



iB-Cyclone

Filter regulator

## iB-Cyclone+FRZ Series

### Combination

# CMZ Series

Water droplets separator using high speed cyclone method

### iB-Cyclone



IBCY40

IBCY50

New generation filter regulator

### FRZ Series



FRZ4

FRZ5

Filter regulator



**A combination to reliably remove water droplets is now available!!**

Filter regulator



Residual pressure exhaust valve

iB-Cyclone

# What CMZ Series brings ... !

It has combined the water droplets separator "iB-Cyclone" using the high speed cyclone method and the downsized filter regulator "FRZ Series".

Together with reliably removing moisture and fluid, it is also suitable for reducing customer's assembly man-hours and saving space.

## Body Size-center Combination

Body size 44 (4□ size combination)



Body size 54 (combined size combination)



Body size 55 (5□ size combination)



## Selectable Options

### ● Residual pressure exhaust valves



### ● Pressure gauges, pressure switches



□30 integrated pressure gauge (1 MPa specification) (0.4 MPa specification)



φ40 pressure gauge (1 MPa specification)

### ● Pressure switch modules



Pressure gauge with electronic switch (1 MPa specification)



φ40 pressure gauge (0.3 MPa specification)

### ● T-modules (for branching)



Pressure gauge with built-in switch (1 MPa specification)



φ40 stainless Bourdon tube pressure gauge (1 MPa specification)



φ40 stainless Bourdon tube pressure gauge (0.3 MPa specification)

## The combination of iB-Cyclone and FRZ Series (filter regulator) is newly released!

### Application example 1

Filter regulator

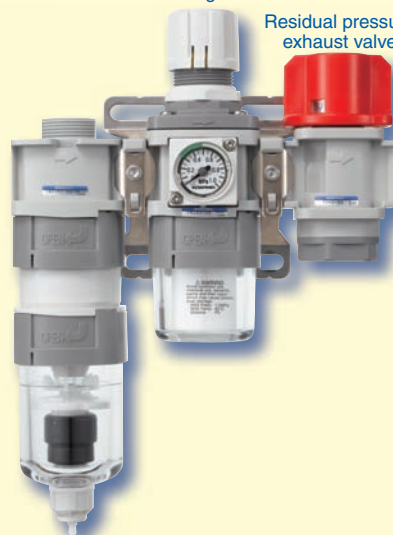


iB-Cyclone

### Application example 2

Filter regulator

Residual pressure exhaust valve



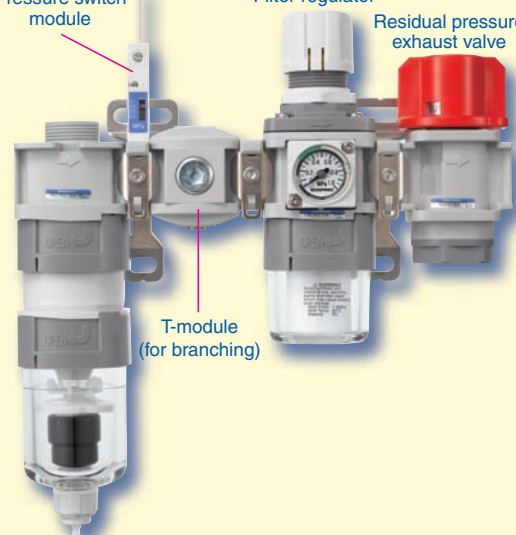
iB-Cyclone

### Application example 3

Filter regulator

Pressure switch module

Residual pressure exhaust valve

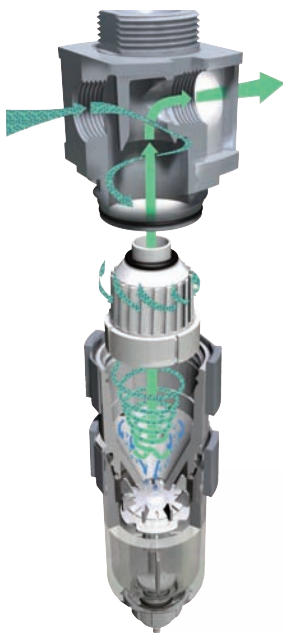


iB-Cyclone

# Outstanding Features of CMZ Series!

## iB-Cyclone

The high speed cyclone method reliably removes fluid. Compared with equivalent models, its volume ratio is 1/2, while its water droplets separation ratio is 99% or higher.



Auto drain type drain cock  
NO (normally open)  
NC (normally closed)

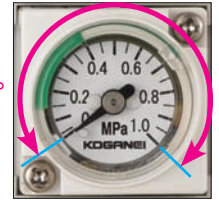


Drain cock with fitting

### 30 integrated pressure gauge

30 integrated pressure gauge is compact with almost nothing sticking out. Visibility is also improved with an easy to see 270° swing angle display.

Swing angle 270°

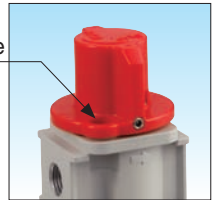


### Residual pressure exhaust valve

The pressure in the air line can be exhausted through a 3-port valve.

Better safety through a lock mechanism (with lock hole) while exhausting residual pressure. Also an easy to see red color is used for better visibility of the operating knob.

Lock hole



### Filter regulator

The improved flow rate characteristic has realized the shorter face-to-face dimension. The operability of knob has improved, making it easy to install and remove the bowls. It supports the 30 integrated pressure gauge and other pressure gauges as well as pressure switches.

### T-modules

This allows installation of modules for branch piping.

### Pressure switch modules

The use of compact pressure switches integrated with connecting bracket enables easy pressure detection for the air line. Also adjusting of set pressure can be operated from the front side.



Filter regulator  
FRZ40

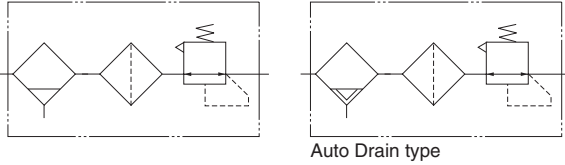
Filter regulator  
FRZ50

# Combination

CMZ440, CMZ441  
CMZ540, CMZ541  
CMZ550, CMZ551



## Symbol



## Specifications

Item	Model	Standard	CMZ440	CMZ540	CMZ550
		For low pressure	CMZ441	CMZ541	CMZ551
Medium			Air		
Port size	Rc		1/8, 1/4, 3/8	1/4, 3/8, 1/2 (3/8 for secondary side)	1/4, 3/8, 1/2
Maximum operating pressure	MPa		1.0		
Proof pressure	MPa		1.5		
Operating temperature range (atmosphere and media)	°C		5~60		
Water droplet separation rate	%		99 or more		
iB-Cyclone water droplet storage capacity (In the case of -N)	mℓ		16	27	27
Filtration	μm		5		
Regulation method			Internal pilot type, and relief type		
Pressure setting range	MPa	Standard	0.05~0.85		
		For low pressure	0.05~0.40		
Relief start pressure	MPa		Set pressure + 0.05 or less		
Air consumption volume <sup>Note 1</sup>	ℓ/min (ANR)		5 or less		
Major Parts and Materials	Body		Die cast aluminum alloy		
	Bonnet adapter		Polyacetal		
	Diaphragm		Base fabric + synthetic rubber		
	Bowl		Polycarbonate		
	Filter element		Non-woven cloth		
	Connection bracket		Die cast aluminum alloy		
Connecting plates		Steel sheet (electroless nickel plated)			
Mass (the case of standard spec., max. port size, and -N)	kg		0.46	0.56	0.65
Configured device models <sup>Note 2</sup>	iB-Cyclone		IBCY40	IBCY50	IBCY50
	Module adapter		8Z-D	8Z-D	8Z-D
	Filter regulator		FRZ40 (For low pressure: FRZ41)	FRZ40 (For low pressure: FRZ41)	FRZ50 (For low pressure: FRZ51)

Note 1: This shows the maximum value within the specification range. The air consumption varies in relation to primary pressure and secondary pressure.

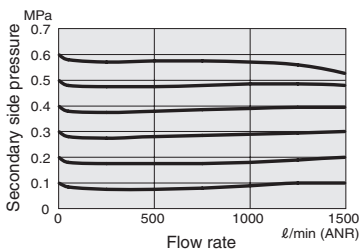
Note 2: For the details of options as well as each handling instructions and precautions, see the catalogs of FRZ Series and iB-Cyclone.

Remark: When the Auto Drain is selected as the option of iB-Cyclone, ensure the supply pressure of 0.15 MPa or higher. (Note that certain supply pressure is required to operate the Auto Drain.)

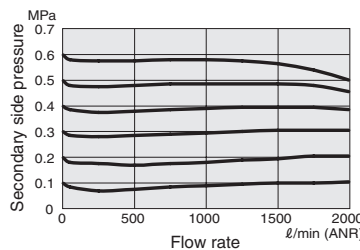
## Flow rate Characteristics

### Standard

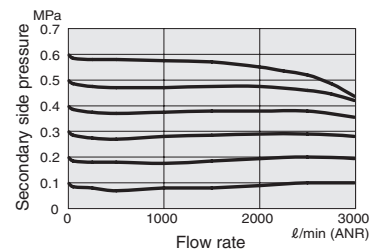
CMZ440-03



CMZ540-03



CMZ550-04

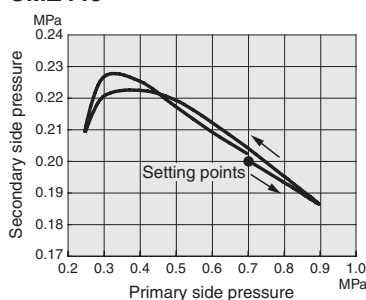


Remark: The graphs show the flow rate characteristics when the primary pressures are constant at 0.7 MPa.

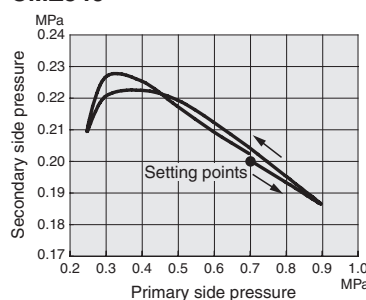
## Pressure Characteristics

### Standard

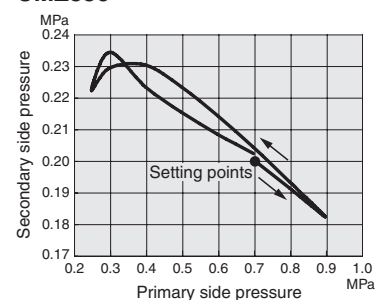
CMZ440



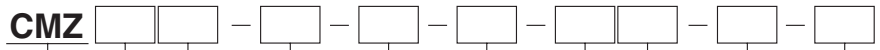
CMZ540



CMZ550



# Order Codes



**Drain cock specification**

- A** — Auto Drain model, drain cock NO type
- C** — Auto drain model, drain cock NC type
- N** — Drain cock with fitting

**T-modules**

- Blank** — None
- T** — Immediately before regulator <sup>Note</sup>

Note: The unit with pressure switch module should be installed between the switch and the regulator.

**Lead wire length**

- A** — 1000 mm
- B** — 3000 mm

**Pressure switch modules**

- Blank** — None
- PSF** — Mounted directly before regulator
- PSR** — Mounted directly after regulator
- PSW** — Mounted directly before and after regulator

**Port size**

- 01** — Rc1/8 (only CMZ44□ is selectable)
  - 02** — Rc1/4
  - 03** — Rc3/8
  - 04** — Rc1/2 (CMZ44□ is not selectable) <sup>Note</sup>
- Note: When -04 is selected at CMZ54□, the secondary side will be Rc3/8.

**Residual pressure exhaust valve**

- Blank** — None
- V** — With residual pressure exhaust valve (installed at the end of secondary side)

**Pressure specifications**

- 0** — Standard
- 1** — For low pressure

**Body size**

- 44** — 4□ size combination (IBCY40 + FRZ4□)
- 54** — Combined size combination (IBCY50 + FRZ4□)
- 55** — 5□ size combination (IBCY50+FRZ5□)

**Pressure gauge specifications**

- Blank** — No pressure gauge (pressure gauge connection port Rc1/4)
- GN** — No pressure gauge (no pressure gauge connection port)
- G1C** — 1 MPa specification, □30 integrated pressure gauge
- G4C** — 0.4 MPa specification, □30 integrated pressure gauge
- G1** — 1 MPa specification, φ40 pressure gauge
- G3** — 0.3 MPa specification, φ40 pressure gauge
- G1S** — 1 MPa specification, φ40 stainless Bourdon tube pressure gauge
- G3S** — 0.3 MPa specification, φ40 stainless Bourdon tube pressure gauge
- E2** — 1 MPa specification, pressure gauge with electronic switches
- GS1A** — 1 MPa specification, □50 pressure gauge with built-in switch, lead wire type, for 24 VAC
- GS1B** — 1 MPa specification, □50 pressure gauge with built-in switch, lead wire type, for 100 VAC and 200 VAC
- GS1C** — 1 MPa specification, □50 pressure gauge with built-in switch, with DIN connector, for 24 VDC
- GS1D** — 1 MPa specification, □50 pressure gauge with built-in switch, with DIN connector, for 100 VAC and 200 VAC

Note: For the specifications of pressure gauges, pressure gauges with electronic switch and pressure gauges with built-in switches, and dimensions and order codes when purchasing as individual parts see the catalog of FRZ Series.

Combination

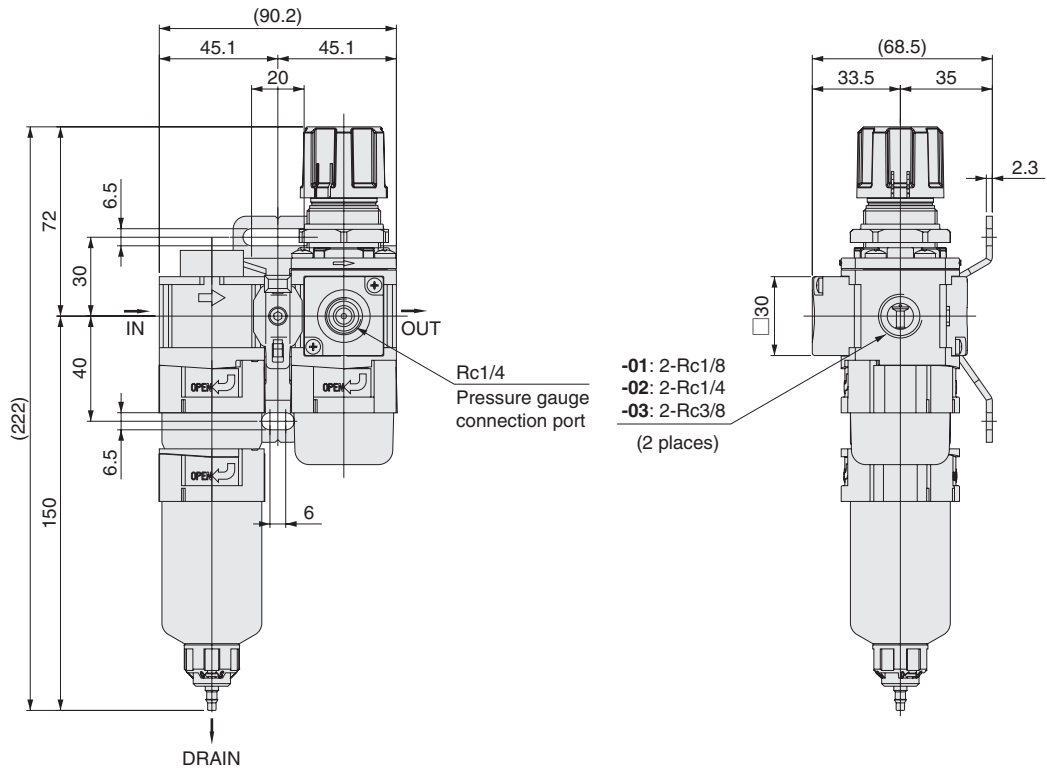


**Note**

Before use, be sure to read the "Safety Precautions" of iB-Cyclone and FRZ Series catalogs. For the details of specifications and handling instructions, see the catalogs of iB-Cyclone and FRZ Series.

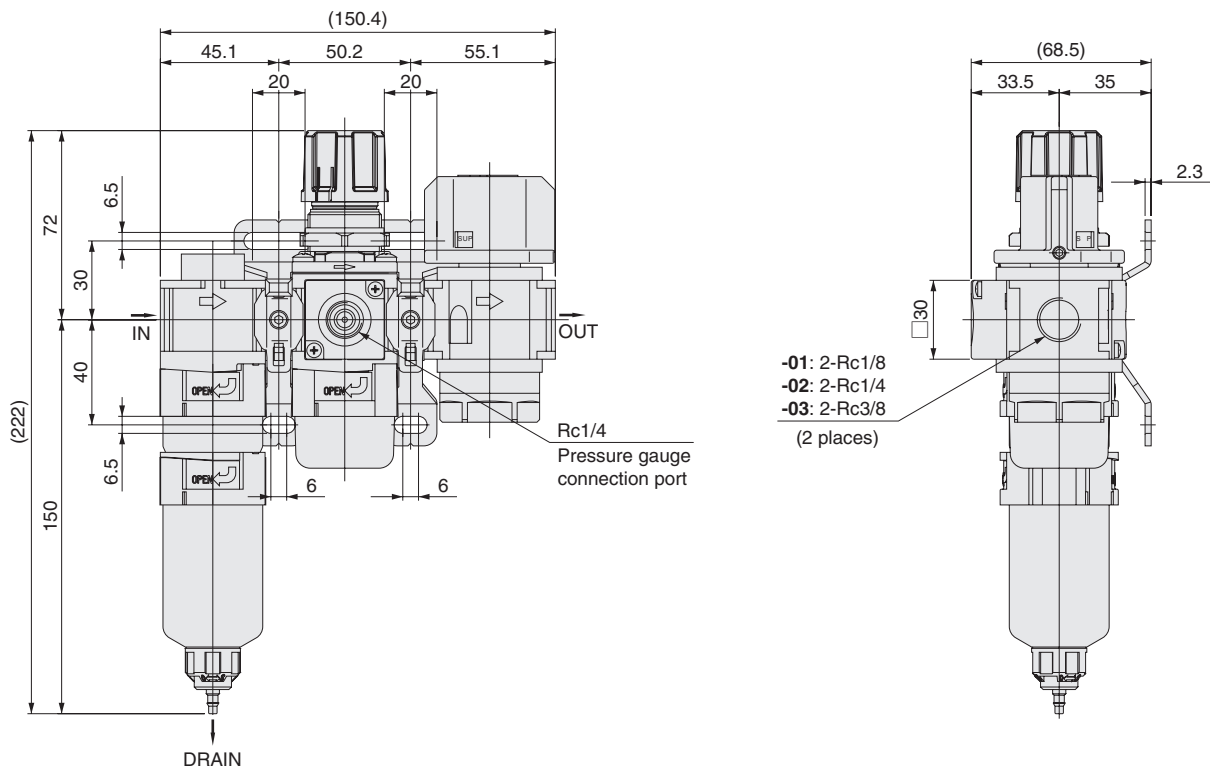
# Combination Dimensions (mm)

- CMZ440-□-□
- CMZ441-□-□



Note: This drawing shows **CMZ440-03**.

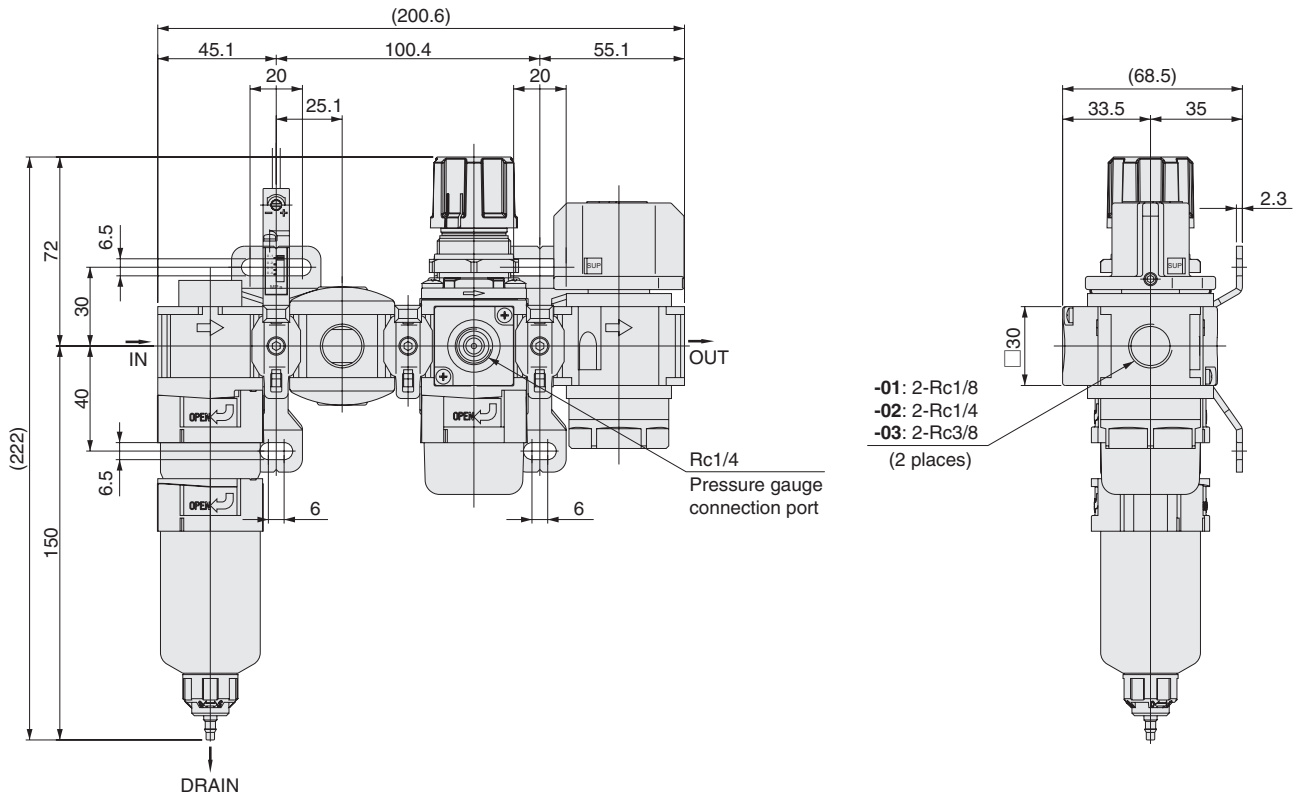
- CMZ440-V-□-□
- CMZ441-V-□-□



Note: This drawing shows **CMZ440-V-03**.

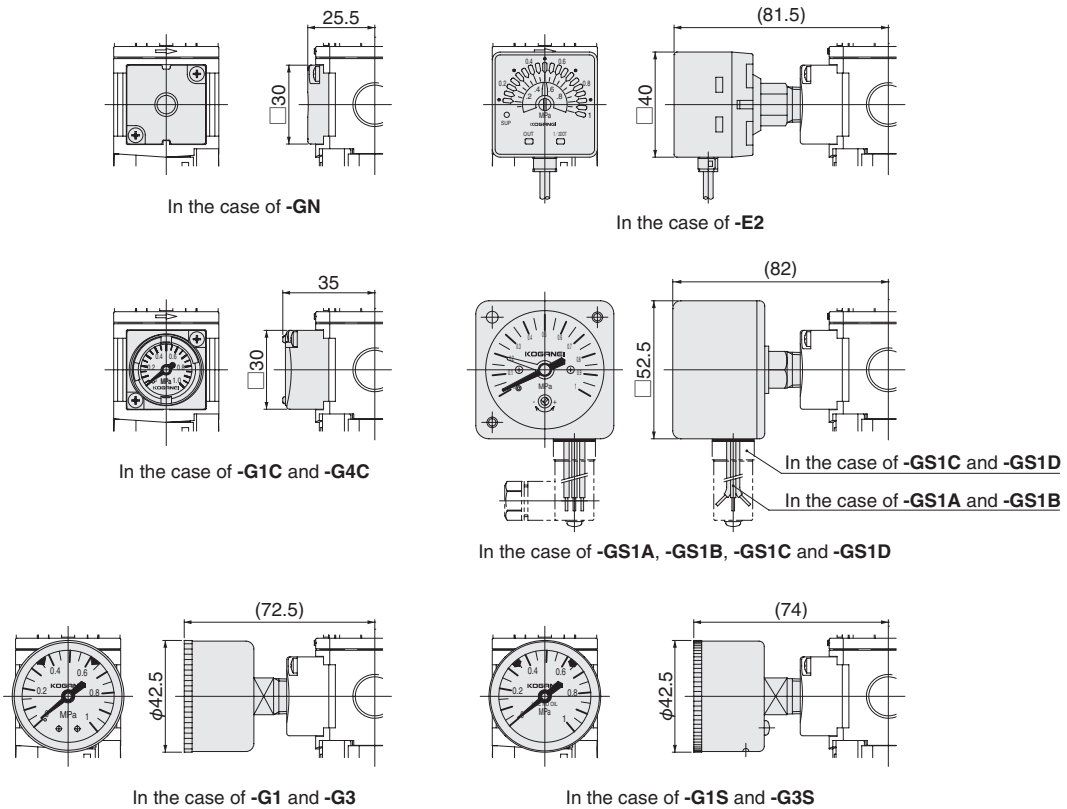
# Combination Dimensions (mm)

- CMZ440-V-□-PSF□-T-□
- CMZ441-V-□-PSF□-T-□



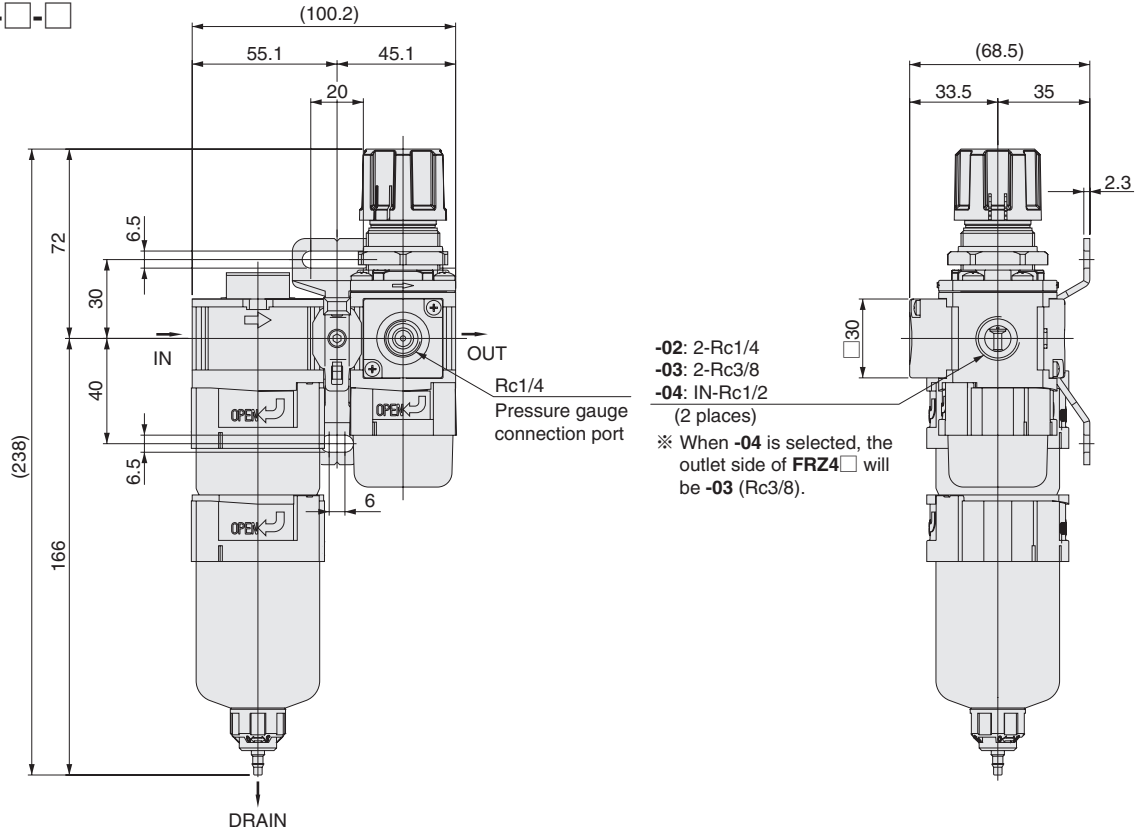
Note 1: This drawing shows **CMZ440-V-03-PSF-T**.  
 Note 2: One piece of plug R1/8, R1/4, R3/8 and R1/2 each are included.

## ● Pressure gauge options



# Combination Dimensions (mm)

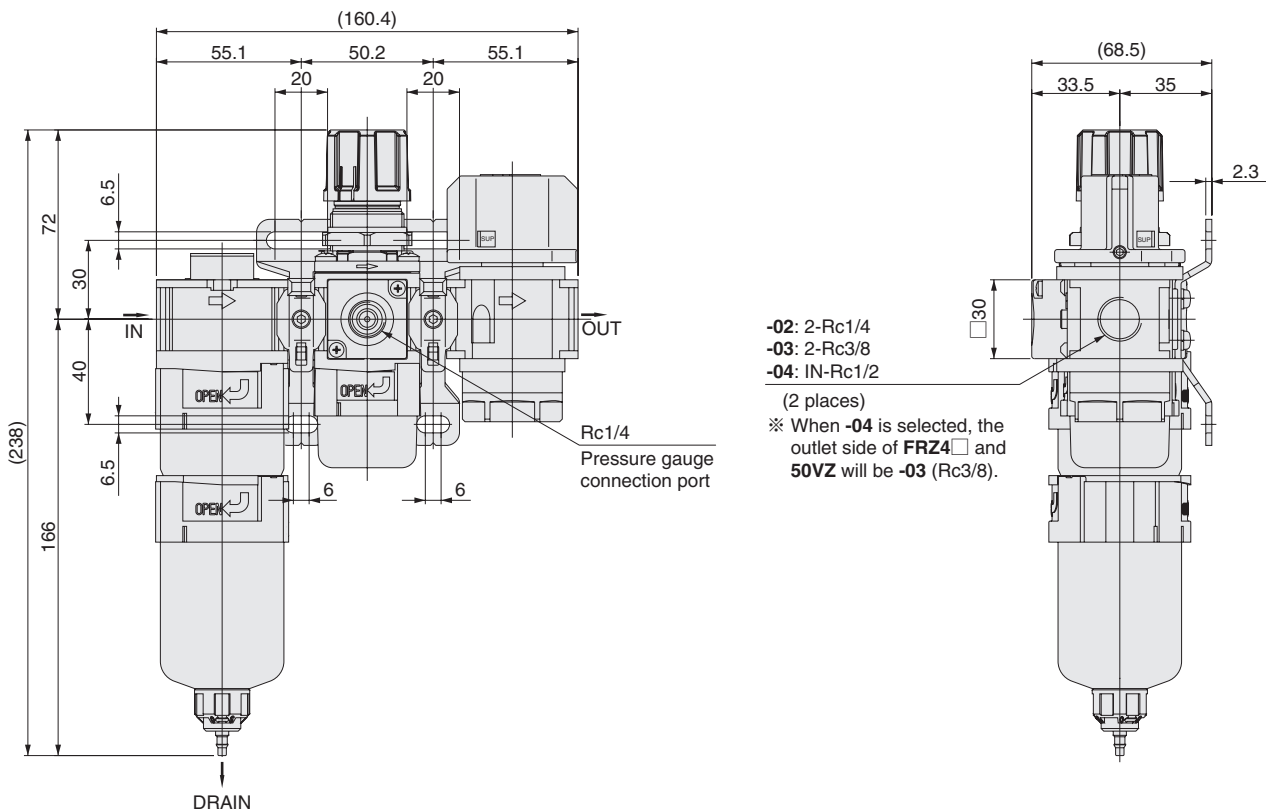
- CMZ540-□-□
- CMZ541-□-□



- 02: 2-Rc1/4
  - 03: 2-Rc3/8
  - 04: IN-Rc1/2 (2 places)
- ※ When -04 is selected, the outlet side of FRZ4□ will be -03 (Rc3/8).

Note: This drawing shows CMZ540-03.

- CMZ540-V-□-□
- CMZ541-V-□-□



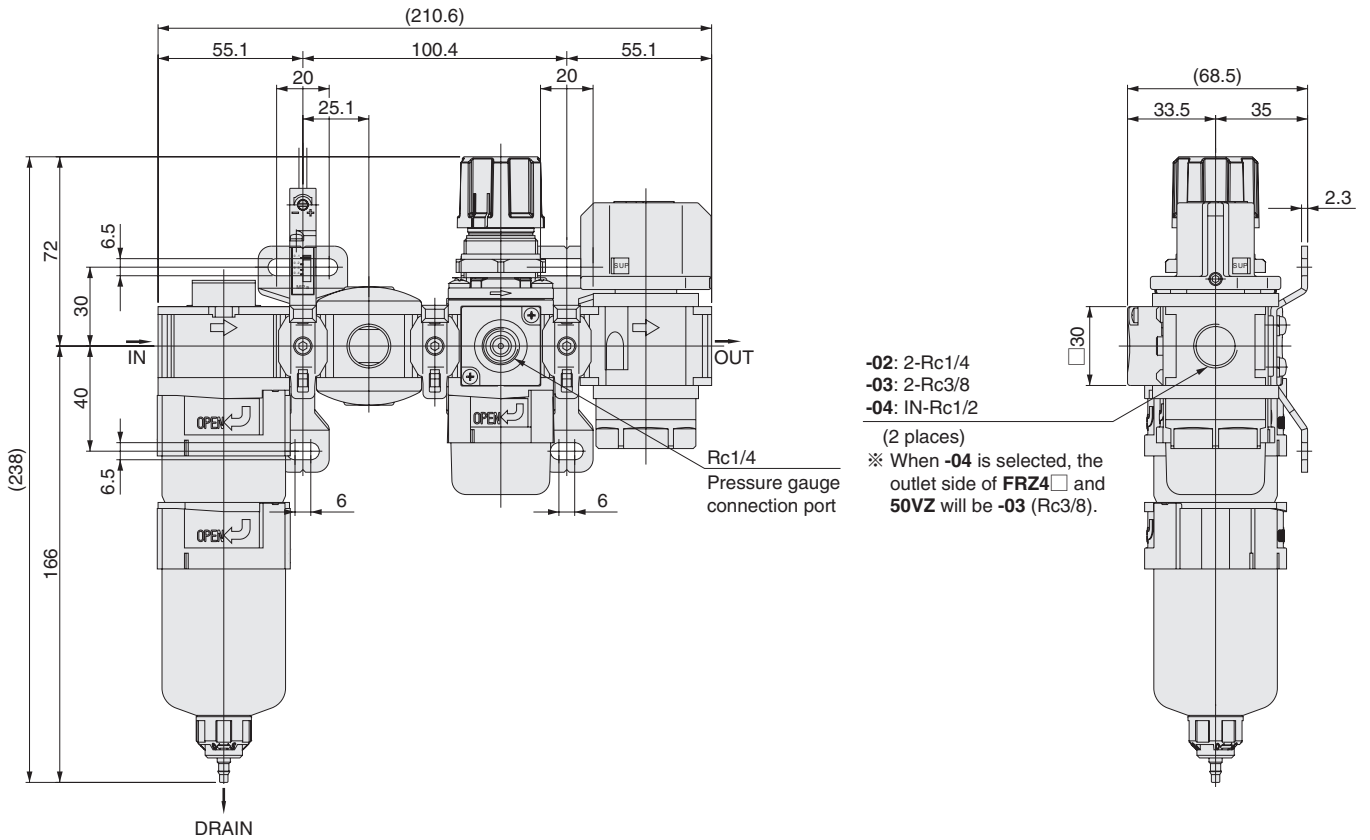
- 02: 2-Rc1/4
  - 03: 2-Rc3/8
  - 04: IN-Rc1/2 (2 places)
- ※ When -04 is selected, the outlet side of FRZ4□ and 50VZ will be -03 (Rc3/8).

Note: This drawing shows CMZ540-V-03.



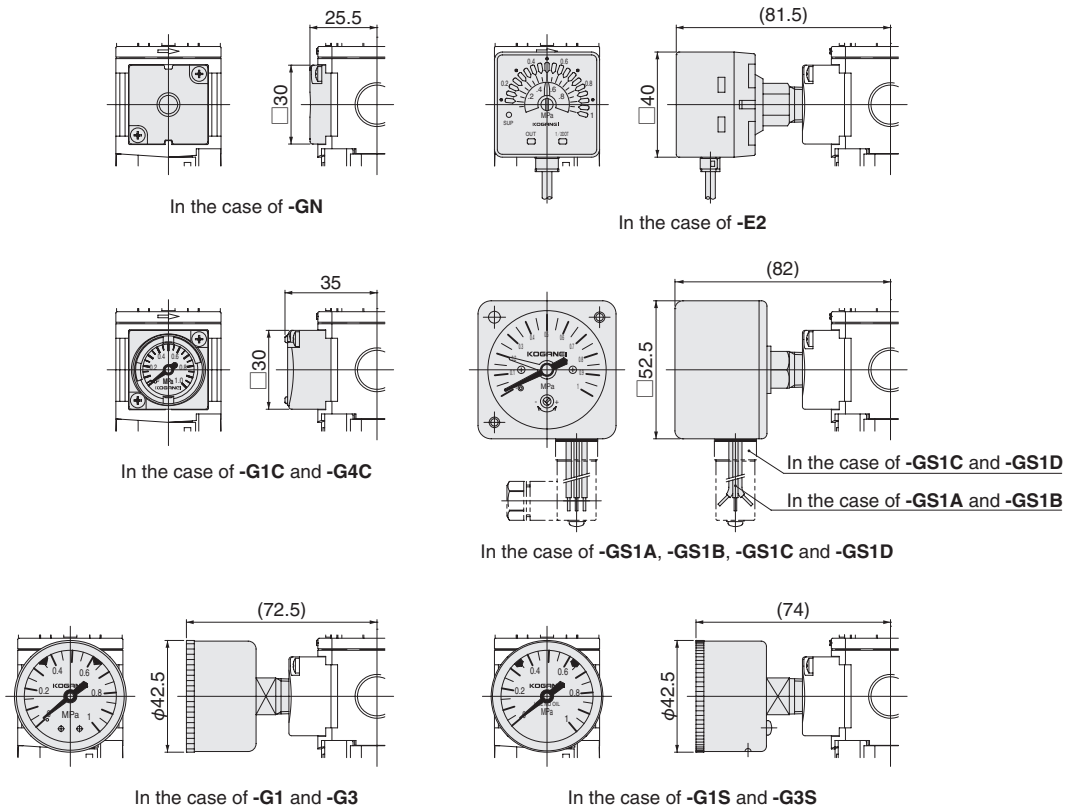
# Combination Dimensions (mm)

- CMZ540-V-□-PSF□-T-□
- CMZ541-V-□-PSF□-T-□



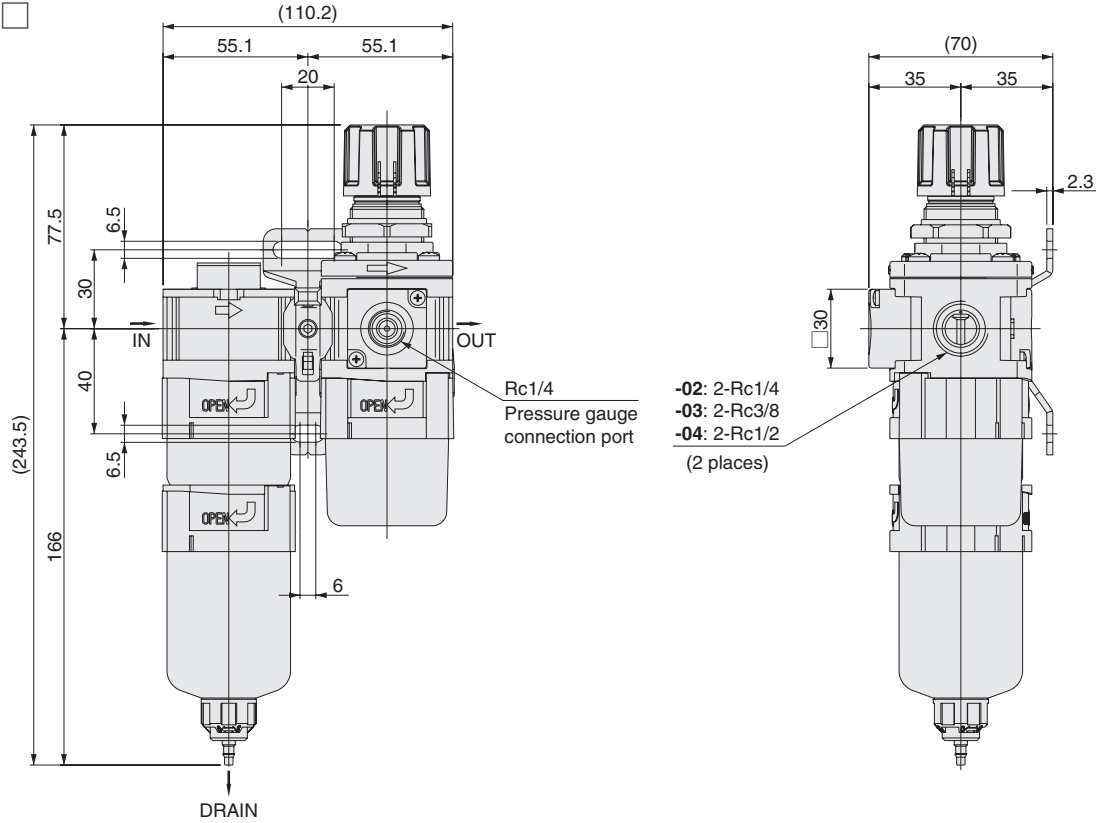
Note 1: This drawing shows **CMZ540-V-03-PSF□-T**.  
 Note 2: One piece of plug R1/8, R1/4, R3/8 and R1/2 each are included.

## ● Pressure gauge options



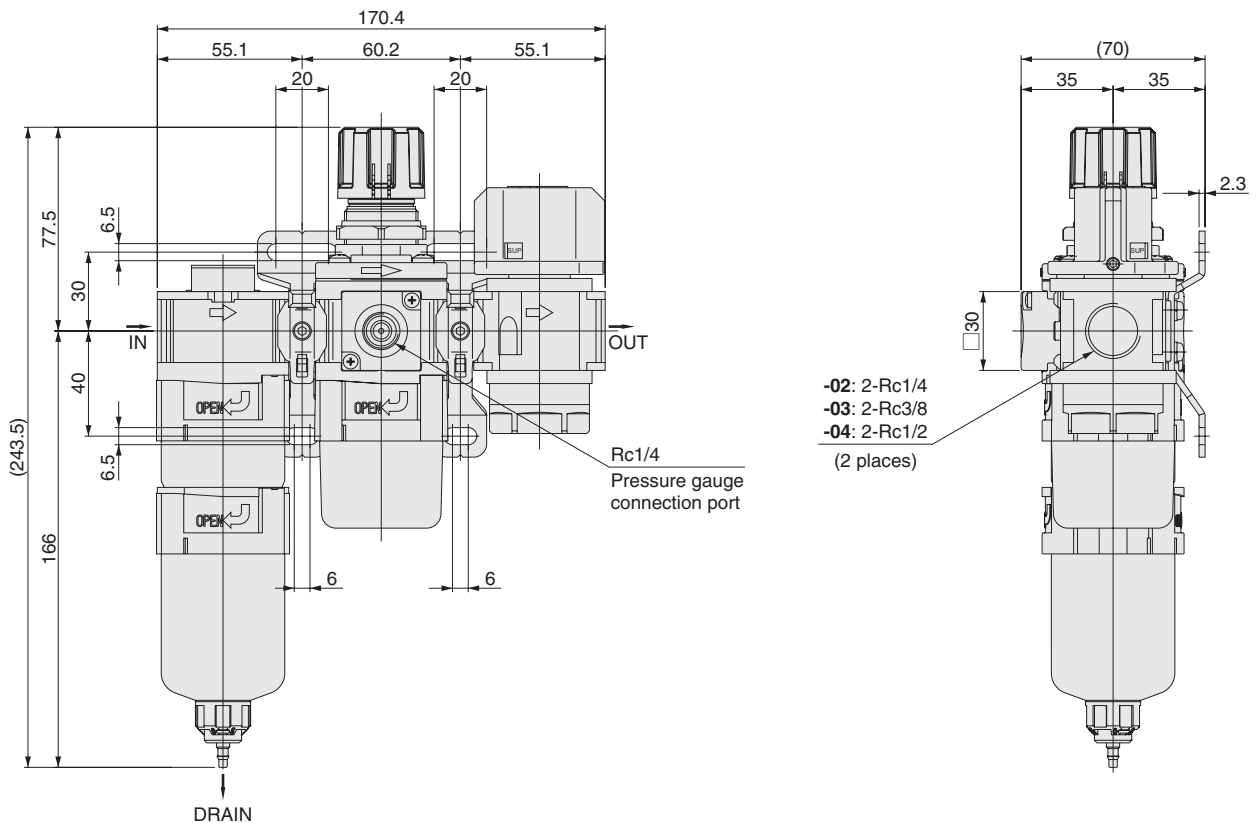
# Combination Dimensions (mm)

- CMZ550-□-□
- CMZ551-□-□



Note: This drawing shows **CMZ550-04**.

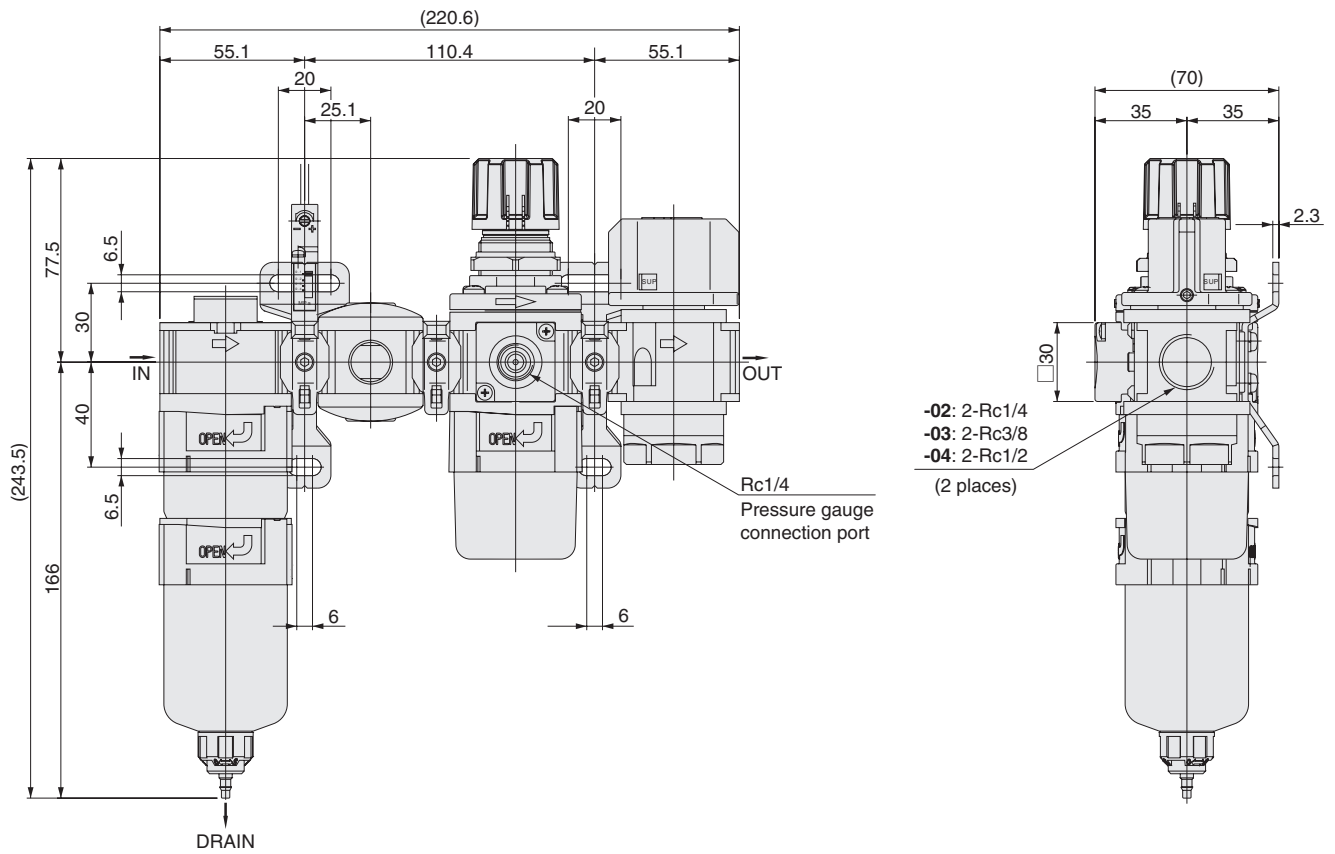
- CMZ550-V-□-□
- CMZ551-V-□-□



Note: This drawing shows **CMZ550-V-04**.

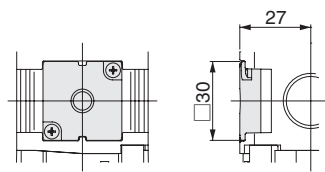
# Combination Dimensions (mm)

- CMZ550-V-□-PSF□-T-□
- CMZ551-V-□-PSF□-T-□

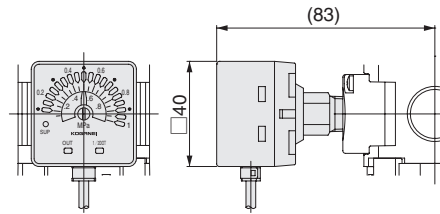


Note 1: This drawing shows **CMZ550-V-04-PSF□-T**.  
 Note 2: One piece of plug R1/8, R1/4, R3/8 and R1/2 each are included.

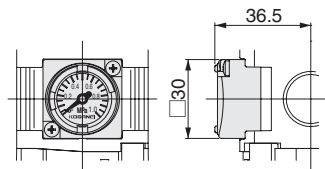
## ● Pressure gauge options



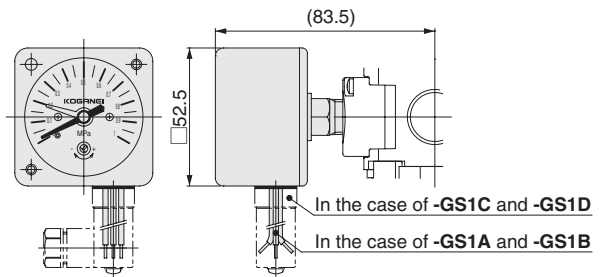
In the case of **-GN**



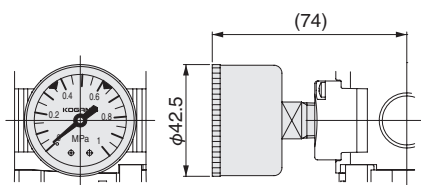
In the case of **-E2**



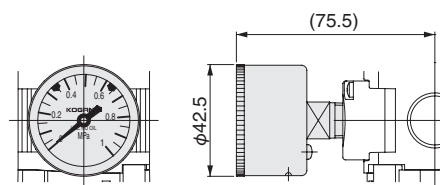
In the case of **-G1C and -G4C**



In the case of **-GS1A, -GS1B, -GS1C and -GS1D**



In the case of **-G1 and -G3**



In the case of **-G1S and -G3S**



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**iB-Cyclone**  
Catalog No. BK-E0005



Down sizing!  
Close side-by-side spacing.  
New-generation filter regulator FRZ series

**New-generation Filter Regulator FRZ Series**  
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