

Non-contact Gripper PSH Series

CHELIC[®]

Specifications: PSH-20T / 40T / 60T

Applicable



AUTOMATION



PACKING



PLASTIC INJECTION



MACHINE TOOLS

High lifting force. Energy Saving. Traceless adsorption.



Groove deflection double suction force

A vortex effect from groove deflects doubles suction power



Latch type of stopper design ensures a stable suction without detachment.

Can grip breathable material

Causes no scratch and is suitable for delicate surfaces.

Comes with a gasket for added stability

Increased pad power

Expand the vacuum area to boost the gripping force 2-3 times.

The single piston structure ensures high load resistance that to reduce friction situation.

Utilizes Bernoulli's principle to create a vacuum for residue-free lifting

Security upgrades

Optional stoppers to prevent work-piece falls, enhancing safety.

Gentle hanging and pad

Compatible with various sizes, materials, and workpieces, minimizing surface damage.

Enhanced adsorption area

Allows to work with uneven surfaces, such as electronics or breathable materials.

Efficiency and sustainability

Increases gas source utilization **by 2-3 times**

A 100% durable structure, recyclable material, energy-saving and eco-friendly.

Achieves non-contact handling of workpieces



Application Scenarios: glass sheets, display panels

This product series is designed for applications in industrial IoT systems.



PSH series Non-contact Gripper

Product features/ Code of order

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Feature

- No vacuum injector required: Positive pressure is utilized to create a vacuum between the workpiece and the suction pad by means of an appropriate structure and low pressure outflow, which in turn lifts the workpiece.
- Non-contact suction: This non-contact is due to the pressure between the gripper and workpieces.
- Convenience: The body contains screw holes for easy switching.




Specification

Item	Model	PSH 20	PSH 40	PSH 60
Fluid		Air		
Operating pressure	MPa	0.1 ~ 0.5		
Ambient and operating temperature	°C	5 ~ 60		
Piping port size		M5		
Air consumption	L/min	120	160	155
Lifting force	N	2.3	8.1	13
Weight	g	12	48	110
Body material		Aluminum alloy		

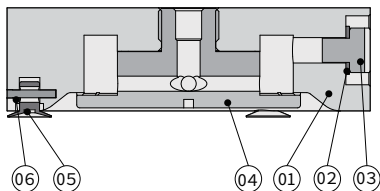
Code of order **PSH 20 - T**

— 1 — 2 —

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

2	Mark	With bumper pad
	None	No bumper pad
	T	

Internal structure



Components and material list

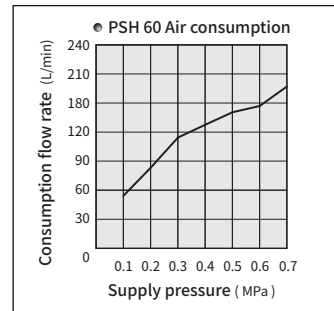
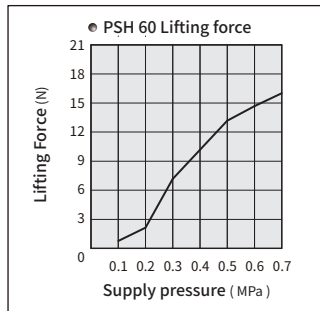
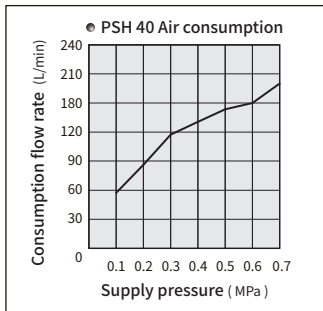
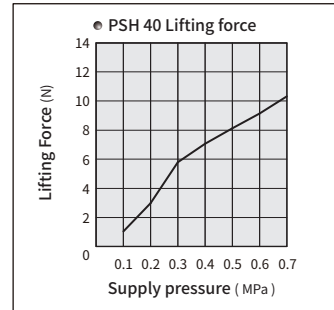
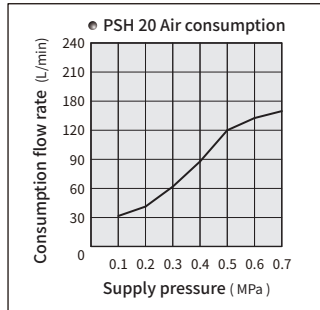
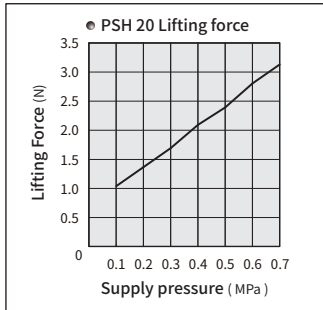
No.	Item	Material
01	Body	Aluminum alloy
02	Leakproof seal	Nylon
03	Plug screw	Carbon steel
04	Cover	Aluminum alloy
05	Rubber gasket	Rubber
06	Pin	Brass

PSH series Non-contact Gripper

Characteristic graph/ Dimensions

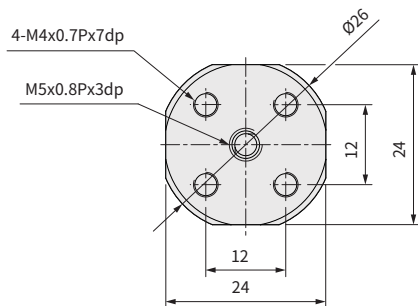
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Characteristic graph

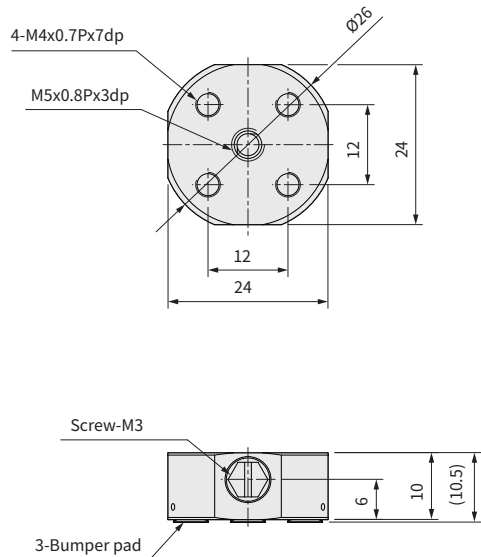


Dimensions

PSH 20 Flat type



PSH 20-T Bumper pad type



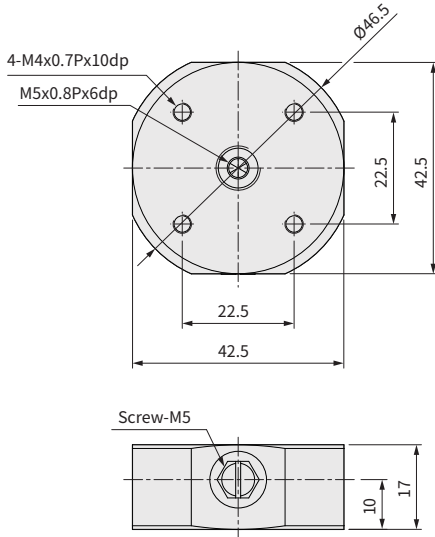
PSH series Non-contact Gripper

Dimensions

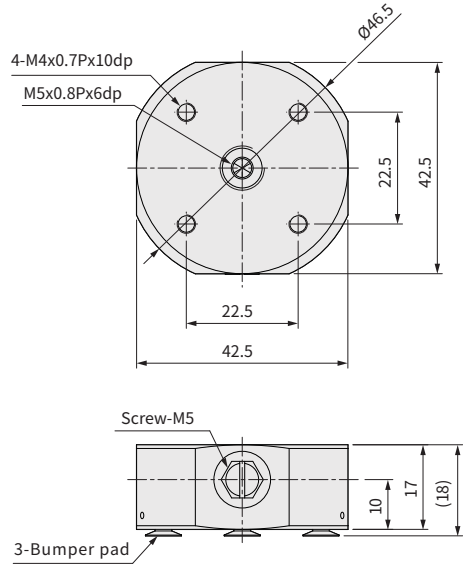
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Dimensions

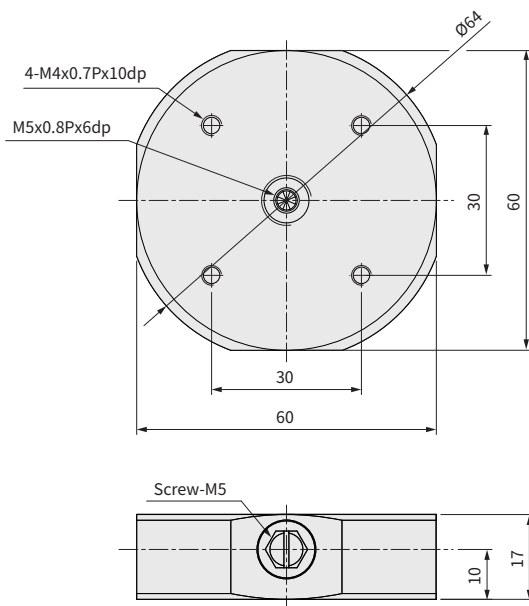
PSH 40 Flat type



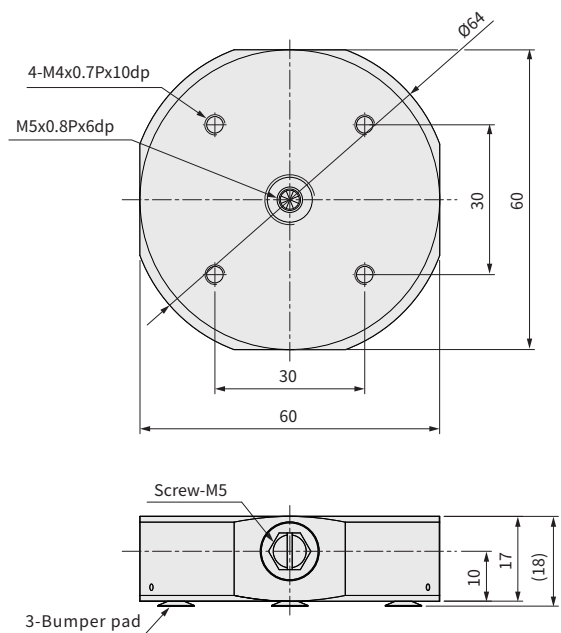
PSH 40 - T Bumper pad type



PSH 60 Flat type



PSH 60 - T Bumper pad type



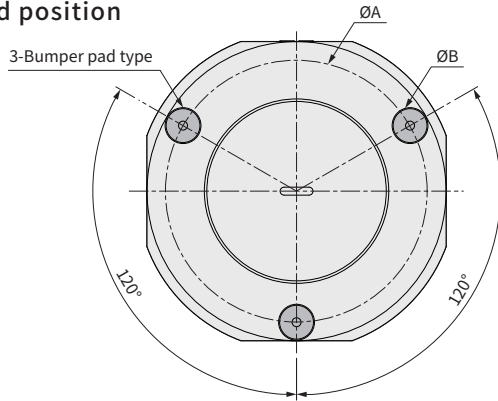
PSH series Non-contact Gripper

Dimensions/ Application example

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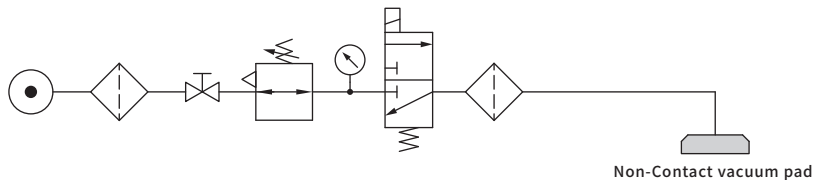
Dimensions

Bumper pad position

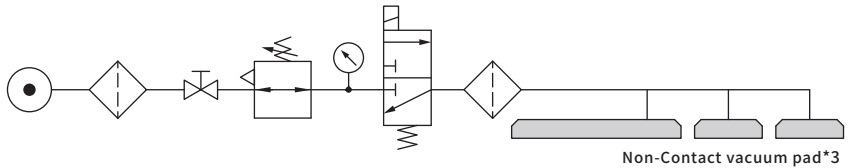


Mark	A	B
PSH-20-T	Ø19.8	Ø5.2
PSH-40-T	Ø36.6	Ø7.2
PSH-60-T	Ø52.5	

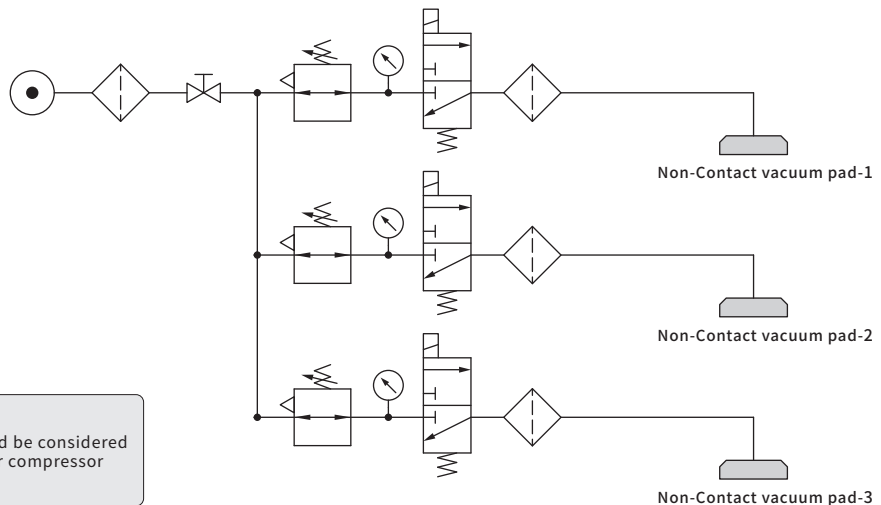
Selection examples-For small workpiece



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.

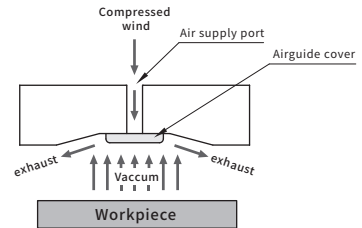
PSH series Non-contact Gripper

Working principle/ Specific product precautions

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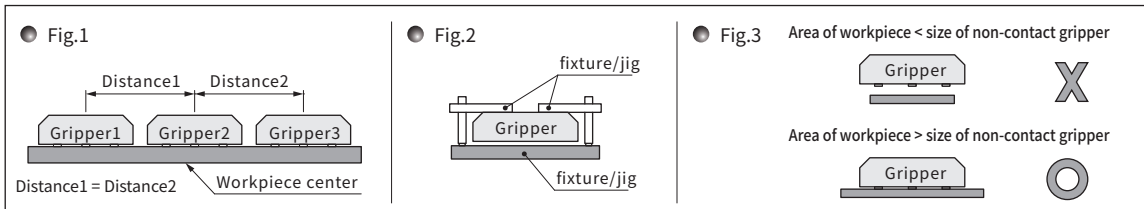
Operating

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.



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.



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.