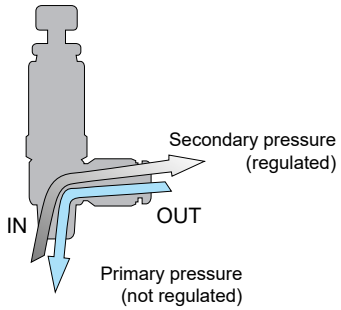
REGULATOR - Miniature Pressure Reducing Valve

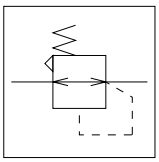
Characteristics

- The relieving pressure regulator is used to maintain a constant, preset downstream pressure in a compact package.
- Reverse flow mechanism - It can be installed in line between solenoid valves and actuators, reducing unnecessary air pressure on return strokes.
- The regulator with a pressure gauge is best suited for use with a manifold type solenoid valve.
- Choosing right sized regulators is crucial for efficient air consumption.

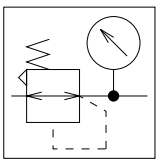


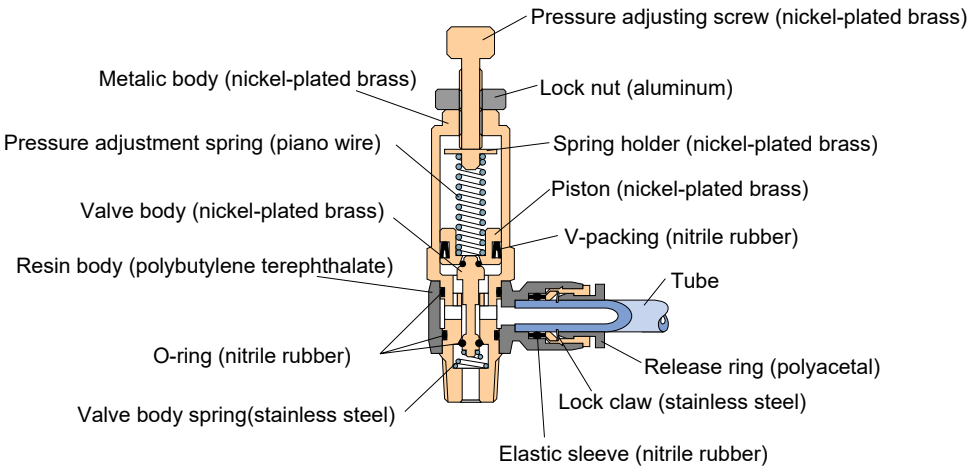
Construction

Graphical representation of regulator



Graphical representation of regulator with gauge





Specification

Fluid admitted	Air
Service pressure range	0~130.5psi (0 ~ 0.9MPa)
Pressure setting range	14.5~116psi (0.1 ~ 0.8MPa)
Pressure indication range	0~116psi (0 ~ 0.8MPa)
Accuracy (gauge)	±5%(Full span)
Service temperature range	32~140°F (0 ~ 60°C)

Model Designation (Example)

RVC (1) | 1/4 (2) | N1 (3) | U (4)

(1)Type

RVC: Elbow
RVS: Straight
RVU: Union
RVCM: Elbow/gauge
RVUM: Union/gauge

(2)Tube dia

Tube dia	in. Size			
Code	5/32	3/16	1/4	5/16
Size (In.)	ϕ5/32	ϕ3/16	ϕ1/4	ϕ5/16

Tube dia	mm Size		
Code	4	6	8
Size (mm)	ϕ4	ϕ6	ϕ8

(3)Tube, Thread size

■Thread size

Code	U10	N1	N2
Size	10-32UNF	NPT1/8	NPT1/4
Code	M5	01	02
Size	M5×0.8	R1/8	R1/4

❖ R thread is same as BSPT

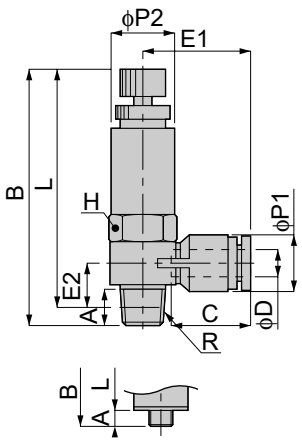
■Tube dia

Code	5/32	1/4	5/16
Size (In.)	ϕ5/32	ϕ1/4	ϕ5/16
Code	4	6	8
Size (mm)	ϕ4	ϕ6	ϕ8

(4)Hexagon flat-to-flat specification

U: Hexagon flat-to-flat inch spec. (UNF, NPT)
No code: Hexagon flat-to-flat mm spec.

RVC
Elbow



Unified or Metric Unified thread type

unit:mm

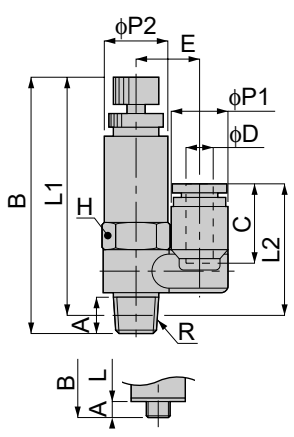
Model	Tube dia. ϕD	R	A	B		L		ϕP1	ϕP2	C	E1	E2	H	Mass (g)
				max	min	max	min							
RVC 4-M5	4	M5×0.8	3	48.5	44.5	45.5	41.5	8	10	11	15.5	7	10	16
RVC 4-01		R1/8	8	60	56	56	52	10	14	15	21.5	10.5	14	35.5
RVC 6-M5	6	M5×0.8	3	48.5	44.5	45.5	41.5	10.5	10	11.5	17.5	7.5	10	16.5
RVC 6-01		R1/8	8	60	56	56	52	12.5	14	17	23.5	10.5	14	36.5
RVC 6-02		R1/4	11	65	61	59	55		17		25.5	12	17	59
RVC 8-01	8	R1/8	8	60	56	56	52	14.5	14	18.5	27	11.5	14	38
RVC 8-02		R1/4	11	65	61	59	55		17		28.5	13	17	60

❖ R thread is same as BSPT

unit:inch

Model	Tube dia.ϕ D inch(mm)	R	A	B		L		ϕP1	ϕP2	C	E1	E2	H	Weight (oz)
				MAX	MIN	MAX	MIN							
RVC 5/32-U10U	5/32(3.97)	10-32UNF	0.14	1.91	1.75	1.77	1.61	0.31	0.39	0.43	0.61	0.28	7/16	0.62
RVC 5/32-N1U	5/32(3.97)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	0.39	0.55	0.59	0.85	0.41	9/16	1.24
RVC 3/16-U10U	3/16(4.76)	10-32UNF	0.14	1.91	1.75	1.77	1.61	0.41	0.39	0.45	0.98	0.30	7/16	0.66
RVC 3/16-N1U	3/16(4.76)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	0.49	0.55	0.67	0.93	0.41	9/16	1.27
RVC 3/16-N2U	3/16(4.76)	NPT 1/4	0.43	2.56	2.40	2.32	2.17	0.49	0.67	0.67	1.00	0.47	11/16	2.11
RVC 1/4-U10U	1/4(6.35)	10-32UNF	0.14	1.91	1.75	1.77	1.61	0.41	0.39	0.45	0.98	0.30	7/16	0.65
RVC 1/4-N1U	1/4(6.35)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	0.49	0.55	0.67	0.93	0.41	9/16	1.27
RVC 1/4-N2U	1/4(6.35)	NPT 1/4	0.43	2.56	2.40	2.32	2.17	0.49	0.67	0.67	1.00	0.47	11/16	2.10
RVC 5/16-N1U	5/16(7.94)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	0.57	0.55	0.73	1.06	0.45	9/16	1.32
RVC 5/16-N2U	5/16(7.94)	NPT 1/4	0.43	2.56	2.40	2.32	2.17	0.57	0.67	0.73	1.12	0.51	11/16	2.15

RVS
Straight



Unified or Metric thread type

unit:mm

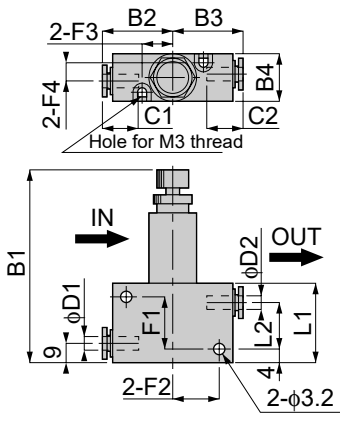
Model	Tube dia. ϕD	R	A	B		L1		L2	ϕP1	ϕP2	C	E	H	Mass (g)
				max	min	max	min							
RVS 4-M5	4	M5×0.8	3	48.5	44.5	45.5	41.5	24	10	10	15	10.5	10	18
RVS 4-01		R1/8	8	60	56	56	52	28.5		14		13	14	36.5
RVS 6-M5	6	M5×0.8	3	48.5	44.5	45.5	41.5	26.5	12.5	10	17	12	10	18.5
RVS 6-01		R1/8	8	60	56	56	52	31		14		14	14	37.5
RVS 6-02		R1/4	11	65	61	59	55	32		17		17	17	60.5
RVS 8-01	8	R1/8	8	60	56	56	52	32	14.5	14	18.5	15	14	39
RVS 8-02		R1/4	11	65	61	59	55	33.5		17		18	17	61.5

❖ R thread is same as BSPT

unit:inch

Model	Tube dia.ϕ D inch(mm)	R	A	B		L1		L2	ϕP1	ϕP2	C	E	H	Weight (oz)
				MAX	MIN	MAX	MIN							
RVS 5/32-U10U	5/32(3.97)	10-32UNF	0.14	1.91	1.75	1.77	1.61	0.93	0.39	0.39	0.59	0.43	7/16	0.63
RVS 5/32-N1U	5/32(3.97)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	1.12	0.39	0.55	0.59	0.51	9/16	1.27
RVS 3/16-U10U	3/16(4.76)	10-32UNF	0.14	1.91	1.75	1.77	1.61	1.02	0.49	0.39	0.67	0.47	7/16	0.68
RVS 3/16-N1U	3/16(4.76)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	1.22	0.49	0.55	0.67	0.55	9/16	1.32
RVS 3/16-N2U	3/16(4.76)	NPT 1/4	0.43	2.56	2.40	2.32	2.17	1.26	0.49	0.67	0.67	0.67	11/16	2.16
RVS 1/4-U10U	1/4(6.35)	10-32UNF	0.14	1.91	1.75	1.77	1.61	1.02	0.49	0.39	0.67	0.47	7/16	0.66
RVS 1/4-N1U	1/4(6.35)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	1.22	0.49	0.55	0.67	0.55	9/16	1.31
RVS 1/4-N2U	1/4(6.35)	NPT 1/4	0.43	2.56	2.40	2.32	2.17	1.26	0.49	0.67	0.67	0.67	11/16	2.15
RVS 5/16-N1U	5/16(7.94)	NPT 1/8	0.31	2.36	2.20	2.20	2.05	1.26	0.57	0.55	0.73	0.59	9/16	1.36
RVS 5/16-N2U	5/16(7.94)	NPT 1/4	0.43	2.56	2.40	2.32	2.17	1.32	0.57	0.67	0.73	0.63	11/16	2.20

RVU
Union



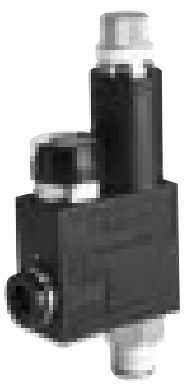
unit:mm

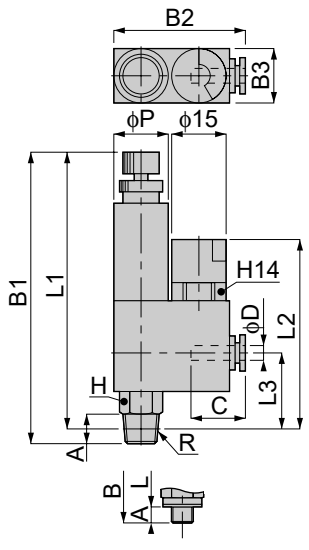
Model	Tube dia. ϕD1	Tube dia. ϕD2	B1		B2	B3	B4	L1	L2	C1	C2	F1	F2	F3	F4	Mass (g)
			max	min												
RVU 4-4	4	4	63	59	22	22	15	25	15	11.5	11.5	17	15	10	4.5	35.5
RVU 6-4	6	4	63	59	22.5	22	15	25	15	12	11.5	17	15	10	4.5	35.5
RVU 6-6		6				22.5					12					
RVU 8-6	8	6	67.5	63.5	28.5	28.5	19	29	17	18.5	17.5	21	19.5	11.5	6.5	60
RVU 8-8		8									18.5					60.5

unit:inch

Model	Tube O.D. øD1	Tube O.D. øD2	B1		B2	B3	B4	L1	L2	C1	C2	F1	F2	F3	F4
			max.	min.											
RVU5/32-5/32	5/32	5/32	2.40	2.33	0.87	0.87	0.59	0.98	0.59	0.45	0.45	0.67	0.59	0.39	0.18
RVU1/4-5/32	1/4	5/32	2.40	2.33	1.28	0.87	0.59	0.98	0.59	0.47	0.45	0.67	0.59	0.39	0.18
RVU1/4-1/4		1/4				1.28					0.47				
RVU5/16-1/4	5/16	1/4	2.66	2.50	1.12	1.52	0.75	1.14	0.67	0.73	0.69	0.83	0.77	0.45	0.26
RVU5/16-5/16		5/16				1.12					0.73				

RVCM
Elbow Gauge Mounted





Unified or Metric thread type

unit:mm

Model	Tube dia. ϕD	R	A	B1		B2	B3	L1		L2	L3	ϕP	C	H	Mass (g)
				max	min			max	min						
RVCM 4-M5	4	M5×0.8	3	57.5	53.5	27.5	15	54.5	50.5	42.5	12.5	11	11	8	27.5
RVCM 4-01		R1/8	8	81.5	77.5	36		77.5	73.5	51.5	18.5	15	15	12	54.5
RVCM 6-M5	6	M5×0.8	3	57.5	53.5	28	15	54.5	50.5	42.5	12.5	11	11.5	8	27.5
RVCM 6-01		R1/8	8	81.5	77.5	36.5		77.5	73.5	51.5	18.5	15	17	12	54.5
RVCM 6-02		R1/4	11	89.5	85.5	39.5	19	83.5	79.5	57	22.5	19		16	83.5
RVCM 8-01	8	R1/8	8	81.5	77.5	36.5	15	77.5	73.5	51.5	18.5	15	18	12	55
RVCM 8-02		R1/4	11	89.5	85.5	39.5	19	83.5	79.5	57	22.5	19		16	83.5

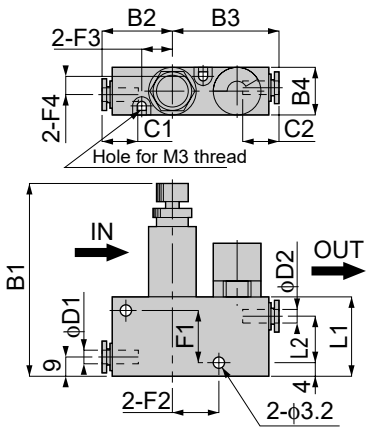
❖ R thread is same as BSPT

unit:inch

Model	Tube dia.ϕ D inch(mm)	R	A	B1		B2	B3	L1		L2	L3	ϕP	C	H	Weight (oz)
				MAX	MIN			MAX	MIN						
RVCM 5/32-U10U	5/32(3.97)	10-32UNF	0.14	2.26	2.11	1.08	0.59	2.13	1.97	1.65	0.47	0.43	0.43	5/16	0.98
RVCM 5/32-N1U	5/32(3.97)	10-32UNF	0.31	3.21	3.05	1.42	0.59	3.05	2.89	2.03	0.73	0.59	0.59	1/2	1.96
RVCM 1/4-N1U	1/4(6.35)	NPT 1/8	0.31	3.21	3.05	1.44	0.59	3.05	2.89	2.03	0.73	0.59	0.67	1/2	2.25
RVCM 1/4-N2U	1/4(6.35)	NPT 1/4	0.43	3.52	3.37	1.56	0.75	3.29	3.13	2.24	0.89	0.75	0.67	11/16	3.32
RVCM 5/16-N1U	5/16(7.94)	NPT 1/8	0.31	3.21	3.05	1.44	0.59	3.05	2.89	2.03	0.73	0.59	0.71	1/2	1.99
RVCM 5/16-N2U	5/16(7.94)	NPT 1/4	0.43	3.52	3.37	1.56	0.75	3.29	3.13	2.24	0.89	0.75	0.71	11/16	3.07

RVUM

Union Gauge Mounted



unit:mm

Model	Tube dia. ϕD1	Tube dia. ϕD2	B1 max	B1 min	B2	B3	B4	L1	L2	C1	C2	F1	F2	F3	F4	Mass (g)
RVUM 4-4	4	4	63	59	22	33	15	25	15	11.5	11.5	17	15	10	4.5	47.5
RVUM 6-4	6	4	63	59	22.5	33	15	25	15	12	11.5	17	15	10	4.5	47.5
RVUM 6-6		6				33.5					12					
RVUM 8-6	8	6	67.5	63.5	28.5	40.5	19	29	17	18.5	17.5	21	19.5	11.5	6.5	73
RVUM 8-8		8									18.5					

unit:inch

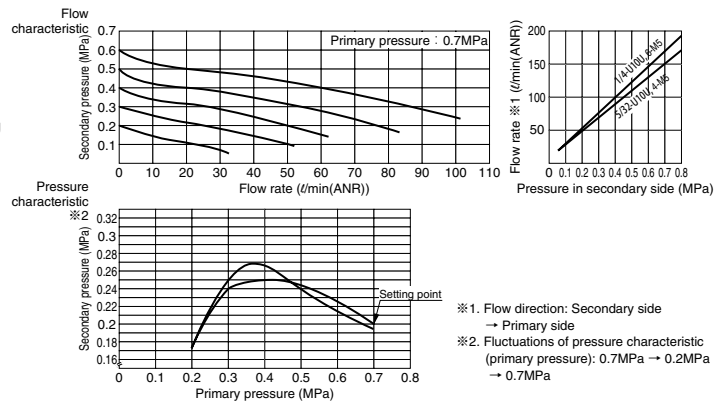
Model	Tube O.D. øD1	Tube O.D. øD2	B1 max.	B1 min.	B2	B3	B4	L1	L2	C1	C2	F1	F2	F3	F4
RVUM5/32-5/32	5/32	5/32	2.40	2.33	0.87	1.30	0.59	0.98	0.59	0.45	0.45	0.67	0.59	0.39	0.18
RVUM1/4-5/32	1/4	5/32	2.40	2.33	1.28	1.30	0.59	0.98	0.59	0.47	0.45	0.67	0.59	0.39	0.18
RVUM1/4-1/4		1/4				1.71					0.47				
RVUM5/16-1/4	5/16	1/4	2.66	2.50	1.12	1.99	0.75	1.14	0.67	0.73	0.69	0.83	0.77	0.45	0.26
RVUM5/16-5/16		5/16				1.59					0.73				

Flow characteristic

Elbow / Straight

RVC 5/32-U10U
1/4-U10U
4-M5
6-M5

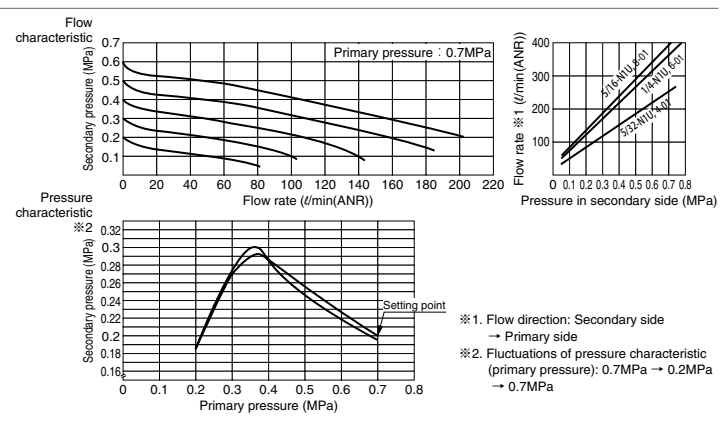
RVS 5/32-U10U
1/4-U10U
4-M5
6-M5



※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

RVC 5/32-N1U
1/4-N1U
5/16-N1U
4-01
6-01
8-01

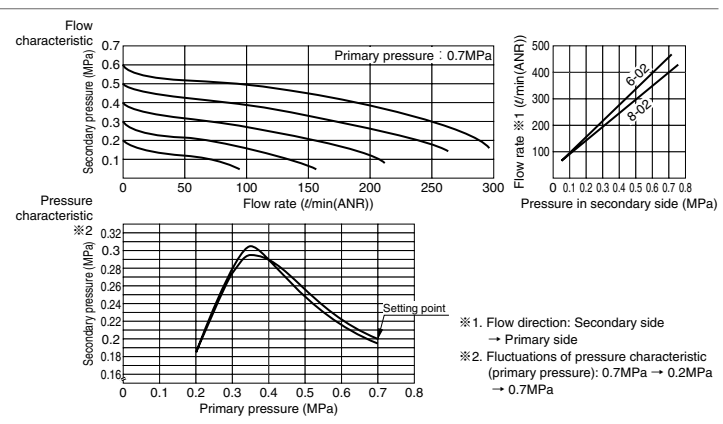
RVS 5/32-N1U
1/4-N1U
5/16-N1U
4-01
6-01
8-01



※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

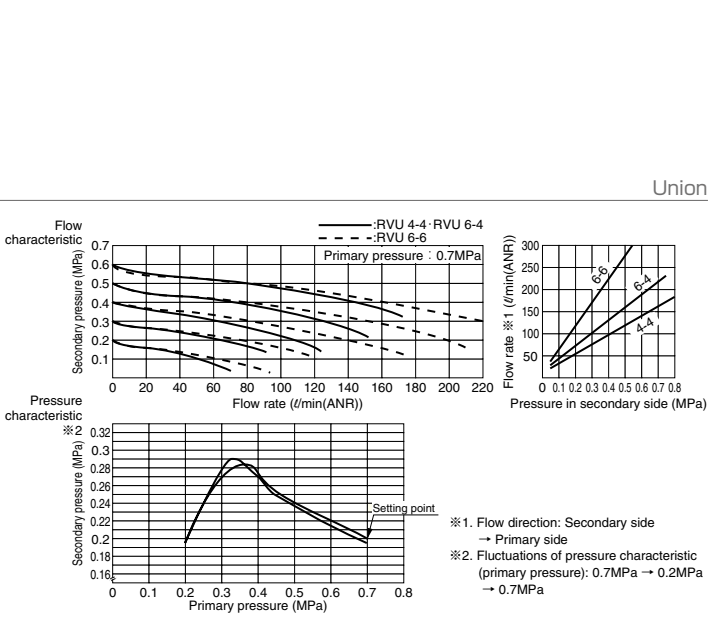
RVC 1/4-N2U
5/16-N2U
6-02
8-02

RVS 1/4-N2U
5/16-N2U
6-02
8-02



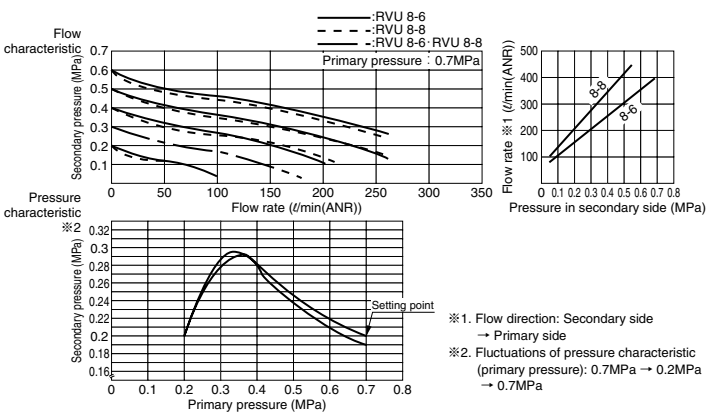
※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

RVU 5/32-5/32
1/4-5/32
1/4-1/4
4-4
6-4
6-6



※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

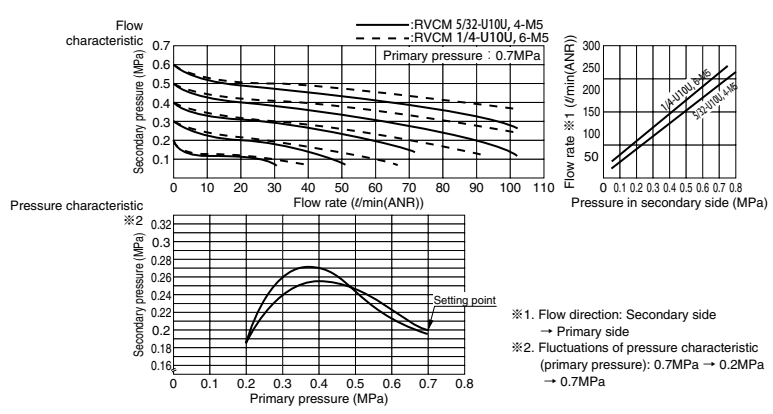
RVU 5/16-1/4
5/16-5/16
8-6
8-8



※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

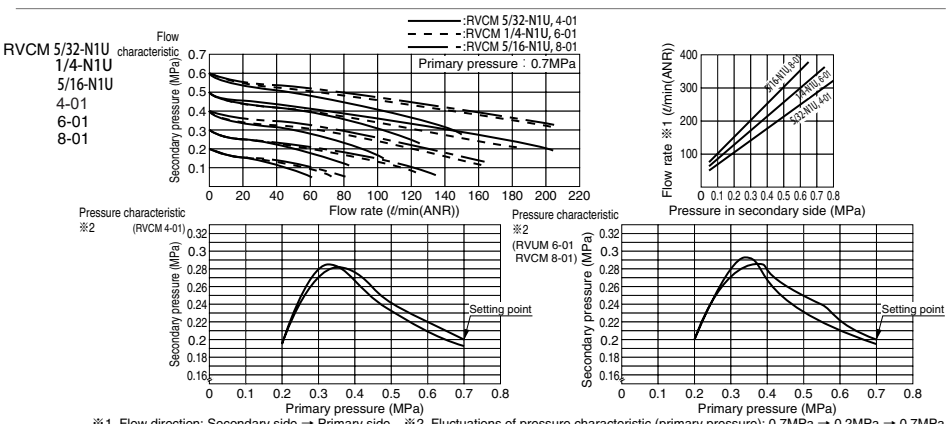
Gauge Mounted Elbow

RVCM 5/32-U10U
1/4-U10U
4-M5
6-M5



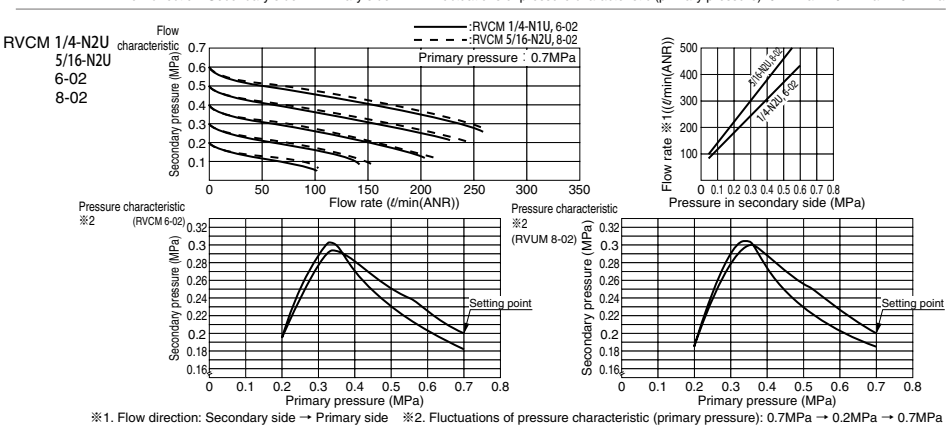
※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

RVCM 5/32-N1U
1/4-N1U
5/16-N1U
4-01
6-01
8-01



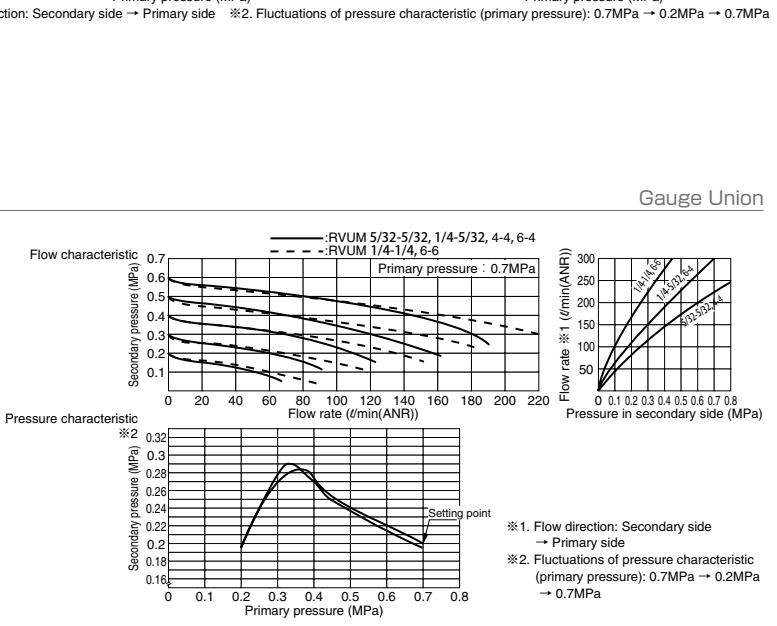
※1. Flow direction: Secondary side → Primary side ※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

RVCM 1/4-N2U
5/16-N2U
6-02
8-02



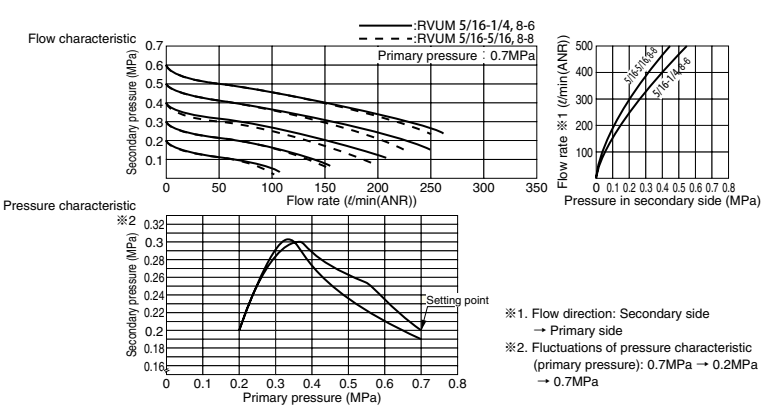
※1. Flow direction: Secondary side → Primary side ※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

RVUM 5/32-5/32
1/4-5/32
1/4-1/4
4-4
6-4
6-6



※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

RVUM 5/16-1/4
5/16-5/16
8-6
8-8



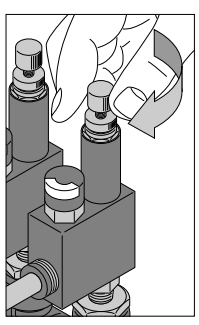
※1. Flow direction: Secondary side → Primary side
※2. Fluctuations of pressure characteristic (primary pressure): 0.7MPa → 0.2MPa → 0.7MPa

How to adjust pressure

1. Pressure adjustment

①. How to increase pressure

Turn the adjusting screw in the clockwise direction from a fully opened state to the increase pressure. Make sure to tighten the locknut at the desired pressure. The pressure setting can be changed without tightening the locknut.



②. How to reduce pressure

In order to reduce the pressure, turn the adjusting screw in the counterclockwise direction. The pressure is reduced by the relief function, then carry out the same adjustment as ①. Make sure to tighten the locknut at the desired pressure. The pressure setting can be changed without tightening the locknut.