

KOSMEK

SPECIAL PRODUCTS

vol.1



Clamp / Cylinder



Vise



Expansion Locating Pin



Large Diameter Locating



Locating + Clamp



Clamper



Auto Coupler Unit for
Adjusting Mold Temperature

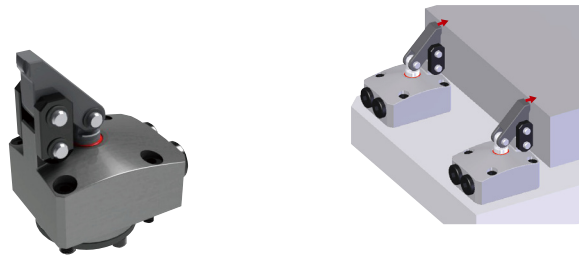
KOSMEK Special Products Vol.1

The Best Solutions for Your Needs

Link Type Side Clamp

P.3

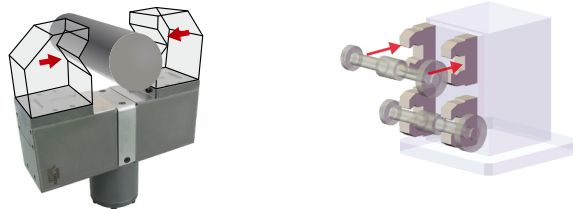
Clamping with Strong Force from the Side



Centering Vise

P.5

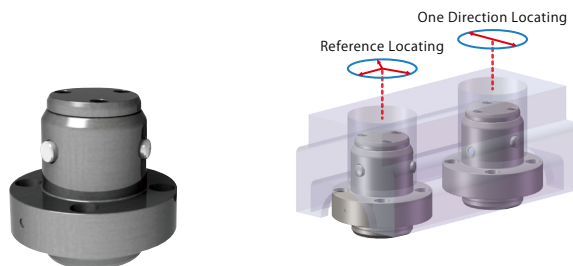
Wide Stroke and High Gripping Force for Clamping Cylindrical Workpieces



Expansion Locating Pin (Major Diameter Datum Cylinder)

P.7

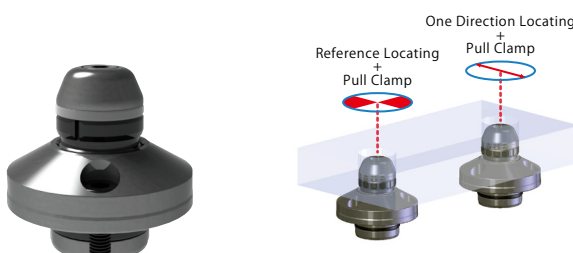
High Accuracy Locating with Easy Loading/Unloading



Datum Hole Clamp

P.9

Datum Hole Clamp with High Accuracy Locating and Clamping



Kosmek works to meet the needs of every customer,
developing and producing innovative products.

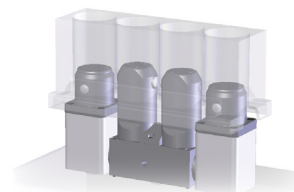
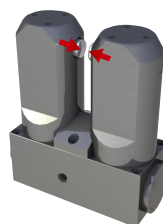
<http://www.kosmek.co.jp>

This catalog shows just a small portion of KOSMEK products.
We have various types of hydraulic and pneumatic products.
Please let us know your requirements, and we will make it happen.

Centering Cylinder for Bore

P. 11

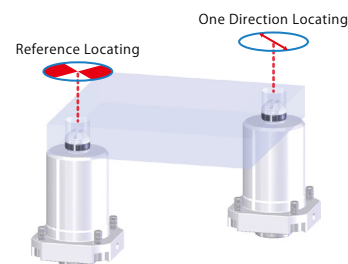
Easily Locate the Engine Block etc.



Expansion Locating Pin (Corrosion Proof)

P. 13

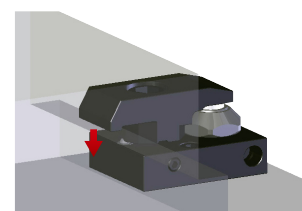
Locating Pin Made of Stainless Steel
with Corrosion Proof Function



Lever Turning Clamp

P. 15

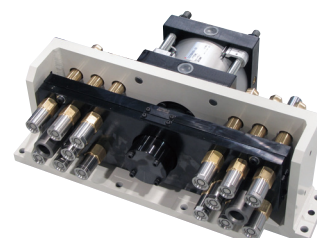
Lever can be turned 90° manually.



Auto Coupler Unit

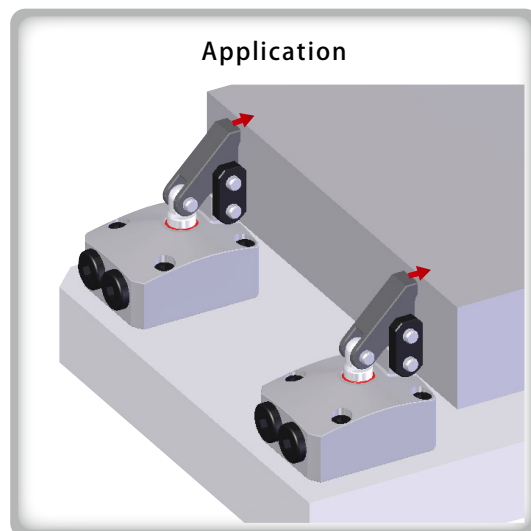
P. 17

To fully automate the connection piping
for mold temperature controllers.



Clamping with Strong Force from the Side!

Link Type Side Clamp



- **Clamping Workpiece Towards One Side**

Clamping method by pushing from the side, suitable for the single side positioning for the clamp reference surface.

- **Zero Intervention to Top Surface**

Zero intervention to top surface since plate and workpiece are clamped from the side.

- **Easy Loading/Unloading Workpiece and Plate**

When releasing, a lever is away from plate and workpiece. This allows for easy loading/unloading.

- **Available for Any Type of Workpiece**

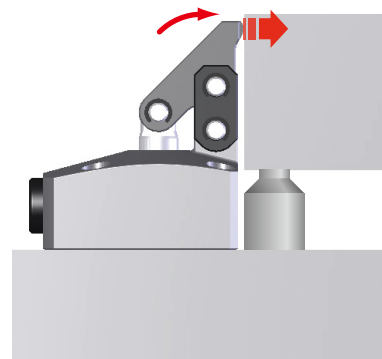
By varying the shape of lever, these clamps can be used for wide range of applications.

※ If you use it by change in shape of lever, let us know.

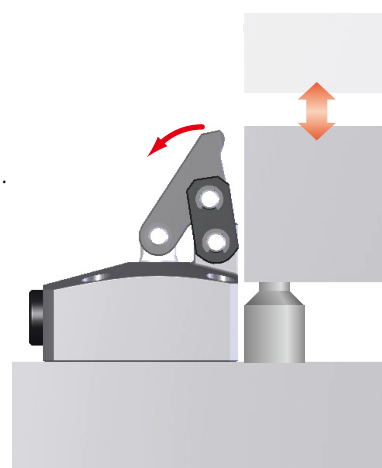
- **Easy Designing Oil Passage of Fixture (Base Plate)**

Oil passage is easily designed when using LKY with other clamps (swing, link etc) together because installing dimension is same as other clamps.

Clamped State



Unclamped State

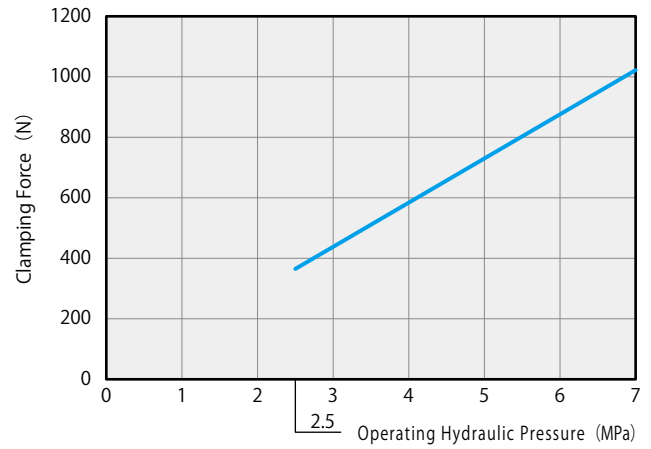


This is just one example of exclusive products we produced in the past.
Other specifications and dimensions are available upon request. Please contact us for further information.

● Specifications

Model No.	LKY0031	
Cylinder Area	cm ²	2.545
Full Stroke	mm	6
Lock Stroke	mm	3
Extra Stroke	mm	3
Cylinder Capacity	Lock	cm ³ 1.53
	Release	cm ³ 1.06
Max. Operating Pressure	MPa	7.0
Min. Operating Pressure	MPa	2.5
Withstanding Pressure	MPa	10.5
Operating Temperature	°C	0 ~ 70
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32	

● Performance Curve

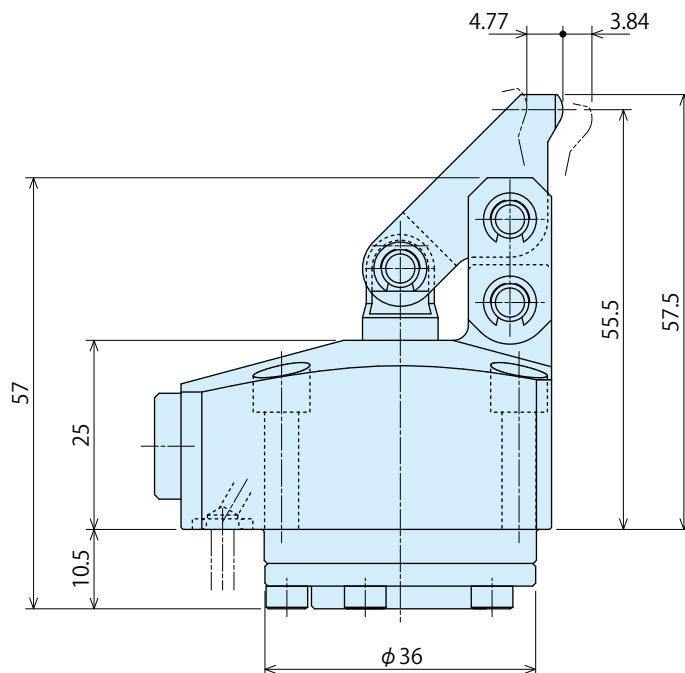
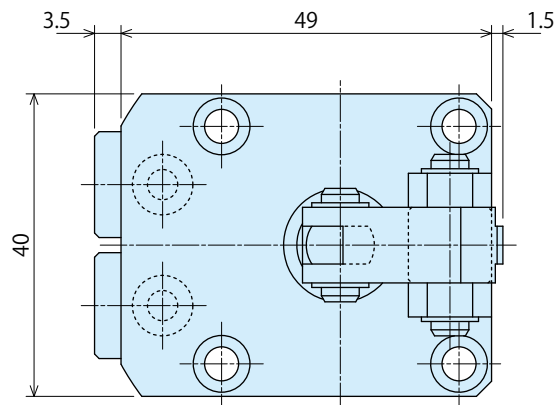


Note

1. This graph shows calculation predicted value.

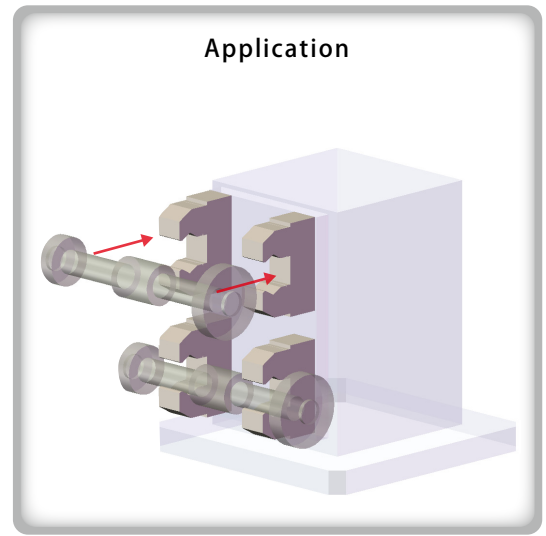
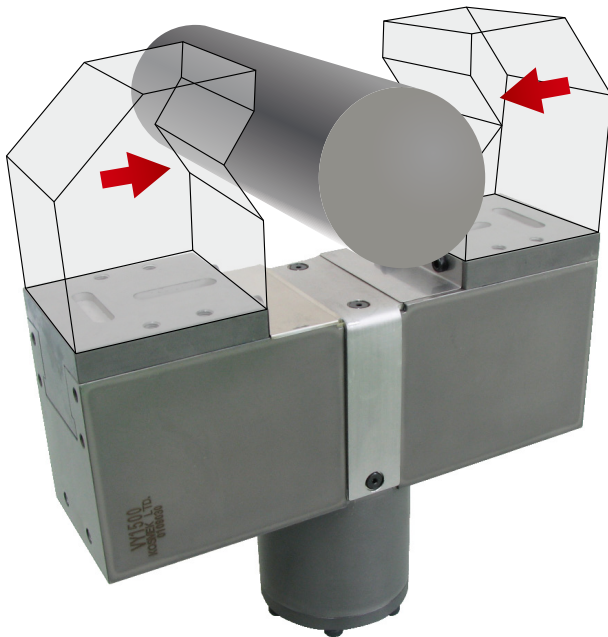
● External Dimensions

- ※1. This drawing is the reference. Detail measurement is not on this drawing.
- ※2. This drawing shows the one at locked state.
- ※3. Excessive clamp speed will accelerate wear and lead to component damage.



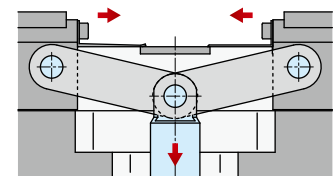
Wide Stroke and High Gripping Force for Cylindrical Workpieces!

Hydraulic Centering Vise (Long Stroke Model)



- **Easy Loading/Unloading Cylindrical Workpiece with Wide Stroke**

Link-slide mechanism makes wider slide stroke.
It leads to easy loading/unloading of workpiece,
and it is suitable for automatic transfer.



Link Type Slide Structure

- **Metal cover prevents a foreign substance invasion inside.**

The metallic body covering the moving part, ensures internal structure protection leading to long life.

- **Easy Installation Surface Machining of Clamp Jaw**

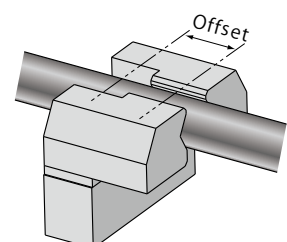
The mounting part of the clamp jaw is only key groove/bolt hole machining, so it can be produced by general purpose facilities.
The complicated serration machining is unnecessary.

- **Workpiece is clamped by high gripping force.**

- **Possibility for Offset**

An offset of the workpiece is possible like the right figure.
Be superior to approach characteristics of the drill tool and
can cope for the interference evasion with loaders flexibly.

※ When using as offset, please contact us.

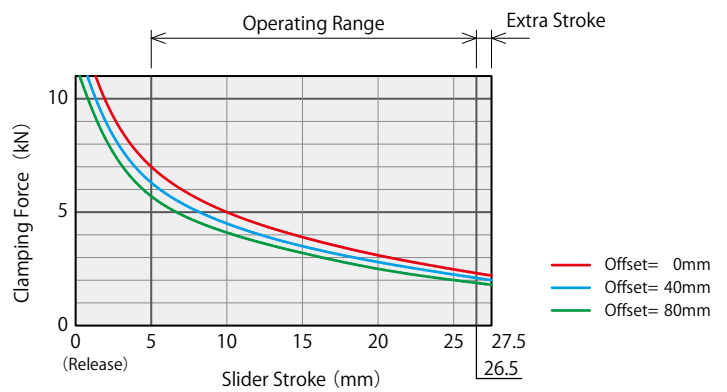


This is just one example of exclusive products we produced in the past.
Other specifications and dimensions are available upon request. Please contact us for further information.

● Specifications

Model No.		VY1500	
Slider Stroke (One Side)		mm	27 ^{+0.5} ₀
Cylinder Area	Lock	cm ²	15.83
	Release	cm ²	19.63
Cylinder Capacity	Lock	cm ³	57.1
	Release	cm ³	70.9
Max. Operating Pressure		MPa	6.0
Min. Operating Pressure		MPa	1.0
Withstanding Pressure		MPa	9.0
Repeat Accuracy		mm	±0.1
Operating Temperature		°C	0 ~ 70
Usable Fluid		General Hydraulic Oil Equivalent to ISO-VG-32	

● Performance Curve (Operating Hydraulic Pressure : At 6MPa)

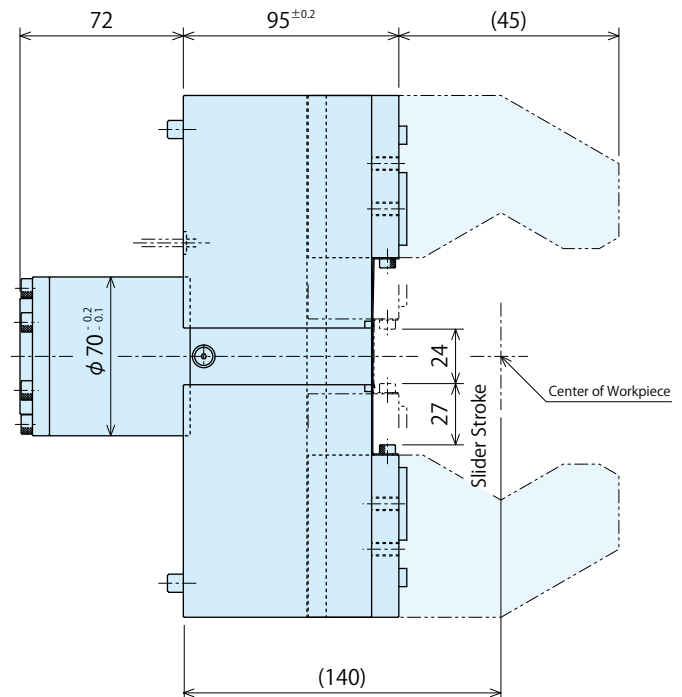
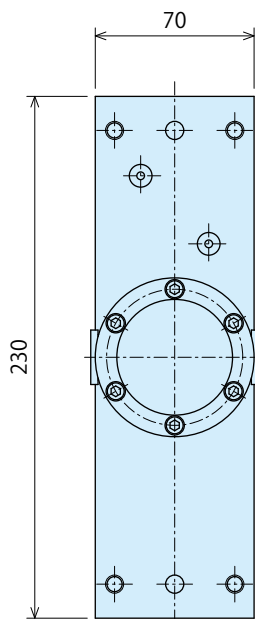
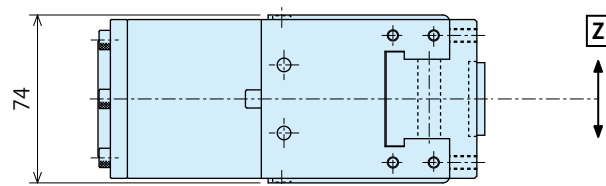


Note

1. This graph shows calculation predicted value.
2. Offset shows the distance between the center of clamp and to Z-axis direction.
3. Offset of this product is up to 80 mm.

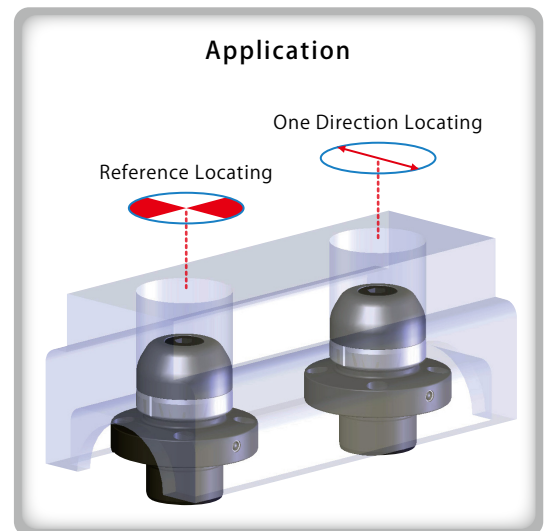
● External Dimensions

※ This drawing is the reference. Detail measurement is not on this drawing.



High Accuracy Locating with Taper Sleeve Expansion!

Expansion Locating Pin (High Accuracy Model)



- **No Scratches/Dig Marks on Workpiece Hole by Using Taper Sleeve**

Cylindrical taper sleeve touches workpiece hole all around and then locates it, so there is no scratches on workpiece hole.

- **High Accuracy Locating Repeatability**

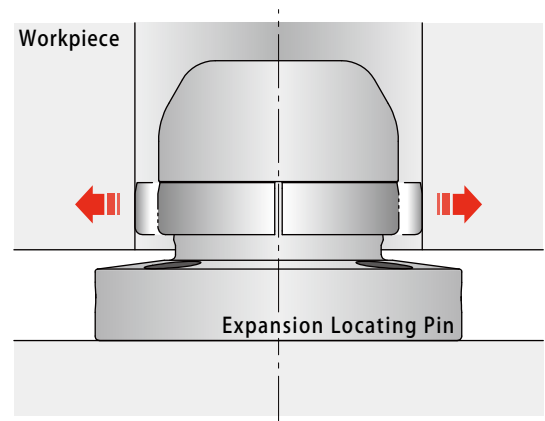
Locating Repeatability : 3 μ m

- **Easy Loading/Unloading of Workpiece**

When the taper sleeve is shrunk, the gap between workpiece and pin is bigger than fixed pin. So, loading/unloading workpiece is smoothly done. The shape of pin head is designed to load workpiece easily.

- **Available for a Variety of Hole Diameter Range ($\phi 8 \sim \phi 80$).**

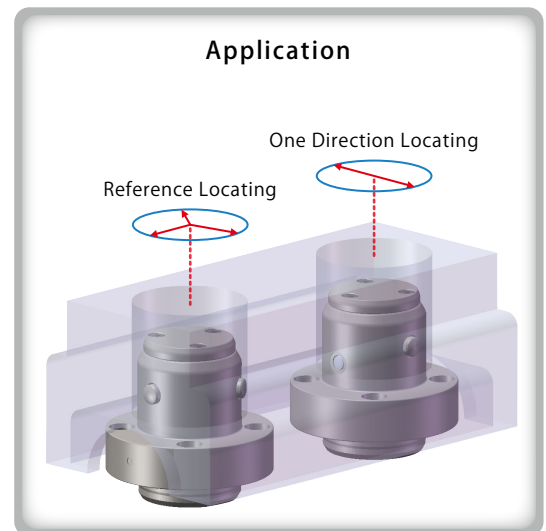
Designed and manufactured according to the workpiece hole diameter on your demand.



Note

1. This product is only for locating. Please ensure alternate clamping as per your requirement.

Locating Major Diameter Hole with Long Stroke!

Expansion Locating Pin
(Long Stroke Model)

- Suitable for the Line with Different Kinds of Workpieces due to the Movable Pin

Pin makes a large move. So, the range of workpiece hole diameter is also large, which makes it available in the line having different kinds of workpieces.

- High Accuracy Locating Repeatability

Locating Repeatability : 50 μ m

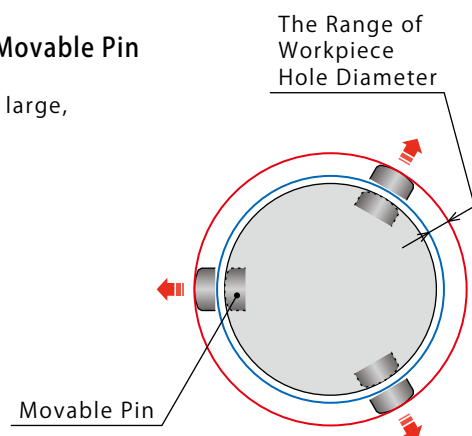
- Easy Loading/Unloading of Workpiece

Sufficient workpiece loading and unloading with large movement of the pin.

- Available for Wide Range of Hole Diameter $\phi 8 \sim \phi 80$.

Designed and manufactured according to the workpiece hole diameter on your demand.

For the small diameter, ball is used instead of movable pin.

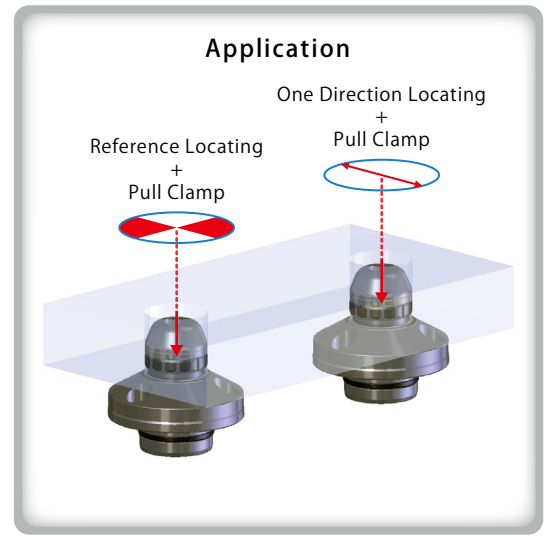


Note

1. This product is only for positioning, please ensure alternate clamping as per your requirement.

All-In-One High Accuracy Locating and Clamping!

Datum Hole Clamp

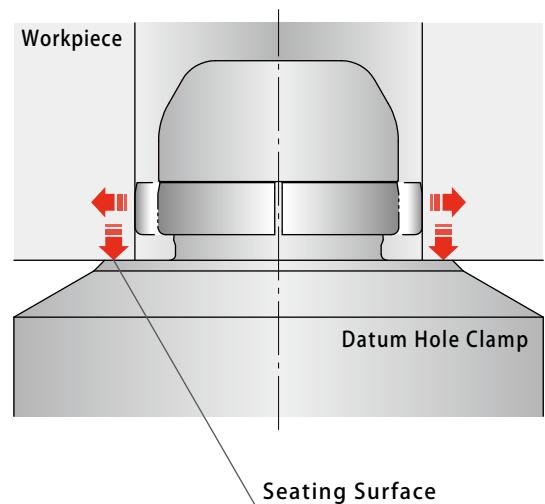


- **Clamp with a Locating Function**

Both high accuracy locating and clamping are put into our compact datum hole clamp. It locates workpiece hole while pulling workpiece down to the seating surface.

- **Minimizing a Base Plate**

Clamps are located below workpiece. So, there is nothing over and along the surface of workpiece. This allows for minimizing a base plate. When it is used for machine tool fixture, only one chucking is needed to machine workpiece from all the 5 faces.



- **No Need to Add Seating Surface**

No need to add seating surface because it is already available.

- **Small Design, Easy Seating**

Compact body with high accuracy locating and strong clamping allows for easy installation to the mounting plate.

※ We also offer standard Hole Clamp only for clamping, and Expansion Locating Pin only for locating.

This is just one example of exclusive products we produced in the past.
Other specifications and dimensions are available upon request. Please contact us for further information.

● Specifications

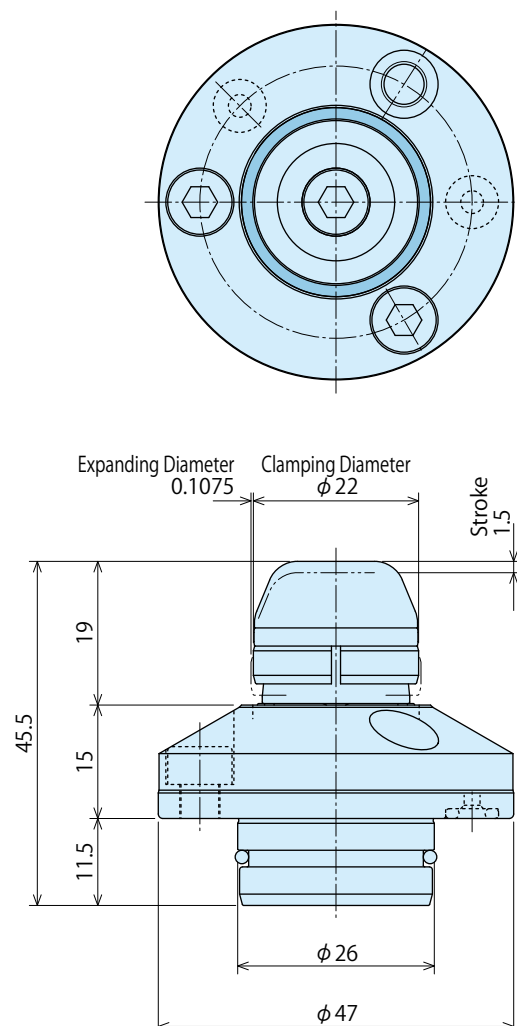
Model No.			VHY
Workpiece Hole Diameter	mm	$\phi 22$	
Clamping Diameter	Release (Max.)	mm	$\phi 21.865$
	Lock (Min.)	mm	$\phi 22.08$
	Idle (Min.)	mm	$\phi 22.14$
Full Stroke	mm	1.5	
Workpiece Pulling Stroke	mm	0.3	
Locating Repeatability	mm	0.005	
Clamping Force*1	At 2.5MPa	N	100
	At 5.0MPa	N	300
	At 7.0MPa	N	450
Expansion Force*2	At 2.5MPa	N	1230
	At 5.0MPa	N	2880
	At 7.0MPa	N	4200
Cylinder Area	Lock	cm ³	0.33
	Release	cm ³	0.43
Operating Hydraulic Pressure	MPa	2.5 ~ 7.0	
Operating Temperature	°C	0 ~ 70	
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32		
Allowable Thrust Load*3	kN	3.0	

Notes

- *1. Clamping force indicates the force pressing workpiece on the seating surface. The numbers shown in the list is calculated in terms of the coefficient friction.
 - *2. Expansion force is the force that acts on the workpiece hole in vertical direction towards the center axis of the datum hole clamp.
 - *3. Allowable thrust load indicates the maximum thrust load. If the thrust load exceeds the maximum, malfunction or damage is likely.
1. Clamping force varies according to the material · surface roughness · smoothness of the workpiece. Please do the running test and adjust the appropriate supplied pressure before use.

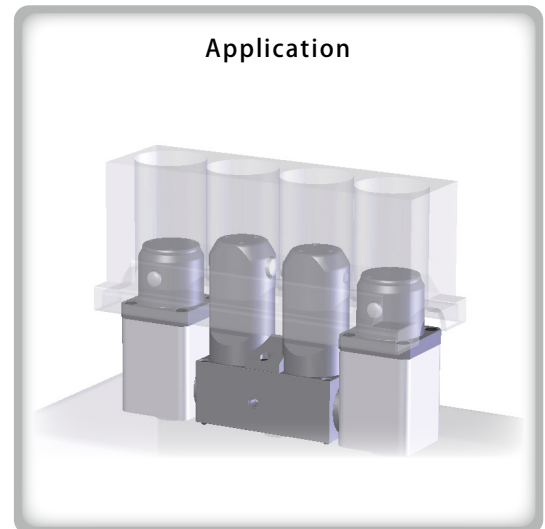
● External Dimensions

- ※1. This drawing is the reference. Detail measurement is not on this drawing.
- ※2. This drawing indicates the released state (diameter shrinking).



Locating X-axis Direction of Engine Block with High Accuracy!

Centering Cylinder for Bore



- **Locating the X-axis of Engine Block etc.**

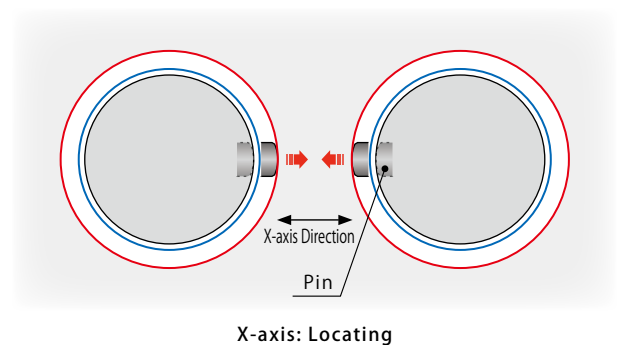
Possible to locate toward both X/Y by using datum cylinder for Y axis locating together.

Plus our clamps, the perfect positioning toward X/Y/Z and clamp system (sitting surface needs to be added) are build.

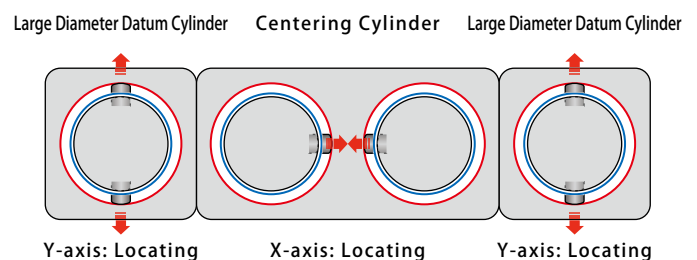
- **Easy Loading/Unloading of Workpiece**

Large stroke of the pin makes enough gap between the cylinder body and workpiece hole. This allows for easy loading/unloading of workpiece.

- **With high locating force, large workpiece is able to be located precisely.**
VQY high locating force enables to locate large workpiece. High accuracy locating product that is designed for automotive engine blocks.



X-axis: Locating



Note

1. This product is only for locating. Please ensure alternate clamping as per your requirement.

This is just one example of exclusive products we produced in the past.
Other specifications and dimensions are available upon request. Please contact us for further information.

● Specifications

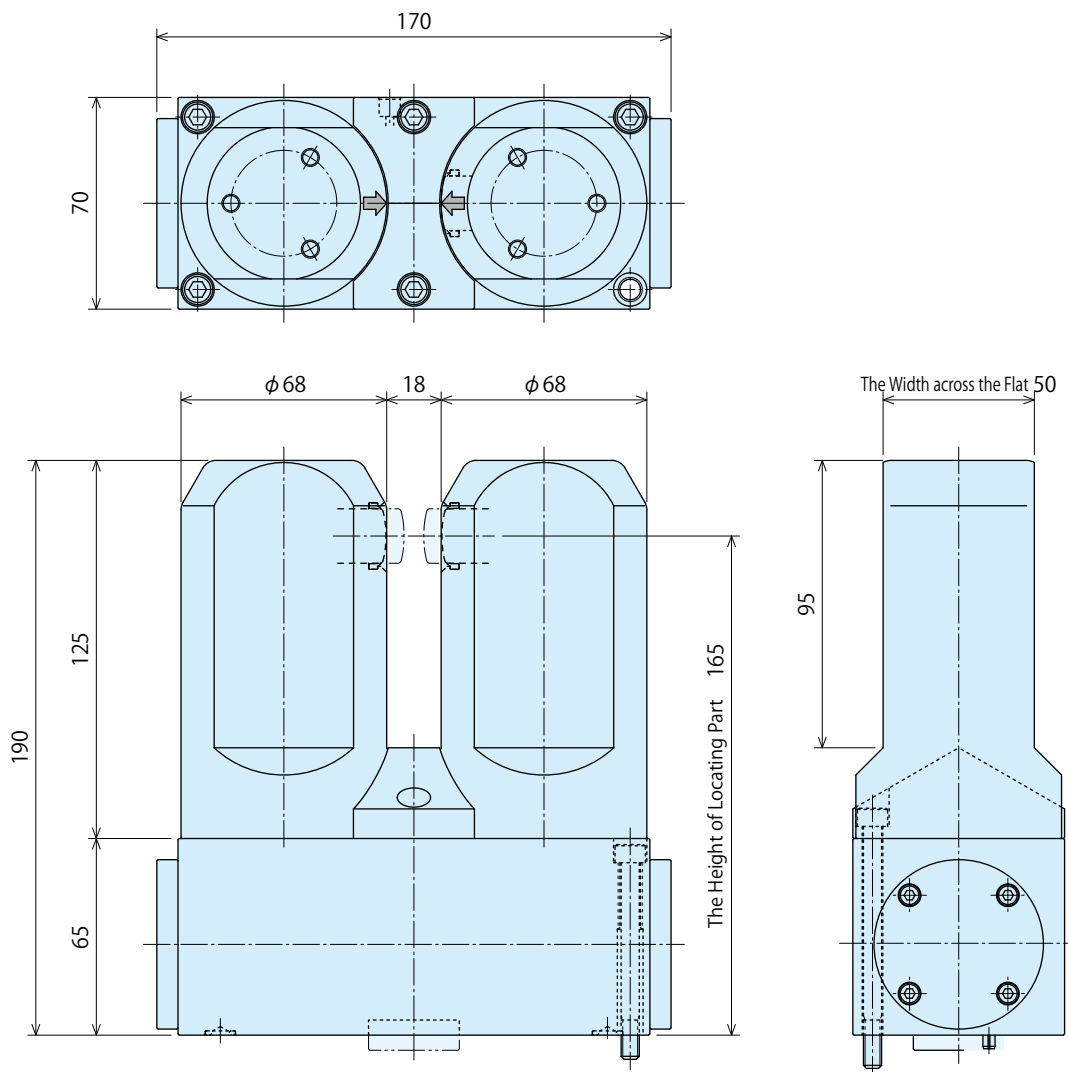
Model No.	VY0670	
Expansion Force (Hydraulic Pressure at 3.5MPa)*1 kN	2.3	
Workpiece Hole Diameter mm	φ 71 ~ φ 78	
The Measurement of Expanding Part	Release mm	φ 67.5
	Full Stroke mm	φ 79.5
Cylinder Capacity cm ³	15.4	
Operating Hydraulic Pressure*2 MPa	3.5	
Withstanding Pressure MPa	5.0	
Operating Temperature °C	0 ~ 70	
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32	

Note

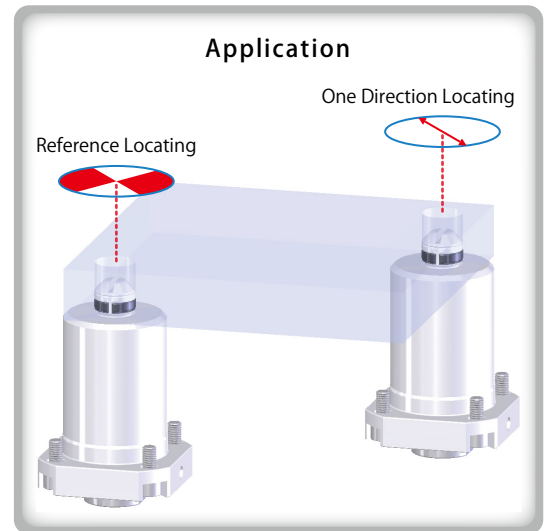
1. The expansion force*1 and hydraulic pressure for use*2 is the reference.
When using it with different hydraulic pressure, please contact us.

● External Dimensions

- ※1. This drawing is the reference. Detail measurement is not on this drawing.
- ※2. This drawing shows the one at released state.
- ※3. This product is only for locating in one axis direction. Please ensure alternate clamps as per your requirement.



Anticorrosion Stainless Steel for Exterior Material!

Expansion Locating Pin
(Corrosion Proof)

- All exterior material is made of stainless steel.

All exterior material that is made of stainless steel is sufficient to corrosion resistance. So, this one has various use for washing line etc.

※ Some chemicals are not allowed to use. Please let us know when you are interested in this one.

- Designed and manufactured for the hole diameter as per your demand.

This product is designed and manufactured according to workpiece hole.

- Easy Loading/Unloading of Workpiece

When the taper sleeve is shrunk, the gap between workpiece and pin is bigger than fixed pin.

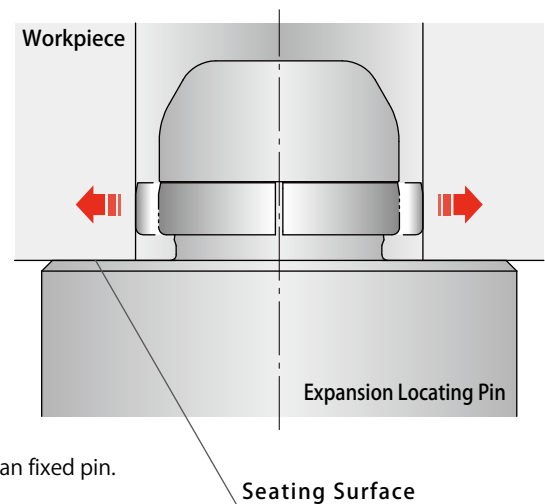
So, loading/unloading workpiece is smoothly done.

Most suitable for the automation with robot. (Rough guide pin installation is recommended.)

- Flange Used as Seating Surface

Flange is capable of being used as seating surface.

Seating surface installation is not needed by adjusting the thickness of installation plate.



Note

1. This product is only for locating, please ensure alternate clamping as per your requirement.

This is just one example of exclusive products we produced in the past.
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● Specifications

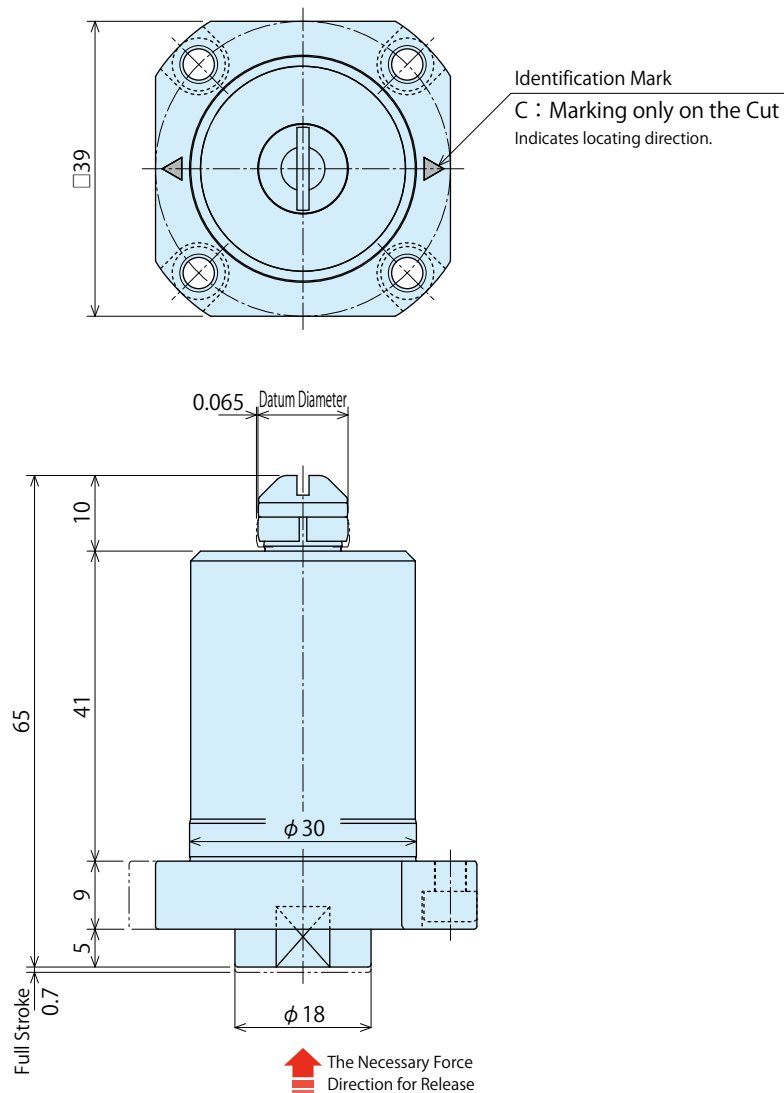
Model No. *1	VLY0010-□-A120	
Workpiece Hole Diameter	mm	φ 12
Datum Diameter	Release (Max.)	mm φ 11.92
	Full Stroke (Min.)	mm φ 12.05
Full Stroke	mm	0.7
Locating Repeatability *2	mm	0.1 (0.003)
Proof Stress for Pulling *3	kN	0.25
Allowable Offset (C: cut)	mm	±0.10
Necessary Force for Release	kN	1.5 ~ 2.5
Usable Fluid	°C	0 ~ 70
Allowable Thrust Load	kN	2.5

Note

- *1. D or C is supposed to fill in the blank □.
D : Datum (for reference locating)
C : Cut (for one direction locating)
Locating X/Y axis direction works by installing both datum and cut.
- *2. High accuracy model (0.003mm) is also available.
- *3. Proof stress for pulling indicates the force that keeps the workpiece from rising up.
The number in the list is calculated in terms of friction as μ0.1.
1. This product is only for locating, please ensure alternate clamping as per your requirement.

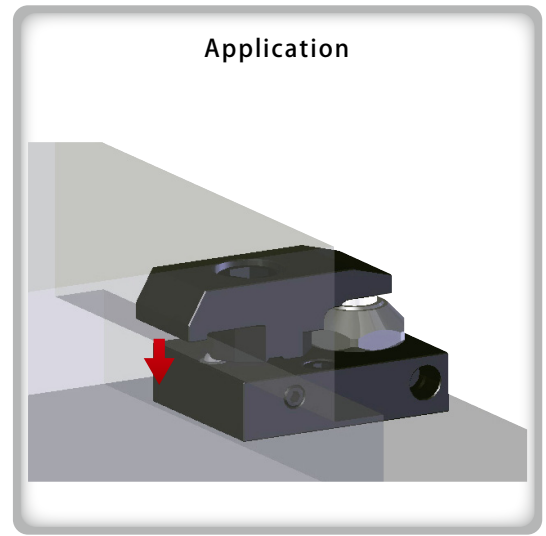
● External Dimensions

- ※1. This drawing is the reference. Detail measurement is not in this drawing.
- ※2. This drawing is at released state (shrinking diameter).
- ※3. This product locates workpiece with built-in spring.
(As for release action, the pushing device should be prepared separately.)



Swing the Lever 90° to the Left and Right by Hand!

Lever Turning Clamp



- **Various Ways to be Used**

This clamp has a wide range of use from machine tool's workpiece/plate to clamping molds/dies of injection molding/press machines and so on.

- **Able to Turn the Lever 90°**

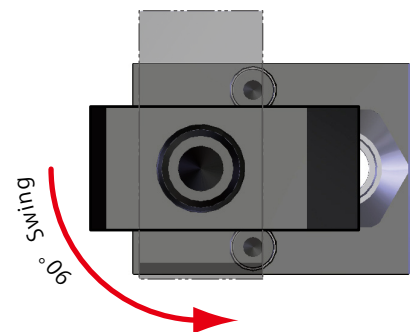
Lever is able to be turned 90° by hand.
The interference created by changing plates/molds/dies can be avoided.

- **Compact Design • Strong Clamping Force**

This product is designed to be compact and has high clamping force.

- **Available for Pre-Clamping**

This product is also used for pre-clamping plates and workpieces.

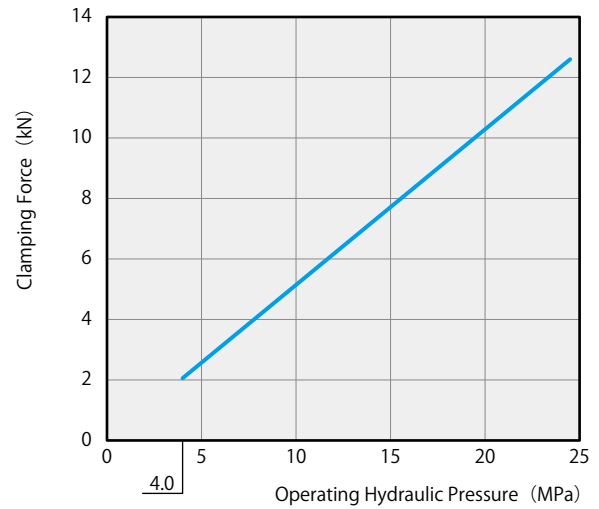


This is just one example of exclusive products we produced in the past.
Other specifications and dimensions are available upon request. Please contact us for further information.

● Specifications

Model No.	GY1310-35	
Clamping Force (Hydraulic Pressure at 24.5MPa) kN	12.6	
Full Stroke mm	5	
Clamp Stroke mm	3	
Extra Stroke mm	2	
Cylinder Capacity (At Full Stroke) cm ³	2.7	
Operating Hydraulic Pressure MPa	4 ~ 24.5	
Withstanding Pressure MPa	36.8	
Operating Temperature °C	0 ~ 70	
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32	

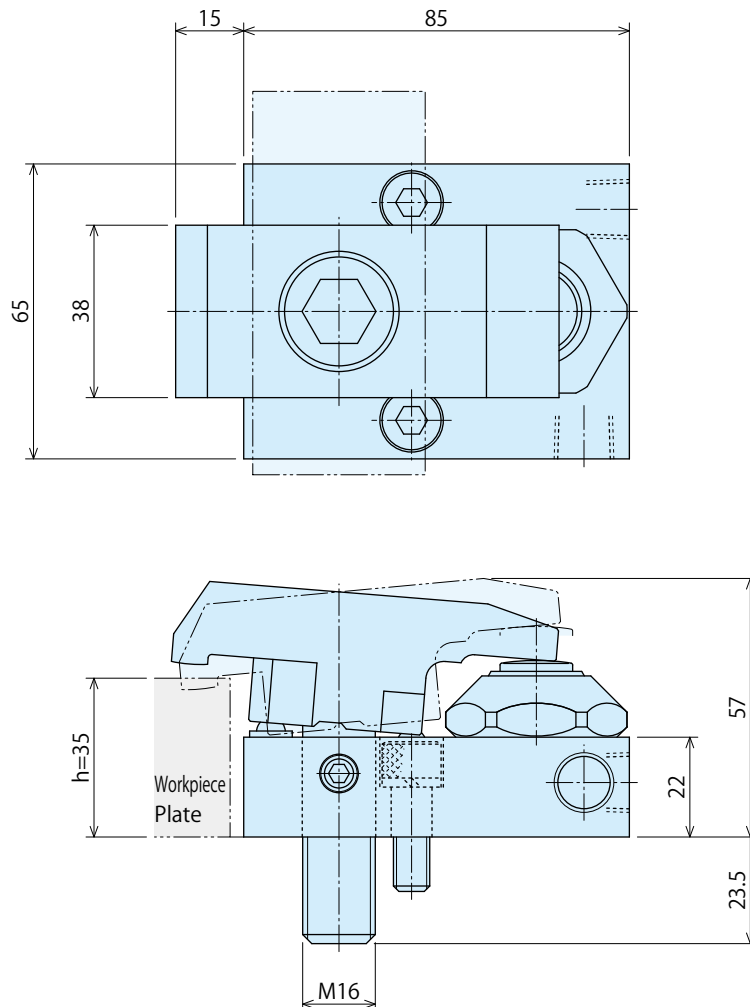
● Performance Curve



Note
1. This graph shows calculation predicted value.

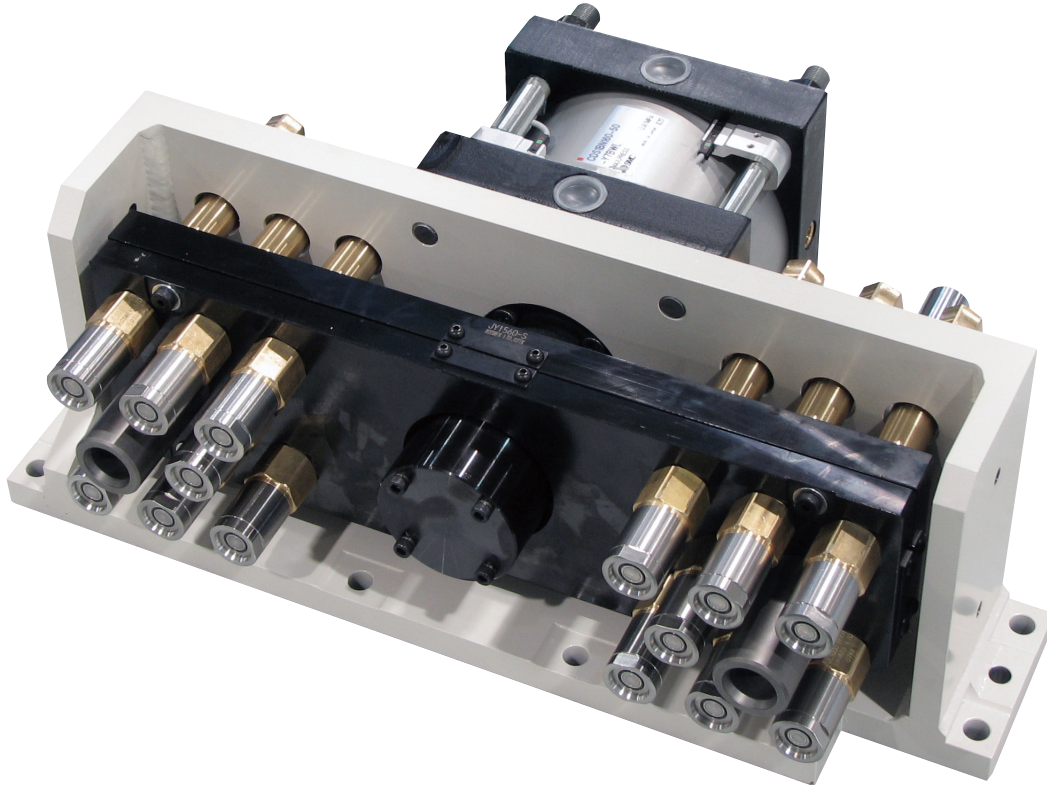
● External Dimensions

- ※1. This drawing is the reference. Detail measurement is not on this drawing.
- ※2. This drawing indicates the released state.
- ※3. Lever can turn either way (right and left) at 90°.



Automation of Connection Pipe for Controlling Mold Temperature!

Auto Coupler Unit



- Automation of connection pipe for controlling the die temperature is now available.

Mold changeover of the IMM is completely automated with the combination of auto clamp system. Changeover time is minimized.

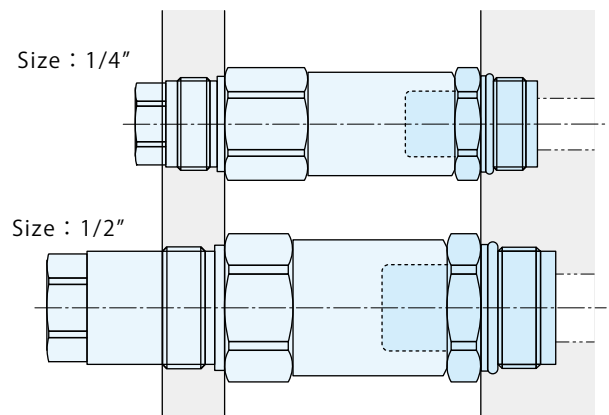
- Selection from Various Body Sizes According to Flow Rate (model JL)

Wide Range of Body Size

- 1/4"
- 3/8"
- 1/2"
- 3/4"
- 1"

- Combination with Various Sizes Available

Able to combine couplers with different size, allowing for fitting them in small spaces.



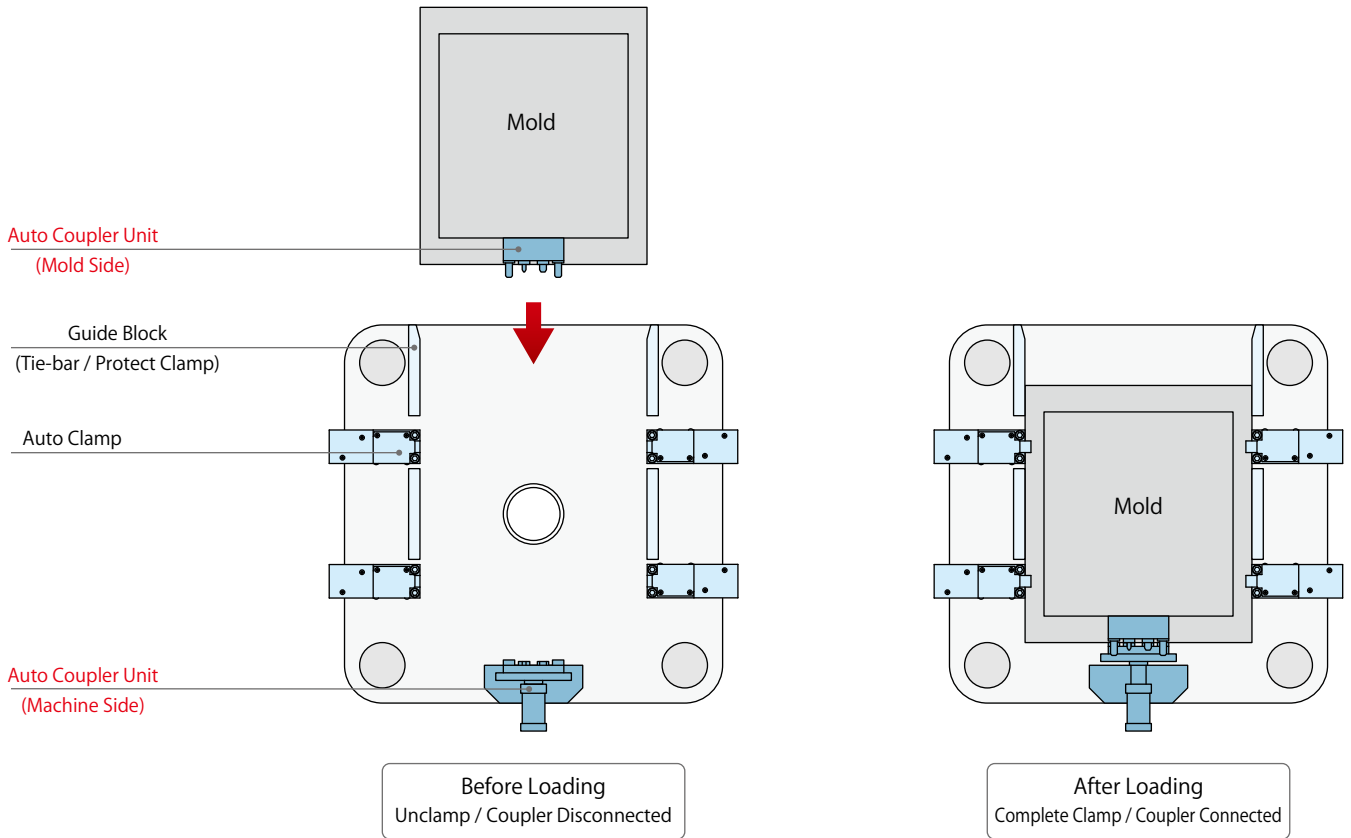
- The most appropriate coupler is selected according to the fluid. (model JL)

Most Appropriate Material for Each Fluid.

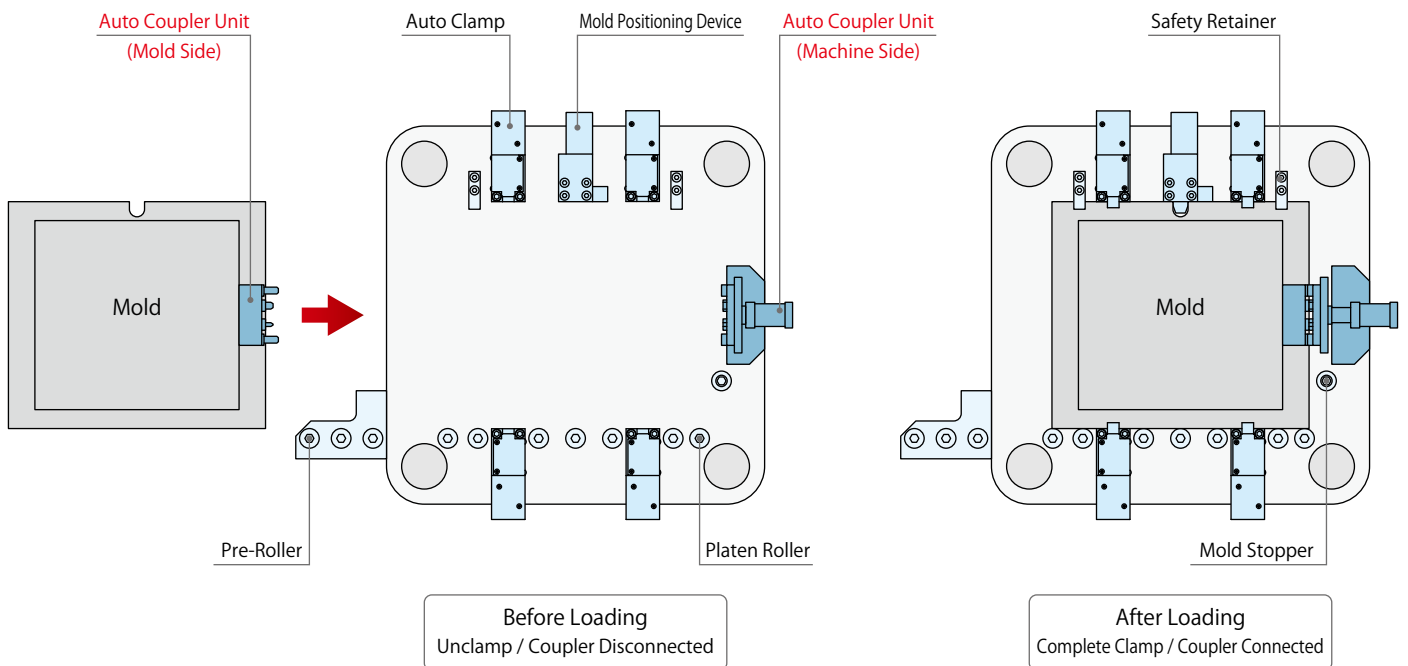
- Water, Air, and General Working Fluid (max.80°C) : Stainless Steel, Brass and Nitrile Rubber
- Warm Water, Air, and General Working Fluid (max.120°C) : Stainless Steel, Brass and Fluoro Rubber
- General Working Fluid (max.80°C) : Steel and Nitrile Rubber

The most appropriate auto coupler unit is designed and manufactured according to customer's molding machine and the specification of fixture.

● **Horizontal Injection Molding Machine : Vertical Loading**



● **Horizontal Injection Molding Machine : Horizontal Loading**



KOSMEK

Harmony in Innovation

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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.



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