

Energy-saving for air blowing processes

Pulse blow series

Compressed air is not for free!!

Air consumption can be **reduced nearly 50%**

**No electricity
required!**

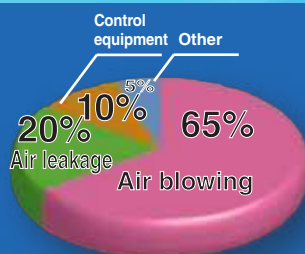
Generates pulse air without using electricity!

NEW Small-size pulse
blow type



Pulse blow air gun PAG Series

Pulse blow unit PAU Series



Measures to reduce factory air consumption!

Air compressors are said to use about 20% of a factory's overall electric power. About **65%** of that compressed air is usually consumed by blowing air. Pulse blow air gun can reduce the amount of compressed air consumption and help save energy.

World's first!

Pulse blow air gun

PAG Series

No electricity required!

PAT. PEND.

Pulse air generator is built in



Trimmer: Pulse frequency adjustment
Enables you to adjust the frequency with a flat blade screwdriver

Light weight design

194 g [6.84 oz]

* Main unit only

No electricity required
Valve built in

Pulsed air generation unit built in
You only need to connect compressed air

● Pulse blow flow rate guideline: 80 to 145 L/min [2.826 to 5.121 ft³/min]

Nozzle variations
Air amplifier nozzle



● The air volume is nearly 4.5 time larger
(The flow consumption is the same as that of the standard nozzle ϕ 3 [0.118].)

● Standard nozzle orifice diameters
 ϕ 2 mm [0.079 in.], ϕ 3 mm [0.118 in.], ϕ 4 mm [0.157 in.]

● Long nozzle (orifice diameter: ϕ 2.3 [0.091])
170 mm [6.693 in.], 220 mm [8.661 in.]

CO₂ reduction

We will help you in your **CO₂ reduction activities** (compressor electricity charge reduction).

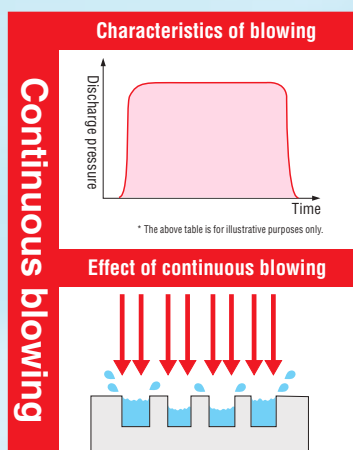
	Pulse blow air gun Per PAG-2 unit	Standard Per PAU unit	Large flow rate type Per PAU-30 unit	Small-size type Per PAU-05 unit
Electricity amount kWh	2368 → 1184	3068 → 1534	7437 → 3718	794 → 397
CO ₂ kg	1028 → 514	1332 → 666	3228 → 1614	345 → 172
Cost	Reduction of 5,960 yen/year	Reduction of 7,723 yen/year	Reduction of 18,718 yen/year	Reduction of 3,996 yen/year

Remarks: <<Conditions for the above calculations>> The values of "Electricity amount kWh" and "CO₂ kg", show the total amount within the product life.

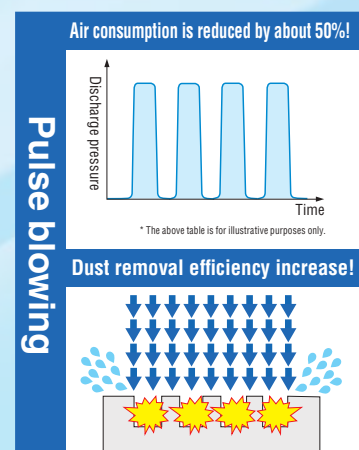
Daily operating hours: 2 hours, yearly operating days: 240 days, CO₂ emission factor (TEPCO value in 2020): 0.434kg-CO₂/kWh

Cost of compressed air per m³: 2.5 yen, * "Value for continuous blowing" → "pulse blowing" according to our test conditions

Advantages of pulse blowing



If you replace continuous blowing with pulse blowing!



More efficient dust removal!

It is said that pulse air blowing has higher dust removal efficiency than continuous air blowing because it applies impact to the dust removal target intermittently.

No electricity required!

Just attach a pulse blow unit to your air gun to use it as a pulse blow air gun

Applicable examples



Small-size type

PAU-05

- Small size, light weight

Entire length: 33.8 to 46.6 mm [1.331 to 1.835 in.],
mass: 14 g [0.49 oz], 15 g [0.53 oz]

- Wide pipe variations For details, refer to page ⑩.

IN piping: M5 internal thread, ϕ 4 [0.157] quick fitting,
 ϕ 6 [0.236] quick fitting, Rc1/8, R1/8, G1/8

● Pulse blow flow rate guideline: 10 to 55 L/min [0.353 to 1.943 ft³/min]

NEW



-M5 (IN piping, M5 internal thread) -J4 (IN piping, ϕ 4 quick fitting) -J6 (IN piping, ϕ 6 quick fitting) -01A (IN piping, Rc1/8 internal thread) -01B (IN piping, R1/8 external thread) -01C (IN piping, G1/8 external thread)

Standard PAU

● Pulse blow flow rate guideline: 80 to 125 L/min [2.826 to 4.415 ft³/min]

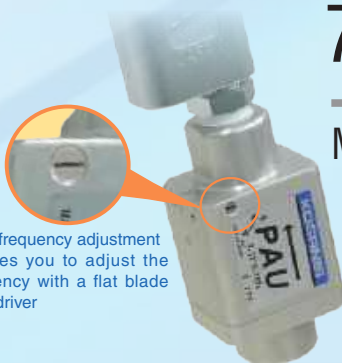
Light weight design

73 g [2.57 oz]

Main unit: Aluminum material

Mountable on a device

Can be mounted and used in air blowing processes by installing an additional mounting bracket.



Trimmer: Pulse frequency adjustment
Enables you to adjust the frequency with a flat blade screwdriver



Large flow rate type PAU-30

● Pulse blow flow rate guidelines:
160 to 270 L/min [5.651 to 9.536 ft³/min]

Double the flow rate!!

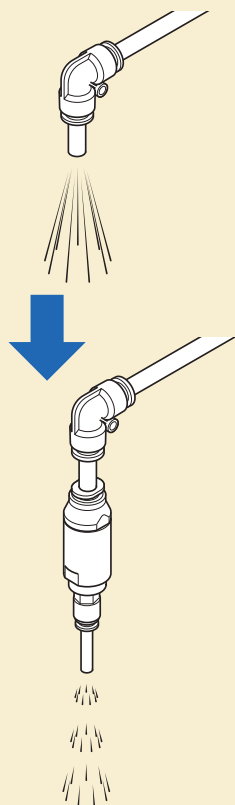
- Doubled the flow rate for an **improved performance of dust removal** compared to PAU!
- Improved space economy by a volume of **130% (compared to PAU)** despite giving 2 times the flow rate!
- Direct mounting **makes it ideal for installation on your equipment!**
Brackets not required



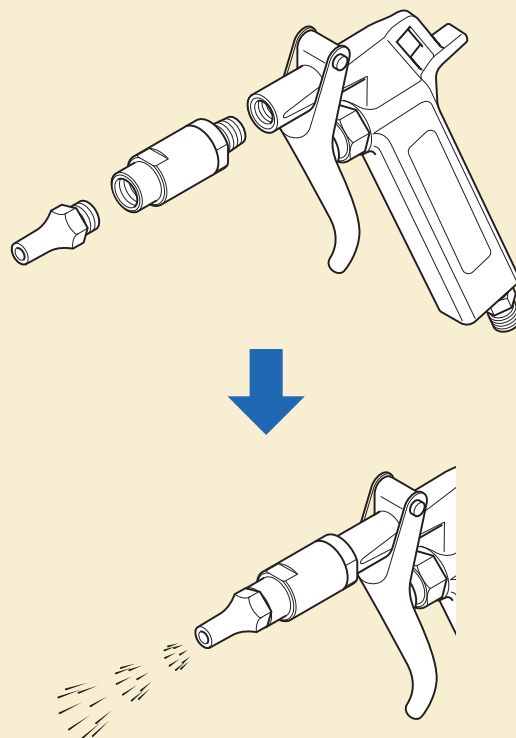
Direct mounting type

Applicable examples

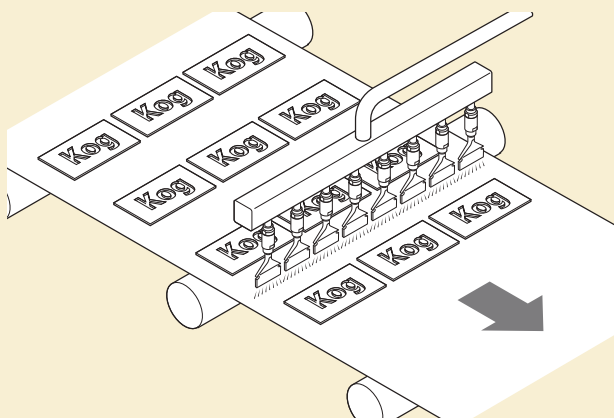
- Mount a small-size pulse blow unit at the tip of a piping tube.



- Mount a small-size pulse blow unit between an air gun and the tip of a nozzle.

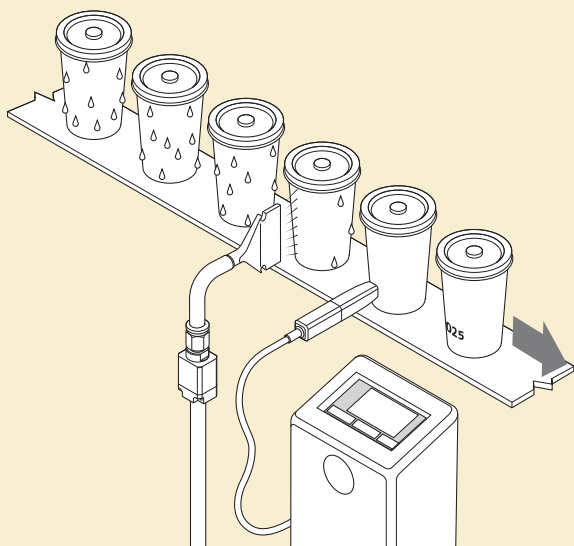


- To remove the dust adhering to the workpieces on a conveyor, mount multiple nozzle-attached small-size pulse blow units.

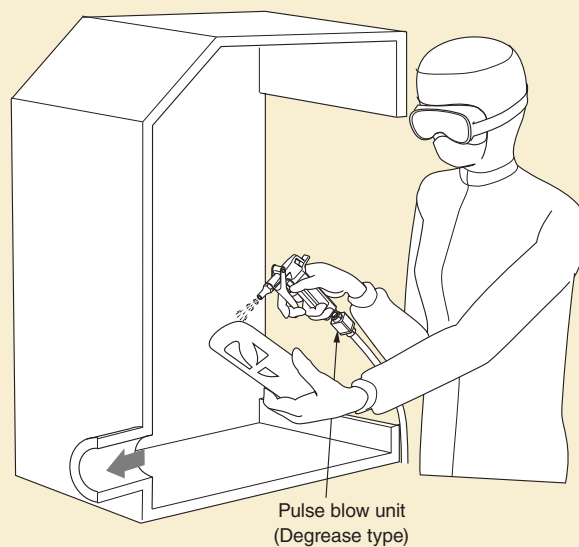


Applicable examples

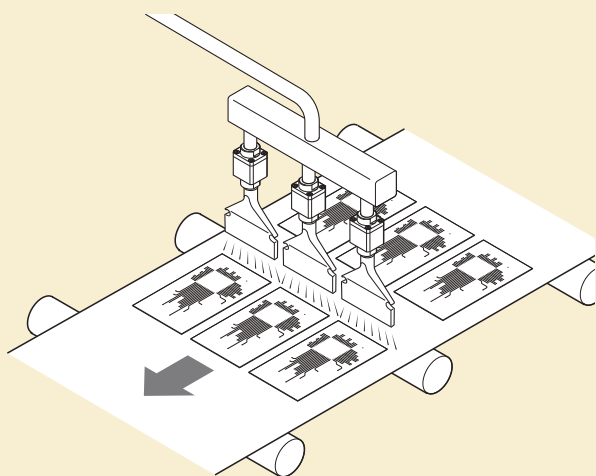
- To laser-print on workpieces on a conveyor after removing water drops adhering to them, use a nozzle-attached pulse blow unit.



- To remove the dust adhering to the workpieces in a clean box in a simple cleanroom, use a pulse blow unit-attached air gun.



- To remove the dust adhering to the workpieces on a conveyor, mount three nozzle-attached pulse blow units.



Small-size pulse blow unit

PAU-05 Series



Specifications

Model and piping specifications		PAU-05-□					
Item		M5	J4	J6	01A	01B	01C
Medium		Air					
Operating pressure range	MPa [psi]	0.2 to 0.5 [29 to 73]					
Pulse frequency	Hz	20 ± 5 (when 0.5 MPa [73 psi] is applied) ^{Note}					
Operating temperature range	°C [°F]	5 to 50 [41 to 122]					
Material		Main unit: Aluminum alloy IN port: Aluminum alloy (for -J4 and -J6, PBT)					
Mass	g [oz]	14 [0.49]	14 [0.49]	14 [0.49]	15 [0.53]	15 [0.53]	15 [0.53]
Port size	IN port	M5×0.8	φ4 [0.157] fitting	φ6 [0.236] fitting	Rc1/8	R1/8	G1/8
	OUT port	M5×0.8	M5×0.8	Rc1/8	Rc1/8	Rc1/8	G1/8

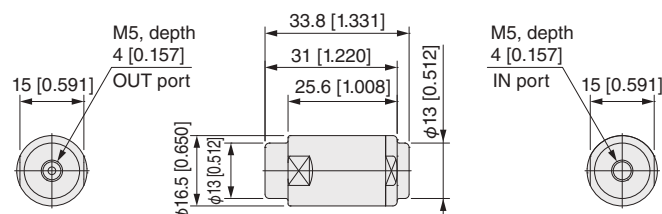
Note 1: The frequency cannot be adjusted. This is the frequency of the pulses generated when 0.5 MPa [73 psi] is applied. For details, refer to "Characteristics of the frequency and flow according to pressure" on page ⑩.

Note 2: Air that is used should be clean air that contains no oil, solids, or other contaminants. If drainage water, dust, and other contaminants get into the pulse blow unit, they could cause defective operation.

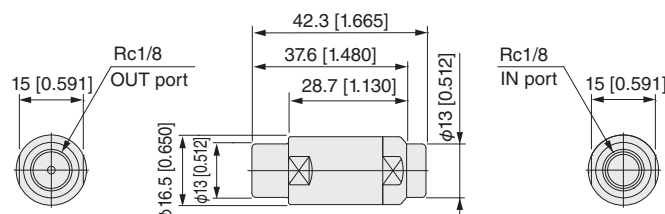
Note 3: This product uses grease internally.

Dimensions (mm [in.])

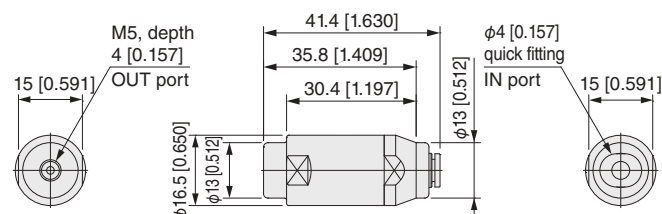
● PAU-05-M5



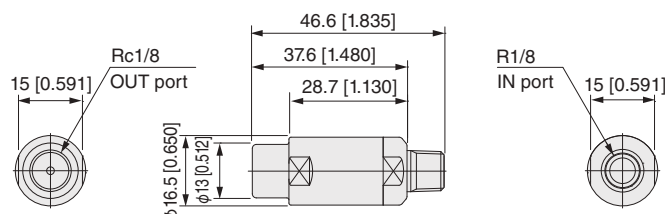
● PAU-05-01A



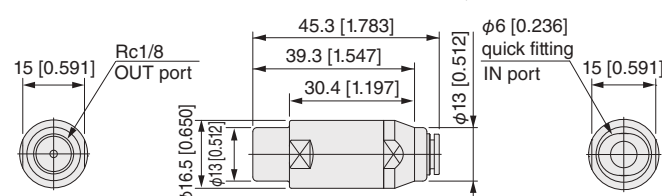
● PAU-05-J4



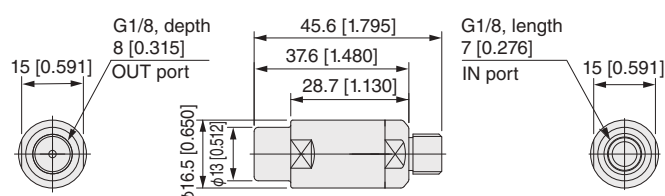
● PAU-05-01B



● PAU-05-J6



● PAU-05-01C



Order codes

● Main unit

PAU-05- □

Port size

- M5** : IN piping, M5 (internal thread) OUT piping, M5 (internal thread)
J4 : IN piping, φ 4 [0.157] quick fitting OUT piping, M5 (internal thread)
J6 : IN piping, φ 6 [0.236] quick fitting OUT piping, Rc1/8
01A : IN piping, Rc1/8 OUT piping, Rc1/8
01B : IN piping, R1/8 OUT piping, Rc1/8
01C : IN piping, G1/8 (external thread) OUT piping, G1/8 (internal thread)

Remarks: No mounting brackets for securing are not supplied. If you want to secure the product, supply a mounting bracket for securing by yourself.

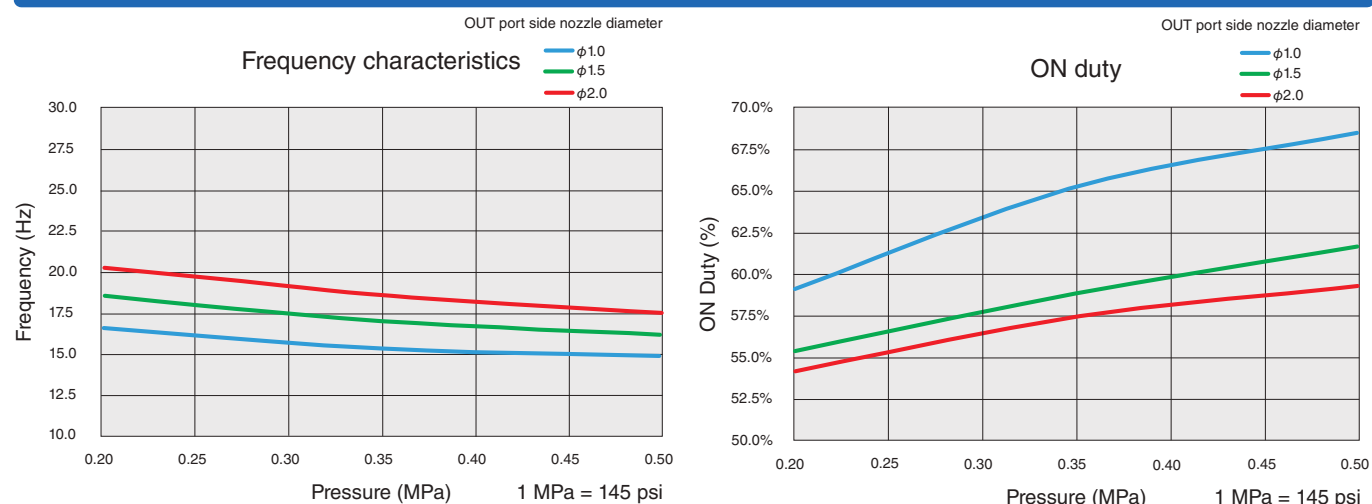
<<Recommended mounting bracket>>

- Akagi Co., Ltd. Resin band (color: light gray) CLIC standard
Model number: A10530-0284

Appearance of IN piping and OUT piping

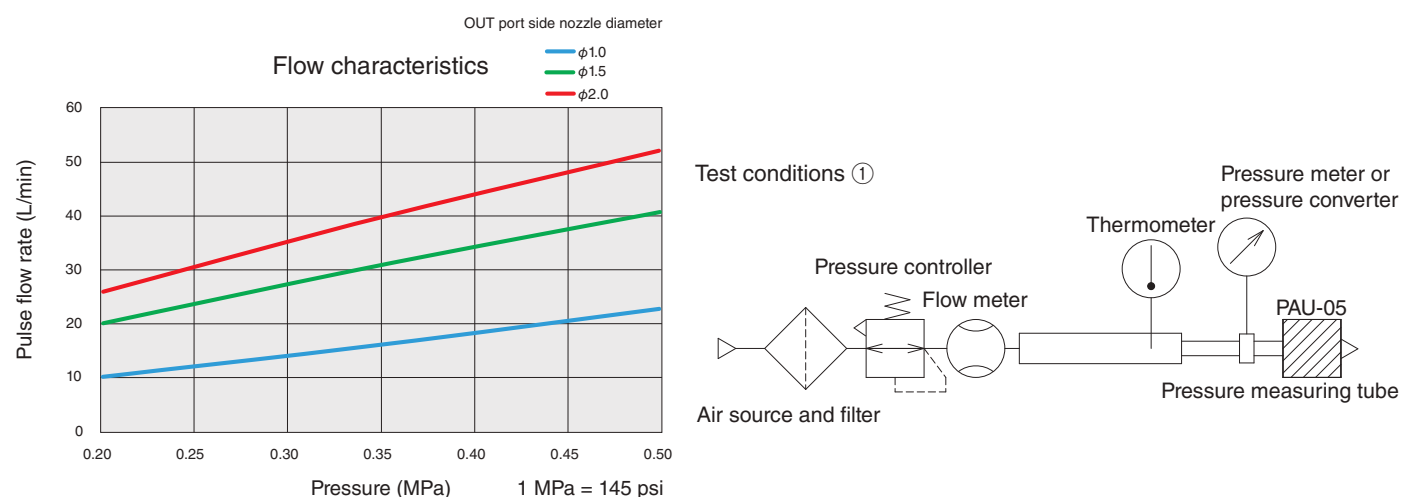
Model	PAU-05-M5	PAU-05-J4	PAU-05-J6	PAU-05-01A	PAU-05-01B	PAU-05-01C
Piping						
IN piping						
Port size	M5 (internal thread)	ϕ 4 [0.157] quick fitting	ϕ 6 [0.236] quick fitting	Rc1/8 (internal thread)	R1/8 (external thread)	G1/8 (external thread)
OUT piping						
Port size	M5 (internal thread)	M5 (internal thread)	Rc1/8 (internal thread)	Rc1/8 (internal thread)	Rc1/8 (internal thread)	G1/8 (internal thread)

Characteristics of the frequency and flow according to pressure



<<Interpretation of the above graphs>>

When the pressure is 0.35 MPa [51 psi] and the nozzle diameter is ϕ 2 [0.079], the frequency is 19 Hz and the ON duty is 57.5%. The air reduction at this time is 42.5%.



Note 1: According to our test conditions ①.

Note 2: The characteristics of the frequency and the flow vary depending on the piping conditions and the nozzle used.

Operations according to piping conditions for pulse blow units

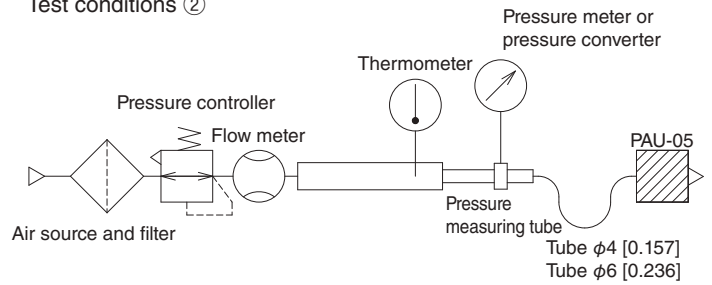
Operations may be unstable, depending on the piping conditions on the IN port side. See the following table.

Nozzle diameter	Operating pressure	Tube ϕ 4 [0.157]			Tube ϕ 6 [0.236]		
		1000 mm [39.370 in.]	3000 mm [118.1 in.]	5000 mm [196.9 in.]	1000 mm [39.370 in.]	3000 mm [118.1 in.]	5000 mm [196.9 in.]
ϕ 1.0 [0.039]	0.20 MPa [29 psi]	○	○	○	○	○	○
	0.35 MPa [51 psi]	○	○	○	○	○	○
	0.50 MPa [73 psi]	○	○	○	○	○	○
ϕ 1.5 [0.059]	0.20 MPa [29 psi]	○	○	○	○	○	○
	0.35 MPa [51 psi]	○	○	○	○	○	○
	0.50 MPa [73 psi]	○	○	○	○	○	○
ϕ 2.0 [0.079]	0.20 MPa [29 psi]	○	○	×	○	○	○
	0.35 MPa [51 psi]	○	○	○	○	○	○
	0.50 MPa [73 psi]	○	○	○	○	○	○

Note 1: ○ : Stable operations × : Unstable operations (according to our test conditions ②)

Note 2: Operations will be unstable if the piping conditions cause pressure drops or insufficient flow.

Test conditions ②



Handling precautions

Warning

- Use safety glasses and earplugs because blowing air could blow objects into people's eyes or cause hearing loss.
- Install a cutoff valve on the IN port side to ensure safety in case of leaks or damage.

Caution

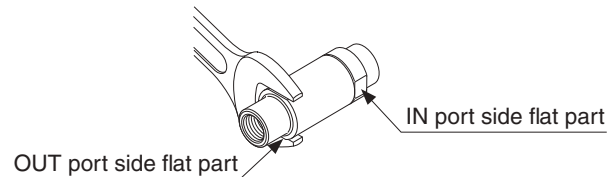
- Air containing oil or solids cannot be used. Use cleaned air for the medium (use a filter that has a filtration rating of 40 μ m or less). If drainage water, dust, and other contaminants get into this product, they could cause defective operation.
- Pass the medium through a device, such as a freeze-type air dryer or after cooler, to lower the dew-point temperature of the medium to below the ambient temperature so condensation or frost does not occur when the products are blowing.
- This product operates on a balance of pressure, so supply enough pressure and volume to keep the pulse operation steady.
- It is recommended to make a one-to-one connection between this product and an air blow gun or a nozzle.
- If you want to install this product apart from the cutoff valve and other parts, make sure that the distance does not exceed 3 m [9.840 ft] on the primary side if using a ϕ 4 [0.157]×2.5 tube. On the secondary side, it is recommended to connect a nozzle directly.



Caution

* Read "Safety precautions" on the general catalog website before using this product.

- The piping work is as follows: Use a wrench to hold down the "IN port side flat part" when piping the IN port and the "OUT port side flat part" when piping the OUT port, and then tighten within the following torque range. Performing the piping work by using other flat parts could cause damage to the product.



Screw size	M5×0.8	Rc1/8, R1/8, G1/8
Recommended tightening torque N·m [in·lbf]	1 to 1.5 [8.851 to 13.277]	4.5 to 6.5 [39.830 to 57.532]

- Use tubing with an exterior that is not damaged. Do not allow tubing to become severely bent or twisted near the IN port. Doing so could cause air leakage.
- Do not mount this product on the secondary side of an electrostatic eliminator. Doing so will reduce the neutralization function of air blowing considerably.

Pulse blow unit

PAU Series



Specifications

Model		PAU
Item		Air
Medium		Air
Operating pressure range	MPa [psi]	0.35 to 0.7 [51 to 102]
Pulse frequency	Hz	5 to 15
Operating temperature range	°C [°F]	5 to 50 [41 to 122]
Mass	g [oz]	73 [2.57]
Material	Main unit	Aluminum alloy
	Bracket	Mild steel (nickel plated)
Port size		IN: Rc1/4
		OUT: G1/4

Note 1: Air that is used should be clean air that contains no oil, solids, or other contaminants.

If drainage water, dust, and other contaminants get into the pulse blow unit, they could cause defective operation.

Note 2: This product uses grease internally.

Order codes

● Main unit

PAU-

Bracket

Blank: No bracket

21: With bracket (attached)

● Additional parts (sold separately)

Bracket (Two M3 screws attached)

PAUZ-21

* The projection-type trimmer type is also available.

PAU- **-3W**

Bracket

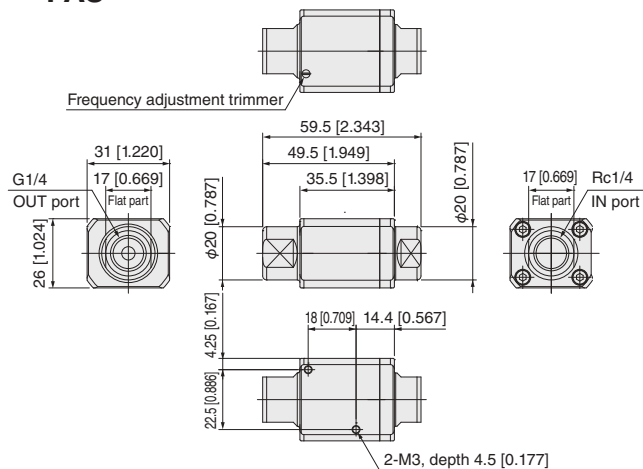
Blank: No bracket

21: With bracket (attached)

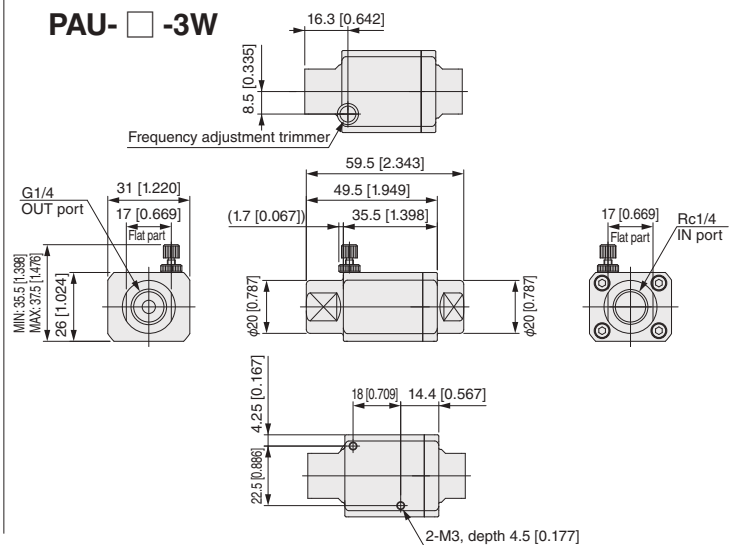
Dimensions (mm [in.])

● Main unit

PAU



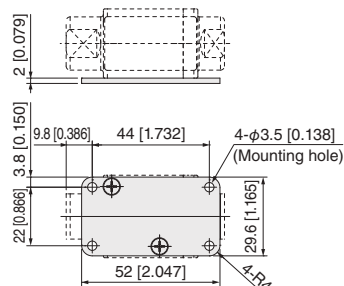
PAU- **-3W**



Additional parts (sold separately)

● Bracket

PAUZ-21



Frequency adjustment method

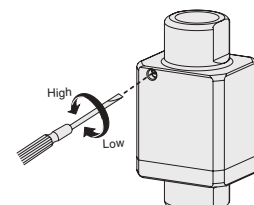
The pulse frequency can be adjusted by rotating the frequency adjustment trimmer, as shown in the figure at right.

Use a precision flat blade screwdriver for adjustments.

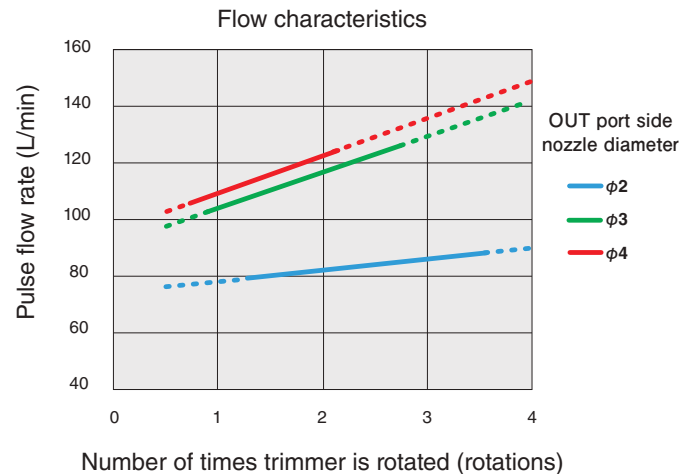
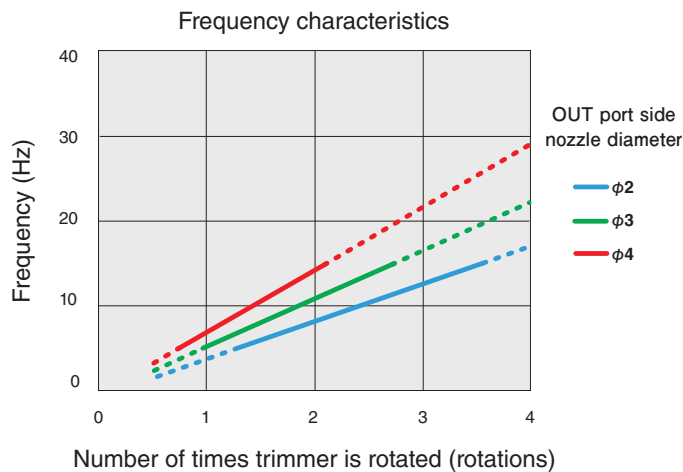
Turn it in the + direction (counterclockwise direction) to increase the frequency.

Turn it in the - direction (clockwise direction) to decrease the frequency.

Note: Turning the trimmer counterclockwise increases the frequency and turning it clockwise decreases the frequency. Turning the trimmer more than necessary after turning it fully clockwise or counterclockwise may damage the components.



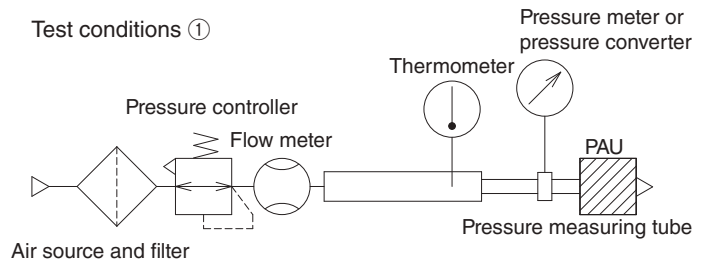
Characteristics of the frequency and flow according to the number of rotations of the trimmer



Note 1: According to our test conditions ①.

Note 2: The characteristics of the frequency and the flow vary depending on the piping conditions and the nozzle used.

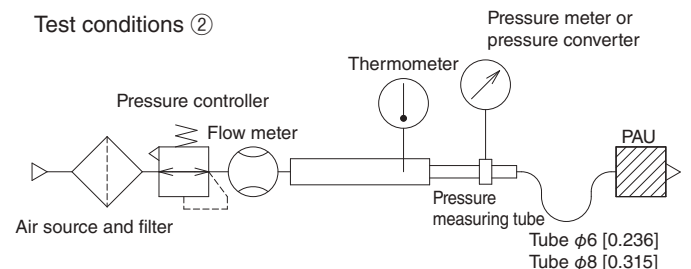
Note 3: Use this product within the pulse frequency ranges shown in the specification tables (5 to 15 Hz).



Operations according to piping conditions for pulse blow units

Operations may be unstable, depending on the piping conditions on the IN port side. See the following table.

Nozzle diameter	Operating pressure	Tube φ 6 [0.236]			Tube φ 8 [0.315]		
		1000 mm [39.370 in.]	3000 mm [118.1 in.]	5000 mm [196.9 in.]	1000 mm [39.370 in.]	3000 mm [118.1 in.]	5000 mm [196.9 in.]
φ 2 [0.079]	0.35 MPa [51 psi]	○	○	○	○	○	○
	0.5 MPa [73 psi]	○	○	○	○	○	○
	0.7 MPa [102 psi]	○	○	○	○	○	○
φ 3 [0.118]	0.35 MPa [51 psi]	○	○	×	○	○	○
	0.5 MPa [73 psi]	○	○	○	○	○	○
	0.7 MPa [102 psi]	○	○	○	○	○	○
φ 4 [0.157]	0.35 MPa [51 psi]	○	×	×	○	○	○
	0.5 MPa [73 psi]	○	×	×	○	○	○
	0.7 MPa [102 psi]	○	×	×	○	○	○



Note 1: ○ : Stable operations ×: Unstable operations (according to our test conditions ②)

Note 2: Operations will be unstable if the piping conditions cause pressure drops or insufficient flow.

Handling precautions

Warning

- Use safety glasses and earplugs because blowing air could blow objects into people's eyes or cause hearing loss.
- Install a cutoff valve on the IN port side to ensure safety in case of leaks or damage.

Caution

- Air containing oil or solids cannot be used. Use cleaned air for the medium (use a filter that has a filtration rating of 40 μm or less). If drainage water, dust, and other contaminants get into this product, they could cause defective operation.
- Pass the medium through a device, such as a freeze-type air dryer or after cooler, to lower the dew-point temperature of the medium to below the ambient temperature so condensation or frost does not occur when the products are blowing.
- Use this product within the pulse frequency ranges shown in the specification tables.



Caution

* Read "Safety precautions" on the general catalog website before using this product.

- This product operates on a balance of pressure, so supply enough pressure and volume to keep the pulse operation steady.
- It is recommended to make a one-to-one connection between this product and the air blow gun or a nozzle.
- If you want to install this product apart from the air blow gun or nozzle, a φ8 [0.315]×6 tube and a distance not exceeding 2 m [6.560 ft] are recommended.
- Use a wrench to hold down the flat part of the product, and then tighten within the following torque range when piping the IN port and the OUT port.

Recommended tightening torque	N·m [in·lb]	PAU
		7 to 9 [61.957 to 79.659]

- Use tubing with an exterior that is not damaged. Do not allow tubing to become severely bent or twisted near the IN port. Doing so could cause air leakage.
- Do not mount this product on the secondary side of an electrostatic eliminator. Doing so will reduce the neutralization function of air blowing considerably.

Pulse blow unit

PAU Series Large flow rate type



Specifications

Model		PAU-30-02 (-25)	PAU-30-03 (-25)
Item			
Medium		Air	
Operating pressure range	MPa [psi]	0.35 to 0.7 [51 to 102]	
Pulse frequency	Hz	5 to 15	
Operating temperature range	°C [°F]	5 to 50 [41 to 122]	
Mass	g [oz]	105 [3.70] (113 [3.99])	100 [3.53] (108 [3.81])
Material		Aluminum alloy	
Port size	IN	Rc1/4	Rc3/8
	OUT		

Note 1: Air that is used should be clean air that contains no oil, solids, or other contaminants.

If drainage water, dust, and other contaminants get into the pulse blow unit, they could cause defective operation.

Note 2: This product uses grease internally.

Order codes

● Main unit

PAU-30-



Direct mounting

Blank: No mounting holes or brackets

25: Direct mounting

Port size

02: Rc1/4 (for both IN and OUT)

03: Rc3/8 (for both IN and OUT)

* The projection-type trimmer type is also available.

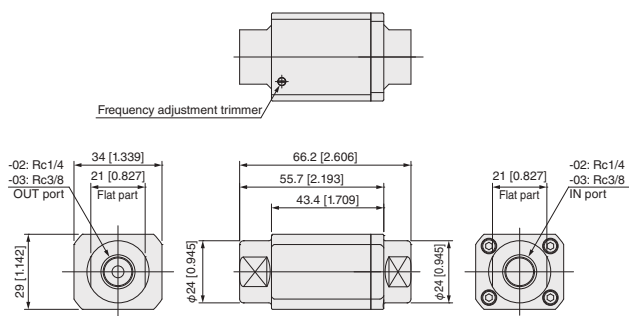
PAU-30- [] **-3W**

PAU-30- [] **-25-3W**

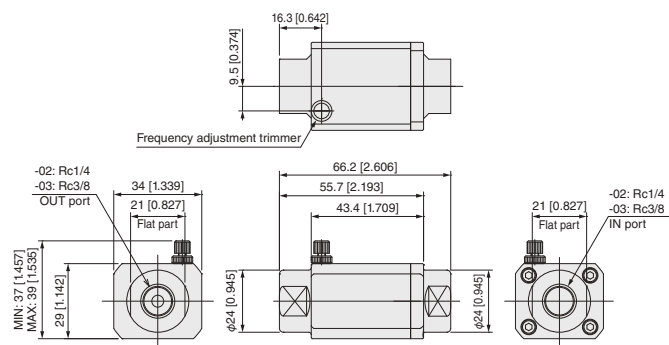
Dimensions (mm [in.])

● Main unit

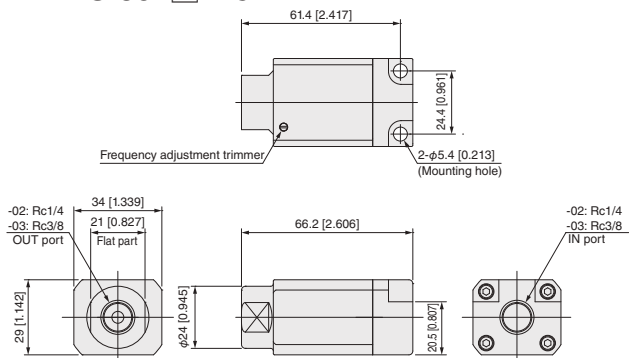
PAU-30- []



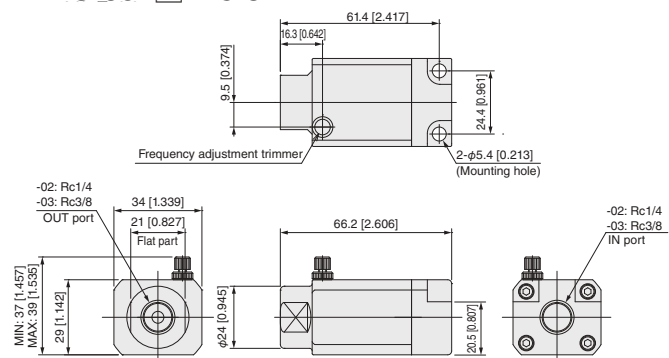
PAU-30- [] **-3W**



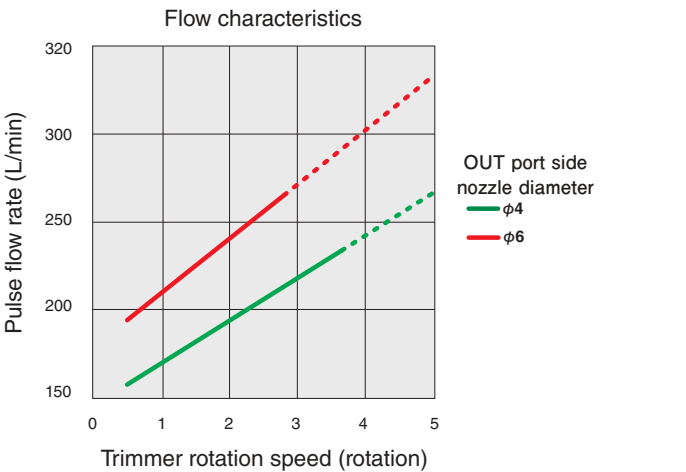
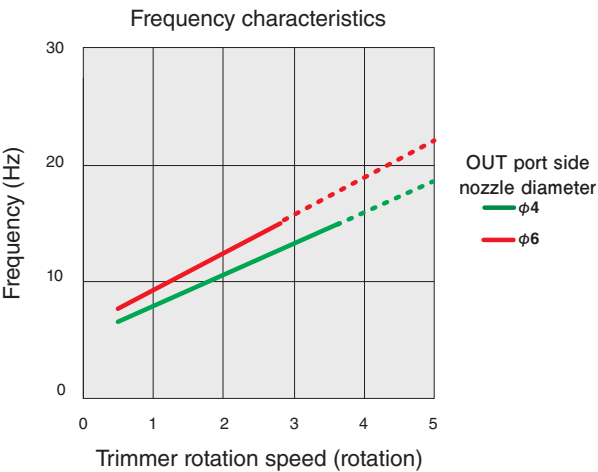
PAU-30- [] **-25**



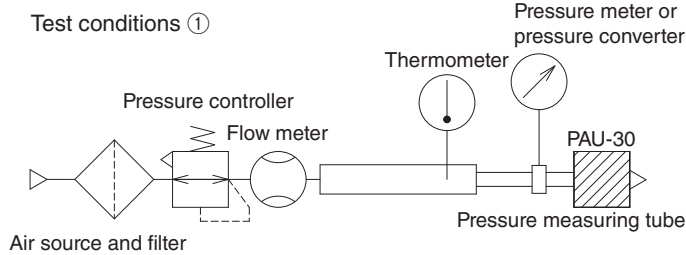
PAU-30- [] **-25-3W**



Characteristics of the frequency and flow according to the number of rotations of the trimmer



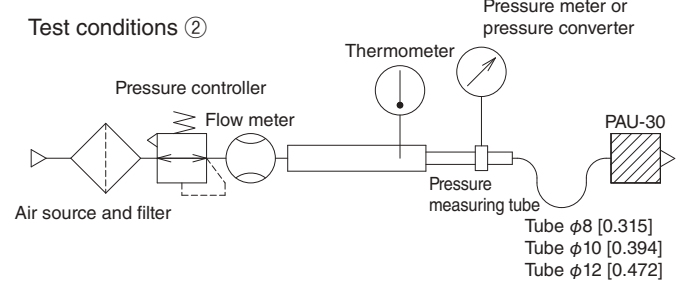
Note 1: According to our test conditions ① .
Note 2: The characteristics of the frequency and the flow vary depending on the piping conditions and the nozzle used.
Note 3: Use devices within the pulse frequency ranges (5 to 15 Hz) shown in the specification tables.



Operations according to piping conditions for pulse blow units

Operations may be unstable, depending on the piping conditions on the IN port side. See the following table.

Nozzle diameter	Operating pressure	Tube φ 8 [0.315]		Tube φ 10 [0.394]		Tube φ 12 [0.472]	
		1000 mm [39.370 in.]	5000 mm [196.9 in.]	1000 mm [39.370 in.]	5000 mm [196.9 in.]	1000 mm [39.370 in.]	5000 mm [196.9 in.]
φ 4 [0.157]	0.35 MPa [51 psi]	○	△	○	○	○	○
	0.5 MPa [73 psi]	○	△	○	○	○	○
	0.7 MPa [102 psi]	○	△	○	○	○	○
φ 6 [0.236]	0.35 MPa [51 psi]	○	△	○	△	○	○
	0.5 MPa [73 psi]	○	△	○	△	○	○
	0.7 MPa [102 psi]	○	△	○	△	○	○



Note 1: ○ : Stable operations △ : Minimum frequency of 5 to 10 Hz (according to our test conditions ②)
Note 2: Operations will be unstable if the piping conditions cause pressure drops or insufficient flow.

Handling precautions

Warning

- Use safety glasses and earplugs because blowing air could blow objects into people's eyes or cause hearing loss.
- Install a cutoff valve on the IN port side to ensure safety in case of leaks or damage.

Caution

- Air containing oil or solids cannot be used. Use cleaned air for the medium (use a filter that has a filtration rating of 40 μm or less). If drainage water, dust, and other contaminants get into this product, they could cause defective operation.
- Pass the medium through a device, such as a freeze-type air dryer or after cooler, to lower the dew-point temperature of the medium to below the ambient temperature so condensation or frost does not occur when the products are blowing.
- Use this product within the pulse frequency ranges shown in the specification tables.

- This product operates on a balance of pressure, so supply enough pressure and volume to keep the pulse operation steady.
- It is recommended to make a one-to-one connection between this product and the air blow gun or a nozzle.
- If you want to install this product apart from the air blow gun or nozzle, a φ8 [0.315]×6 tube and a distance not exceeding 2 m [6.560 ft] are recommended.
- For piping to the IN port or the OUT port, tighten within the torque range below.

	PAU-30-02 (-25)	PAU-30-03 (-25)
Recommended tightening torque N·m [in·lbf]	7 to 9 [61.957 to 79.659]	12.5 to 14.5 [110.6 to 128.3]

* Piping for both IN port side and OUT port side

- Use tubing with an exterior that is not damaged. Do not allow tubing to become severely bent or twisted near the IN port. Doing so could cause air leakage.
- Do not mount this product on the secondary side of an electrostatic eliminator. Doing so will reduce the neutralization function of air blowing considerably.

Caution * Read "Safety precautions" on the general catalog website before using this product.

Special support

Common to all products in the PAU Series

As of May 2022

Support that can be provided	PAU-05	PAU	PAU-30
Vaseline type	○	○	○
H1 grease type	○	○	○
Projection-type trimmer	-	○	○
Degrease type (Grease wiping-equivalent/fluorine type quick-drying lubricant application)	○	○	○
IN/OUT port Rc1/8	Standard type	○	○
Low-pressure type, OUT port Rc1/4	-	○	○

○ : Support can be provided -: Support cannot be provided

For the IN port and the OUT port, we can also offer the parallel pipe thread G type and the National Pipe Thread (NPT) type.
For details, contact Koganei.