

 Contact our sales office for delivery dates and prices as this is a special model.



*P.G.Information (Specialized Product)*

SP104X-015E  
P: SO

## Vacuum Regulator / IRV20 Series

*Special options usable for various applications*

SMC CORPORATION  
4-14-1, SOTO-KANDA,  
CHIYODA-KU,  
TOKYO 101-0021, JAPAN  
URL: <http://www.smcworld.com>

**Feature : This is an introduction for special options  
which may be used for various applications.**

Table.1 List of Special options

	Special option	Description				Connections	
		Female connections	Mounting interchangeability with IRV3000	Gauge port Rc1/8 (only one side)	Female connections with rotation stop	Standard connections	Single Sided connections
IRV 20	X3	●	—	—	—	●	●
	X4	—	●	—	—	●	●
	X7	—	—	●	—	●	●
	X8	●	●	—	—	●	—
	X11	●	—	●	—	●	●
	X24	●	●	●	—	●	—
	X28	—	—	—	●	●	—
	X33	—	●	—	●	●	—

### Specifications :

Fluid	Air
Set pressure range	−100 ~ −1.3kPa
Withstand pressure	100kPa (Except with pressure gauge)
Ambient and Fluid temperature	5 ~ 60°C

# How to Order:

## ◆ Female connections

**IRV 20** [ ] - [ ] **02** [ ] [ ] - [ ]

**Body size**

20	Max. flow 240ℓ/min (ANR)
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**Connections**

Nil	Standard connections
A	Single sided connections

**Thread type** <sup>Note1)</sup>

Nil	Rc
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Note1) For the special option "-X3", N (NPT thread) and F (G thread) are available.

**Port size**

Symbol	Port size	IRV20	IRV20A
02	1/4"	●	●
03	3/8"	●	●
04	1/2"	●	—

**Made to Order**

**See Table.1: List of special options for details.**

**Accessory 2**

Nil	None <sup>Note1)</sup>		
G	With pressure gauge <sup>Note2) Note3)</sup> (IRV20: GZ43-K-01)		
ZN	With digital pressure switch <sup>Note3)</sup>	NPN open collector 1 output	With ZSE30A-01-N-ML
ZP		PNP open collector 1 output	With ZSE30A-01-P-ML
ZA		NPN open collector 2 output	With ZSE30A-01-A-ML
ZB		PNP open collector 2 output	With ZSE30A-01-B-ML

Note1) Plug nut is mounted on the gauge port. When the Rc1/8 port is required, please order the optional gauge nut assembly P601010-18 separately.  
 Note2) Pressure gauge accuracy : Within ±3% of full scale.  
 Note3) Accessories are included in the same container.

**Accessory 1** <sup>Note1)</sup>

Symbol	Content	X3	X8	X11	X24	X28	X33
Nil	None	●	●	●	●	●	●
B	With bracket	●	●	●	●	●	●
L	With bottom bracket	●	—	●	—	—	—

Note1) Accessories are included in the same container.

## ◆ Built-in One-touch fittings

**IRV 20** [ ] - [ ] **C08** [ ] [ ] - [ ]

**Body size**

20	Max. flow 240ℓ/min (ANR)
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**Connections**

Nil	Standard connections
A	Single sided connections

**Fittings**

Nil	Straight
L	Elbow

**Tube O.D.**

Symbol	Tube O.D.	IRV20	IRV20A
C06	Metric	φ6	●
C08		φ8	●
C10		φ10	●
N07	Inch	φ 1/4"	●
N09		φ 5/16"	●
N11		φ 3/8"	●

**Made to Order**

**See Table.1: List of special options for details.**

**Accessory 2**

Nil	None <sup>Note1)</sup>		
G	With pressure gauge <sup>Note2) Note3)</sup> (IRV20: GZ43-K-01)		
ZN	With digital pressure switch <sup>Note3)</sup>	NPN open collector 1 output	With ZSE30A-01-N-ML
ZP		PNP open collector 1 output	With ZSE30A-01-P-ML
ZA		NPN open collector 2 output	With ZSE30A-01-A-ML
ZB		PNP open collector 2 output	With ZSE30A-01-B-ML

Note1) Plug nut is mounted on the gauge port. When the Rc1/8 port is required, please order the optional gauge nut assembly P601010-18 separately.  
 Note2) Pressure gauge accuracy : Within ±3% of full scale.  
 Note3) Accessories are included in the same container.

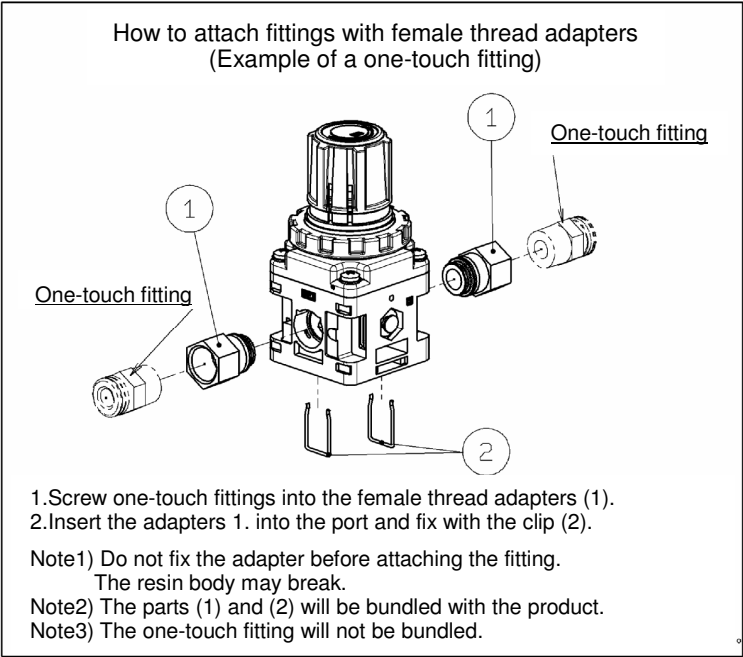
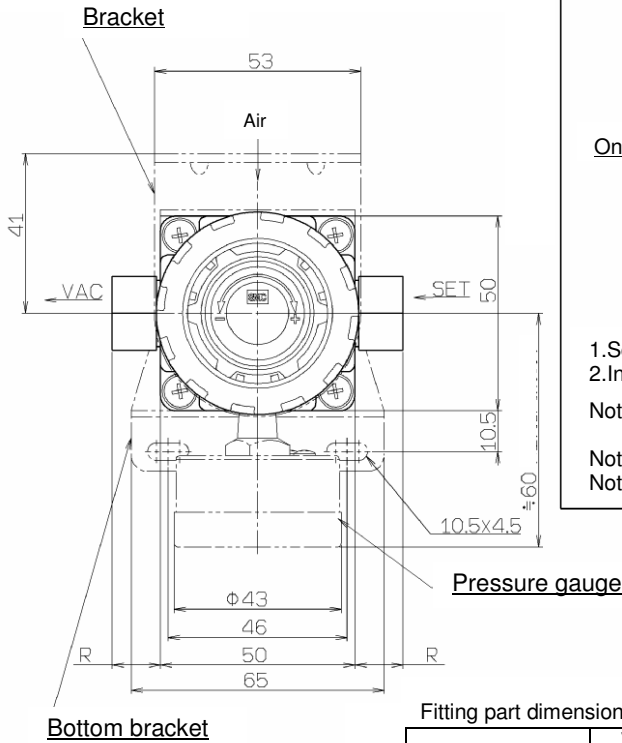
**Accessory 1** <sup>Note1)</sup>

Symbol	Content	X4	X7
Nil	None	●	●
B	With bracket	●	●
L	With bottom bracket	—	●

Note1) Accessories are included in the same container.

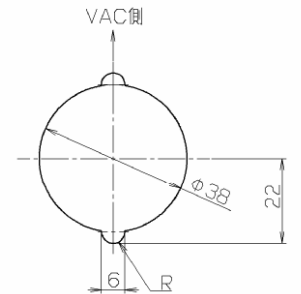
# Dimensions: mm

## ◇IRV20-※-X3

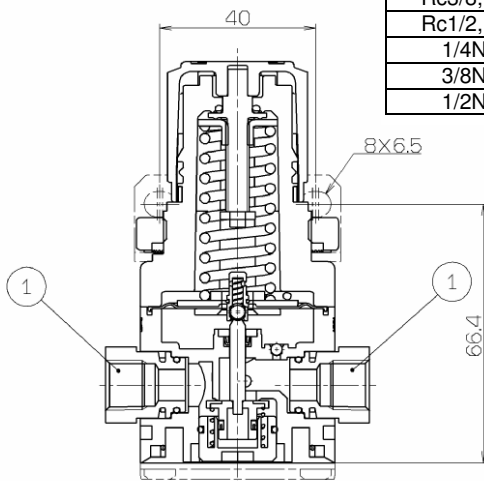


Fitting part dimensions

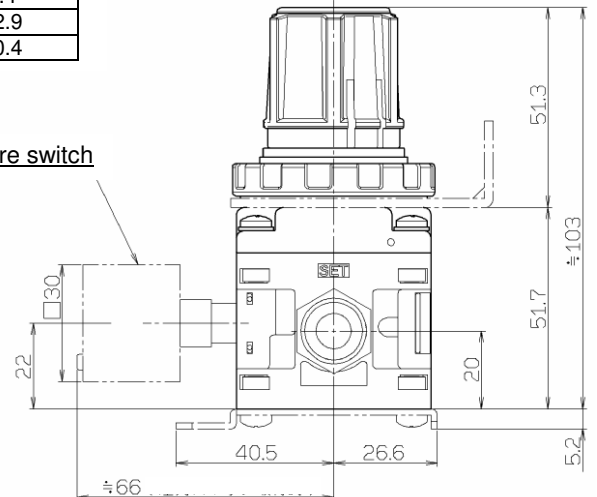
Port size	VAC/SET
	R
Rc1/4, G1/4	8.9
Rc3/8, G3/8	12.4
Rc1/2, G1/2	19.9
1/4NPT	9.4
3/8NPT	12.9
1/2NPT	20.4



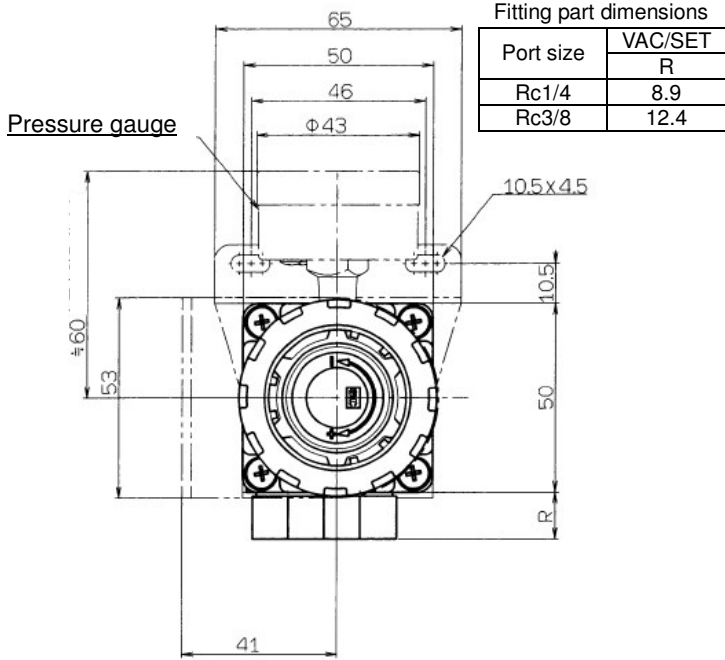
Panel cut  
Panel thickness: Max.4



Pressure switch



# ◇IRV20A-※-X3

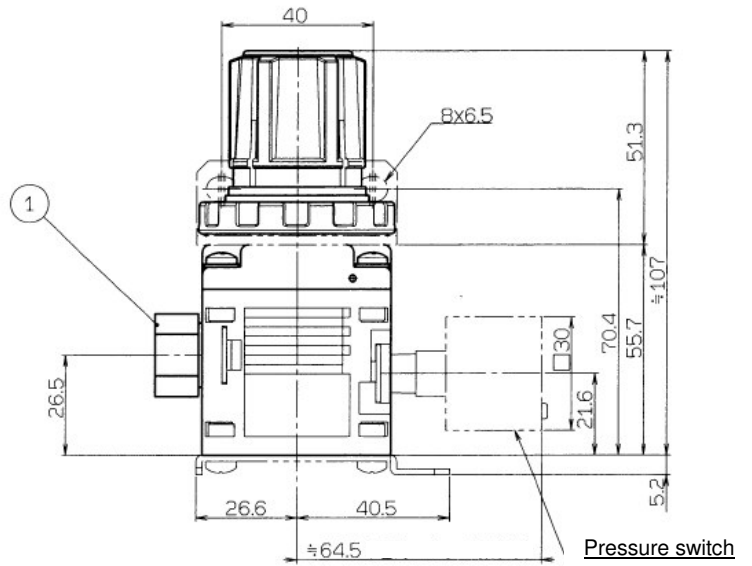
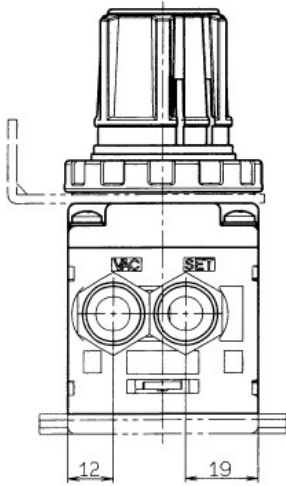
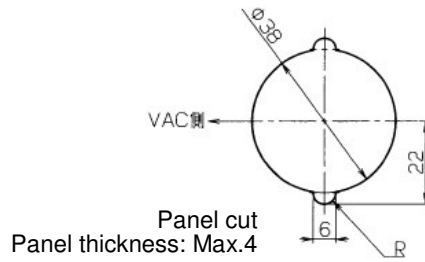


### How to attach fittings

One-touch fitting

1. Screw one-touch fittings into the female thread adapters (1).
2. Insert the adapters 1. into the port and fix with the clip (2).

The parts (1) and (2) will be bundled with the product.

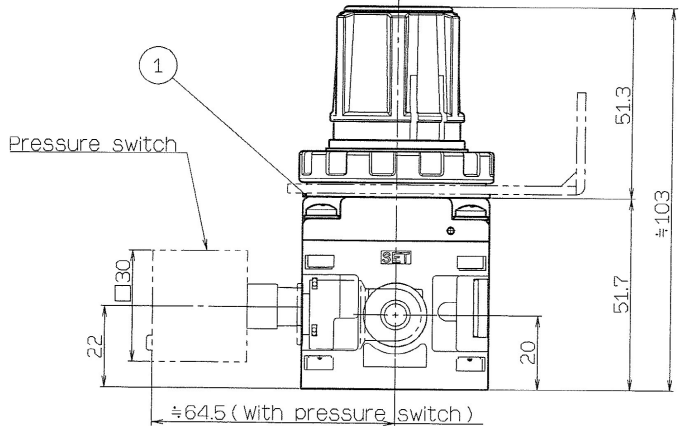
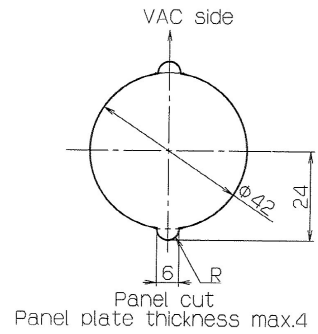
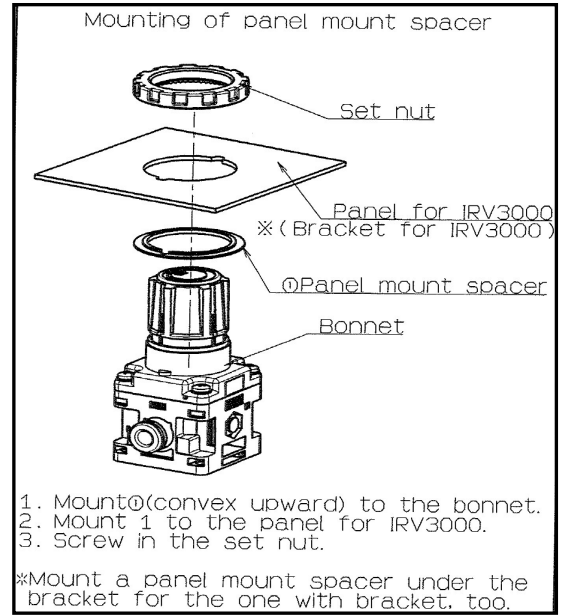
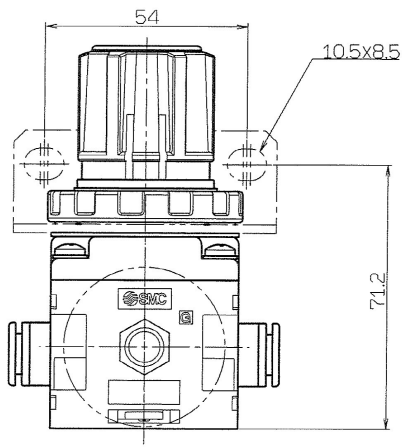
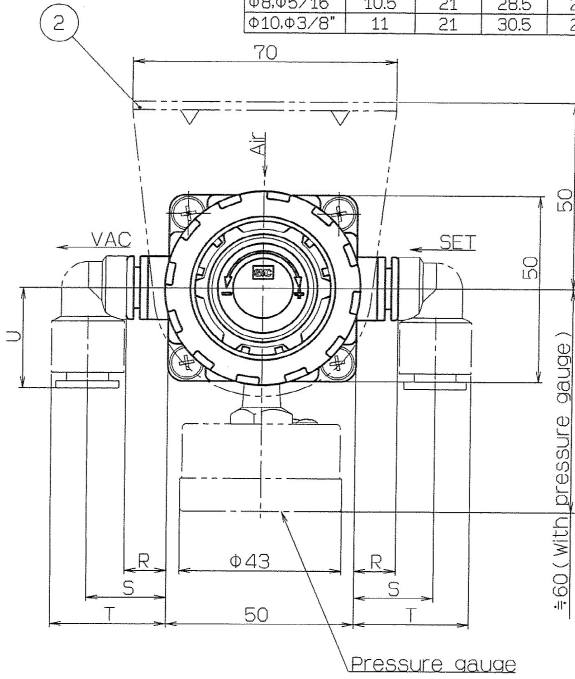


# ◇IRV20-※-X4

The parts (2) is a bracket compatible with the IRV3000 series.

Fitting part dimensions

Fitting size	VAC/SET			
	Straight	Elbow	Elbow	Elbow
	R	S	T	U
φ6	10.5	21	27.5	21
φ1/4"	10.5	21	27.5	21.5
φ8, φ5/16"	10.5	21	28.5	24
φ10, φ3/8"	11	21	30.5	27

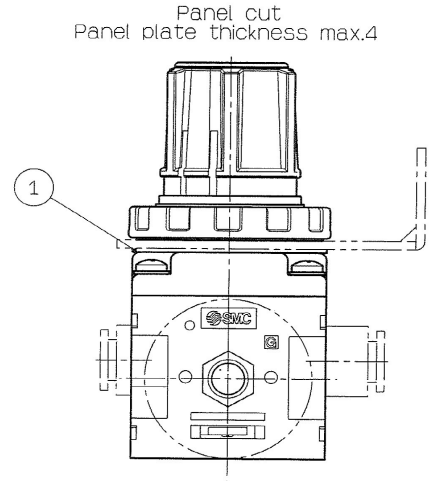
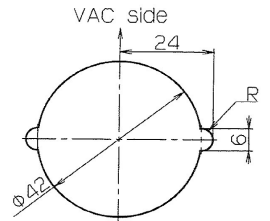
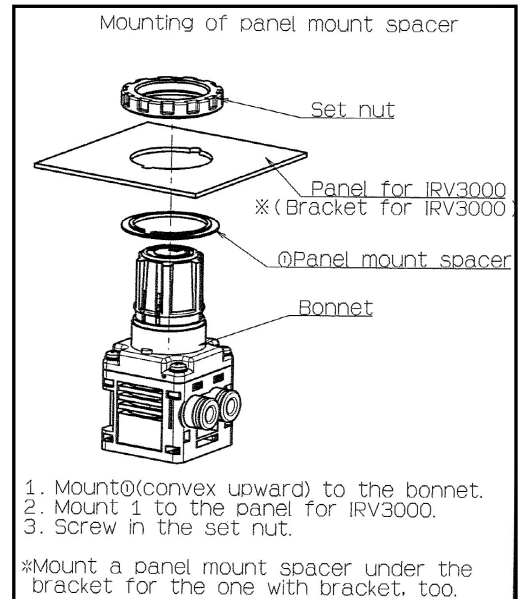
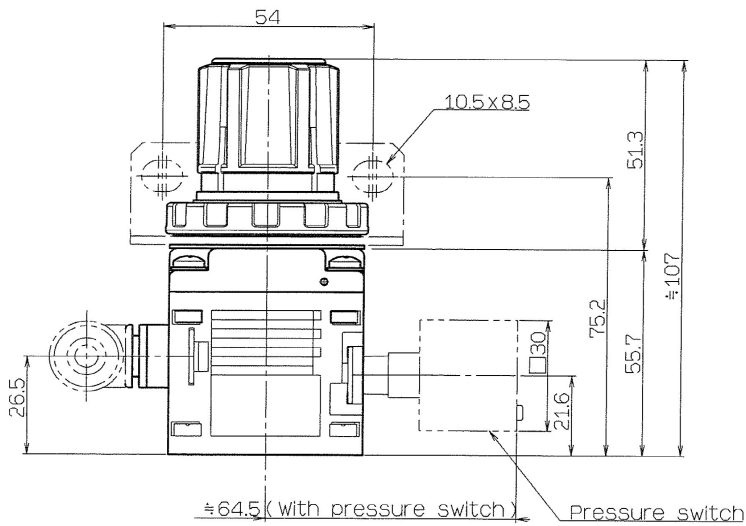
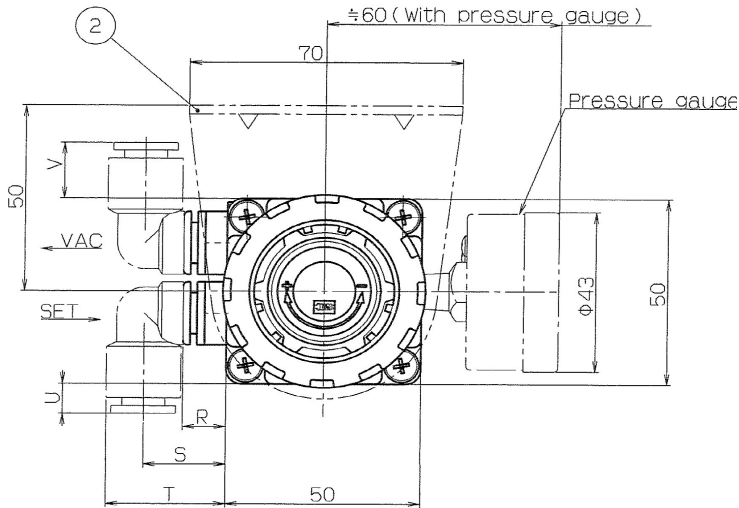


# ◇IRV20A-※-X4

The parts (2) is a bracket compatible with the IRV3000 series.

Fitting part dimensions

Fitting size	VAC/SET				
	Straight	Elbow	Elbow	Elbow	Elbow
φ6	R	S	T	U	V
φ1/4"	10.5	21	27.5	1	8
φ8,φ5/16"	10.5	21	27.5	1.5	8.5
φ10,φ3/8"	11	21	30.5	7	14

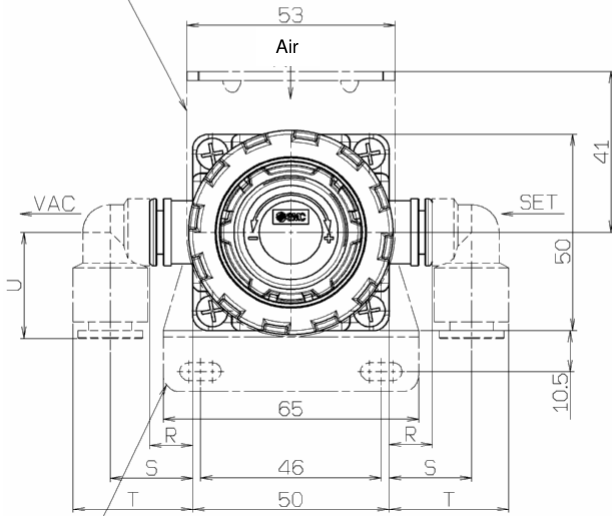


# ◇IRV20-※-X7

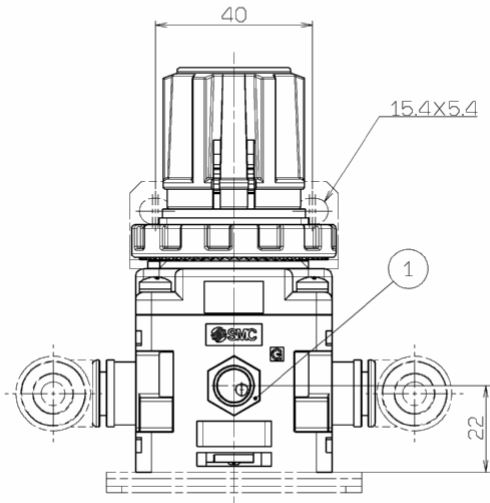
Fitting part dimensions

Fitting size	VAC/SET			
	Straight R	Elbow S	Elbow T	Elbow U
φ6	10.5	21	27.5	21
φ1/4"	10.5	21	27.5	21.5
φ8, φ5/16"	10.5	21	28.5	24
φ10, φ3/8"	11	21	30.5	27

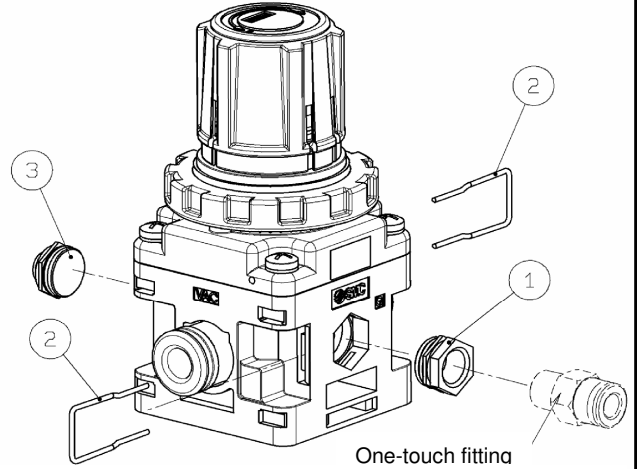
Bracket



Bottom bracket



How to attach a fitting with a gauge nut  
(Example of a one-touch fitting)



One-touch fitting

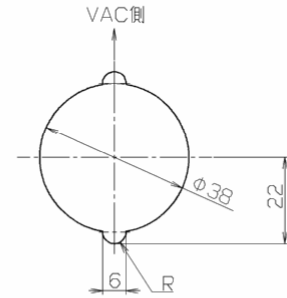
1. Screw the one-touch fitting into the gauge nut (1).
2. Insert the gauge nut 1. into the port and fix with the clip (2).
3. Insert a plug nut into the port on the other side of the body.

Note1) Do not fix the gauge nut before attaching the fitting.

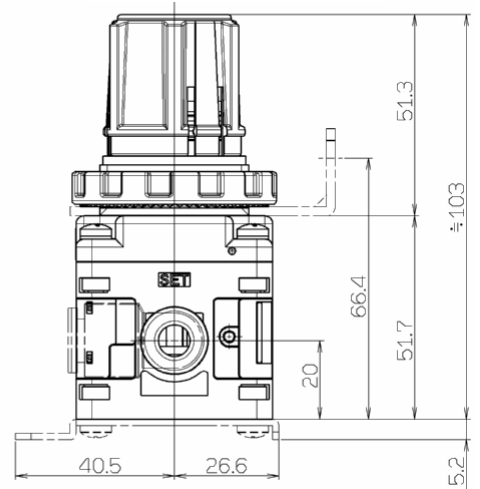
The resin body may break.

Note2) The parts (1) and (2) will be bundled with the product.

Note3) The one-touch fitting will not be bundled.



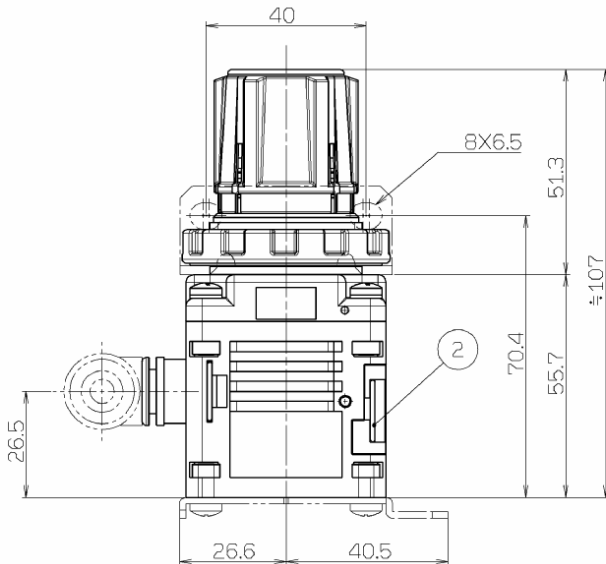
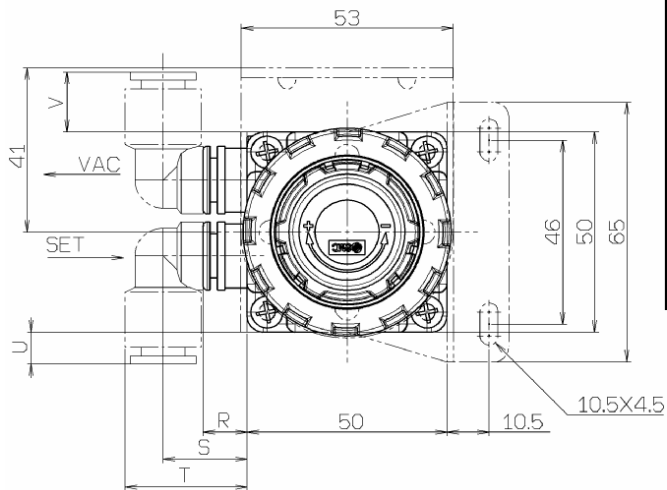
Panel cut  
Panel thickness: Max.4



# ◇IRV20A-※-X7

Fitting part dimensions

Fitting size	VAC/SET				
	Straight	Elbow	Elbow	Elbow	Elbow
φ6	R	S	T	U	V
φ1/4"	10.5	21	27.5	1	8
φ8, φ5/16"	10.5	21	27.5	1.5	8.5
φ10, φ3/8"	10.5	21	28.5	4	11
φ10, φ3/8"	11	21	30.5	7	14



How to attach a fitting with a gauge nut  
(Example of a one-touch fitting)

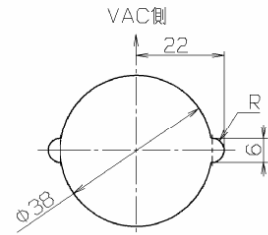
One-touch fitting

1. Screw the one-touch fitting into the gauge nut (1).
2. Insert the gauge nut 1. into the port and fix with the clip(2).

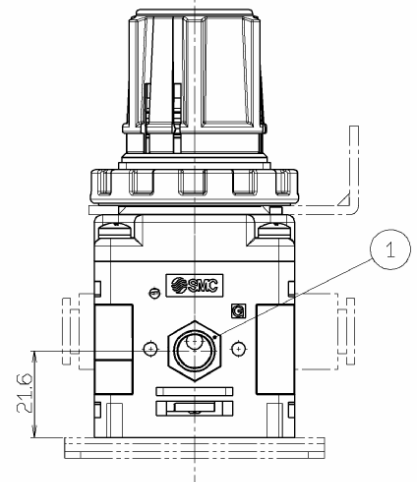
Note1) Do not fix the gauge nut before attaching the fitting.  
The resin body may break.

Note2) The parts (1) and (2) will be bundled with the product.

Note3) The one-touch fitting will not be bundled.



Panel cut  
Panel thickness: Max.4

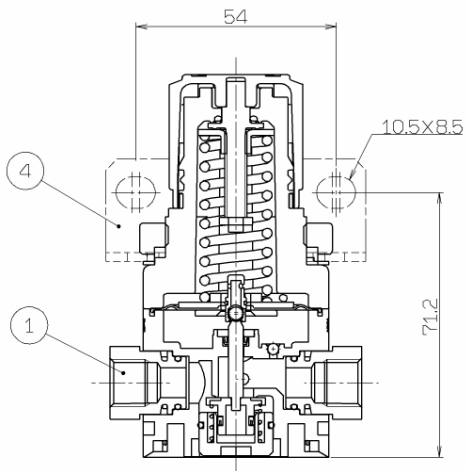
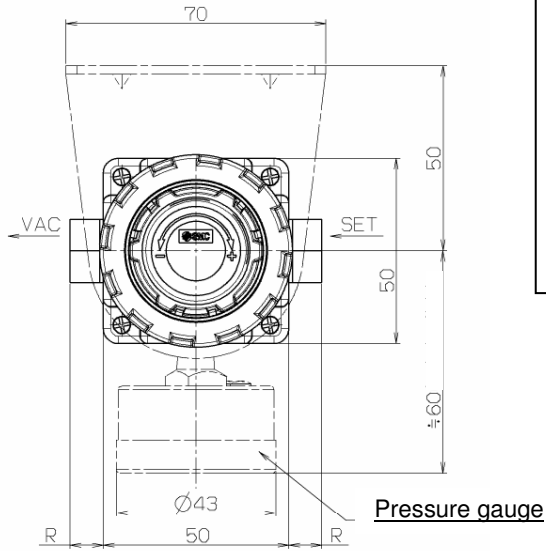




# ◇IRV20-※-X8

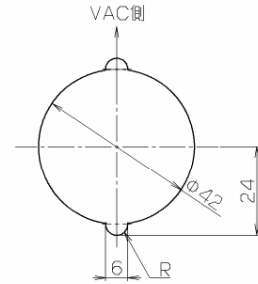
Fitting part dimensions

Port size	VAC/SET
	R
Rc1/4	8.9
Rc3/8	12.4
Rc1/2	19.9

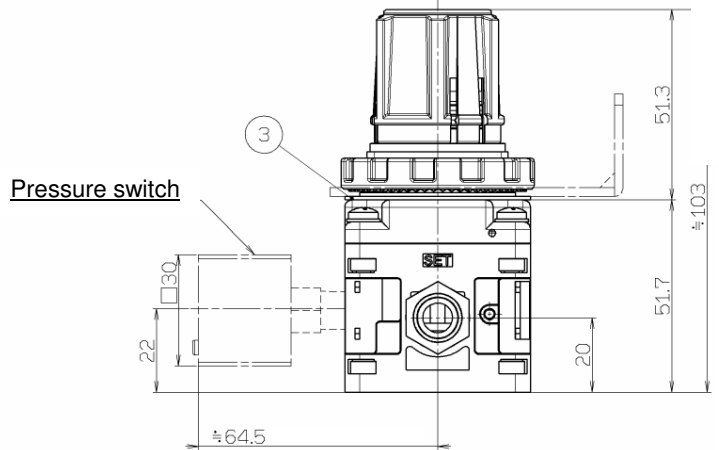


- How to attach fittings with female thread adapters  
 ⇒ It is the same as that of IRV20-※-X3.  
 (1) is the female thread adapter.

- Mounting of panel mount spacer  
 ⇒ It is the same as that of IRV20-※-X4.  
 (3) is a panel mount spacer.  
 (4) is a bracket compatible with the IRV3000 series.



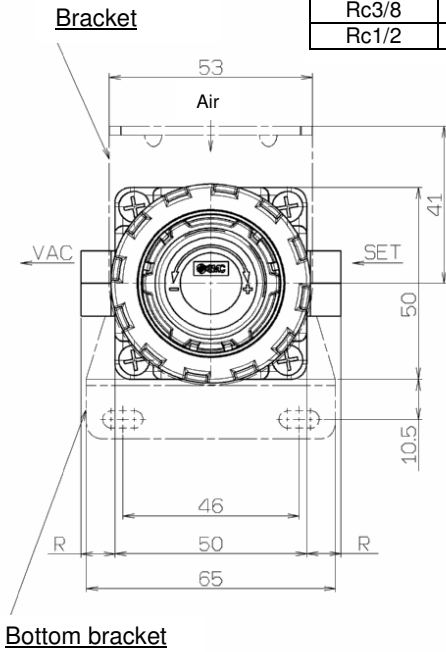
Panel cut  
 Panel thickness: Max.4



# ◇IRV20-※-X11

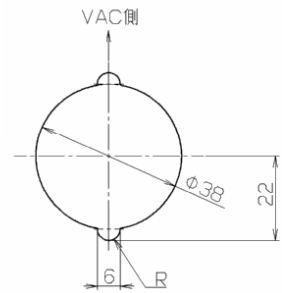
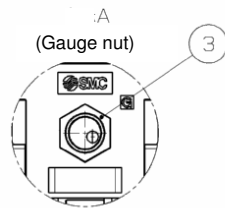
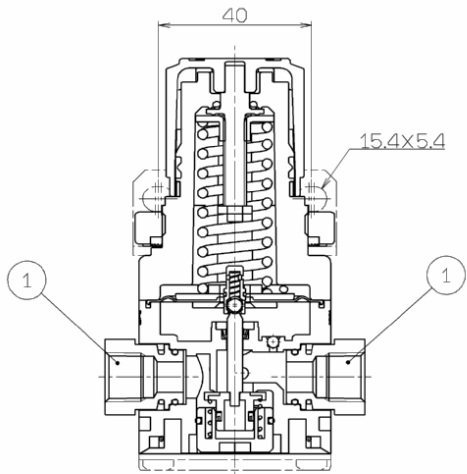
Fitting part dimensions

Port size	VAC/SET
	R
Rc1/4	8.9
Rc3/8	12.4
Rc1/2	19.9

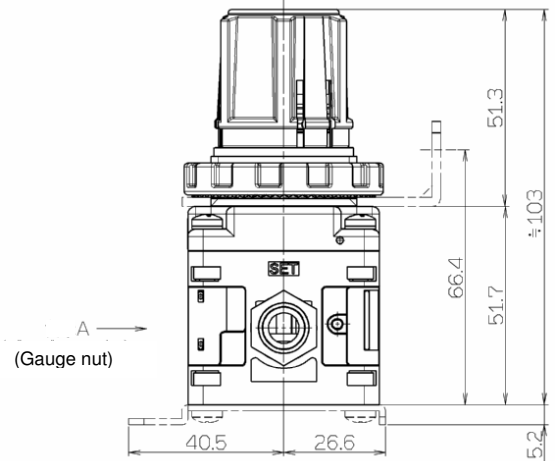


- How to attach fittings with female thread adapters  
 ⇒ It is the same as that of IRV20-※-X3.  
 (1) is the female thread adapter.

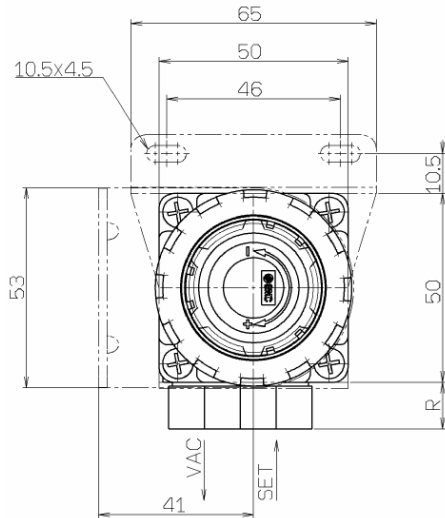
- How to attach a fitting with a gauge nut  
 ⇒ It is the same as that of IRV20-※-X7.  
 (3) is a gauge nut.



Panel cut  
 Panel thickness: Max.4



# ◇IRV20A-※-X11

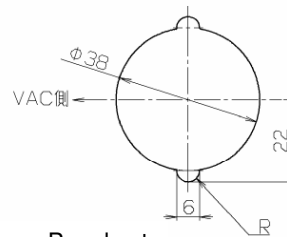


Fitting part dimensions

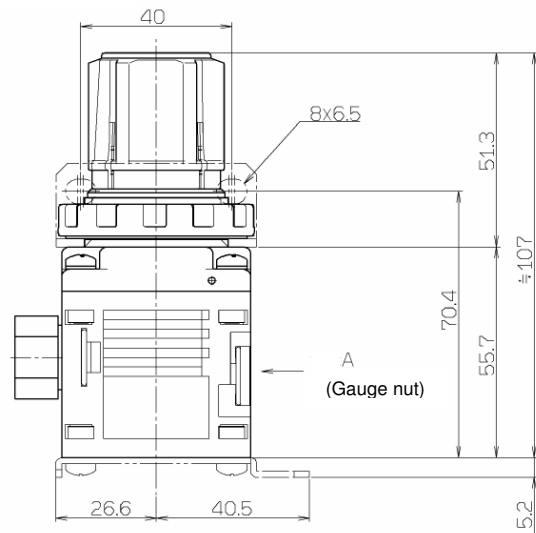
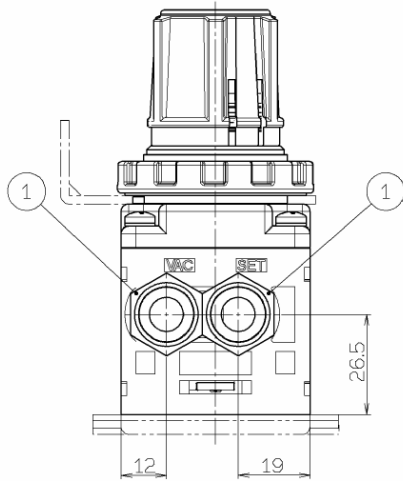
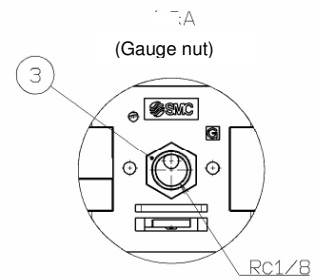
Port size	VAC/SET
Rc1/4	R
Rc3/8	8.9
	12.4

- How to attach fittings with female thread adapters  
 ⇒ It is the same as that of IRV20A-※-X3.  
 (1) is the female thread adapter.

- How to attach a fitting with a gauge nut  
 ⇒ It is the same as that of IRV20A-※-X7.  
 (3) is a gauge nut.



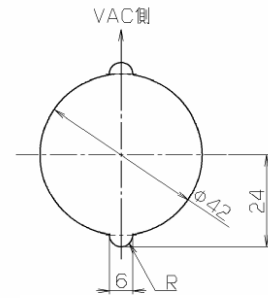
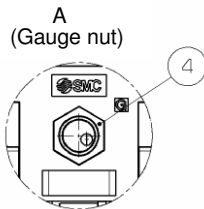
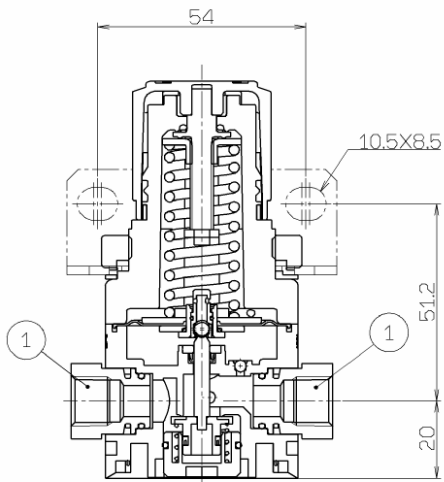
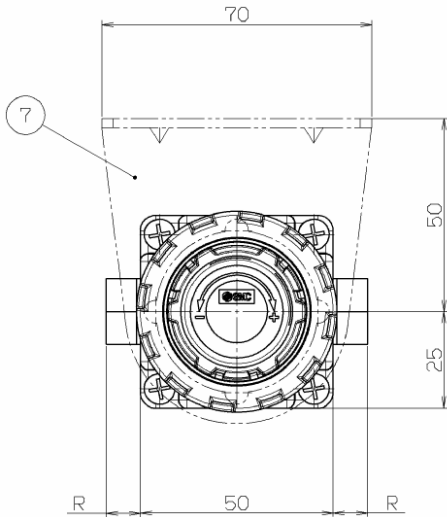
Panel cut  
 Panel thickness: Max.4



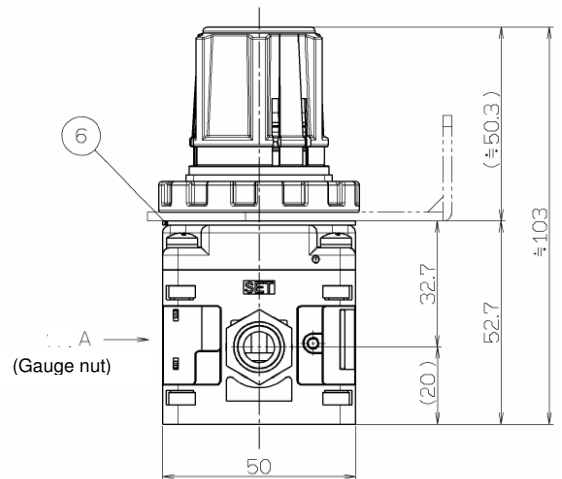
# ◇IRV20-※-X24

Fitting part dimensions

Port size	VAC/SET
Rc1/4	8.9
Rc3/8	12.4
Rc1/2	19.9



Panel cut  
Panel thickness: Max.4



- How to attach fittings with female thread adapters

⇒ It is the same as that of IRV20-※-X3.

(1) is the female thread adapter.

- How to attach a fitting with a gauge nut

⇒ It is the same as that of IRV20-※-X7.

(4) is a gauge nut.

- Mounting of panel mount spacer

⇒ It is the same as that of IRV20-※-X4.

(6) is a panel mount spacer.

(7) is a bracket compatible with the IRV3000 series.

# ◇IRV20-※-X28

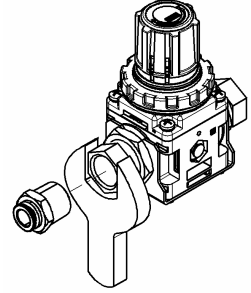
- Option to stop the tubing rotation.

⇒The parts (2),(3),(4),(5) and (6) are to stop the rotation of the tubing.

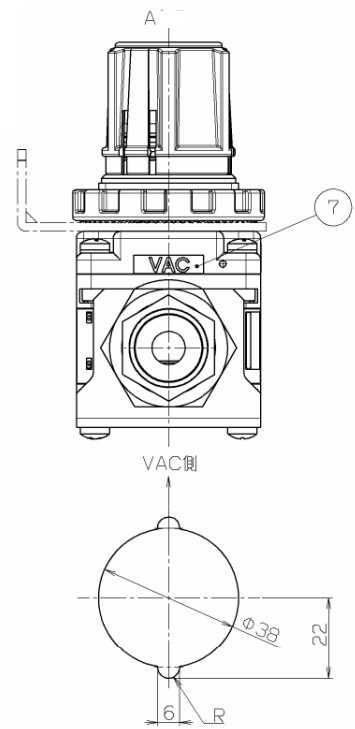
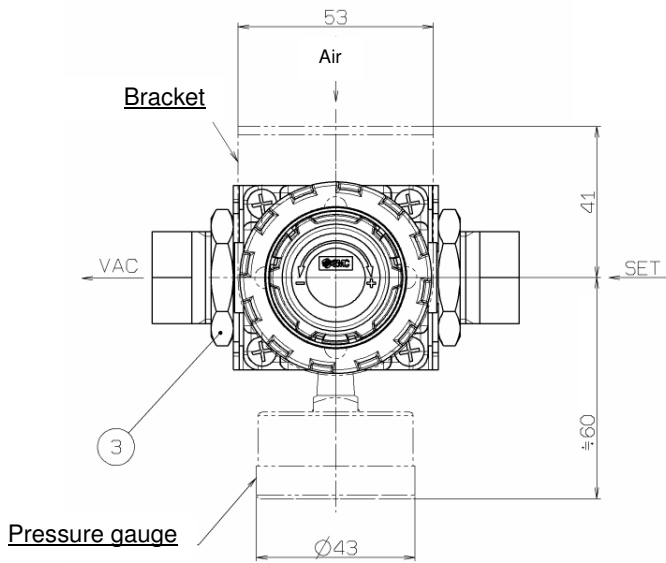
(1) is the female thread adapter.

(7) and (8) are port seals.

How to connect the piping



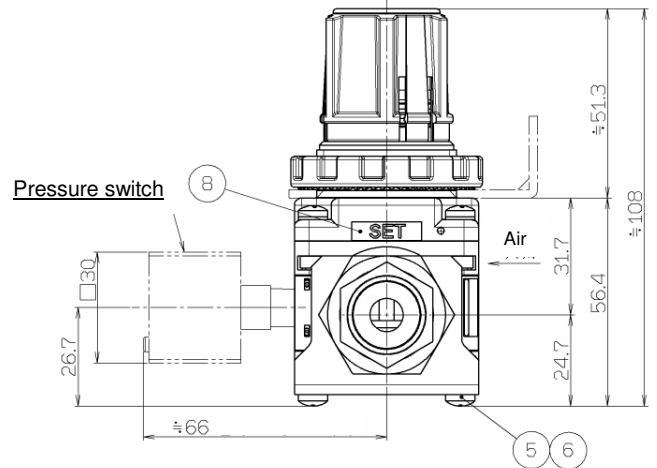
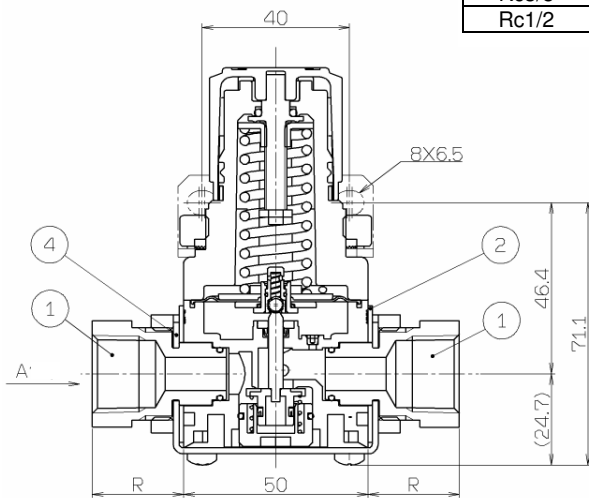
When connecting the tubing, please hold the female thread adapter with a spanner, etc., to prevent it from rotating.



Panel cut  
Panel thickness: Max.4

Fitting part dimensions

Port size	VAC/SET
	R
Rc1/4	19.8
Rc3/8	21.8
Rc1/2	24.8

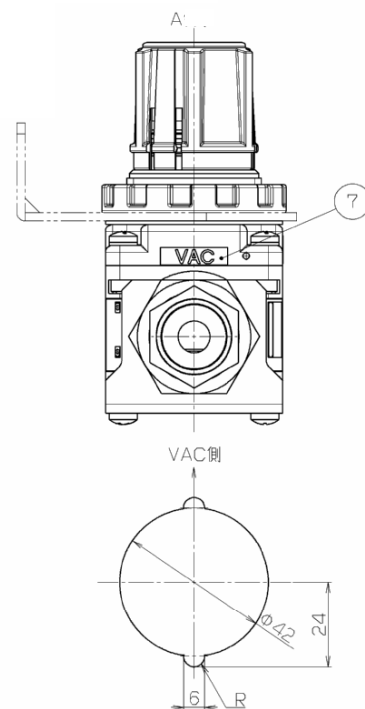
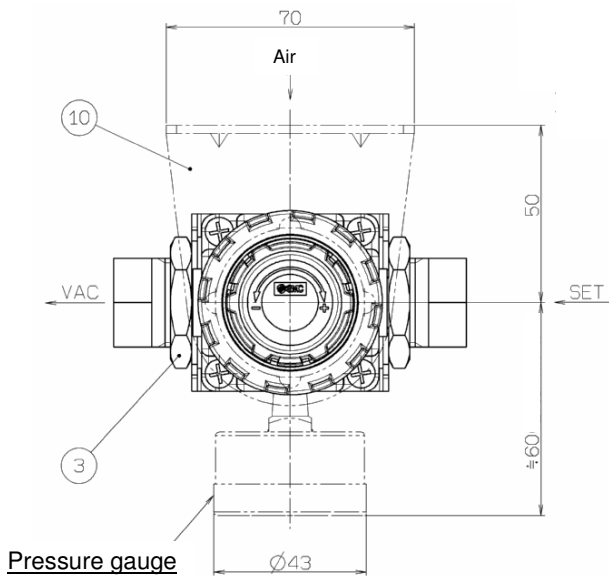
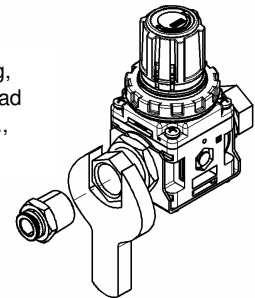


# ◇IRV20-※-X33

- Option to stop the tubing rotation.  
⇒The parts (2),(3),(4),(5) and (6) are to stop the rotation of the tubing.  
(1) is the female thread adapter.  
(7) and (8) are port seals.
- Mounting of panel mount spacer  
⇒It is the same as that of IRV20-※-X4.  
(9) is a panel mount spacer.  
(10) is a bracket compatible with the IRV3000 series.

How to connect the piping

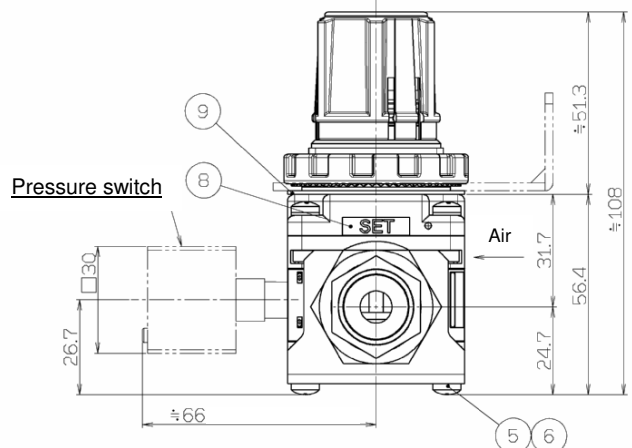
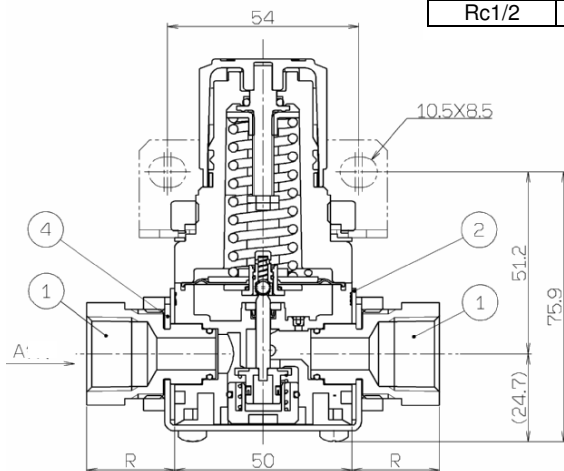
When connecting the tubing, please hold the female thread adapter with a spanner, etc., to prevent it from rotating.



Fitting part dimensions

Port size	VAC/SET R
Rc1/4	19.8
Rc3/8	21.8
Rc1/2	24.8

Panel cut  
Panel thickness: Max.4



⚠ Caution To ensure the safest possible operation of this product, please be sure to thoroughly read the "Safety Instructions" in our "Best Pneumatics" catalog before use.