



Reverse regulator standard white Series

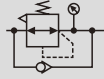
R1100/R2100/R3100

R4100/R6100/R8100-W Series

From secondary pressure to primary pressure with back flow function.

Port size: 1/8 to 1

JIS symbol



Specifications

Descriptions	R1100-W	R2100-W	R3100-W	R4100-W	R6100-W	R8100-W
Appearance						
Working fluid	Compressed air					
Max. working pressure MPa	1.0					
Withstanding pressure MPa	1.5					
Ambient temperature range °C	5 to 60 Note 3					
Set pressure range (Note 2) MPa	0.05 to 0.85					
Relief	With relief mechanism					
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adapter)	1/4, 3/8 (1/2 uses an adapter)	1/4, 3/8 (1/2 uses an adapter)	1/4, 3/8, 1/2 (3/4 uses an adapter)	3/4, 1 (1 1/4 uses an adapter)	3/4, 1 (1 1/4 uses an adapter)
Product weight kg	0.16	0.31	0.45	0.7	1.0	1.6
Standard accessories	Pressure gauge, nut for panel mount					Pressure gauge

Note 1: Check that the primary pressure is at least 0.05 MPa or more than the secondary pressure.

Note 2: Refer to the set pressure range for the back pressure given on page 119 when selecting the model.

Note 3: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Ozone specifications

(Page 184)

R*100- ... W ... - P11

Clean room specifications

(Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

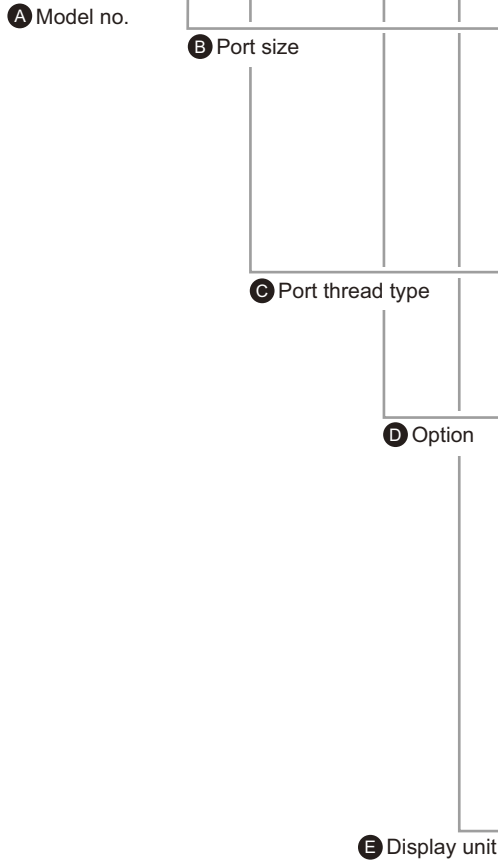
R*100- - P7*

How to order

* Refer to page 9 for explanation of an option.



A Model no.					
R 1	R 2	R 3	R 4	R 6	R 8
1	1	1	1	1	1
0	0	0	0	0	0
0	0	0	0	0	0



Symbol	Descriptions	R 1	R 2	R 3	R 4	R 6	R 8
B Port size							
6	1/8	●					
8	1/4	●	●	●	●		
10	3/8		●	●	●		
15	1/2				●		
20	3/4					●	●
25	1					●	●

C Port thread type		Note 1					
Blank	Rc thread	●	●	●	●	●	●
N	NPT thread	●	●	●	●	●	●
G	G thread	●	●	●	●	●	●

D Option		Note 2, Note 4						
Pressure range	Blank	0.05 to 0.85MPa	●	●	●	●	●	●
	L	0.05 to 0.35MPa	●	●	●	●	●	●
Relief	Blank	With relief mechanism	●	●	●	●	●	●
	N	Nonrelief type	●	●	●	●	●	●
Pressure gauge	Blank	With standard pressure gauge (G401-W)	●	●	●	●	●	●
	T	Without pressure gauge (a pressure gauge port (Rc1/4) is assembled with sealed)	●	●	●	●	●	●
	T8	Pressure gauge attached (a pressure gauge port (Rc1/4) is assembled by open.)	●	●	●	●	●	●
	T6 Note 3	Digital pressure sensor PPX attached option	●	●	●	●	●	●
Flow direction	Blank	Standard flow (left → right)	●	●	●	●	●	●
	X1	Reverse flow (right → left)	●	●	●	●	●	●

E Display unit							
Blank	MPa display, Rc thread	●	●	●	●	●	●
J1	MPa display, NPT, G thread	●	●	●	●	●	●

F Piping adapter set (attached)		Note 5 Pages 151 to 153					
Blank	Not attached	●	●	●	●	●	●
A6*W	1/8 piping adapter set	●					
A8*W	1/4 piping adapter set	●	●	●	●		
A10*W	3/8 piping adapter set	●	●	●	●		
A15*W	1/2 piping adapter set		●	●	●		
A20*W	3/4 piping adapter set				●	●	●
A25*W	1 piping adapter set					●	●
A32*W	1 1/4 piping adapter set					●	●

* Adaptor screw type							
Blank	Rc thread	●	●	●	●	●	●
N	NPT thread	●	●	●	●	●	●
G	G thread	●	●	●	●	●	●

G Attachment (attached)		Pages 148, 194					
Blank	Not attached	●	●	●	●	●	●
BW	C type bracket	●	●	●	●	●	●
B3W Note 6	L type bracket	●	●	●	●		
B4W	B type bracket		●				
G49P	G49D-8-P10 (L: G49D-8-P04)	●	●	●	●	●	●
G59P	G59D-8-P10 (L: G59D-8-P04)	●	●	●	●	●	●
G40P	G40D-8-P10 (L: G40D-8-P04)	●	●	●	●	●	●
G50P	G50D-8-P10 (L: G50D-8-P04)	●	●	●	●	●	●
G41P	G41D-8-P10 (L: G41D-8-P04)	●	●	●	●	●	●
G52P	G52D-8-P10 (L: G52D-8-P10)	●	●	●	●	●	●
R2 Note 3	Digital pressure sensor: PPX-R10N-6M	●	●	●	●	●	●

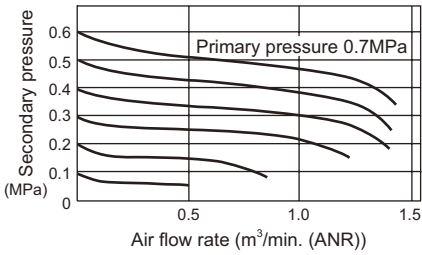
⚠ Note on model no. selection

- Note 1: When G threads or NPT threads are selected, the IN, OUT, and gauge port are available.
- Note 2: When selecting options for several items, list options in order from the top.
- Note 3: When option "T6" is selected, only "blank" or "R2" is selected for the pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 4: Positions of a check valve and pressure gauge can not be changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field.
- Note 5: The piping adapter set and C type bracket cannot be used together.
- Note 6: Refer to Section 2. Regulator, in "⚠ CAUTIONS for Installation and Adjustment" (page 14) for details on mounting the L-type bracket.
- Note 7: If NPT is selected for the piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

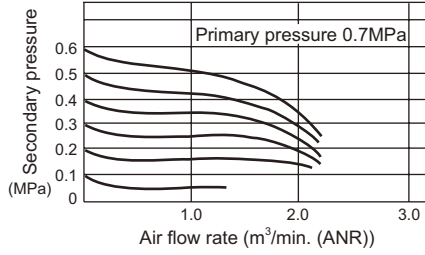
Regulator series

Flow characteristics

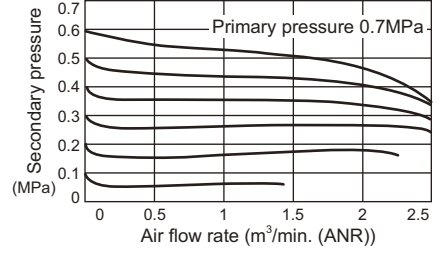
● R1100-6-W



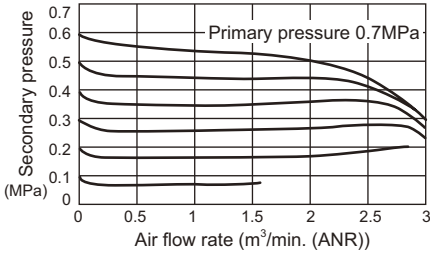
● R1100-8-W



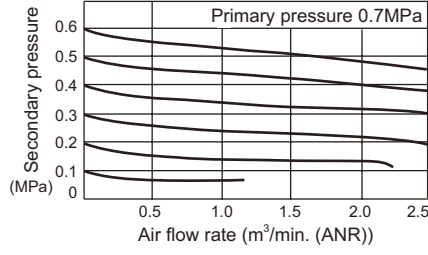
● R2100-8-W



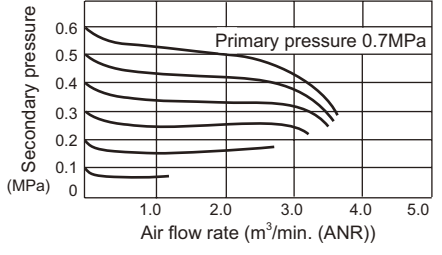
● R2100-10-W



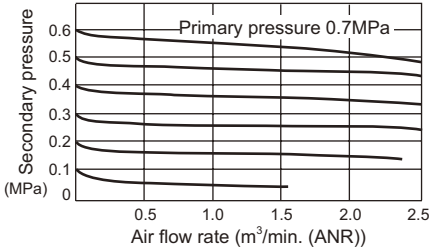
● R3100-8-W



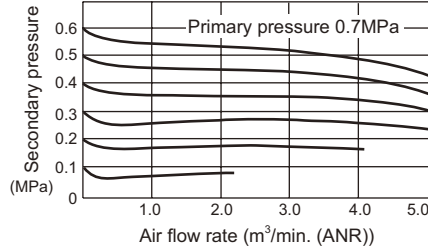
● R3100-10-W



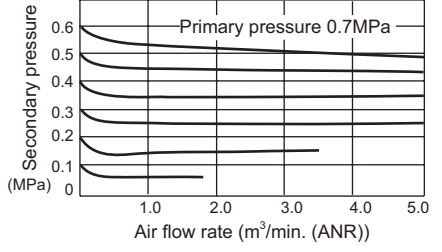
● R4100-8-W



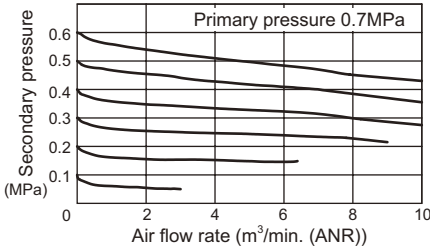
● R4100-10-W



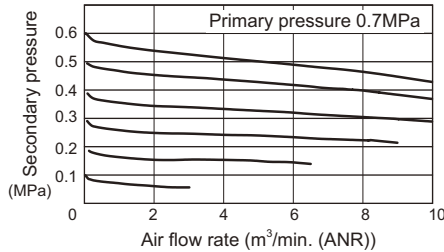
● R4100-15-W



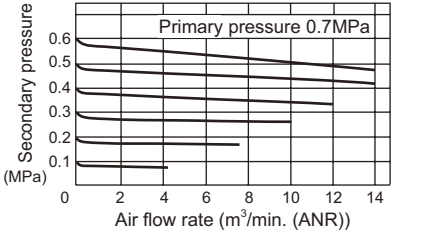
● R6100-20-W



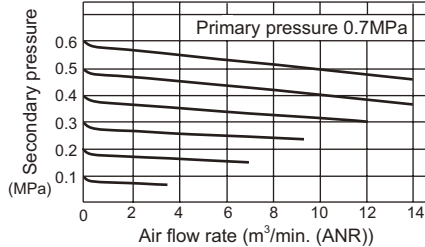
● R6100-25-W



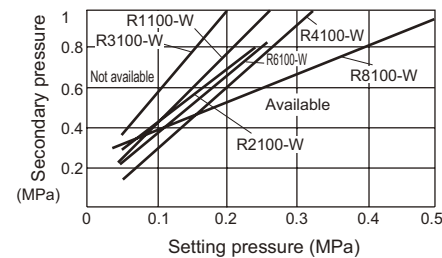
● R8100-20-W



● R8100-25-W



● Set pressure range for back pressure

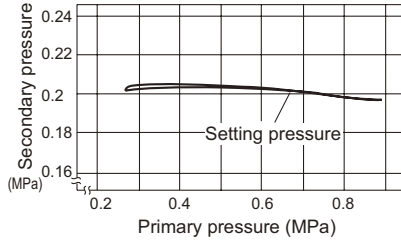


Note: The upper side of the graph is nonusable and the lower side usable.

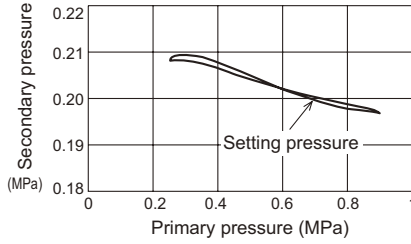
Example: If R4100-W is set to set pressure 0.2 MPa and the secondary back pressure is 0.6 MPa or more, the secondary pressure will not be released to the primary side.

Pressure characteristics

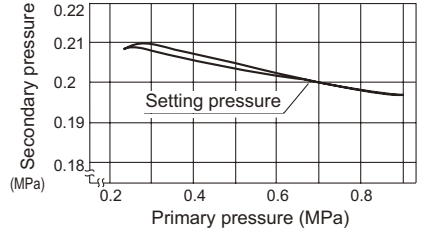
● R1100-W



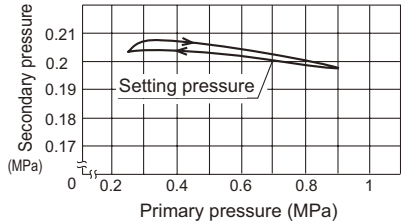
● R2100-W



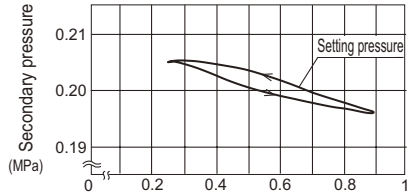
● R3100-W



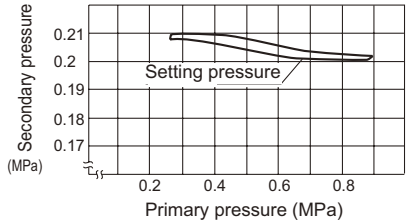
● R4100-W



● R6100-W

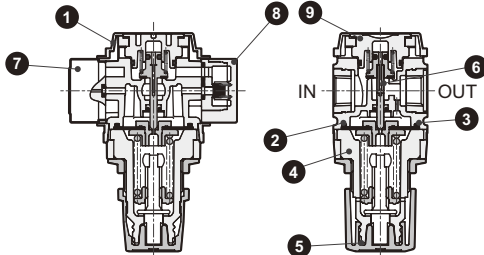


● R8100-W

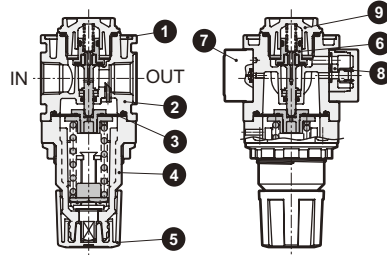


Internal structure and parts list

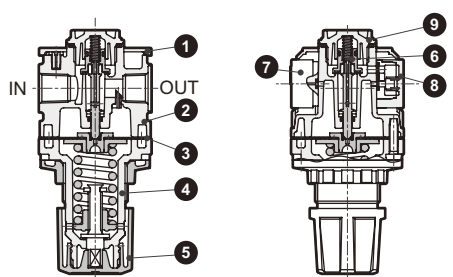
● R1100-W



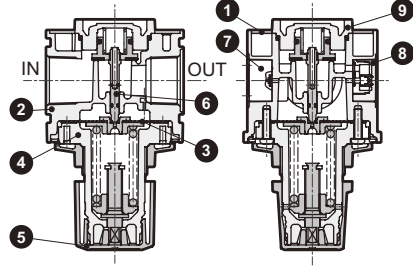
● R2100-W



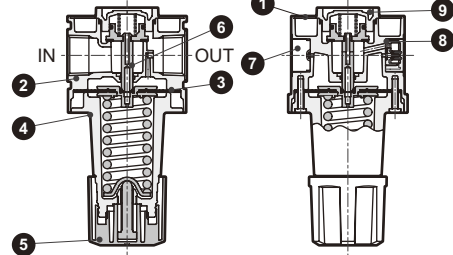
● R3100-W/R4100-W



● R6100-W



● R8100-W

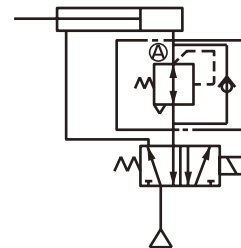


Functional explanation

When the primary pressure is introduced from the IN side, the check valve functions as a regular regulator because it closes with primary pressure and spring load. When primary pressure is released by a changeover valve such as a shut-off valve, the check valve opens with secondary pressure. Pressure in the diaphragm chamber is released and pressure drops. This causes the diaphragm to be pressed down by the pressure adjustment spring. The main valve (valve assembly) opens, and the air on the OUT side is discharged.

● Circuit diagram

When cylinder head end and rod end pressure differs.



Note: Set back pressure A for when the primary pressure is released within the range in the graph for the regulator's set pressure.

No.	Part name	Material					
		R1100-W	R2100-W	R3100-W	R4100-W	R6100-W	R8100-W
1	Plate cover	ABS resin					
2	Body	Polyamide resin, steel		Aluminum alloy die-casting			
3	Diaphragm assembly	Polyacetal resin nitrile rubber		Zinc alloy die-casting, nitrile rubber Note 2			
4	Guard	Polyamide resin		PBT resin			Aluminum alloy die-casting
5	Knob	Polyacetal resin					
6	Valve assembly	Brass, hydrogen nitrile rubber (polyacetal resin: R2100-W, R3100-W, 4100-W, 8100-W)					
7	Pressure gauge assembly	PBT resin, nitrile rubber, polyacetal resin, polycarbonate resin, brass, steel					
8	Check valve total assemblies	PBT resin, nitrile rubber, stainless steel wire, steel					
9	Bottom plug	Polyacetal resin				Aluminum alloy die-casting	

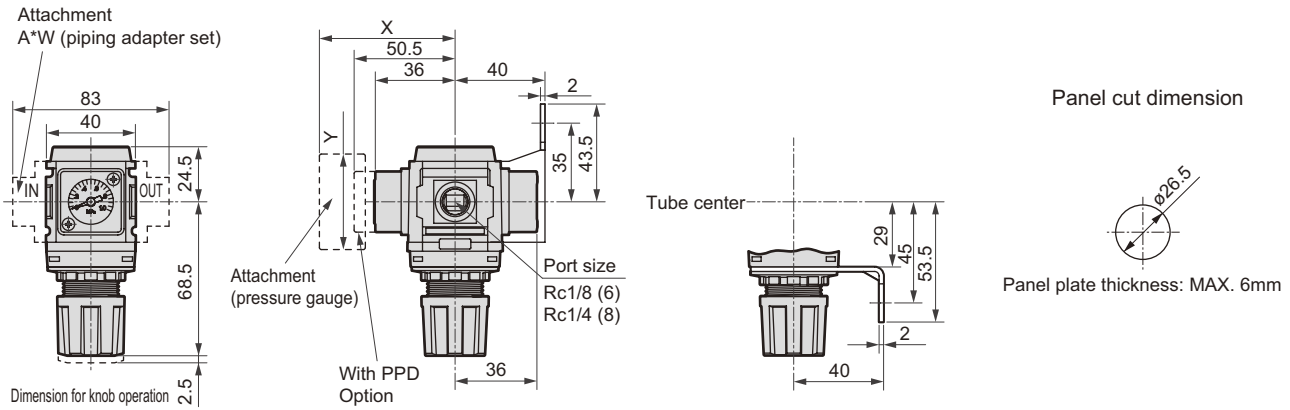
Note 1: Refer to page 124 for repair kits.

Note 2: Aluminum is added for the R6000-W low-pressure type.

Regulator Series

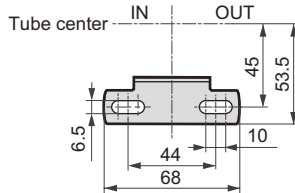
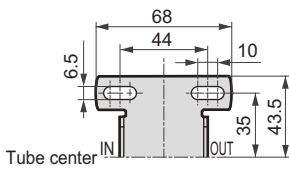
Dimensions

● R1100-W



• Attachment
C type bracket (-BW)
Part model no.: B120

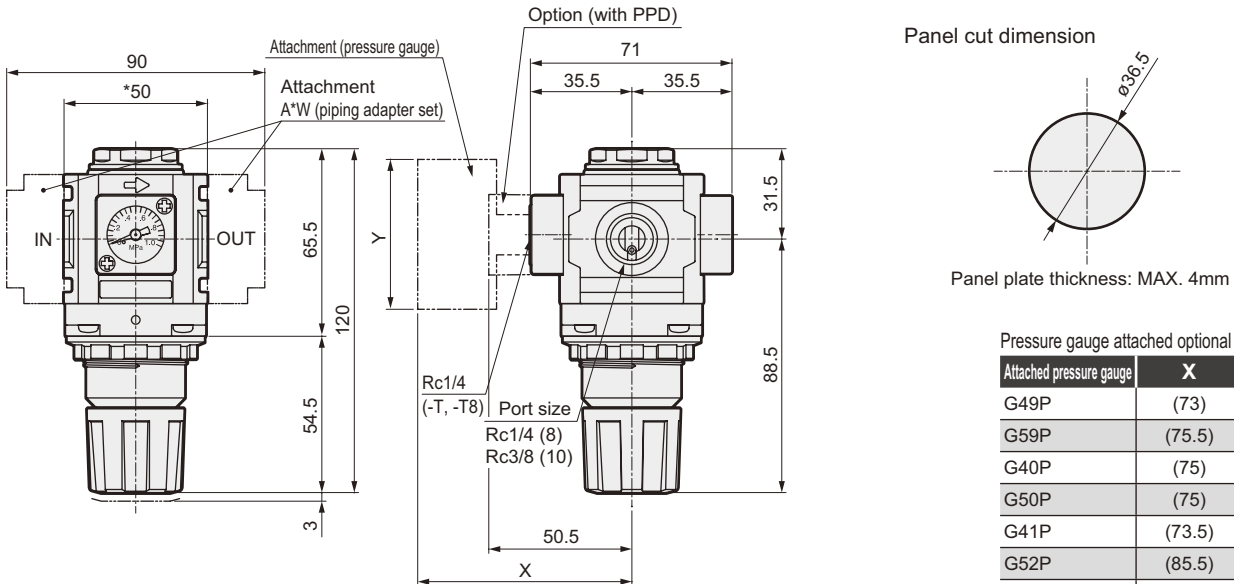
L type bracket (-B3W)
Part model no.: B130



Pressure gauge attached optional dimensions table

Attached pressure gauge	X	Y
G49P	(73.5)	ø43.5
G59P	(76)	ø52
G40P	(75.5)	ø42.5
G50P	(75.5)	ø52.5
G41P	(74)	ø42
G52P	(86)	ø52.5
R2	(74)	*30

● R2100-W



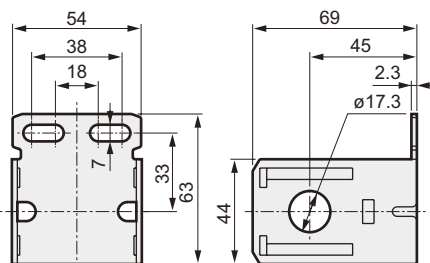
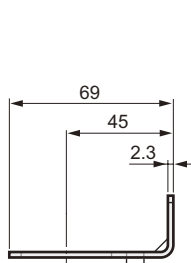
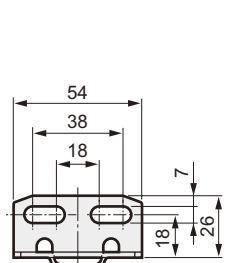
Pressure gauge attached optional dimensions table

Attached pressure gauge	X	Y
G49P	(73)	ø43.5
G59P	(75.5)	ø52
G40P	(75)	ø42.5
G50P	(75)	ø52.5
G41P	(73.5)	ø42
G52P	(85.5)	ø52.5
R2	(73)	*30

● L type bracket (-B3W)
Part model no.: B230

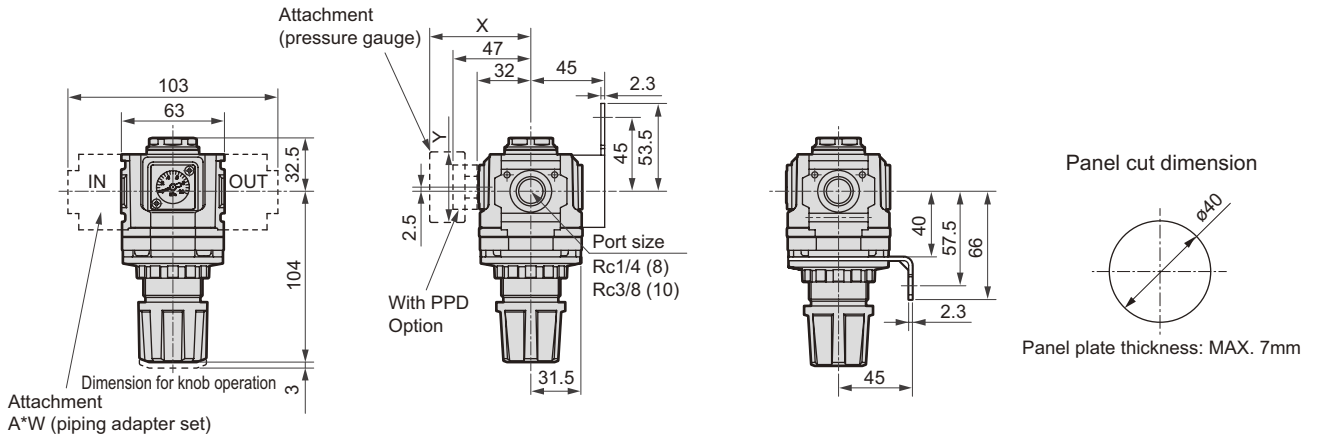
● C type bracket (-BW)
Part model no.: B220

● B type bracket (-B4W)
Part model no.: B240



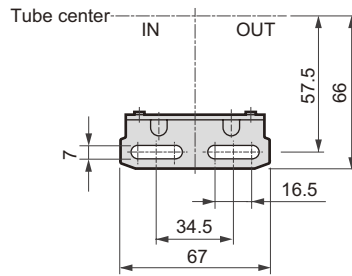
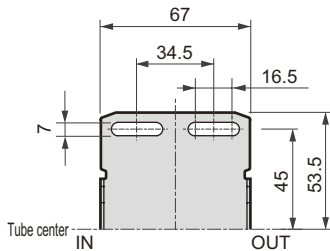
Dimensions

● R3100-W



· Attachment
C type bracket (-BW)
Part model no.: B320

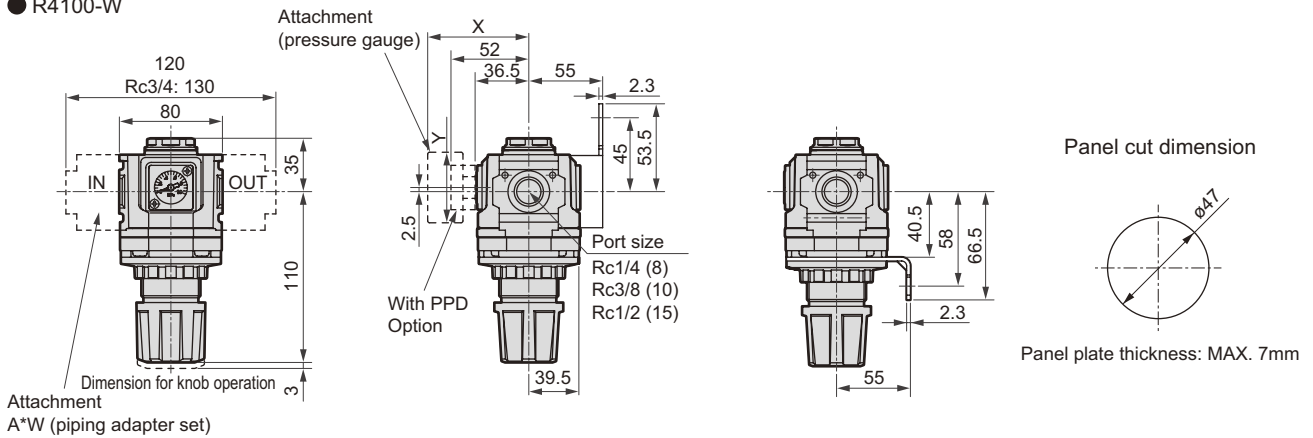
L type bracket (-B3W)
Part model no.: B330



Pressure gauge attached optional dimensions table

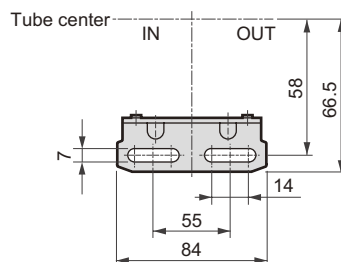
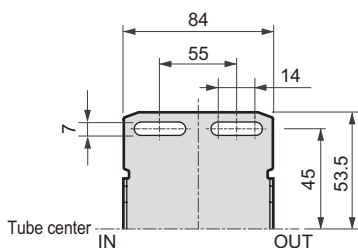
Attached pressure gauge	X	Y
G49P	(69.5)	ø43.5
G59P	(72)	ø52
G40P	(71.5)	ø42.5
G50P	(71.5)	ø52.5
G41P	(70)	ø42
G52P	(82)	ø52.5
R2	(69.5)	*30

● R4100-W



· Attachment
C type bracket (-BW)
Part model no.: B420

L type bracket (-B3W)
Part model no.: B430



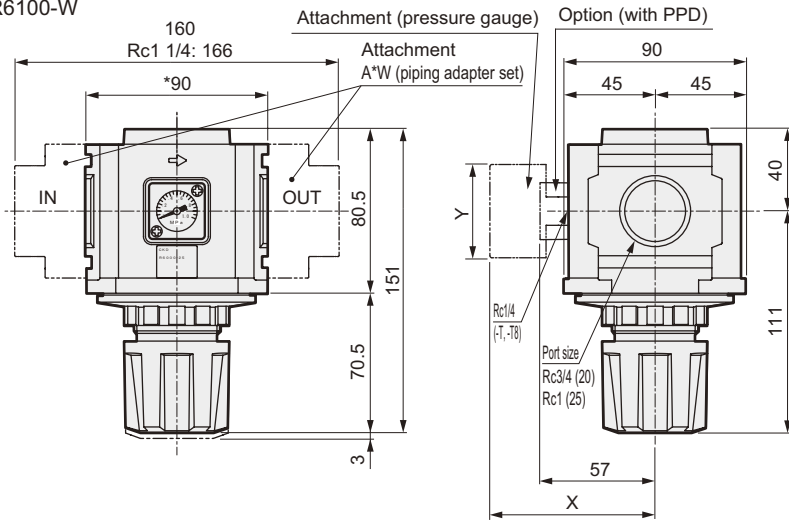
Pressure gauge attached optional dimensions table

Attached pressure gauge	X	Y
G49P	(74.5)	ø43.5
G59P	(77)	ø52
G40P	(76.5)	ø42.5
G50P	(76.5)	ø52.5
G41P	(75)	ø42
G52P	(86)	ø52.5
R2	(75)	*30

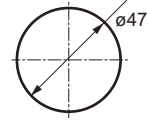
Regulator series

Dimensions

● R6100-W



Panel cut dimension

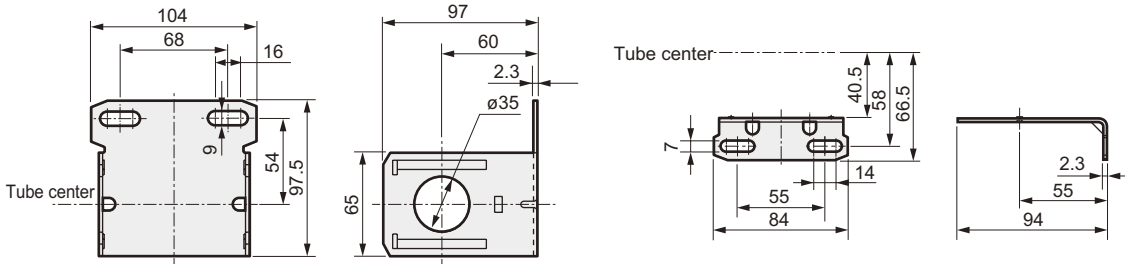


Pressure gauge optional dimensions table

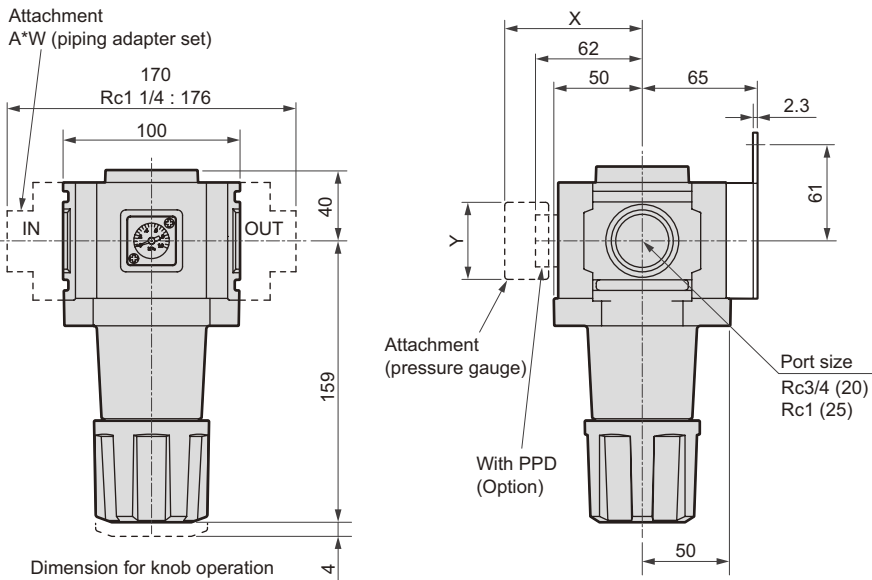
Attached pressure gauge	X	Y
G49P	(79.5)	ø43.5
G59P	(82)	ø52
G40P	(81.5)	ø42.5
G50P	(81.5)	ø52.5
G41P	(80)	ø42
G52P	(93)	ø52.5
R2	(80)	*30

• Attachment
C type bracket (-BW)
Part model no.: B620

L type bracket (-B3W)
Part model no.: B430



● R8100-W

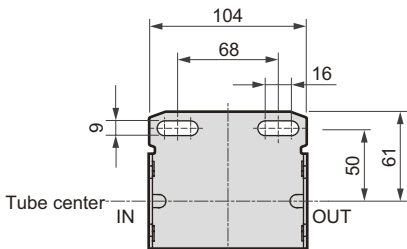


Dimension for knob operation

• Attachment
C type bracket (-BW)
Part model no.: B820

Pressure gauge attached optional dimensions table

Attached pressure gauge	X	Y
G49P	(84.5)	ø43.5
G59P	(87)	ø52
G40P	(86.5)	ø42.5
G50P	(86.5)	ø52.5
G41P	(85)	ø42
G52P	(98)	ø52.5
R2	(85)	*30



Optional parts drawing

Repair kits (Set consisting of diaphragm assembly, valve assembly, bottom spring, bottom O ring)

Repair kits model no. Model	Relief type diaphragm	Nonrelief type diaphragm
R1000-W, R1100-W	R1000-KIT	R1000-KIT-N
R2000-W, R2100-W	R2000-W-KIT	R2000-W-KIT-N
R3000-W, R3100-W, RM3000-W	R3000-KIT	R3000-KIT-N
R4000-W, R4100-W, RM4000-W	R4000-KIT	R4000-KIT-N
R6000-W, R6100-W	R6000-KIT R6000-KIT-L (low pressure range)	R6000-KIT-N R6000-KIT-LN (low pressure range)
R8000-W, R8100-W	R8000-KIT	R8000-KIT-LN

Valve assembly (Set consisting of valve assembly, bottom spring, bottom O ring)

Model	Valve assembly model no.
R1000-W, R1100-W	R1000-VALVE-ASSY
R2000-W, R2100-W	R2000-W-VALVE-ASSY
R3000-W, R3100-W, RM3000-W	R3000-VALVE-ASSY
R4000-W, R4100-W, RM4000-W	R4000-VALVE-ASSY
R6000-W, R6100-W	R6000-VALVE-ASSY
R8000-W, R8100-W	R8000-VALVE-ASSY

* Refer to page 203 for the gauge plug assembly.

Check valve assembly for reverse regulator

Model	Check valve assembly model no.
R1000-W, R1100-W	R1100-W-CHECK-VALVE-ASSY
R2100-W	R3100-W-CHECK-VALVE-ASSY
R3100-W, RM3000-W, W3100-W R4100-W, RM4000-W, W4100-W R6100-W, R8100-W W8100-W	R3100-W-CHECK-VALVE-ASSY

Adjusting spring

Adjusting spring model no. Model	Standard spring (0.05 to 0.85MPa)	Spring for low pressure (0.05 to 0.35MPa)
R1000-W, R1100-W W1000-W, W1100-W	R1000-SPRING	R1000-SPRING-L
R2000-W, R2100-W	R2000-W-SPRING	R2000-W-SPRING-L
R3000-W, R3100-W, RM3000-W W3000-W, W3100-W	R3000-SPRING	R3000-SPRING-L
R4000-W, R4100-W, RM4000-W W4000-W, W4100-W	R4000-SPRING	R4000-SPRING-L
R8000-W, R8100-W	R8000-SPRING	R8000-SPRING-L
W8000-W, W8100-W	W8000-SPRING	W8000-SPRING-L

Diaphragm assembly (only diaphragm assembly)

Diaphragm assembly model no. Model	Relief type diaphragm	Nonrelief type diaphragm
R1000-W, R1100-W W1000-W, W1100-W	R1000-DIAPHRAGM-ASSY	R1000-DIAPHRAGM-ASSY-N
R2000-W, R2100-W	R2000-DIAPHRAGM-ASSY	R2000-DIAPHRAGM-ASSY-N
R3000-W, R3100-W, RM3000-W W3000-W, W3100-W	R3000-DIAPHRAGM-ASSY	R3000-DIAPHRAGM-ASSY-N
R4000-W, R4100-W, RM4000-W W4000-W, W4100-W	R4000-DIAPHRAGM-ASSY	R4000-DIAPHRAGM-ASSY-N
R6000-W, R6100-W	R6000-DIAPHRAGM-ASSY R6000-DIAPHRAGM-ASSY-L (low pressure range)	R6000-DIAPHRAGM-ASSY-N R6000-DIAPHRAGM-ASSY-LN (low pressure range)
R8000-W, R8100-W	R8000-DIAPHRAGM-ASSY	R8000-DIAPHRAGM-ASSY-N
W8000-W, W8100-W	W8000-DIAPHRAGM-ASSY	W8000-DIAPHRAGM-ASSY-N

