

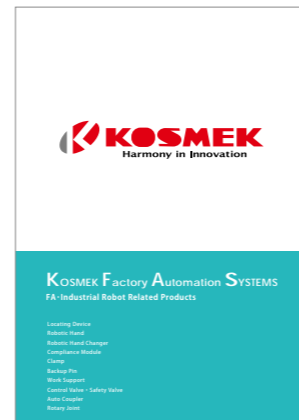
# FA • Industrial Robot Related Products Complete Catalog

Kosmek Products for Automation and Setup Improvement in Every Process

## FA • Industrial Robot Related Products

Products : Robotic Hand Changers, Pneumatic Robotic Hands, Clamps, High-Accuracy Locating / Setup Change Products, Auto Couplers and Supports

Catalog Request



**KOSMEK LTD.** <http://www.kosmek.com/>  
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CM009

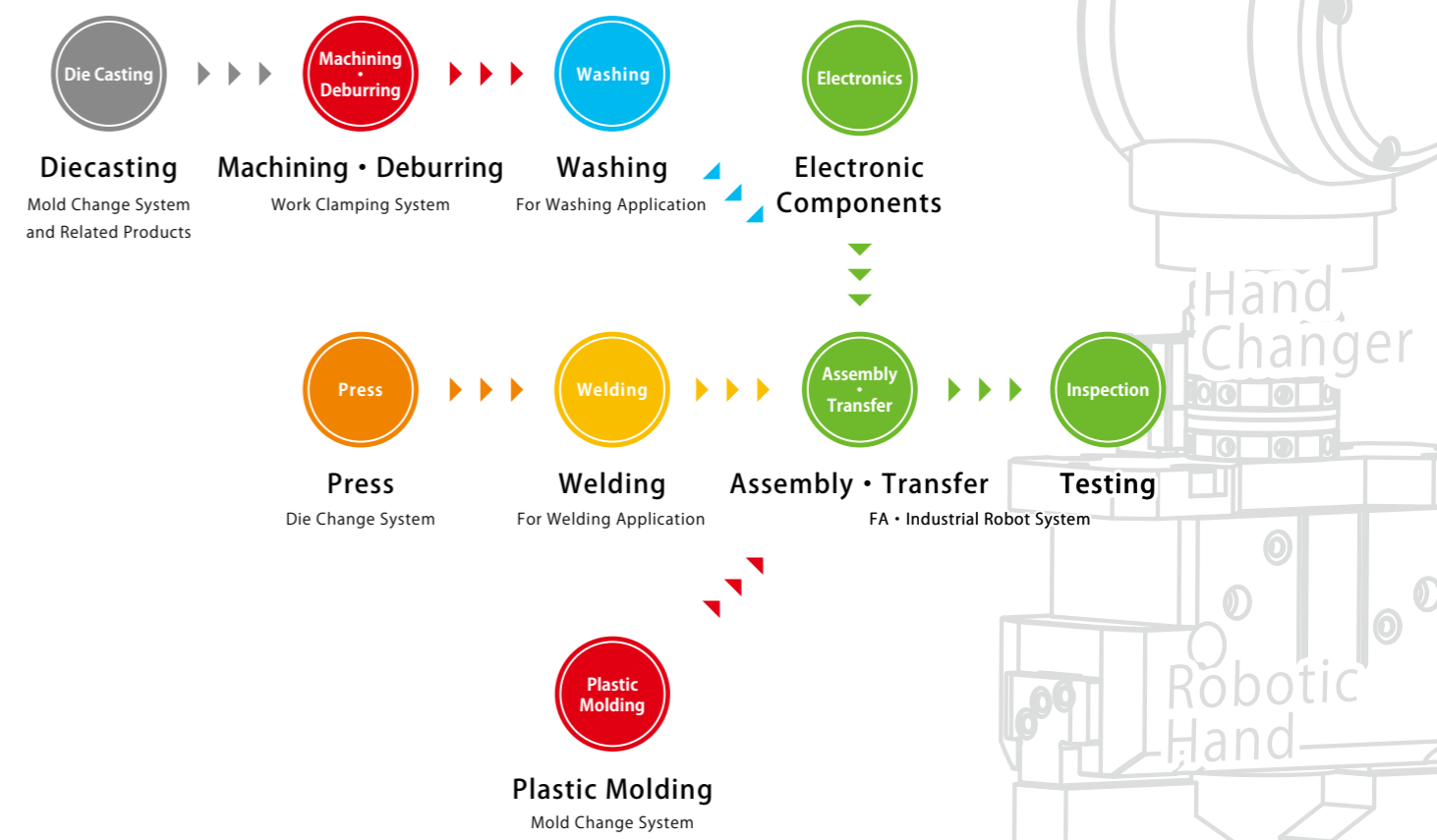
■ For Further Information on Unlisted Specifications and Sizes, Please call us.  
 ■ Specifications in this Leaflet are Subject to Change without Notice.

2022/02 First 0Ry

# Product Line-up – FA Series –

– March 2022 –

Introducing Kosmek FA • Industrial Robot Related Products & Products by Application



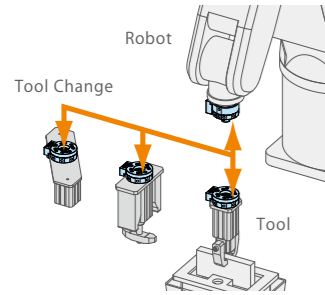
Kosmek Products for Automation and Setup Improvement in Every Process



# Introducing Kosmek New Products & Products by Application

## Tool Changing

For Robot Standardization



**NEW**  
Robotic Hand Changer  
Accessories for SWR  
model SWR / SWRZ / SWRA  
▶ P.5



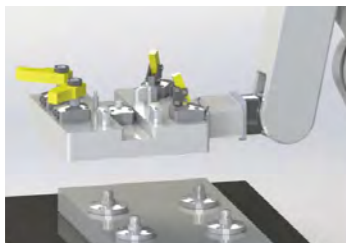
**NEW**  
Manual Robotic  
Hand Changer  
model SXR  
▶ P.3



**NEW**  
Robotic Hand Changer  
(Large Model)  
model SWL  
Refer to Kosmek Website.

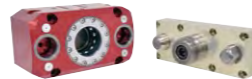
## Transferring • Clamping

For Pallet Transfer



**NEW**  
Hole Gripper  
model WKK  
▶ P.9

Internal Diameter Chucking Series

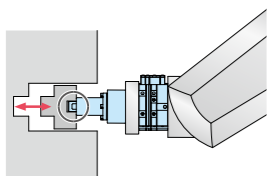


Pallet Gripper  
model WVA  
▶ P.25



High-Power  
Pull Stud Clamp  
model WPT  
▶ P.30

For Workpiece Transfer



FA Pneumatic  
Hole Clamp  
model WKH  
▶ P.10



High-Power Pneumatic  
Hole Clamp  
model SWE  
▶ P.10



**NEW**  
Locating  
Pin Clamp  
model SWP  
▶ P.10, P.15



Ball Lock  
Cylinder  
model WKA  
▶ P.29

External Chucking Series

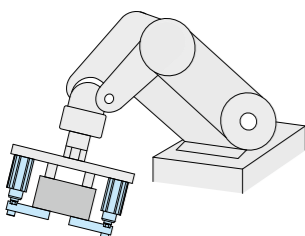


**NEW**  
Compact Parallel Robotic  
Hand Gripper with Dust Cover  
model WPB  
▶ P.11



Pneumatic Robotic Hands  
model WPA / WPE / WPF / WPH / WPJ / WPP / WPQ / WPS / WPW  
▶ P.11

For Workpiece Clamping and Transfer



**NEW**  
Pneumatic  
Swing Clamp  
model WHC  
▶ P.7



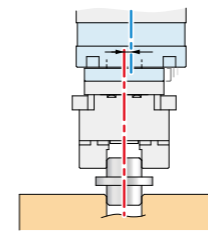
**NEW**  
Pneumatic  
Centering Vise  
model FWD  
▶ P.27



**NEW**  
High-Power  
Pneumatic Clamp  
model WHE/WCE  
▶ P.28

## Correcting

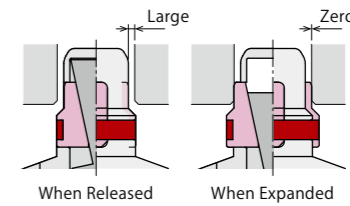
For Misalignment Correction



Compliance  
Module  
model WRC  
▶ P.33

## Locating

For both Locating Accuracy and Smooth Loading



Large Expansion  
Locating Pin  
model VWH  
▶ P.12

## Safety • Connecting • Air Pressure Maintaining



**NEW**  
Air Safety Valve  
model BWS  
▶ P.19



**NEW**  
Auto Coupler  
model JVA0100/JVB0100  
▶ P.17



Leakless Coupler  
model JWC/JWD  
▶ P.20



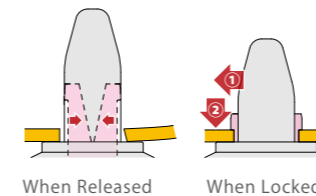
**NEW**  
Air Non-Leak Coupler  
model BWA/BWB  
▶ P.21



**NEW**  
Air Non-Leak Valve  
model BWQ  
▶ P.23

## Welding

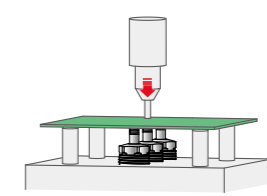
For both Locating and Clamping of Workpiece



**NEW**  
Locating  
Pin Clamp  
model SWP  
▶ P.15

## Supporting

For Chattering and Distortion Prevention



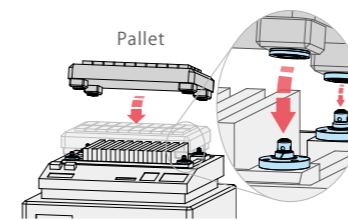
High-Power  
Pneumatic  
Work Support  
model WNC  
▶ P.32



Pneumatic  
Work Support  
[Rodless Hollow]  
model WNA  
▶ P.32

## Setup Changing

For High-Accuracy Locating and Clamping of Pallet



**NEW**  
High-Power Automation  
Pallet Clamp  
model WVG/WVGT  
▶ P.13



Pneumatic  
Location Clamp  
model SWQ/SWT  
▶ P.14

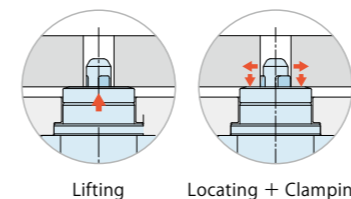


High-Power Pneumatic  
Pallet Clamp  
model WVS  
▶ P.14



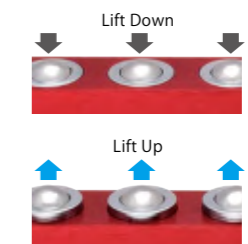
Screw Locator  
model VXF  
▶ P.14

For Locating and Clamping of Conveyor Transfer Pallet



Lifting Hole Clamp  
model SWJ  
▶ P.31

For Transferring Heavy Materials



Pneumatic  
Free Roller Lifter  
model RQC  
▶ P.34



NEW

### Manual Robotic Hand Changer

model **SXR**

Enables manual quick change of the end of arm tooling, it is best suitable to collaborative robots (cobots).

Line-up of Payload : 0.5~1 kg Model, 3~5kg Model, and Additional 7~10 kg Model.

## NEW Additional Line-up



model **SXR0070**  
7 ~ 10kg Payload



# Best Suitable to Collaborative Robot !

# Manual Quick Change



Push in the pusher to attach/detach a tool.



Attach the tool.



Completed.

\* It becomes the locked state with built-in spring when releasing the pushers.

### SXR Robot Installation Samples



Applicable Robot : CRX



Applicable Robot : COBOTTA



Applicable Robot : HC10DTP



Applicable Robot : ASSISTA



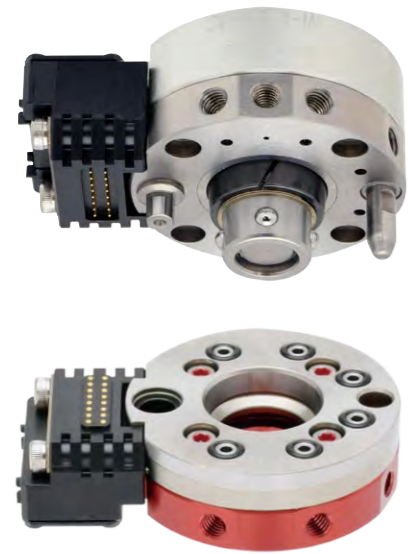
Applicable Robot : duAro



Applicable Robot : UR



Applicable Robot : TM ROBOT



Robotic Hand Changer  
**Robotic Hand Changer**  
 model **SWR**

Robotic Hand Changer enables standardization of robots.  
 Even more flexible to use with the new options:  
 Ethernet Electrode, Ground Electrode and Servo Electrode.

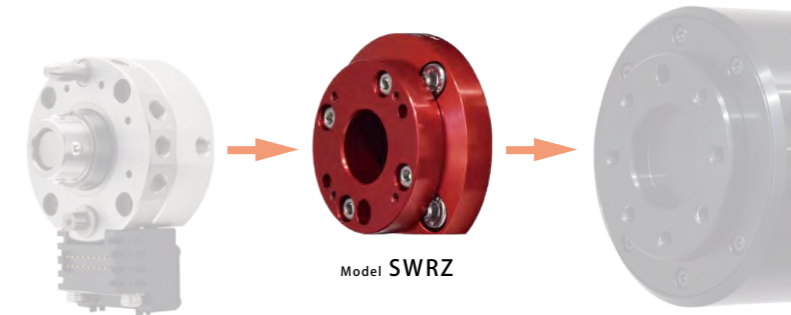
- HIGH Accuracy** Repeatability **0.003mm**
- HIGH Durability** Durability Test more than **2 Million Cycles**
- QUICK Delivery** With Completed Product Inventory **Immediately Delivered**

**LARGE Selection of Lineup** Payload from **0.5kg** up to **360kg**

**New Accessory for Quick Connect of Robot and Hand Changer**

**NEW**  
**Adapter Plate**  
 model **SWRZ**

Designing or making an adapter plate is not required.  
 Additional lineup: SWRZ-MF4 enables quick installation of the adapter plate to a robot flange with mounting pattern 4 which is adapted to many collaborative robots. Applicable to ISO Mounting Pattern.



**A Variety of Electrode and Air Joint Options**

- For connecting signal lines
- For noncontact connecting
- For using in a washing device
- For using under mist
- For connecting AC power
- For adding extra air ports



**New Accessory for Prevention of a Tool Fall**

**NEW**  
**Safety Push Valve** Fall Prevention Valve  
 model **SWRA**

Prevents a tool fall caused by operational error of a valve during robot teaching. Enables to limit SWR to release only at a designated position (stocker).



**NEW**  
**Ethernet Electrode**  
 model **SWR-L**

Applicable to 100BASE-TX with M12 D-code 4-pole connector.  
 New product to be released in Spring 2022.  
 Check our website for further information.



**NEW**  
**Servo Electrode**  
 model **SWR-F**

Various signals such as motor power, encoder control and torque, and shield cable for noise reduction can be connected together with one electrode. This option is available for SWR0250 and larger sizes.

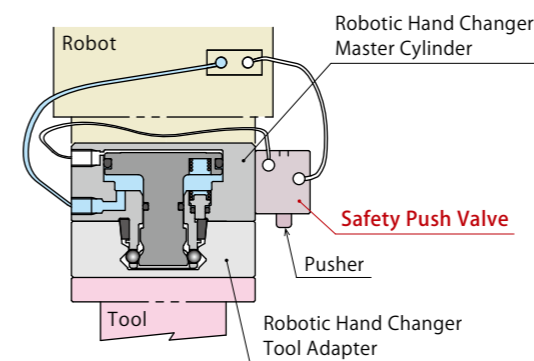


**NEW**  
**Ground Electrode**  
 model **SWR-T**

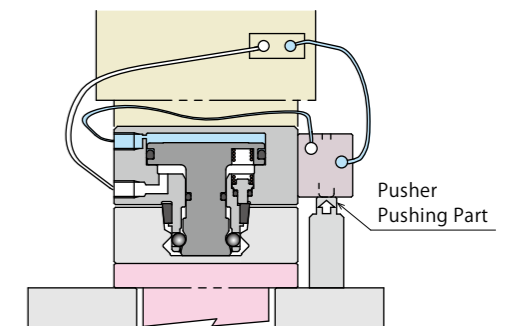
Ground Electrode is best suitable to arc welding robot. Its rated capacity is 500A (activity ratio 50%). This option is available for SWR0500 and larger sizes.



**Prevent a Tool Fall caused by Operational Error**



**Locked State**  
 During transfer, it will not be released even when the valve is switched.



**Release Enabled State**  
 Release operation is possible only at the tool stocker.



NEW

## Pneumatic Swing Clamp

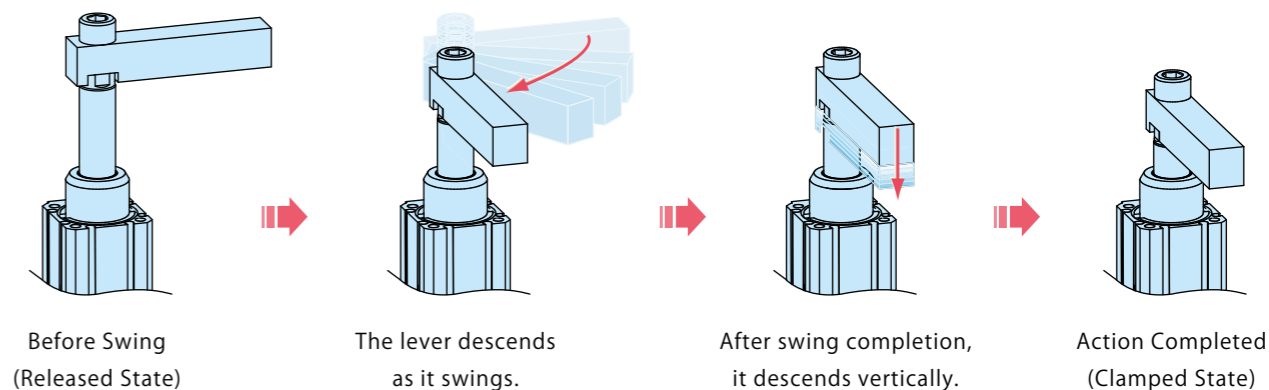
model **WHC**

High-durability, high-speed and high-accuracy compact pneumatic swing clamp. This clamp is coolant resistant, and can be used in various applications with the use of auto switch.

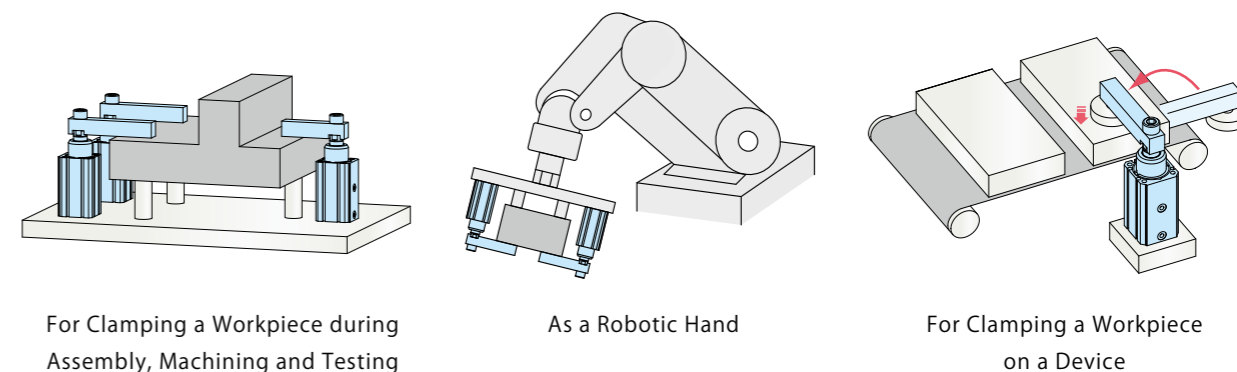
### High Rigidity, Long Operational Life and High Accuracy with Powerful Swing Mechanism

High Speed • High Rigidity •  $\pm 0.5^\circ$  Swing Angle Position Repeatability

#### Action Description

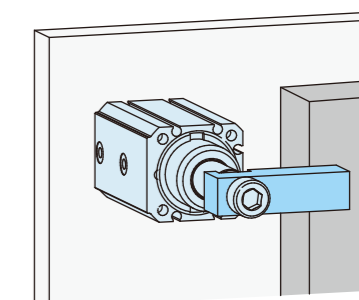
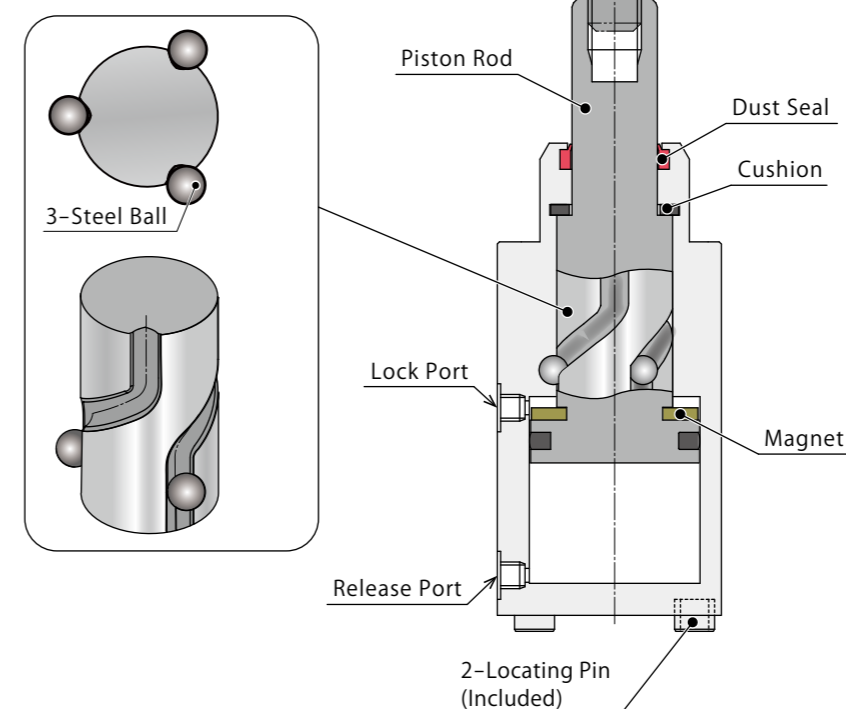


#### Application Examples



#### Cross Section

### Strong Body with Triple Guide



Wall mounting is also available.

※ Please make sure to check "Notes for Lever Design" on the product catalog.

### Coolant Resistant

### One of the World's Smallest Compact Body

※According to our research.

### High Accuracy • Long Operational Life

Strong swing mechanism with **3 steel ball** tracking. Allows for high-speed and long operational life. (Conducted in-house operation test 2 million times.) For creating high-lifespan, environmentally friendly facilities. Swing Complete Position Repeatability :  $\pm 0.5^\circ$  Swing Angle Accuracy :  $90 \pm 3^\circ$

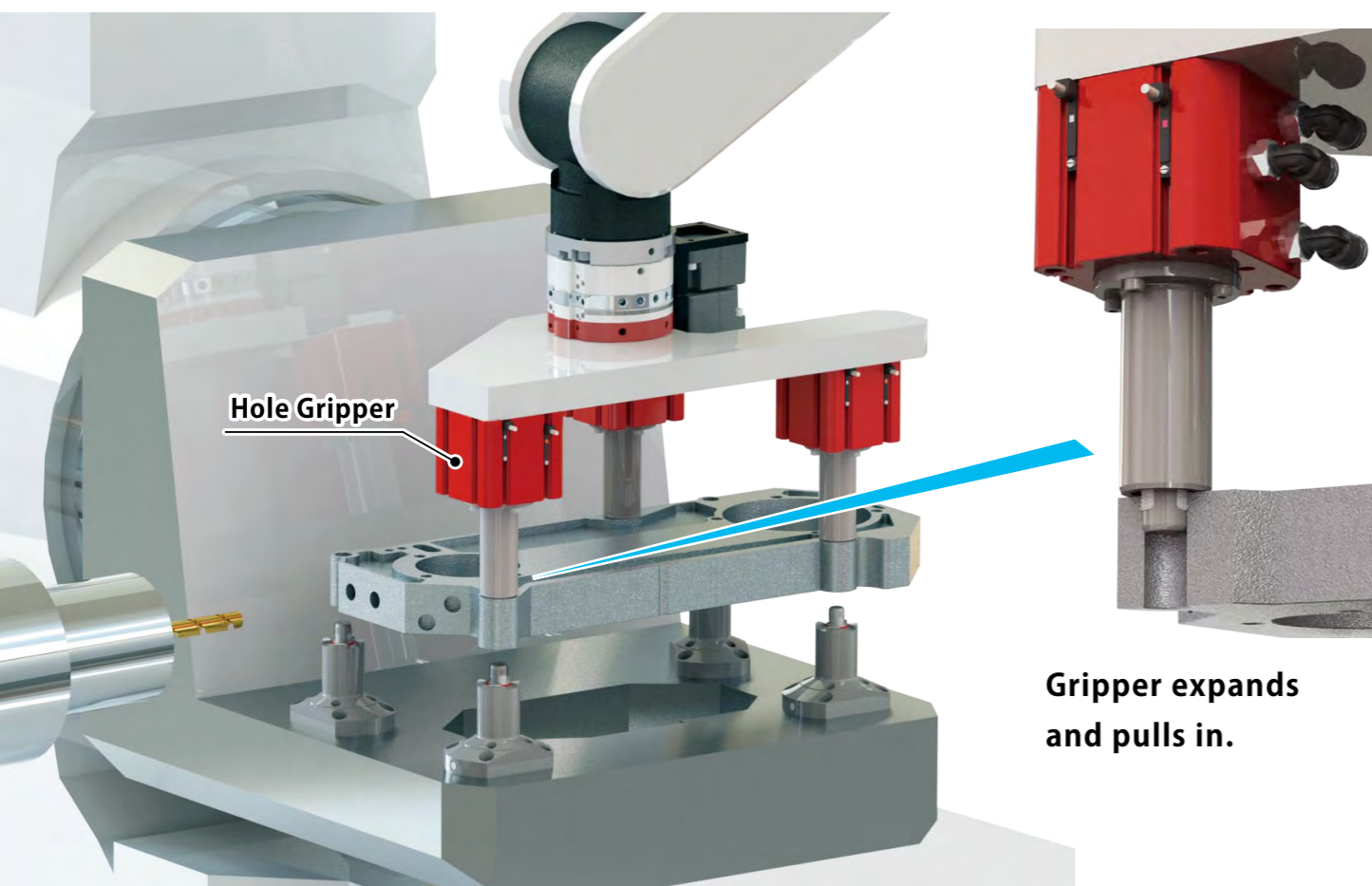




**NEW**  
**Hole Gripper**  
 model **WKK**

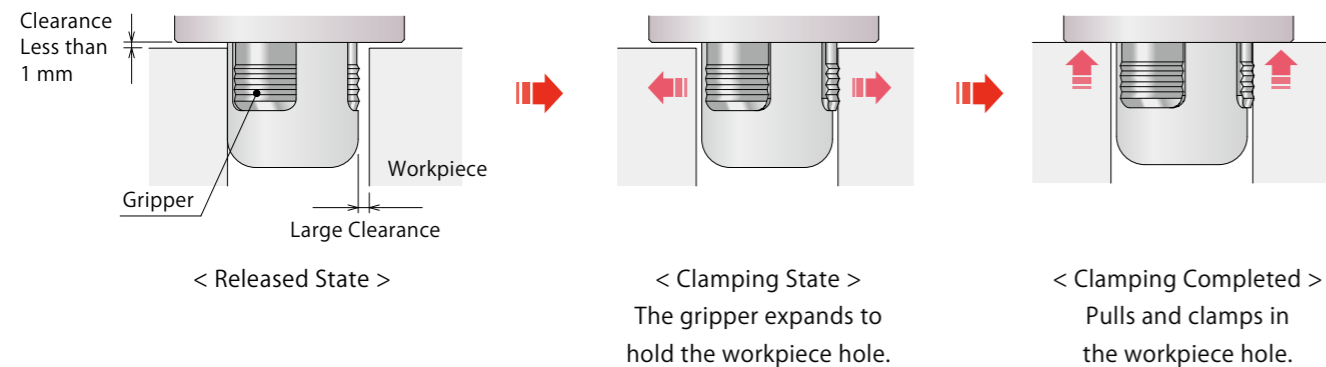
Transfers workpieces with I.D. gripping. Air blow function prevents cutting chips and coolant, allowing for transferring workpieces to and from various machining and die casting processes.  
 Action confirmation is available by using an auto switch.

- For transferring workpieces to and from various machining processes.



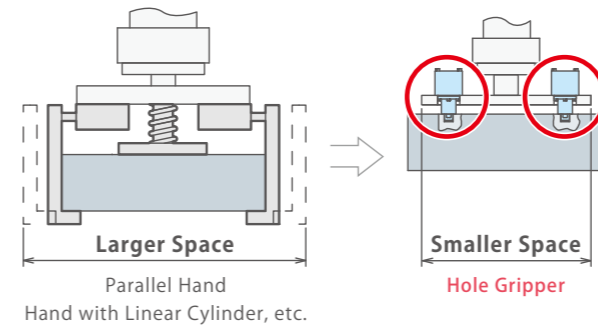
**Gripper expands and pulls in.**

**Action Description**



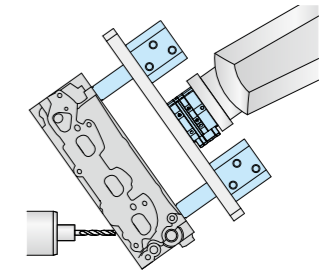
- Light Weight • Smaller Footprint

WKK makes a robotic hand compact so that the transfer hands can be lighter and more compact.



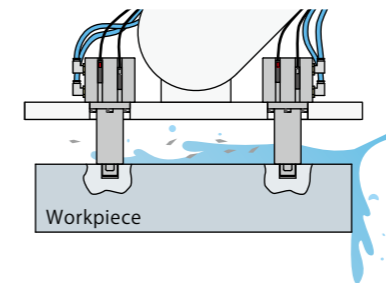
- Using Transfer Hand as Fixture

5 faces of a workpiece are accessible with no tooling interference. A robot can hold a workpiece and continue to the next processes such as deburring, washing, etc.



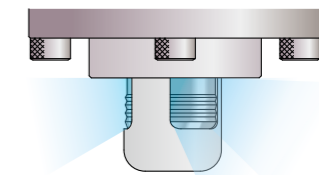
- Wide Range of Seating Surface Heights

The available seating height options allows auto switches and air piping to be protected from coolant and cutting fluid by adjusting the seating height accordingly.



- Air Blow Function Ensures Longevity Even in Machining Environments

By air purging from the inside, it prevents coolant from entering inside the hole gripper even with a little air flow.



**Robotic Hand I.D. Chucking Series**

A Wide Variety of Kosmek's I.D. Chucking Series.

Gripping a workpiece hole enables more compact and lighter robotic hands.  
 5 faces are accessible with no tooling interference. Able to integrate processes.

**FA Pneumatic Hole Clamp**

Clamps a workpiece by holding its hole.

Applicable Workpiece Hole Diameter :  
 $\phi 6 \sim \phi 14$  in 0.5mm increments  
 Locating Repeatability :  $30 \mu m$



model **WKH**

**High-Power Pneumatic Hole Clamp**

Available for use inside the machine.  
 Clamps a workpiece by holding its hole.

Applicable Workpiece Hole Diameter :  
 $\phi 6 \sim \phi 13$  in 0.5mm increments  
 Locating Repeatability : None



model **SWE**

**Locating Pin Clamp**

Clamps and locates a hole of a thin workpiece from above.

Applicable Workpiece Hole Diameter :  
 $\phi 8 \sim \phi 20$  (11 sizes)  
 Locating Repeatability :  $50 \mu m$



model **SWP**



## Pneumatic Robotic Hands

A variety of robotic hands are newly added to the lineup.

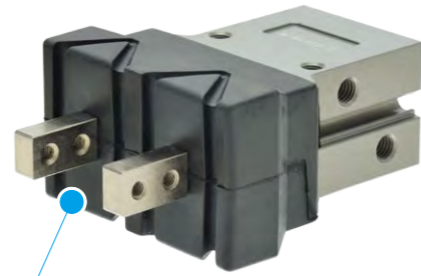
NEW

### Compact Parallel Robotic Hand Gripper with Dust Cover

model **WPB**

Robotic hand with a cover to prevent from contamination.

The dust cover is available in 3 different materials (Polychloroprene, Silicone Rubber and Fluor Rubber).



Available in 3 Different Materials

| Polychloroprene | Silicone Rubber | Fluor Rubber |



High-accuracy model (locating repeatability : 3 μm) is also available.



Model VWM

### Large Expansion Locating Pin

model **VWH**

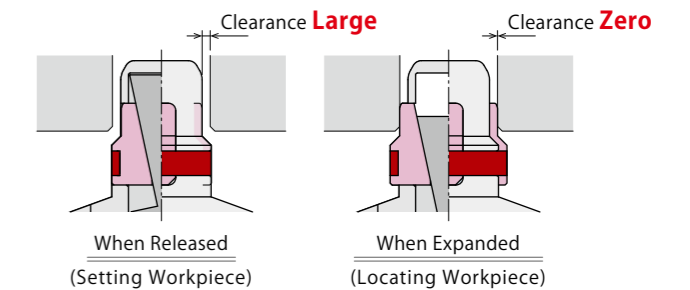
With expansion stroke 1mm longer than conventional models, the high accuracy expansion locating pin enables to automate loading/unloading process with robot.

Workpiece Hole Diameter : φ9 ~ φ15, Locating Repeatability : 10 μm

### Expansion Locating Pin enables High-Accuracy Locating.

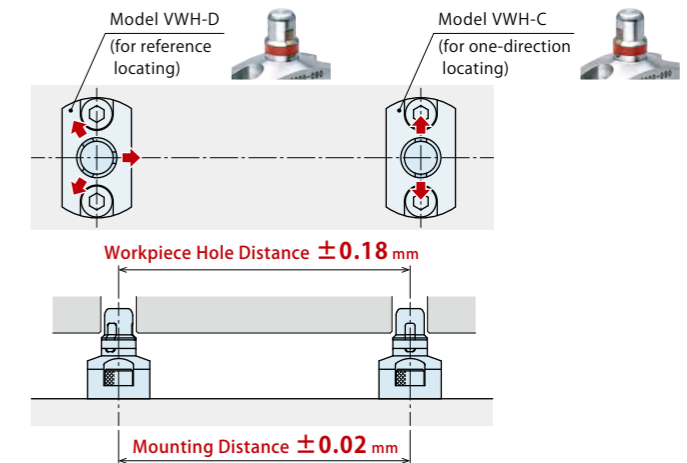
Enables both smooth loading and high-accuracy locating. KOSMEK expansion locating pin absorbs variations in machining reference holes and reference hole distance. This enables high-accuracy locating and stable automation.

### Expansion Stroke : 1.1mm



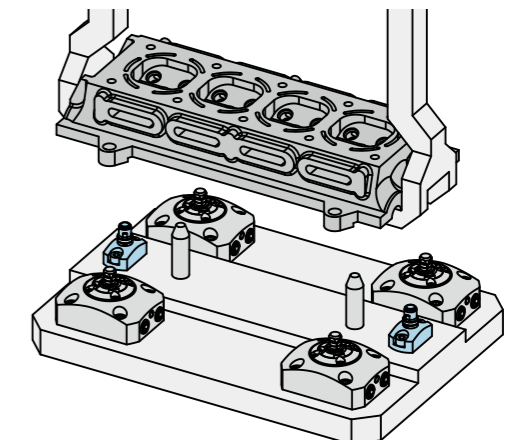
Ex.)

For a workpiece hole φ10<sup>+0.05</sup><sub>0</sub> mm, Mounting Distance of Expansion Locating Pin: ±0.02mm Allowable Workpiece Hole Distance Variance: within ±0.18mm



### Suitable for Automation including Robot Transfer

The large expansion model has a large clearance when released, capable of automation such as robot transfer, etc.



## External Chucking Series

### High-Power Parallel Gripper

2 Size Close : 94 ~ 133 N  
Holding Force : 287 ~ 400 N



Model WPS

### Compact Parallel Gripper

4 Size Close : 29 ~ 133 N  
Open : 39 ~ 158 N



Model WPA

### New Wide Angular Gripper

6 Size Close : 21 ~ 814 N



Model WPE

### New Parallel Gripper

5 Size Close : 28 ~ 302 N



Model WPF

### Compact Parallel Gripper

3 Size Close : 33 ~ 135 N



Model WPH

### New Angular Gripper

6 Size Close : 17 ~ 216 N



Model WPJ

### New Size Added Three-Jaw Chuck

7 Size Close : 187 ~ 3619 N  
Open : 211 ~ 3707 N



Model WPP

### New Size Added Two-Jaw Chuck

8 Size Close : 84 ~ 1589 N  
Open : 93 ~ 1746 N



Model WPQ

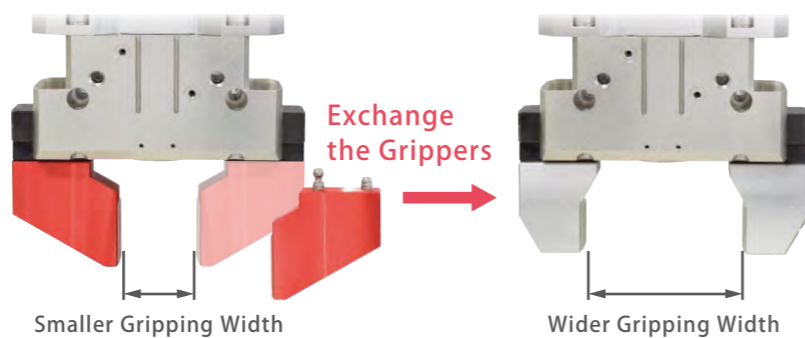
### Parallel Hand with Auto-Grip Changer

Setup change by exchanging grippers (levers) to handle a wider variety of workpieces.

2 Size Close : 829 ~ 1219 N



Model WPW





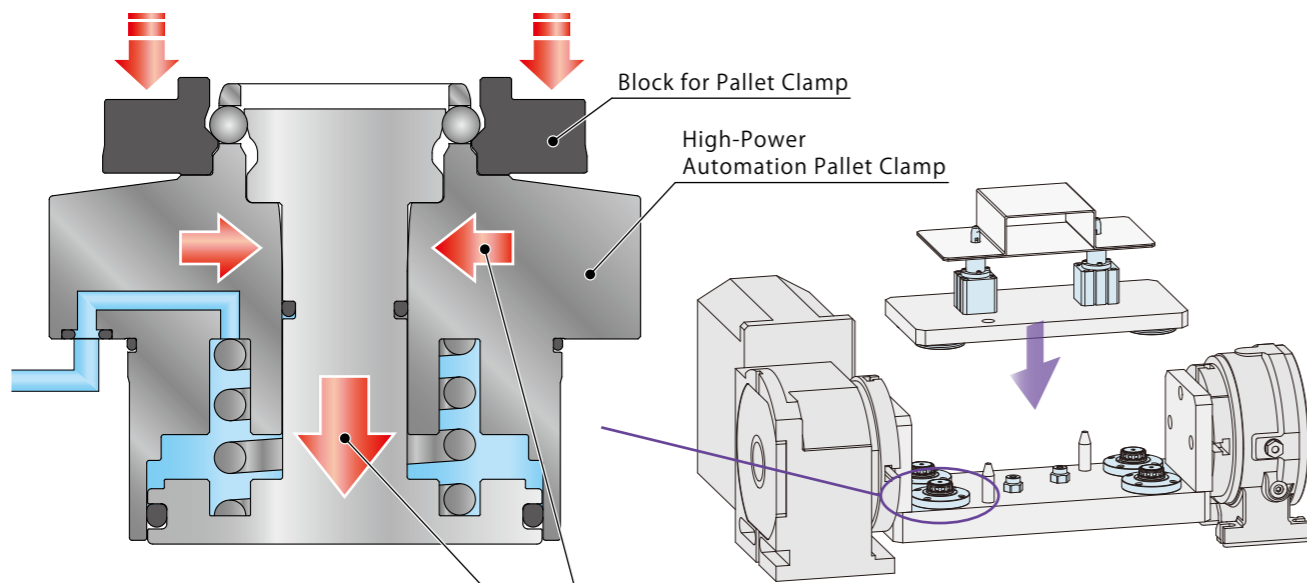
**NEW**  
High-Power  
Automation Pallet Clamp

model **WVG**

Locates and clamps simultaneously.  
Suitable for pallet transfer and fixture changeover with excellent loadability and safety function of powerful clamping force.

Available in three body sizes.

Clamping force is **4 kN / 6 kN / 10 kN**



Material of the product :  
Stainless Steel

Powerful holding with  
**Mechanical Lock**

※ Clamping force varies depending on operating pressure.  
※ This is a simplified drawing. Actual components are different.



**Sensor Attachment**

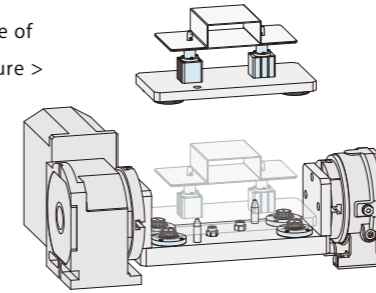
Model **WVGT**

Detects the lock action and the release action of the clamp with the use of an auto switch (prepared by customer).

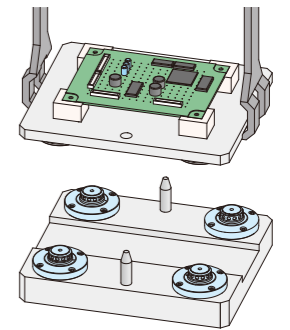
**Setup Improvement Enhances Productivity**

High-Power Automation Pallet Clamp locates and clamps simultaneously.  
Fixture changeover becomes faster and easier, and equal clamping force and locating accuracy are ensured.

< Setup Change of  
Welding Fixture >

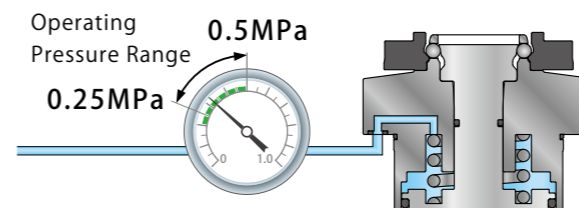


< Fixture Setup Change  
and Pallet Transfer of  
Automation Device >



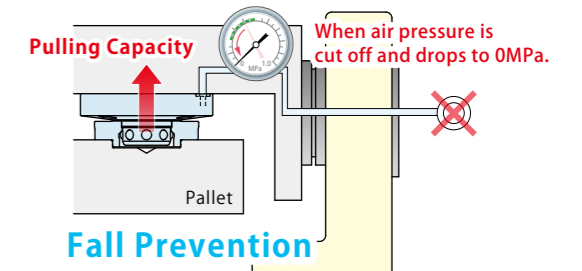
● **High Clamping Force (High Power)**

Powerful clamping force with  
KOSMEK exclusive mechanical locking.



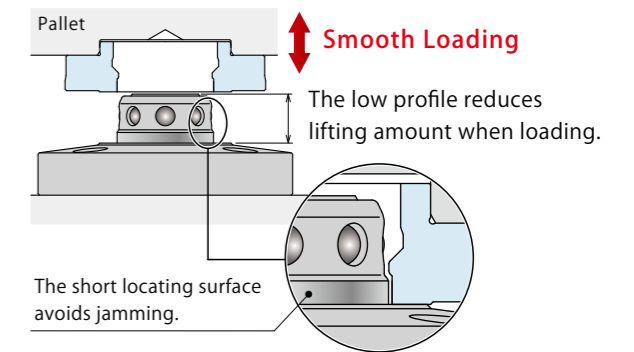
● **High Safety : Fall Prevention**

Mechanical locking is built in some steel ball parts.  
This enables powerful holding even when air pressure is at 0MPa. Powerful pulling capacity (holding force) prevents a pallet fall.



● **Smooth Loading**

The low profile of the clamping part reduces lifting amount when loading. Also, the short locating surface avoids jamming and enables smooth loading.



● **100% Stainless Steel**

**Location Clamp**

Enables simultaneous locating and clamping. Locating Repeatability : 3 μm

**Compact Air Location Clamp**  
Suitable for setup change of compact pallets and light fixtures.



**Air Location Clamp**  
Equipped with contamination preventing function.



**High-Power Pneumatic Pallet Clamp**  
High-power model to exert the force that is equal to our hydraulic model.



**Screw Locator Bolt-Tightening Manual Model**







The description video of Locating Pin Clamp is available on our website.



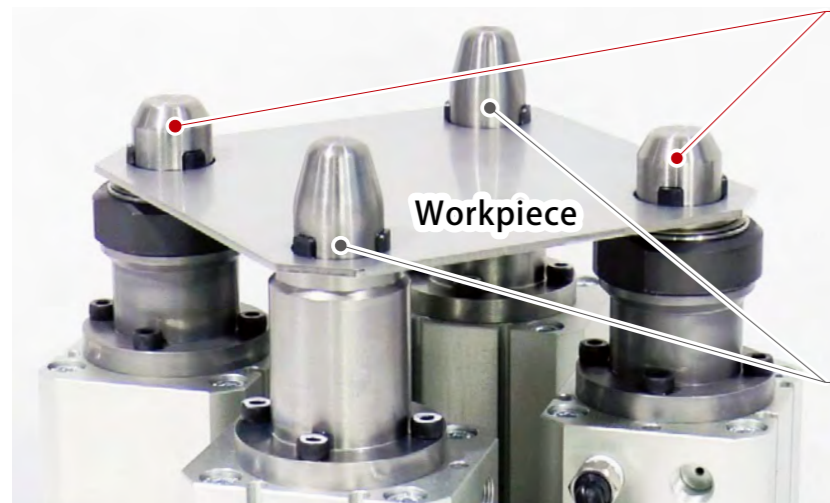
**NEW**  
Locating Pin Clamp  
model SWP

Allows for high-accuracy locating and clamping of thin workpieces. Suitable for automation of clamping of spot welding workpieces. Equipped with air blow function to prevent contamination. Action confirmation with auto switch is possible.

## Excellent for Automation, Prevents Machine Stops

Additional Lineup : Floating Model

- In case of locating with locating model and requiring clamping force. The floating model enables additional clamping force without interfering the locating model.



Locating Pin Clamp

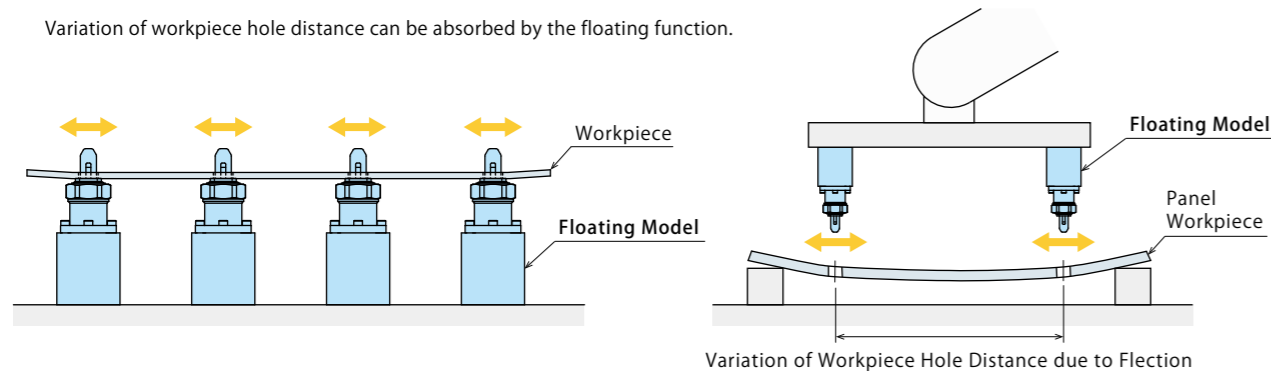
**NEW Floating Model**  
Pin Head Floating Amount  
SWP0501 : ±0.6mm  
SWP1001 : ±0.8mm

Locating Pin Clamp

**Locating Model**  
Locating Repeatability : 0.05mm

Application Example of Floating Model

- In case there is a large variation in workpiece hole distance due to warp or flection of a workpiece. Variation of workpiece hole distance can be absorbed by the floating function.



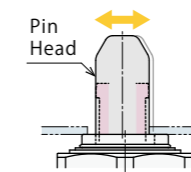
Action Description

**Release**  
Release Air ON  
Lock Air OFF



**Workpiece Loading / Unloading**  
Gripper is retracted. Workpiece loading is smooth due to an adequate space between the workpiece hole and pin.

In case of Floating Model (When Released)  
The pin head floats following a workpiece hole.



**Lock**  
Release Air OFF  
Lock Air ON



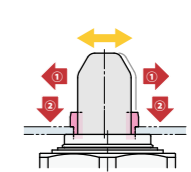
**① Expanding Action**  
Gripper expands. A workpiece is located by the locating part.



**② Locking Action**  
Gripper pulls in the workpiece after locating, and the clamping part pulls the workpiece onto the seating surface for locking.

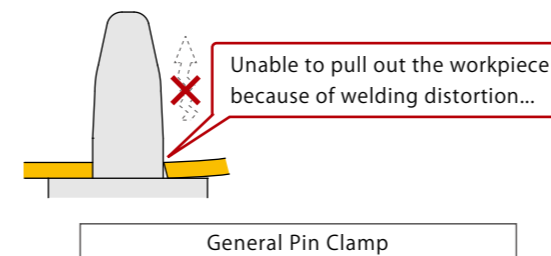
**Spatter Resistant**  
Non-clearance prevents spatter from entering.

In case of Floating Model (When Locked)  
The workpiece is locked with the pin head floating. (No locating function)

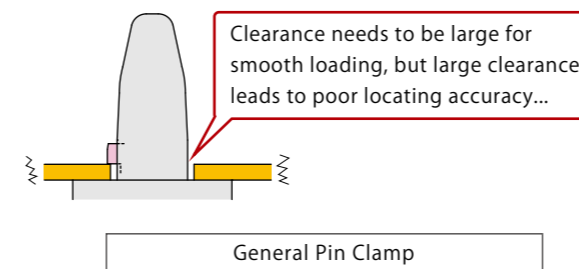


Features

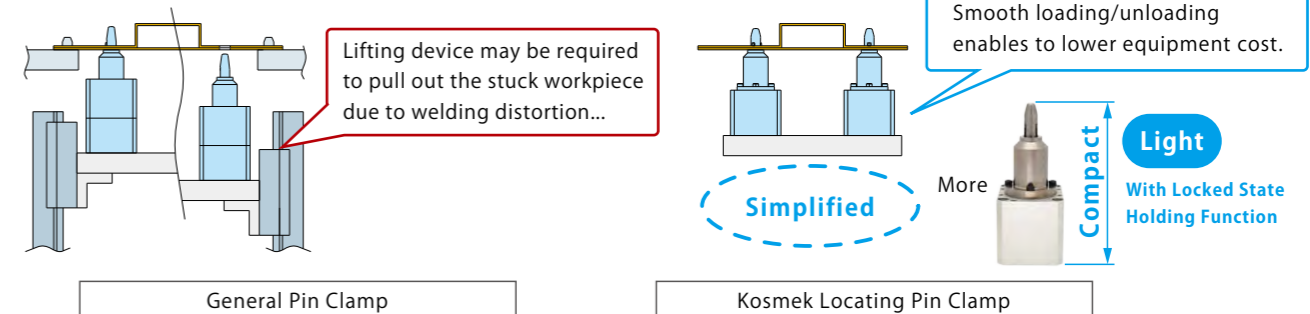
**Work Efficiency**



**Stable Clamping**



**Lower Fixture Cost**



**NEW**

### Auto Coupler Compact • for Air / Vacuum

model **JVA0100/JVB0100**

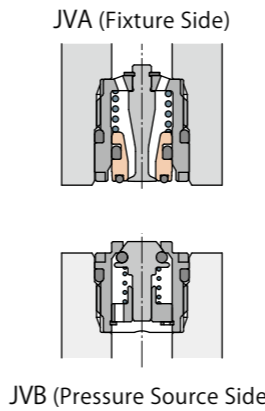


※ This is a full-scale photo.

The new auto coupler is **designed to be as compact as possible**, and maximizes passage area. Applicable to air (positive pressure) and vacuum (negative pressure). The body is made of 100% stainless steel, and the seals are made of fluorine rubber. Connection stroke is 1mm, and it is easily used with Screw Locator (model VXE/VXF) for quick change.

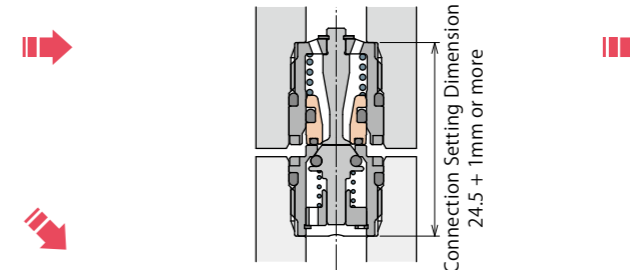
### Action Description

#### Disconnected State



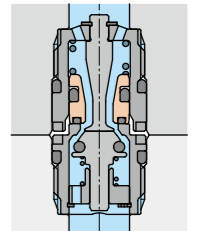
#### In the Process of Connecting (Pallet Setting)

① When Not Using with Screw Locator  
Reaction force is not generated at the distance of 1mm or further than the connection setting dimensions (24.5mm). Reaction force is generated at the distance of 1mm or less than the connection setting dimensions (24.5mm).

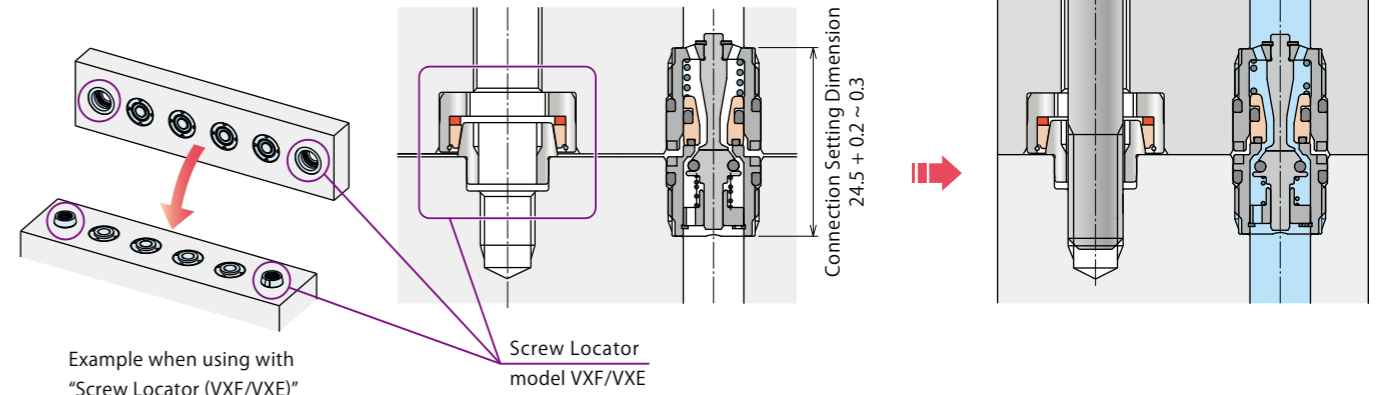


#### Connected State

The reaction force is generated by the built-in spring and the pressure of provided fluid.



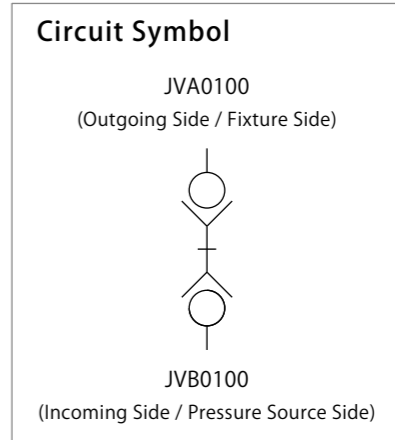
② When Using with Screw Locator (VXF/VXE)  
The reaction force (spring force) is generated when setting up the pallet because the stroke of "Screw Locator" is 0.2 ~ 0.3mm. If using a light pallet, it may be lifted up when tightening.



| Model No.                                    | Pressure Range | Usable Fluid | Comparison of Auto Coupler Connected Dimensions  |
|--|----------------|--------------|--|
| <b>NEW</b><br>Model <b>JVA0100/JVB0100</b>   | 1MPa or less   | Vacuum   Air | <p>Min. Passage Area : <b>8 mm<sup>2</sup></b></p> <p>Base: JVB0100, Pallet: JVA0100</p> <p>Dimensions: 10.5, 3.5, 10.5, 2, <math>\phi 12.5</math></p> <p><b>Secured Passage Area</b><br/>Equal to Air Hose I.D. <math>\phi 3.2</math></p> <p>In case of the min. depth of the mounting hole.</p> <p><b>Minimum Size</b><br/>Moreover, soft seal is provided for the pressure source side.<br/>Air Leak Prevention &amp; Energy Saving</p> <p><b>Largest Mounting Hole Depth</b><br/>(Base and Pallet are touching.)</p> |
|  |                |              | <p>Min. Passage Area : <b>5 mm<sup>2</sup></b></p> <p>Base: JTB0100-H, Pallet: JTA0100-H</p> <p>Dimensions: 12.5, 9.5, 12.5, <math>\phi 16</math></p>  |
| Conventional Model<br>Model <b>JTA / JTB</b> | 1MPa or less   | Air          |  |

### Specifications ※ Refer to the catalog for detailed specifications.

| Model No.                     | Fixture Side       |            | Pressure Source Side    |  |
|-------------------------------|--------------------|------------|-------------------------|--|
|                               | JVA0100-H          |            | JVB0100-H               |  |
| Max. Operating Pressure       | MPa                | 1.0        |                         |  |
| Min. Passage Area             | mm <sup>2</sup>    | 8          |                         |  |
| Offset Distance (Tolerance)   | mm                 | $\pm 0.5$  |                         |  |
| Angular Deviation (Tolerance) | DEG.               | 0.3        |                         |  |
| Operating Temperature         | °C                 | 0 ~ 120    |                         |  |
| Usable Fluid                  | Air or Vacuum      |            |                         |  |
| Reaction Force                | Operating Pressure | at 0.5 MPa | 0.045                   |  |
|                               |                    | at P MPa   | $0.050 \times P + 0.02$ |  |
| Weight                        | g                  | JVA0100    | 8                       |  |
|                               |                    | JVB0100    | 6                       |  |



### Notes for Usage (JVA0100/JVB0100)

- Do not connect or disconnect the auto coupler under pressure.
- Do not connect the coupler when contaminants are adhered on each connecting surface.  
When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.
- Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin, etc.
- When pressing up to the connection limit, the force should be higher than the reaction force and lower than 0.25 kN.
- A mounting jig is required to mount and remove the coupler. (Refer to the product catalog for further information.)



**Product Description Video**  
The description video of Air Safety Valve is available on our website.



**Product Description Video**  
The description video of Leakless Coupler is available on our website.



**NEW**

### Air Safety Valve

model **BWS**

Ultra-Compact and -Light Air Pilot Check Valve for Safety.  
Prevents a workpiece fall during robot transfer.  
Rc1/8 thread model (BWS0101) is newly added to the lineup.

## Weight

M3 Thread Model

**9 grams**

M5 Thread Model

**14 grams**

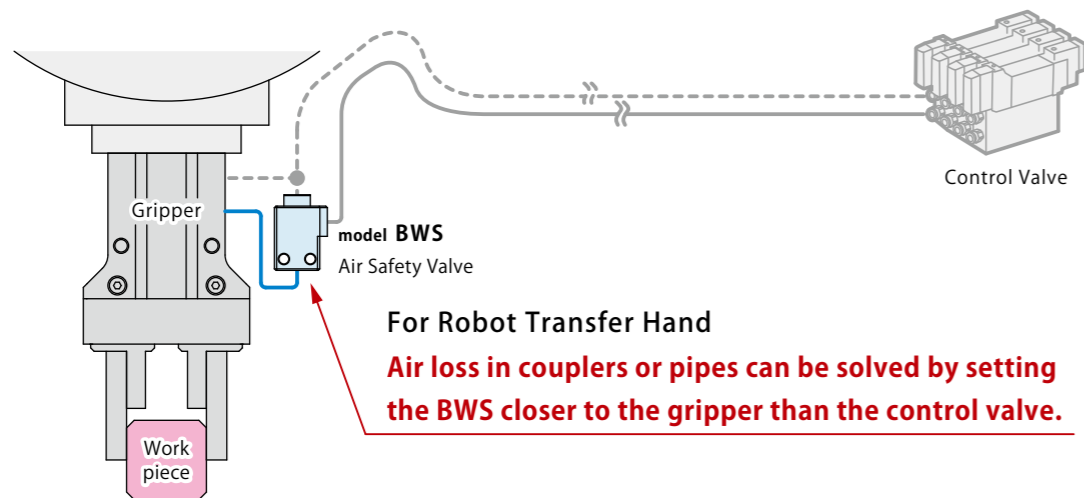
**NEW**

Rc1/8 Thread Model

**37 grams**

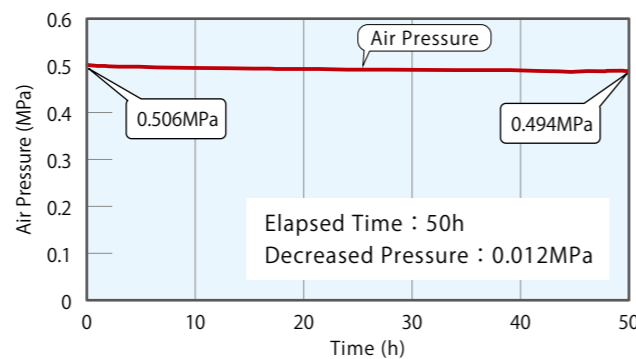


### Application Example



### High Reliability with Soft Seal

Testing data of measuring elapsed time and pressure change when maintaining air pressure in A port. Sealing part is equipped with Soft Seal. It enables great pressure maintaining ability.  
※ Testing data of single product with stable surrounding temperature.



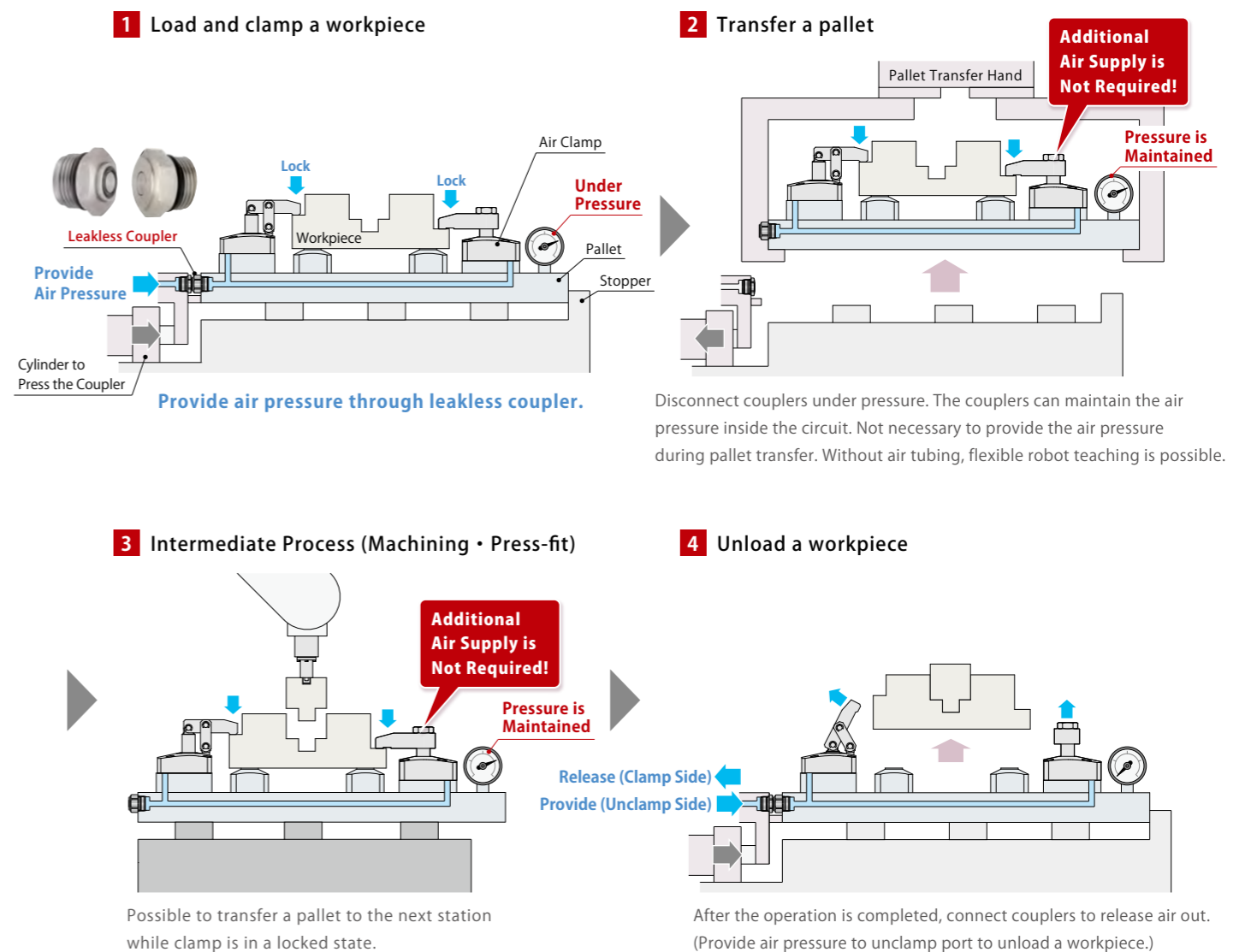
### Leakless Coupler

model **JWC/JWD**

Leakless Coupler enables to maintain clamping force since it keeps the air pressure even if a coupler is disconnected. During pallet transfer, etc. between processes, it enables to remain a workpiece locked and transfer the workpiece to the next station.

## Leakless Coupler To Solve Pallet Transfer Problems

No need to provide air pressure when disconnected from air source. Leakless coupler can be disconnected while pressure is provided. Enables to remain air clamps in a locked state and transfer a workpiece to the next station.



**NEW**

**Air Non-Leak Coupler**  
model **BWA/BWB**



By connecting and disconnecting under pressure, the BWA port (outgoing lock air) maintains air pressure after disconnected (Air Non-Leak\* Function).

※ "Air Non-Leak" means that the BWA outgoing side has pressure maintaining ability for more than 24 hours (under constant temperature).

**World's First**

※According to our research.

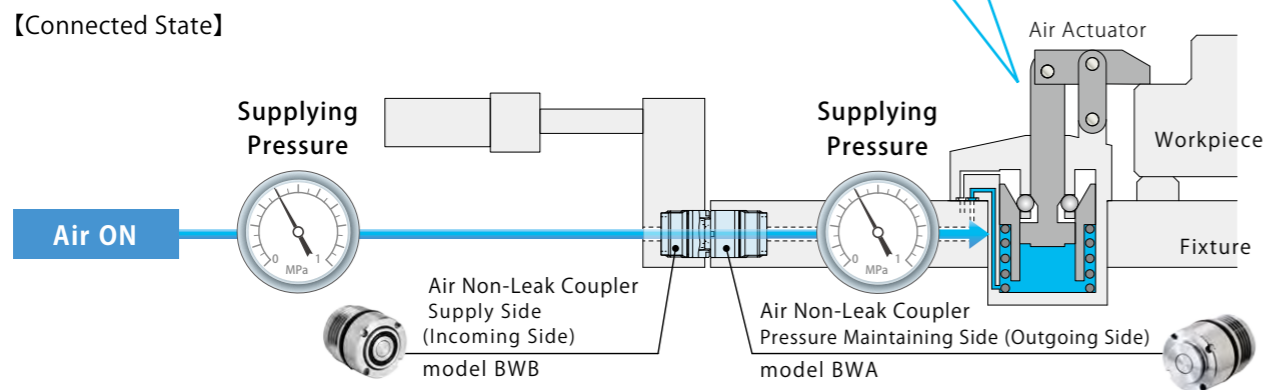
**Non-leak, which could only be achieved with hydraulics, is now possible with air.**

**New release of the valve model BWA/BWB that achieves Air Non-Leak\***

**Best for the Use with High-Power Pneumatic Clamp!**

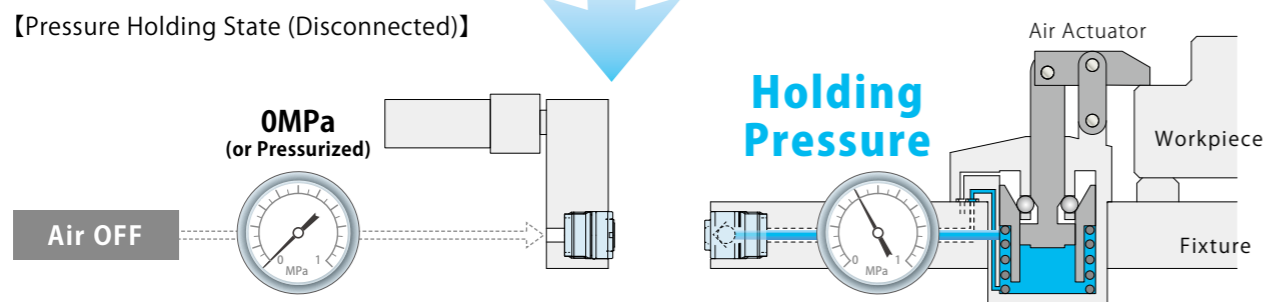
**Equal machining force as hydraulic fixture.**

**【Connected State】**



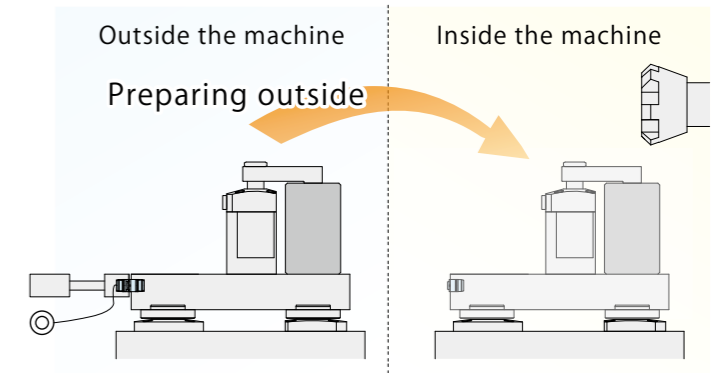
**Non-Leak Coupler is disconnected under pressure.**

**【Pressure Holding State (Disconnected)】**



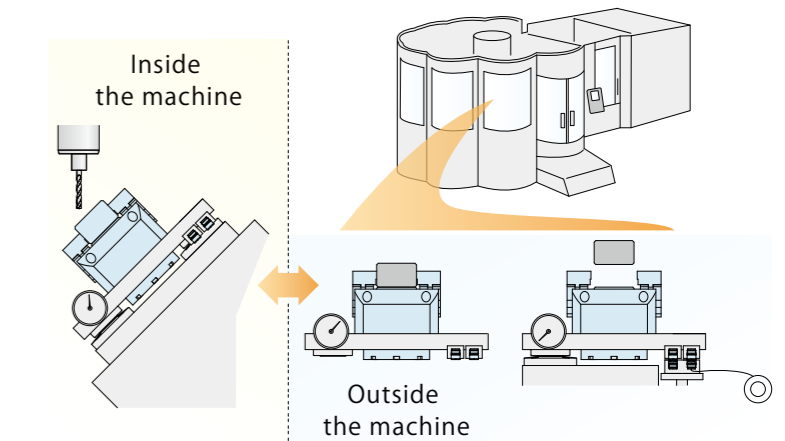
**• Setup Outside the Machine Improves Machine Up Time**

Air non-leak function allows to disconnect a fixture from an air source and to prepare the fixture outside machine. This reduces machine down time and set up time.



**• Reduce the Number of Circuits in the Machine**

By holding the air pressure, the number of circuits for fixture inside the machine can be minimized.



**• Outside Setup by Disconnecting Air of APC, Pallet Pooling, etc.**

Because it is able to disconnect the fixture from the air source, it is suitable for pallet pooling. It allows to move pallets freely without concerns on handling of hoses, and it is also suitable for transferring with robot.

**• Energy-Saving with No Hydraulic Use**

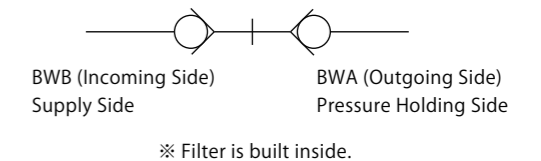
The non-leak function which could only be achieved with hydraulics is now possible with air. Also, the same level of machining as a hydraulic fixture is possible by using with high-power pneumatic clamp.



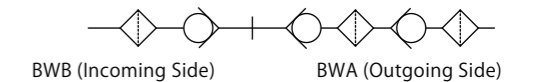
**• Specifications** ※ Refer to the catalog for detailed specifications.

| Model No.                     | Pressure Holding Side       | <b>BWA0100</b>   |
|-------------------------------|-----------------------------|------------------|
|                               | Supply Side                 | <b>BWB0100</b>   |
| Max. Operating Pressure       | MPa                         | 1.0              |
| Min. Passage Area             | mm <sup>2</sup>             | 9.6              |
| Offset Distance (Tolerance)   | mm                          | ±0.5             |
| Angular Deviation (Tolerance) | DEG.                        | 0.3              |
| Operating Temperature         | °C                          | 0 ~ 70           |
| Usable Fluid                  |                             | Air              |
| Reaction Force kN             | Operating Pressure at 1 MPa | 0.23             |
|                               | at 0.5 MPa                  | 0.15             |
|                               | at P MPa                    | 0.154 × P + 0.07 |
| Weight g                      | BWA                         | 42               |
|                               | BWB                         | 35               |

**Circuit Symbol**



**Detailed Symbol**  
(All check valves and filters are written.)



**• Notes for Usage (BWA/BWB)**

- "Air Non-Leak" means that a single BWA unit has pressure maintaining ability for more than 24 hours (under constant temperature). This cannot be used in equipment that requires the leakage amount level that is confirmed by tracer gas leak testing using helium and hydrogen.
- After installing parts of pressure maintaining circuit, confirm pressure maintaining by testing leakage at each connecting part using leak checker, etc. (Please install a pressure gauge in the circuit.)
- When maintaining pressure with BWA after disconnecting under pressurization, make sure it has a method and condition that it can connect with greater force than reaction force. (Even when using with Pallet Clamp, it is required to press with greater force than reaction force before locking action.)
- Since the check valve of the supply side BWB is a metal seal, there may be a slight air leak when pressurized under disconnected state.
- Do not connect the coupler when contaminants are adhered on each end surface. (install a cover, or remove all contaminants with air blow before connection.)
- Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin. This may also cause an air leak when disconnected under pressurization.
- Even though this product is equipped with filter, please note that inadequate flushing may result in poor flow performance or malfunction due to clogging of the built-in filter.
- When pressing to the connection limit, the force should be higher than reaction force and lower than 2.0kN.



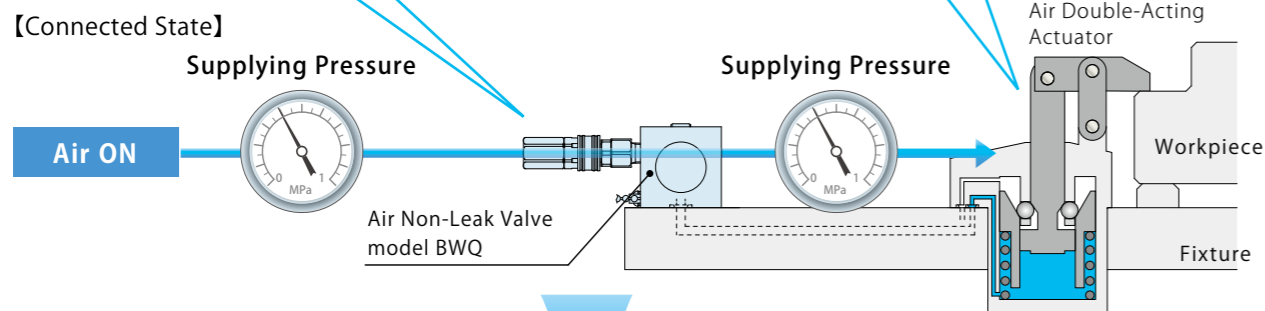
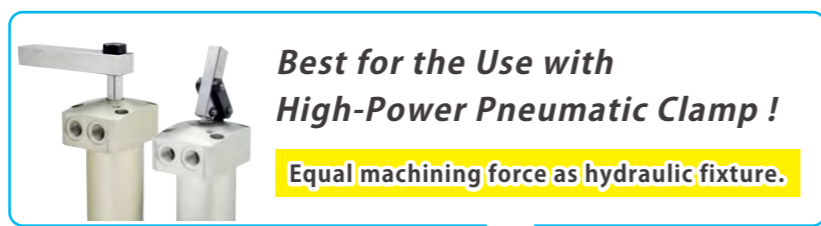
**NEW**  
**Air Non-Leak Valve** **Air Double-Acting**  
 model **BWQ**

Pilot Check Valve with Air Non-Leak\* Function  
 A2 port (outgoing lock air) maintains air pressure even after disconnected from the air source unless air is provided to B1 port (release port).  
 ※ "Air Non-Leak" means that the outgoing A2 port has pressure maintaining ability for more than 24 hours (under constant temperature).

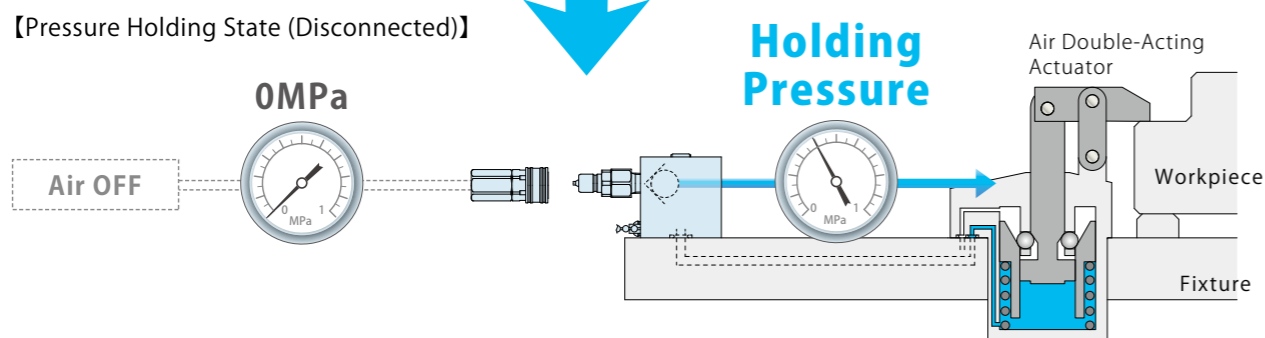
**World's First**  
 ※According to our research.

**Non-leak, which could only be achieved with hydraulics, is now possible with air.**

**New release of the valve model BWQ that achieves Air Non-Leak** ※

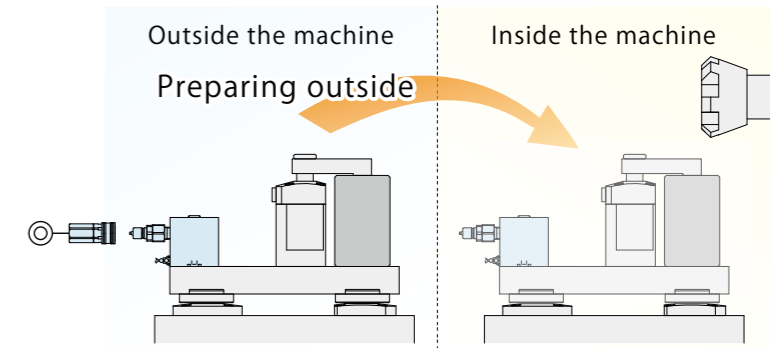


**Holds the pressure even after the coupler is disconnected.** (Refer to Notes for Usage: 3.)



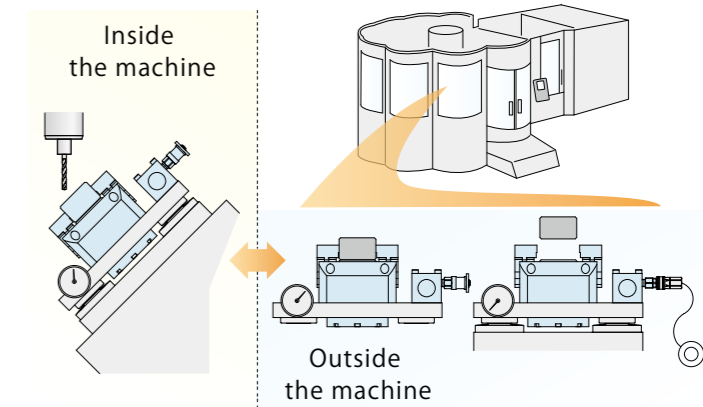
• **Setup Outside the Machine Improves Machine Up Time**

Air non-leak function allows to disconnect a fixture from an air source and to prepare the fixture outside machine. This reduces machine down time and set up time.



• **Reduce the Number of Circuits in the Machine**

By holding the air pressure, the number of circuits for fixture inside the machine can be minimized.



• **Outside Setup by Disconnecting Air of APC, Pallet Pooling, etc.**

Because it is able to disconnect the fixture from the air source, it is suitable for pallet pooling. It allows to move pallets freely without concerns on handling of hoses, and it is also suitable for transferring with robot.

• **Energy-Saving with No Hydraulic Use**

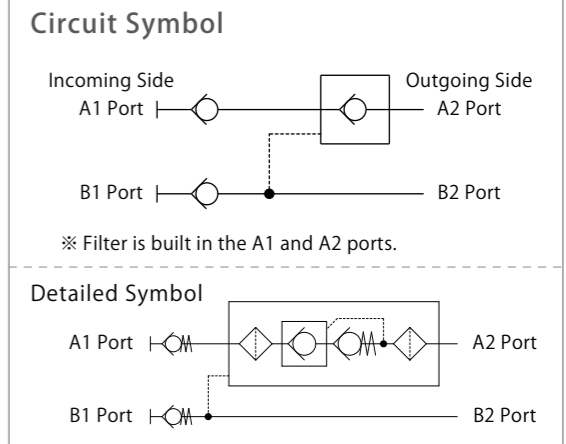
The non-leak function which could only be achieved with hydraulics is now possible with air. Also, the same level of machining as a hydraulic fixture is possible by using with high-power pneumatic clamp.



• **Specifications** ※ Refer to the catalog for detailed specifications.

| Model No.                               | BWQ0100-□                             |
|---|---------------------------------------|
| Operating Pressure Range MPa            | 0.2 ~ 1.0                             |
| Withstanding Pressure MPa               | 1.5                                   |
| Cracking Pressure MPa                   | 0.04                                  |
| Pilot Pressure MPa                      | Holding Pressure × 0.45 + 0.1 or more |
| Min. Passage Area mm <sup>2</sup>       | 8.8 (Coupler Part)                    |
| Operating Temperature °C                | 0 ~ 70                                |
| Usable Fluid                            | Air                                   |
| Applicable Coupler / Socket Model *1 kg | C0-1SF-SUS-FKM                        |
| Weight                                  | 0.5                                   |

Note : \*1. It shows the socket model number of compact coupler manufactured by NITTO KOHKI.



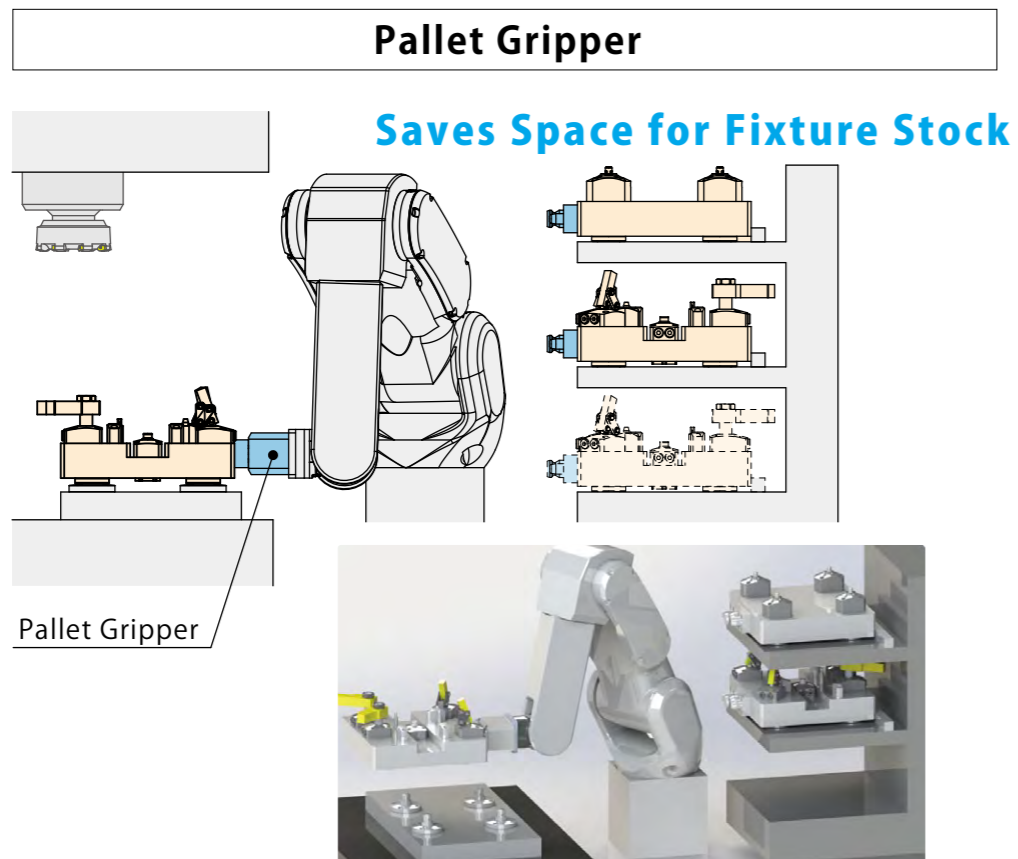
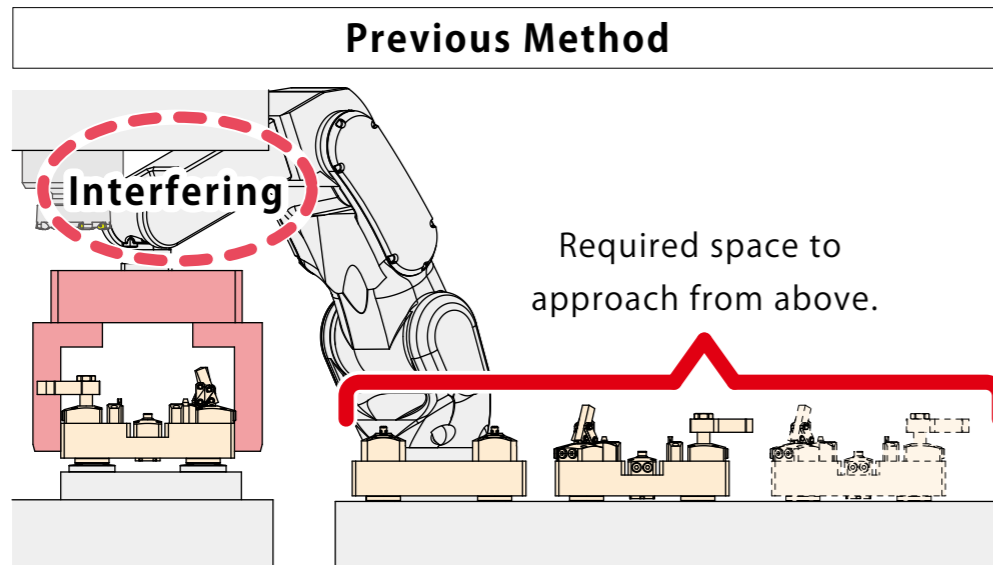
• **Notes for Usage (BWQ)**

- "Air Non-Leak" means that a single BWQ unit (A2 port) has pressure maintaining ability for more than 24 hours (under constant temperature). This cannot be used in equipment that requires the leakage amount level that is confirmed by tracer gas leak testing using helium and hydrogen.
- After installing parts of pressure maintaining circuit, confirm pressure maintaining by testing leakage at each connecting part using leak checker, etc. (Please install a pressure gauge in the circuit.)
- When disconnecting the socket of the coupler, make the socket on the both circuits to pressure zero and in an opened state in order to maintain pressure with the check valve built in the body. (Control Valve Example: 5-port 3-position exhaust center)
- Before disconnecting/connecting the coupler, remove cutting chips and coolant with air blow, etc. Also, install the coupler cover except during disconnecting/connecting operation.
- Even though this product is equipped with filter, please note that inadequate flushing may result in poor flow performance or malfunction due to clogging of the built-in filter.



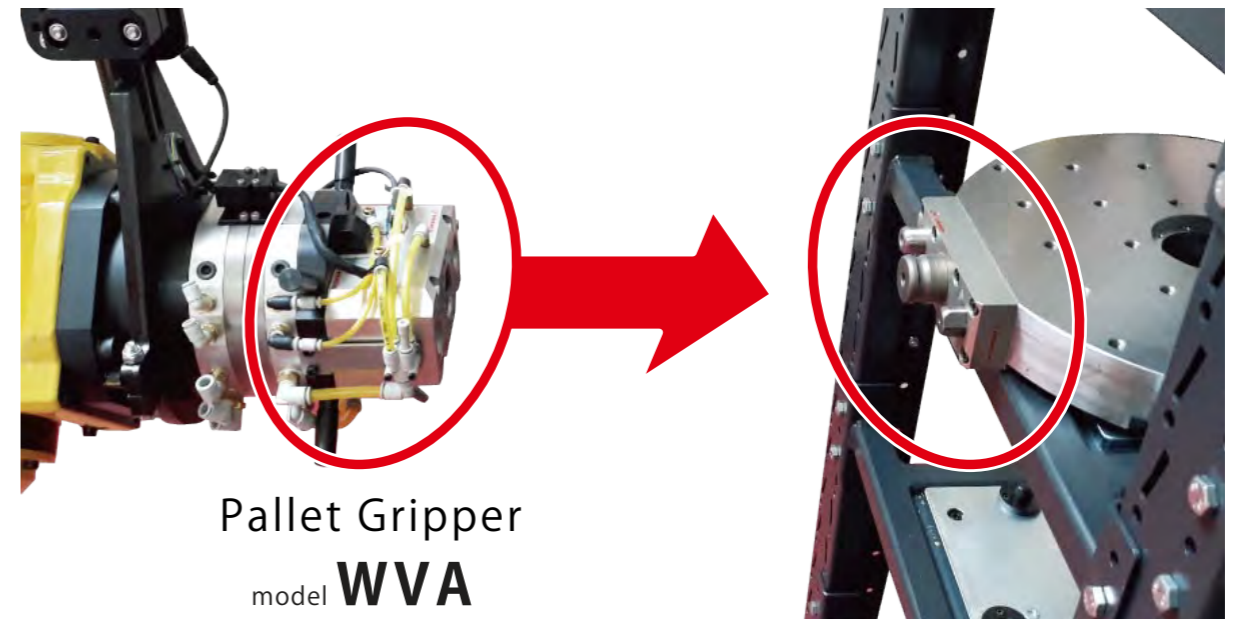
**Pallet Gripper**  
model **WVA**

Moment-Resistible Pallet Gripper is suitable for pallet transfer.  
Side approaching enables to save space for fixture stock.

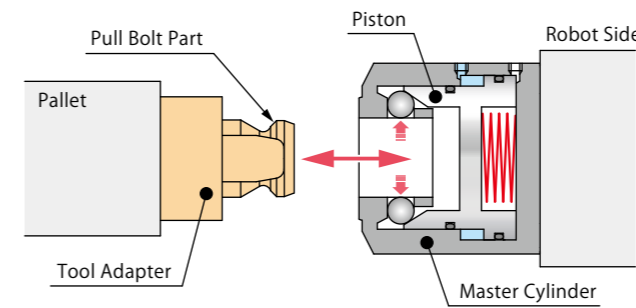


**Simplify Fixture Setup with Robot**

**Side-Approaching Pallet Gripper**



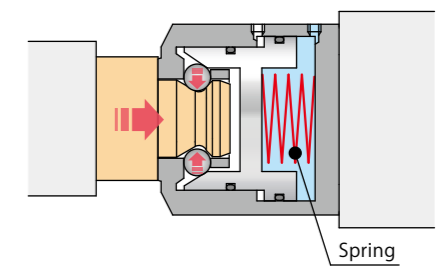
**Action Description** ※ This is a simplified drawing. The actual part components may be different.



**When Loading/Unloading (Released)**

Release Air Pressure  **ON**  
Lock Air Pressure  **OFF**

Release action : The piston moves backward and the steel balls are set inside so that the tool adapter can be attached/detached.



**When Transferring (Locked)**

Release Air Pressure  **OFF**  
Lock Air Pressure  **ON**

Lock action : The piston moves forward with lock air pressure and built-in spring, and pulls in the pull bolt of the tool adapter via the steel balls.

Self-locking function with spring prevents a workpiece fall even when air pressure drops to 0MPa in case of a power failure.  
※ Usually it should be connected with spring force and lock air pressure.



**NEW**

**Pneumatic Centering Vise [Built-in Check Valve]**

model **FWD**

High Repeatability + High Cylinder Force + Safety Function to Maintain Locked State. Best for automation with powerful holding of workpiece by air pressure, and equipped with release action confirmation.



**NEW**

**High-Power Pneumatic Swing / Link Clamp Compact Model**

model **WHE0450/WCE0452**

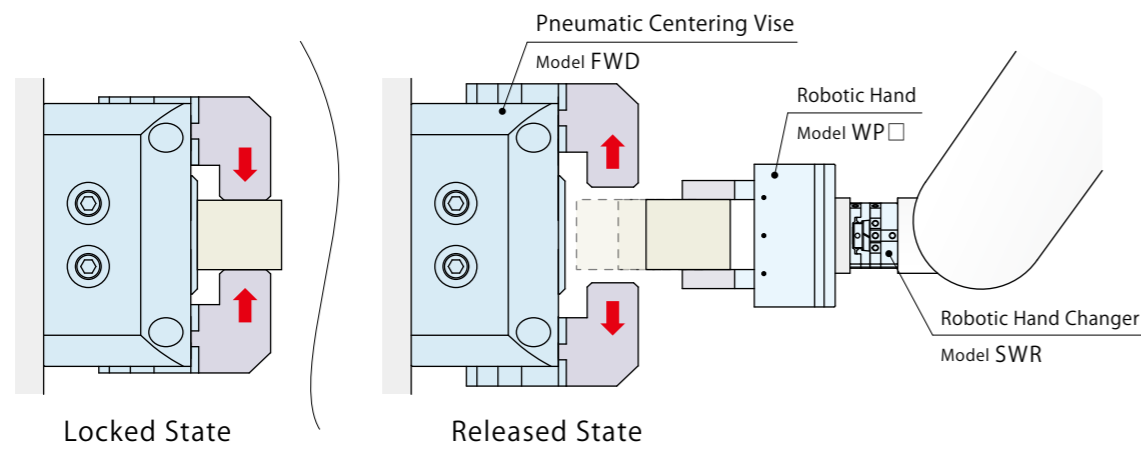
Exerts high clamping force powered by pneumatic and the most powerful holding force with mechanical lock among our products. Compact models are newly added to the lineup.

**High-Accuracy • High-Power Pneumatic Vise**  
**Best for Automation** with  
**Safety Function** and **Action Confirmation**

High-Power Pneumatic Series

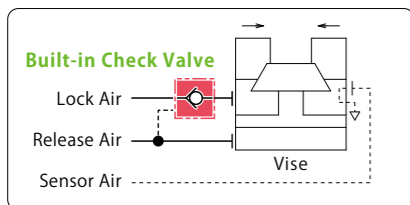
**100,000** units of pneumatic fixture systems have been sold.

Thanks to many requests, we have added long-awaited **compact models** to the lineup!  
 Enables **Smaller Footprint** • **High Quality** • **Light Weight**



• **Maintains the locked state even when air pressure is cut off.**

The built-in check valve maintains internal locking air pressure until air is supplied to the release port. This maintains the locked state even when locking air pressure is temporarily cut off, ensuring safety.



• **Simple Lever Machining**

Machining of the clamp lever mounting part is simple. Complicated serration machining is not required.

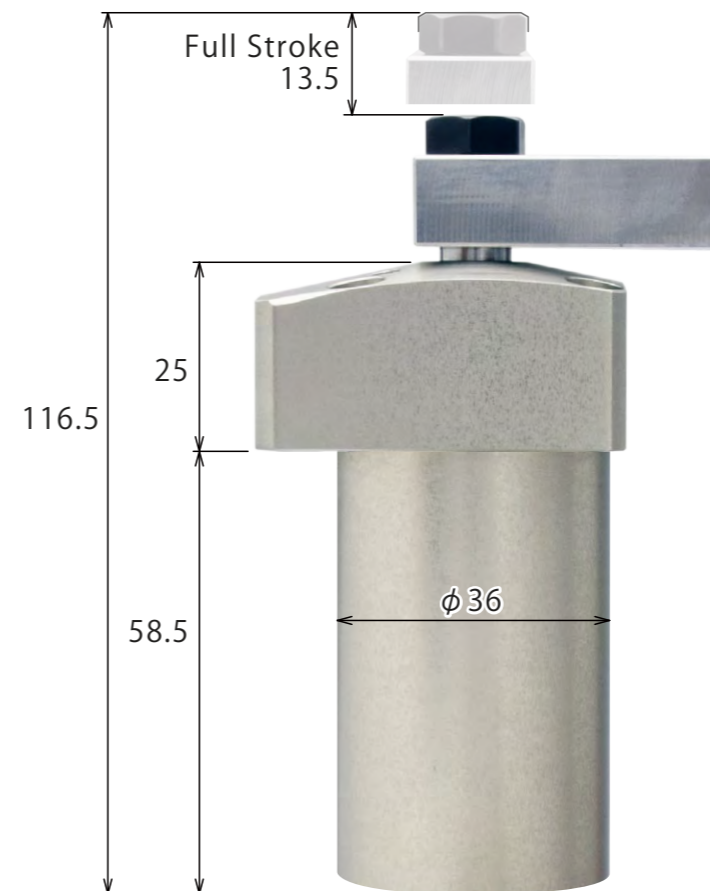
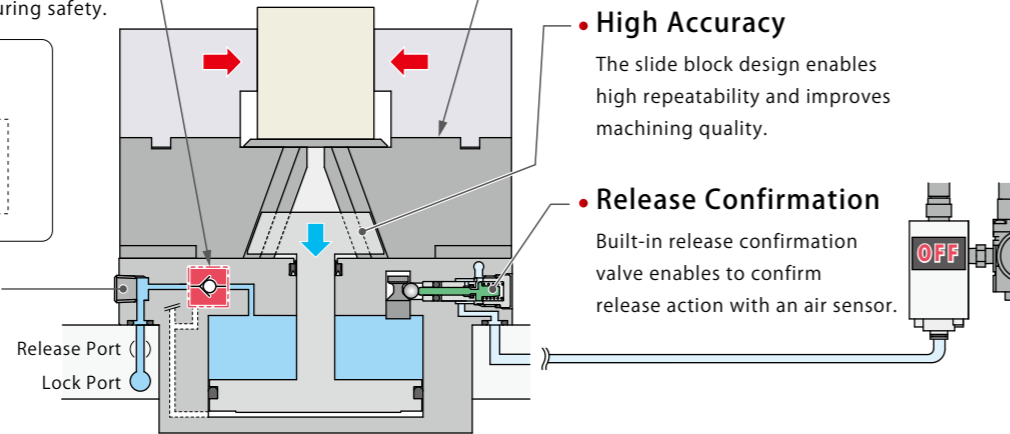
• **High Accuracy**

The slide block design enables high repeatability and improves machining quality.

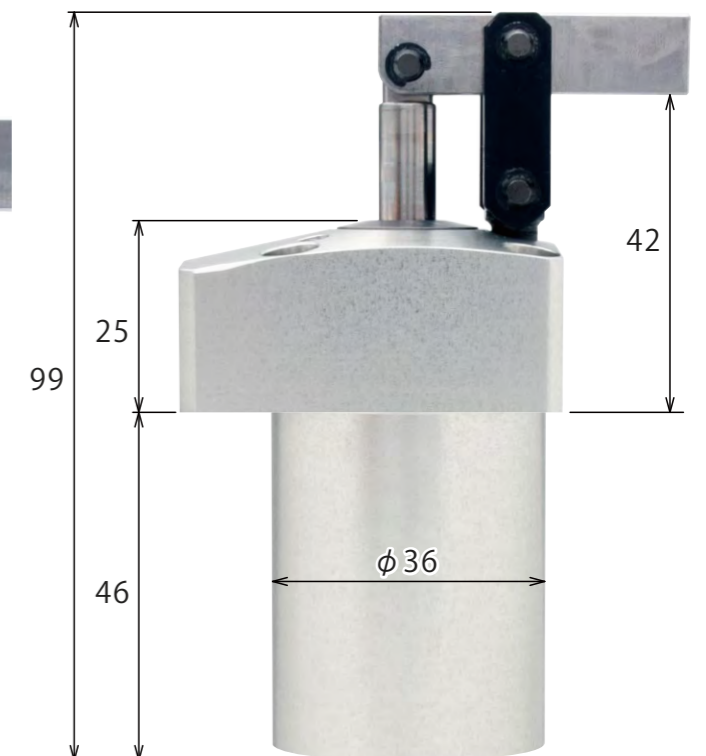
• **Release Confirmation**

Built-in release confirmation valve enables to confirm release action with an air sensor.

• **Speed Control Valve Port (model BZW)**



model **WHE0450**



model **WCE0452**

Unit : mm  
Full-Scale Photo



The description video of Ball Lock Cylinder is available on our website.



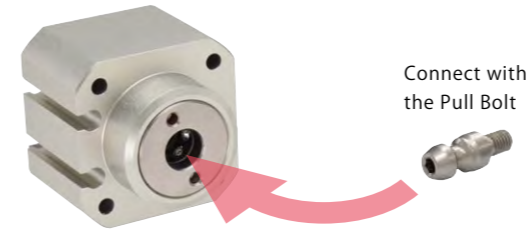
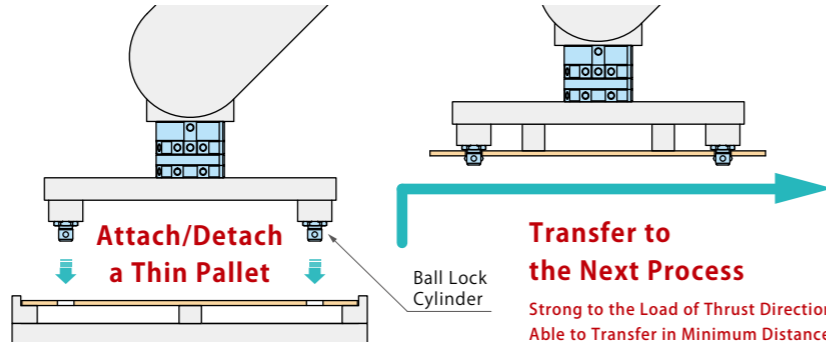
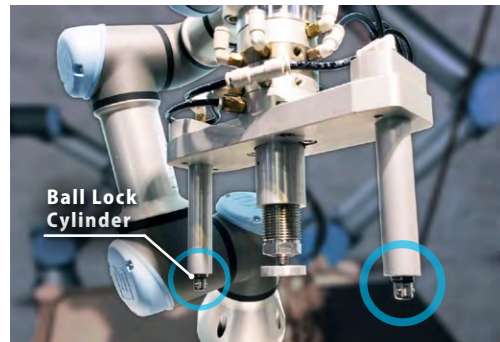
The description video of High-Power Pull Stud Clamp is available on our website.



### Ball Lock Cylinder

model **WKA**

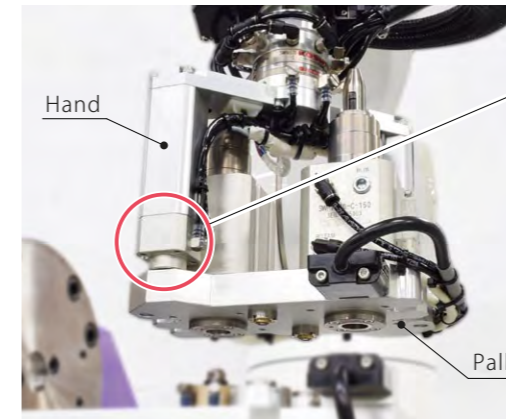
The ball lock cylinder is used for transfer pallets, plates, temporary tool stocker, etc.  
2 larger sizes have been added to the lineup.



### High-Power Pull Stud Clamp

model **WPT**

Clamps by pulling the pull bolt. It can be used for many applications such as transferring and tool clamping.  
2 larger sizes have been added to the lineup.

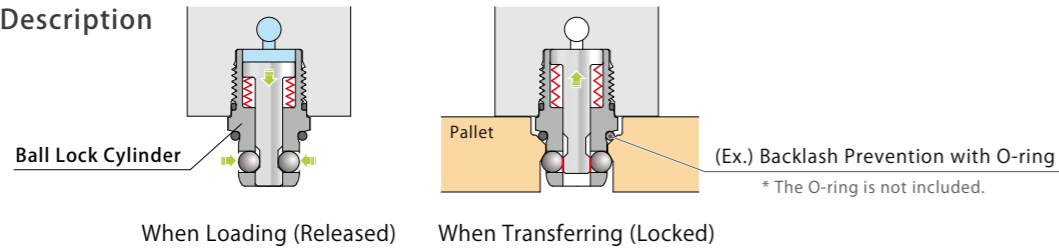


### Pallet Transfer with High-Power Pull Stud Clamp

The lightweight High-Power Pull Stud Clamp minimizes the reduction in payload capacity of the robot. Holding force is very powerful, and it can transfer heavy pallets, etc.



#### Action Description

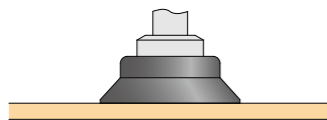


Available in 5 sizes

| model                                  | WKA0060 | WKA0080 | WKA0100 | New WKA0120 | New WKA0160 |
|--|---------|---------|---------|-------------|-------------|
| Pull-Out Load Capacity (Holding Force) | 50N     | 70N     | 100N    | 150N        | 200N        |
| Product Weight                         | 7g      | 8g      | 13g     | 20g         | 41g         |
|  | 5kg     | 7kg     | 10kg    | 15kg        | 20kg        |

#### Suction Pad

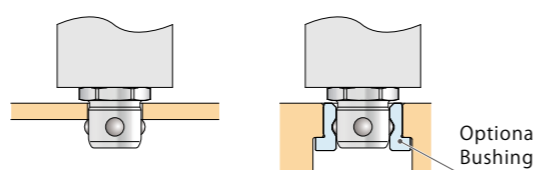
Limited Speed  
Low Suction Force



A small suction pad has critical weight limits due to low suction force. Also, it is weak to the moment in the side direction, so that transfer speed is limited. The suction force is affected by the roughness of the surface and is decreased due to deterioration and friction.

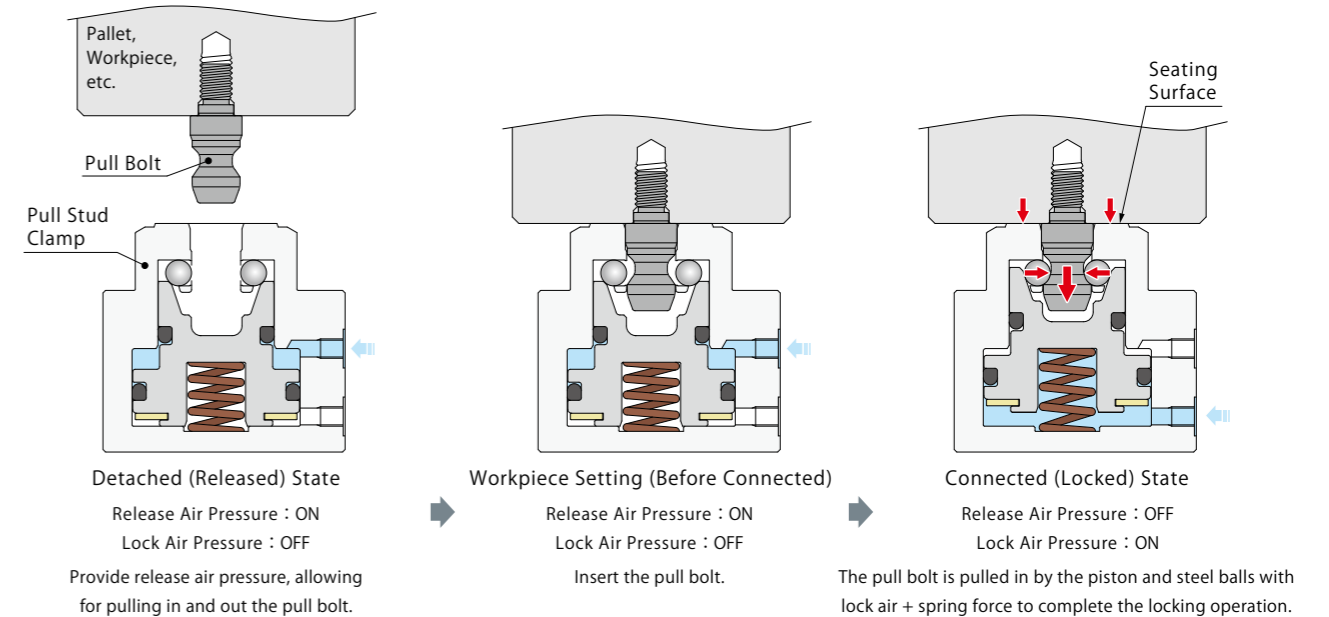
#### Ball Lock Cylinder

Powerful with Mechanical Lock, Light and Compact  
Only 1 Circuit for Positive Pressure



Requires Machining of Mounting Hole  
Machining of the hole can be simple by using the optional bushing.

#### Action Description



### Compact, Light, yet Powerful

Exerts powerful clamping force and holding force with mechanical lock.

| Max. Holding Force  | Weight         |
|---------------------|----------------|
| WPT0500 : 768N      | WPT0500 : 55g  |
| WPT0600 : 1234N     | WPT0600 : 95g  |
| New WPT0800 : 1918N | WPT0800 : 155g |
| New WPT1000 : 2436N | WPT1000 : 215g |





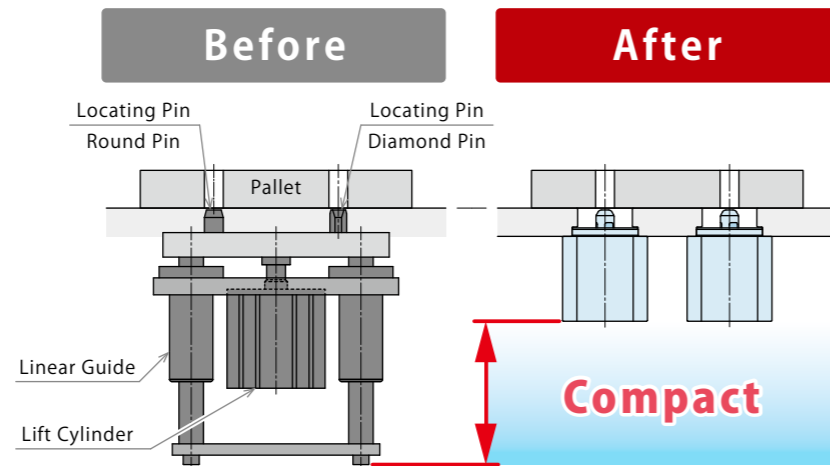
### Lifting Hole Clamp

model **SWJ**

3 Functions in 1 Cylinder :

Lift Cylinder, Locating Pin and Hole Clamp

For locating of transfer equipment and saving space for lifting.



### High-Power Pneumatic Work Support

model **WNC**

Air sensing option : model WNC-M is added to the lineup.

Auto Backup Pin :  
Even more compact  
than Work Support.

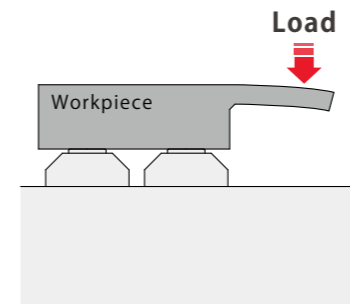
Model **WDC**

Work Support  
Rodless Hollow Model

Model **WNA**

### Before

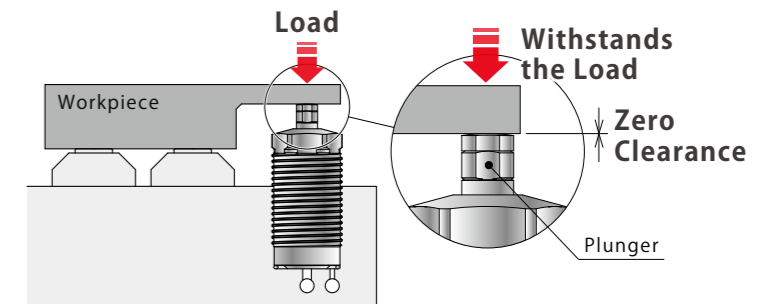
Without Work Support



Chattering •  
Deformation

### After

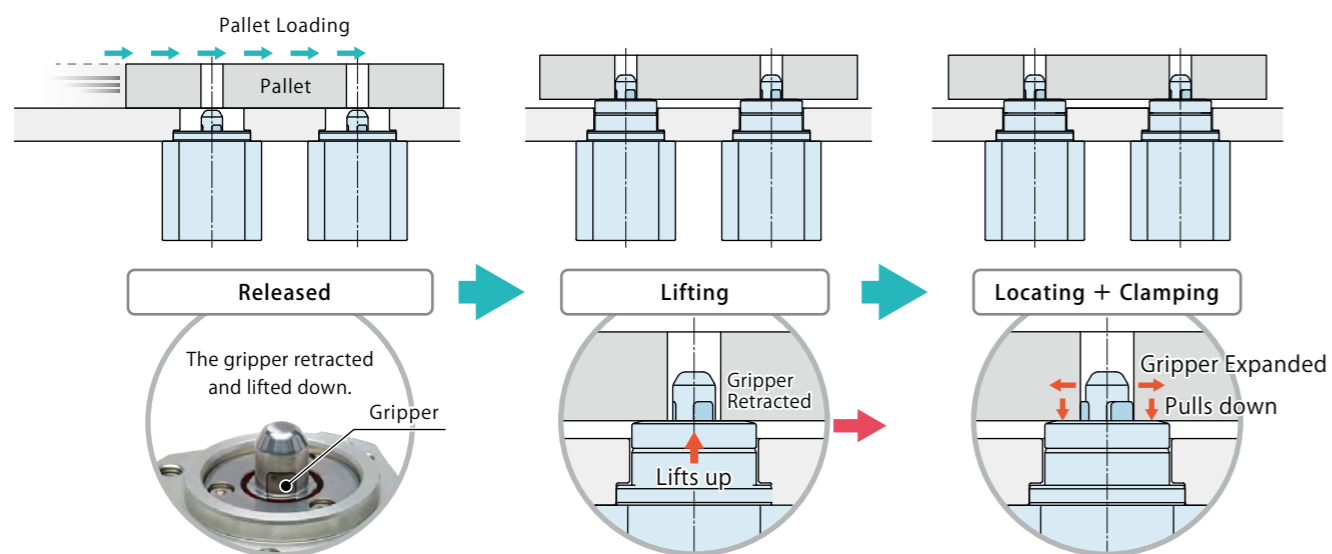
With Work Support



Prevents Chattering • Deformation

The plunger contacts with slight spring force.  
Wedge function locks the plunger firmly and holds it.

### Action Description



### The World's Smallest • Compact

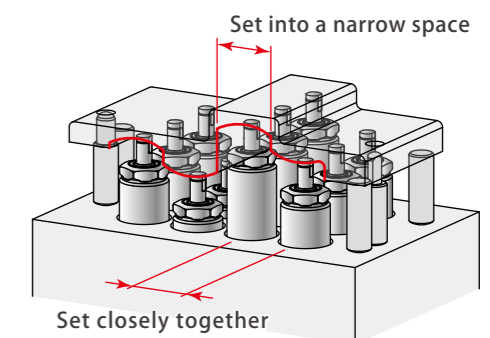
Line-up of 7 Body Sizes (External Thread Part):

M16, M22, M26, M30, M36, M45, M60

One of the world's smallest M16 size has been newly added to the lineup. For more compact equipment.



### Excellent Machining Quality with Multiple Work Supports



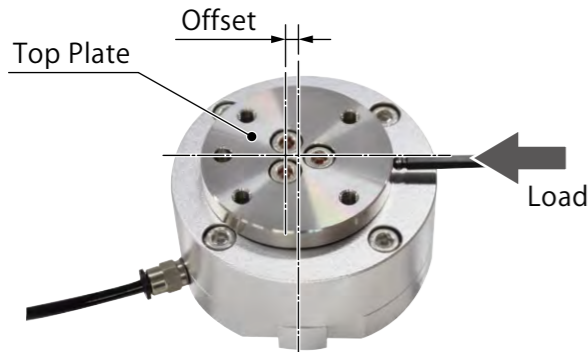


### Compliance Module

model **WRC**

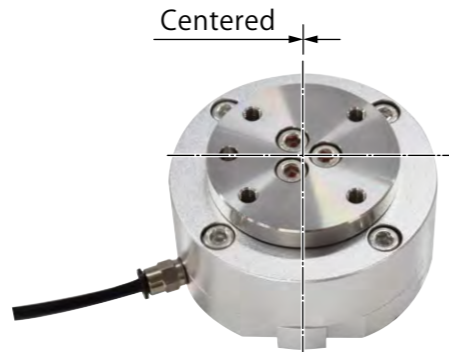
The floating top plate corrects misalignment of workpiece. Directly mounted to Kosmek Robotic Hand Changer model SWR.

### Misalignment of Workpiece is Corrected by the Floating Top Plate



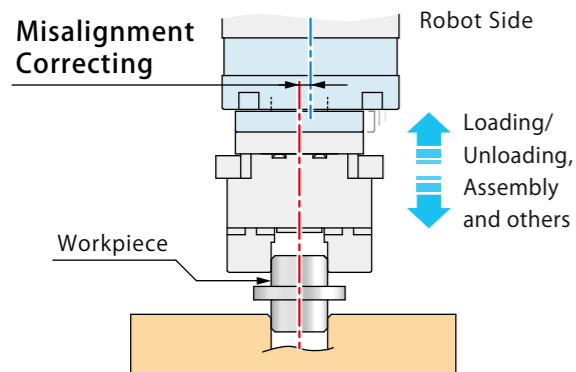
Floating State Air **OFF**

The top plate can be floated when not supplying lock air pressure. When not receiving a load, the top plate returns to the center with the magnet.



Center Locking State Air **ON**

The top plate is centered and locked by supplying lock air pressure.



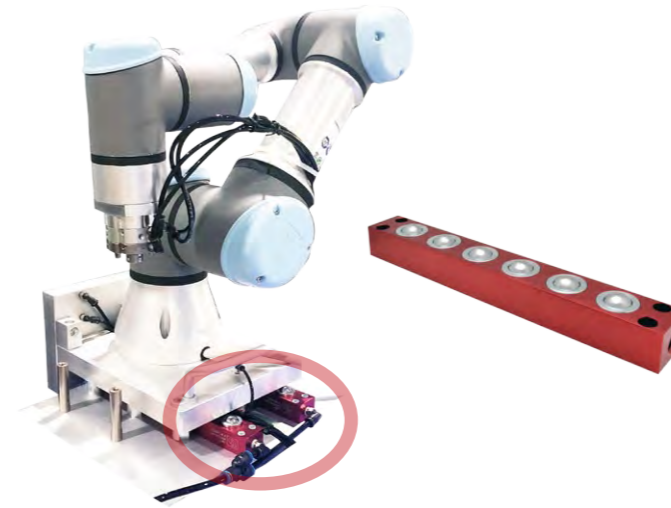
#### Easy to Correct the Misalignment of Robot Transfer

Able to correct the misalignment between a robotic hand and a workpiece, or a hole and a part during transfer and assembly process with a robot. Program correction with a force sensor is not required. Mechanical floating function allows for easy setup.



#### Directly Mounted on Robotic Hand Changer

Compliance Module can be directly mounted on the tool adapter of model SWR (Payload 7kg ~ 25kg). Using with the Robotic Hand Changer enables to change highly flexible hands equipped with the Compliance Module and high-accuracy tools not equipped with the Compliance Module, allowing for various operations.

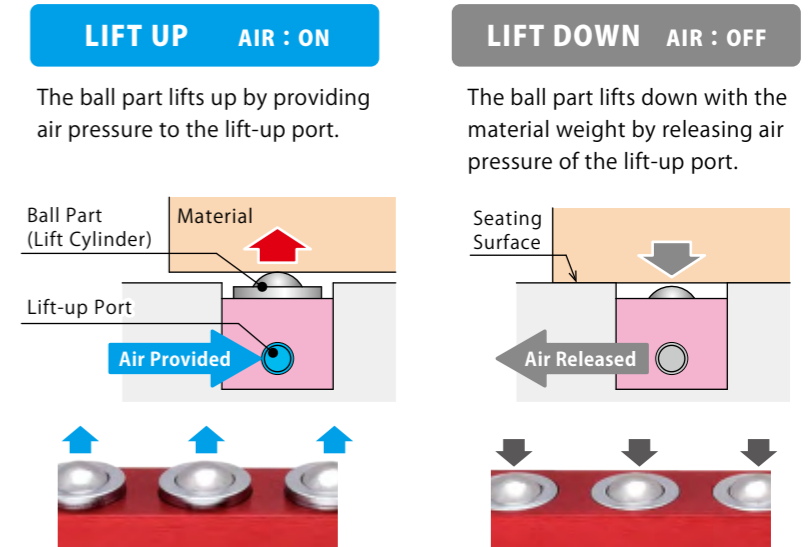


### Pneumatic Free Roller Lifter

model **RQC**

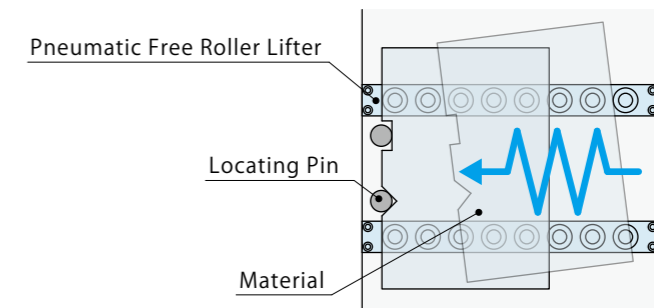
Makes transfer and locating of heavy materials easy. The balls lift up with air pressure.

### Pneumatic Force to Lift and Move a Material with Light Force



### The Balls Move 360° Flexibly

Able to move a heavy material easily to the locating point.

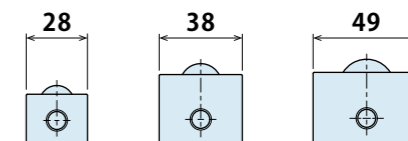


(Application Example) Moving a material to the locating point.

### 82 Options Available for Various Usage

Can be used for various methods such as transferring a workpiece, pallet, robot and others.

#### Slot Width : 3 Options



#### Total Length : 150 ~ 1200mm

