

PS series Non-contact Gripper

Product features/ Code of order

CHELIC

Feature

- Without vacuum ejector: A positive pressure is applied through form adequate. The exhaust of this air goes trough of low pressure and gets a vacuum aspiring any kind of workpieces.
- Contactless handling: This contactless handling is due to the pressure between the gripper and workpieces.
- Convenience: The body contains screw holes for locking, easily to replaced.



Specification

Item	Model	PS-20	PS-40	PS-60
Fluid		Air		
Operating pressure	MPa	0.1 ~ 0.7		
Ambient and operating temperature	°C	5 ~ 60		
Piping port size		M3	M5	M5
Air consumption <small>Note</small>	L/min	80	110	190
Lifting force <small>Note</small>	N	1	2	4.6
Weight	g	15	70	135
Body material		Aluminum alloy and stainless steel		

Note: REMARKS: Above result according to below testing condition

1. Operating pressure: 0.5 Mpa

2. Testing tool :

(A) PS-20 tested with "PU 0425" PU Tube * 1M

(B) PS-40 tested with "PU 0640" PU Tube * 1M

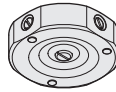
(C) PS-60 tested with "PU 0640" PU Tube * 1M

Code of order PS 20 - T

1

2

Mark	Model
20	20 series
40	40 series
60	60s eries

Mark	With bumper pad
None	No bumper pad
T	

PA

PB

PC

PAG

PAO

PAP

PAQ

PAW

PAL

PBL

PCL

PAR

PS

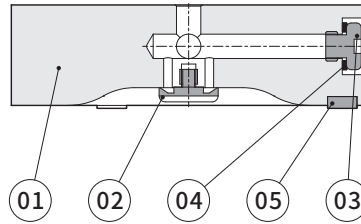
VP

PS series Non-contact Gripper

Product features

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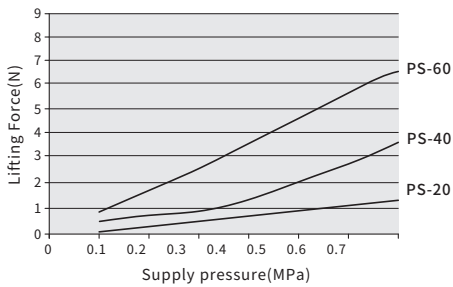
Internal structure



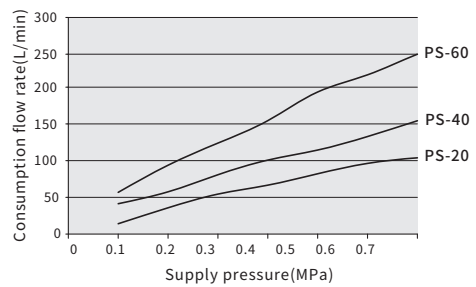
Components and material list

No.	Item	Material
01	Body	Aluminum alloy
02	Airguide cover	Stainless
03	Plug screw	Carbon steel
04	Leakproof seal	Copper alloy
05	Plain washer	Silicon

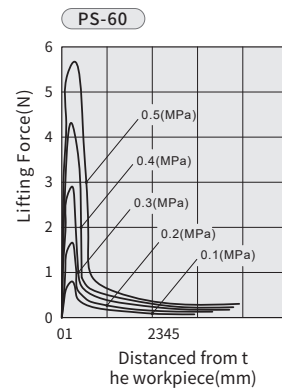
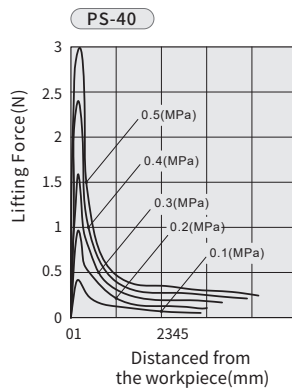
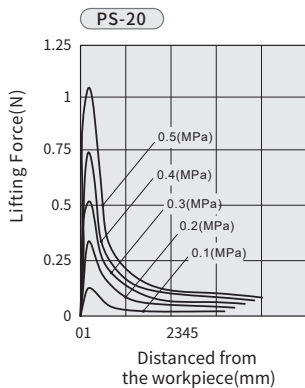
Lifting force



Air consumption



Lifting force-distance from the workpiece

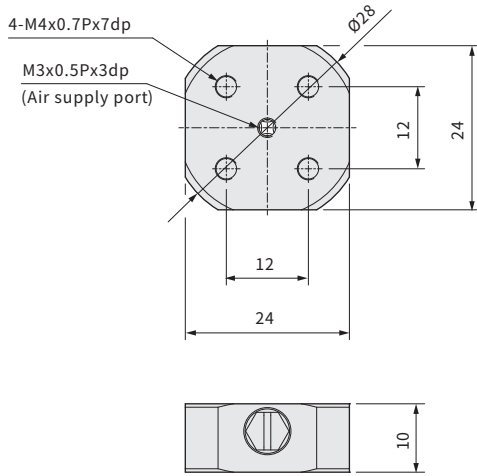


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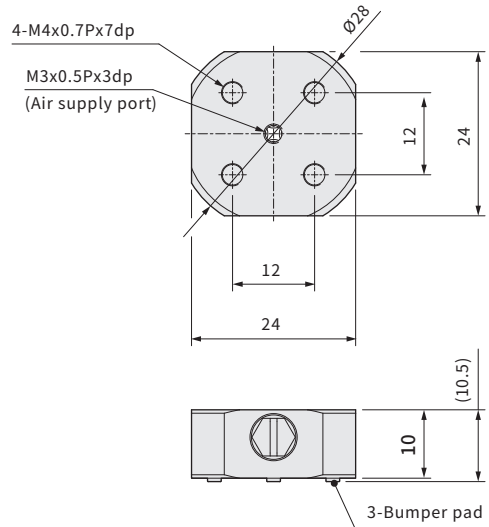
Dimensions

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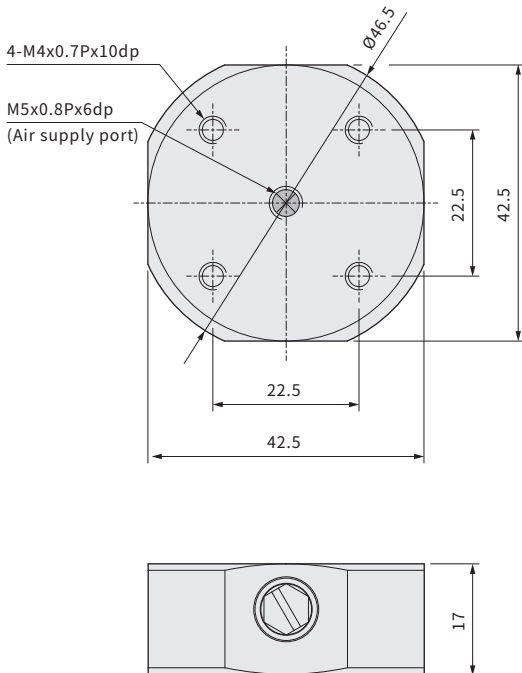
PS- 20 Flat type



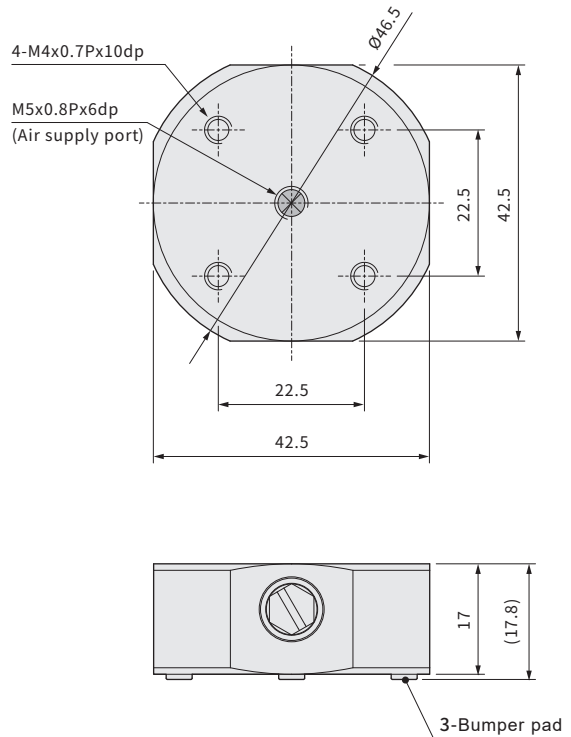
PS- 20-T Bumper pad type



PS- 40 Flat type



PS- 40-T Bumper pad type



PA

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PS

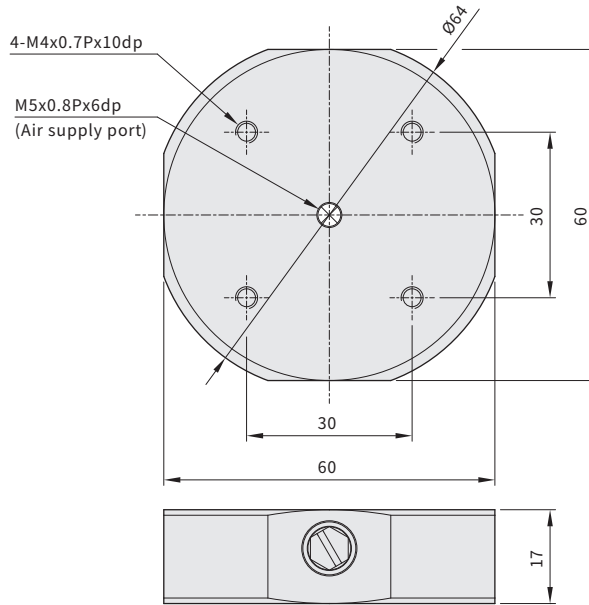
VP

PS series Non-contact Gripper

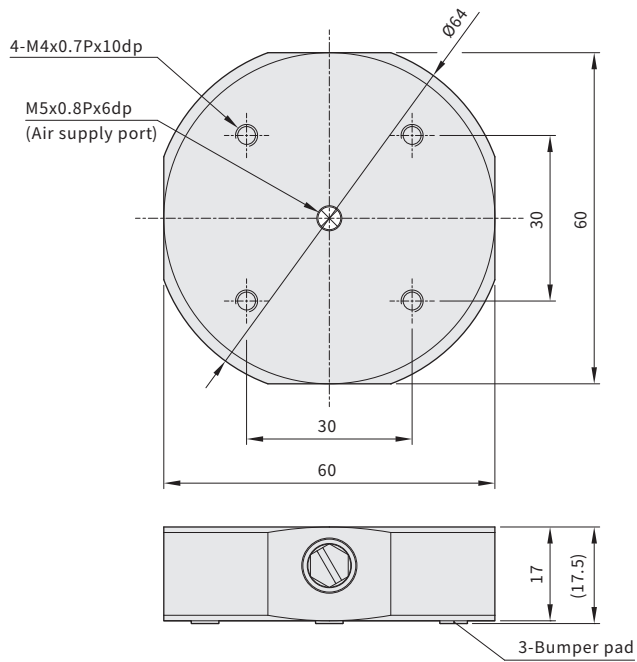
Dimensions

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PS-60 Flat type



PS-60-T Bumper pad type



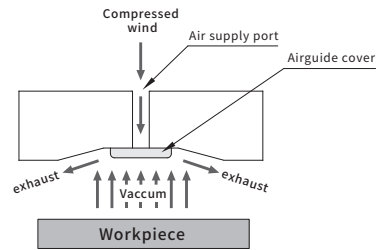
PS series Non-contact Gripper

Working principle/ Application example

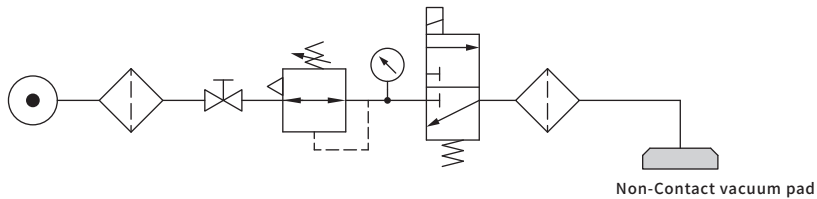
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Operating

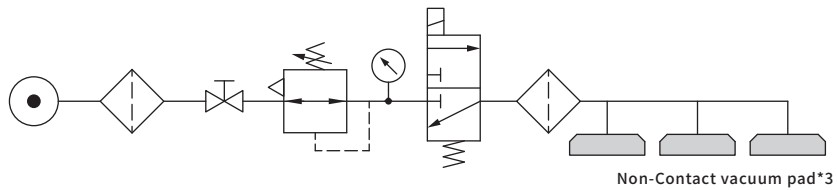
By compressing the wind from supply port and flow into gripper body, the air lead from body through cap to exhaust the wind between workpiece then create vacuum in the center to pick workpiece without touching; this operating called Bernoulli Type.



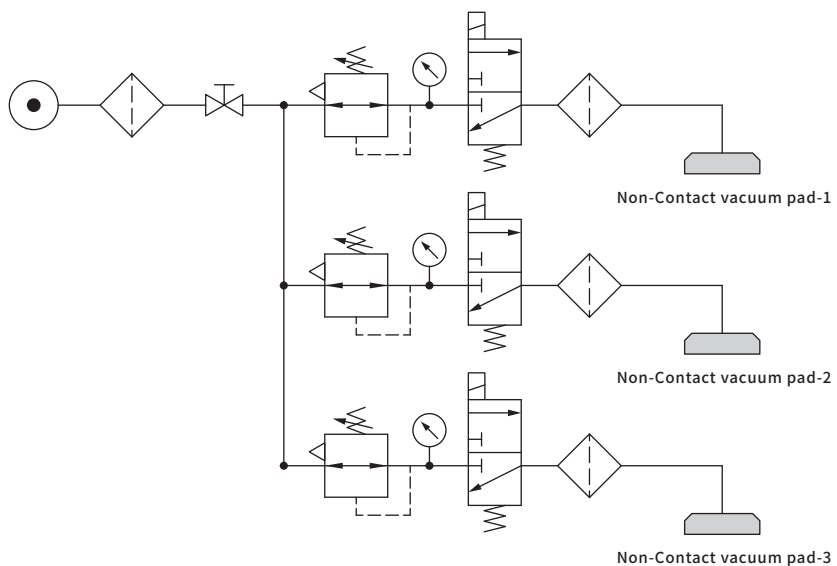
Selection examples-For small workpiece



Selection examples(series)-For large workpiece



Selection examples(parallel)-For small and many workpieces



※ Note: workpiece quantity should be considered with its weight and the air compressor working performance.

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Specific product precautions

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Precautions for Selections or determine the layout

- Should prevent non-contact gripper from huge impact and avoid applying in violent environment. Do not expose grippers at outdoors or under the corrosion chemical working environment.
- Determine the position of the non-contact gripper and taking account the balance of the workpiece.
- A fixture/jig application should be considered when using no bumper gripper so that to avoid workpiece slipping/falling during movement.
- The initial speed while starting should not be fast to avoid workpiece slipping.
- Using a non-contact gripper that area should less than the workpiece. If the area of the gripper bigger than the workpiece, a vacuum zone will not occur, so the lifting force will not be generated.
- The basic mounting direction of the gripper is horizontal. If the gripper is mounted obliquely or vertically, the lifting force and safety factor should be considered.
- Filter modularized is recommended and suggested to be setting before gripper to give clean air and making sure the flow rate stable.
- For the workpiece which is either thin, or has holes, or has concave/convex or soft workpiece, that the area of workpiece should be full acknowledged before using the grippers.

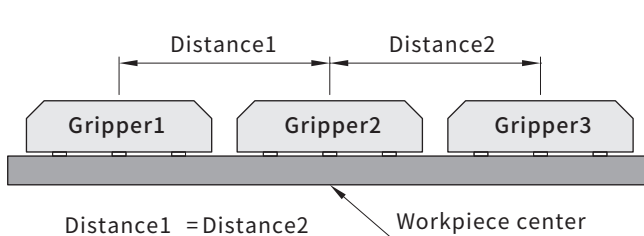


Fig.1

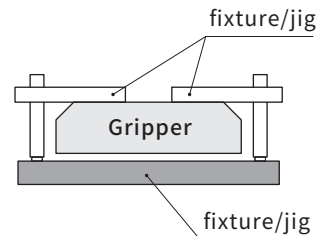


Fig.2

Area of workpiece < size of non-contact gripper



Area of workpiece > size of non-contact gripper



Fig.3

Precautions for assembly

- While setting grippers, the direction of air source should be along with gripper. Opposite the direction of air source is not applicable.
- The substance and tap seal are not allowed to be existed while setting the piping; Loctite liquid should not leak into gripper to cause non functioning or reducing the air flow rate.
- The piping (for connecting the gripper) should not exceed 1 meter or should not apply curly piping to reducing flow rate and causing low lifting.

Precautions for using

- While starting to use the non-contact gripper, please make sure the working pressure has reached to setting requirement.
- Please make sure all the electricity and air supply are shot-down before processing maintenance. It is to avoid injuring or product defective while disassembly the device.
- High chemical cleaner is not suggestible for cleaning. Only warm water with neutral and mild detergent with cotton paper for cleaning is applicable.
- After maintenance, please make sure all the parts/screws are in position and fixed before starting the air supply to non-contact grippers.