

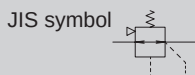
Discontinue



Source pressure as well as terminals can be controlled.
Compact vacuum regulator

VSRVV Series

● Port size: $\varnothing 6$, $\varnothing 8$, R1/4



This product is scheduled to undergo a model change.
Contact your CKD Sales representative for details.

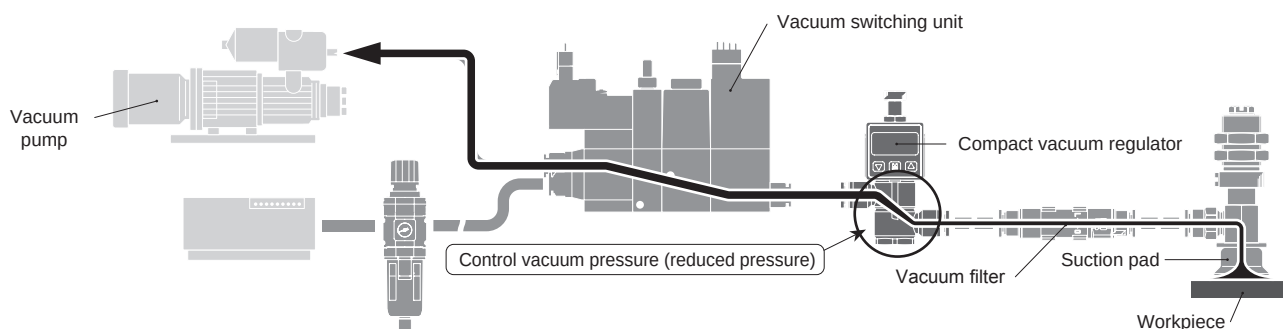
RoHS

Features

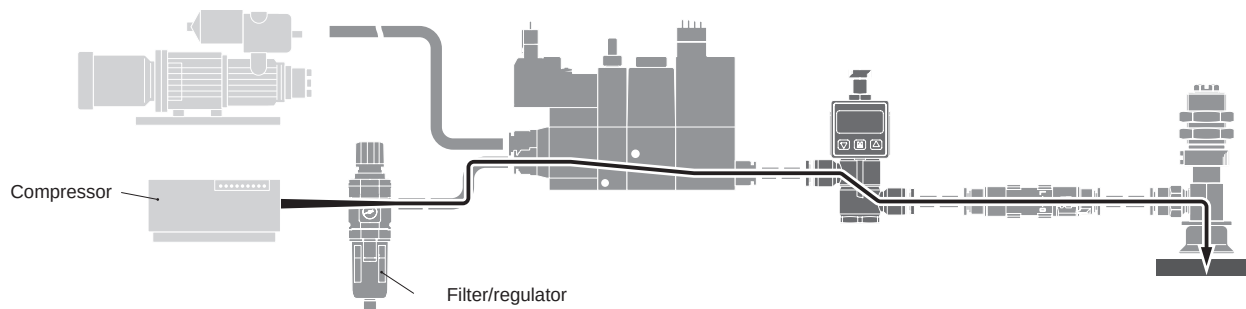
- Suitable for source pressure control of small vacuum pump.
- Pressure control of individual pads inserted between vacuum valve and suction pad is also possible.
- Female thread (A) directly connectable to the vacuum port of the vacuum pump is available.
- Male thread (B) can be mounted directly to the pad diameter $\varnothing 150$, $\varnothing 200$ mm holder and pressure control is possible.

Piping example

● At vacuum supply



● At vacuum burst



Regulator specifications

Descriptions	VSRVV		
Pressure display	Without pressure gauge	Vacuum pressure switch with large digital display	ø30 vacuum pressure gauge
Working fluid	Air		
Working pressure kPa	-100 to 100		-100 to 0
Set pressure kPa	-100 to -1.3		
Intake flow rate ℓ/min(ANR)	30		
Operating ambient temperature °C	0 to 50 (no freezing)		0 to 40 (no freezing)

Specifications of vacuum pressure switch with large digital display

Descriptions		Pressure switch
Working pressure		-100 to 100 kPa
Proof pressure		300 kPa
Environmental resistance	Degree of protection	IEC standards IP40 or equivalent
	Ambient temperature (in storage)	-10 to 60°C (no condensation, freezing)
	Ambient temperature (in use)	0 to 50°C (no condensation, freezing)
	Ambient humidity (in storage / in use)	35 to 85% RH (no condensation)
Power supply voltage		12 to 24 VDC ±10% Ripple (P-P) ±10% or less
Current consumption		40 mA or less (no load)
Pressure display	Display frequency	5 cycles/second
	Display accuracy	±2% F.S. ±1 digit
	Digital display	Main display: 2 colors (red, green) Sub-display: Orange
Switch output	No. of I/O points	2 points
	Output method	NPN open collector
	Switch rating	30 VDC, 125 mA or less
	Internal voltage drop	1.5 V or less
Analog output	Output voltage	1 to 5 V ±2.5% F.S. or less Linearity: ±1% F.S. or less Output impedance: Approx. 1 kΩ
Temperature characteristics		±2.5% F.S. or less (0 to 50°C, at 25°C)
Repeatability		±0.2%F.S. ±1digit
Hysteresis		Adjustment is possible
Responsivity		Available (2.5 or less/25/100/250/500/1,000/1,500 msec)

Display magnification (unit)	Pressure range (rated display range)
x1(kPa)	-100 to 100
x1(MPa)	-
x0.75(cmHg)	-75 to 75
x0.01(bar)	-1.00 to 1.00
x0.145(psi)	-14.5 to 14.5

Vacuum pressure gauge specifications

Descriptions	Vacuum pressure gauge
Pressure display kPa	-100 to 0
Pressure display accuracy	5% F.S (at 25°C)

Vacuum-related products

VSECV

VSRVV

VSLF

VSFB/VSFU
VSFJ

FSL

VSUS

VST

How to order

● Compact vacuum regulator

VSRVV - 6 U RA - B

A Connection size

B Shape (flow direction)

C Pressure display

D Bracket

This product is scheduled to undergo a model change.
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Code	Content
A Connection size	
6	ø6 push-in fitting
8	ø8 push-in fitting
B Shape (flow direction) *1, *2	
A	Elbow A type...Vacuum pump direct mounting
B	Elbow B type...Vacuum pad (ø150 to ø200) direct mounting
U	Union fitting
C Pressure display	
G	With pressure display (ø30 vacuum pressure gauge)
RA	With pressure display (vacuum pressure switch with large digital display analog)
M	None (M5 x 0.8 male thread)
D Bracket *1	
Blank	No
B	With bracket

⚠ Precautions for model No. selection

*1 : When B is "U", only Blank can be selected for D. (Bracket is equipped as standard with U)

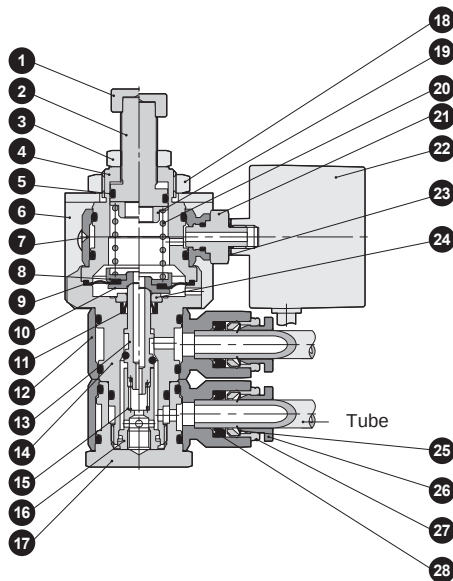
*2 : Elbow A type and elbow B type have the same dimensions, but cannot be changed later.

● Dedicated part model No.

· Dedicated bracket

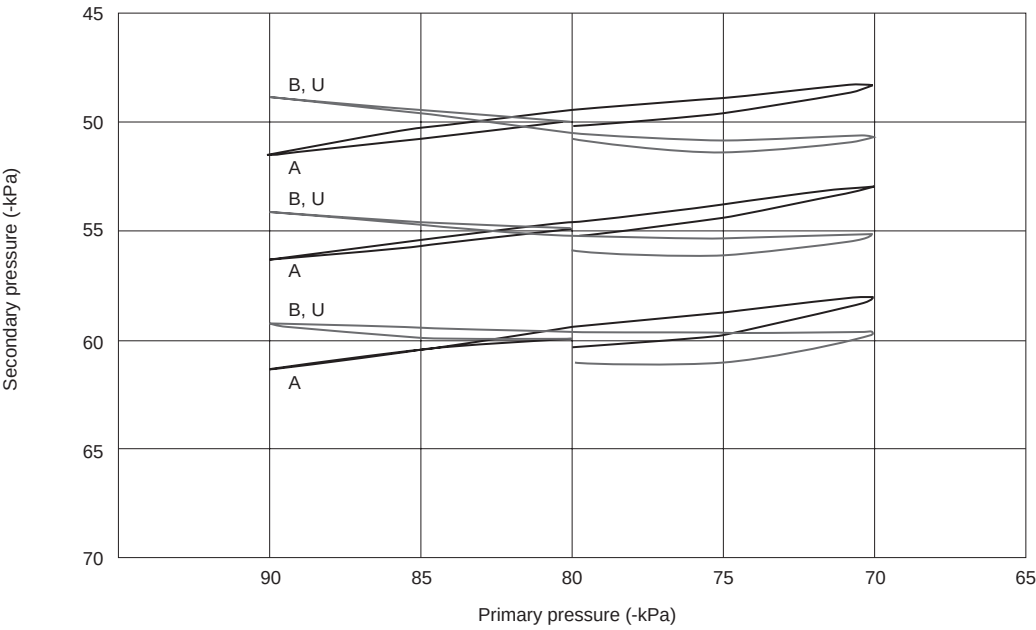
VSRVV-B

Internal structure diagram and parts list

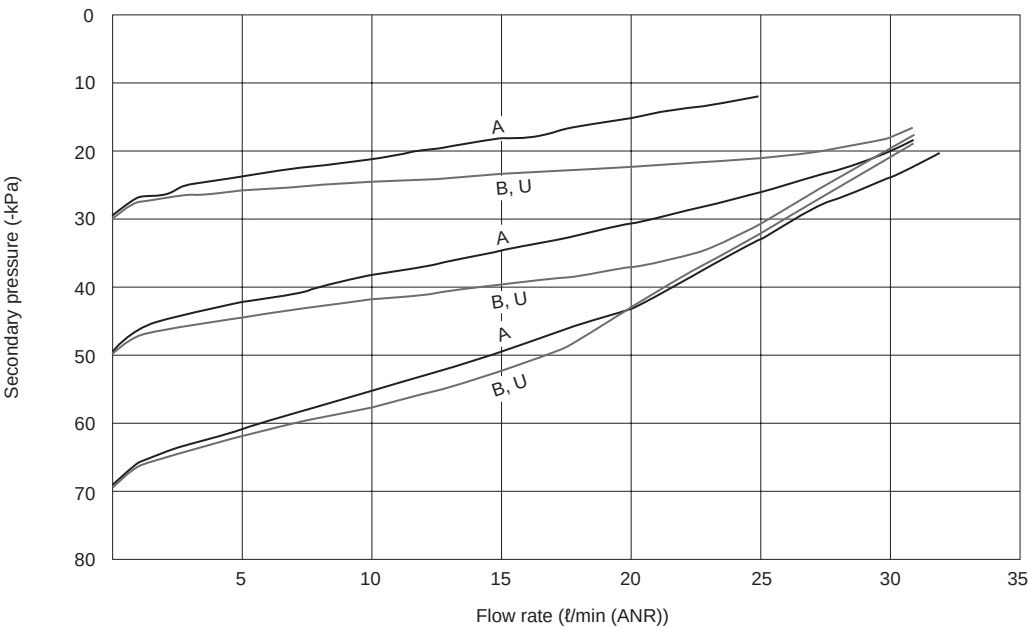


Part No.	Part name	MaterialWeight
1	Knob	Brass, electroless nickeling
2	Pressure adjustment screw	Brass, electroless nickeling
3	Lock nut	Brass, electroless nickeling
4	Bonnet	Brass, electroless nickeling
5	O-ring	NBR
6	Bracket	Brass, electroless nickeling
7	Bleed port	PBT
8	Center disc A	Aluminum
9	Diaphragm	NBR
10	Center disc B	Aluminum
11	Rod packing	NBR
12	Resin body	PBT
13	Valve	Brass, electroless nickeling
14	Metal body	Brass, electroless nickeling
15	Valve spring	Stainless steel
16	Sleeve	Brass, electroless nickeling
17	Plug	Brass, electroless nickeling
18	Lock nut	Steel, trivalent chromate treatment
19	Spring guide	Brass, electroless nickeling
20	Pressure adjustment spring	Piano wire
21	Gauge port	Brass, electroless nickeling
22	Pressure sensor	-
23	Gasket	SUS304, NBR
24	Seal bush	Brass, electroless nickeling
25	Lock claw	Stainless steel
26	Release ring	POM
27	Guide ring	Brass, electroless nickeling
28	Elastic sleeve	NBR

Pressure characteristics graph



Flow characteristics graph



Vacuum-related
products

VSECV

VSRVV

VSLF

VSEB/VSFU
VSFJ

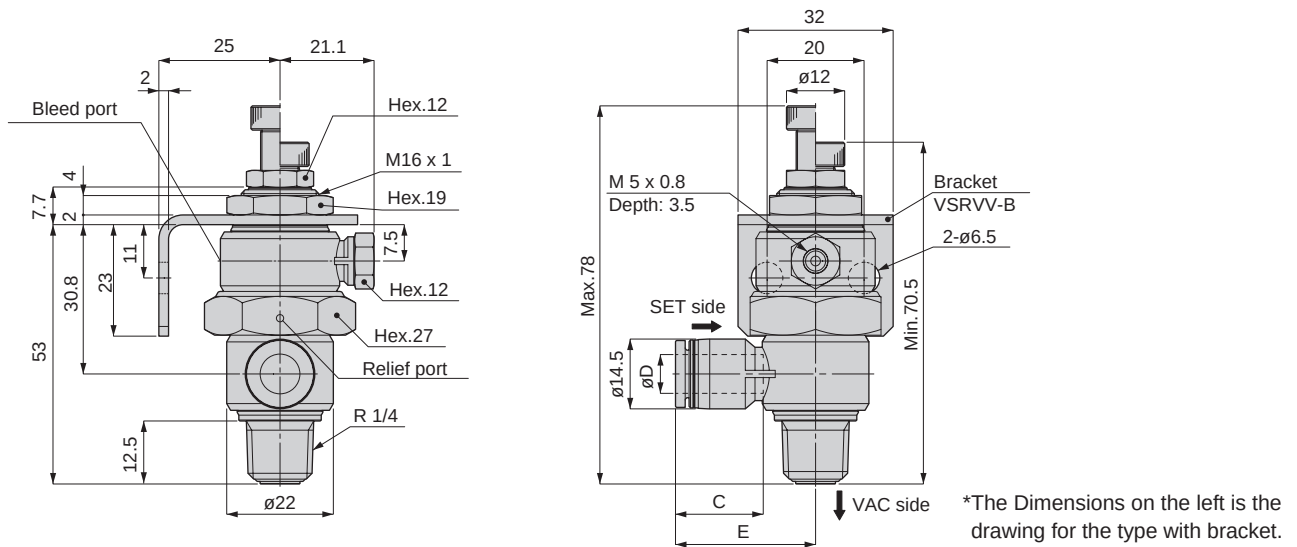
FSL

VSUS

VST

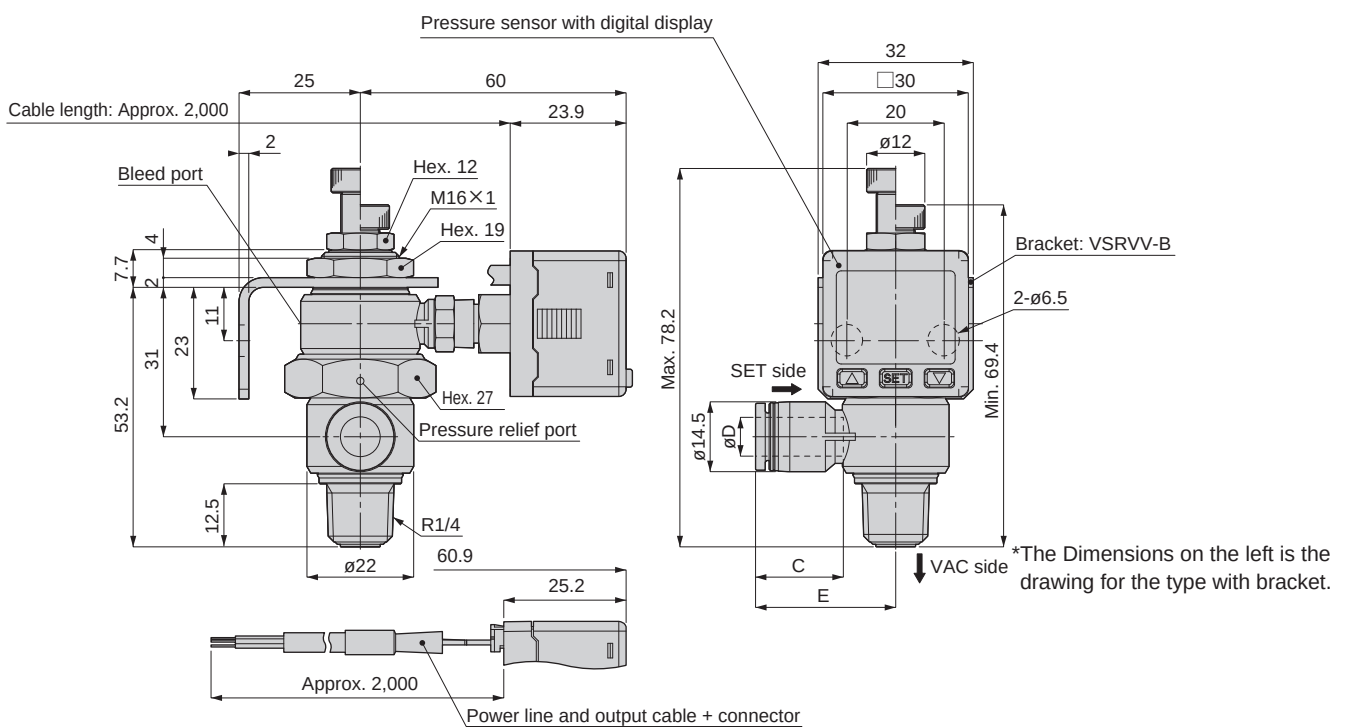
Dimensions

● Vacuum pump direct mounting, without pressure display VSRVV-□AM



Model No.	Compatible tube O.D. øD	C	E	Weight (g)
VSRVV-6AM-□	6	17	29	127
VSRVV-8AM-□	8	18.1	28.9	128

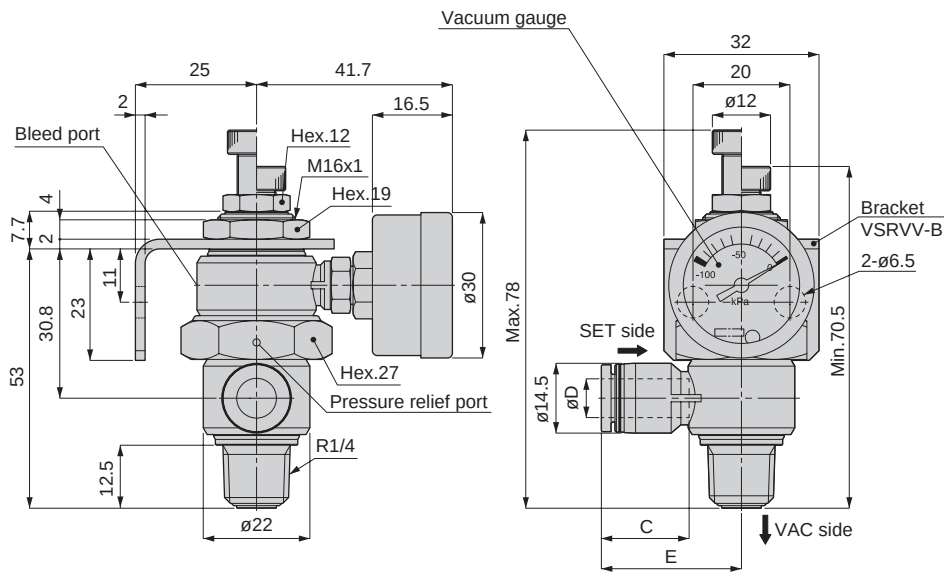
● Vacuum pump direct mounting, with pressure display VSRVV-□ARA



Model No.	Compatible tube O.D. øD	C	E	Weight (g)
VSRVV-6ARA-□	6	17	29	214
VSRVV-8ARA-□	8	18.1	28.9	214

Dimensions

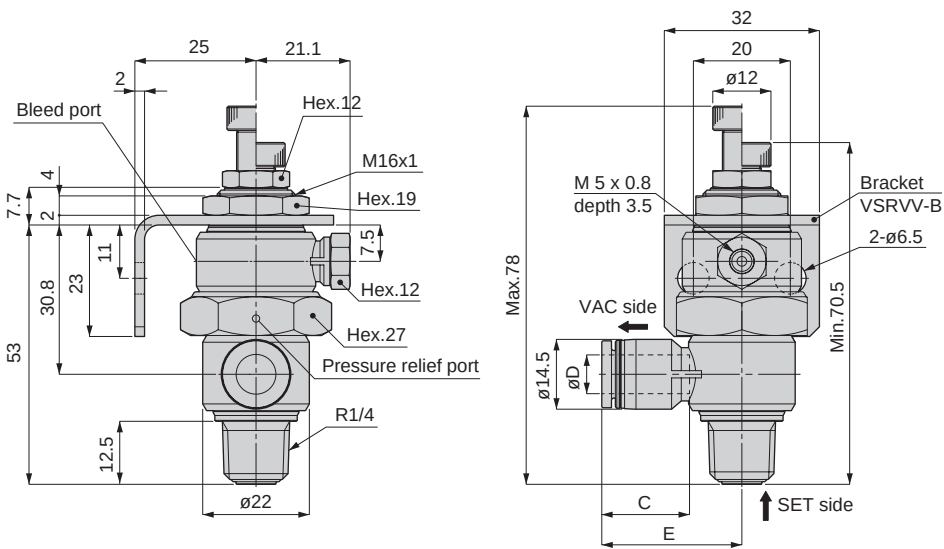
● Vacuum pump direct, with pressure display (ø30) VSRVV-□AG



* The dimensions on the left are the figures for types with bracket.

Model No.	Tube O.D. øD	C	E	Weight (g)
VSRVV-6AG-□	6	17	29	156
VSRVV-8AG-□	8	18.1	28.9	156

● Suction pad direct, without pressure display VSRVV-□BM

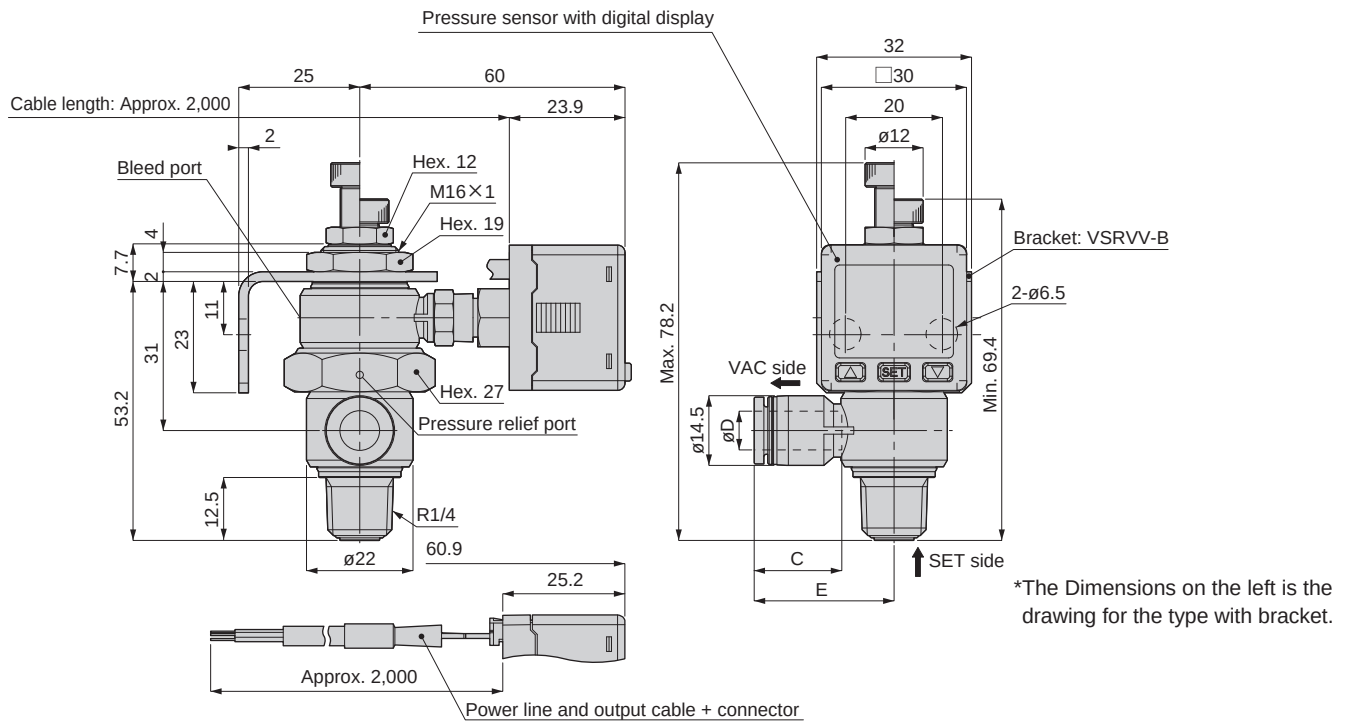


* The dimensions on the left are the figures for types with bracket.

Model No.	Tube O.D. øD	C	E	Weight (g)
VSRVV-6BM-□	6	17	29	127
VSRVV-8BM-□	8	18.1	28.9	128

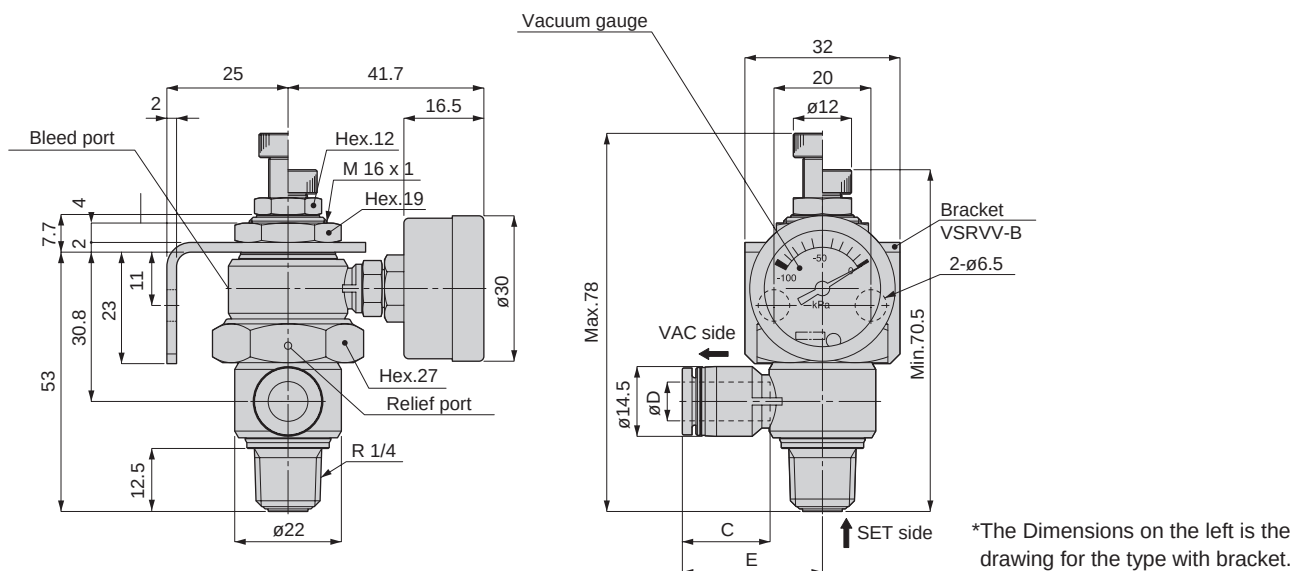
Dimensions

● Suction pad direct mounting, with pressure display VSRVV-□BRA



Model No.	Compatible tube O.D. ØD	C	E	Weight (g)
VSRVV-6BRA-□	6	17	29	214
VSRVV-8BRA-□	8	18.1	28.9	214

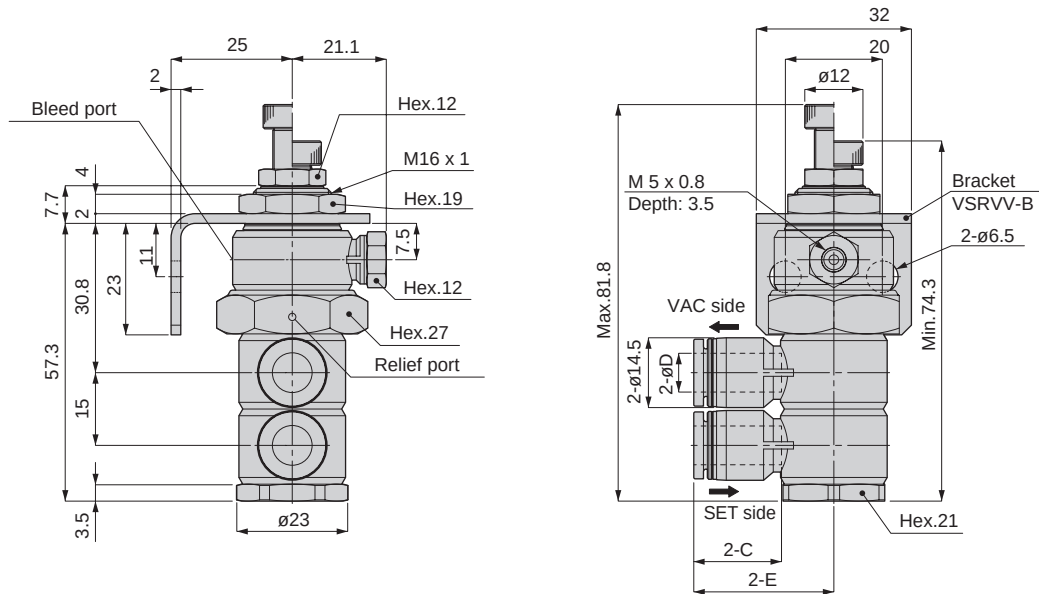
● Suction pad direct mounting, with pressure display (Ø30) VSRVV-□BG



Model No.	Compatible tube O.D. ØD	C	E	Weight (g)
VSRVV-6BG-□	6	17	29	156
VSRVV-8BG-□	8	18.1	28.9	156

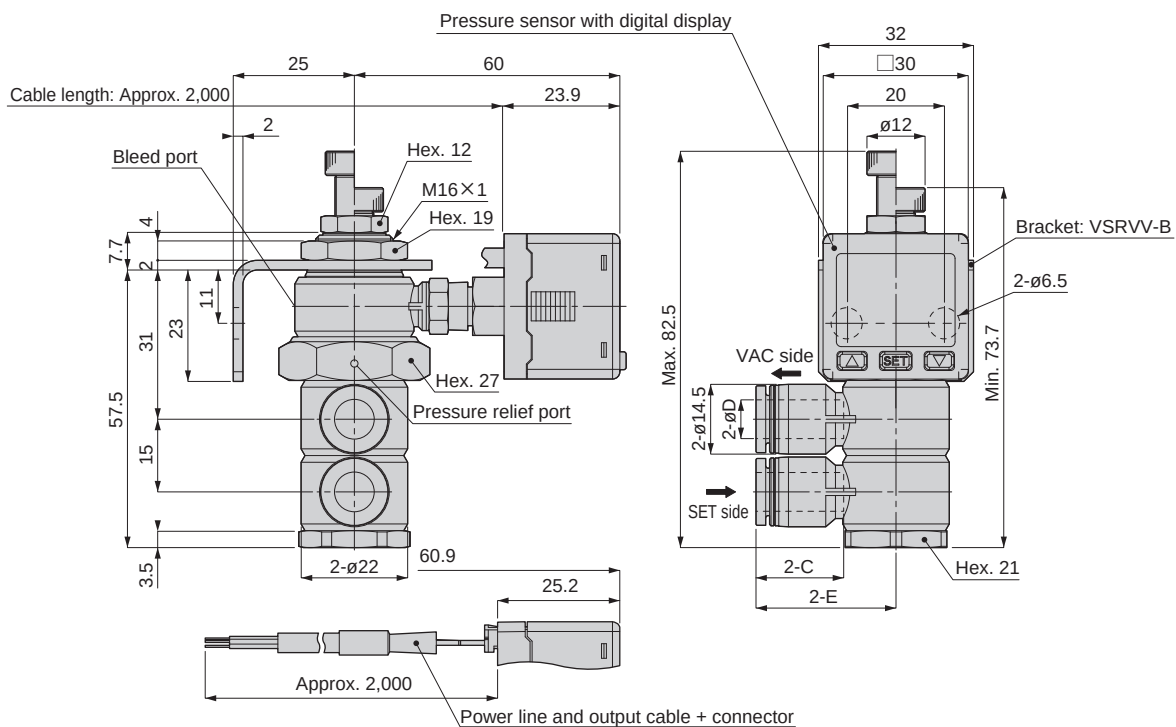
Dimensions

● Union, without pressure display VSRVV-□UM



Model No.	Compatible tube O.D. øD	C	E	Weight (g)
VSRVV-6UM	6	17	29	180
VSRVV-8UM	8	18.1	28.9	181

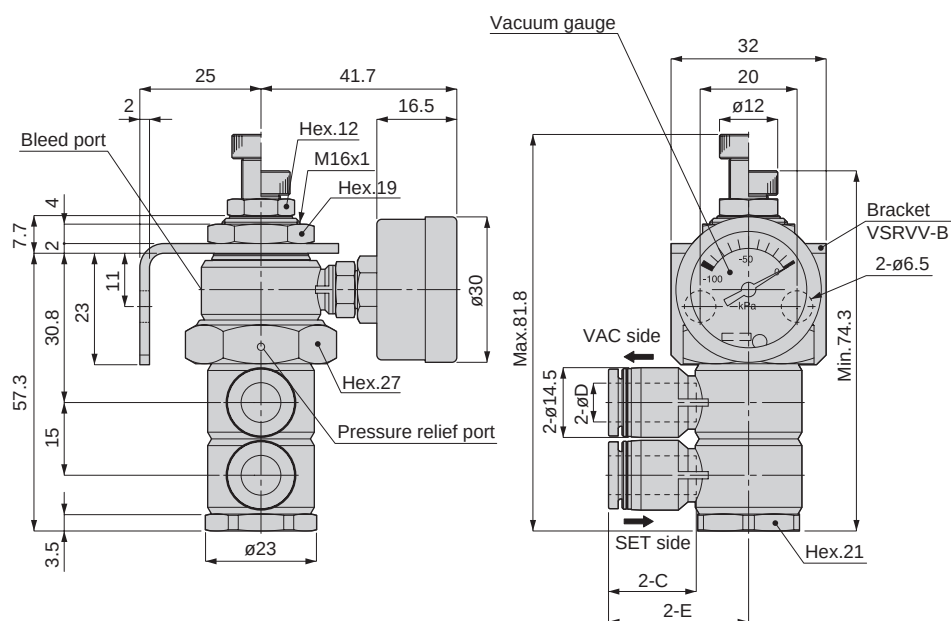
● Union, with pressure display VSRVV-□URA



Model No.	Compatible tube O.D. øD	C	E	Weight (g)
VSRVV-6URA	6	17	29	214
VSRVV-8URA	8	18.1	28.9	214

Dimensions

● Union, with pressure display VSRVV-□UG



Model No.	Tube O.D. øD	C	E	Weight (g)
VSRVV-6UG	6	17	29	209
VSRVV-8UG	8	18.1	28.9	210

Safety precautions

 WARNING

- When applying positive pressure to the regulator, do not use a $\varnothing 30$ vacuum pressure gauge. When using with positive pressure, use the vacuum pressure switch with a large digital display. The application of excessive positive pressure risks damaging the device.
- Before use, carefully read the instruction manual of the vacuum source to be connected and perform sufficient tests before operating.

 CAUTION

- Do not apply excessive load or shock to pressure gauge, pressure switch, or gauge port. It risks causing damage to the equipment or deterioration of display accuracy.
- When mounting the product, be sure to hold and fix it securely. When using a screw type, tighten by applying a wrench, etc. to the body hexagonal part (opposite side: 27 mm). If tightened at other parts, the body may be damaged.
- When installing gauges and piping etc. on the gauge port, tighten by applying a wrench, etc. to the gauge port hexagonal part (opposite side: 12 mm). For tightening to the M5 x 0.8 port, refer to the recommended tightening torque in the table below. It risks causing damage to the equipment, leakage, or deterioration of display accuracy due thereto.

Table. Recommended tightening torque

Thread size	Tightening torque
M5x0.8 mm	1.0 to 1.5 N·m

- When there is a possibility of suctioning dust or particles, be sure to install a vacuum filter on the pressure adjustment side (workpiece side) of the vacuum regulator. Suction of foreign matter could cause operation faults.
- Since the secondary pressure is unstable, do not block the bleed port and the pressure relief port.
- When applying positive pressure to the regulator, air is discharged from the bleed port. Be careful when using in a clean room etc.
- When applying burst air, set with attention to the amount of leakage from the bleed port.
- Do not use the pressure gauge in places where pressure fluctuation is high (high cycle).

Vacuum-related products

VSECV

VSRVV

VSLF

VSFB/VSFU
VSFJ

FSL

VSUS

VST