WAHLTEC®

KNOWLEDGE | TRUST | SUCCESS

Product Line-up

KOSMEK WORK CLAMPING SYSTEMS


Hydraulic Clamp


Pneumatic Clamp


Pallet Clamp


Work Support


High Accuracy Locating


Manual Setup


Auto Coupler


Control Valve


Hydraulic Unit

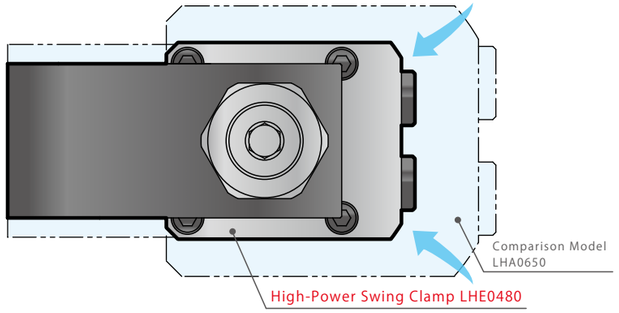
KOSMEK

Harmony in Innovation

High-Power Swing Clamp model LHE

Higher Clamping Force and Holding Force with Built-In Mechanical Lock and Hydraulic Pressure

Equivalent clamping force, **2** sizes smaller!!

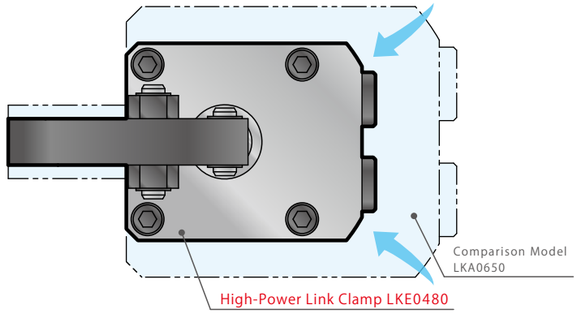


	Hydraulic Swing Clamp (Comparison Model) Model LHA0650		High-Power Swing Clamp Model LHE0480
Clamping Force ※ Hydraulic Pressure at 4MPa	4.5 kN (Lever Length : 56.5mm)	Holding Force Newly Added	4.2 kN (Lever Length : 42mm) (Holding Force 9.1 kN)
Mass ※ Weight of the clamp without clamp lever	2.8 kg	43% Lighter	1.6 kg
Projected Area	5670 mm² (81×70mm)	45% Smaller	3111 mm² (61×51mm)
Cylinder Capacity	Lock Side 26.7 cm³ Release Side 40.9 cm³	40% Less Volume	Lock Side 16.2 cm³ Release Side 22.7 cm³
Exterior Body Diameter	65.0 mm	45% Smaller	48.0 mm

High-Power Link Clamp model LKE

Higher Clamping Force and Holding Force with Built-In Mechanical Lock and Hydraulic Pressure

Equivalent clamping force, **2** sizes smaller!!

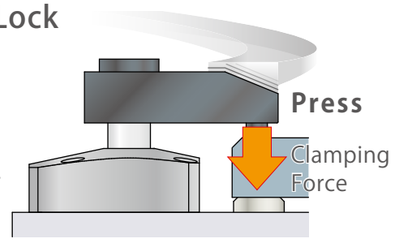


	Hydraulic Link Clamp (Comparison Model) Model LKA0650		High-Power Link Clamp Model LKE0480
Clamping Force ※ Hydraulic Pressure at 4MPa	4.4 kN (Lever Length : 56.5mm)	Holding Force Newly Added	4.3 kN (Lever Length : 42mm) (Holding Force 5.5 kN)
Mass ※ Weight of the clamp without clamp lever	2.2 kg	36% Lighter	1.4 kg
Projected Area	5670 mm² (81×70mm)	45% Smaller	3111 mm² (61×51mm)
Cylinder Capacity	Lock Side 46.9 cm³ Release Side 37.7 cm³	53% Less Volume	Lock Side 21.0 cm³ Release Side 17.5 cm³
Exterior Body Diameter	65.0 mm	26% Smaller	48.0 mm

Mechanical Locking System with Hydraulic Force

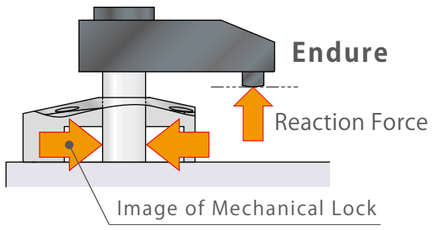
• Strong Clamping Force with Mechanical Lock

The mechanical locking system and hydraulic force allows the LHE model to exert **a maximum of 2.1 times** greater clamping force than the same size as the comparison model LHA, and the LKE model to exert **a maximum of 2.4 times** greater clamping force than the same size as the comparison model LKA.



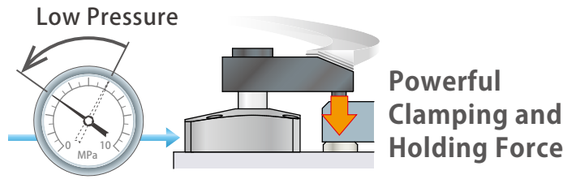
• Holding Force

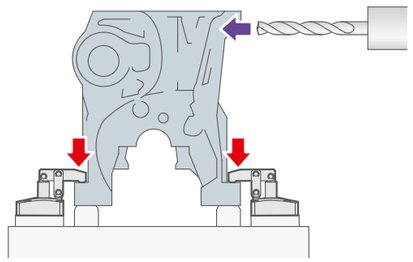
Holding force is the force that endures reaction force (load), not the force that presses a workpiece. The high holding force enables heavy load machining and high accuracy machining.



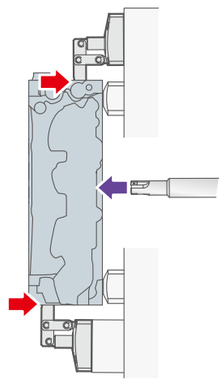
• Energy-Saving

LHE/LKE exerts high output force even with low pressure. The compact cylinder enables energy-saving by using less amount of oil.

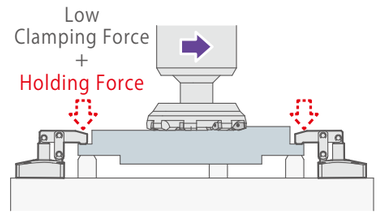




＜ For Space-Saving・Heavy Load Machining ＞



＜ For Backside Machining ＞



＜ For High Accuracy Machining of Thin Workpiece ＞

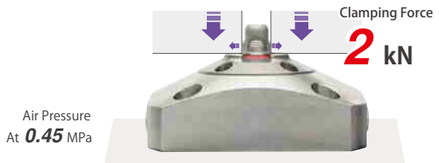
Holding force enables machining workpiece without deformation.

HIGH-POWER Pneumatic Series

Clamps/Cylinders with Built-In Mechanical Lock exert Powerful Clamping Force with No Hydraulic Use

High-Power Pneumatic Hole Clamp model SWE

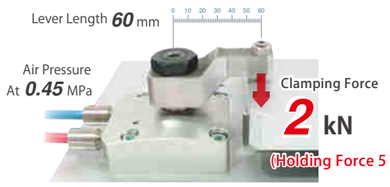
- Grips the workpiece hole and pulls on to seating surface Z-axis.
- Five-face machining possible except workpiece seating surface.
- Zero interference provides better machining process and simple tool path.
- Compact integrated clamping function and seating surface Z-axis provides easy design and simple fixture.



model SWE2000

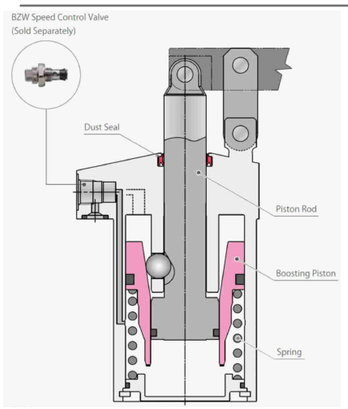
High-Power Pneumatic Swing Clamp model WHE

Pneumatic swing clamp that exerts powerful clamping force and holding force with mechanical lock system.



Compact size has been newly added.
Available in five body sizes and cylinder force is 0.23~3.86kN.

model WHE2500



High-Power Pneumatic Link Clamp model WCE

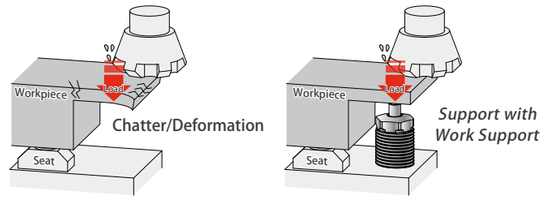
Pneumatic link clamp that exerts powerful clamping force and holding force with mechanical lock system.

Compact size has been newly added.
Available in five body sizes and cylinder force is 0.28 ～ 3.92kN.

model WCE2502

High-Power Pneumatic Work Support model WNC

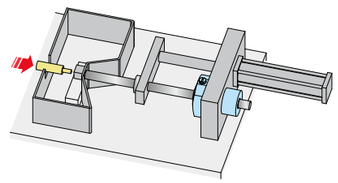
Strong support force that is equivalent to hydraulic pressure.
Strong support from opposite side when load is applied.
Prevents chattering while machining and deformation caused by the cutting load.



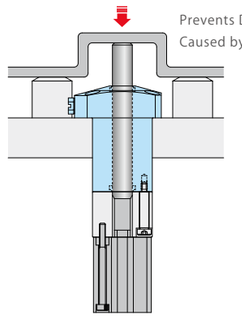
＜ No Work Support ＞ ＜ With Work Support ＞

Pneumatic Work Support Rodless Hollow model WNA

Work Support holds the rod and prevents dislocation, overload to the cylinder and deformation caused by load.

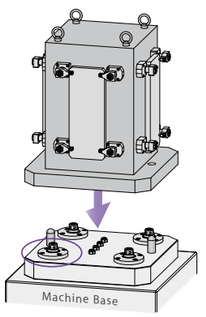


Support for Press Fitting of Parts and Screw Fastener



High-Power Pneumatic Pallet Clamp model WVS

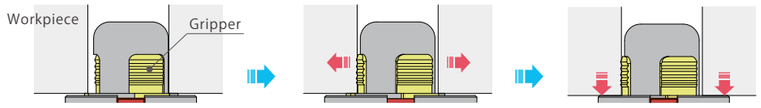
The world's first dual contact model with movable taper sleeve.
Highly accurate and rigid pallet clamp with locating function.
Reduces Setup Time, No Accuracy Test Required,
Locating Repeatability：3μm



Stronger Holding Force with Mechanical Lock
Available in four body sizes and clamping force is 4kN / 6kN / 10kN / 16kN

Pneumatic Hole Clamp model SWA

- Grips the workpiece hole and pulls on to seating surface Z-axis.
- Five-face machining possible except workpiece seating surface.
- Zero interference provides better machining process and simple tool path.
- Compact integrated clamping function and seating surface Z-axis provides easy design and simple fixture.

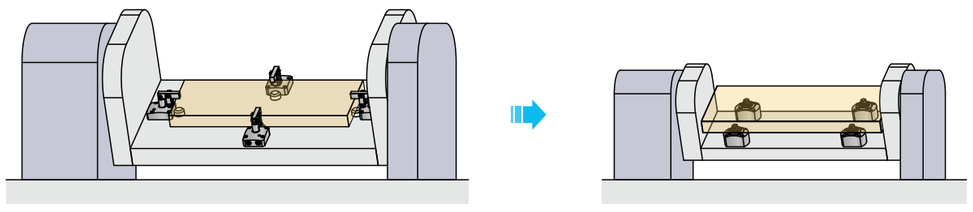


< Released State >
Load/Unload Workpiece

< Clamping State >
Gripper expands to hold workpiece hole.

< Clamping Completed >
Pulls and clamps in workpiece hole.
※Creates a dig mark in the clamping hole.

Machining equipment could be more simple.

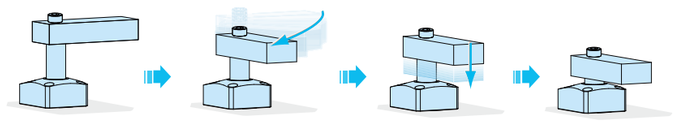


<Before> Clamping around the Workpiece

<After> Using the Hole Clamps

Pneumatic Swing Clamp model WHA

Our powerful mechanism of hydraulic clamp is used for pneumatic clamp.
High Rigidity • Longer Operational Life Span • High Accuracy



Before Swing
(Released State)

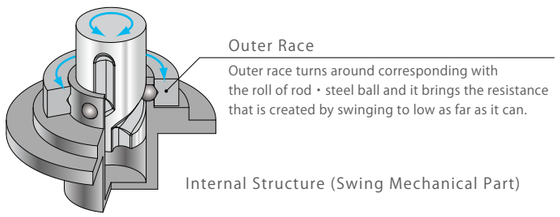
The lever descends
as it swings.

After swing completion,
it descends vertically.

Action Completed
(Clamped State)

Ball Type Swing Mechanism with Outer Race

Our powerful mechanism of hydraulic clamp is used for pneumatic clamp!
Makes it faster with three lines of lead groove + outer race.
(High Rigidity makes it possible to use a long lever.)



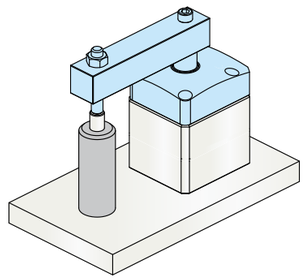
Outer Race

Outer race turns around corresponding with the roll of rod • steel ball and it brings the resistance that is created by swinging to low as far as it can.

Internal Structure (Swing Mechanical Part)

Lock Angle Repeatability with High Accuracy

Since the swing complete position repeatability is ±0.5°,
it securely clamps even on a very small area.

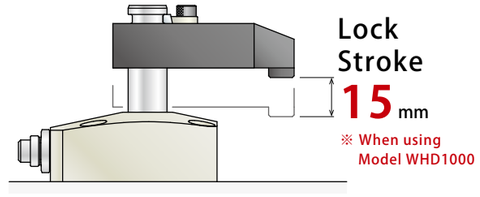


Double Piston Pneumatic Swing Clamp model WHD

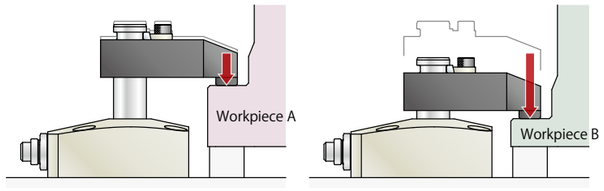
Double Piston Mechanism allows for both higher cylinder force
and longer stroke of pneumatic swing clamp.

Long Stroke

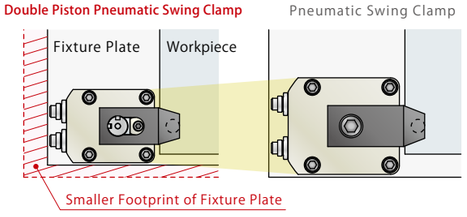
High Cylinder Force



Long Stroke allows for different clamping heights of workpieces on the same application.

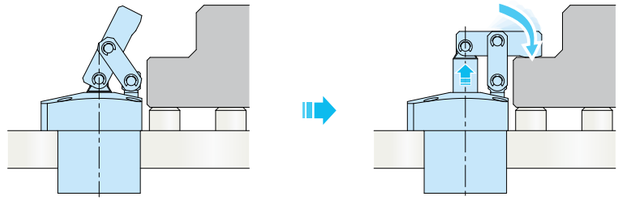


Enables smaller footprint and lighter weight of application.



Pneumatic Link Clamp model WCA

Compact Cylinder with Built-in Link Mechanism

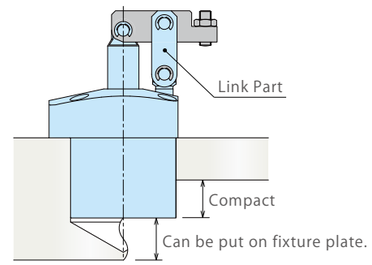


Released State

Locked State

Compact and Easy to Use

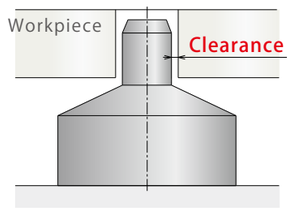
Since the link part is built in clamp body,
it is not necessary to design link part separately.
It eliminates design and manufacturing precise link mechanism.
(Only clamp arm needs to be manufactured.)



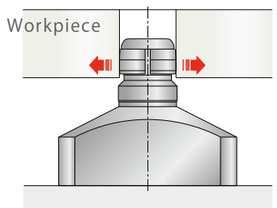
Pneumatic Expansion Locating Pin model VWM

【Locating Repeatability：3μm】

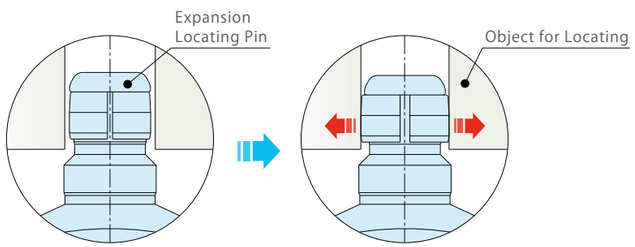
The pin diameter expands and retracts.
High accuracy locating by zero clearance between the pin and workpiece hole.
Retracted diameter makes enough clearance to load / unload workpiece easily.



< General Locating Pin >

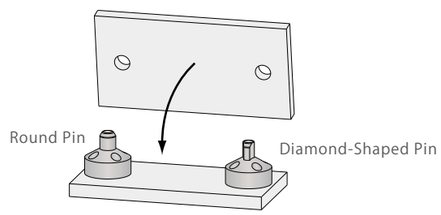


< Pneumatic Expansion Locating Pin >



< Released State > < Locked State >

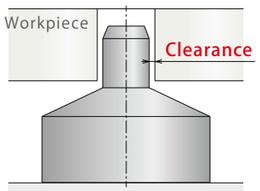
Two types of locating pins (Cylindrical and Diamond shaped pins).
Expansion Locating Pin consisting of Datum-D and Cut-C cylinder.

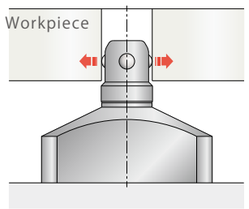


Pneumatic Expansion Locating Pin model VWK

【Locating Repeatability：10μm】

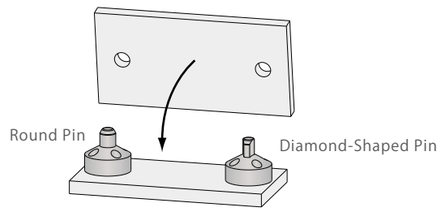
Pin diameter of pneumatic expansion locating pin (model VWK) expands with steel balls.
High accuracy locating by zero clearance between the pin and workpiece hole.
Retracted diameter makes enough clearance to load / unload workpiece easily.
※ Please note that the protruded steel balls damage a workpiece.





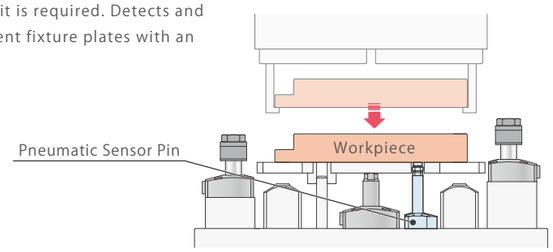
< Pneumatic Expansion Locating Pin >

Two types of locating pins (Cylindrical and Diamond shaped pins).
Expansion Locating Pin consisting of Datum-D and Cut-C cylinder.



Pneumatic Sensor Pin model WWA

Detects workpieces within wide stroke range.
Only single air circuit is required. Detects and distinguishes different fixture plates with an air catch sensor.



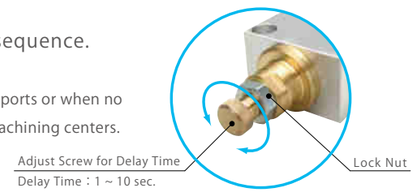
Detects the Workpiece on Automatic Transfer Equipment

Air Sequence Valve model BWD

BWD is a sequence valve (time delay valve) that can activate multiple actuators in sequence.
It controls air flow by using a check valve, flow control valve, air tank, switching valve, and initiate a time difference for air pressure supplied from primary side to secondary side. This has a compact and high performance sealing structure and can be built into fixtures for machining centers.

Activates multiple actuators in sequence.

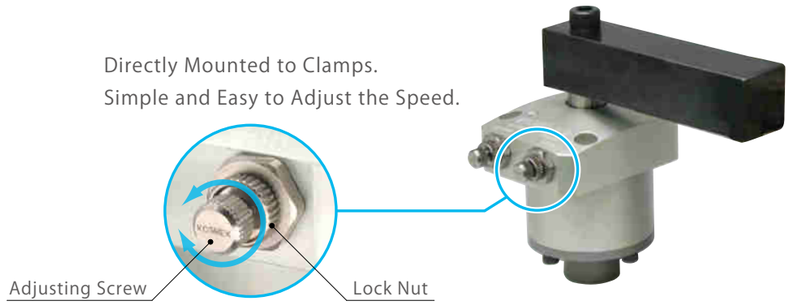
Delay time：1 ~ 10sec.
Suitable when there are limited number of ports or when no electricity can be used. Most suitable for machining centers.
Electric control is not required.



Air Flow Control Valve model BZW

BZW is the flow control valve for Rc thread that enables to mount to the piping type: -A option of WCA / WCE / WHA / WHD / WHE. It is best used in a circuit where the flow control valve cannot be mounted or if necessary to synchronize individual speed.

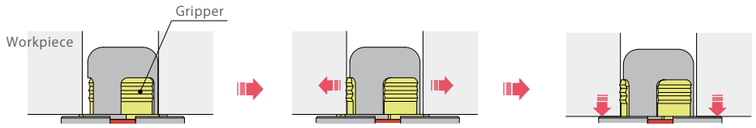
Directly Mounted to Clamps.
Simple and Easy to Adjust the Speed.



Hydraulic Hole Clamp

model SFA/SFC

- Grips the workpiece hole and pulls on to seating surface Z-axis.
- Five-face machining possible except workpiece seating surface.
- Zero interference provides better machining process and simple tool path.
- Compact integrated clamping function and seating surface Z-axis provides easy design and simple fixture.

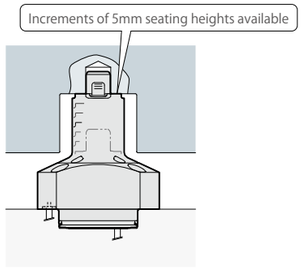


< Released State >
Load/Unload Workpiece

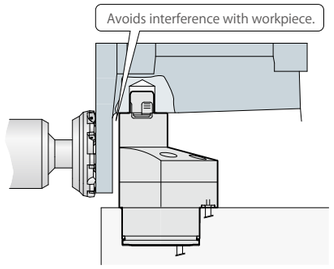
< Clamping State >
Gripper expands to hold workpiece hole.

< Clamping Completed >
Pulls down onto resting surface.

model SFA Standard Model



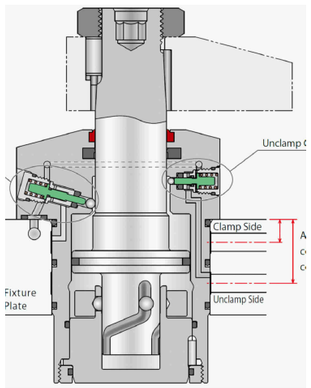
model SFC Offset Model



Hydraulic Swing Clamp

The Best Swing Clamp with High Output Force and High Speed

Low Pressure Model 7MPa	 Model LHA	 Model LHC	 Model LHS	 Model LHW	 Model LT/LG
Classification	Double Action Standard	Double Action Compact	Double Action Parallel Swing Action	Double Action Built-in Sensing Valve	Single Action Hyd. Lock / Spring Release
Pressure Range	1.5 ～ 7MPa	1.5 ～ 7MPa	1.5 ～ 7MPa	1.5 ～ 7MPa	2.5 ～ 7MPa



High Pressure Model 35MPa	 Model TLA-2	 Model TLB-2	 Model TLA-1
Classification	Double Action Top Flange	Double Action Bottom Flange	Single Action Hyd. Lock / Spring Release Top Flange
Pressure Range	7 ～ 35MPa	7 ～ 35MPa	7 ～ 35MPa

Schwenkspanner | LHV | Positionsabfrage im Flansch

Hydraulik 15-70bar.
Doppeltwirkend.
2x pneumatische Positionsabfrage im Flansch.
Nur 1 Leitung benötigt.
Hydraulisch spannen / lösen

Schwenkspanner | LHD | Doppelkolben

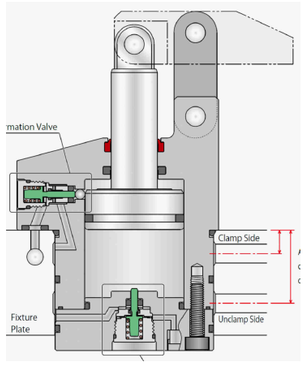
Hydraulik 15-60bar.
Doppeltwirkend. **Kleinere Baugröße bei gleicher Kraft.**

Hydraulisch spannen / lösen.

Hydraulic Link Clamp

The Best Link Clamp with High Output and High Speed

Low Pressure Model 7MPa	 Model LKA	 Model LKC	 Model LKW	 Model LM/LJ
Classification	Double Action Standard	Double Action Compact	Double Action Built-in Sensing Valve	Single Action Hyd. Lock / Spring Release
Pressure Range	0.5 ～ 7MPa	0.5 ～ 7MPa	1 ～ 7MPa	2.5 ～ 7MPa



High Pressure Model 35MPa	 Model TMA-2	 Model TMA-1
Classification	Double Action Top Flange	Single Action Hyd. Lock / Spring Release
Pressure Range	3.5 ～ 35MPa	3.5 ～ 35MPa

Hebelspanner | LKV | Positionsabfrage im Flansch

Hydraulik 10-70bar.
Doppeltwirkend.
2x pneumatische Positionsabfrage im Flansch.
Nur 1 Leitung benötigt.
Hydraulisch spannen / lösen

Hydraulic Work Support

Strong support from opposite side when load is applied.
Prevents chattering while machining and deformation caused by the cutting load.

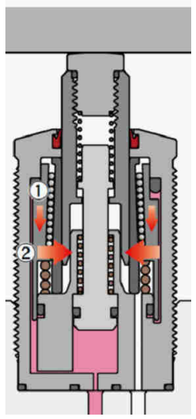
Low Pressure Model 7MPa	 Model LD	 Model LC
Classification	Single Action External Thread	Single Action Top Flange
Pressure Range	2.5 ～ 7MPa	2.5 ～ 7MPa

Abstützelement | LCW | mit Gespannt-Gelöst-Abfrage

Hydraulik 25-70bar.
Einfachwirkend. Anlegefeder.

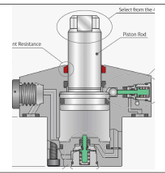
Hydraulisch verriegeln / Feder zurückfahren.

High Pressure Model TNC : 35MPa TND : 35MPa TC : 25MPa	 Model TNC	 Model TND	 Model TC
Classification	Single Action External Thread	Double Action External Thread	Single Action Top Flange
Pressure Range	7 ～ 35MPa	7 ～ 35MPa	7 ～ 25MPa



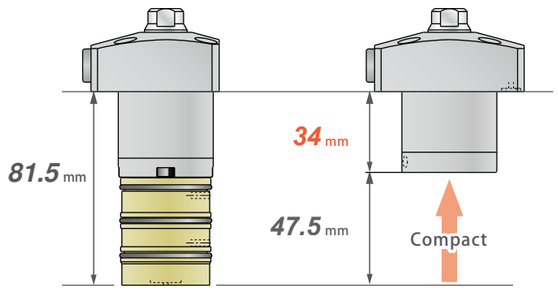
Air Sensing Lift Cylinder model LLW

Compact Lift Cylinder (Hydraulic Double Acting Linear Cylinder) for Smaller Footprint Fixtures
With built-in action confirmation valve which is ideal for automated equipment,
LLW is much more compact than the conventional model LL.

Double Action MAX 7MPa		 Model LLW	
Classification	LLW-E Sensing Valve on Both Sides	LLW-H Sensing Valve on Push Side	LLW-J Sensing Valve on Pull Side
Pressure Range	1 ～ 7MPa		

Linearzylinder | LLV |
Positionsabfrage im Flansch

Hydraulik 10-70bar. Ø36-Ø48mm.
Doppeltwirkend.
2x pneumatische
Positionsabfrage im Flansch.
Nur 1 Leitung benötigt.



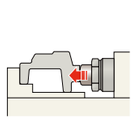
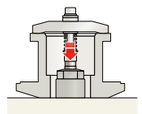
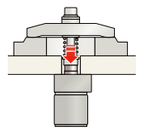
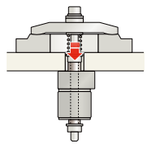
<Comparison Model>
LL0400-CAM-025
(Stroke 25mm)

<Air Sensing Model>
LLW0401-CAE-025
(Stroke 25mm)

Hydraulic Compact Cylinder (Double/Single Action Linear Cylinder)

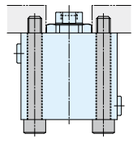
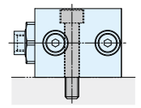
For Model LL/LLR/LLU, it is possible to set the stroke in 1mm increments (1mm ～ 200mm).
This is the double action cylinder that pursues the best of compact to be made of the customer demands.
Model DP/DR/DS/DT is the compact single action cylinder corresponds to the pressure range from low to high.

Double Action MAX. 7MPa	 Model LL	 Model LLR	 Model LLU
Classification	Double Action Linear Cylinder Top Flange	Double Action Linear Cylinder Bottom Flange	Double Action Linear Cylinder Bottom Flange (Compact)
Pressure Range	0.5 ～ 7MPa	0.5 ～ 7MPa	0.5 ～ 7MPa

Single Action MAX. 25MPa	 Model DP	 Model DR	 Model DS	 Model DT
Classification	Single Action Push Cylinder Threaded Body Model	Single Action Pull Cylinder Threaded Body Model	Single Action Pull Cylinder Threaded Body Model / Bottom Flange	Single Action Hollow Cylinder Threaded Body Model / Bottom Flange
Pressure Range	0.8 ～ 25MPa	1 ～ 25MPa	1 ～ 25MPa	1 ～ 25MPa
Action				

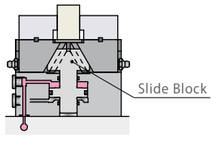
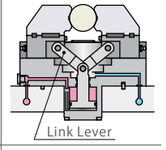
Block Cylinder (Double Action Linear Cylinder) model DBA/DBC

Body Size: 4 Types, Piping Method: 2 Types,
Stroke: 25mm, 50mm
Hydraulic double action linear cylinder can be used with low to high pressure.

Double Action MAX. 35MPa	 Model DBA	 Model DBC
Classification	Double Action Linear Cylinder Bolt Up Mounting	Double Action Linear Cylinder Side Mounting
Pressure Range	1 ～ 35MPa	1 ～ 35MPa
Mounting Method		

Centering Vise model FVA/FVD/FVC

High Accuracy, High Power, Long Stroke
For Gripping Cylindrical Workpiece, and Workpiece Transfer Hand

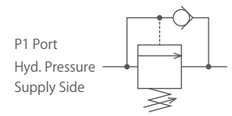
Double Action MAX 7MPa	 Model FVA	 Model FVD	Model FVD-L	 Model FVC
Classification	Slide Block Model			Link Motion Model
	Compact	High Power	Long Stroke	Long Stroke
Cross Section				
Features	High Accuracy	High Accuracy and High Power	High Accuracy and Long Stroke	Long Stroke of Link Motion Model
Locating Repeatability (X-axis Direction)	±0.01 mm			±0.03 mm
Slider Stroke (One Side)	FVA0401：5 mm FVA0631：5 mm FVA1001：5 mm	FVD1600：6 mm FVD2500：8 mm FVD4000：8 mm	FVD1600-L：12 mm FVD2500-L：16 mm FVD4000-L：16 mm	FVC0630：10 mm FVC1000：15 mm FVC1600：20 mm

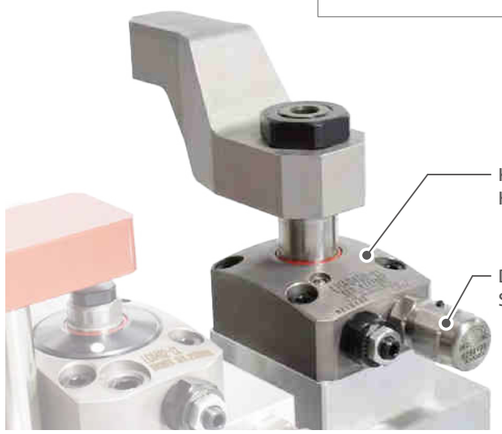
Direct-Mount Sequence Valve

model BZS

Attached directly, controls sequence operation.
This valve operates multiple actuators in sequence to perform positioning and clamping.
When incoming (P1) port pressure reaches the sequence setting pressure value,
the pressure is supplied to outgoing (P2) port.

Circuit Symbol





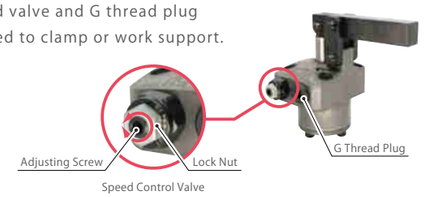
Sequence Pressure Adjusting Hex.

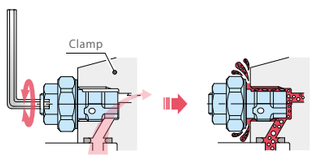
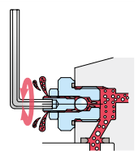
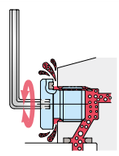
Adjusts the sequence operating pressure.
Able to adjust operating sequence
of each actuator.

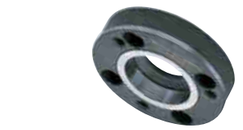
Control Valve

model BZ□/JZG

Speed control valve, air bleed valve and G thread plug
which can be directly mounted to clamp or work support.



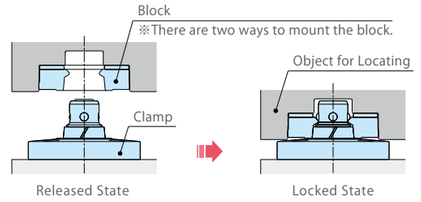
	 Model BZL	 Model BZT	 Model BZX	 Model JZG
Classification	Speed Control Valve For Low Pressure	Speed Control Valve For High Pressure	Air Bleed Valve	G Thread Plug
Pressure Range	7MPa or less	35MPa or less	25MPa or less	35MPa or less
Action	 Adjust the flow by wrench. It can adjust the clamping action speed individually. Air bleeding in the circuit is possible by loosening flow control valve.		 Air bleeding in the circuit is possible by wrench.	 Air bleeding in the circuit is possible by loosening G thread plug.

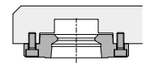
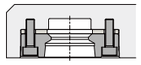


Hydraulic Pallet Clamp

model VS/VT

The world's first dual contact model with movable taper sleeve.
Highly accurate and rigid pallet clamp with locating function.
Setup Time Reduction, No Accuracy Test Required, Locating Repeatability：3 μm



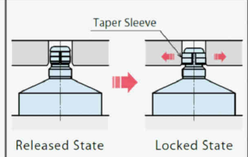
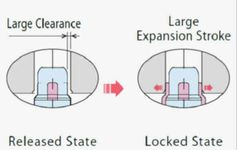
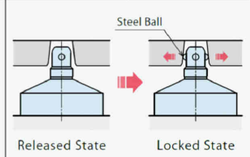
	 Model VS	 Model VT	 Model VSJ	 Model VSB
Classification	Single Action Spring Lock / Hyd. Release	Double Action	Flange Shaped Block	Embedded Block
Pressure Range	3.5 ～ 7MPa	1.5 ～ 7MPa	-	-
Features	・Spring lock enables to detach from pressure source. ・Clamping force is stable regardless of pressure.	・Clamping force varies depending on hydraulic pressure.	 Simple Mounting	 Straight Mounting

Hydraulic Expansion Locating Pin

model VF□

Hydraulic expansion locating pin locates workpiece with high accuracy
by expanding and retracting the pin diameter.
Retracted diameter makes enough clearance to load/unload workpieces.

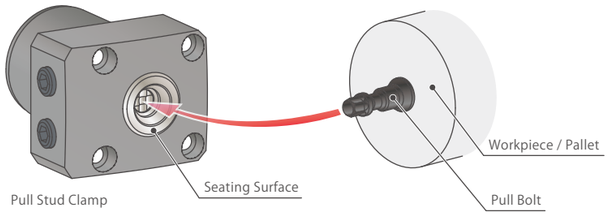
Line-up

Hydraulic MAX 7MPa	 Model VFL  Model VFM Refer to the product catalog or Kosmek website.	NEW  Model VFH	 Model VFJ  Model VFK Refer to the product catalog or Kosmek website.
Model/ Locating Repeatability	High Accuracy Model 3μm	Multi-Purpose Model 10μm	Casting Material Model 10μm
Control	Single Action (Hyd. Lock / Spring Release) / Double Action (Hyd. Lock / Hyd. Release)	Double Action (Hyd. Lock / Hyd. Release)	Single Action (Hyd. Lock / Spring Release) / Double Action (Hyd. Lock / Hyd. Release)
Op. Pressure Range	2.5 ~ 7 MPa	1.5 ~ 7 MPa	2.5 ~ 7 MPa / 1.5 ~ 7 MPa
Action	 The taper sleeve expands.	 Large Gripper Expansion	 The steel balls come out from the pin.
Application Examples	Finishing Line / Dividing Operation Line		Locating Casting Holes / First Operation

Pull Stud Clamp

model FP/FQ

Clamp that pulls in the pull-bolt by using workpiece through hole or screw hole.
Five-face machining drastically reduces the number of operations required.

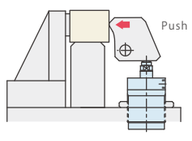
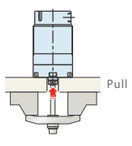


	 Model FP	 Model FQ
Classification	Low Pressure・Single Action Hydraulic Lock/Spring Release	High Pressure・Single Action Hydraulic Lock/Spring Release
Pressure Range	1 ～ 7MPa	1 ～ 25MPa

Customized Spring Cylinder

model DWA/DWB

Energy-saving cylinder that holds with spring force.
No need of spending time and effort on cylinder designing or calculation.
We will develop the most suitable spring cylinder for your requirements
according to mounting methods, space and capacity.

	 Model DWA	 Model DWB
Classification	Single Action Push Cylinder Spring Lock / Hydraulic Release	Single Action Pull Cylinder Spring Lock / Hydraulic Release
Application Example	 Push	 Pull

Hebelspanner | WCG | für Schweißanwendungen

Pneumatik 2-5bar
Doppeltwirkend
Mit mechanischer Verriegelung
Pneumatisch verriegeln / zurückfahren

5 bar » CAD-Modell » Datenblatt

HIGH-POWER Pneumatic Series

Hebelspanner | WCJ | für Waschanwendungen

Pneumatik 2-5bar
Doppeltwirkend
Mit mechanischer Verriegelung
Pneumatisch verriegeln / zurückfahren

5 bar » CAD-Modell » Datenblatt

Schwenkspanner | WHG | für Schweißanwendungen

Pneumatik 2-5bar
Doppeltwirkend.
Pneumatisch spannen/lösen.
Spann- und Haltekraft.
Mechanische Übersetzung.
Verriegelung an der Kolbenstange.

5 bar » CAD-Modell » Datenblatt

HIGH-POWER Pneumatic Series

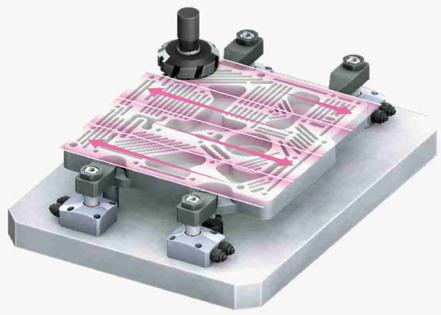
Schwenkspanner | WHJ | für Waschanwendungen

Pneumatik 2-5bar
Doppeltwirkend.
Pneumatisch spannen/lösen.
Spann- und Haltekraft.
Mechanische Übersetzung.
Verriegelung an der Kolbenstange.

5 bar » CAD-Modell » Datenblatt

High-Power Clamp improves Machining Conditions!

General Clamp Fixture



Clamping Conditions

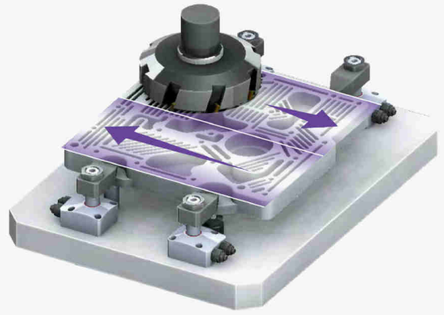
Model No. / Product Name	Clamping Force	Holding Force	Supply Pressure	Lever Length
LHA0400 Hydraulic Swing Clamp	2,100 N	-	5MPa	40mm

Machining Conditions

Tool Diameter	Feed Speed
63 mm	600 mm/min

High-Power Clamp Fixture

Tool Diameter：2 times larger / Feed Speed：2 times faster
Machining Speed becomes **4 times faster !**



Clamping Conditions

Model No. / Product Name	Clamping Force	Holding Force	Supply Pressure	Lever Length
LHE0400 High-Power Hydraulic Swing Clamp	4,000 N	6,900 N	5MPa	40mm

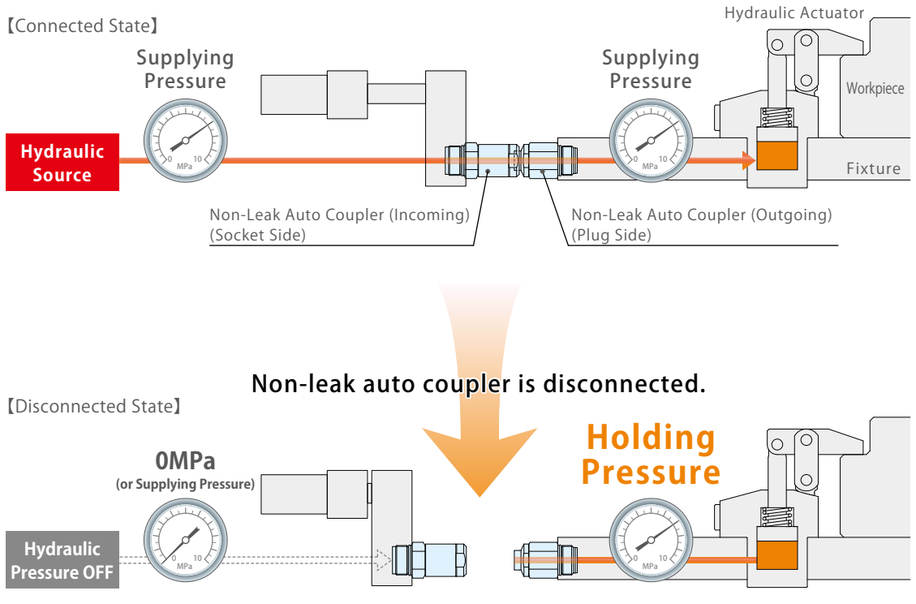
Machining Conditions

Tool Diameter	Feed Speed
125 mm	1,200 mm/min

Hydraulic Non-Leak Coupler

Non-leak coupler has non-leak mechanism and allows both couplers (plug and socket) to be disconnected during the state of supplying pressure. The actuator can be separated from the hydraulic source, holding the pressure by itself.

Non-leak auto coupler with pilot check valve has non-leak function and pilot check valve.
Pilot check valve makes a smooth connection and disconnection of coupler with no reacting force, since it can hold the pressure at fixture side even when the supply of pressure is stopped with coupler connected condition.



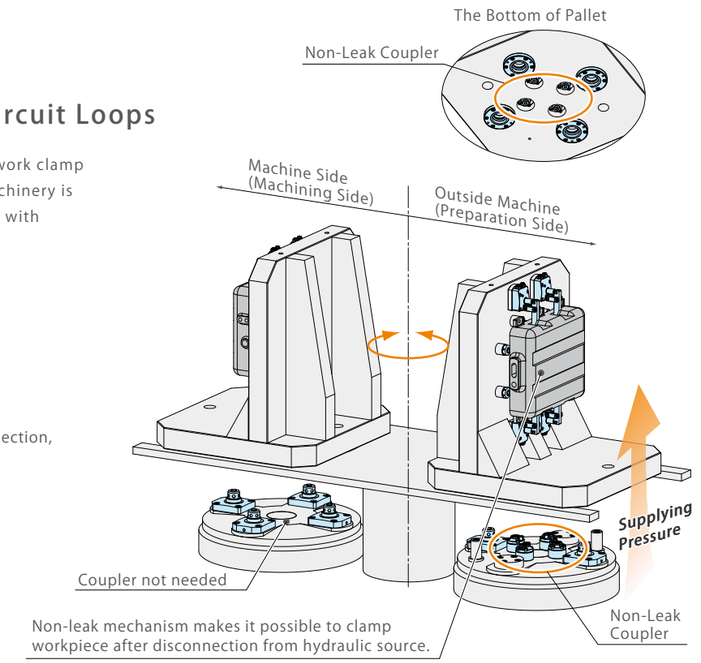
Note 1. Supplying/Not Supplying of hydraulic pressure to the socket side of the coupler during connected or disconnected condition depends on the Model of the Auto coupler. Please refer to each page in detail if necessary.

Cut Off Unwanted Circuit Loops

The installation of rotary joint for work clamp circuit or coupler at the side of machinery is unnecessary because it is operated with aligning mechanism.

Energy Saving

Hydraulic pressure is needed when exchanging workpiece. After disconnection, hydraulic source can be shut off.



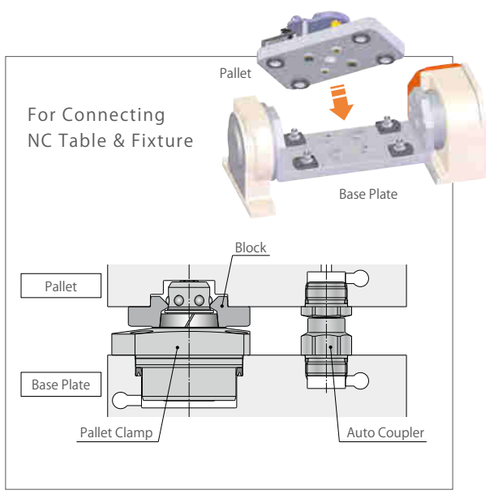
	Model BGA/BGB	Model BGC/BGD	Model BGP/BGS	Model BBP/BBS
Classification	Non-Leak Coupler with Pilot Check Valve	Non-Leak Coupler with Pilot Check Valve	Non-Leak Coupler with Pilot Check Valve	Low Pressing Force Non-Leak Coupler with Pilot Check Valve
Pressure Range	1 ~ 7MPa	1 ~ 7MPa / 7 ~ 25MPa	1 ~ 7MPa	5 ~ 25MPa
Features	Screw Mounted (Space-Saving)	Bolt Mounted		
	Low Pressing Force (with Pilot Check Valve)			
		with Air Blow Function		with Air Blow Function

	Model BNP/BNS	Model BJP/BJS	Model BFP/BFS
Classification	Non-Leak Coupler	Non-Leak Coupler	Non-Leak Coupler
Pressure Range	1 ~ 7MPa / 7 ~ 25MPa	1 ~ 7MPa / 7 ~ 30MPa	1 ~ 7MPa
Features	Screw Mounted (Space-Saving)	Bolt Mounted	
	Supplying Pressure Cut Off		
		with Air Blow Function	

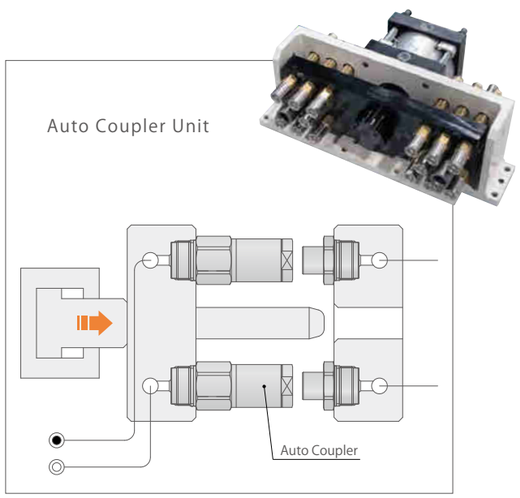
Auto Coupler

Auto coupler, designed to connect a variety of flow circuits, is suitable for automation and fits in small spaces. Offering based on your requirement.

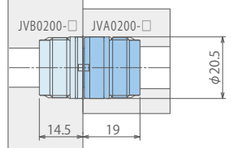
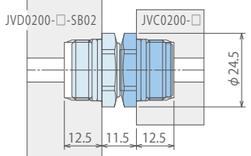
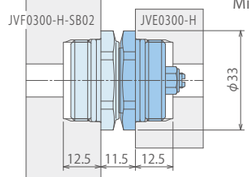
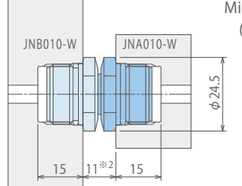
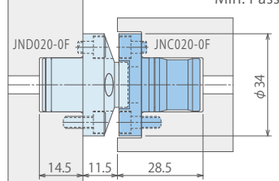
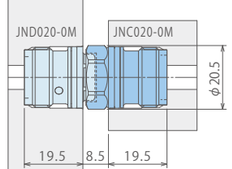
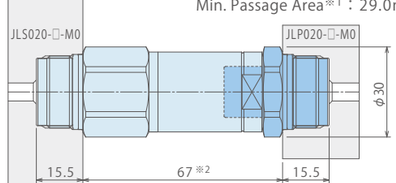
※ Auto coupler does not have non-leak mechanism.
In case of you need non-leak function, please refer to P.17.



Connecting from the Pallet Bottom



Connecting from Outside

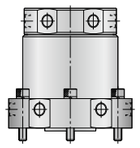
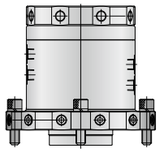
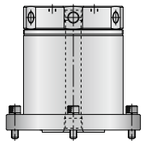
Model No.	Operating Pressure Range	Usable Fluid	Comparison of Auto Coupler Connected Condition Dimension ※ The drawings show that the shortest dimension combination of socket and plug in the connected condition for each model.
 Model JVA/JVB	7MPa or less	General Hydraulic Oil / Coolant (When selecting H)	Min. Passage Area：12.6mm² 
 Model JVC/JVD	7MPa or less	General Hydraulic Oil / Coolant (When selecting H)	Min. Passage Area：12.6mm² 
 Model JVE/JVF	1MPa or less	General Hydraulic Oil / Coolant	Min. Passage Area：29.0mm² 
Model JNA/JNB	1MPa or less	Air / General Hydraulic Oil / Coolant	Min. Passage Area：8.8mm² (At Eccentricity：7.4mm²) 
 Model JNC/JND	25MPa or less	Air / General Hydraulic Oil / Coolant	Min. Passage Area：10.3mm²  Min. Passage Area：10.3mm² 
 Model JLP/JLS	3.5MPa or less 25MPa or less ※Differs depending on the product's material.	Air / General Hydraulic Oil / Coolant	Min. Passage Area※1：29.0mm² 

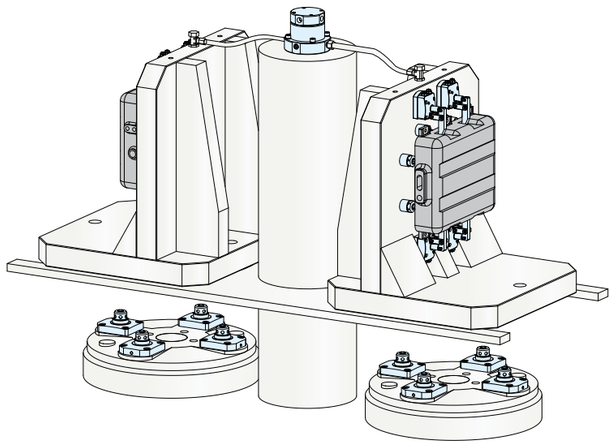
※1. Minimum passage of JLP/JLS area differs depending on size.
※2. It shows the connecting dimension on multiple connection.

Rotary Joint

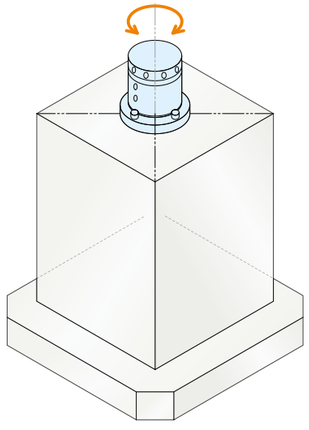
model JR□

JR□ Rotary Joint is low rotary torque and compact.
Center through port *1 is applicable for not only hydraulic/pneumatic pressure but also high volume coolant. Each part is highly durable, and sealing provided by Kosmek has a low torque, highly durable and high capacity design that allows for a longer life of the component.
(*1. JRB is the only model with center through port.)

	 Model JRC	 Model JRD	 Model JRB
Classification	No Center Through Port		One Center Through Port
No. of the Ports	2/4/6/8 Port	12/16 Port	2/4/6/8 Port+Center Through Port
Feature	Low Rotary Torque・Compact	Dual Structure・Compact	Large Flow Rate
Usable Fluid	General Hydraulic Oil：25MPa or less Air：1MPa or less Coolant：1MPa or less (Available only for Center Through Port)		



On Rotary Table



On Angle Plate Fixture

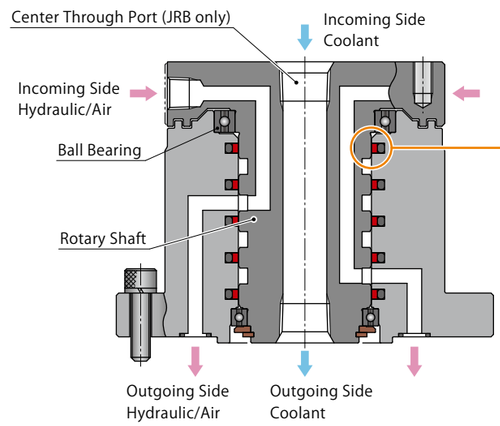
Applicable for Hydraulic・Pneumatic・High Volume Coolant※1

It adopts the original developed low friction seal and low torque enables smooth rotation. Each part of this rotary joint is highly durable and each seal provided by KOSMEK has low torque, highly durable and high capacity design that allows for a longer life of the component.

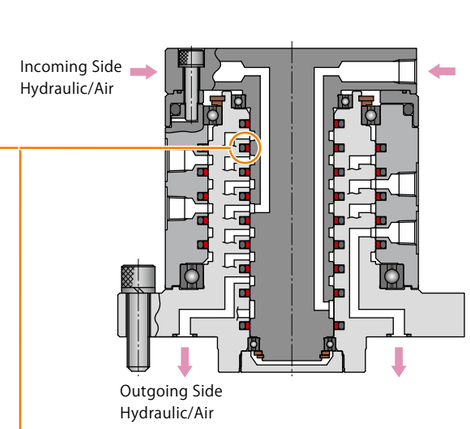
You can choose the number of ports from 2, 4, 6, 8, 12, 16 along with the center through port.

※1. JRB is the only model with the center through port designed for a large amount of coolant.
(When using the center through port, install a swivel joint, etc.)

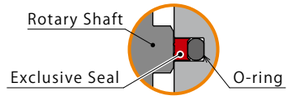
Model JRC/JRB



Model JRD



Seal Part Detail

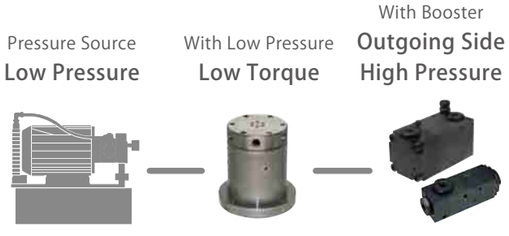


New Rotary Joint (Model JRD)

Dual Structure allows for more compact body.

Make the outgoing side pressure higher with low torque. (Reference)

Using a booster (model AU/BU) after rotary joint allows low rotating torque and the use of high pressure for actuators.



Hydraulic Valves

Kosmek valves are most appropriate for fixtures and setup devices.

Non-Leak Valve (Holding Pressure)

Kosmek valves with non-leak function maintains pressurized condition even when power source is cutoff to the fixture.

Model **BK**
Single Action Model

Model **BEQ**
Double Action Model

Non-Leak Stop Valve (Manual Switching Valve)

It is a manual switching valve that can hold the pressure without power source.

Model **BT**

Sequence Valve

In-line valve that easily controls sequence action.

Model **BLS**
Pipe/Gasket Model

Model **BLG**
Compact Gasket Model

Pressure Balance Valve

This valve prevents deformation of the workpiece during unclamping sequence. This will be useful when using work support and clamp actuator in opposite position.

Model **BLB**

Accumulator

Spring accumulator absorbs pressure fluctuation caused by temperature change in the fixture circuit when disconnected from the pressure source.

Model **JSS**
For Low Pressure
(Max.7MPa)

Model **JS**
For High Pressure
(Max.25MPa)

Pressure Indicator (Pressure Switch)

Detects circuit pressure of the fixture disconnected from the hydraulic pressure source by using a limit switch together.

Model **JKA/JKB**

Pressure Reducing Valve

Non-leak reducing valve to partially reduce hydraulic circuit pressure of a fixture by pipe model reducing valve that doesn't need a drain port.

Model **BMA**
Pipe/Gasket Model

Model **BMG**
Compact Gasket Model

Booster (Continuous Discharge Booster/One Shot Booster)

One shot booster (Model : BU) and continuous discharge booster (Model : AU) are available.
In case of using continuous discharge booster, there are no restrictions on the outgoing side circuit capacity due to continuous discharge.

Model **AU**
Continuous Discharge Booster

Model **BU**
One Shot Booster

Pilot Reducing Valve/Reservoir

Pressure of a fixture circuit disconnected from the hydraulic power source, can be reduced to the set pressure only by pilot operation.

Model **BP**
Pilot Reducing Valve

Model **JPB**
Reservoir

Automatic Air Bleed Valve (Automatic Air Bleed Valve)

Placed on the top of the piping, this valve bleeds air automatically during repetition of the hydraulic pressure ON and OFF.

Model **BX**

Non-Leak Pilot Check Valve

It holds pressure even after the hydraulic supply is cutoff. The mounting surface of modular model is ISO4401-03.

Model **BEP**
Piping Model

Model **BSP**
Modular Model

Non-Leak Valve Unit (Holding Pressure)

This is non-leak valve that operates both electrically and manually.

Model **BH**
Manual Operation Model

Model **BC**
Electrical
Control Model

Air Hydraulic Unit

Hydraulic pressure can be generated easily by using factory air pressure.
Wide variety from single-circuit to multiple-circuit unit with non-leak valve.

Easily Generates Low ~ High Pressure

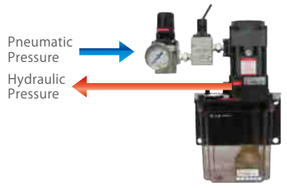
Hydraulic pressure can be generated easily by using factory air pressure. Compact and easy set up.

Safety

If a blackout occurs and the air supply is cut off, the air hydraulic unit with a non-leak valve can hold the hydraulic pressure at the current actuator state.

Energy-Saving

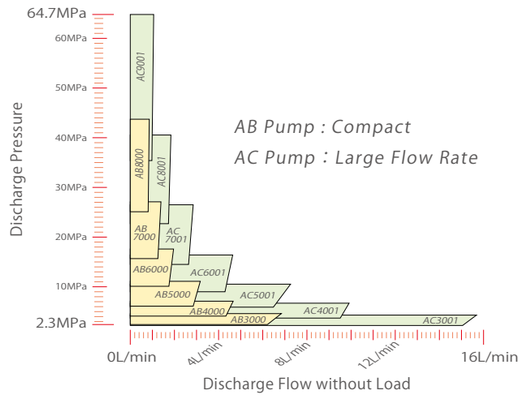
Pump activates when the hydraulic pressure is rising. After the hydraulic pressure reaches as specified, air pressure and hydraulic pressure are balanced then pump is stopped.



After the hydraulic pressure reaches as specified, air pressure and hydraulic pressure are balanced then pump is stopped.

Wide Variations

Air driven hydraulic pump unit has a wide pressure range from low to high and discharge pressure range.



		Discharge Pressure	Features
Hydraulic Unit (For Single Action) Model CV		2.4～43.5MPa (AB Pump) 2.3～64.7MPa (AC Pump)	With Selector Valve for Manual Control (Standard) / With Solenoid Valve for Electrical Control
Hydraulic Unit (For Double/Single Action) Model CK		3.9～7.0MPa (AB4000-□ Pump) 15.5～27.0MPa (AB7000-□ Pump)	With Non-Leak Valve
Hydraulic Unit Model CP/CPB		2.5～30.0MPa (AB Pump)	With Solenoid Valve for Electrical Control (Standard)
Hydraulic Unit Model CPC/CQC		2.5～30.0MPa (AC Pump)	
Pump Unit Model CB		2.4～43.5MPa (AB Pump) 2.5～30.0MPa (When Connected with BC, BH)	Pump & valve is assembled separately. Used in conjunction with the Model BC / BH Unit
Pump Unit Model CC		2.3～64.7MPa (AC Pump) 2.5～30.0MPa (When Connected with BC, BH)	

AB/AC Pump

Discharge pressure and discharge amount of oil is different depending on pump.
Please refer to AB pump/AC pump specification for details on operating pneumatic pressure, discharge pressure and discharge flow rate.

	Model No.	Discharge Pressure ※1 MPa	Air Consumption Nm³/min	Lift	Noise	Usable Fluid
AB Pump Model AB 	AB3000	2.4～ 4.3	0.4 Nm³/min	Below 0.6m	82～85dB	General Hydraulic Oil Water-Glycol Silicon Oil
	AB4000	3.9～ 7.0				
	AB5000	6.0～11.0				
	AB6000	10.0～17.5				
	AB7000	15.5～27.0				
	AB8000	25.0～43.5				
AC Pump Model AC 	AC3001	2.3～ 4.2	1.0 Nm³/min	Below 1.0m		
	AC4001	3.6～ 6.6				
	AC5001	5.8～10.6				
	AC6001	8.9～16.3				
	AC7001	14.4～26.4				
	AC8001	22.6～41.4				
	AC9001	35.3～64.7				

Note: ※1. Discharge pressure is set when air pressure range is between 0.3～0.5MPa.

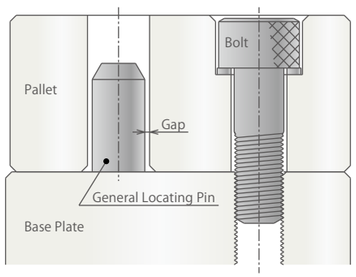
Screw Locator model VXE/VXF

Screw Locator with a movable taper sleeve performs high accuracy locating of pallets and plates simply by tightening the bolts.

Simple Manual Setup, High Accuracy Locating, and Compact
Locating Repeatability VXE：5μm, VXF：3μm

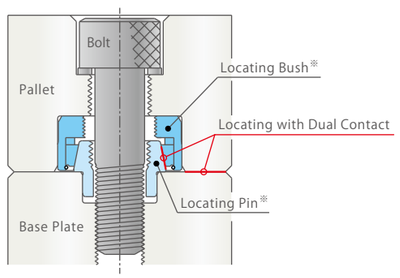
General Locating Pin

Unreliable locating repeatability due to gap,
and less accuracy due to backlash.
Space is required for mounting pins.

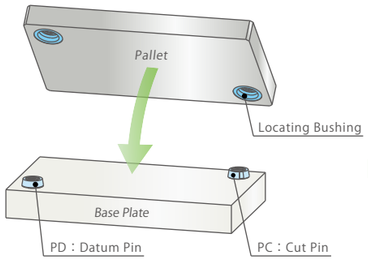


Screw Locator

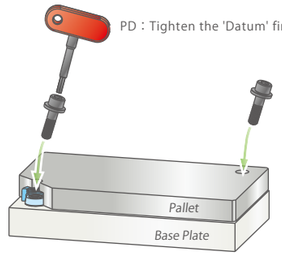
Dual contact of Screw Locator enables high accuracy locating.
High locating accuracy makes less defective parts.
More Compact and Space-Saving



※ Screw locator consists of the locating pin and locating bushing.

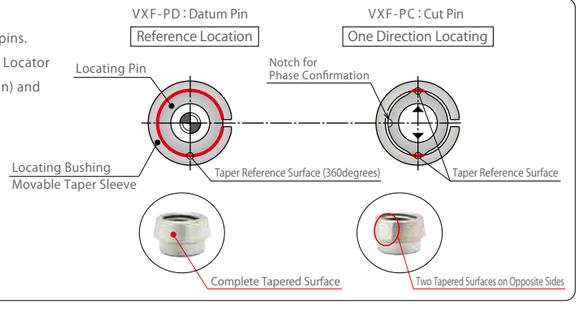


Set the pallet.



Fasten the pallet on base plate with bolts.
Tightening procedure is
PD：Datum (round) → PC：Cut (diamond).
Tightening and locating at the same time.

General locating pin consists of two pins.
Alike general locating pin, our Screw Locator consists of PD：Datum Pin (Round Pin) and PC：Cut Pin (Diamond Pin).

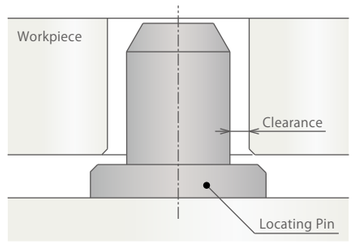


Manual Expansion Locating Pin model VX

Zero clearance between reference hole and locating pin with pin expansion.
By reducing pin diameter, there is enough clearance to load/unload the workpiece leading to time reduction.

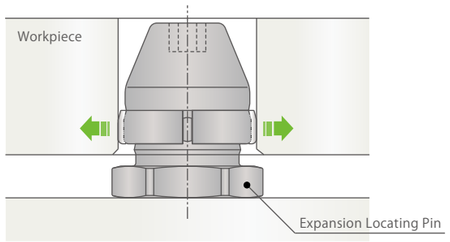
Locating repeatability is 5μm with only one wrench.

General Locating Pin has some clearance.



Expansion Locating Pin has ZERO Clearance!!

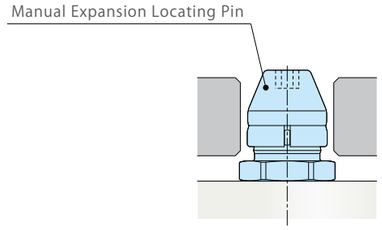
High Accuracy, Setup Time and Total Cost Reduction



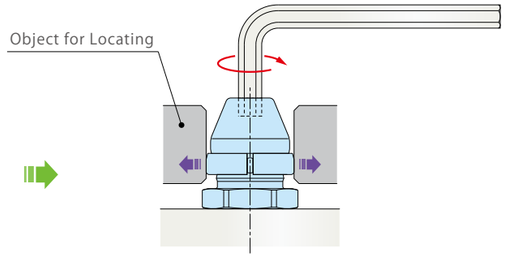
Pin Expansion/Retraction Function

When expanded：The clearance between pin and reference hole get become zero and it leads to locate with high accuracy.

When released ：At the time when the workpiece is loaded and unloaded, retracted diameter makes enough clearance for changeover and makes it easier.

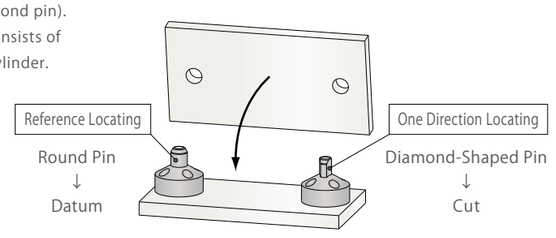


＜ Released State ＞



＜ Locked State ＞

Locating pin consists of two types of locating pins (round pin and diamond pin).
Kosmek expansion locating pin consists of D：Datum Cylinder and C：Cut Cylinder.



Pressure Switch

model JBA

Most suitable for checking circuit pressure.
Resistant to vibration of 30G and long life of more than one million cycles.
The switch equipped with light enables to check the action easily.

Pressure Gauge

model JGA/JGB

Indicates pressure of hydraulic circuit.
Filled with glycerin for anti-vibration.

Manifold

model JX

For Complicated Branching and Relaying of Piping

Coupler Switch

model PS

Interlocking is possible between fixtures and fixture transfer machine
by using a disconnecting detector of hydraulic quick coupler on hoses.
Most suitable when using with BK non-leak valve.

Accessories

Lever for Swing Clamp

Lever for Link Clamp

Bulkhead Nut

Manifold Block

Manifold Block

Flanged Nut

G-Thread Fitting