Air Sensor Unit for 1-Port Sensing Series

Model LZV0010

Air sensor unit required for action confirmation of 1-Port Sensing Clamps. Depending on operating conditions, we complete sensor setting before shipment.

Please refer to our product catalog for details.

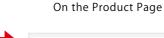




When customer builds on their own...

"Air Sensor Setting Method" is on the LHV/LKV/LLV product pages of our website. Click the image on PDF to watch the setting method videos.







How to Display **Outgoing Pressure**

Air Sensor Setting Method

View on Your Smartphone

Search by Keyword LHV

Scan the QR code to watch the video.

Video 1

[How to Display Outgoing Pressure]

Video 2 **[**OUT1 Setting Method**]**

Video 3 **[**OUT2 Setting Method**]**



WATCH VIDEO







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







JIMTOF2022

KOSMEK Work Clamping Systems Machine Tool Related Products

2022.11

Innovative and Unique Products Adapting to the Needs of Customers

To one heart, advance forward.









Air Non-Leak Coupler

Model BWA/BWB

Equipped with the world's first* Air Non-Leak Function. Air Non-Leak Coupler maintains air pressure after disconnected from the air source.

P.3 **According to our research.



Air Non-Leak Valve -Double Acting Model-

Model BWQ

Equipped with the world's first* Air Non-Leak Function. Air Non-Leak Valve maintains air pressure after disconnected from the air source.

P.5 **According to our research



High-Power Pneumatic Work Support

Model WNC

Strong support force that is equivalent to hydraulic pressure. Prevents chattering while machining and deformation caused by the cutting load. Excellent draining of cutting chips. Equipped with Knockout Function that ensures highly reliable operation. (Design No. changed for the improvement.) P.7



High-Power Pneumatic Swing Clamp/Link Clamp

Model WHE / WCE

High clamping force with pneumatic and mechanical lock system. Stronger holding force with mechanical lock clamping force. Compact models are newly added to the line-up.

P.9



High-Power Frog Clamp

Model WFE

Largely retracted lever avoids interference during workpiece loading / unloading.

High-Power Frog Clamp has powerful clamping and holding force powered by air pressure + mechanical lock.

P.11



1-Port 2-Way Sensing

Swing/Link Clamp with Action Confirmation -Hyd. Single Action-

Model LGV / LJV

One air port to confirm clamp and unclamp is designed with a completely new sensing mechanism. Enables to minimize the number of fixture ports (circuits).

Single acting models are newly added to the line-up.

P.13



Expansion Locating Pin

Model VFH / VWH / VFK / VWK

Locates a workpiece with high accuracy by expanding and releasing diameter. Small diameter models are newly added to the line-up.

P.19



Bore Locating Cylinder

Model VFP

Large Expansion Stroke, Zero Clearance with Datum Hole. P.21



Standard Side Clamp/High-Power Side Clamp

Model LSA / LSE

Specialized for side push. Alternative solution when traditional clamp is causing tooling clearance issue. The high-power model is equipped with the mechanical locking so that it exerts powerful clamping force and holding force.



Pneumatic Centering Vise

Model FWD

High Repeatability + High Cylinder Force + Safety Function to Maintain Locked State.

Powerful Holding of Workpiece with Air Pressure, Equipped with Release Action Confirmation.

P. 25



Pneumatic Swing Clamp

Model WHC

High-Durability, High-Speed and High-Accuracy Compact Pneumatic Cylinder. This clamp is coolant resistant, and can be used in various applications with the use of auto switch.

P.27



Pallet Gripper

$\mathsf{Model}\ WVA$

Moment-Resistible Pallet Gripper is suitable for pallet transfer. Side approaching enables to save space for fixture stock. P.29



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. P 31



Smart Series

Model KSL / KSH / KSA

Kosmek's new idea "Smart Series" powered by any power source.

**This product has no function that prevents contaminants. Do not use under environment with coolant and cutting chips.

P.33







Air Non-Leak Coupler

model BWA/BWB

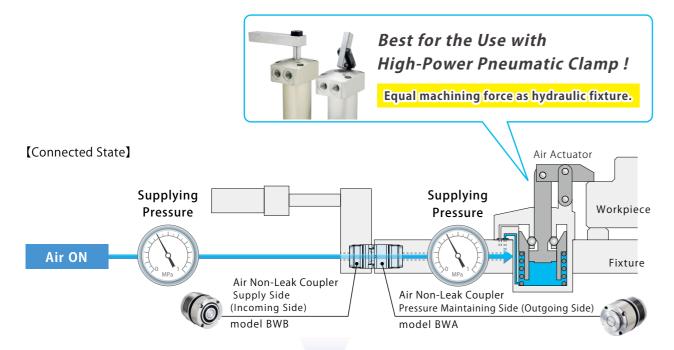
By connecting and disconnecting under pressure, the BWA port (outgoing lock air) maintains air pressure after disconnected (Air Non-Leak* Function)

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

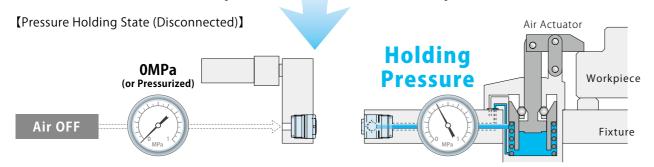
World's First **According to our research.

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

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

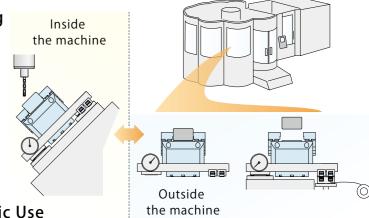


Non-Leak Coupler is disconnected under pressure.



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.

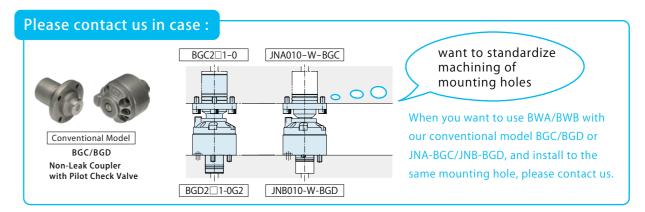


• Energy-Saving with No Hydraulic Use

The non-leak function which could only be achieved with hydraulics is now possible with air.

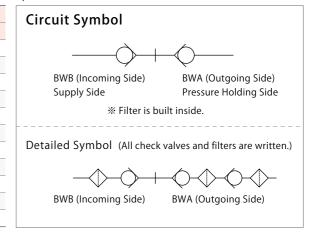
Also, the same level of machining as a hydraulic fixture is possible by using with high-power pneumatic clamp.





Specifications ** Please refer to the product catalog for detailed specifications.

whicase refer to the product cutting for detaile					
Model No.			BWA0100		
Model No.		Supply Side	BWB0100		
Max. Opera	ating	Pressure MPa	1.0		
Min. Passa	ge A	rea mm²	9.6		
Offset Distance (Tolerance) mm			±0.5		
Angular Deviation (Tolerance) DEG.			0.3		
Operating	Tem	perature °C	0 ∼ 70		
Usable Flui	id		Air		
Donation	ing re	at 1 MPa	0.23		
Reaction	erat	at 1 MPa at 0.5 MPa at P MPa	0.15		
Force kN	9 g	at P MPa	0.154 × P +0.07		
\/\ai= a+	_	BWA	42		
Weight	g	BWB	35		



Notes for Usage (BWA/BWB)

- 1. "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.
- 2. 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.)
- 3. 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.)
- 4. 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.
- 5. 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.)
- 6. 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.
- 7. 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.
- 8. When pressing to the connection limit, the force should be higher than reaction force and lower than 2.0kN.





Air Non-Leak Valve

Air Double Action

model **BWQ**

Pilot Check Valve with Air Non-Leak* Function

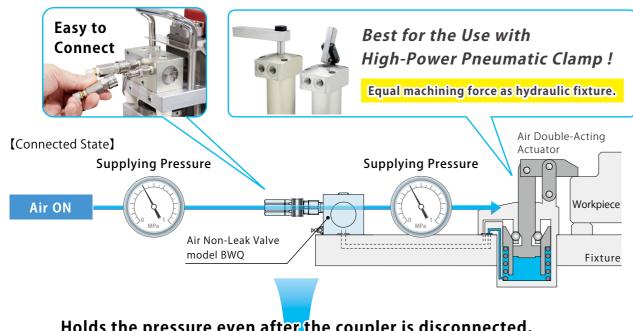
A2 port (outgoing lock air) maintains air pressure even after disconnected from the air source unless air is provided to B1 port (release port).

* "Air Non-Leak" means that the outgoing A2 port has pressure maintaining ability for more than 24 hours (under constant temperature).

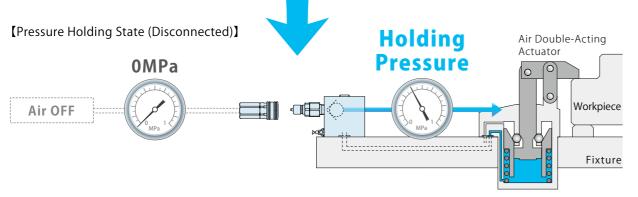
World's First

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

New release of the Valve model BWO that achieves Air Non-Leak*



Holds the pressure even after the coupler is 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.

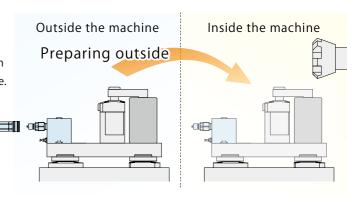
Outside Setup by Disconnecting Air of APC, Pallet Pooling, etc.

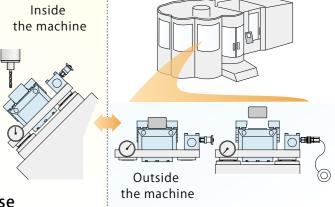
Because it is able to disconnect the fixture from the air source, it is suitable for pallet pooling. It allows to move pallets freely without concerns on handling of hoses, and it is also suitable for transferring with robot.

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 **Please refer to the product catalog for detailed specifications.

Specifications &	icase i	erer to the product catalog for detailed sp
Model No.		BWQ0100-□
Operating Pressure	MPa	0.2 ~ 1.0
Withstanding Pressure	MPa	1.5
Cracking Pressure	MPa	0.04
Pilot Pressure	MPa	Holding Pressure \times 0.45 + 0.1 or more
Min. Passage Area	mm ²	8.8 (Coupler Part)
Operating Temperature	° ℃	0 ~ 70
Usable Fluid		Air
Applicable Coupler /		CO 1CT CLIC TVM
Socket Model *1		C0-1SF-SUS-FKM
Weight	kg	0.5

Circuit Symbol Outgoing Side Incomina Side B1 Port ⊢ ※ Filter is built in the A1 and A2 ports. **Detailed Symbol** A2 Port B1 Port ⊢Ó₩ B2 Port

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

Notes for Usage (BWQ)

- 1. "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.
- 2. After installing parts of pressure maintaining circuit, confirm pressure maintaining by testing leakage at each connecting part using a leak checker, etc. (Please install a pressure gauge in the circuit.)
- 3. 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)
- 4. Before disconnecting/connecting the coupler, remove cutting chips and coolant with air blow. Also, install the coupler cover except during disconnecting/connecting operation.
- 5. 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.

model WNC

Excellent draining of cutting chips.

Design No. has been updated for the improvement.

Improved Work Support with Superior Environmental Durability

• Prevents the accumulation of cutting chips

The work support can be used in various environments with "Exclusive Scraper" to prevent the accumulation of dust such as cutting chips and "Knockout Function" to release adherence after a long-time machine stop.





Improvement No Groove

Exclusive Scraper

Even if

dry sludge

adhered

Workpiece

Plunger Spring

Wedge Function

Sequence Operation

< Image of Internal Action >

Plunger

Passage

Knockout Function

Before

When a work support cannot operate with plunger

the adherence and secure the proper operation.

spring force due to adherence such as dry sludge after

a long-time machine stop, Knockout Function releases

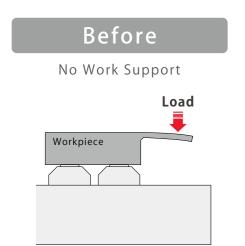
Knockout Function

Releases the Adherence.

Knockout Function

After

Work support prevents chattering and deformation caused by pressing load during workpiece machining.





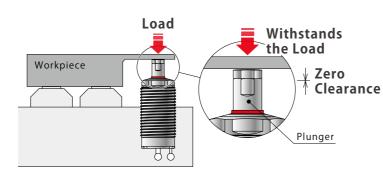
High-Power Pneumatic Work Support

Strong support force that is equivalent to hydraulic pressure.

Prevents chattering while machining and deformation caused by the cutting load

Equipped with Knockout Function that ensures highly reliable operation.

With Work Support



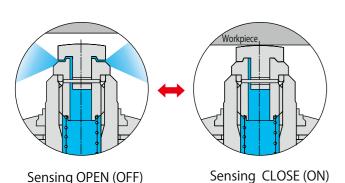
Chattering • Deformation

Prevents Chattering • Deformation

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

Air Sensing Option

Enables plunger advance action confirmation. Suitable for automation.



Specifications

* Please refer to the product catalog or our website for detailed specifications.

Model No.	Outer Diameter Thread Size	Support Force	Operating Pressure Range
WNC0103	M16×1	$0.02 \sim 0.22 \mathrm{kN}$	0.3 ~ 0.7MPa
WNC0353	M22×1.5	$0.03 \sim 0.59 \mathrm{kN}$	
WNC0603	M26×1.5	$0.1 \sim 1.0 \text{kN}$	
WNC1003	M30×1.5	0.2 ~ 1.7 kN	0.25 - 0.7140-
WNC1603	M36×1.5	0.3 ~ 2.5 kN	0.25 ~ 0.7MPa
WNC3003	M45×1.5	0.7 ~ 4.8 kN	
WNC6003	M60×2	1.6 ∼ 9.0 kN	

Specifications of options are different from above.
 Please refer to the product catalog.

Arrangement in a Compact System

Set into narrow space

• Excellent Machining quality with multiple work supports

The spanner size on the edge of the body has been downsized. It enables multiple work supports to be arranged in a compact system, and also prevents over torque during installation.

Set Closely together

Additional Options

Option List	Size (Outer diameter Thread Size)	WNC 0103 (M16)	WNC 0353 (M22)	WNC 0603 (M26)	WNC 1003 (M30)	WNC 1603 (M36)	WNC 3003 (M45)	WNC 6003 (M60)
Standard	Air Advance Standard Model		•	•	•	•	•	•
model -S	Air Advance Short Model		•					
model -Q	Air Advance Long Stroke Model		•	•	•	•	•	•
model - E	Spring Advance Model		•	•	•	•	•	
model -ES	Spring Advance Short Model		•					
model -EQ	Spring Advance Long Stroke Model		•	•		•		
model – M	Air Advance Air Sensing Model			•	•	•	•	•
model - M-Q	Air Advance Long Stroke Model with Air Sensing Option							
model - M-E	Spring Advance Model with Air Sensing Option			•				

Additional Option

Conventional Option





High-Power Pneumatic Link Clamp High-Power Pneumatic Swing Clamp

model WCE / WHE

High clamping force with pneumatic and mechanical lock system.

Stronger holding force with mechanical lock clamping force.

Compact models are newly added to the line-up.

100,000 Units of

High-Power Series have been sold!!

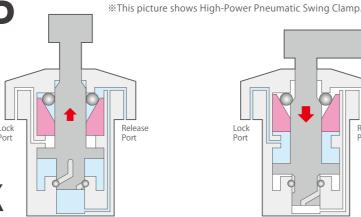
Mechanical Lock for High-Power Clamp PAT.

HYBRID CLAMP

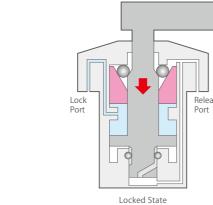
using

Mechanical Lock

and Air Pressure





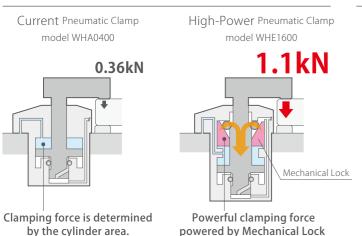


Released State

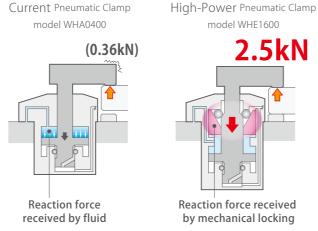
Locking Operation (Swing Stroke+Vertical Stroke 2mm)

Locked State

Powerful Clamping Force

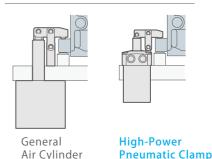


Holding Force with Wedge Mechanism

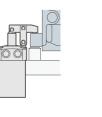


Smaller Footprint

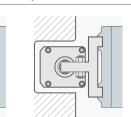
Smaller cylinders allow for more compact fixtures. Exerts approximately 3 times higher clamping force than the same size comparison cylinder.



Fixture can be downsized



General



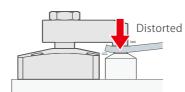
The number of clamps can be reduced

Air Cylinder

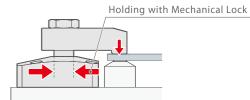
High-Power Pneumatic Clamp

High Quality

Optimum clamping force does not distort workpiece and holding force is strong enough to withstand machining loads, allowing for high quality machining.



General Clamp Excessive clamping force distorts the workpiece.

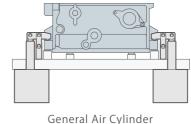


High-Power Pneumatic Clamp

Clamping force is lowered, yet the workpiece is supported by holding force.

Light Weight

By reducing the weight of fixture, the load to equipment is minimized such as NC table.



reduced

Fixture Weigh About 10% workpiece size is 300×260.

High-Power Pneumatic Clamp

Specifications for High-Power Pneumatic Series

* Please refer to the product catalog or our website for detailed specifications.

High-Power Pneumatic Swing Clamp model WHE



Operating Pressure	Cylinder Force	Cylinder Outer Diameter	Model No.
	0.18 ~ 0.44 kN	φ 36	WHE0450
	0.23 ~ 0.57 kN	φ40	WHE0600
0.2 ~ 0.5MPa	0.39 ~ 0.98 kN	φ46	WHE1000
0.2 ~ 0.5IVIPa	0.63 ~ 1.57 kN	φ54	WHE1600
	0.98 ~ 2.44 kN	φ64	WHE2500
	1.54 ~ 3.86 kN	φ77	WHE4000

* Cylinder Force is different from Clamping Force/Holding Force.



	Model No.	Cylinder Outer Diameter	Cylinder Force	Operating Pressure
	WCE0452	\$ 36	0.20 ~ 0.44 kN	
	WCE0602	φ40	0.28 ~ 0.59 kN	
	WCE1002	φ46	0.45 ~ 0.94 kN	0.2 - 0.5MD-
	WCE1602	φ54	0.77 ~ 1.59 kN	0.2 ~ 0.5MPa
	WCE2502	φ64	1.20 ~ 2.46 kN	
	WCE4002	φ77	1.92 ~ 3.92 kN	
		. 1.55		

* Cylinder Force is different from Clamping Force/Holding Force.





Air Double Action

High-Power Frog Clamp

model WFE

Largely retracted lever avoids interference during workpiece loading / unloading. High-Power Frog Clamp has powerful clamping and holding force powered by air pressure + mechanical lock.



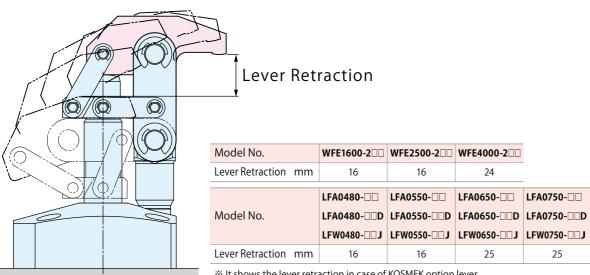
Hyd. Double Action

Frog Clamp Hydraulic model LFW-J/LFA/LFA-D

Available with 3 options. Standard Model, Double End Rod Model (Action Confirmation by Sensing with Dog), and Release Confirmation Model (Release Confirmation with Air Sensor).

• Lever Retracted Lower than the Clamping Point

Large lever retraction allows for wide angle of loading and unloading workpieces between operations.

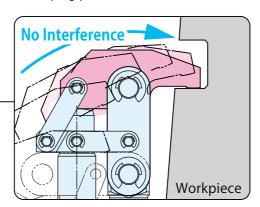


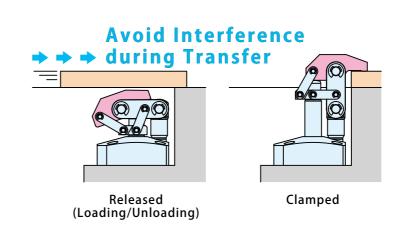
* It shows the lever retraction in case of KOSMEK option lever.

• Enables to clamp difficult clamping points

The compact lever-operating range enables to clamp difficult clamping points.

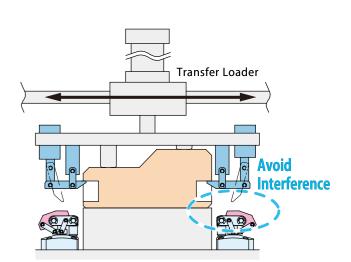






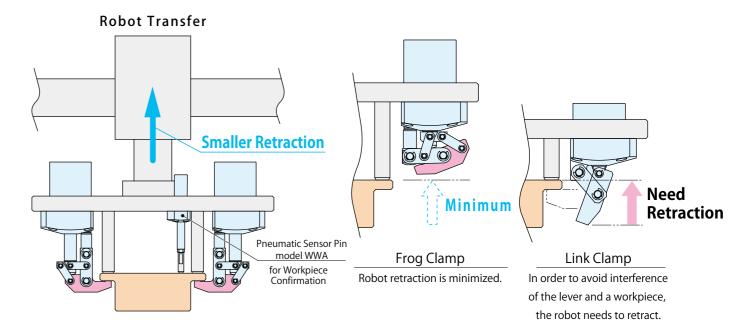
Avoid interference with a workpiece when loading and unloading.

Large lever retraction allows for wide angle of loading and unloading workpieces between operations.



Avoid interference with clamps on the robot hand.

The largely retracted lever avoids interference with the work clamping lever on the transfer robot hand.



For Robotic Hands

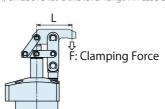
Largely retracted lever enables to minimize robot retraction.

Specifications

High-Power Pneumatic Frog Clamp

		- 9		
Model No.	Cylinder Outer Diam.	Clamping Force	L	Operating Pressure
WFE1600	φ54	$0.5\sim1.0~\mathrm{kN}$	42mm	
WFE2500	φ64	$0.7\sim1.5~\mathrm{kN}$	50mm	0.2 ~ 0.5MPa
WFE4000	φ77	1.1 ~ 2.3 kN	60mm	

* L(mm) on above list is the lever length in case of KOSMEK option lever.



Frog Clamp Hyd. Double Acting Model (Standard Model)

Model No.	Cylinder Outer Diam.	Clamping Force	L	Operating Pressure
LFA0480-	φ48	$0.5\sim3.4\mathrm{kN}$	42mm	
LFA0550-	φ55	0.6 ~ 4.2 kN	50mm	1 ∼ 7MPa
LFA0650-	φ 65	$1.1 \sim 7.3 \text{ kN}$	56.5mm	1 ' 7 / IVIFa
LFA0750-	φ 75	1.7 ~ 11.4 kN	67.5mm	

* L(mm) on above list is the lever length in case of KOSMEK option lever.



One Air Port to Confirm Clamp and Unclamp Actions. Single acting models are newly released.





Single Action/Low Pressure

NEW



Link Clamp

Single Action/Low Pressure

NEW





Double Action/Low Pressure



Link Clamp

Double Action/Low Pressure



Model LLV Linear Cylinder Double Action/Low Pressure

1-Port 2-Way Sensing **Contributes to Energy-Saving**







Model TMV-2C E Link Clamp Double Action/High Pressure

Significant **Automation Improvements**









Cost Reduction

1-Port Sensing Enables to

Reduce Cost by \$1000

Reduce Machining Cost

Only one fixture passage is required as the number of ports is decreased. Example: $2,000 \text{mm} \times \$0.1 / 1 \text{mm Machining} = \200



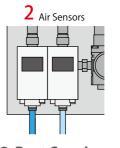
2-Port Sensing

1-Port Sensing

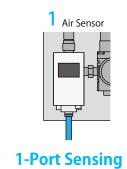
Resource Saving

 Reduce Overall Cost of Air Sensors by 50%

Only one air sensor is required. Example: Sensor Cost \$100



2-Port Sensing



Improve Work Efficiency

Reduce Designing Cost

Mounting hole and passage of fixture become simple, reducing designing cost

Example : $2h \times $100 / h = 200





2-Port Sensing

1-Port Sensing



Power/CO₂ Reduction

Significant Difference in

Air Consumption!! New Model Previous Model 2-Port Sensing Series model LHW/LKW/LLW 1-Port Sensing Series model LHV/LKV/LLV Average Air Consumption: 10.1 L/min Average Air Consumption: 2.1 L/min model LHW model LHV Air Consumption (L/min) 79% OFF 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 Time (sec) Time (sec) Workpiece Clamping Workpiece Clamping Machining Unclamping Workpiece Machining Unclamping Workpiece Loading Unloading Loading Unloading **Unclamped State** Clamped State **Unclamped State** Clamped State Clamping State Clamping State Workpiece Loading/Unloading Machining Workpiece Loading/Unloading Machining **Air Consumption = Zero** 2 Air Sensors Fixture Hydraulic Air Port for Sensing

** This is the actual value measured by KOSMEK when comparing air consumptions in case of two LHV clamps and two LHW clamps connected to air sensor(s)





Swing Clamp/Link Clamp

Hyd. Single Action with Action Confirmation

model LGV/LJV

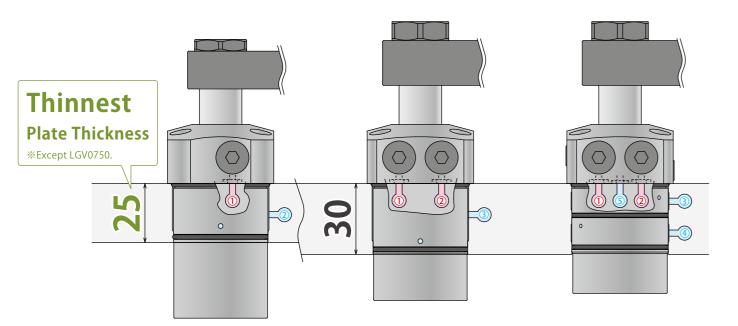
ONLY ONE AIR PORT to confirm clamp and unclamp.

Compact clamp with action confirmation system.

"Single Acting Models" are newly added to the line-up.

Enables to reduce the number of fixture ports (circuits).

3 Options of Sensing Mechanism





model LGV 1-Port 2-Sensing Single-Acting Swing Clamp

 $_{\mathsf{model}}\,\mathsf{LHV}$ 1-Port 2-Sensing **Double-Acting Swing Clamp**

model LHW 2-Port 2-Sensing **Double-Acting Swing Clamp**

2 Ports

3 Ports

Air Port: 1

5 Ports

Hyd. Port: 1

Hyd. Port: 2

Air Port: 2

Hyd. Port: 2

Air Port: 1

Air Vent Port: 1

Required **Air Sensor**



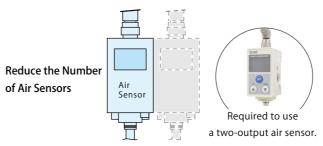






Minimized Number of Sensors

Only one air sensor is required to check both clamping and unclamping actions. (Required to use a two-output air sensor.)



* It can be easily used with Air Sensor Unit, which is introduced on the backside of this brochure.

Minimized Number of Ports • Simple Machining

Integrating ports for the sensor allows for reducing the number of both ports of a rotary joint and air passages of a fixture plate. Plus, they can simplify the machining of a mounting hole.



Specifications

Swing Clamp with Action Confirmation Hydraulic Single Action

Model No.		LGV0400-C□□	LGV0480-C□□	LGV0550-C□□	LGV0650-C□□	LGV0750-C□□	
Cylinder Area for	Clamping cm ²	5.5	7.5	10.3	14.2	21.3	
Clamping Force **1 kN (Calculation Formula)		$F = \frac{P - 1.22}{2.04 + 0.0084 \times L}$	$F = \frac{P - 1.09}{1.45 + 0.0044 \times L}$	$F = \frac{P - 1.22}{1.07 + 0.0033 \times L}$	$F = \frac{P - 1.22}{0.77 + 0.0020 \times L}$	$F = \frac{P - 0.97}{0.51 + 0.0012 \times L}$	
Cylinder Capac	ity cm ³	7.1	10.6	17	25.5	45.7	
Full Stroke	mm	13	14	16.5	18	21.5	
Swing Stroke(9	0°) mm	6	7	8.5	10	11.5	
Lock Stroke mm		7	7	8	8	10	
Swing Angle A	ccuracy	90° ±3°					
Swing Complete Po	sition Repeatability	±0.5°					
Return Spring	max.	0.76	0.89	1.41	1.75	2.26	
Force kN	min.	0.45	0.59	0.83	1.08	1.43	
Operating Pres	sure MPa	2.5~7					
Operating Tem	perature °C	0 ~ 70					
Usable Fluid		General Hydraulic Oil Equivalent to ISO-VG-32					
Weight **2	kg	1	1.3	1.8	2.8	4.3	

Notes : %1. F: Clamping Force (kN), P: Supply Hydraulic Pressure (MPa),

L: Distance between the piston center and the clamping point (mm).

%2. It shows the weight of single swing clamp including the nut and the taper sleeve.



Link Clamp with Action Confirmation Hydraulic Single Action

Model No.		LJV0400-C□□	LJV0480-C□□	LJV0550-C□□	LJV0650-C□□	LJV0750-C□□
Cylinder Area for Clamping cm ²		4	5.4	8.3	12.7	20.1
Clamping Force **3 kN (Calculation Formula)		F= \frac{5.79\times P - 2.80}{L-16}	$F = \frac{8.94 \times P - 5.62}{L - 18.5}$	$F = \frac{15.68 \times P - 7.49}{L - 21}$	$F = \frac{28.06 \times P - 12.13}{L - 24.5}$	$F = \frac{54.29 \times P - 24.93}{L - 30}$
Full Stroke	mm	20.5	23.5	26	29.5	35
Lock Stroke	mm	17.5	20.5	23	26.5	32
Extra Strole	mm	3	3	3	3	3
Cylinder Capac	ity cm ³	8.2	12.6	21.6	37.5	70.4
Return Spring	max.	0.21	0.36	0.44	0.58	0.96
Force kN	min.	0.1	0.17	0.24	0.33	0.49
Operating Pres	sure MPa			2.5 ~ 7		
Operating Tem	perature °C	0 ~ 70				
Usable Fluid		General Hydraulic Oil Equivalent to ISO-VG-32				
Weight **4	kg	0.9	1.2	1.8	2.5	4

L: Distance between the piston center and the clamping point (mm).

*4. It shows the weight of single link clamp without the link lever.



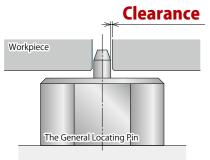
KOSMEK Harmony in Innovation

Locating Pin with Higher Accuracy can be used under

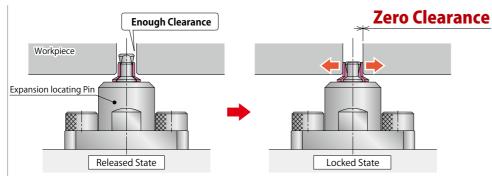
Machining Environment



The World's Smallest Diameter Expansion Locating Pin



The general locating pin has some clearance between the pin and a workpiece hole.



Expansion Locating Pin has Zero Clearance!!

| When Expanded | The clearance between the pin and a reference hole becomes zero to locate with high accuracy.

| When Released | Easy to load/unload workpieces with enough clearance.

Hydraulic Model

Model	Pressure Source/ Control	Model No.	Workpiece Hole Diam. (mm)	Locating Repeatability	
Large Evnancion Model	Hud / Double Action	NEW VFH1000	φ5, φ6, φ7, φ8	0.030 mm	
Large Expansion Model	Hyd. / Double Action	VFH2000/3000	ϕ 9 \sim ϕ 15	0.010 mm	
	Illud / Double Action	NEW VFK2000	ϕ 5.7 \sim ϕ 6.6, ϕ 6.7 \sim , ϕ 7.6	0.010 mm	
Casting Material Model	Hyd. / Double Action	VFK2000/3000	φ7.6~ φ16.2		
	Hyd. / Single Action	VFJ2000/3000	Ψ7.0 - Ψ10.2		
High Assurasu Madal	Hyd. / Double Action	VFM2000/6000	$\phi 8 \sim \phi 30$	0.003 mm	
High Accuracy Model	Hyd. / Single Action	VFL2000/6000	Ψονοφου		



Large Expansion Model **VFH1000 / VWH1000**

For Finishing / Dividing Process

Pneumatic Model

Model	Pressure Source/ Control	Model No.	Workpiece Hole Diam. (mm)	Locating Repeatability
Large Expansion Model Air / Doub	Air / Double Action	NEW VWH1000	φ5, φ6, φ7, φ8	0.030 mm
	Air / Double Action	VWH2000/3000	φ9~ φ15	0.010 mm
Casting Material Model	Air / Double Action	NEW VWK2000	$\phi 5.7 \sim \phi 6.6$, $\phi 6.7 \sim$, $\phi 7.6$	0.010
		VWK2000/3000	φ7.6~ φ16.2	0.010 mm
High Accuracy Model	Air / Double Action	VWM2000/5000	φ8~ φ30	0.003 mm



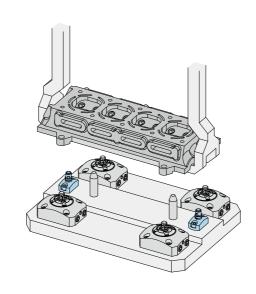
Casting Material Model
VFK2000 / VWK2000

Steel balls come out.

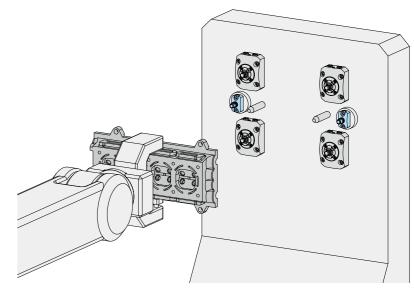
For Locating Casting Core Hole /

The First Process

Application Examples







Loading and Unloading with Robots

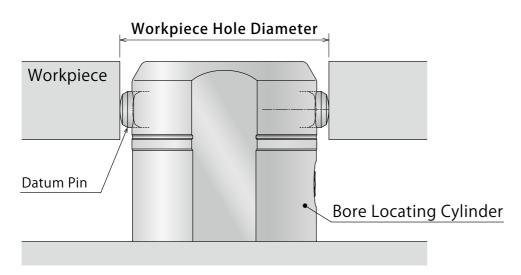




Bore Locating Cylinder Hyd. Double Action

Large Expansion Stroke, Zero Clearance with Datum Hole.

Max. Applicable Workpiece Hole: ϕ 129

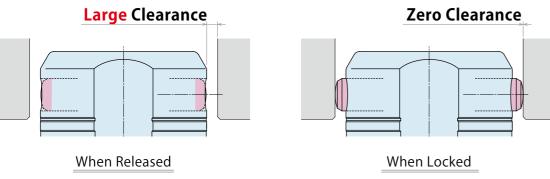


Line-up of 4 body sizes according to workpiece hole diameters.

Model No.	VFP0600-□ VFP0600-□-M	VFP0800-□ VFP0800-□-M	VFP1000-□ VFP1000-□-M	VFP1200-□ VFP1200-□-M
Workpiece Hole Diam. mm	ϕ 60 \sim 65	ϕ 80 \sim 86	<i>φ</i> 100~107	φ 120~129
Locating Repeatability mm	0.02	0.02	0.03	0.03

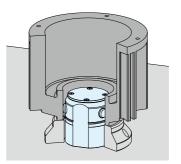
• Excellent Workpiece Loading and Unloading

Long stroke of the pin allows for large clearance when released, simplifying loading and unloading the workpiece.

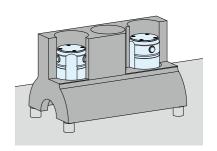


Application Examples

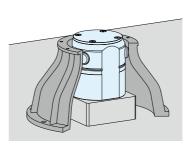
Centering and Locating of Large-Diameter Hole



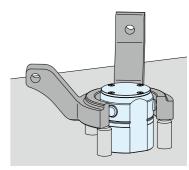
Centering of Motor Housing



Positioning of Cylinder Block



Centering of Transmission Case



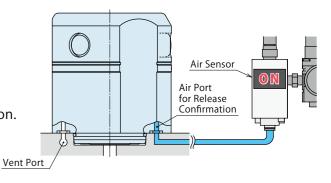
Centering of Knuckle



** Action Confirmation: Only option M has the release action confirmation function.

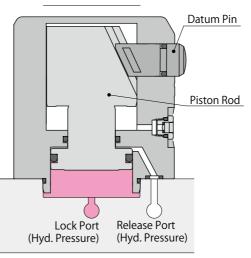
Release Confirmation

An air sensor enables release action confirmation.



Cross Section

Lock Action



Specifications

• - p					(11111)				
Model No.		VFP0600-□-□	VFP0800-□-□	VFP1000-□-□	VFP1200-□-□				
Workpiece Hol	e Diam. mm	ϕ 60 \sim 65	$\phi 60 \sim 65 \phi 80 \sim 86 \phi 100 \sim 1$						
Locating Repeatal	oility ^{*1} mm	0.02	0.02	0.03	0.03				
Datum Diameter	At Release	ϕ 58 or less	ϕ 77 or less	ϕ 96 or less	ϕ 116 or less				
	At Full Stroke	ϕ 66 or more	ϕ 87 or more	ϕ 108 or more	ϕ 130 or more				
Expanding	at 7.0MPa	2.4	3.6	4.9	6.2				
Force ^{*2}	at 1.5MPa	0.5	0.8	1.1	1.3				
Cylinder Capacity	Lock	2.4	4.4	6.9	10.4				
(Empty Action)	Release	4.8	8.7	13.4	20.1				
Operating Pressu	re MPa	1.5 ~ 7.0							
Operating Tem	perature °C	0 ~ 70							
Usable Fluid		General Hydraulic Oil equivalent to ISO-VG-32							
Weight	kg	1.2	2.5	4.4	7.4				

Notes:

- *1. It shows the locating repeatability under specific condition (when no load is applied).
- *2. Expanding force shows the calculated value when coefficient friction is μ 0.2.
- 1. This product is used only for locating and does not have a clamping function.





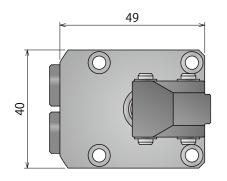
Standard Side Clamp High-Power Side Clamp

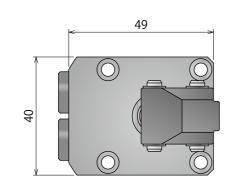
Hyd. Double Action

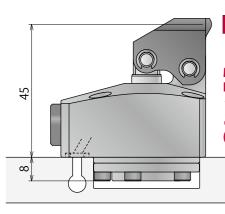
model LSA/LSE

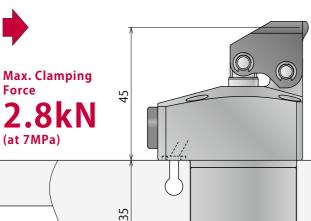
Specialized for side push. Alternative solution when traditional clamp is causing tooling clearance issue.

The high-power model is equipped with the mechanical locking so that it exerts powerful clamping force and holding force.











Standard Side Clamp model LSA **Standard Model**

High-Power Side Clamp model LSE **High Power Model**

Direct Mount Speed Control Valve

Speed control valve with air bleeding function can be directly mounted on the product. (Speed control valves are sold separately.)





Workpiece Single Side Clamping

Clamps the side of the workpiece.

For Workpieces with No Clamping Space

Even if a workpiece has no clamping space, the side of the workpiece can be clamped and fixed.

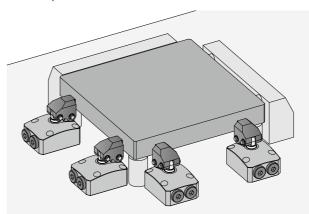
The Same Mounting Dimensions with Swing Clamps and Link Clamps

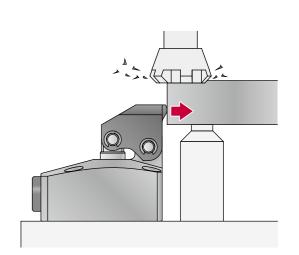
Side Clamp has the same mounting hole dimensions with Swing

Clamps (Ex. model LHA) and Link Clamps (Ex. model LKA).

Zero Top Side Interference

There are no interfering objects on the top surface by clamping the workpiece from the side. Machining of the top surface of the workpiece becomes easier.





Workpiece

Specifications

Standard Side Clamp

	cm³	1.6
.1		
Release		1.3
ı	MPa	0.5 ~ 7.0
alculation Formula	kN	0.394 × Supply Pressure (MPa)
7 MPa Supply Pressure	kN	2.8
ture	°C	0~70
		General Hyd. Oil Equivalent to ISO-VG-32
	kg	0.5
	alculation Formula 7 MPa Supply Pressure	7 MPa Supply Pressure kN cure °C

High-Power Side Clamp

Released State

Locked State

Thigh rower stac clamp							
Model No.		LSE0360-C□					
Cylinder Capacity	Lock	cm ³	3.2				
Cyllildel Capacity	Release	cm ³	3.0				
Operating Pressu	ıre	MPa	0.5 ~ 6.0				
Clamping Force	Calculation Forr	nula kN	0.601 × Supply Pressure (MPa)				
Clamping Force	at 6 MPa Supply Pre	ssure kN	3.6				
Operating Temp	erature	℃	0 ~ 70				
Usable Fluid			General Hyd. Oil Equivalent to ISO-VG-32				
Weight		kg	0.7				

1. For the holding force of High-Power Side Clamp, please refer to the product catalog or contact us.

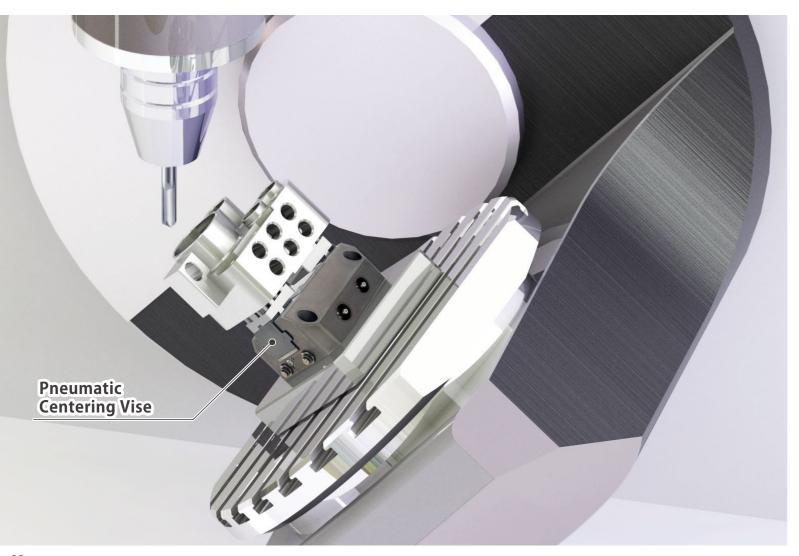


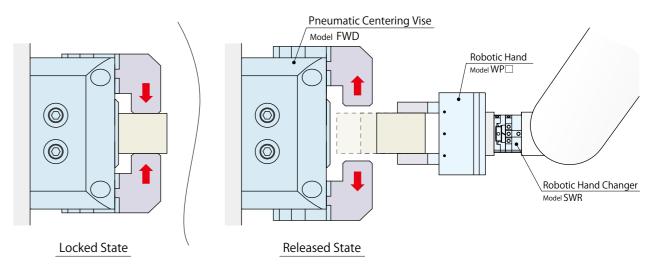


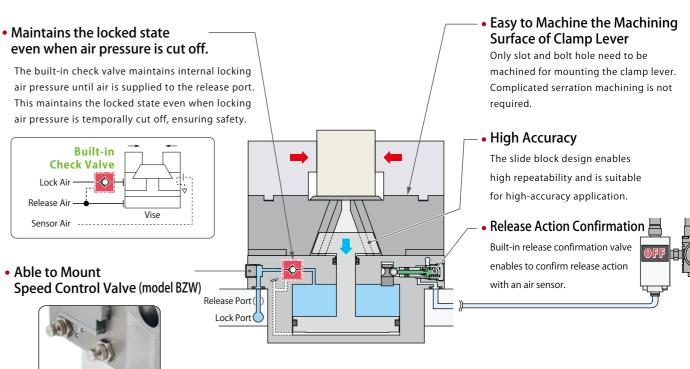
Pneumatic Centering Vise

High Repeatability + High Cylinder Force +
Safety Function to Maintain Locked State.
Powerful Holding of Workpiece with Air Pressure,
Equipped with Release Action Confirmation.

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





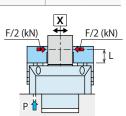


Specifications ** Please refer to the product catalog for detailed specifications.

Model No.			FWD0650	FWD0850	FWD1000	FWD0650-L	FWD0850-L	FWD1000-L			
Slider Stroke (One S	Side)	mm	2.5	2.5 2.5 7				7			
Max. Clamping Hei	ght (at 1MPa) mm	35	45	55	75	100	125			
Cylinder Area	Lock		32.1	54.7	75.4	32.1	54.7	75.4			
cm ²	Release		33.2	56.7	78.5	33.2	56.7	78.5			
Clamping Force kN			$F = \frac{2650 \times P}{220 + L}$	F= $\frac{5440 \times P}{263 + L}$	F= 8460 × P 295 + L	F= 1440 × P 226 + L	F= 2950 × P 270 + L	F= 4570 × P 300 + L			
Repeatability (X-axis	Direction)*	2 mm	±0.01								
Operating Pressure		MPa	0.2 ~ 1.0								
Operating Temperature ℃			0~70								
Usable Fluid			Dry Air								
Weight kg			3.5	5.4	7.4	3.5	5.4	7.4			

otes: %1. F: Clamping Force(kN), P: Supply Air Pressure (MPa), L: Clamping Height (mm) %2. Repeatability under the same condition.

Stroke (One Side)







NEW

Pneumatic Swing Clamp

model WHC

High-Durability, High-Speed and High-Accuracy Compact Pneumatic Cylinder.

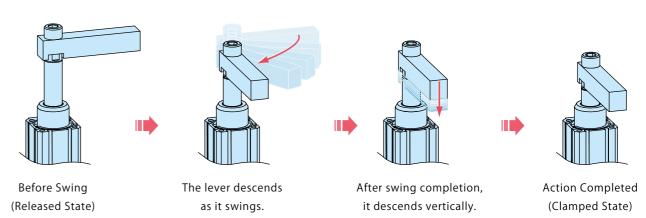
This clamp is coolant resistant, and can be used in various applications with the use of auto switch.

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

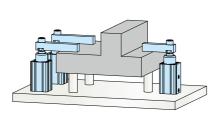
High Speed \cdot High Rigidity \cdot $\pm 0.5^{\circ}$ Swing Angle Position Repeatability

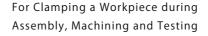


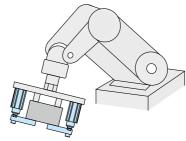
Action Description



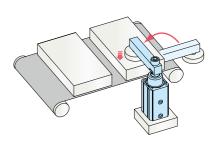
Application Examples





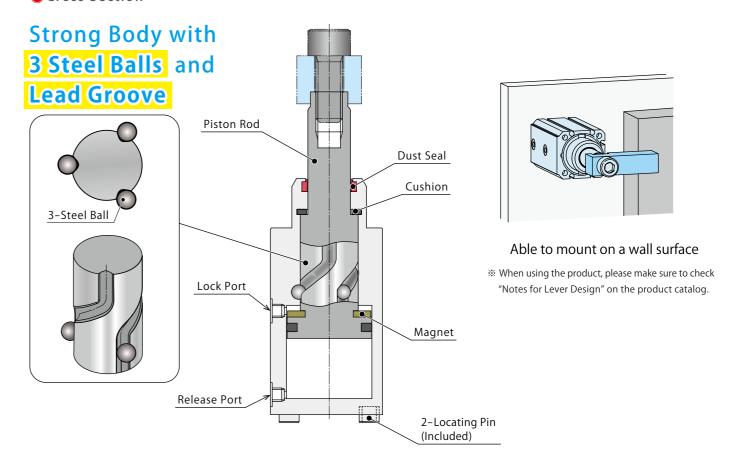


As a Robotic Hand



For Clamping a Workpiece on a Device

Cross Section







Master Cylinder



Tool Adapter

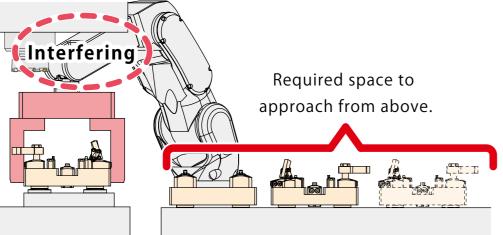
Pallet Gripper

model WVA

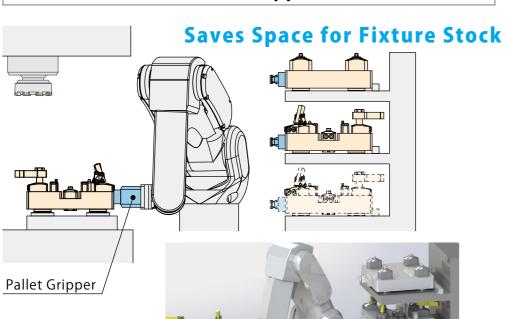
Moment-Resistible Pallet Gripper is suitable for pallet transfer.

Side approaching enables to save space for fixture stock.

Previous Method

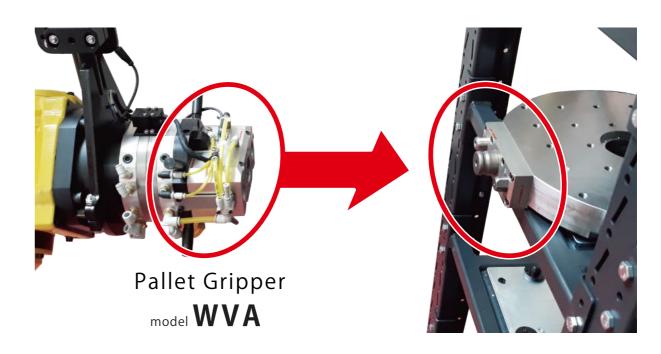


Pallet Gripper

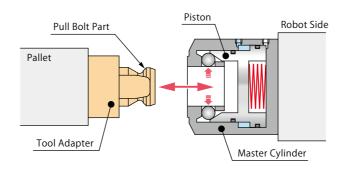


Simplify Fixture Setup with Robot

Side-Approaching Pallet Gripper



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

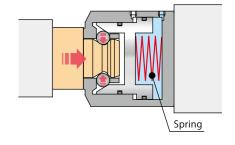


When Loading/Unloading (Released)

Release Air Pressure ON

Lock Air Pressure OF F

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

ressure OFF

Lock Air Pressure

via the steel balls.

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

ON

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.





Hole Gripper

$_{\mathsf{model}}$ **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.

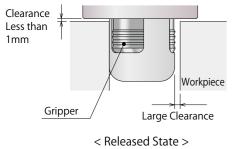
■ For transferring workpieces to and from various machining processes





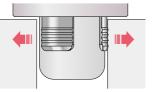
Gripper expands and pulls in.

Action Description







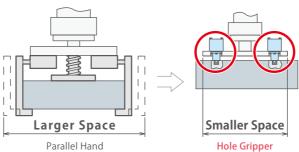




< Clamping State > The gripper expands to hold the workpiece hole. < Clamping Completed > Pulls and clamps in the workpiece hole.

• Light Weight / Smaller Footprint

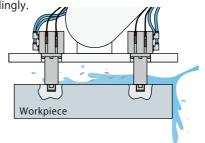
WKK makes a robotic hand compact and enables to downsize transfer equipment.



Hand with Linear Cylinder, etc.

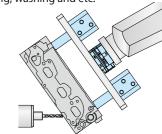
• Wide Range of Seating Surface Heights

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



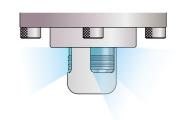
• Using Transfer Hand as Fixture

WKK with inner diameter gripping enables 5 faces accessible with no tooling interference. A robot can hold a workpiece and continue to the next processes such as deburring, washing and etc.



Air Blow Function Ensures Longevity **Even in Machining Environments**

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

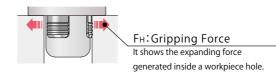


Specifications * Please refer to the product catalog for details. If the workpiece hole is a taper hole, specifications will be different.

			WKK1000-□-□-□-F□						WKK2000-□-□-F□									
Model No.			WKK1000-□-□-S□						WKK2000-□-□-S□									
	Workpiece Hole	Code	060	065	070	075	080	085	09	90	095	100	105	110	115	120	125	130
Manlinia aa	Workpiece Hole Diam. φ d	+0.7 -0.3 mm	6	6.5	7	7.5	8	8.5	9)	9.5	10	10.5	11	11.5	12	12.5	13
Workpiece	Hardness			HB250 or less (S : With Serration)														
Locating Repeat	ability *1	mm	0.03 (when combining D and C)															
Allowable Offset (Floa	ting Clearance of Expandin	g Area) mm	±0.3 (M : Floating Model)							± 0.5 (M : Floating Model)								
Workpiece Pullin	g Stroke	mm	1.0															
Cylinder Capacity	Release	cm3				5.3				6.7								
(Empty Action)	Lock	cm3		4.6						5.8								
Operating Pressu	ire	MPa	$0.25 \sim 0.5$ $0.25 \sim 0.7$															
Recommended A	Air Blow Pressure	MPa	0.2 ~ 0.3															
Air Blow Flow Rate (per cylinder) L / min			15 or more															
Operating Temperature °C			0~70															
Usable Fluid			Dry Air															

*1. Locating repeatability under the same condition (no load).

			S	: With Serration	on the gripper part	F : No Serration on the gripper part						
Model No.			WKK1	000-🗆-🗆-S🗆	WKK2000-□-□-S□	WKK1	000-□-□-F□	WKK2000 F				
		Workpiece Hole Code	060 065	070~090	090 ~ 130	060 065	070 ~ 090	090 ~ 130				
		Air Pressure 0.7 MPa		2500	3300		2500	3300				
Gripping	N	Air Pressure 0.5 MPa	1900		2500	1900		2500				
Force	14	Air Pressure O MPa (Zero Air)	480		700	480		700				
		Calculation Formula	FH = 2870P + 480		FH = 3700P + 700	FH = 2870P + 480		FH = 3700P + 700				
		Air Pressure 0.7 MPa		800	1000		210	300				
Clamping	N	Air Pressure 0.5 MPa		600	740	160		220				
Force	IN	Air Pressure O MPa (Zero Air Pressure)		80	90	20		30				
		Calculation Formula	Fc=	1030P + 80	Fc = 1300P + 90	Fc=	= 270P + 20	Fc = 390P + 30				





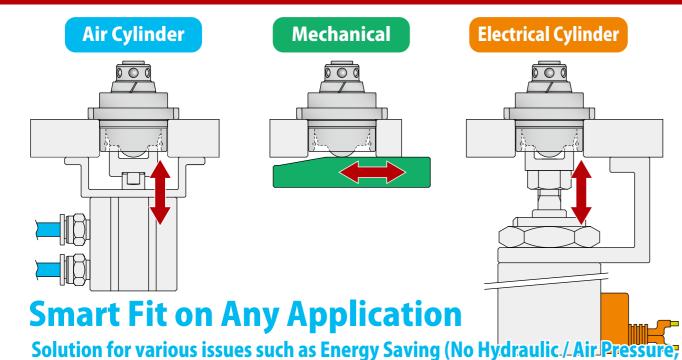
Smart Series



Powered by Any Power Source

□24mm Size Compact Body

50N Power with this compact size



No Driving Source), All Electric System, Carbon Neutrality, SDGs, etc.

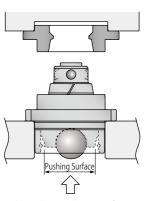


Location Clamp

model KSL Spring Lock / External Force Release

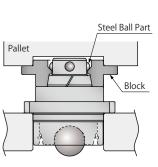
Enables easier pallet change and setup. Locating Repeatability: 0.01mm

Clamping Force: 50N



<Release>

When the pushing surface is pushed in, the steel ball retracts.



<Lock>

KOSMEK

When the pushing surface is released, the steel ball expands with the built-in spring. It pulls in the block, and completes the clamping / locating.



Hole Clamp

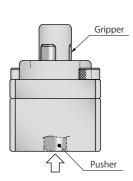
model KSH Spring Lock / External Force Release

Gripper expands and clamps in the workpiece hole.

Gripping Force: 50N

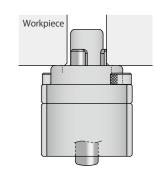
Workpiece Hole Diameters ± 0.3 : ϕ 6, ϕ 6.5, ϕ 7, ϕ 7.5, ϕ 8, ϕ 8.5, ϕ 9, ϕ 9.5, ϕ 10





When the pusher is pushed in, the gripper retracts.

<Lock>



When the pusher is released, the gripper expands with the built-in spring and grips a workpiece.



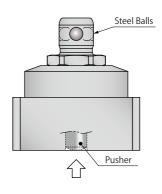
Ball Lock Cylinder

model KSA Spring Lock / External Force Release

Securely transfers pallets and plates. Prevents pallet/plate drops with the steel balls (Ball Lock).

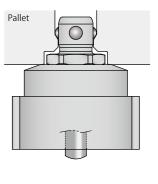
Pulling Capacity (Holding Force): 50N

<Release>



When the pusher is pushed in, the steel ball retracts.

<Lock>



When the pusher is released, the steel ball expands with the built-in spring and holds a pallet.





KOSMEK LTD. Head Office

Company Name KOSMEK LTD.
Established May 1986
Capital ¥99,000,000

Chairman & CEO Tsutomu Shirakawa

President & CEO Koji Kimura

Employee Count 270

Group Company KOSMEK LTD.

KOSMEK ENGINEERING LTD.

KOSMEK (USA) LTD.

KOSMEK EUROPE GmbH

KOSMEK (CHINA) LTD.

KOSMEK LTD. - INDIA

Business Fields Design, Production and Sales of Precision Products, and Hydraulic and Pneumatic Equipment

Customers Manufacturers of Automobiles, Industrial Machinery, Semiconductors and Electric Appliances

Banks Resona Bank and Bank of Tokyo-Mitsubishi UFJ

Major Industrial Property Rights

(Including Patent Right and Patent Pending as of March 2022)

• Domestic : 120

• International : 250 (USA, EU, Taiwan, South Korea, China, India, Brazil, Mexico, Thailand, Indonesia)

Product Line-Up









KOSMEK WORK CLAMPING SYSTEMS

Machine Tool Related Products

Our clamping system enables boltless automation to load and unload workpieces easier.

Non-leak valve enables the use of hydraulic source and fixtures in a disconnected condition after locking (clamping action).

We offer a wide range of products such as hydraulic/pneumatic actuators, supports, positioning equipment, valves, couplers, etc.

QUICK MOLD CHANGE SYSTEMS

For Injection Molding Machines

Automatic clamping systems have reduced mold change times and increased production efficiency for plastics manufacturers in a multitude of industries.

We offer a variety of different clamping options, including hydraulically powered clamps, pneumatic clamps with a force multiplying mechanism, and magnetic clamping systems.

QUICK DIE CHANGE SYSTEMS

For Press Machines

Kosmek Quick Die Change Systems are a cost effective tool to improve the working environment, allow diversified and small-lot production, and reduce press down time.

Available for a wide range of machines; from large size transfer-presses to smaller high speed presses.

DIECAST CLAMPING SYSTEMS

For Diecast Machines

Kosmek Diecast Clamping Systems (KDCS) save the time of the changeover of die casting and magnesium molding machines under severe conditions. ex) mold release agents and high temperature.

KOSMEK FACTORY AUTOMATION SYSTEMS

FA • Industrial Robot Related Products

KOSMEK robotic hand changer, robotic hand, positioning equipment and other products improve automation, precision and setup of transfer, assembly, deburring, testing and various other processes.



Sales Offices

Sales Offices across the World

Japan	KOSMEK LTD. HEAD OFFICE	TEL. +81-78-991-5162 FAX. +81-78-991-8787 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241
USA	KOSMEK (USA) LTD. Overseas Affiliate	TEL. +1-630-620-7650 FAX. +1-630-620-9015 650 Springer Drive, Lombard, IL 60148 USA
USA	KOSMEK (USA) LTD. Atlanta Branch Office	TEL. +1-708-577-3275 303 Perimeter Center North, Suite 300, Atlanta, GA 30346 USA
Mexico	KOSMEK (USA) LTD. Mexico Branch Office	TEL. +52-1-55-3044-9983 Av. Santa Fe 103, Int. 59, col. Santa Fe Juriquilla, Queretaro, QRO, 76230, Mexico
Europe	KOSMEK EUROPE GmbH Overseas Affiliate	TEL. +43-463-287587 FAX. +43-463-287587-20 Schleppeplatz 2 9020 Klagenfurt am Wörthersee Austria
	KOSMEK (CHINA) LTD. Overseas Affiliate	TEL.+86-21-54253000 FAX.+86-21-54253709 Room601, RIVERSIDE PYRAMID No.55, Lane21, Pusan Rd, Pudong Shanghai 200125, China
China	KOSMEK (CHINA) LTD. Dongguan Office Overseas Affiliate (Sales Office)	TEL.+86-769-85300880 Room301, AcerBuilding No.15, Dezheng(W)Road, Changan Town Dongguan Guangdong 523843., P.R.China
	KOSMEK (CHINA) LTD. Wuhan Office Overseas Affiliate (Sales Office)	TEL.+86-27-59822303 Room502, Building A, Jingkai Future City, Zhuankou Economic Development Zone, Wuhan City, Hubei Province, 430050 China
India	KOSMEK LTD INDIA Branch	TEL. +91-9880561695 4A/Old No:649, Ground Floor, 4th D cross, MM Layout, Kavalbyrasandra, RT Nagar, Bangalore -560032 India
Thailand	KOSMEK Thailand Representative Office Representative Office	TEL. +66-2-300-5132 FAX. +66-2-300-5133 67 Soi 58, RAMA 9 Rd., Phatthanakan, Suanluang, Bangkok 10250, Thailand
Taiwan	FULL LIFE TRADING CO., LTD. Taiwan Exclusive Distributor	TEL. +886-2-82261860 FAX. +886-2-82261890 16F-4, No.2, Jian Ba Rd., Zhonghe District, New Taipei City Taiwan 23511
Philippines	G.E.T. Inc, Phil. Philippines Exclusive Distributor	TEL.+63-2-310-7286 FAX. +63-2-310-7286 Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427
Indonesia	PT. Yamata Machinery Indonesia Exclusive Distributor	TEL. +62-21-29628607 FAX. +62-21-29628608 Delta Commercial Park I, Jl. Kenari Raya B-08, Desa Jayamukti Kec. Cikarang Pusat Kab. Bekasi 17530 Indonesia

Sales Offices in Japan

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Tokyo Sales Office	TEL. 048-652-8839 FAX. 048-652-8828 81, 4-chome, Onari-cho, Kita-ku, Saitama City, Saitama, 331-0815, Japan
Nagoya Sales Office	TEL. 0566-74-8778 FAX. 0566-74-8808 10-1, 2-chome, Misono-cho, Anjo City, Aichi, 446-0076, Japan
Fukuoka Sales Office	TEL. 092-433-0424 FAX. 092-433-0426 8-10-101, 1-chome, Kamimuta, Hakata-ku, Fukuoka City, Fukuoka, 812-0006, Japan

History

May	1986	KOSMEK CO.,LTD. established in Santanda, Amagasaki city, Hyogo Prefecture with ¥20 million capital.
October	1986	Tokyo Sales Office established in Yamato city, Kanagawa Prefecture.
April	1987	Headquarters moved to Tsugiya, Amagasaki city, Hyogo.
August	1987	Factory established in Katube, Toyonaka city.
February	1988	Nagoya Sales Office established in Nishi-ku, Nagoya city.
December	1988	Capital increased to ¥40 million.
January	1989	Kitakanto Sales Office established in Omiya city, Saitama Prefecture.
		The name Tokyo Sales Office changed to Minamikanto Sales Office.
May	1989	Head Office and Factory completed in Kobe Hi-tech Park, Nishi-ku, Kobe city, Head Office moved.
		Osaka Sales Office established in Amagasaki city.
September	1989	KOSMEK (USA) LTD. established.
December	1991	Capital increased to ¥60 million.
March	1992	Additional structure completed at Headquarters.
May	1992	KOSMEK enginnering CO.,LTD. established in Kobe city.
September	1992	Minamikanto Sales Office moved to Shizuoka city.
		The name changed to Shizuoka Sales Office.
		The name Kitakanto Sales Office changed to Kanto Sales Office.
October	1993	Osaka Sales Office moved into Head Office.
		The name changed to Kansai Sales Office.
August	1994	"PPORF Activity started."
January	1995	Heavily damaged by Great Hanshin Earthquake, but fully and quickly repaired.
March	1995	Nagoya Sales Office moved to Anjo city, Aichi Prefecture.
		The name changed to Chubu Sales Office.
December	1996	Core computer system introduced.
March	1997	Shizuoka Sales Office merged to Chubu Sales Office.
May	1998	Air conditioner introduced in machinery plant of head office.
October	2003	Head Office Plant extension completed.
December	2003	ISO9001 certified.
October	2004	Production section is transferred by KOSMEK enginnering CO.,LTD.
November	2004	Awarded PI Grand Prix "Exhibition Jury Special Prize" for Pallet Clamp in Product Innovation Fair.
June	2005	Capital increased to ¥99,000,000.
July	2005	Shanghai Office established at Shanghai.
August	2006	New Head Office and Factory completed in Kobe Hi-tech Park, Nishi-ku, Kobe city, Head Office moved.
September	2007	Kyusyu Office established in Fukuoka city.
July	2011	KOSMEK (CHINA) LTD. established.
March	2012	Thailand Representative Office established at Bangkok, Thai.
December	2014	KOSMEK LTD INDIA established at Bangalore, India.
December	2015	KOSMEK EUROPE GmbH established at Europe.
		New KOSMEK (USA) office completed in a new place in Chicago.
		The second factory completed in Nishi-ku, Kobe city.

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