

Clean air unit

CAU30 Series

● Port size: ø10, ø12



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        | °C      | 5 (41°F) to 45 (113°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)                 |         | ø10,ø12                                                                                                              |
| 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 ±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)<br>ECO mode: 480 mW of 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<br>· Max. inrush current: 100 mA<br>· Applied voltage: 30 VDC or less (comparison output - 0 V interval)<br>· 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    | ±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                                                                                                                                                                                  |
| 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°C                                 |                  | Within ±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   |

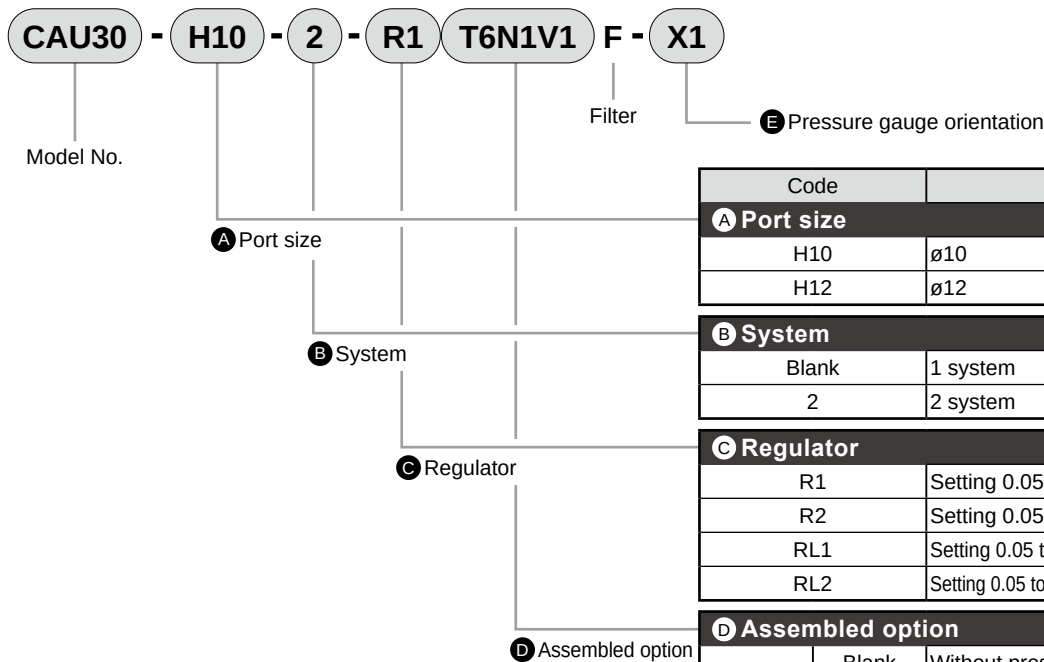
Additional weight (Unit: g)

| 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 |
|--------------------|-------------|
| <b>A Port size</b> |             |
| H10                | ø10         |
| H12                | ø12         |

|                 |          |
|-----------------|----------|
| <b>B System</b> |          |
| Blank           | 1 system |
| 2               | 2 system |

|                    |                                                       |
|--------------------|-------------------------------------------------------|
| <b>C Regulator</b> |                                                       |
| 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 |

| D Assembled option |         |                                                                          | *2 |
|--------------------|---------|--------------------------------------------------------------------------|----|
| Pressure gauge     | Blank   | Without pressure gauge block                                             |    |
|                    | T6 *3   | With pressure outlet port blocked<br>(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                                                            |    |

|                                     |                |
|-------------------------------------|----------------|
| <b>E Pressure gauge orientation</b> |                |
|                                     | Standard       |
|                                     | Blank          |
|                                     | 90° clockwise  |
|                                     | 180° clockwise |
|                                     | 270° clockwise |
|                                     | X3             |

### ⚠ 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

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

#### [Example of model No. 2]

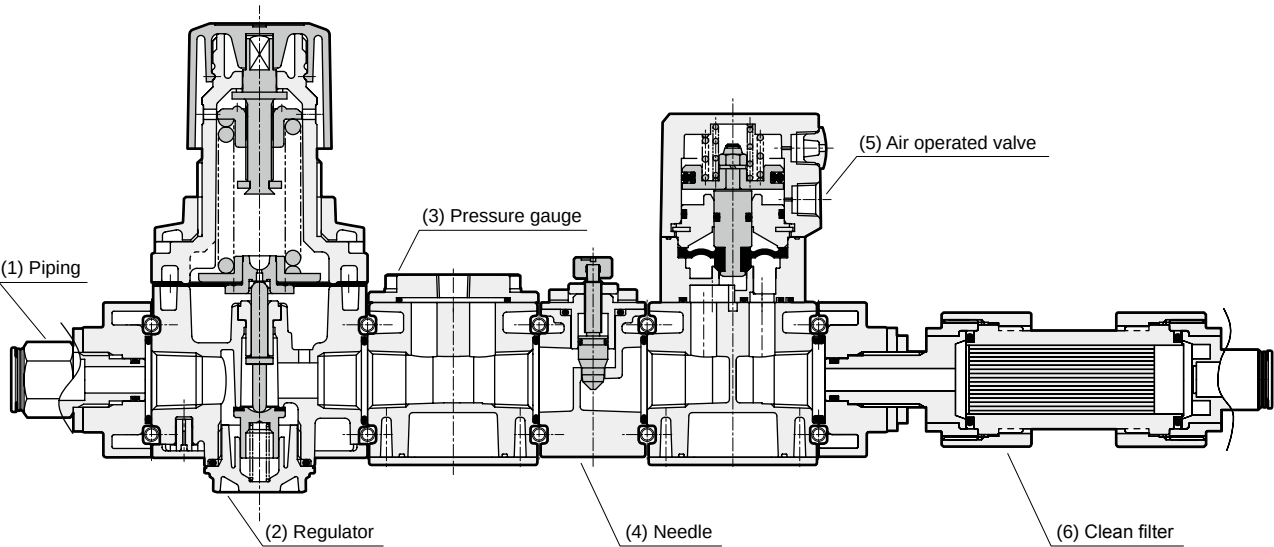
#### CAU30-2-H12-RL1PX1V3F-X2

- A** Port size : ø12  
**B** System : 2 system  
**C** Regulator : 0.05 to 0.3 MPa relief  
**D** Assembled option : Digital pressure sensor (PPX), air operated valve (double acting) assembly  
**E** 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            |
| Outdrrs FRL                |
| Adapter Joiner Press Gauge |
| CompFRL                    |
| LgFRL                      |
| PrecsR                     |
| VacF/R                     |
| Clean FR                   |
| ElecPneuR                  |
| AirBoost                   |
| Speed Ctrl                 |
| Silncr                     |
| CheckV/ other              |
| Fit/Tube                   |
| Nozzle                     |
| <b>Air Unit</b>            |
| PrecsCompn                 |
| 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

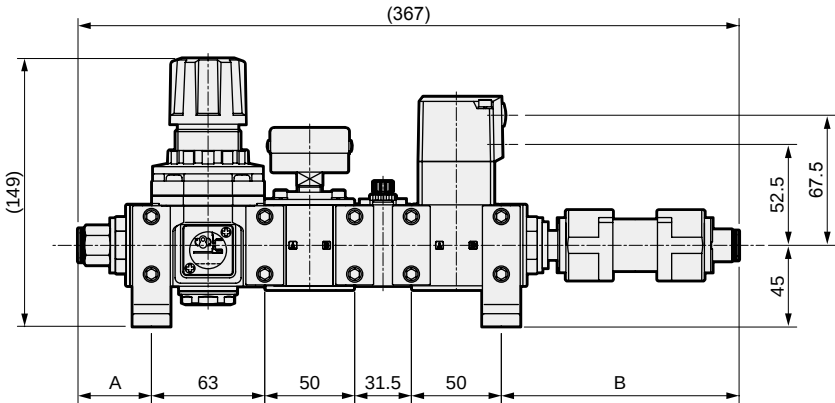
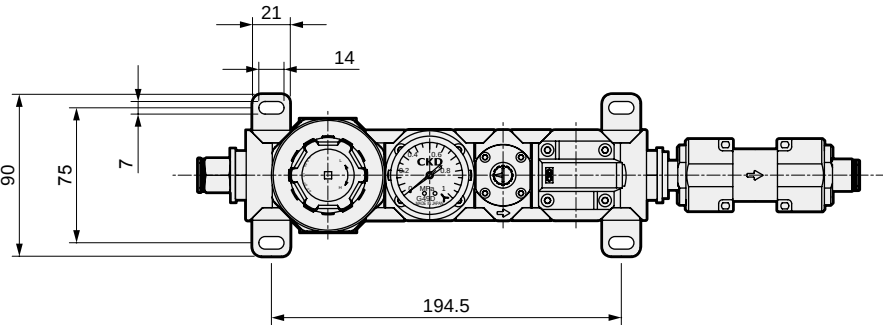


| No. | Part name          |           | Fluid passage material                                                                                   |
|-----|--------------------|-----------|----------------------------------------------------------------------------------------------------------|
| (1) | 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

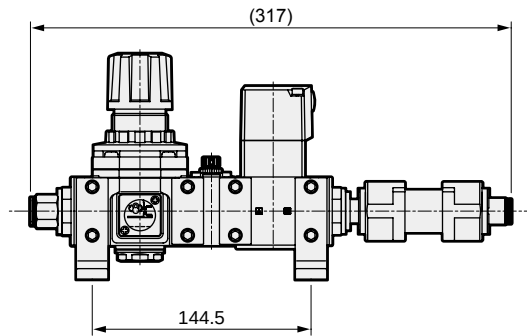
| Port size | A    | B     |
|-----------|------|-------|
| H10       | 41   | 132   |
| H12       | 42.5 | 133.5 |

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

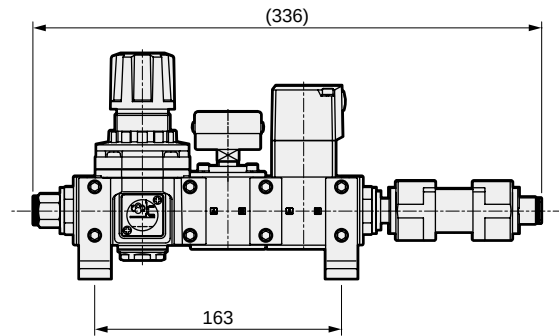
### Dimensions (1 system)



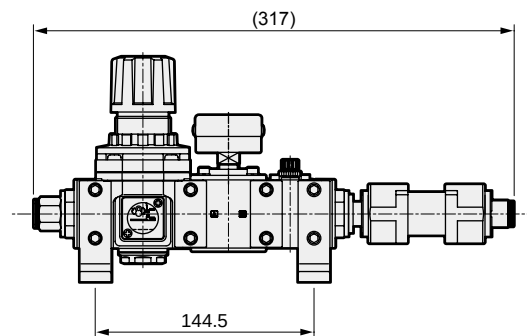
- CAU30-□-R□N1V□F  
(regulator, needle, valve, filter)



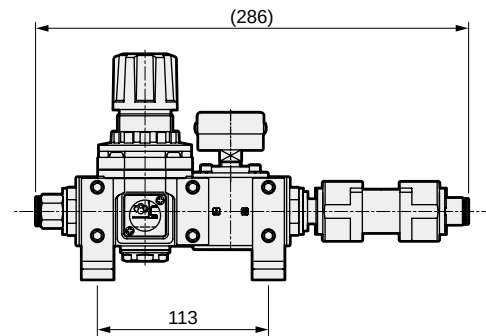
- CAU30-□-R□GY49V□F  
(regulator, pressure gauge, valve, filter)



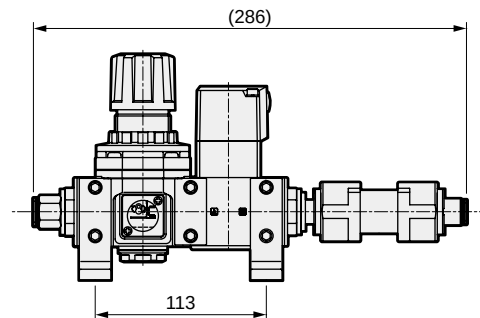
- CAU30-□-R□GY49N1F  
(regulator, pressure gauge, needle, filter)



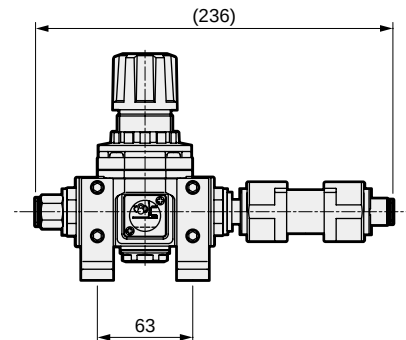
- CAU30-□-R□GY49F  
(regulator, pressure gauge, filter)



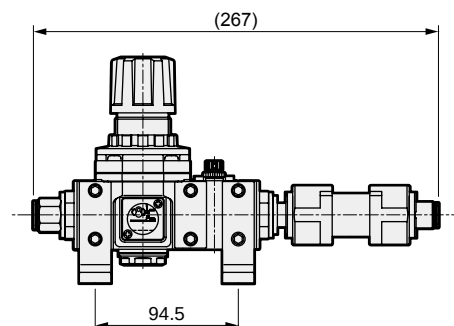
- CAU30-□-R□V□F  
(regulator, valve, filter)



- 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".

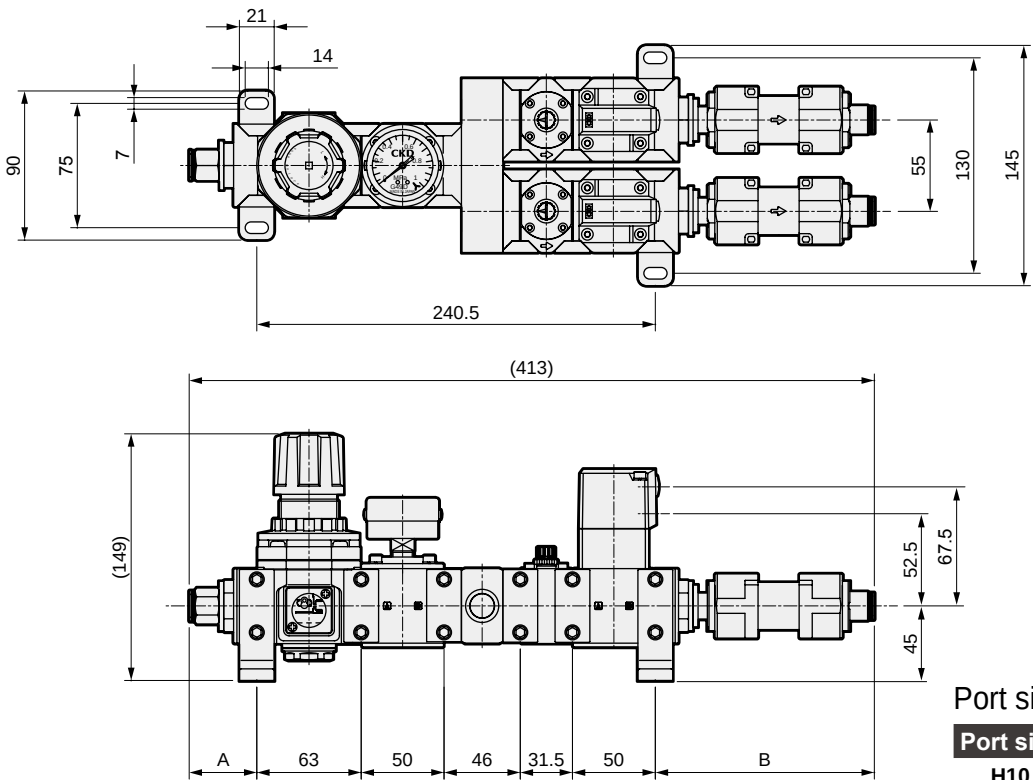
|                            |
|----------------------------|
| F.R.L.                     |
| F.R.                       |
| F (Filtr)                  |
| R (Reg)                    |
| L (Lub)                    |
| Drain Separ                |
| Mech Press SW              |
| Res press exh valve        |
| 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                     |
| <b>Air Unit</b>            |
| PrecsCompn                 |
| 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.                   |
| F.R.                     |
| F (Filtr)                |
| R (Reg)                  |
| L (Lub)                  |
| Drain Separ              |
| Mech Press SW            |
| Res press exh valve      |
| SlowStart                |
| Anti-bac/Bac-remove Filt |
| 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                 |
| 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                   |

## Dimensions (2 systems)

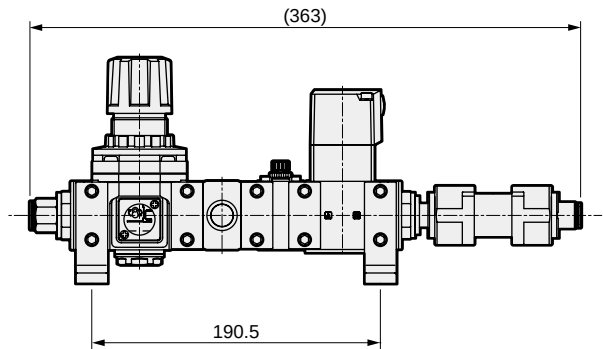
● CAU30-□-2-R□GY49N1V□F (regulator, pressure gauge, needle, valve, filter)



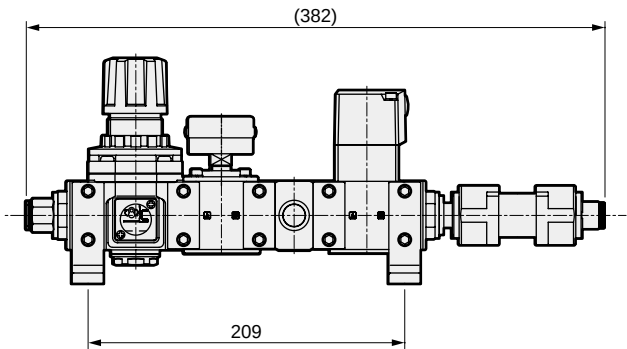
Port size dimensions table

| 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)

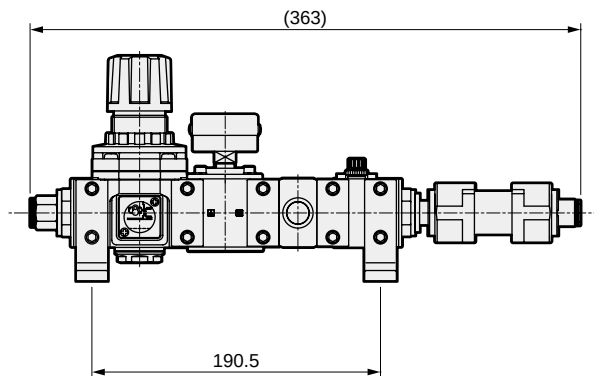


\* Dimensions of "T6" and "PX1" pressure gauges are the same as those of "GY49".

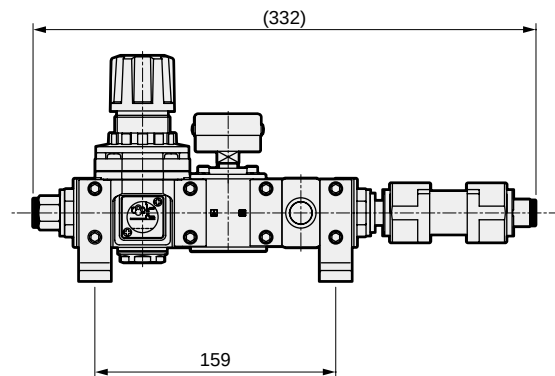
### Dimensions (2 systems)



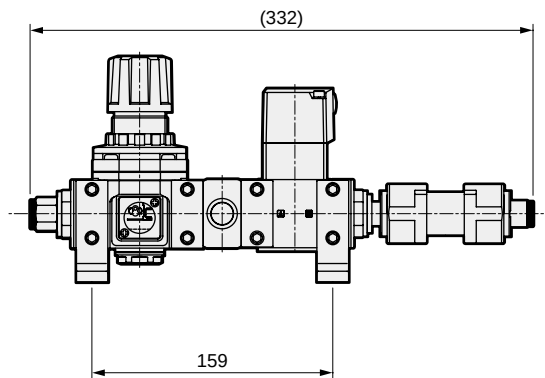
- CAU30-□-2-R□GY49N1F  
(regulator, pressure gauge, needle, filter)



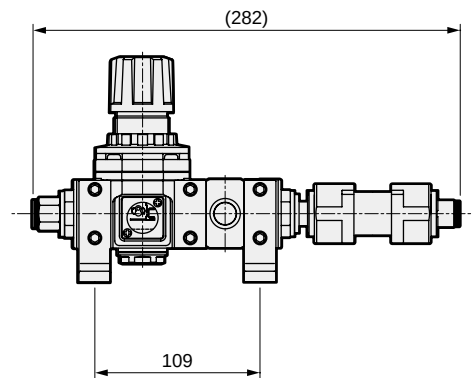
- CAU30-□-2-R□GY49F  
(regulator, pressure gauge, filter)



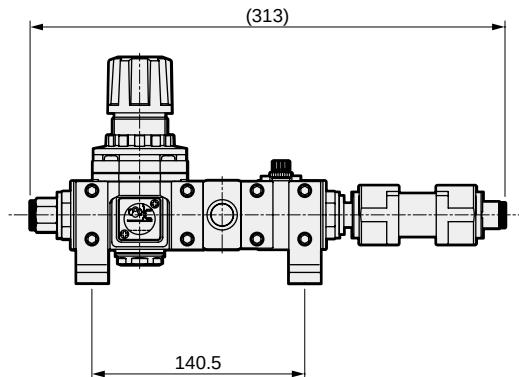
- CAU30-□-2-R□V□F  
(regulator, valve, filter)



- 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".

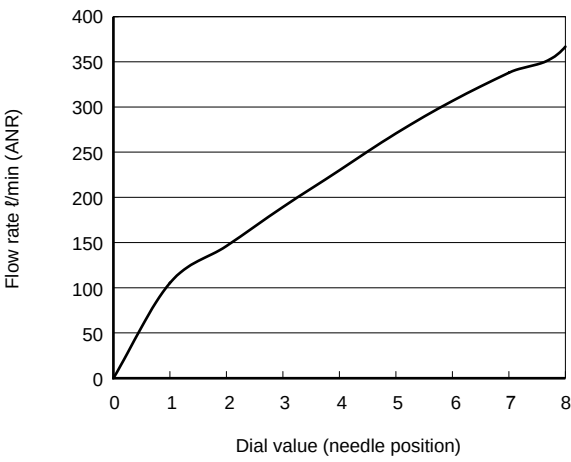
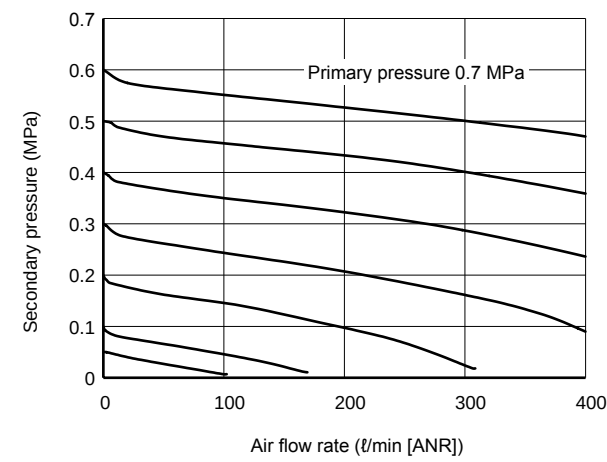
|                            |
|----------------------------|
| F.R.L.                     |
| F.R.                       |
| F (Filtr)                  |
| R (Reg)                    |
| L (Lub)                    |
| Drain Separ                |
| Mech Press SW              |
| Res press exh valve        |
| SlowStart                  |
| Anti-bac/Bac-remove Filt   |
| 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                     |
| <b>Air Unit</b>            |
| PrecsCompn                 |
| Electro Press SW           |
| ContactSW                  |
| AirSens                    |
| PresSW Cool                |
| Air Flo Sens/Ctrl          |
| WaterRiSens                |
| TotAirSys (Total Air)      |
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| RefrDry                    |
| DesicDry                   |
| HiPolymDry                 |
| MainFiltr                  |
| Dischrg etc                |
| Ending                     |

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