

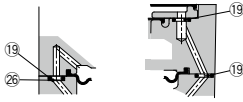
*2 When ordering this pressure gauge individually, the sealant is not applied to the connection male thread. So, apply the sealing tape or sealant to the screw thread before use.



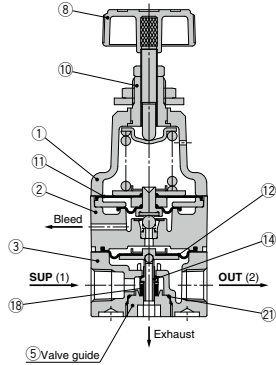
Precision Regulator *IR1000/2000/3000 Series*

Construction

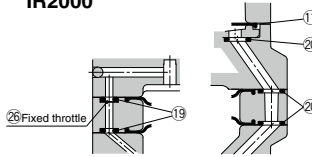
IR1000



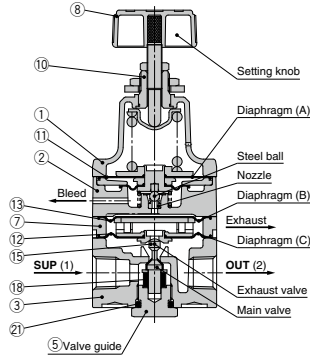
SUP side passage OUT side passage



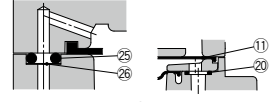
IR2000



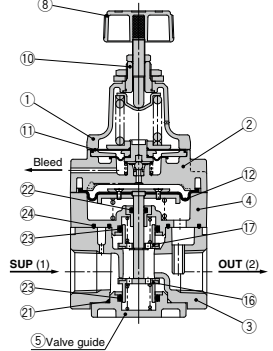
SUP side passage OUT side passage



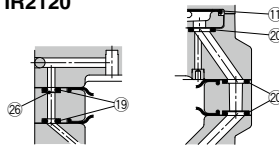
IR3000



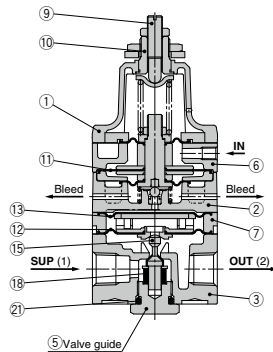
SUP side passage OUT side passage



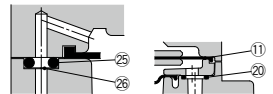
IR2120



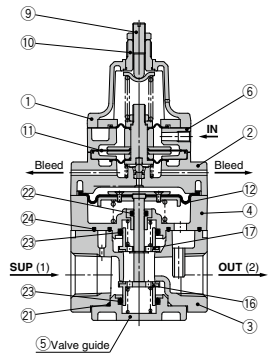
SUP side passage OUT side passage



IR3120



SUP side passage OUT side passage





Construction

Main Component Parts

No.	Description	Material				
		IR10□0	IR20□0	IR30□0	IR2120	IR3120
1	Bonnet	Aluminum alloy				
2	Nozzle valve element	Aluminum alloy				
3	Body	Aluminum alloy				
4	Intermediate body	—	—	Aluminum alloy	—	Aluminum alloy
5	Valve guide	Resin	Brass	Aluminum alloy	Brass	Aluminum alloy
6	Cover	—	—	—	Aluminum alloy	Aluminum alloy
7	Bleed ring	—	Resin	—	Resin	—
8	Setting knob	Resin/Steel			—	—
9	Adjusting screw	—	—	—	Steel	
10	Bush	Brass				

Replacement Parts

No.	Description	Material	IR10□0	IR20□0	IR30□0	IR2120	IR3120
11	Diaphragm assembly	NBR, other	1	1	1	1	1
12	Diaphragm assembly	NBR, other	1	1	1	1	1
13	Diaphragm	NBR, other		1		1	
14	Valve	Stainless steel, NBR	1				
15	Valve	Stainless steel, H-NBR		1		1	
16	Valve	Brass, NBR			1		1
17	Valve	Brass, NBR			1		1
18	Damper	NBR, other	1	1		1	
19	O-ring	H-NBR	3	2		2	
20	O-ring	NBR		3		3	1
21	O-ring	NBR	1	1	1	1	1
22	O-ring	NBR			1		1
23	O-ring	NBR			2		2
24	Seal (A)	NBR			1		1
25	Seal (B)	NBR			3		3
26	Fixed throttle	Stainless steel	1	1	1	1	1
Repair kit no. (A set of above nos. ① to ②⑥.)			KT-IR1000	KT-IR2000	KT-IR3000	KT-IR2120	KT-IR3120

Note 1) The replacement parts are shipped with the repair kit number.

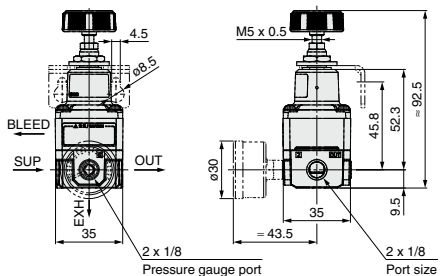
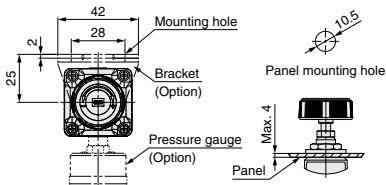
Note 2) The sizes of the replacement parts included will vary according to the repair kit part number.



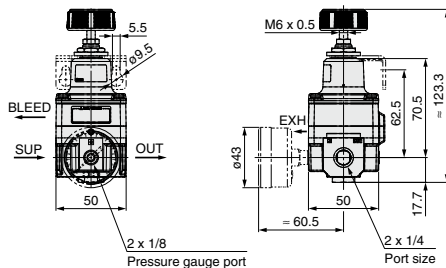
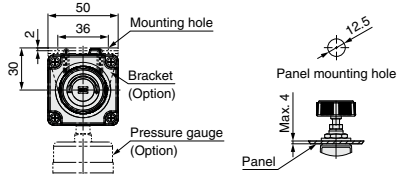
Dimensions

Precision Regulator IR1000/2000/3000 Series

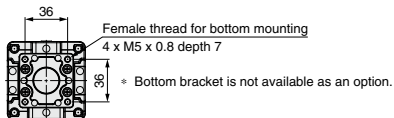
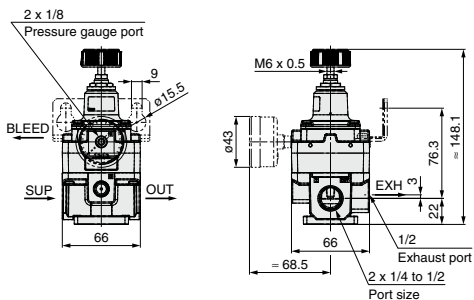
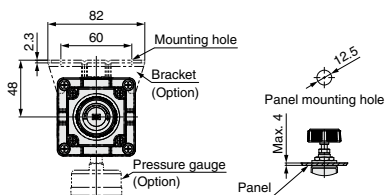
IR1000-001□



IR2000-002□



IR3000-00□

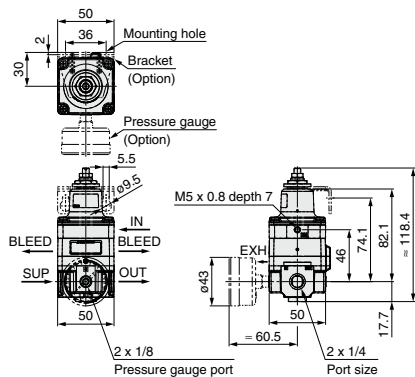




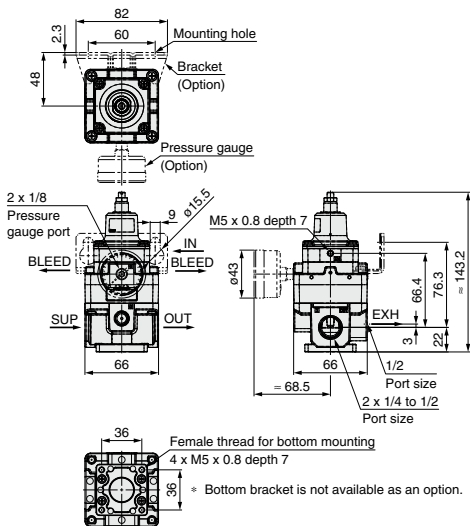
Dimensions

IR1000/2000/3000 Series

IR2120-□□02□



IR3120-□□0□□





IR1000 Series

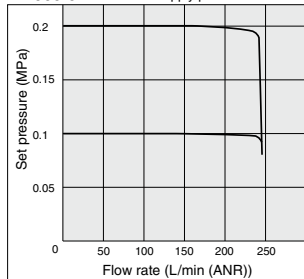
Precision Regulator *IR1000/2000/3000 Series*

* The operating conditions or external disturbance may affect each of the characteristics. So, the characteristic values shown below are not guaranteed.

Flow Rate Characteristics

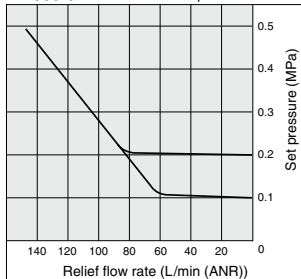
* Testing methods conform to JIS B 8372.

IR1000-01 Supply pressure: 0.5 MPa



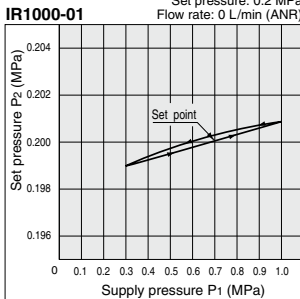
Relief Characteristics

IR1000-01 Back pressure: 0.5 MPa

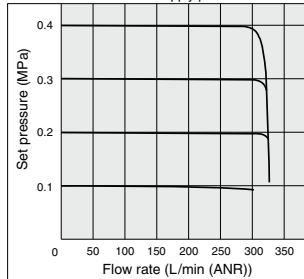


Pressure Characteristics

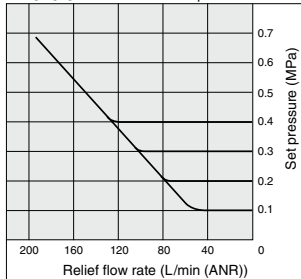
Supply pressure: 0.3 to 1.0 MPa
Set pressure: 0.2 MPa
Flow rate: 0 L/min (ANR)



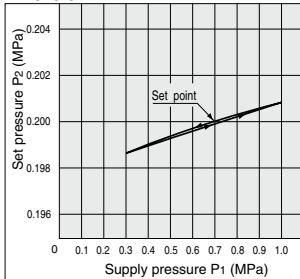
IR1010-01 Supply pressure: 0.7 MPa



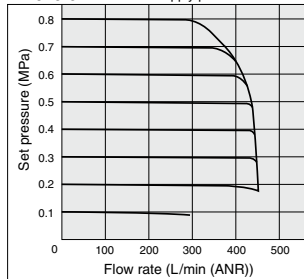
IR1010-01 Back pressure: 0.7 MPa



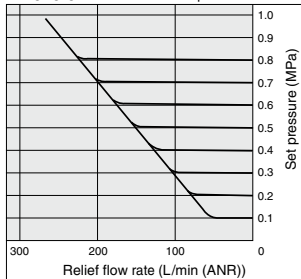
IR1010-01



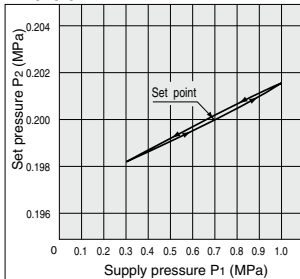
IR1020-01 Supply pressure: 1.0 MPa



IR1020-01 Back pressure: 1.0 MPa



IR1020-01





IR2000 Series

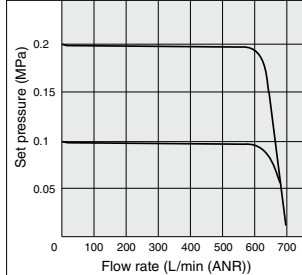
IR1000/2000/3000 Series

* The operating conditions or external disturbance may affect each of the characteristics. So, the characteristic values shown below are not guaranteed.

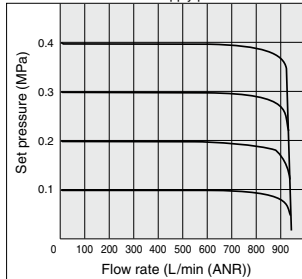
Flow Rate Characteristics

* Testing methods conform to JIS B 8372.

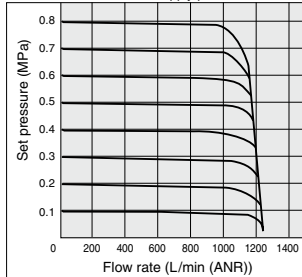
IR2000-02 Supply pressure: 0.5 MPa



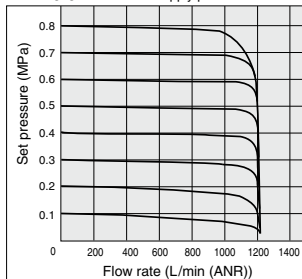
IR2010-02 Supply pressure: 0.7 MPa



IR2020-02 Supply pressure: 1.0 MPa

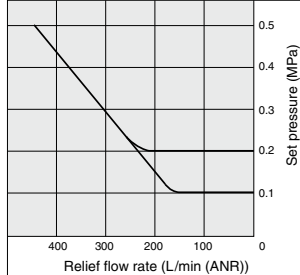


IR2120-02 Supply pressure: 1.0 MPa

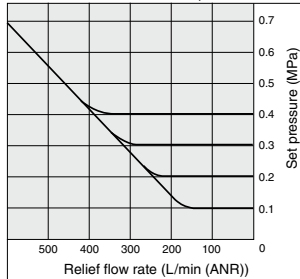


Relief Characteristics

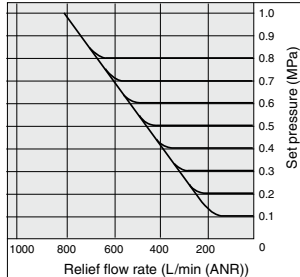
IR2000-02 Back pressure: 0.5 MPa



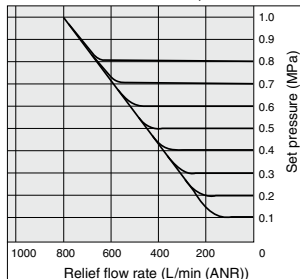
IR2010-02 Back pressure: 0.7 MPa



IR2020-02 Back pressure: 1.0 MPa



IR2120-02 Back pressure: 1.0 MPa

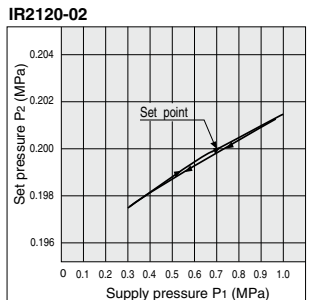
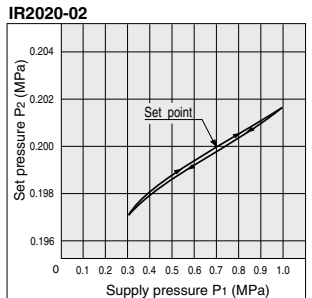
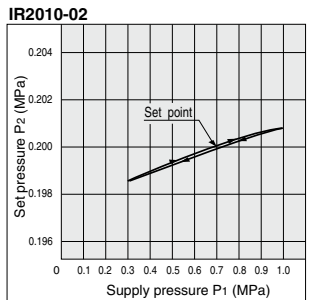
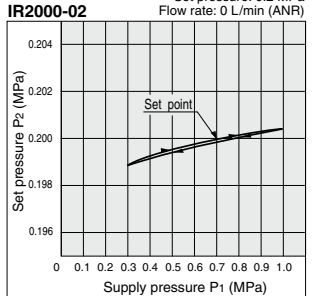


Pressure Characteristics

Supply pressure: 0.3 to 1.0 MPa

Set pressure: 0.2 MPa

Flow rate: 0 L/min (ANR)





IR3000 Series

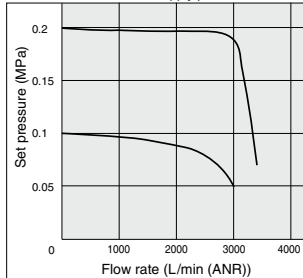
Precision Regulator *IR1000/2000/3000 Series*

* The operating conditions or external disturbance may affect each of the characteristics. So, the characteristic values shown below are not guaranteed.

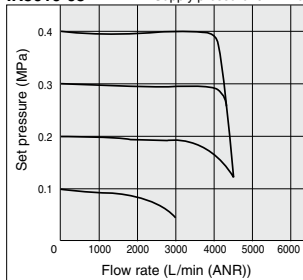
Flow Rate Characteristics

* Testing methods conform to JIS B 8372.

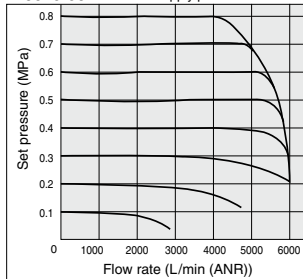
IR3000-03 Supply pressure: 0.5 MPa



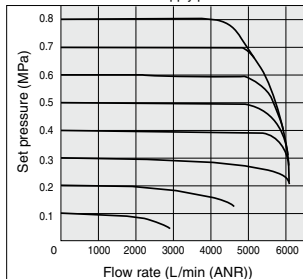
IR3010-03 Supply pressure: 0.7 MPa



IR3020-03 Supply pressure: 1.0 MPa

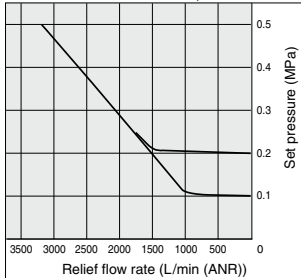


IR3120-03 Supply pressure: 1.0 MPa

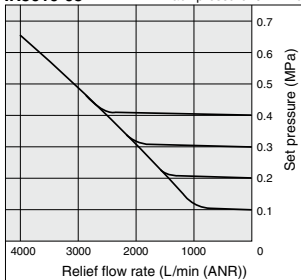


Relief Characteristics

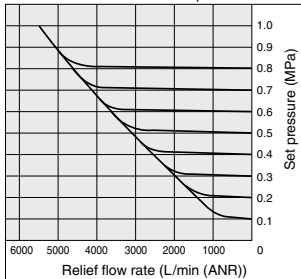
IR3000-03 Back pressure: 0.5 MPa



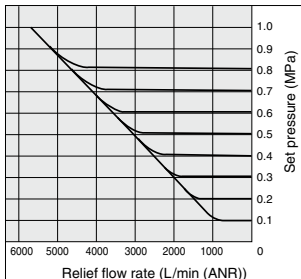
IR3010-03 Back pressure: 0.7 MPa



IR3020-03 Back pressure: 1.0 MPa



IR3120-03 Back pressure: 1.0 MPa



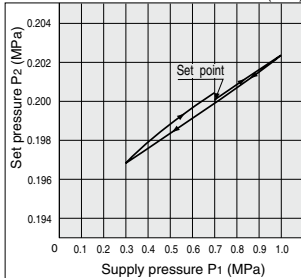
Pressure Characteristics

Supply pressure: 0.3 to 1.0 MPa

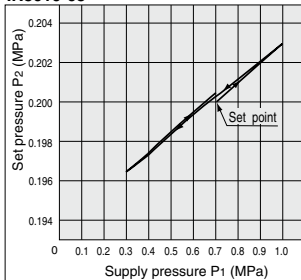
Set pressure: 0.2 MPa

Flow rate: 0 L/min (ANR)

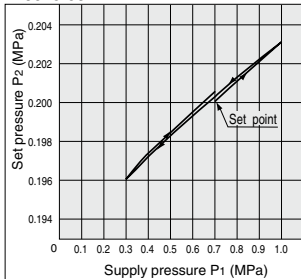
IR3000-03



IR3010-03



IR3020-03



IR3120-03

