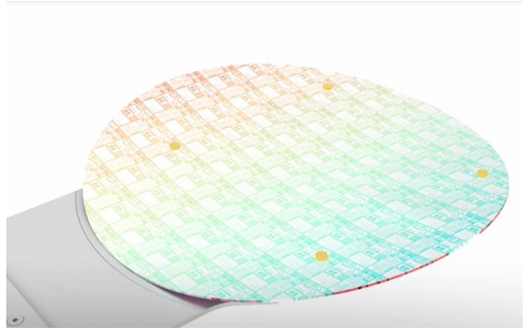
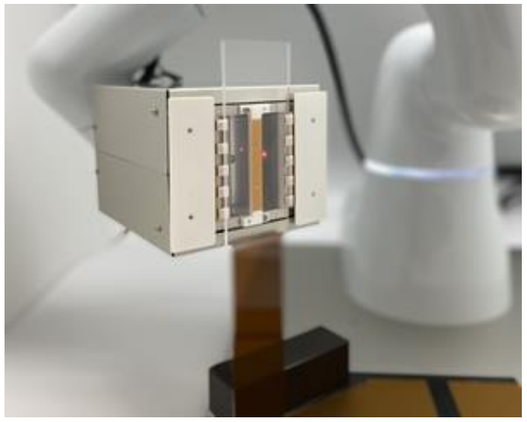
Product Examples

End Effector (Warped Wafer Transport Error Countermeasure)



Example Layout	Recommended Setup Thickness: 1.0 mm Quantity: 3 to 4 locations Shape: Circular or square
Material Composition	Arm Material: Ceramic or metal Ion Pad: Non-adhesive type
Adsorption Targets	Silicon wafers: High-speed / high-precision transport Warped SiC wafers: Countermeasure for transport errors
Operating Environment	Atmospheric to high vacuum

Glass/Film Transport



Example Layout	Size: 3 mm × 1.0 mm thickness (10 locations total)
Material Composition	Base: Stainless steel (SUS) Ion Pad: Adhesive type (soft type)
Adsorption Targets	Thin glass sheets, ultra-thin films, etc.
Operating Environment	Atmospheric

Contact for Ion Pad Inquiries

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Note: The contents of this catalog are subject to change without prior notice.
Photos and colors in this catalog may differ slightly due to printing.
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Precautions

Please follow our recommended usage and maintenance procedures.
Do not use for purposes other than the intended application.

For further details, please contact us.

CREATIVE TECHNOLOGY

Ion Pad

CREATIVE TECHNOLOGY

Ion Pad Technology

The Ion Pad consists of a specially coated resin layer and a base substrate. It is a tool that generates van der Waals forces (intermolecular forces) at the interface between the Ion Pad and the target object. In the semiconductor industry, improving the accuracy of warped wafer handling is a major challenge. Our Ion Pad enhances handling precision when implemented as an anti-slip pad on transport hands. Additionally, by adsorbing the wafer with minimal contact on its backside, it also serves as a particle control tool that prevents contamination caused by contact with the transport hand.

Features of Ion Pad

01 Ideal for Adsorbing Flat Workpieces

The dominant adsorption principle is Van der Waals force (intermolecular force). It is capable of adsorbing mirror-finished workpieces such as silicon wafers and display glass.

02 Usable in Vacuum Environments

The Ion Pad can be used in both atmospheric and vacuum environments. It has been widely adopted in semiconductor and FPD manufacturing processes, vacuum bonding, wafer transport, cleanrooms, and more.

03 Energy and Space Efficient

No external power supply or wiring is required, making it easy to integrate into existing equipment. It can also be used in combination with conventional transport methods, contributing to improved yield.

04 Reusable

Since no adhesive is used, the Ion Pad can be reused multiple times. If particles adhere to the surface, it can be cleaned with pure water or industrial alcohol and reused repeatedly.

Note: The photos shown are for illustrative purposes only.

Main Types

Ion Pads are available in two types:
- Adhesive Type with a smooth surface
- Non-Adhesive Type with a finely textured surface

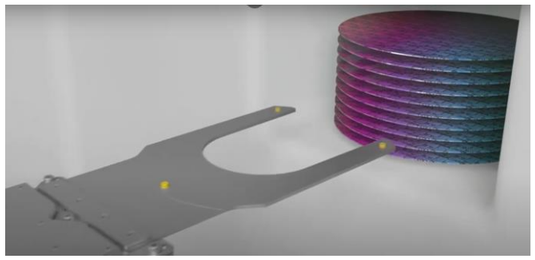
The adhesive type is mainly used for picking up glass or film, while the non-adhesive type is used as an anti-slip pad during transport. We offer optimal Ion Pad designs tailored to the target object, application, and environment.

Adhesive Type

The surface of the Ion Pad is mirror-finished, ensuring a large contact area with the workpiece, which generates adsorption force in both vertical and horizontal directions. It is suitable for applications such as glass and FPD bonding. Compared to vacuum adsorption, it significantly reduces noise and contributes to lower power consumption.

Non-Adhesive (Anti-Slip) Type

The surface of the Ion Pad is matte-finished, resulting in a smaller contact area with the workpiece and generating adsorption force only in the horizontal direction. Recently, it has been increasingly adopted to improve the transport accuracy of warped wafers. It is also compatible with rotational transfer operations and various stage orientations.



Specification

Type		Adhesive Type	Non-Adhesive (Non-Slip) Type
Gripping Surface	Material	Special resin coating	
	Thickness	0.1mm or 1.0mm ※Does not include backup film or base material	
	Rubber Hardness	Rubber Hardness 55° (Standard Model)	
Conditions of Use	Temperature	0℃ to 100℃	0℃ to 150℃
	Environment	Atmosphere, vacuum, and other gas atmospheres	
Structure