

Clean air unit

CAU30 Series

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



Common specifications

Descriptions	Clean air unit
Working fluid	Compressed clean air
Max. working pressure MPa	0.7 (0.5 for low pressure)
Proof pressure MPa	1.0
Ambient temperature/fluid temperature °C	5 to 45
Set pressure MPa	0.05 to 0.6 (0.05 to 0.3 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 proof *2 MPa	0.5
Dial rotations (needle position)	12 and over
Pilot air pressure for valve MPa	0.4 to 0.5
Pilot port size for valve	Rc1/8
Oil-prohibited specifications	Oil-prohibited flow passage

*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 sensor specifications (Digital pressure sensor: PPX-R10N-6M-P12)

Descriptions	Digital pressure sensor
Power supply voltage	12 to 24 VDC $\pm 10\%$ Ripple P-P 10% or less
Power consumption	Normal operation: 720 mW or less (at a power supply voltage of 24 V, with a current consumption of 30 mA or less) ECO MODE: 480 mW or less at STD (at a power supply voltage of 24 V, with a current consumption of 20 mA or less), 360 mW or less at FULL (at a power supply voltage of 24 V, with a current consumption of 15 mA or less)
Comparative output (Comparative output 1, comparative output 2)	NPN transistor, Open collector ·Max. inflow current: 100 mA ·Applied voltage: 30 VDC or less (between comparative output and 0 V) ·Residual voltage: 2 V or less (at an inflow current of 100 mA)
Output operation	Selecting NO/NC by key stroke
Output mode	EASY mode/Hysteresis mode/Window comparator mode
Differential (hysteresis)	Min. 1 digit (variable)
Repeatability	$\pm 0.2\%$ F.S. (Within ± 2 digits)
Response time	Select from 2.5 ms, 5 ms, 10 ms, 25 ms, 50 ms, 100 ms, 250 ms, 500 ms, 1000 ms, and 5000 ms by key stroke
Short-circuit protection	Installed
Display	4 digits + 4 digits 3-color LCD display (refresh cycle: select from 250 ms, 500 ms, and 1000 ms by key stroke)
Temperature characteristics (Set +20°C as reference.)	In a range of $\pm 1\%$ 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

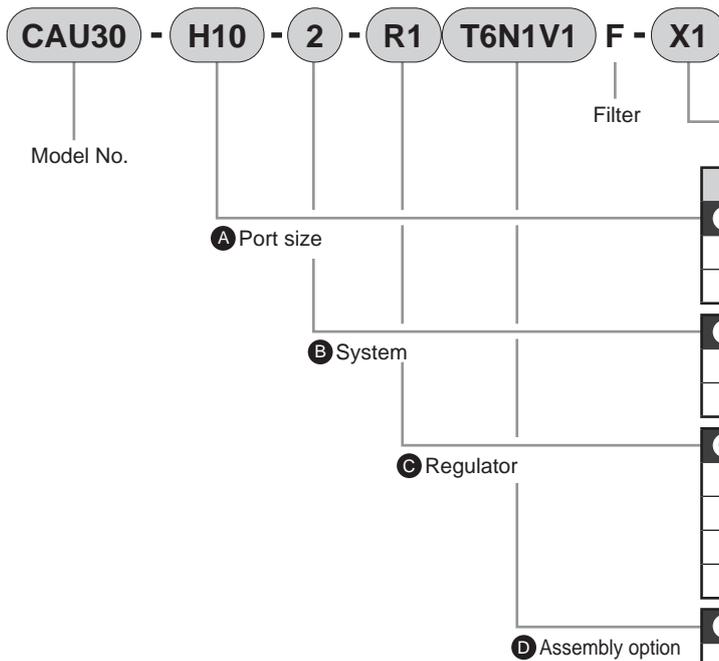
Additional weight (Unit: g)

Option (including joiner)	Weight
Pressure gauge	
T6: With pressure outlet port block	265
GY49: Analog pressure gauge	345
PX1: Digital pressure sensor	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 sensor	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	Content
A Port size	
H10	ø10
H12	ø12

B System	
Blank	1 system
2	2 systems

C Regulator		*1
R1	Setting 0.05 to 0.6 MPa	Pressure relief
R2	Setting 0.05 to 0.6 MPa	Nonrelief
RL1	Setting 0.05 to 0.3 MPa (for low pressure)	Pressure relief
RL2	Setting 0.05 to 0.3 MPa (for low pressure)	Nonrelief

D Assembly option			*2
Pressure gauge	Blank	Without pressure gauge block	
	T6	*3	With pressure outlet port block (Pressure outlet port is assembled while air is flowing.)
	GY49	*4	With analog pressure gauge attached (G49D-6-*P94)
	PX1	*5	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	

E Pressure gauge orientation		*6
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 is selected, only a pressure outlet port block is attached. The pressure outlet port size is Rc1/8.
- *4: If "GY49" pressure gauge is selected together with "RL1" or "RL2" regulator, the pressure gauge will be for low pressure (0 to 0.4 MPa pressure range). (It will be for standard pressure of -0.100 to 1.000 MPa pressure range in case of "PX1" pressure gauge.)
- *5: Output of the digital pressure sensor assembled (PPX) is NPN transistor 2 output points (custom order).
- *6: The figure of pressure gauge orientation uses a "GY49" pressure gauge as an example. The same orientation applies to "PX1".

[Example 1 of model No.]

CAU30-H10-R1GY49N1V1F

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

[Example 2 of model No.]

CAU30-2-H12-RL1PX1V3F-X2

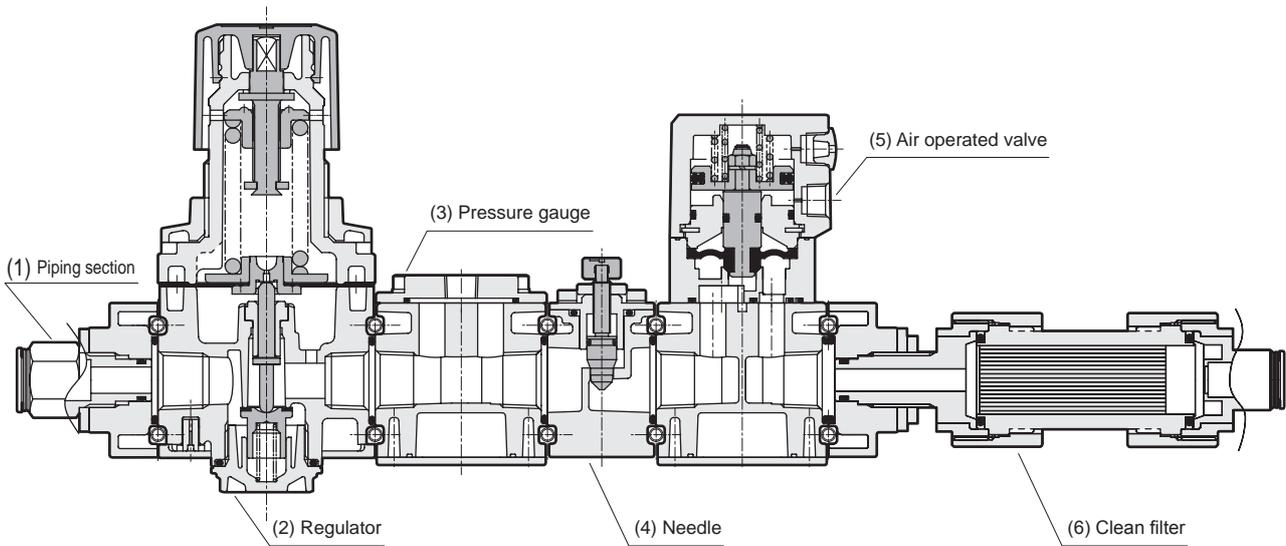
- A** Port size : ø12
- B** System : 2 systems
- C** Regulator : 0.05 to 0.3 MPa Pressure relief
- D** Assembly option : Digital pressure sensor (PPX), air operated valve (double acting) assembly
- E** Pressure gauge orientation : 180° clockwise

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge
Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/ tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

Clean Air Unit Series

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R (module unit)
Clean F.R
Precision R
Press gauge
Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

Internal structure and flow path materials

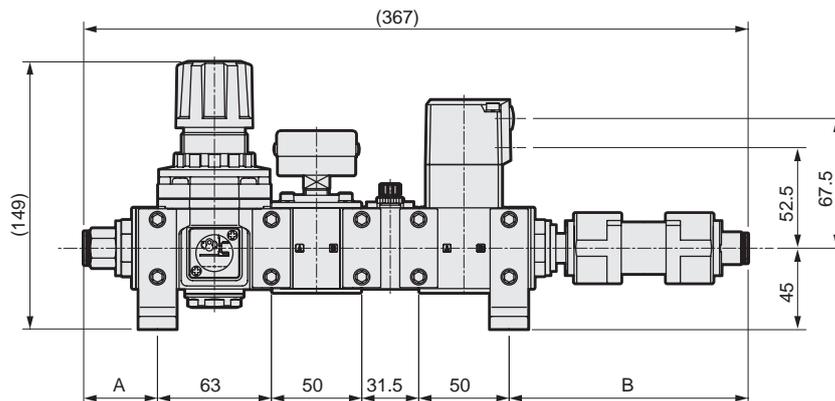
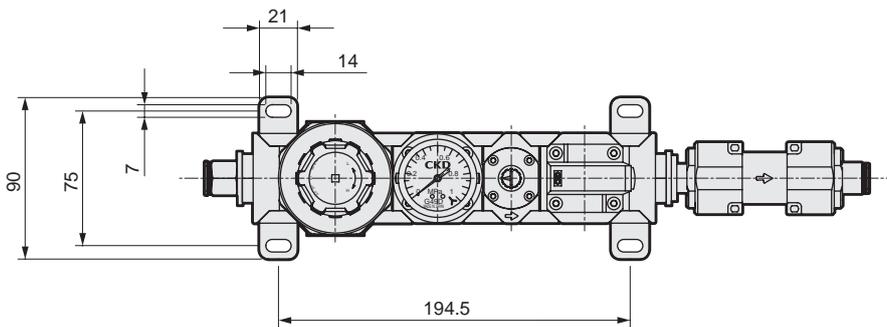


No.	Part name	Flow path material	
(1)	Piping section	Aluminum alloy, brass (nickeling), fluoro rubber, nitrile rubber, hydrogenated nitrile rubber	
(2)	Regulator	Aluminum alloy, zinc alloy, nitrile rubber, hydrogenated nitrile rubber, fluoro rubber, polyacetal resin	
(3)	Pressure gauge	Port only	Aluminum alloy, fluoro rubber
		G49D	Stainless steel, steel (chrome plating)
		PX1	Stainless steel, hydrogenated nitrile rubber
(4)	Needle	Aluminum alloy, brass (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

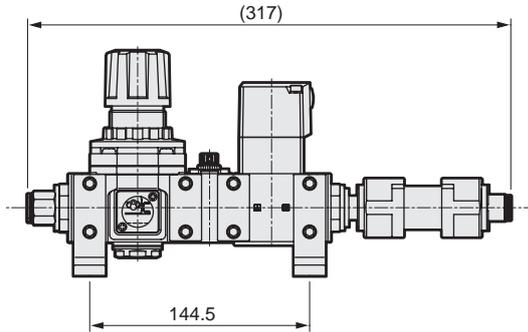
Port size	A	B
H10	41	132
H12	42.5	133.5

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

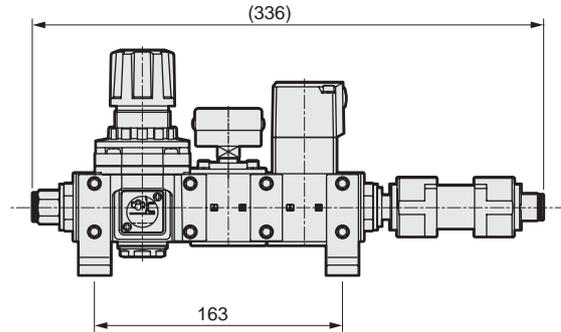
Dimensions (1 system)



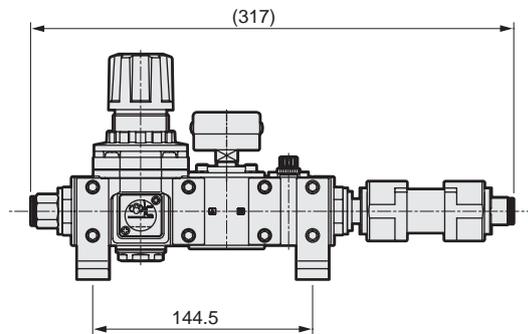
- CAU30-□-R□N1V□F
(Regulator, needle, valve, filter)



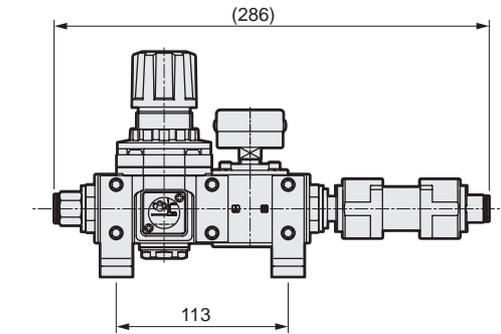
- CAU30-□-R□GY49V□F
(Regulator, pressure gauge, valve, filter)



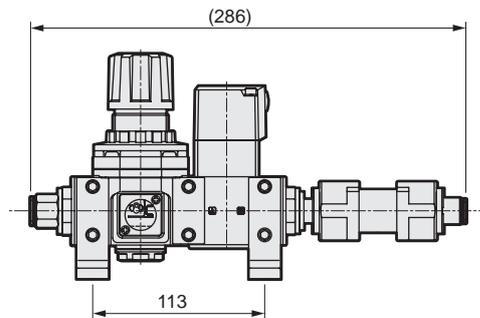
- CAU30-□-R□GY49N1F
(Regulator, pressure gauge, needle, filter)



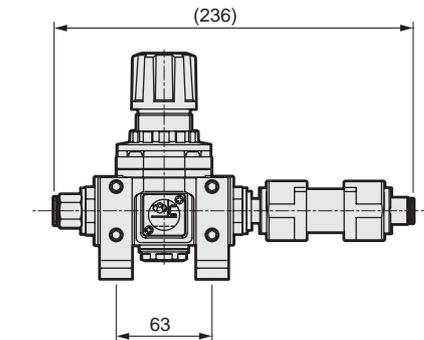
- CAU30-□-R□GY49F
(Regulator, pressure gauge, filter)



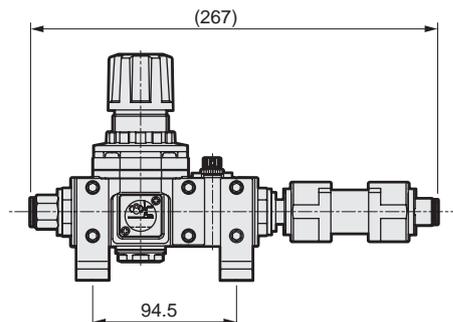
- CAU30-□-R□V□F
(Regulator, valve, filter)



- 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".

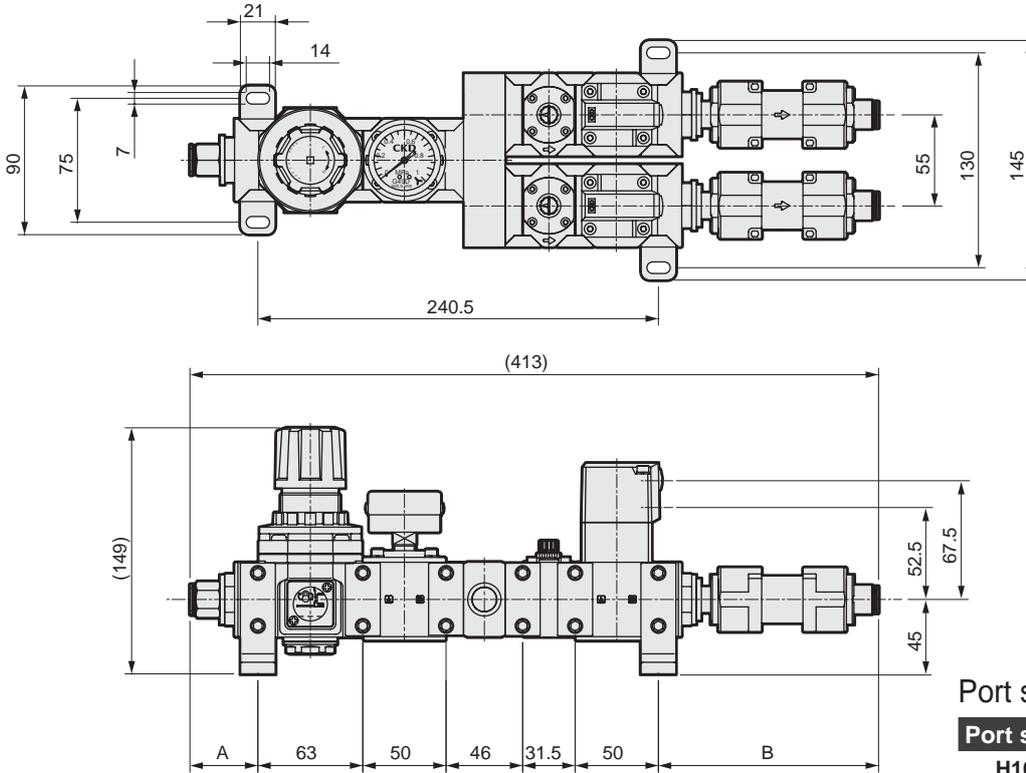
SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

Clean Air Unit Series



Dimensions (2 systems)

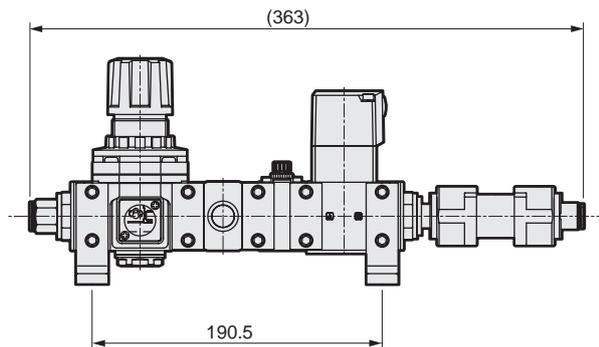
● CAU30-□-2-R□GY49N1V□F (Regulator, pressure gauge, needle, valve, filter)



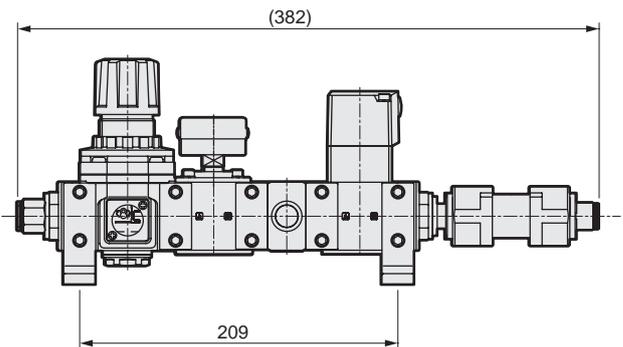
Port size dimensions table

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)



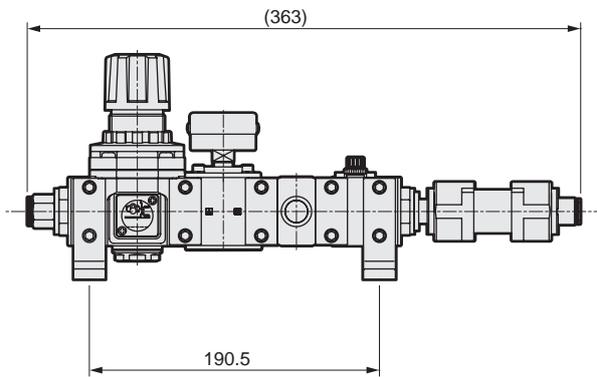
* Dimensions of "T6" and "PX1" pressure gauges are the same as those of "GY49".

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- FR (module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

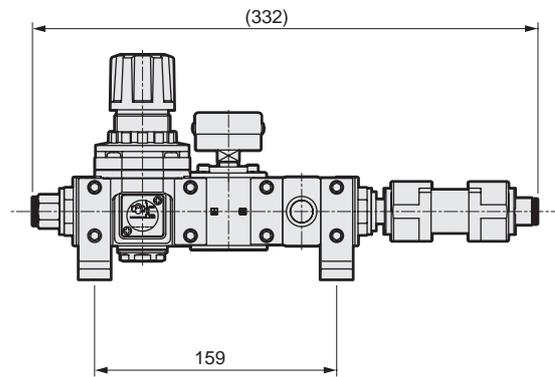
Dimensions (2 systems)



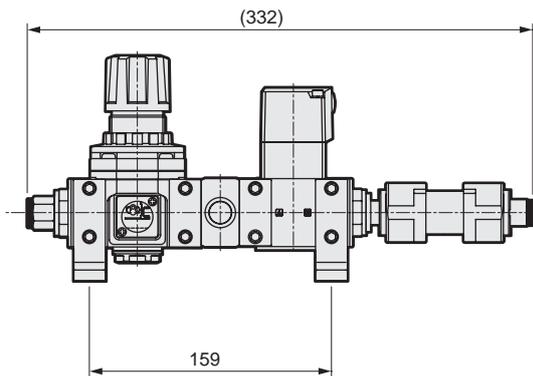
- CAU30-□-2-R□GY49N1F
(Regulator, pressure gauge, needle, filter)



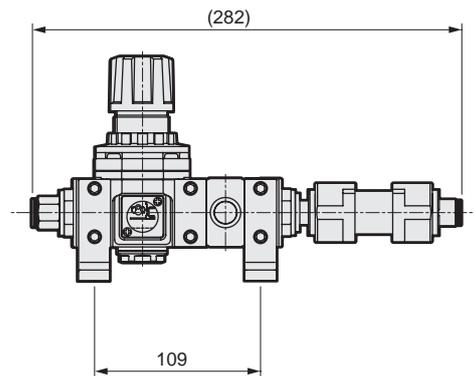
- CAU30-□-2-R□GY49F
(Regulator, pressure gauge, filter)



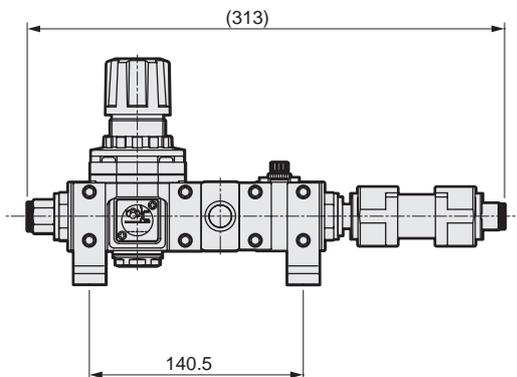
- CAU30-□-2-R□V□F
(Regulator, valve, filter)



- 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".

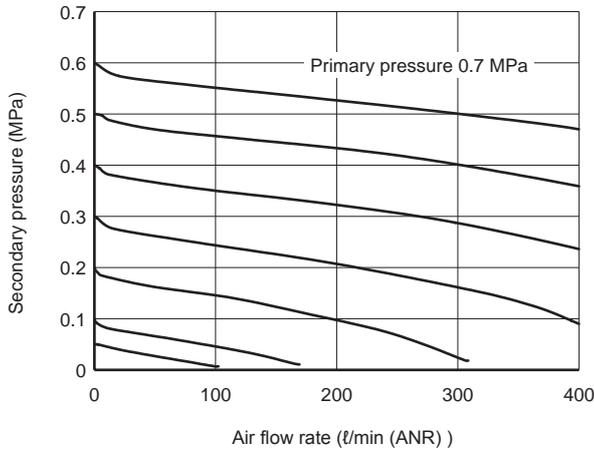
SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

Clean Air Unit Series

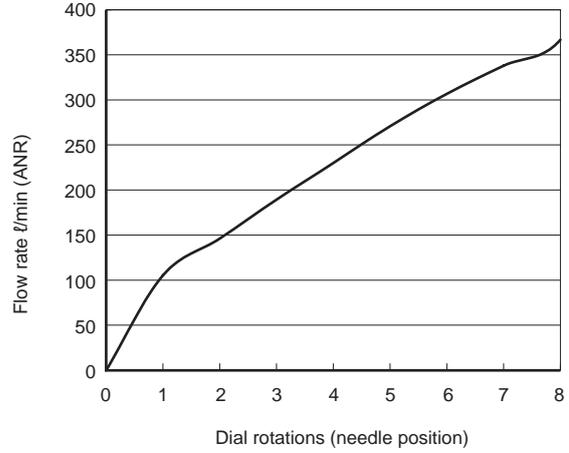
SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R (module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/ tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

Flow characteristics

● Regulator's set pressure and the corresponding flow characteristics



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



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