

Clean air unit

CAU30 Series

● Port size: $\varnothing 10$, $\varnothing 12$



Common specifications

Item	Clean air unit	
Working fluid	Compressed clean air	
Max. working pressure	MPa	0.7 (≈ 100 psi, 7 bar) (0.5 (≈ 73 psi, 5 bar) for low pressure)
Proof pressure	MPa	1 (≈ 150 psi, 10 bar)
Ambient / fluid temperature	$^{\circ}\text{C}$	5 (41 $^{\circ}\text{F}$) to 45 (113 $^{\circ}\text{F}$)
Set pressure range	MPa	0.05 (≈ 7.3 psi, 0.5 bar) to 0.6 (≈ 87 psi, 6 bar) (0.05 (≈ 7.3 psi, 0.5 bar) to 0.3 (≈ 44 psi, 3 bar) for low pressure)
Port size (IN/OUT)	$\varnothing 10, \varnothing 12$	
Filtration rating	μm	0.01 (removal efficiency 99.99%)
Processing flow rate	ℓ/min	400 *1
Differential pressure-resistant *2	MPa	0.5 (≈ 73 psi, 5 bar)
Dial value (needle position)	(times)	12 and over
Pilot air pressure for valve	MPa	0.4 (≈ 58 psi, 4 bar) to 0.5 (≈ 73 psi, 5 bar)
Pilot port size for valve	Rc1/8	
Oil-prohibited specifications	Oil-prohibited fluid passage section	

*1: Flow rate at 0.7 MPa primary pressure, 0.5 MPa set pressure and 0.15 MPa pressure drop. Refer to the flow characteristics table for details.

*2: Pressure difference between before and after the filter.

Pressure switch specifications (digital pressure gauge: PPX-R10N-6M-P12)

Item	Digital pressure sensor
Power supply voltage	12 to 24 VDC $\pm 10\%$ Ripple P-P 10% or less
Power consumption	Normal: 720 mW or less (current consumption 30 mA or less at 24 V power supply voltage) ECO mode: 480 mW or less at STD (current consumption 20 mA or less at power supply voltage 24 V), 360 mW or less at FULL (current consumption 15 mA or less at power supply voltage 24 V)
Comparison outputs (comparison output 1, comparison output 2)	NPN transistor/open collector · Max. inrush current: 100 mA · Applied voltage: 30 VDC or less (comparison output - 0 V interval) · Residual voltage: 2 V or less (at inrush current 100 mA)
Output operation	Select NO/NC with key operation
Output mode	EASY mode/hysteresis mode/window comparator mode
Hysteresis	Min. 1 digit (variable)
Repeatability	$\pm 0.2\%$ F.S. (within ± 2 digits)
Response time	2.5 ms, 5 ms, 10 ms, 25 ms, 50 ms, 100 ms, 250 ms, 500 ms, 1000 ms, 5000 ms select by key operation
Short circuit protection	Equipped
Display	4-digit + 4-digit 3-color LCD display (display updating cycle: 250 ms, 500 ms, 1000 ms select by key operation)
Temp characteristics at +20 $^{\circ}\text{C}$	Within $\pm 1\%$ F.S.
Lead wire	2 m cable with connector

Weight

● 1 system

(Unit: g)

Model No.	Weight
CAU30-□-R□F (regulator, filter)	800

● 2 systems

(Unit: g)

Model No.	Weight
CAU30-□-2-R□F (regulator, filter)	1490

Additional weight

(Unit: g)

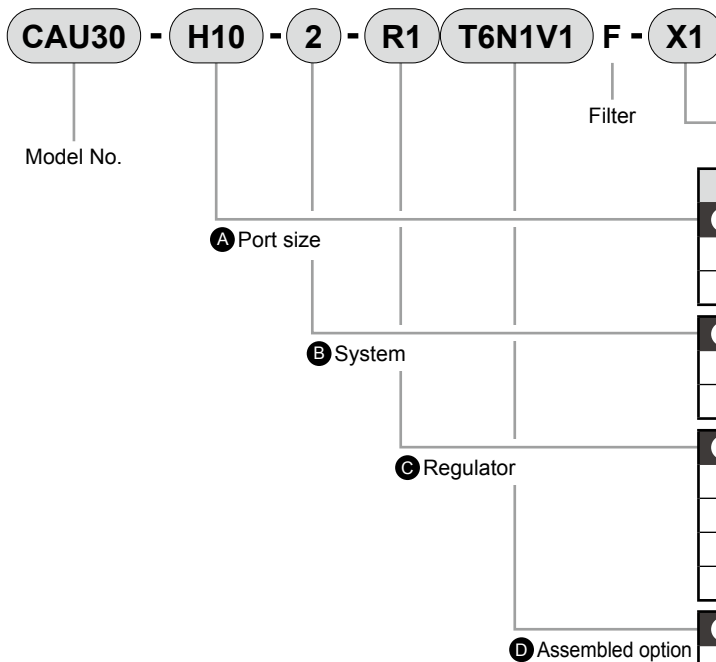
Option (including joiner)	Weight	
Pressure gauge	T6: With pressure outlet port block	265
	GY49: Analog pressure gauge	345
	PX1: Digital pressure gauge	350
Needle	N1: Needle block	165
Air operated valve	V1: Air operated valve block (single acting)	390
	V3: Air operated valve block (double acting)	390

Additional weight

(Unit: g)

Option (including joiner)	Weight	
Pressure gauge	T6: With pressure outlet port block	265
	GY49: Analog pressure gauge	345
	PX1: Digital pressure gauge	350
Needle	N1: Needle block	330
Air operated valve	V1: Air operated valve block (single acting)	780
	V3: Air operated valve block (double acting)	780

How to order



Code	Description
Ⓐ Port size	
H10	ø10
H12	ø12

Ⓑ System	
Blank	1 system
2	2 system

Ⓒ Regulator	
R1	Setting 0.05 to 0.6 MPa Pressure relief
R2	Setting 0.05 to 0.6 MPa Non-relief
RL1	Setting 0.05 to 0.3 MPa (for low pressure) Relief
RL2	Setting 0.05 to 0.3 MPa (for low pressure) Non-relief

Ⓓ Assembled option		
Pressure gauge	Blank	Without pressure gauge block
	T6 *3	With pressure outlet port blocked (Pressure outlet port is left open)
	GY49 *4	With analog pressure gauge assembled (G49D-6-□-P94)
	PX1 *5	With digital pressure sensor assembled (PPX-R10N-6M-P12)
Needle	Blank	Without needle block
	N1	With needle block
Air operated valve	Blank	Without air operated valve block
	V1	Single acting (normally closed)
	V3	Double acting

Ⓔ Pressure gauge orientation	
Blank	Standard
X1	90° clockwise
X2	180° clockwise
X3	270° clockwise

⚠ Precautions for model No. selection

*1 Pressure range of pressure gauge (MPa)

	RL1 or RL2	R1 or R2
G49D	0 to 0.4	0 to 0.7
PPX	-0.100 to 1.000	

- *2: Select pressure gauge, needle and air operated valve options.
- *3: If "T6" option code is selected, only a pressure outlet port block is attached. The pressure outlet port size is Rc 1/8.
- *4: If the "GY49" pressure gauge is selected together with the "RL1" or "RL2" regulator, the pressure gauge will be for low pressure (0 to 0.4 MPa pressure range).
(It will be for a standard pressure in the -0.100 to 1.000 MPa pressure range in the case of a "PX1" pressure sensor.)
- *5: Output of the digital pressure sensor assembly (PPX) is NPN transistor 2 output points (made to order).
- *6: The figure for pressure gauge orientation uses a "GY49" pressure gauge as an example. The same orientation applies to the "PX1" pressure sensor.

[Example of model No. 1]

CAU30-H10-R1GY49N1V1F

- Ⓐ Port size : ø10
- Ⓑ System : 1 system
- Ⓒ Regulator : 0.05 to 0.6 MPa relief
- Ⓓ Assembled option : Analog pressure gauge (G49D), needle, air operated valve (single acting)
- Ⓔ Pressure gauge orientation : Standard

[Example of model No. 2]

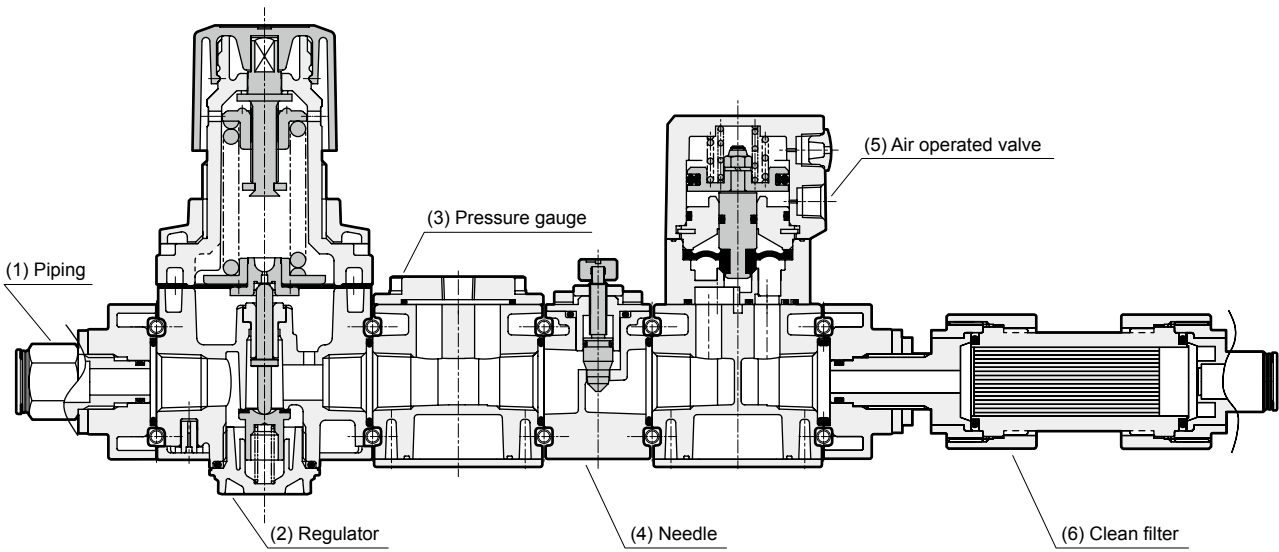
CAU30-2-H12-RL1PX1V3F-X2

- Ⓐ Port size : ø12
- Ⓑ System : 2 system
- Ⓒ Regulator : 0.05 to 0.3 MPa relief
- Ⓓ Assembled option : Digital pressure sensor (PPX), air operated valve (double acting) assembly
- Ⓔ Pressure gauge orientation : Turn 180° clockwise

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

Clean Air Unit Series

F.R.L. Internal structure and fluid passage materials

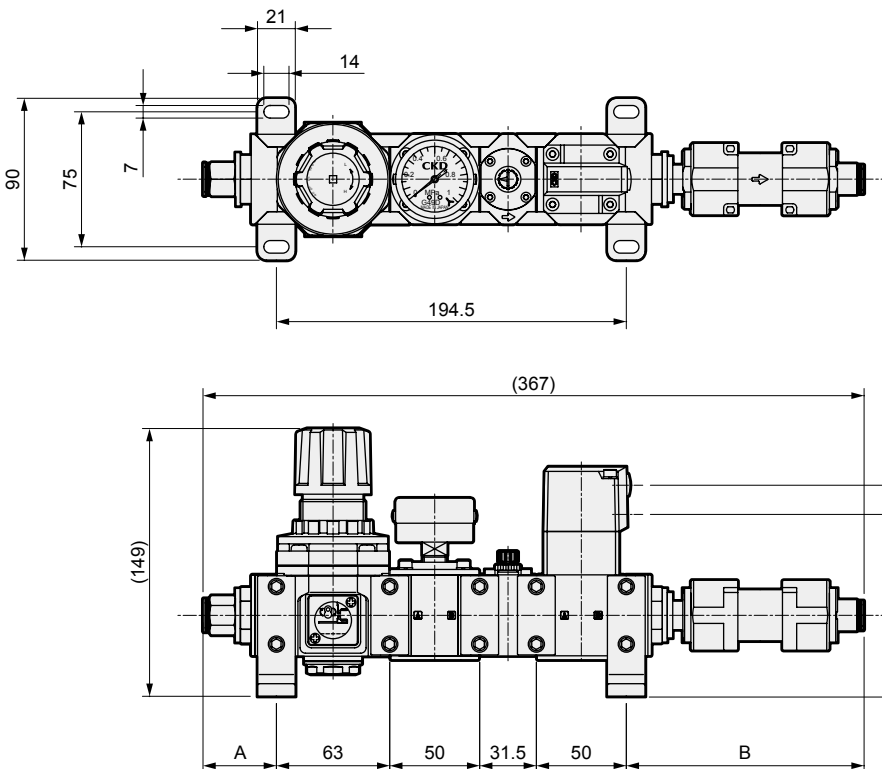


No.	Part name	Fluid passage material	
(1)	Piping	Aluminum alloy, copper alloy (nickeling), fluoro rubber, nitrile rubber, hydrogenated nitrile rubber	
(2)	Regulator	Aluminum alloy, zinc alloy, nitrile rubber, hydrogenated nitrile rubber, fluoro rubber, polyacetal resin	
(3)	Pressure gauge	Port only	Aluminum alloy, fluoro rubber
		G49D	Stainless steel, steel (chrome plating)
		PX1	Stainless steel, hydrogenated nitrile rubber
(4)	Needle	Aluminum alloy, copper alloy (nickeling), nitrile rubber, fluoro rubber	
(5)	Air operated valve	Aluminum alloy, stainless steel, fluoro rubber, polypropylene, ethylene propylene rubber	
(6)	Clean filter	Aluminum alloy, fluoro rubber, polypropylene, urethane, polyamide	

Dimensions (1 system)



● CAU30-□-R□GY49N1V□F (regulator, pressure gauge, needle, valve, filter)



Port size dimensions table

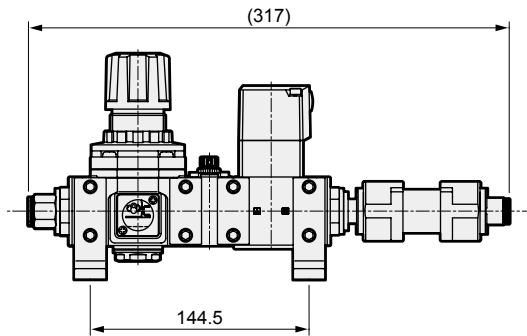
Port size	A	B
H10	41	132
H12	42.5	133.5

* Dimensions of "T6" and "PX1" pressure sensors are the same as those of "GY49".

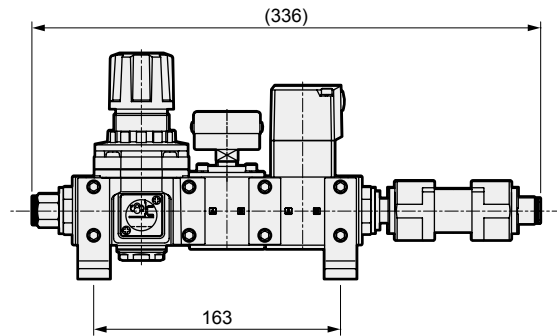
Dimensions (1 system)



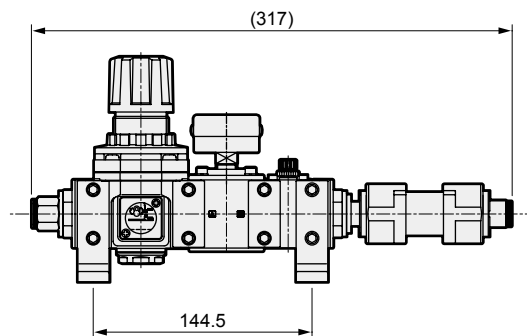
- CAU30-□-R□N1V□F
(regulator, needle, valve, filter)



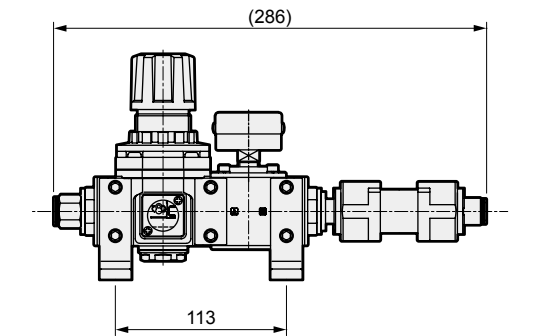
- CAU30-□-R□GY49V□F
(regulator, pressure gauge, valve, filter)



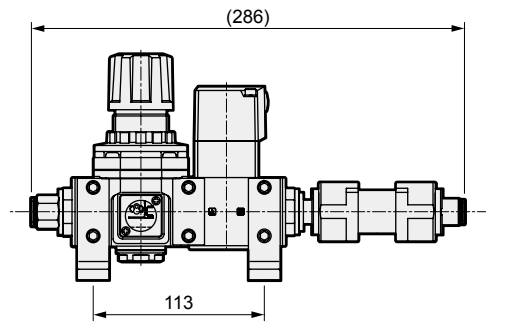
- CAU30-□-R□GY49N1F
(regulator, pressure gauge, needle, filter)



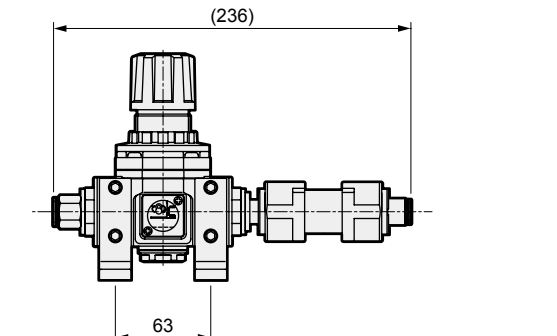
- CAU30-□-R□GY49F
(regulator, pressure gauge, filter)



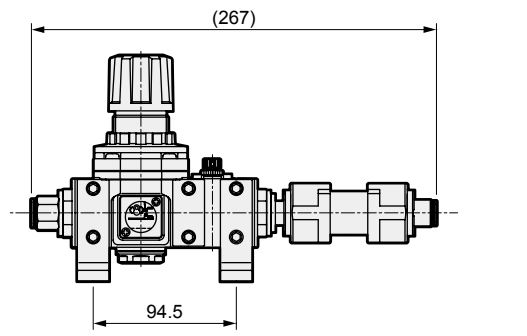
- CAU30-□-R□V□F
(regulator, valve, filter)



- CAU30-□-R□F
(regulator, filter)



- CAU30-□-R□N1F
(regulator, needle, filter)



* Dimensions of "T6" and "PX1" pressure gauges are the same as those of "GY49".

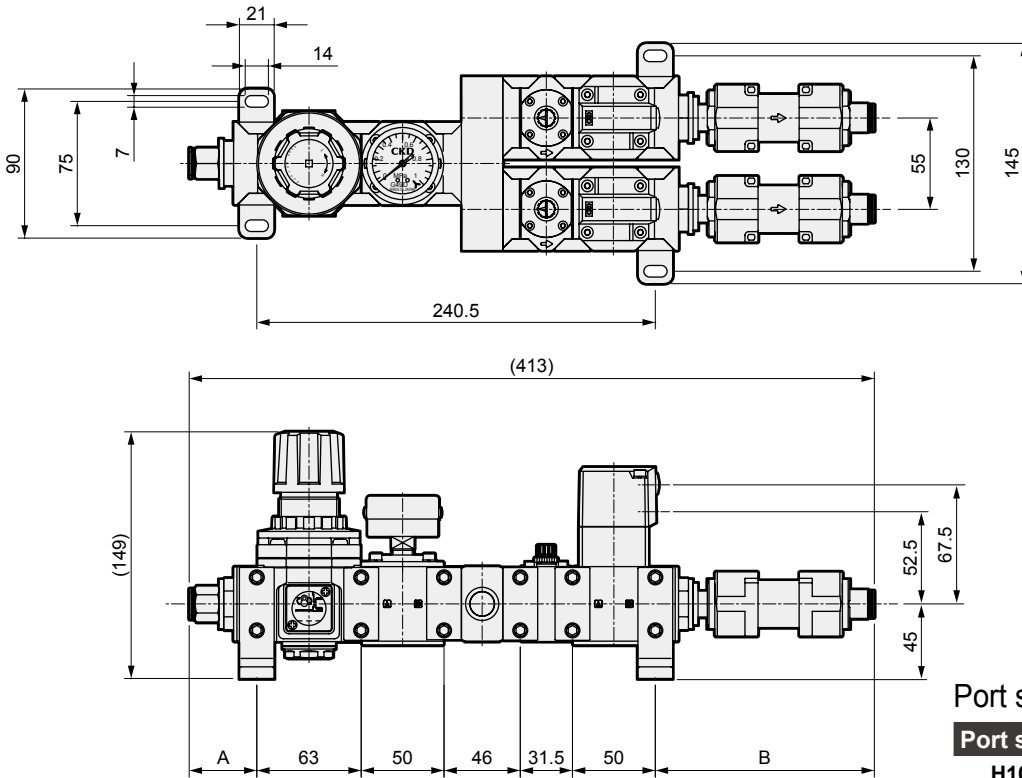
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRSens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

Clean Air Unit Series



F.R.L. Dimensions (2 systems)

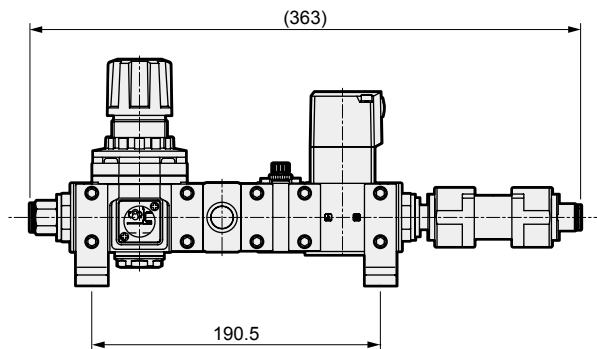
F.R. ● CAU30-□-2-R□GY49N1V□F (regulator, pressure gauge, needle, valve, filter)



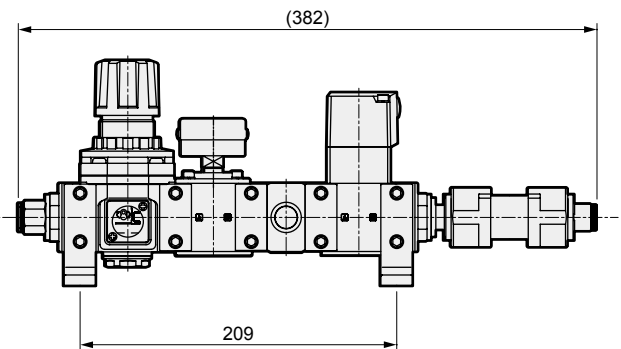
Port size dimensions table

Port size	A	B
H10	41	132
H12	42.5	133.5

● CAU30-□-2-R□N1V□F (regulator, needle, valve, filter)



● CAU30-□-2-R□GY49V□F (regulator, pressure gauge, valve, filter)

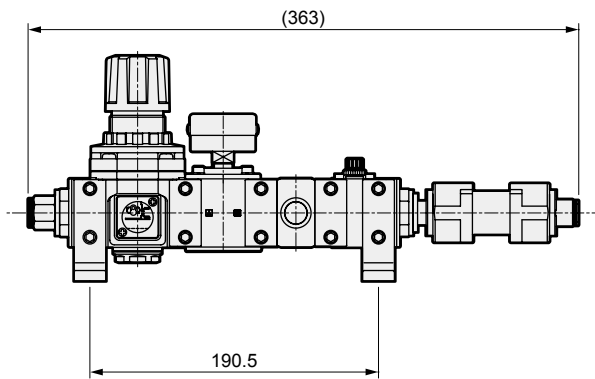


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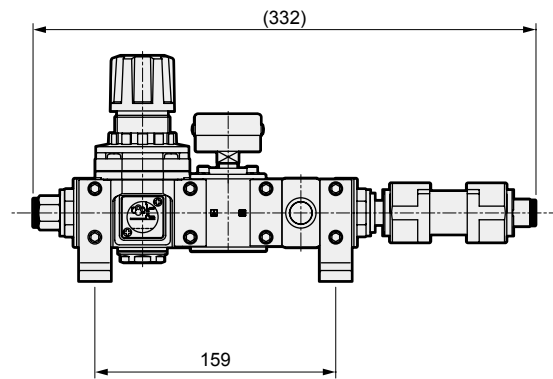
Dimensions (2 systems)



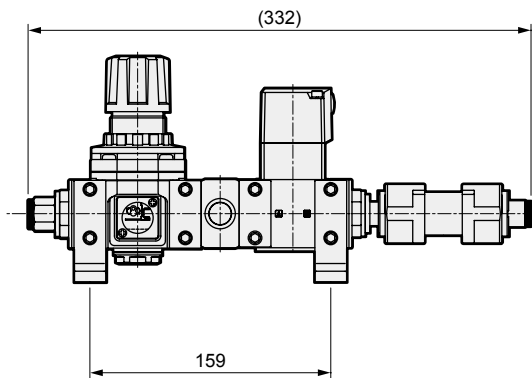
- CAU30-□-2-R□GY49N1F
(regulator, pressure gauge, needle, filter)



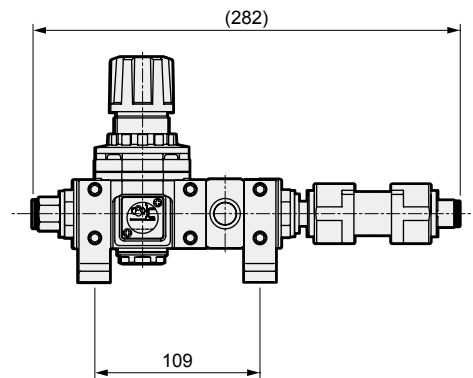
- CAU30-□-2-R□GY49F
(regulator, pressure gauge, filter)



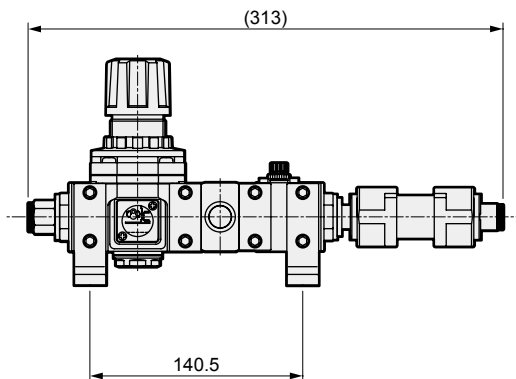
- CAU30-□-2-R□V□F
(regulator, valve, filter)



- CAU30-□-2-R□F
(regulator, filter)



- CAU30-□-2-R□N1F
(regulator, needle, filter)



* Dimensions of "T6" and "PX1" pressure gauges are the same as those of "GY49".

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
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Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterR/Sens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

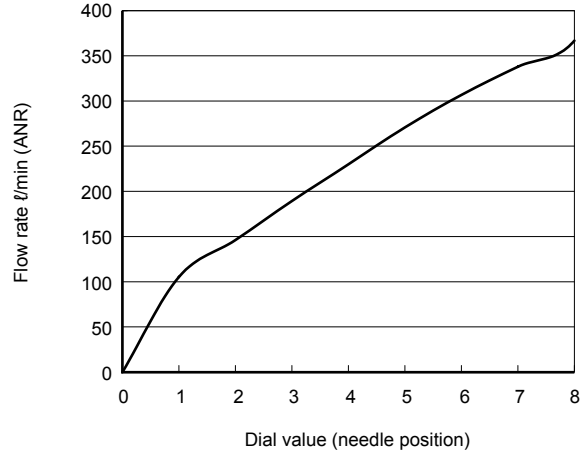
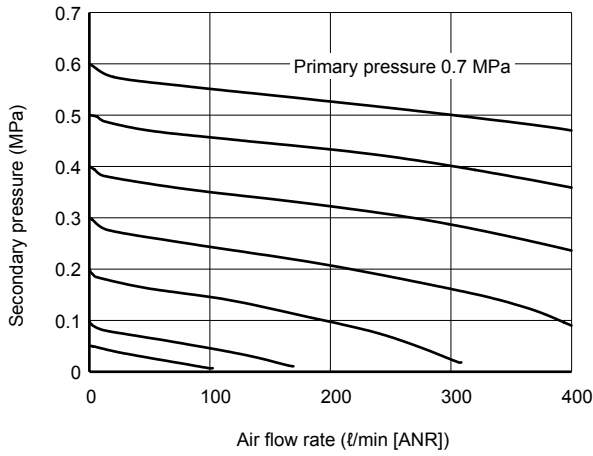
Clean Air Unit Series

- F.R.L.
- F.R.
- F (Filtr)
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- Drain Separ
- Mech Press SW
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- Outdrs FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit**
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Flow characteristics

● Regulator's set pressure and the corresponding flow characteristics

● Dial value (needle position) and the corresponding flow characteristics



*1: Flow characteristics when the regulator, pressure gauge, needle valve, air operated valve, and filter are attached and the needle is fully open.