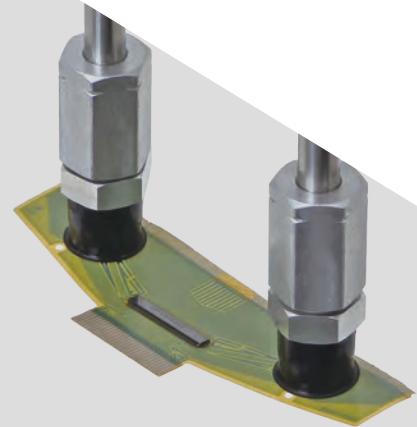


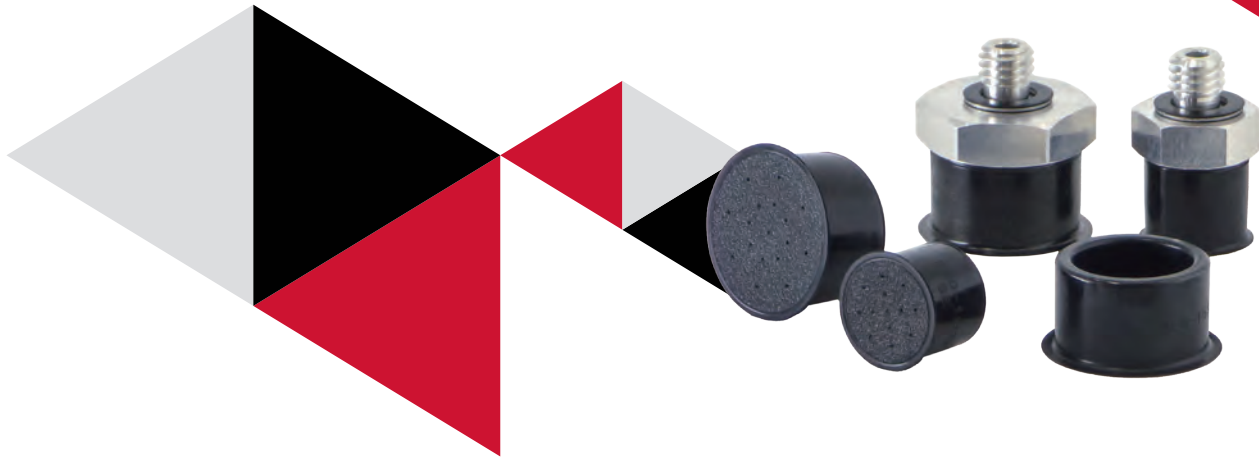
CONVUM

PE-S
series

Plastic Deformation Prevention Pad



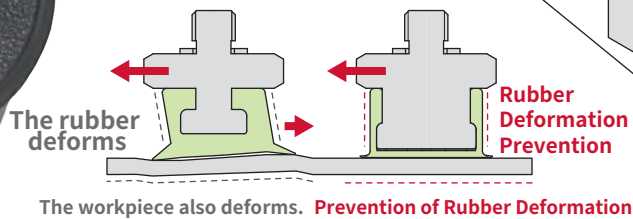
Plastic Deformation Prevention Pad **PE-S** series



Minimizes Suction Stress on Thin Workpieces.



By increasing the volume of the set screw, rubber deformation during vacuum handling is reduced, helping to prevent workpiece deformation.



Plastic Deformation Prevention Pad Suction Surface

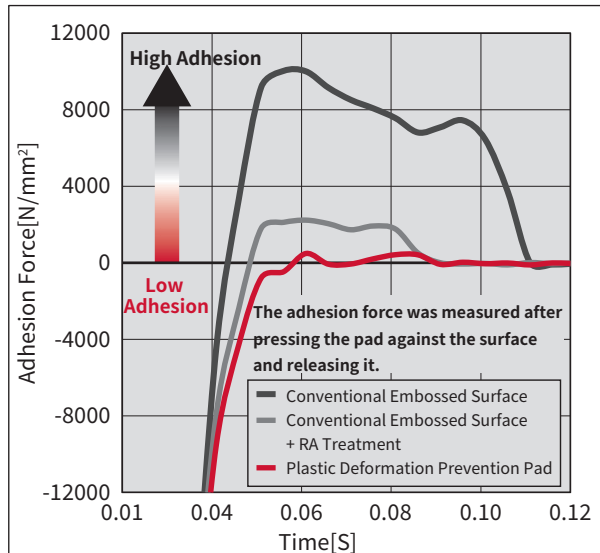
The suction surface features a coarser embossed texture than conventional pads, significantly reducing adhesion to the workpiece.

The embossed structure allows air to flow through the gaps, preventing deformation caused by flow channels (patterns).

The completely flat suction surface prevents stress on the pad lip, minimizing deformation.

By providing multiple ultra-small suction ports of 0.5 mm or less, deformation caused by the workpiece being pulled into the suction ports is prevented.

Adhesion Test Results



Comparison of Suction Marks

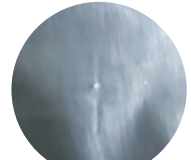
(Workpiece: Aluminum Foil, Thickness: 11 μ m, Vacuum Pressure: -90 kPa)



Conventional Product



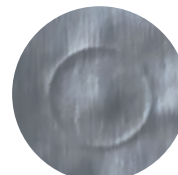
During Suction



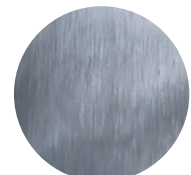
After Suction



Plastic Deformation Prevention Pad

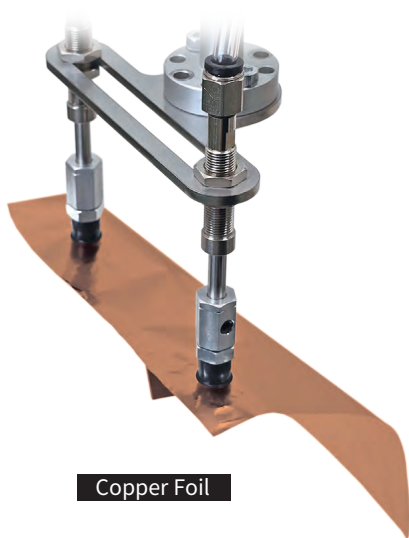


During Suction



After Suction

Note) The data are based on our test conditions and are provided for selection reference only. Prevention of workpiece plastic deformation and adhesion is not guaranteed.



Copper Foil



Polyimide Film



Flexible Printed Circuit Board (FPCB)

○ Metal Foil Suction

○ Metal Foil Suction

○ Flexible Printed Circuit (FPC) Suction

The pad is made of conductive rubber that dissipates static electricity.



Material Laser Mark Position

Pad Diameter



PEG-10S



PEG-15S

Two pad diameters are available.

Material Code	Material	Hardness	Color	Heat Resistance Temperature	Volume Resistivity ($\Omega \cdot \text{cm}$) (Note 1)	Siloxane	Ozone Resistance
SE	Conductive Silicone	A 55	Color: Black (Laser Mark: S E)	-70~250°C	$10^2 \sim 10^4$	Use ^{Note 2)}	○
NE	Conductive Nitrile Rubber	A 70	Color: Black (Laser Mark: N E)	-27~120°C	$10^2 \sim 10^3$	Not Used	×
FE	Conductive Fluoroelastomer	A 70	Color: Black (Laser Mark: F E)	-34~230°C	$10^4 \sim 10^7$	Not Used	○

Note 1) Volume resistivity is measured using a test piece. Surface resistance has not been measured.

Low-molecular-weight siloxanes that can cause contact failure during the secondary curing process are removed.

The snap-in fitting and retaining screw allow easy installation and removal.



Set Screw
TN-PE-15S-M5

Pad
PEG-15S-□



Pad with Set Screw
PE-15S-M5-□



Fixed Mounting Fitting
PFTK-15-K
PFYK-15-K

Buffer Mounting Fitting
NAPCTS-10-3/6/10/-K
NAPCYS-10-3/6/10/-K

Note) □ indicates the pad material.

Compatible with our pad fittings.

Model Number (Pad Rubber Only)

PEG - **10S** - **SE**

① ②

① Pad Diameter

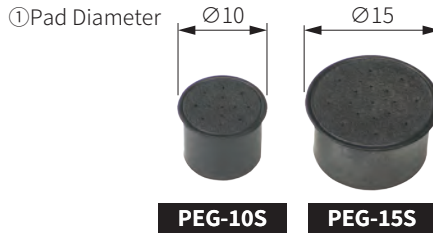
10S	Ø10mm
15S	Ø15mm

② Material

	Rubber Material	Hardness	Color	Heat Resistance Temperature ^{Note 1)}	Volume Resistivity ²⁾
SE	Conductive Silicone	A 55	Color: Black (Laser Mark : S E)	-70~250°C	10 ² ~ 10 ⁴ Ω·cm
NE	Conductive Nitrile Rubber	A 70	Color: Black (Laser Mark : N E)	-27~120°C	10 ² ~ 10 ³ Ω·cm
FE	Conductive Fluoroelastomer	A 70	Color: Black (Laser Mark : F E)	-34~230°C	10 ⁴ ~ 10 ⁷ Ω·cm

Note 1) At the maximum and minimum temperature limits, rubber properties may deteriorate significantly.
Be sure to conduct sufficient confirmation and evaluation before use.

Note 2) Volume resistivity is measured using test pieces.
Surface resistance has not been measured.

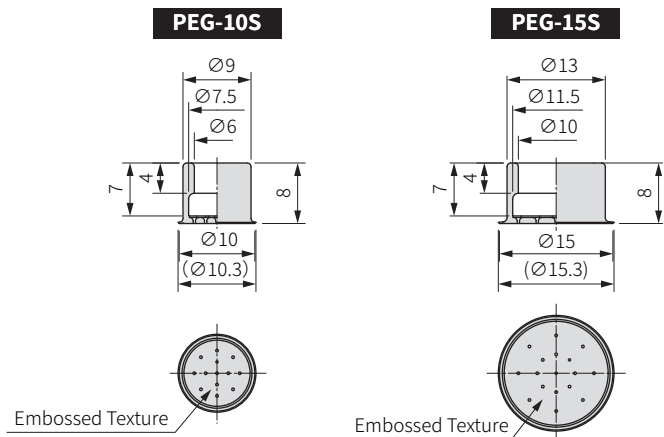


Material Laser Mark Position

Model Number List / Mass

CODE	Model Number	Mass
302600256	PEG-10S-NE	0.4g
302600257	PEG-10S-SE	0.4g
302600258	PEG-10S-FE	0.5g
302600259	PEG-15S-NE	0.6g
302600260	PEG-15S-SE	0.6g
302600261	PEG-15S-FE	0.9g

Dimensional Drawing



Model Number (Set Screw)

TN-PE- **10S** - **M5**

① ②

① Size (Applicable Models)

10S	PEG-10S
15S	PEG-15S

② Thread Size

M5	M5×0.8 Male Thread
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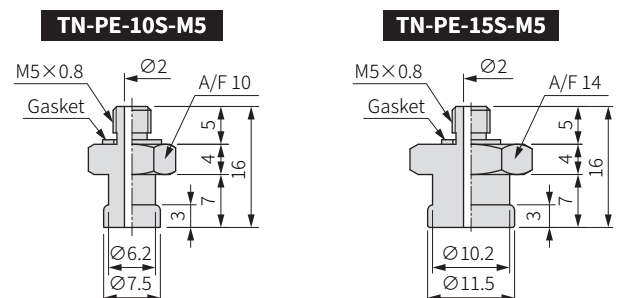
Material / Recommended Tightening Torque

Fitting Material	Aluminum Alloy
Surface Treatment	Zirconium Conversion Coating
Gasket	NBR / Steel
Recommended Tightening Torque	
M5	1.5 [N·m]

Model Number List / Mass

CODE	Model Number	Mass
318100394	TN-PE-10S-M5	1.9g
318100395	TN-PE-15S-M5	3.9g

Dimensional Drawing



Model Number (Pad with Set Screw)

PE- **10S** -M5- **SE**

①

②

③

① Pad Diameter

10S	Ø10mm
15S	Ø15mm



PE-10S-M5



PE-15S-M5

② Thread Size

M5	M5×0.8 Thread Size
----	--------------------

Note 2) Pads with set screws are supplied as assembled products consisting of the pad rubber only described above and a set screw.

③ Material

	Rubber Material	Hardness	Color	Heat Resistance Temperature ^{Note 1)}
SE	Conductive Silicone	A 55	Color: Black (Laser Mark : S E)	-70~250°C
NE	Conductive Nitrile Rubber	A 70	Color: Black (Laser Mark : N E)	-27~120°C
FE	Conductive Fluoroelastomer	A 70	Color: Black (Laser Mark : F E)	-34~230°C

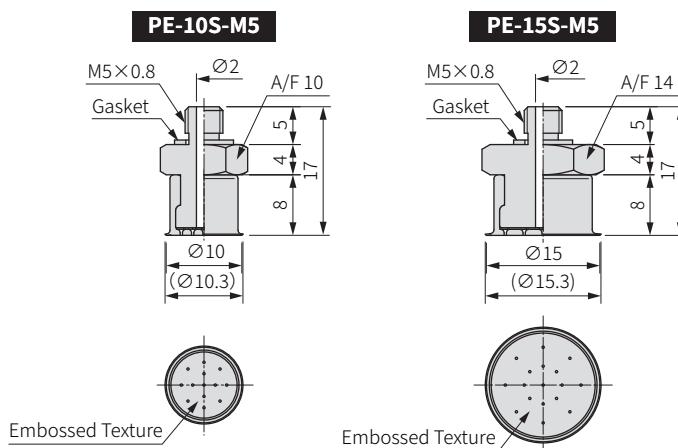
Note 1) At the maximum and minimum temperature limits, rubber properties may deteriorate significantly. Please perform sufficient verification and testing before use.

Scale(1/1)

Model Number List / Mass

CODE	Model Number	Mass
317300001	PE-10S-M5-NE	2.3g
317300002	PE-10S-M5-SE	2.3g
317300003	PE-10S-M5-FE	2.4g
317300004	PE-15S-M5-NE	4.5g
317300005	PE-15S-M5-SE	4.5g
317300006	PE-15S-M5-FE	4.8g

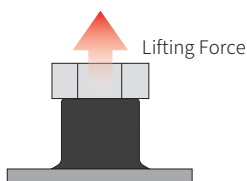
Dimensional Drawing



Lifting Force

Vacuum Pad	Maximum Lifting Force[N]				
	Vacuum Pressure[kPa]				
	-50	-60	-70	-80	-90
PEG-10S	3.4	4.2	5.5	6.3	7.0
PEG-15S	8.3	10	12	13	14

Note 3) The data shown are actual measured values obtained under our test conditions and are not specifications. Please use them as reference values for product selection and application. The lifting force is the maximum lifting force measured when a fixed flat plate is vacuum-held and pulled away. Please design with an appropriate safety factor. Actual performance may vary depending on the material and shape of the workpiece. Be sure to conduct testing with the actual equipment under your operating conditions.



Fixed Mounting Fitting

PFTK-15-K

①

① Vacuum Port Direction

T	Vertical
Y	Horizontal

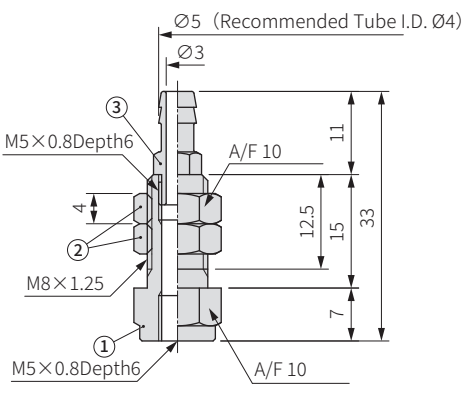


PFTK-15-K PFYK-15-K

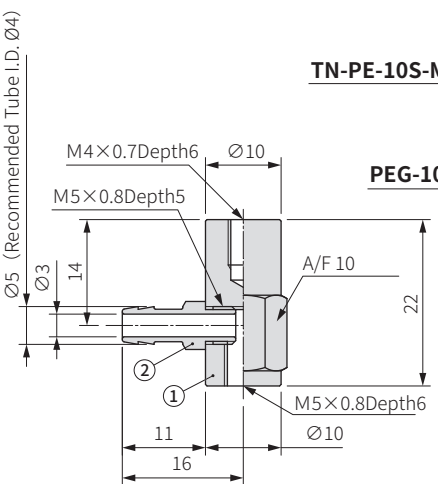
Model Number List and Mass

CODE	Model Number	Mass
318000023	PFTK-15-K	11g
318000029	PFYK-15-K	14g

Dimensional Drawing Scale (1/1)



PFTK-15-K



PFYK-15-K



Material Table

No.	Part Name	Material / Surface Treatment
①	Fitting	Brass / Nickel Plating
②	Nut	Brass / Nickel Plating
③	Barbed Fitting	Brass / Nickel Plating

Material Table

No.	Part Name	Material / Surface Treatment
①	Fitting	Brass / Nickel Plating
②	Barbed Fitting	Brass / Nickel Plating

NAPC T S-10- 3 -K

②

① Vacuum Port Direction

T	Vertical
Y	Horizontal

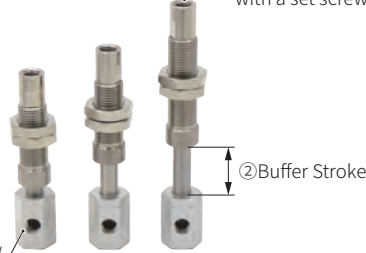
② Buffer Stroke

3	3mm
10	10mm
15	15mm

If ① is **T**, the flow passage is blocked with a set screw.

If ① is **Y**, it indicates the vacuum port.

If ① is **T**, it indicates the vacuum port.
If ① is **Y**, the flow passage is blocked with a set screw.



NAPC□S-10-□-K

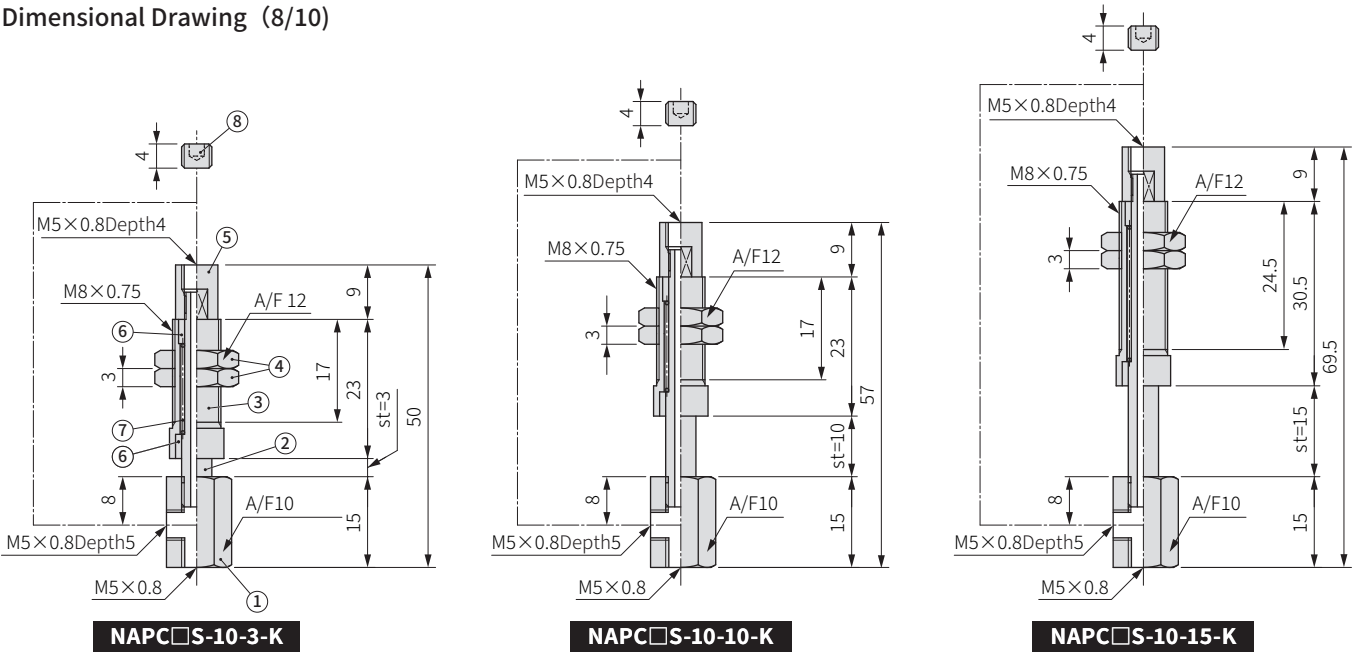
Model Number List and Mass

CODE	Model Number	Mass
318000054	NAPCTS-10-3-K	17g
318000055	NAPCTS-10-10-K	17g
318000056	NAPCTS-10-15-K	20g
318000419	NAPCYS-10-3-K	17g
318000076	NAPCYS-10-10-K	17g
318000077	NAPCYS-10-15-K	20g



Combination Example

Dimensional Drawing (8/10)



Material Table

No.	Part Name	Material / Surface Treatment	No.	Part Name	Material / Surface Treatment
①	Adapter	Aluminum Alloy / Zirconium Conversion Coating	⑤	Stopper	Brass / Nickel Plating
②	Shaft	Stainless Steel	⑥	Bearing	PTFE/Sintered Bronze / Steel
③	Mounting Bracket	Brass / Nickel Plating	⑦	Spring	Stainless Steel
④	Nut	Brass / Nickel Plating	⑧	Set Screw	Steel / Black Oxide Coating

Note) The material specifications are common to all sizes.

NAPCTH-10-3-K

① Vacuum Port Direction

T	Vertical
Y	Horizontal

② Buffer Stroke

3	3mm
10	10mm
15	15mm

Anti-Rotation Mechanism



The hexagonal shaft section prevents rotation.

If ① is T, it indicates the vacuum port.

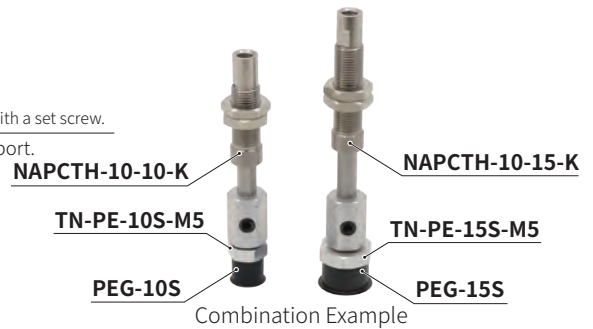
If ① is Y, the flow passage is blocked with a set screw.

If ① is T, the flow passage is blocked with a set screw.

If ① is Y, it indicates the vacuum port.

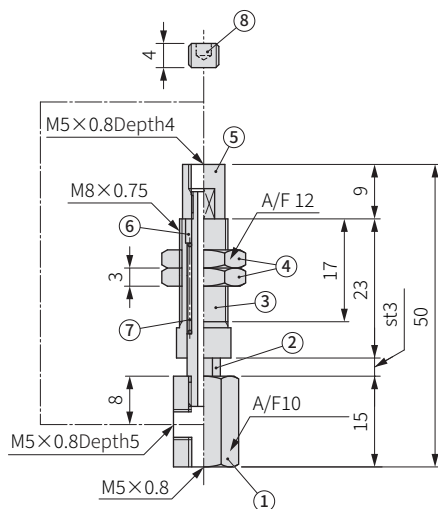
Model Number List and Mass

Model Number	Mass
NAPCTH-10-3-K	16g
NAPCTH-10-10-K	17g
NAPCTH-10-15-K	20g
NAPCYH-10-3-K	16g
NAPCYH-10-10-K	17g
NAPCYH-10-15-K	20g

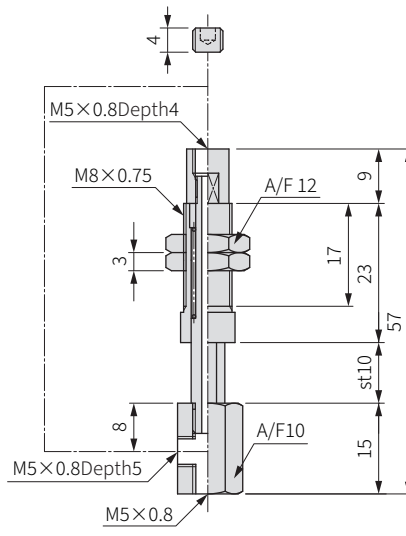


Combination Example

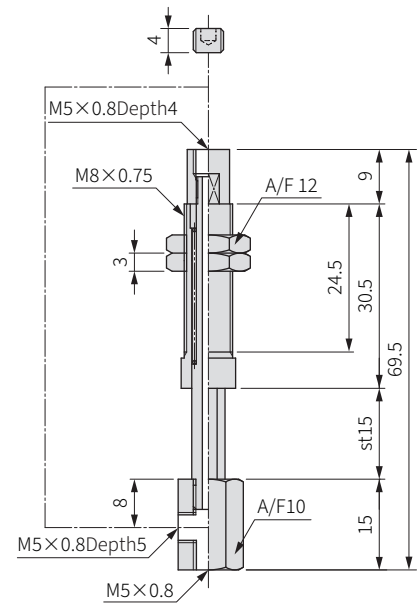
Dimensional Drawing (8/10)



NAPCTH-10-3-K



NAPCTH-10-10-K



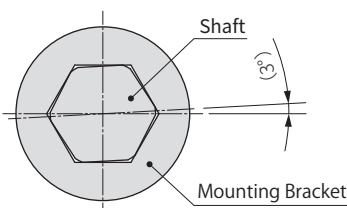
NAPCTH-10-15-K

Material Table

No.	Part Name	Material / Surface Treatment	No.	Part Name	Material / Surface Treatment
①	Adapter	Aluminum Alloy / Zirconium Conversion Coating	⑤	Stopper	Brass / Nickel Plating
②	Shaft	Stainless Steel	⑥	Bearing	PTFE/Sintered Bronze / Steel
③	Mounting Bracket	Brass / Nickel Plating	⑦	Spring	Stainless Steel
④	Nut	Brass / Nickel Plating	⑧	Set Screw	Steel / Black Oxide Coating

Note) The material specifications are common to all sizes.

Hex Section Clearance (Reference Value)



NAPCTH-10



Official website

Before use, be sure to read the "For Safe Use" section in this catalog, the "General Precautions" and "Common Precautions for CONVUM Products" in the General Catalog, as well as the Instruction Manual for this product.

<https://www.convum.co.jp/english/index.html>

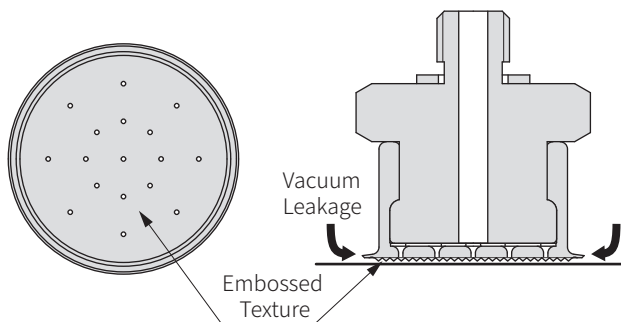
Vacuum Retention

⚠ Caution

A slight vacuum leakage may occur through the embossed texture on the suction surface.

Therefore, vacuum retention is not possible when the vacuum flow path is closed.

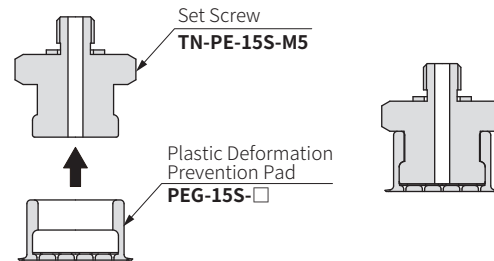
Use the pad while continuously applying vacuum.



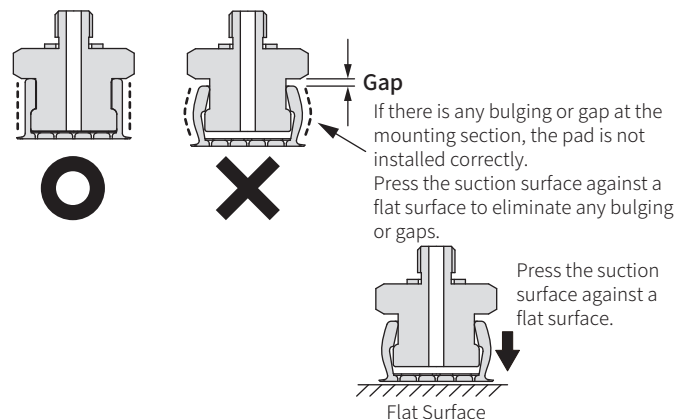
取付

⚠ Caution

If the pad is not securely attached to the set screw, it may come off during vacuum handling and cause the workpiece to fall. Please observe the following precautions.



⚠ Precaution Check the Mounting Condition



Safety Instructions

Be sure to read these precautions before use.

Also read and understand the safety instructions provided for each product series.

These safety instructions are intended to prevent personal injury and damage to equipment.
Potential hazards are classified using the labels[DANGER],[WARNING], and[CAUTION].
All of these notices are important and must be observed.

 **DANGER** DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** CAUTION indicates a hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.

Please also refer to JIS B 8370*¹ and ISO 4414*². Please comply with the Industrial Safety and Health Law, the High Pressure Gas Safety Act, and other applicable safety regulations.

* 1 JIS B 8370 : Pneumatic fluid power — General rules relating to systems.

* 2 ISO 4414 : Pneumatic fluid power — Recommendations for the application of equipment to transmission and control systems.

Even the matters described under [CAUTION] may result in serious consequences depending on the circumstances.

All of these notices are important and must be observed.

WARNING

● Vacuum and pneumatic equipment shall be selected properly.

The compatibility of the vacuum and pneumatic equipment is the responsibility of the person who designs the equipment or decides its specifications.

Since the products specified here are used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results.

The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product.

This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

● Only personnel with appropriate training should operate machinery and equipment.

Inappropriate usage or handling may cause injury, equipment damage or indirect damage.

Vacuum and pneumatic equipment is intended for industrial use. The assembly, operation and maintenance of machinery or equipment including our products must be performed by an operator who is appropriately trained and experienced.

● Do not operate or reinstall the equipment or machine without first performing a safety check.

• When inspecting or adjusting the equipment, make sure to take measures against the dropping or uncontrolled movements of the actuators.

• Before reinstallation, make sure to switch off power and compressed air supply.

• Before restart, make sure that no parts can break off.

● Use this pneumatic equipment only in accordance with the specifications.

Contact CONVUM when using it outside the specifications.

• Environments outside the specifications, like using in outdoor applications.

• nuclear energy, railways, airplanes, railway cars, ships, medical equipment, food or beverage processing equipment, pharmaceutical equipment, emergency, cutout and similar devices with security issues.

• All machinery which in case of wrong handling or operating might pose hazardous effects on human life or property.

Warranty and Disclaimer

1、Warranty

① If a failure occurs during the warranty period and is determined to be the responsibility of CONVUM, we will provide a replacement product or the necessary replacement parts free of charge, or repair the product free of charge.

② The warranty period for our products is one year from the start of operation or 18 months from the date of delivery, whichever comes first.

However, some products may have specified durability limits, such as operating cycles or sliding distance. For details, please contact our Customer Support Center.

③ The suction cup is a consumable component. Therefore, the one-year warranty period from the start of operation does not apply, and the warranty period is one year from the date of delivery.

However, deterioration of the rubber material or wear resulting from the use of the suction cup is not covered by the warranty, even during the warranty period.

2、Disclaimer

① The warranty does not apply in the following cases:

• Use outside the specifications stated in this catalog or other specification documents.

• Failures caused by factors other than this product.

• Failures or damage resulting from modifications or any other causes not attributable to CONVUM.

• Failures caused by factors that could not reasonably have been foreseen based on the state of technical knowledge at the time of delivery.

• Failures or damage caused by natural disasters, accidents, actions of third parties, intentional acts or negligence by the customer, or other force majeure events.

② This warranty applies only to the product itself and does not cover any indirect, incidental, or consequential damages resulting from product failure.

Specifications are subject to change without notice.

For operating instructions and precautions, refer to our catalog and instruction manual.

For delivery lead times, please contact our Customer Support Center.

CONVUM Ltd.

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TEL +81-3-5741-7201

Contact Information

<https://convum.com/contact>



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faq@convum.co.jp

2026.02.02