



# IRV10/20 Series

RoHS

## How to Order

### Standard connections

IRV **20** - **C08** - -

#### Body size

10	Max. flow 140 L/min (ANR)
20	Max. flow 240 L/min (ANR)

#### Fittings

Nil	Straight
L	Elbow



Straight

Elbow

#### Connection tubing O.D.

Symbol	Tubing O.D.	IRV10	IRV20
C06	Metric	●	●
C08		●	●
C10		—	●
N07	Inch	●	●
N09		●	●
N11		—	●

#### Accessory ② [Supplied with product]

Nil	None Note 1)		
GN	Gauge nut assembly Note 2)		
G	Pressure gauge Note 3) Note 4) (IRV10: GZ33-K-01, IRV20: GZ43-K-01)		
ZN	Note 4) Digital pressure switch	NPN open collector 1 output	With ZSE20-N-M-01-L
ZP		PNP open collector 1 output	With ZSE20-P-M-01-L
ZA		NPN open collector 2 outputs + Copy function	With ZSE20A-X-M-01-J
ZB		PNP open collector 2 outputs + Copy function	With ZSE20A-Y-M-01-J

Note 1) Two plug nuts are mounted on the gauge port. When the Rc1/8 port is required, please order the optional gauge nut assembly P601010-18 separately.

Note 2) One plug nut, one gauge nut (Rc1/8), and two clips are included. The pressure gauge and digital pressure switch are not included.

Note 3) Pressure gauge accuracy: Within ±3% of full scale

Note 4) Plug nut and gauge nut are included.

#### Accessory ① [Supplied with product]

Nil	None
B	With bracket
L	With bottom bracket

Bracket



Bottom bracket

### Single sided connections

IRV **20** **A** - **C08** - - -

#### Body size

10	Max. flow 140 L/min (ANR)
20	Max. flow 240 L/min (ANR)

#### Single sided connections

A	Single sided connections
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Elbow

Straight

#### Fittings

Nil	Straight
L	Elbow

#### Connection tubing O.D.

Symbol	Tubing O.D.	IRV10A	IRV20A
C06	Metric	●	●
C08		●	●
C10		—	●
N07	Inch	●	●
N09		●	●
N11		—	●

#### Made to Order

For details, refer to page 1124.

Symbol	Specification
X1	Integrated digital pressure switch for panel mounting

#### Accessory ② [Supplied with product]

Nil	None Note 1)		
GN	Gauge nut assembly Note 2)		
G	Pressure gauge Note 3) Note 4) (IRV10A: GZ33-K-01, IRV20A: GZ43-K-01)		
ZN	Note 4) Digital pressure switch	NPN open collector 1 output	With ZSE20-N-M-01-L
ZP		PNP open collector 1 output	With ZSE20-P-M-01-L
ZA		NPN open collector 2 outputs + Copy function	With ZSE20A-X-M-01-J
ZB		PNP open collector 2 outputs + Copy function	With ZSE20A-Y-M-01-J

Note 1) Two plug nuts are mounted on the gauge port. When the Rc1/8 port is required, please order the optional gauge nut assembly P601010-18 separately.

Note 2) One gauge nut (Rc1/8) and one clip are included. The pressure gauge and digital pressure switch are not included.

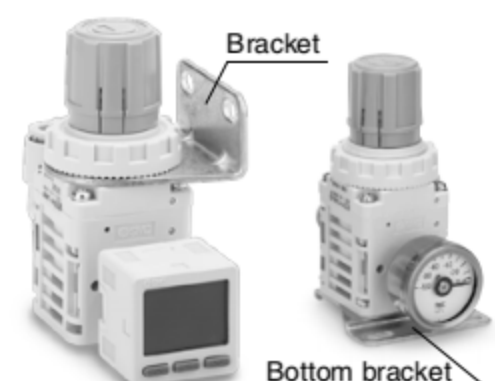
Note 3) Pressure gauge accuracy: Within ±3% of full scale

Note 4) Gauge nut is included.

#### Accessory ① [Supplied with product]

Nil	None
B	With bracket
L	With bottom bracket

Bracket



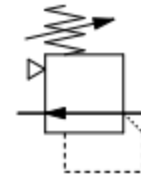
Bottom bracket



## Standard Specifications

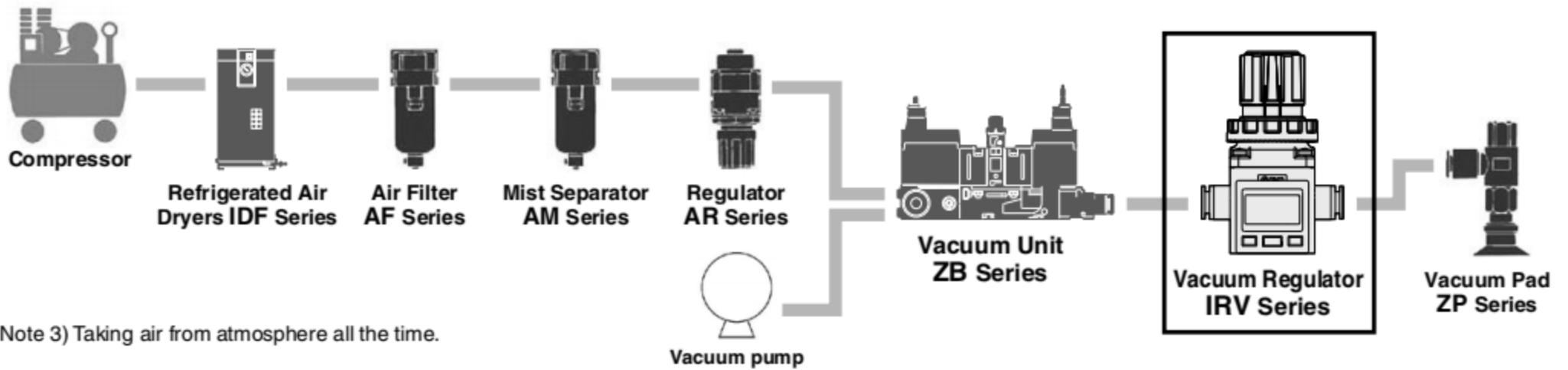
Model		IRV10	IRV20
<b>Fluid</b>		Air	
<b>Set pressure range</b> <small>Note 1)</small>		-100 to -1.3 kPa	
<b>Withstand pressure</b> <small>Note 2)</small>		100 kPa (Except with pressure gauge)	
<b>Atmospheric intake consumption</b> <small>Note 3)</small>		0.6 L/min (ANR) or less	
<b>Knob resolution</b>		0.13 kPa or less	
<b>Ambient and fluid temperature</b>		5 to 60°C	
<b>VAC side tubing O.D.</b>		ø6, ø8	ø6, ø8, ø10
<b>SET side tubing O.D.</b>		ø1/4", ø5/16"	ø1/4", ø5/16", ø3/8"
<b>Weight (Without accessories)</b>	<b>Standard connections</b>	135 g (IRV10-C08)	250 g (IRV20-C10)
	<b>Single sided connections</b>	125 g (IRV10A-C08)	250 g (IRV20A-C10)

### Symbol



Note 1) Use caution it varies depending on the pressure in vacuum pump side.

Note 2) For vacuum regulators with a pressure gauge, the pressure gauge will be damaged if positive pressure is supplied. In the event that positive pressure is applied, the vacuum regulator will not be damaged; however, the main valve will open and positive pressure will enter the vacuum pump. This may cause malfunction of the vacuum pump. when the vacuum regulator is used in the adsorbing and transferring system, refer to the following piping example and avoid supplying positive pressure to the vacuum pump. The vacuum regulator cannot adjust positive pressure.

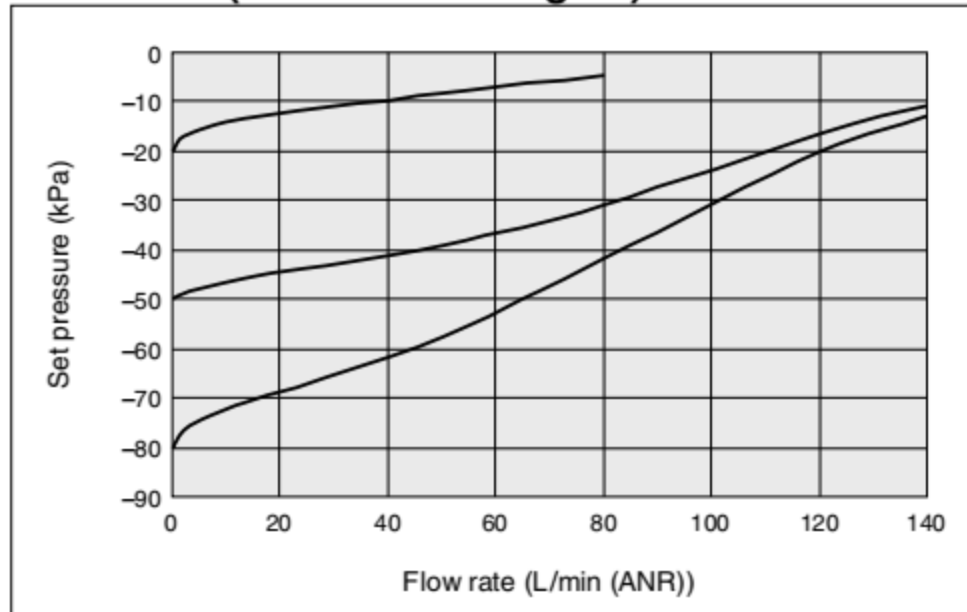


Note 3) Taking air from atmosphere all the time.

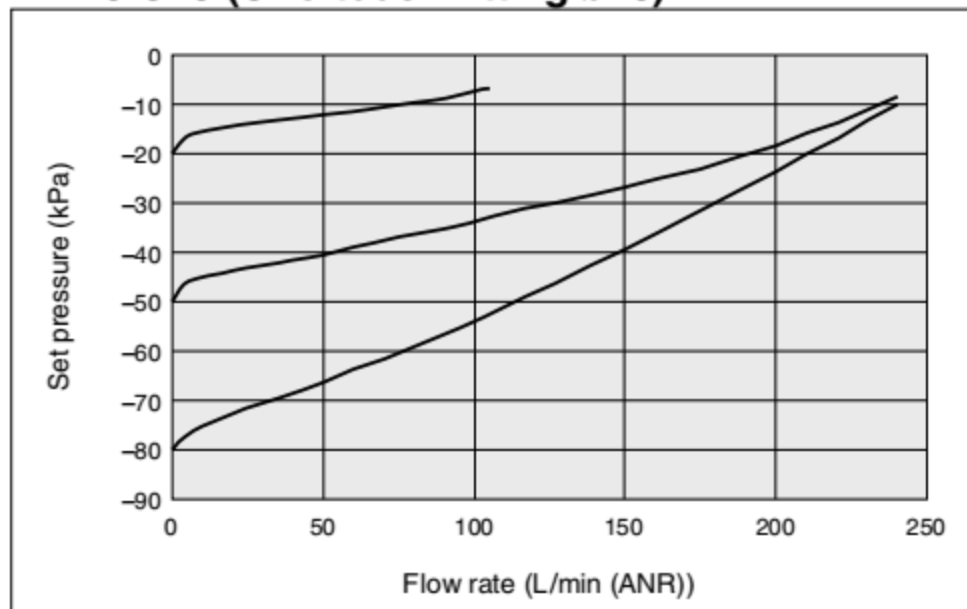
Conditions:  
 Vacuum pump exhaust speed:  
 2500 L/min  
 VAC side pressure:  
 -101 kPa (At initial setting)

## Flow Rate Characteristics (Representative Value)

### IRV10-C08 (One-touch fitting ø8)

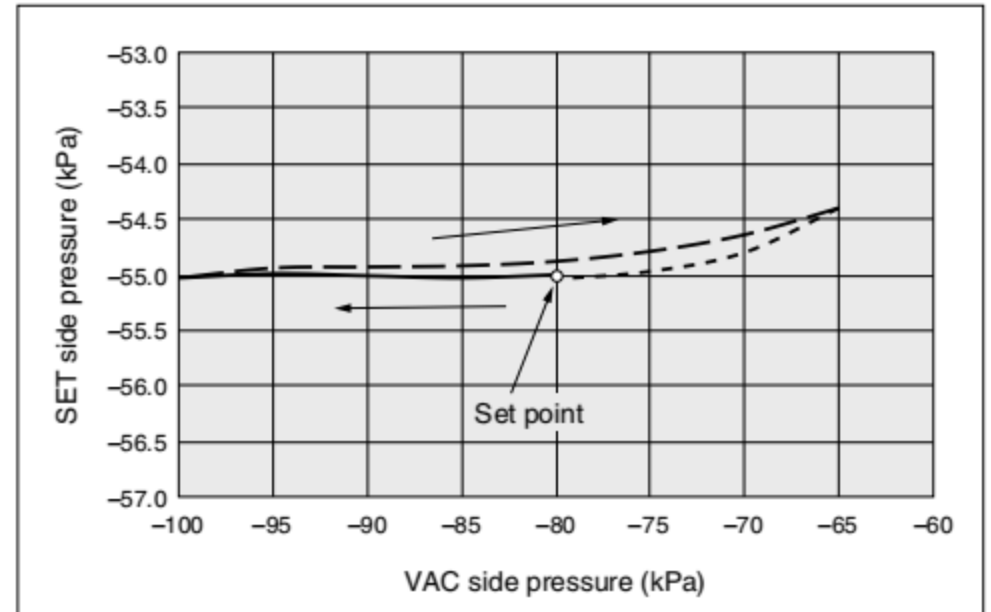


### IRV20-C10 (One-touch fitting ø10)

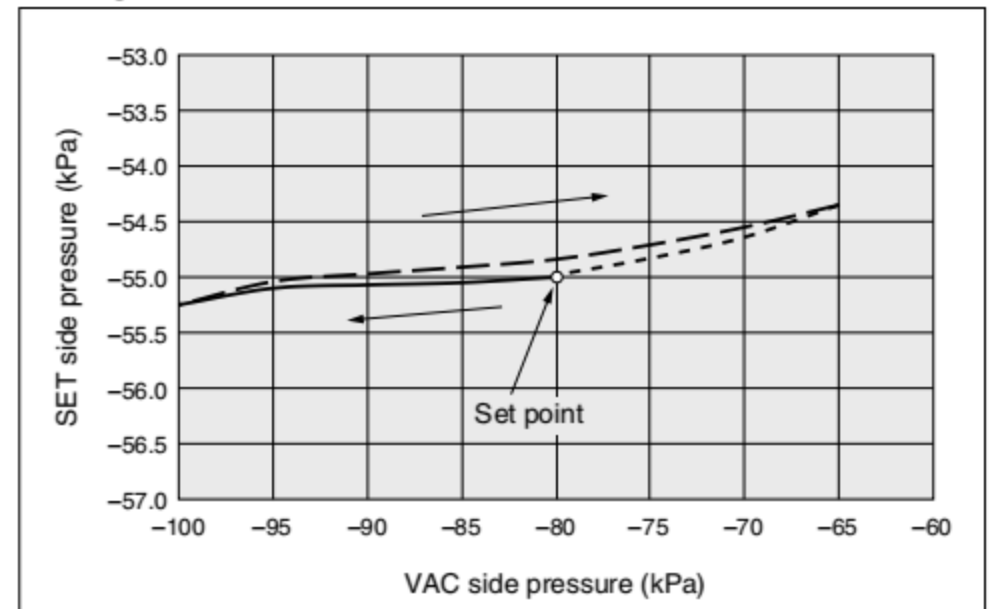


## Pressure Characteristics (Representative Value)

### IRV10



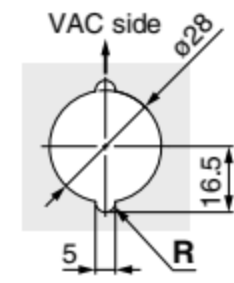
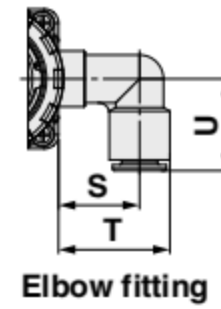
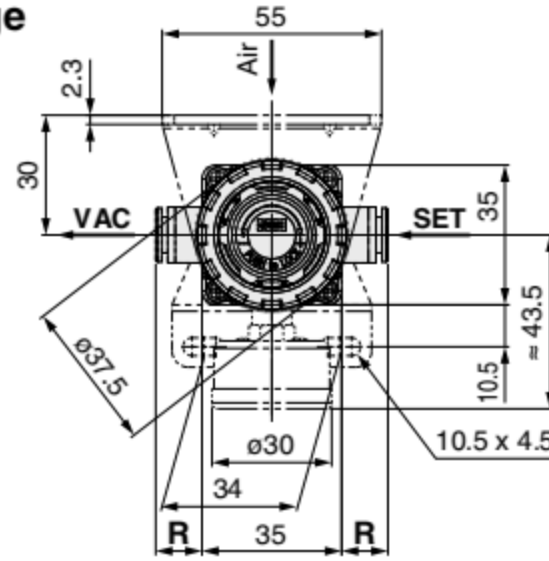
### IRV20





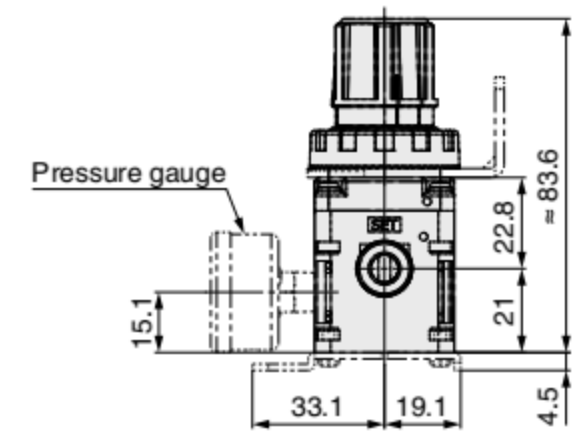
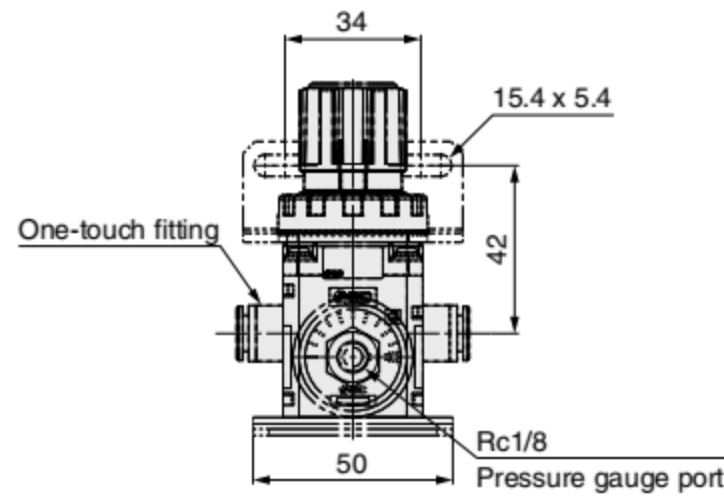
## Dimensions/IRV10: Standard Connections

### IRV10-□□□G: With pressure gauge



Elbow fitting

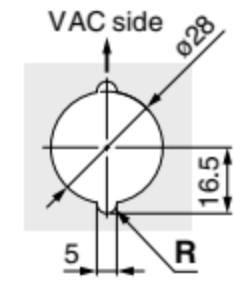
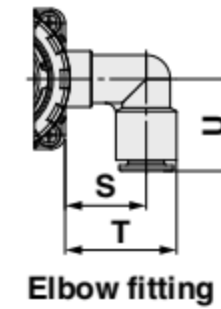
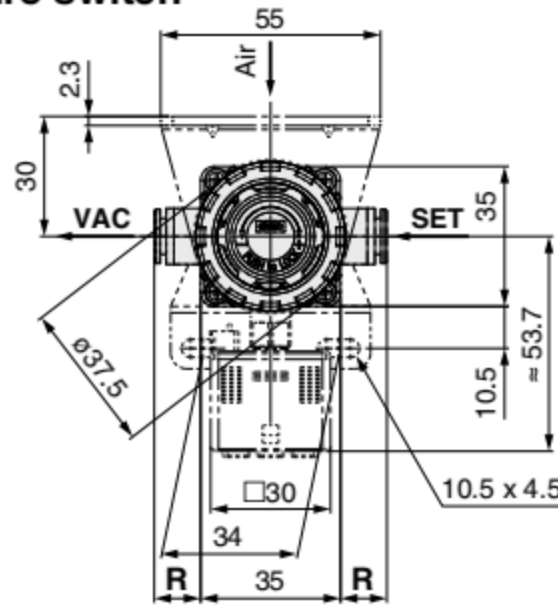
Panel cut  
Panel plate thickness: Max. 3



### Fitting Part Dimensions (mm)

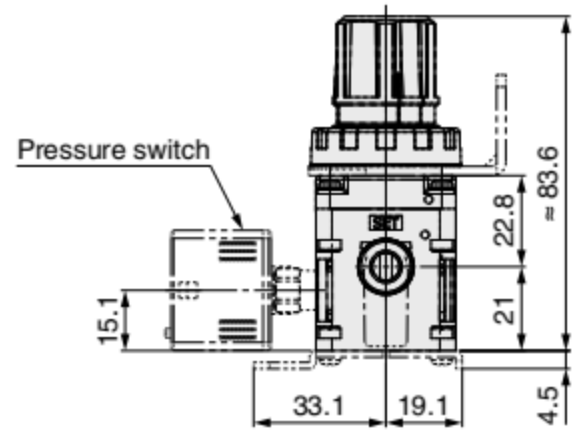
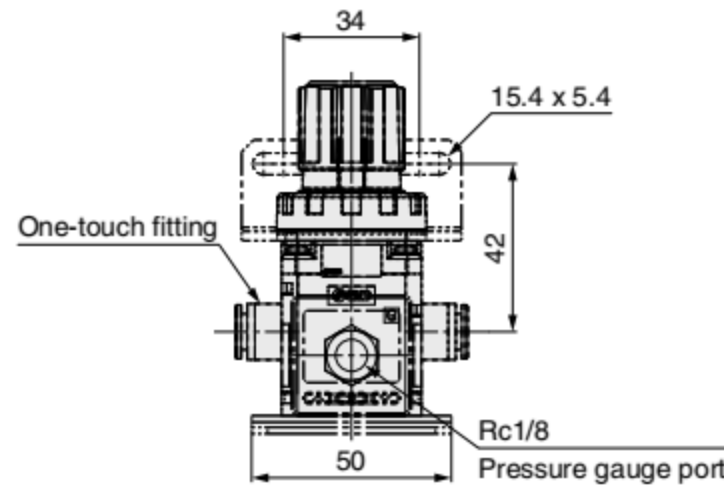
Fitting size	VAC/SET			
	Straight R	Elbow S	Elbow T	Elbow U
ø6	9.9	19.1	25.5	20
ø8	11.6	20.3	27.9	23
ø1/4"	9.9	19.3	25.9	20.5
ø5/16"	11.6	20.3	27.9	23

### IRV10-□□□Z<sup>N</sup><sub>A</sub><sup>P</sup><sub>B</sub>: With digital pressure switch



Elbow fitting

Panel cut  
Panel plate thickness: Max. 3



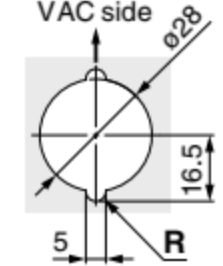
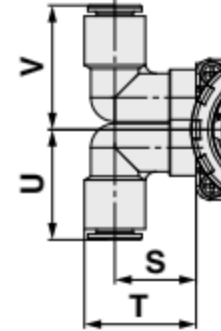
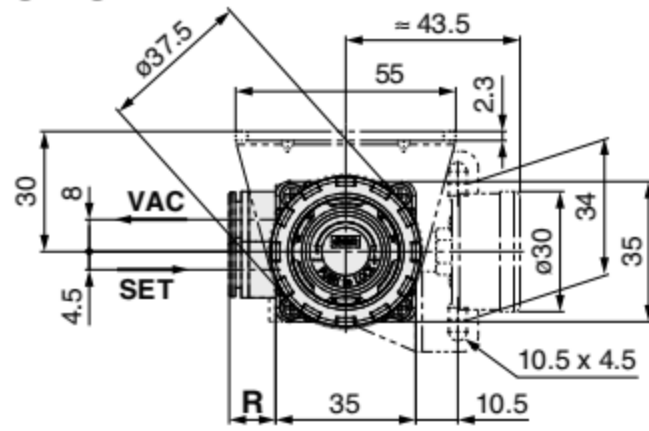
### Fitting Part Dimensions (mm)

Fitting size	VAC/SET			
	Straight R	Elbow S	Elbow T	Elbow U
ø6	9.9	19.1	25.5	20
ø8	11.6	20.3	27.9	23
ø1/4"	9.9	19.3	25.9	20.5
ø5/16"	11.6	20.3	27.9	23

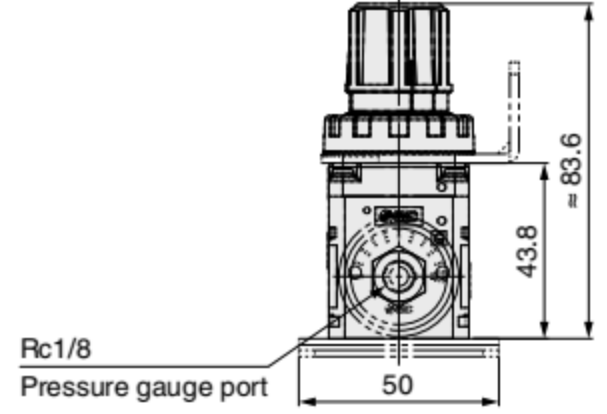
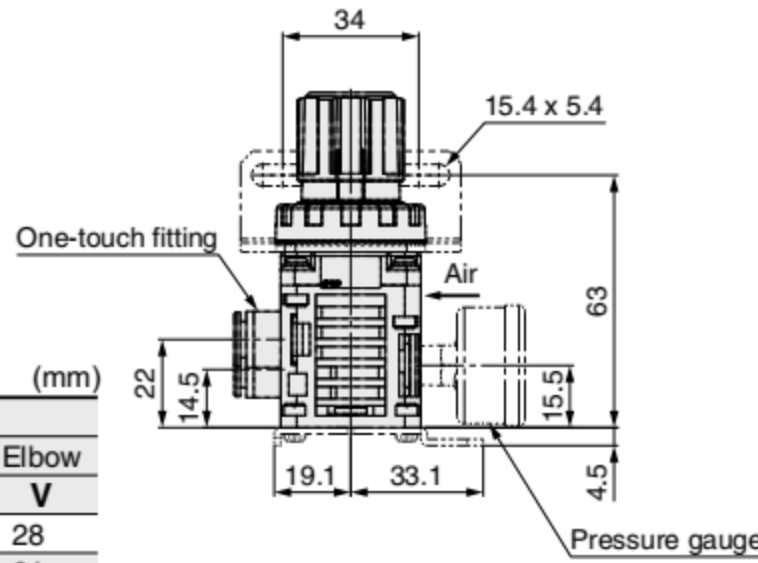


## Dimensions/IRV10A: Single Sided Connections

### IRV10A-□□□G: With pressure gauge



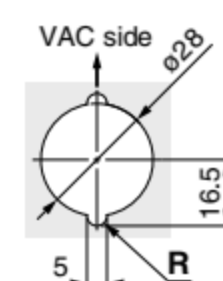
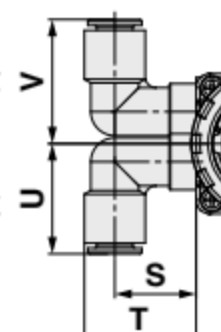
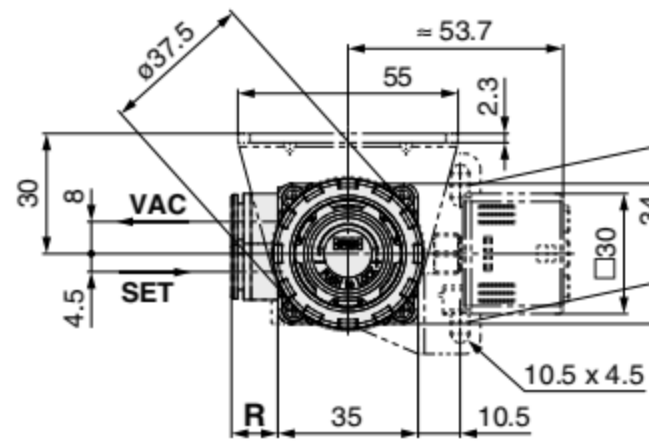
Elbow fitting  
Panel cut  
Panel plate thickness:  
Max. 3



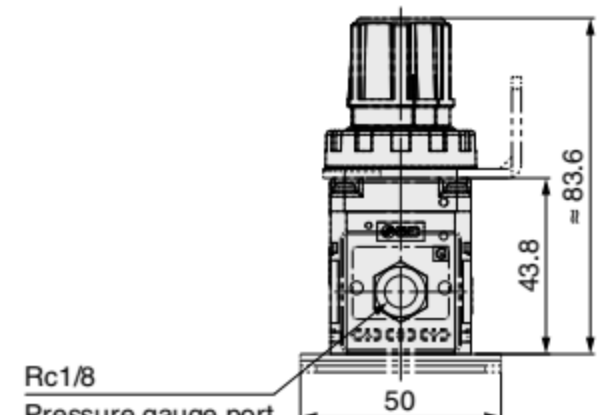
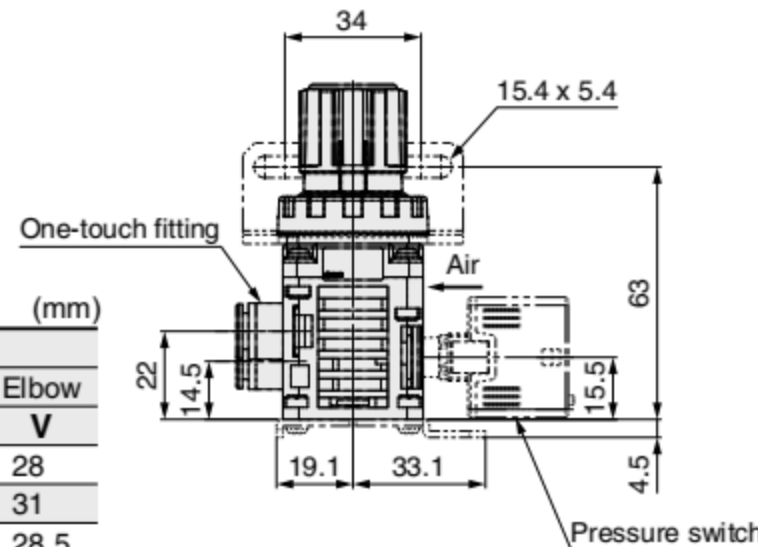
Fitting Part Dimensions

Fitting size	VAC/SET				
	Straight	Elbow	Elbow	Elbow	Elbow
	R	S	T	U	V
ø6	9.9	19.1	25.5	24.5	28
ø8	11.6	20.3	27.9	27.5	31
ø1/4"	9.9	19.3	25.9	25	28.5
ø5/16"	11.6	20.3	27.9	27.5	31

### IRV10A-□□□Z<sup>N</sup><sub>A</sub><sup>B</sup>: With digital pressure switch



Elbow fitting  
Panel cut  
Panel plate thickness:  
Max. 3



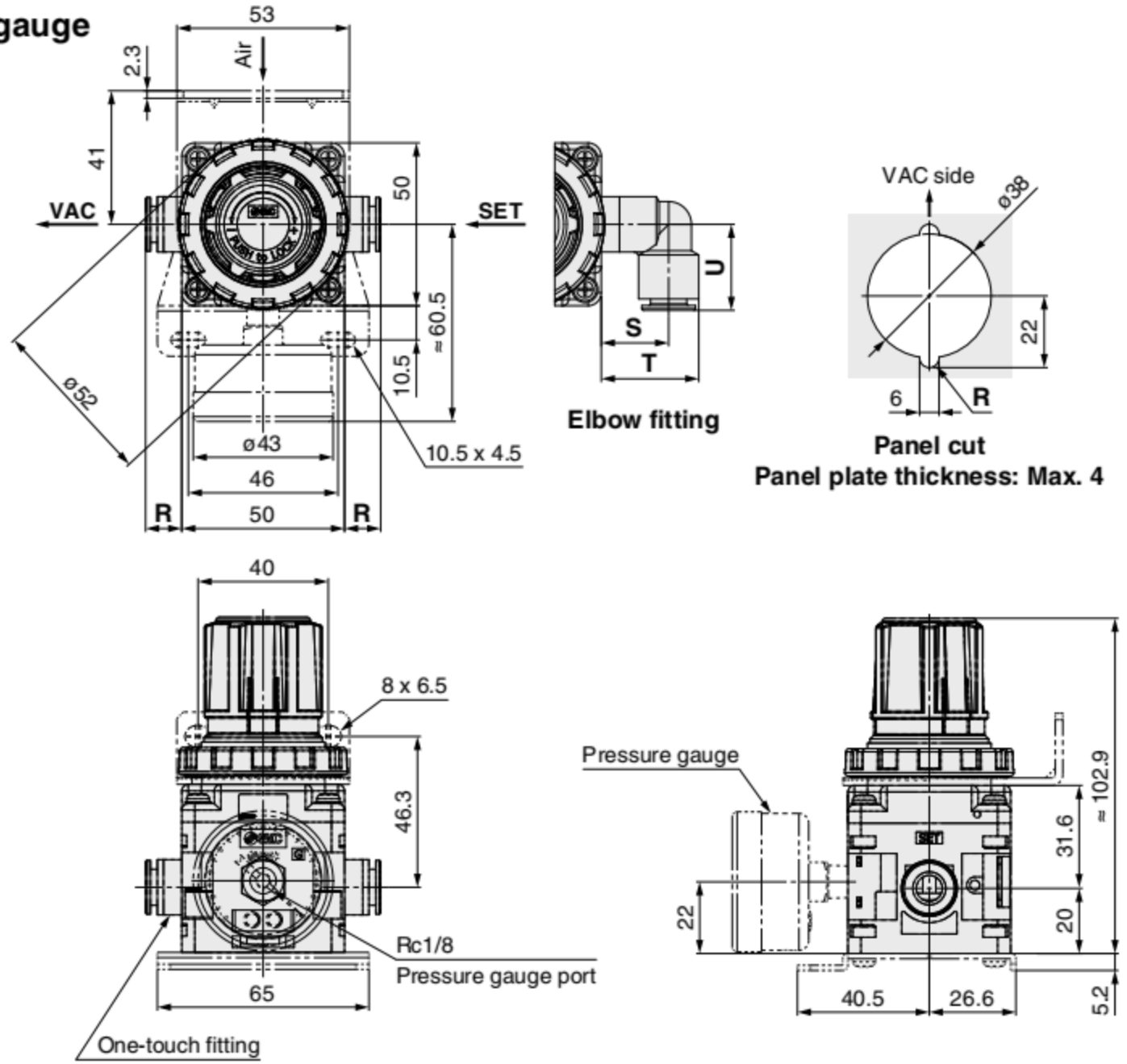
Fitting Part Dimensions

Fitting size	VAC/SET				
	Straight	Elbow	Elbow	Elbow	Elbow
	R	S	T	U	V
ø6	9.9	19.1	25.5	24.5	28
ø8	11.6	20.3	27.9	27.5	31
ø1/4"	9.9	19.3	25.9	25	28.5
ø5/16"	11.6	20.3	27.9	27.5	31



## Dimensions/IRV20: Standard Connections

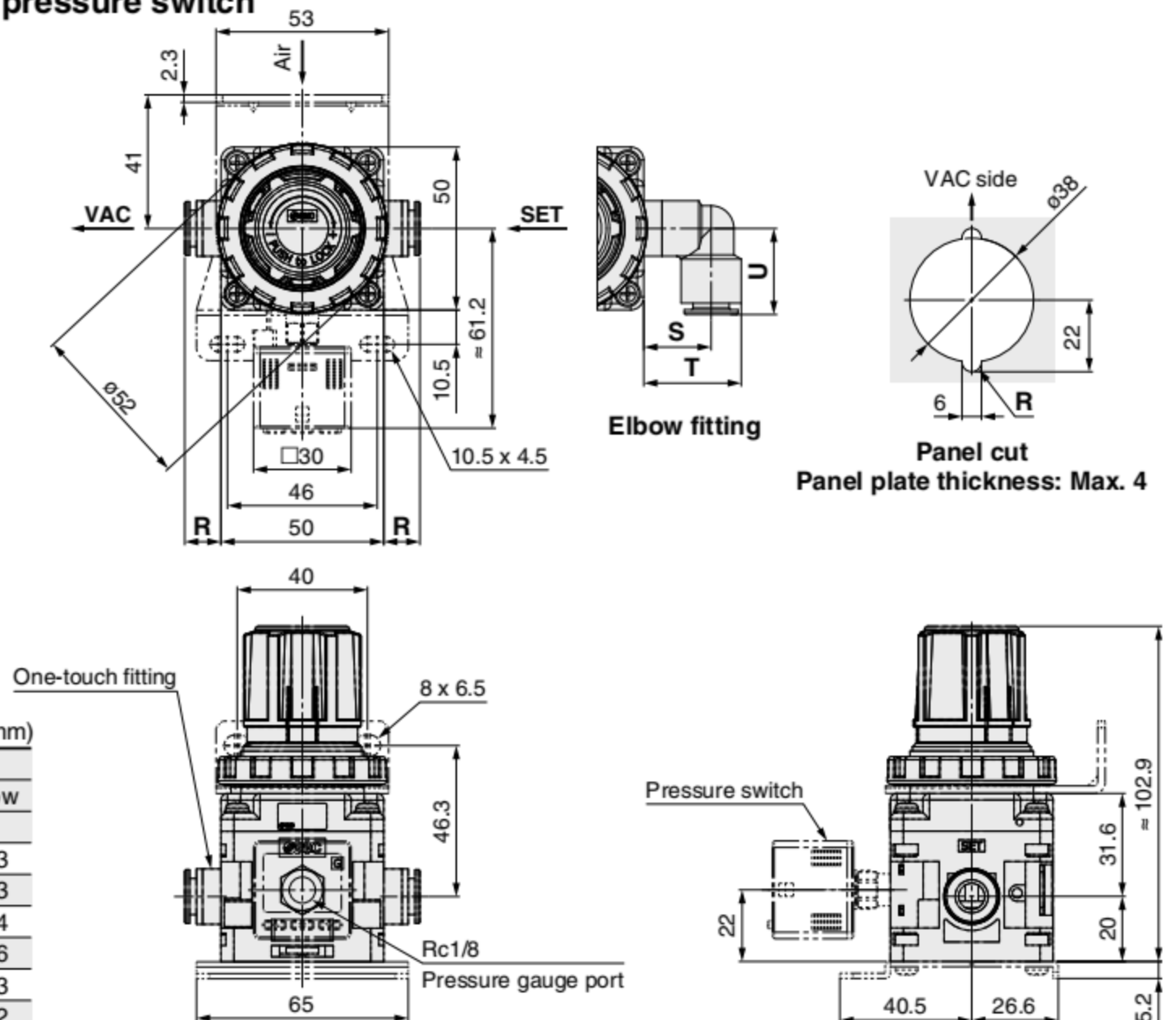
### IRV20-□□□G: With pressure gauge



**Fitting Part Dimensions** (mm)

Fitting size	VAC/SET			
	Straight <b>R</b>	Elbow <b>S</b>	Elbow <b>T</b>	Elbow <b>U</b>
ø6	9.1	18	24.4	20.3
ø8	10.5	19.2	26.8	23.3
ø10	11.1	20.7	30	26.4
ø1/4"	8.8	18.2	24.8	20.6
ø5/16"	10.5	19.2	26.8	23.3
ø3/8"	11	20.4	29.4	26.2

### IRV20-□□□Z<sup>N</sup><sub>A</sub><sup>P</sup><sub>B</sub>: With digital pressure switch



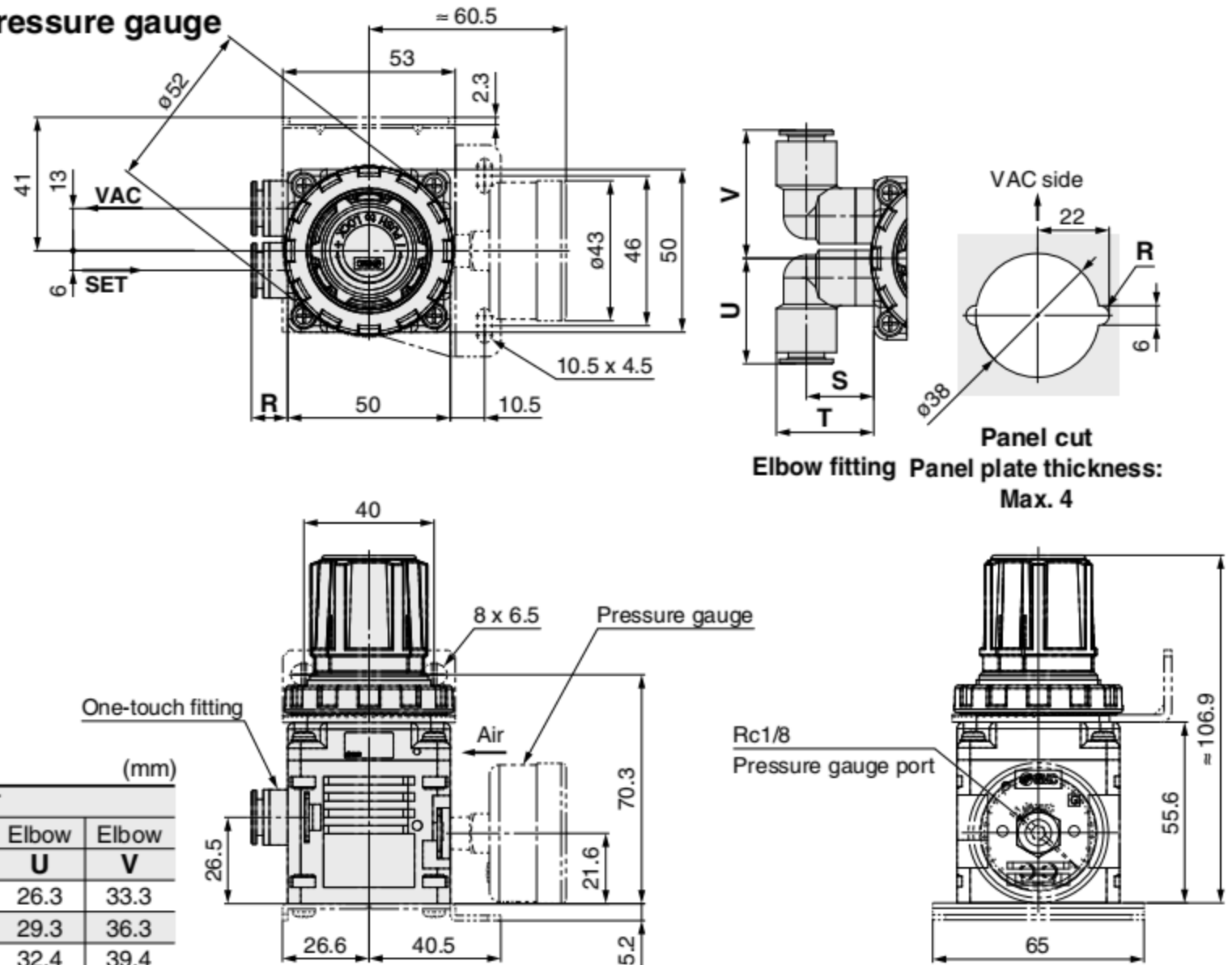
**Fitting Part Dimensions** (mm)

Fitting size	VAC/SET			
	Straight <b>R</b>	Elbow <b>S</b>	Elbow <b>T</b>	Elbow <b>U</b>
ø6	9.1	18	24.4	20.3
ø8	10.5	19.2	26.8	23.3
ø10	11.1	20.7	30	26.4
ø1/4"	8.8	18.2	24.8	20.6
ø5/16"	10.5	19.2	26.8	23.3
ø3/8"	11	20.4	29.4	26.2



## Dimensions/IRV20A: Single Sided Connections

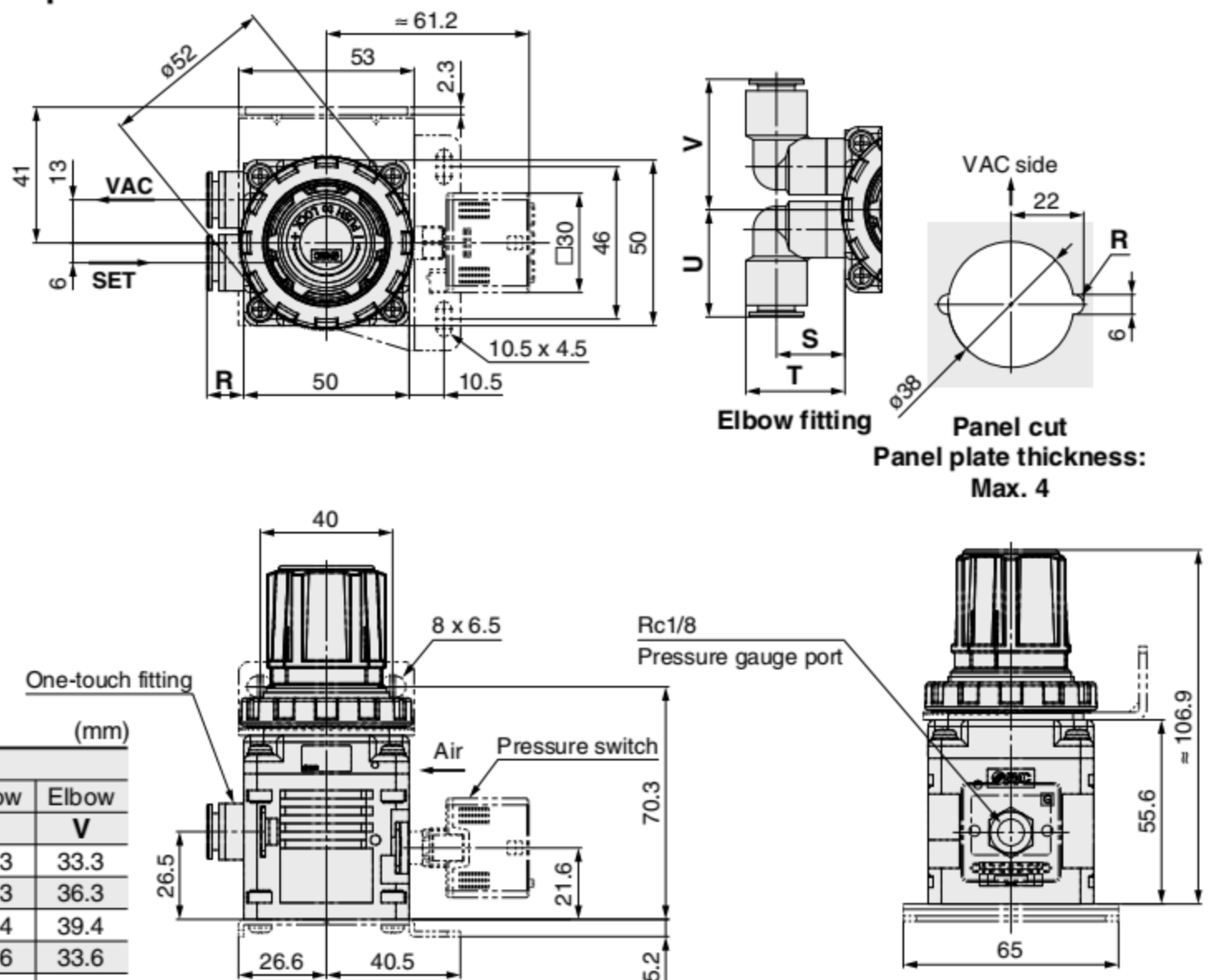
### IRV20A-□□□G: With pressure gauge



**Fitting Part Dimensions**

Fitting size	VAC/SET				
	Straight	Elbow	Elbow	Elbow	Elbow
	R	S	T	U	V
ø6	9.1	18	24.4	26.3	33.3
ø8	10.5	19.2	26.8	29.3	36.3
ø10	11.1	20.7	30	32.4	39.4
ø1/4"	8.8	18.2	24.8	26.6	33.6
ø5/16"	10.5	19.2	26.8	29.3	36.3
ø3/8"	11	20.4	29.4	32.2	39.2

### IRV20A-□□□Z<sup>N</sup><sub>A</sub><sup>P</sup><sub>B</sub>: With digital pressure switch



**Fitting Part Dimensions**

Fitting size	VAC/SET				
	Straight	Elbow	Elbow	Elbow	Elbow
	R	S	T	U	V
ø6	9.1	18	24.4	26.3	33.3
ø8	10.5	19.2	26.8	29.3	36.3
ø10	11.1	20.7	30	32.4	39.4
ø1/4"	8.8	18.2	24.8	26.6	33.6
ø5/16"	10.5	19.2	26.8	29.3	36.3
ø3/8"	11	20.4	29.4	32.2	39.2