

## Pulsed Blow Valve BNP Series



Are you leaving  
on-site costs  
unaddressed?

Air reduction rate\*1  
**75%**



**FP Series** for Food Manufacturing Process

**P4 Series** for Rechargeable Battery Manufacturing added

\*1 : Reference value based on CKD's test conditions.

# Reducing with pulses,

Two convenient types to suit your application

## Gun type BNP-G

### Easy-to-aim with gun type

Blows air onto the workpiece with pinpoint precision.



### Frequency adjustment knob

Easy frequency adjustment with one turn of the knob.



### With needle protection cover

### Easy-to-grip design

Easy to grip even with small hands ; requires little force, making it easy to handle.

## Unit type BNP-U



### Frequency adjustment knob

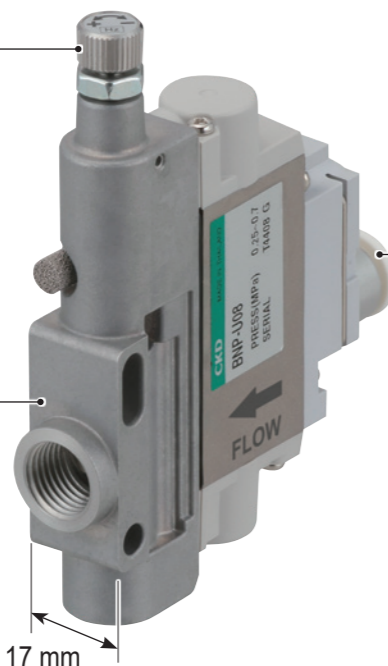
Easy frequency adjustment with one turn of the knob.

### Free mounting direction

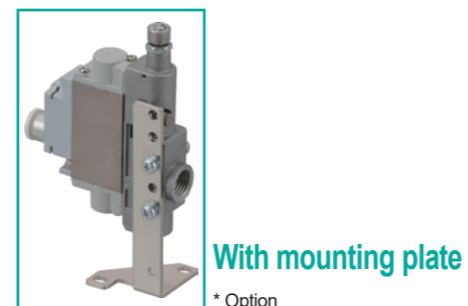
Mountable in any direction, allowing installation in any location.

### Low-profile compact design

Low-profile design allows installation in tight spaces.



Push-in fitting on supply side  
No power supply required



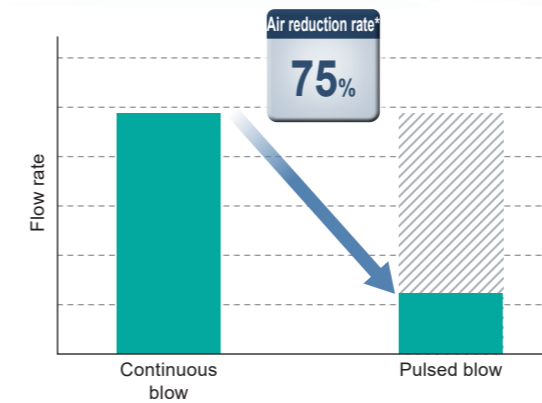
With mounting plate  
\* Option

17 mm

# Contributing to "Eco"

## Eco through air reduction

75% reduction vs. continuous blow



Reducing air consumption also reduces power consumption.

Item	Continuous blow	Pulse blow
Air consumption per unit (Pressure : 0.5 MPa, Frequency : 10 Hz, Nozzle bore : ø2.5)	243 L/min	61 L/min
Annual air consumption (Annual operating days : 250 / Operating hours : 8 hrs/day)	29,160 m <sup>3</sup>	7,320 m <sup>3</sup> (75% reduction)
Annual CO <sub>2</sub> emissions	1.75 t-CO <sub>2</sub>	0.44 t-CO <sub>2</sub>
Annual electricity consumption	4,053 kWh	1,017 kWh

\* Reference value based on CKD's test conditions.

When replaced by one pulse blow unit

**1.31 t-CO<sub>2</sub>/year Reduction**

Reference  
CO<sub>2</sub> : emissions per 1 m<sup>3</sup> of compressed air : 60 g

## Eco through low pressure

Supports energy-saving low-pressure lines from 0.25 MPa operating pressure

## Eco through maintenance-free design

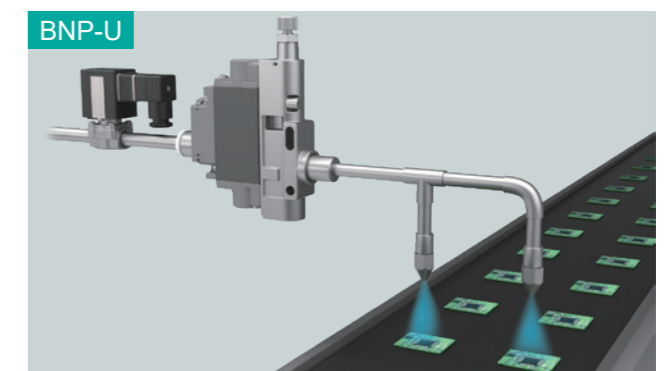
Adopts the main valve section of the reliable, long-life solenoid valve (4G Series).

## Application examples

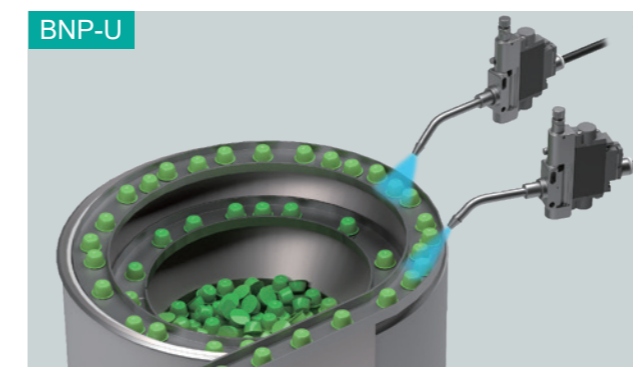
\* Image for illustration only.



Dirt removal from small parts



Dirt removal from workpieces on conveyor



Assists parts inside parts feeder

Pulsed Blow Valve  
**BNP Series**

Products for Pulse Blow Valve Food Manufacturing Process

# BNP-□-FP1 Series

Adopts food-grade lubricant (NSF-H1). Contributes to "Eco" through safe, secure operation in food manufacturing processes and pulse-based air reduction.

Unit type  
BNP-U-□-FP1



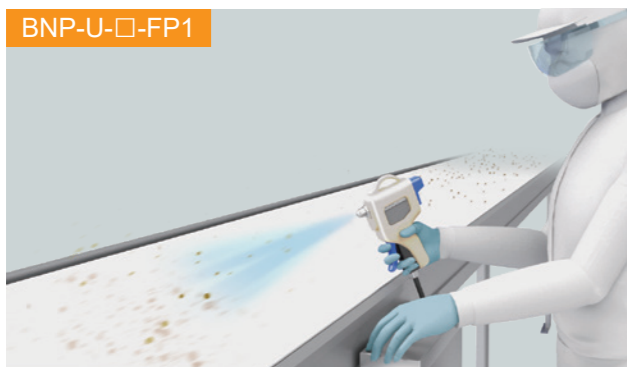
Gun type  
BNP-G-□-FP1



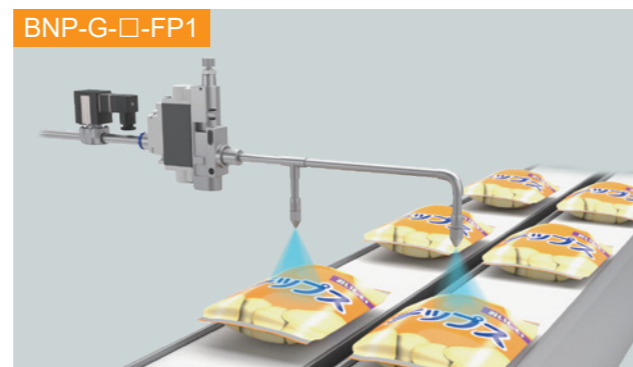
**FP1 Series**  
Eliminates contamination concerns from lubricants!  
Lubricant  
**FP Food Process™**

## Application examples

\* Image for illustration only.



Cleaning on conveyor



Blow after food packaging

Pulse Blow Valve Rechargeable Battery Manufacturing Process Products

# BNP-□-P4 Series

Restricts materials and surface treatments unsuitable for rechargeable battery processes ; usable in dry environments. Contributes to stable rechargeable battery production and "Eco" through pulse-based air reduction.

Unit type  
BNP-U-□-P4



Gun type  
BNP-G-□-P4



Long-term stable operation in rechargeable battery manufacturing process

Make Progress!!

P4 Series



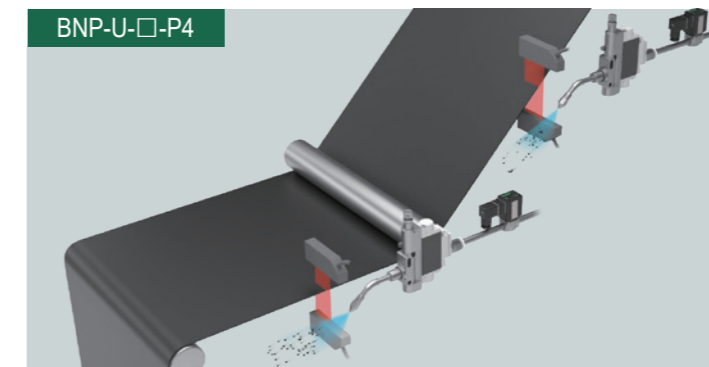
Material restriction Environment / Supply air Stable operation  
DEW POINT -80°C

Restricts materials of component parts

Restricts copper materials Restricts zinc materials Restricts nickel-based materials  
Restricts zinc plating Restricts electrolytic nickel plating

## Application examples

\* Image for illustration only.



Sensor dust removal

## Specifications

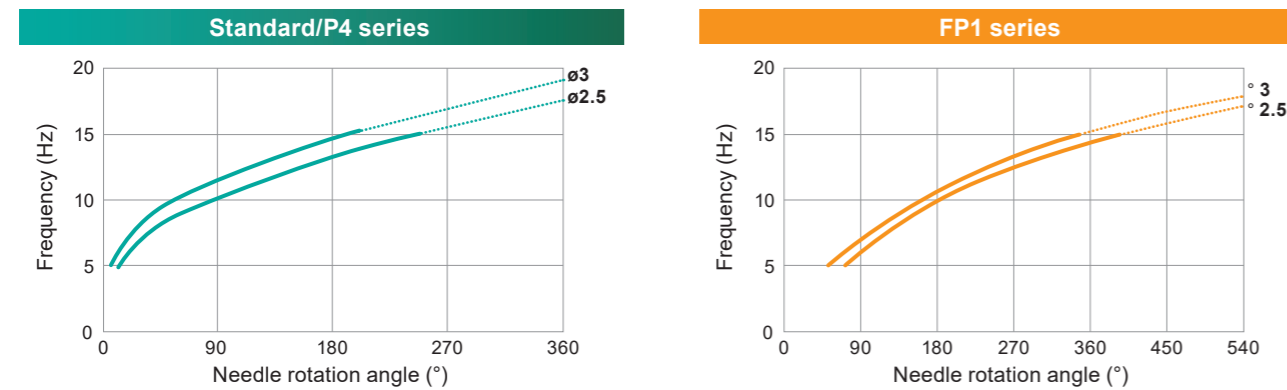
Item		BNP-G (Gun type)	BNP-U (Unit type)
Working fluid		Compressed air *1	
Operating pressure	MPa	0.25 to 0.7	
Withstand pressure	MPa	1.05	
Ambient temperature	°C	-5 to 50 (no freezing)	
Fluid temperature	°C	5 to 50	
Pulse frequency range	Hz	5 to 15 *2 *3	
Port size	Supply port	Rc1/4	Push-in fitting ø8
	Blow port	With nozzle	Rc1/4
Nozzle bore	mm	2.5 (recommended) 3.0	-
Weight	g	250	130

\*1 : Install a dryer, filter, and oil mist filter on the primary side to remove moisture and oil.

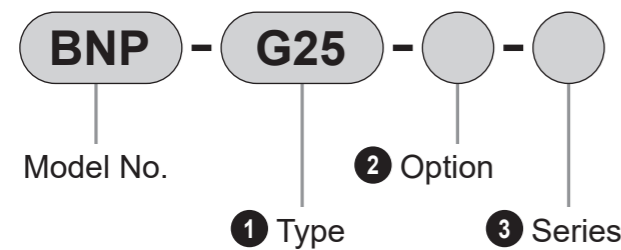
\*2 : Performance at 0.5 MPa pressure, measured on CKD's test circuit.

\*3 : This product does not support continuous blow.

## Frequency characteristics vs. needle rotation angle



## Model No. Notation



### 1 Type

Code	Description
G25	Gun / Nozzle bore ø2.5 mm
G30	Gun / Nozzle bore ø3.0 mm
U08	Unit / Blow port Rc1/4

### 2 Option

Code	Description
Blank	None
P	With mounting plate *1

\*1 : Mounting plate is for Unit type (U08) only.

### 3 Series

Code	Description
Blank	Standard
FP1	Products for Food Manufacturing Process
P4	Products for Rechargeable Battery Manufacturing

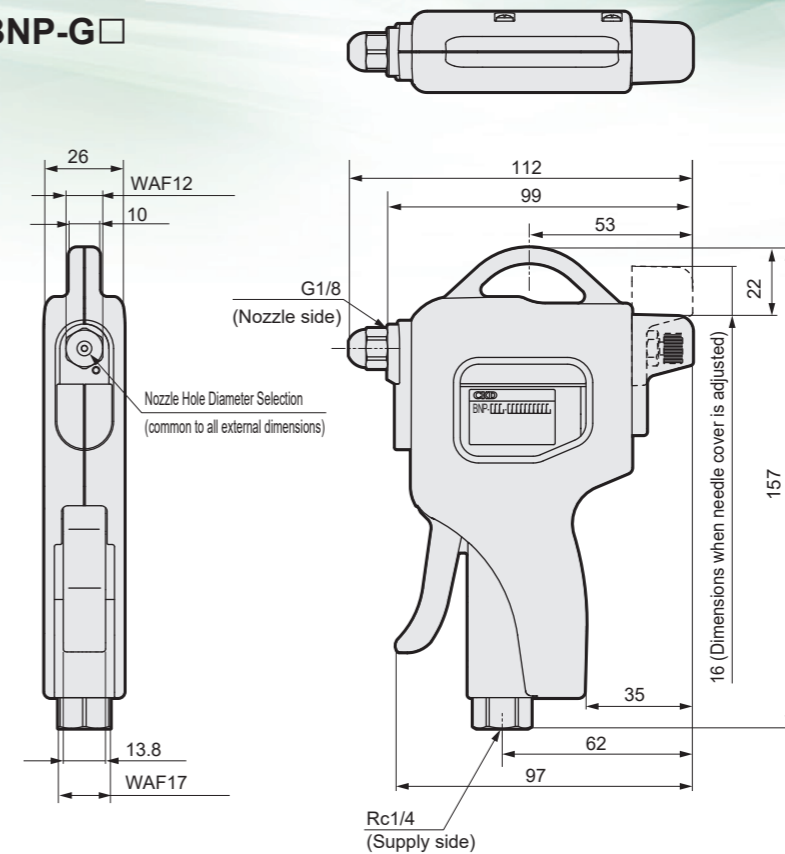
Mounting plate standalone model No.

### BNP-MOUNT-PLATE-KIT

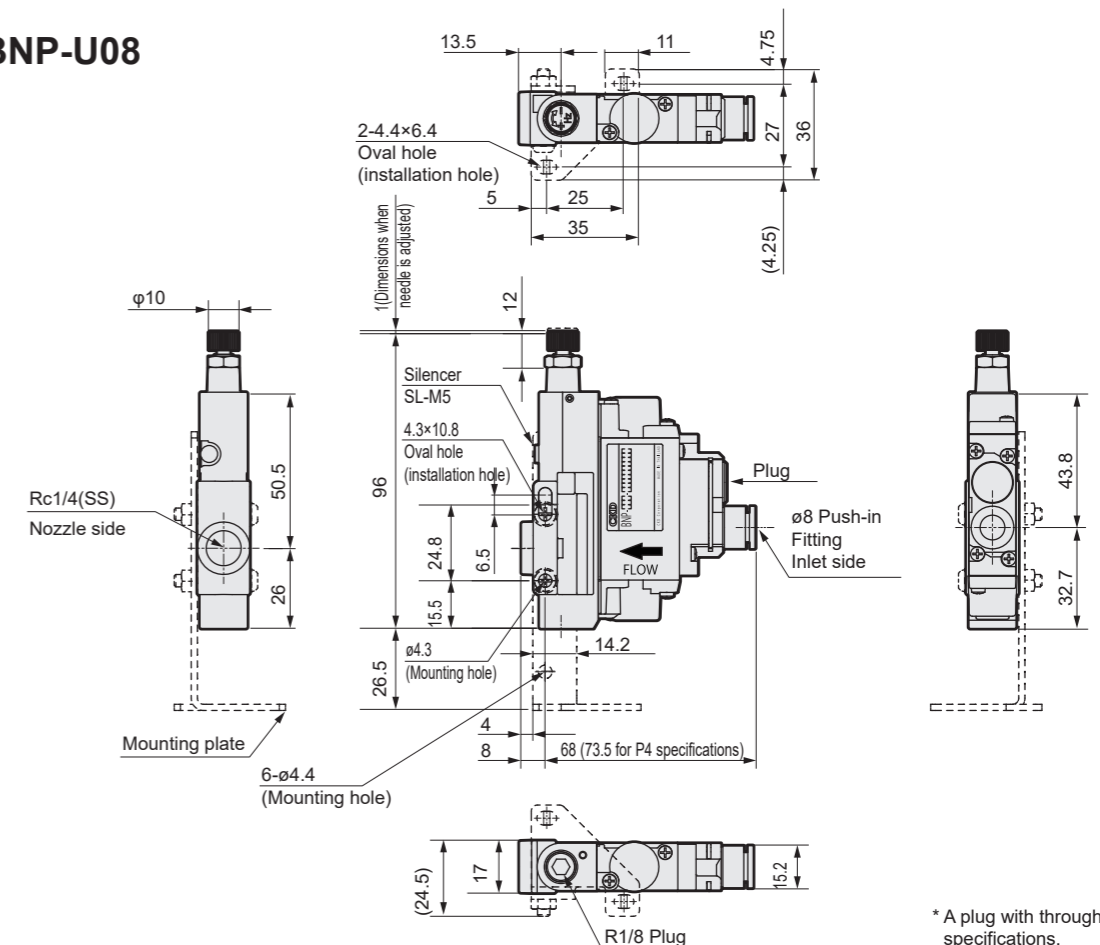
\* Mounting plate, 2 mounting screws, 2 flat washers, 2 nuts

## Dimensions

### •BNP-G□



### •BNP-U08



\* A plug with through hole for P4 specifications.

## Related products

### Multifit FFB/FFG Series

**Integrates the functions required of a fluid control valve into a single body**



- High reliability  
High durability, high corrosion resistance, pressure vessel structure, coil burnout prevention
- Easy to select  
Compatible with various fluids, wide range of variations
- Easy to use  
High installation flexibility, improved maintainability, low-noise structure, low power consumption
- Application-specific series available  
FP Series for Food Manufacturing Process,  
P4 Series for Rechargeable Battery Manufacturing



### Drain Separator FX Series

**99 % water separation efficiency without element**



- Optimal centrifugal separation by high-performance louver  
Uses high-performance louver with optimal vane shape, number, and height. Centrifugal separation removes moisture without an element
- Lightweight and compact  
Compressed air is cooled by aftercooler. Supplies clean air with drain and foreign matter removed
- Continuous use available  
FX1004 and FX1011 are modular with FRL 2000/3000/4000 Series ; FX1037 is modular with FRL 6000/8000 Series



For details, please refer to the CKD Components Site (<https://www.ckd.co.jp/kiki/en/>) → "Model No.".

#### Precautions for use

Be sure to read before use. Also read the precautions in "Directional Control Valves ①" (No.RJ-011).

- Wear protective eyewear and earplugs, as air blow may cause flying debris to enter the eyes and may cause noise-induced hearing loss.
- Leaving the product in dusty or splash-prone locations may cause malfunction due to internal contamination or silencer clogging.
- Do not apply excessive rotation torque when adjusting the needle.
- After needle adjustment, secure with the nut and close the needle cover (BNP-G only).
- Can be used for dry-state debris removal and workpiece transfer assistance. Confirm removal of moisture and oil before use.
- This product uses a spool valve structure with fluorine grease; oil and wear particles may mix into the blow air.
- Read the instruction manual thoroughly before use.

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