

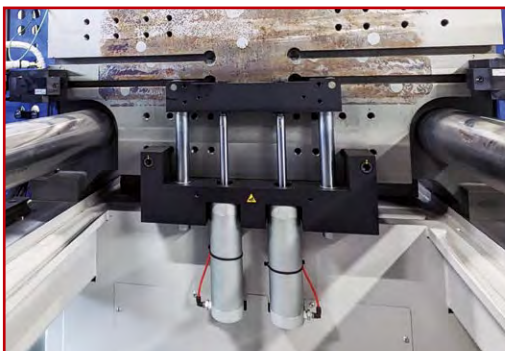
New

Level Unit

Adjusts the level, just by loading a mold!

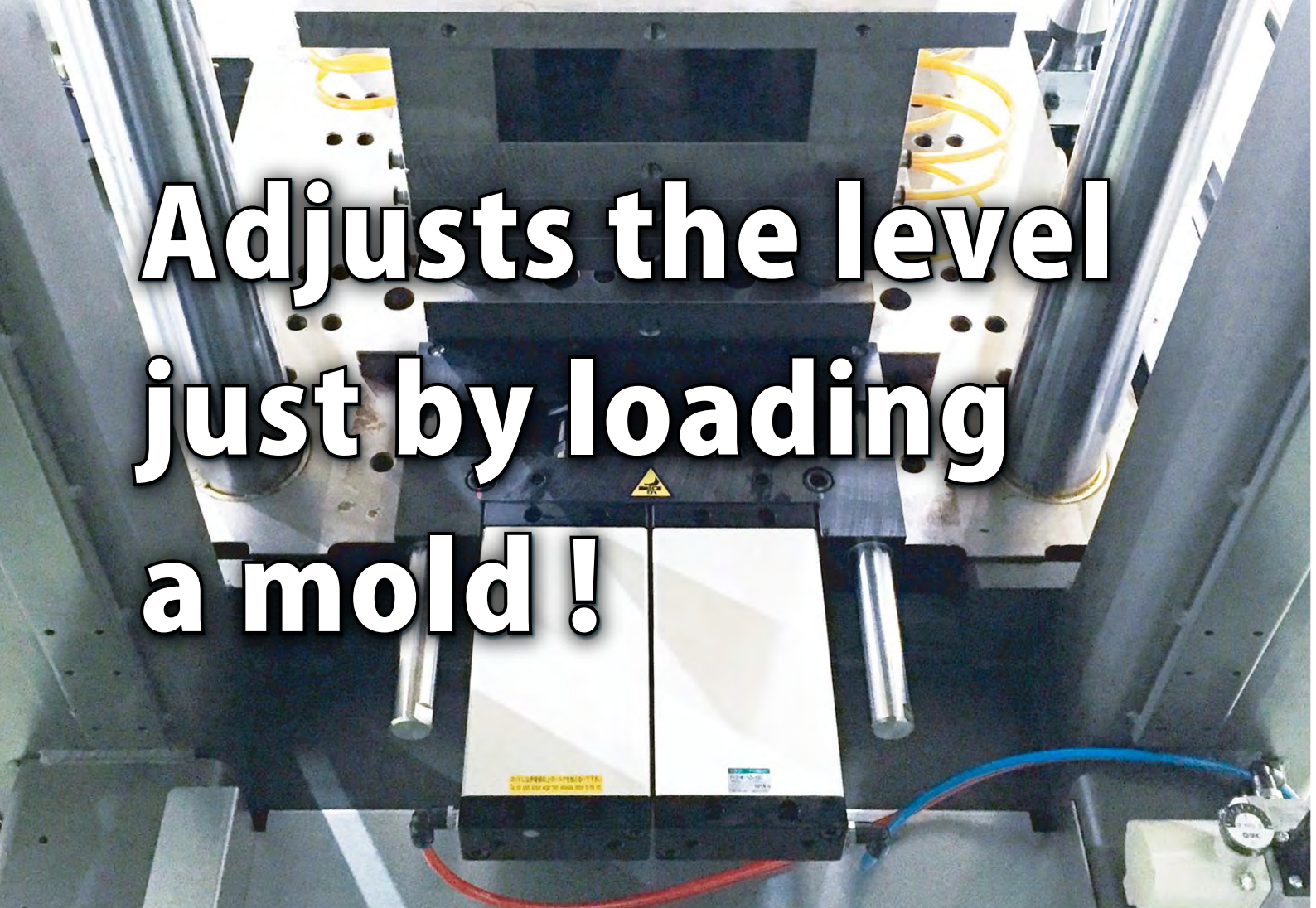


Model MHL



New Additional Line-up

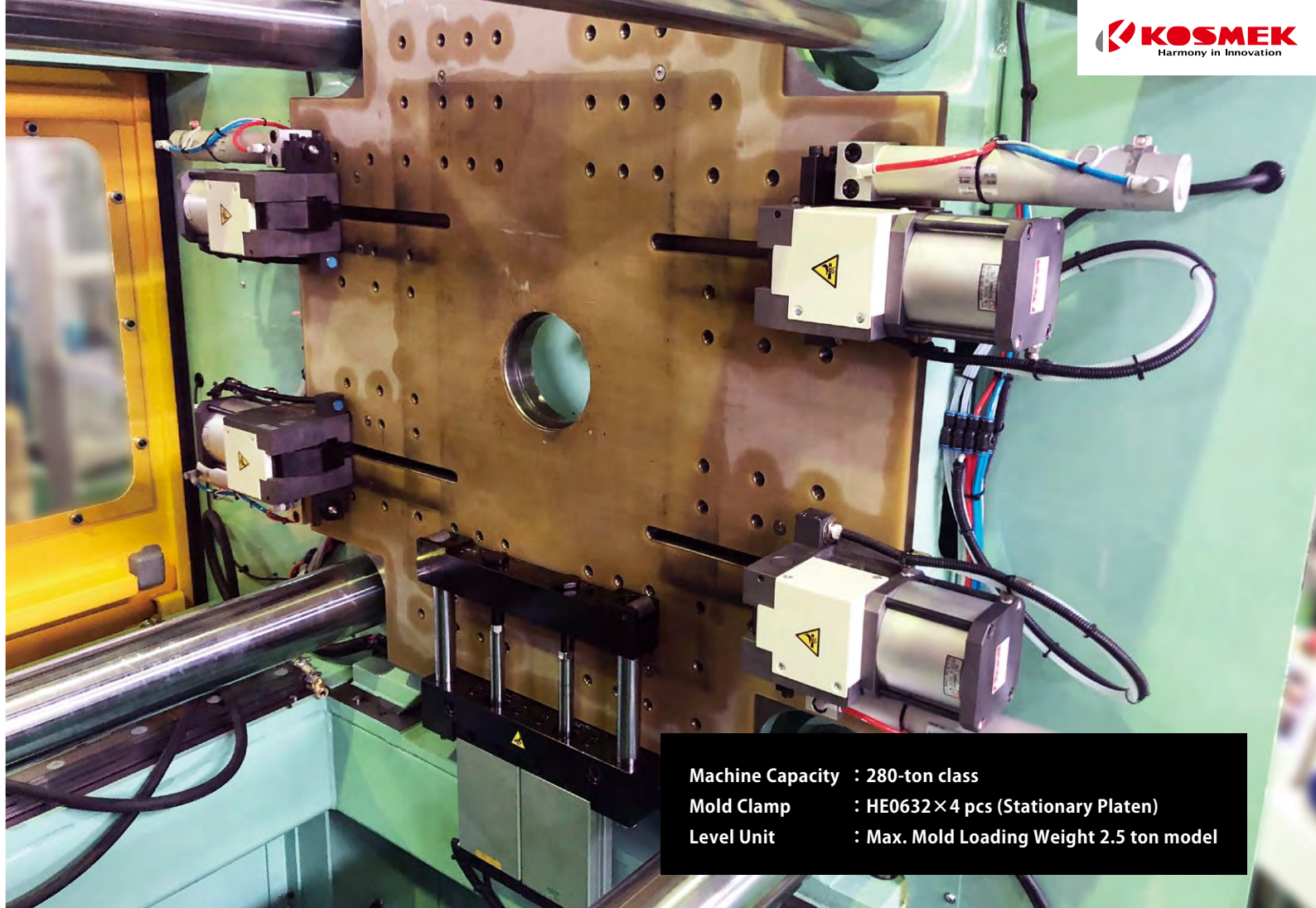
Maximum Mold Loading Weight **5 ton**



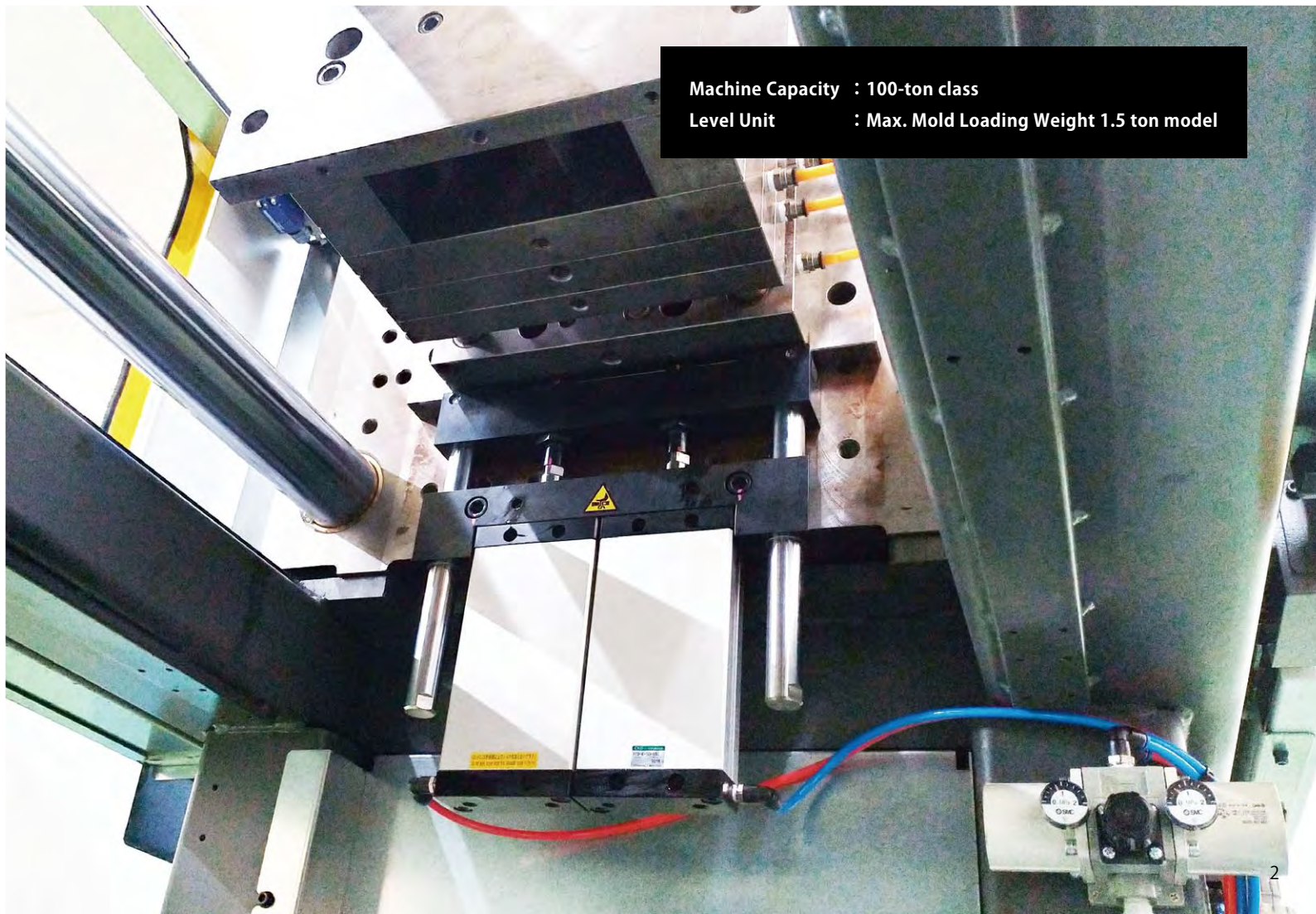
**Adjusts the level
just by loading
a mold!**



Machine Capacity : 450-ton class
Mold Clamp : GBC1000×4 pcs (Stationary Platen)
Level Unit : Max. Mold Loading Weight 5.0 ton model



Machine Capacity : 280-ton class
Mold Clamp : HE0632×4 pcs (Stationary Platen)
Level Unit : Max. Mold Loading Weight 2.5 ton model



Machine Capacity : 100-ton class
Level Unit : Max. Mold Loading Weight 1.5 ton model

For Injection Molding Machines

Level Unit

Model MHL

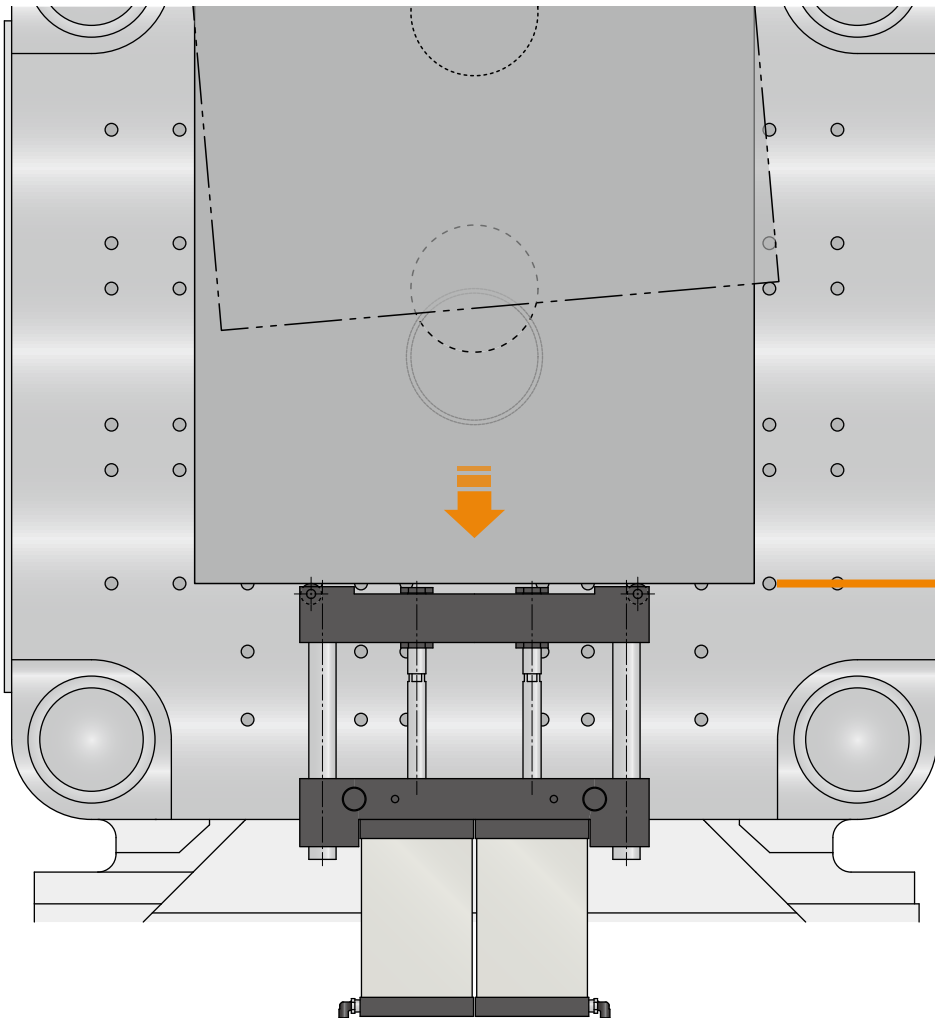


Adjusts the Level by Loading a Mold!

Able to Adjust the Mold Level with Normal Crane Operation

What is Level Unit

A unit that **ensures parallel accuracy by loading a mold** with a crane.

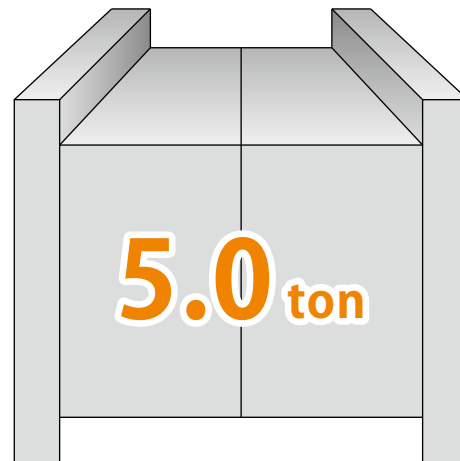


Adjusts the mold level
just by loading it!

• Max. Mold Loading Weight

Maximum mold loading weight is up to **5.0 ton**.

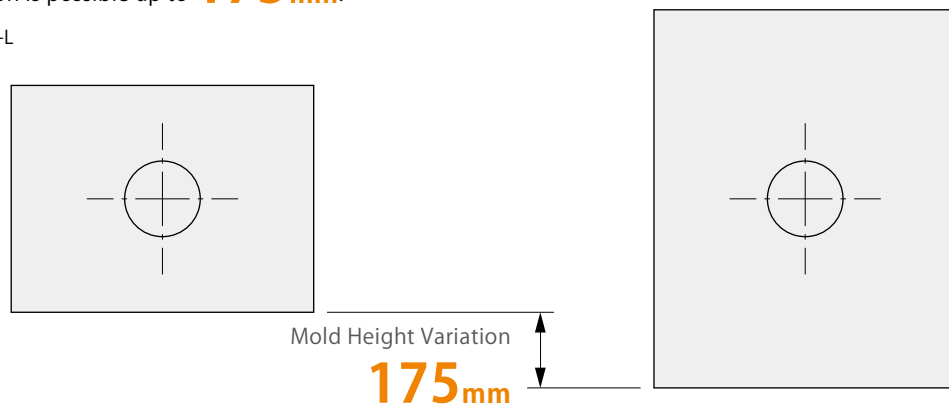
※ In case of MHL06□0 (Air pressure at 0.7MPa)



• Mold Height Variation Possible

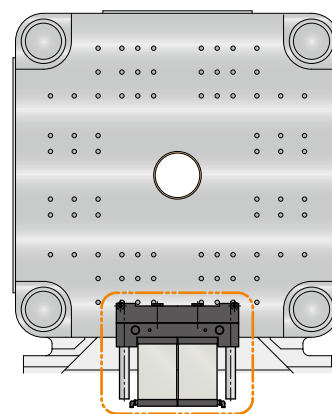
Mold Height Variation is possible up to **175mm**.

※ In case of MHL06□0-L



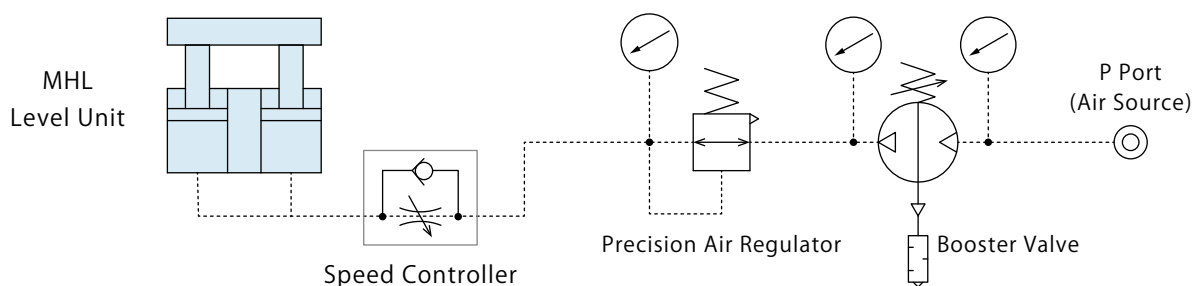
• Compact

Compact unit design allows for minimum interference.



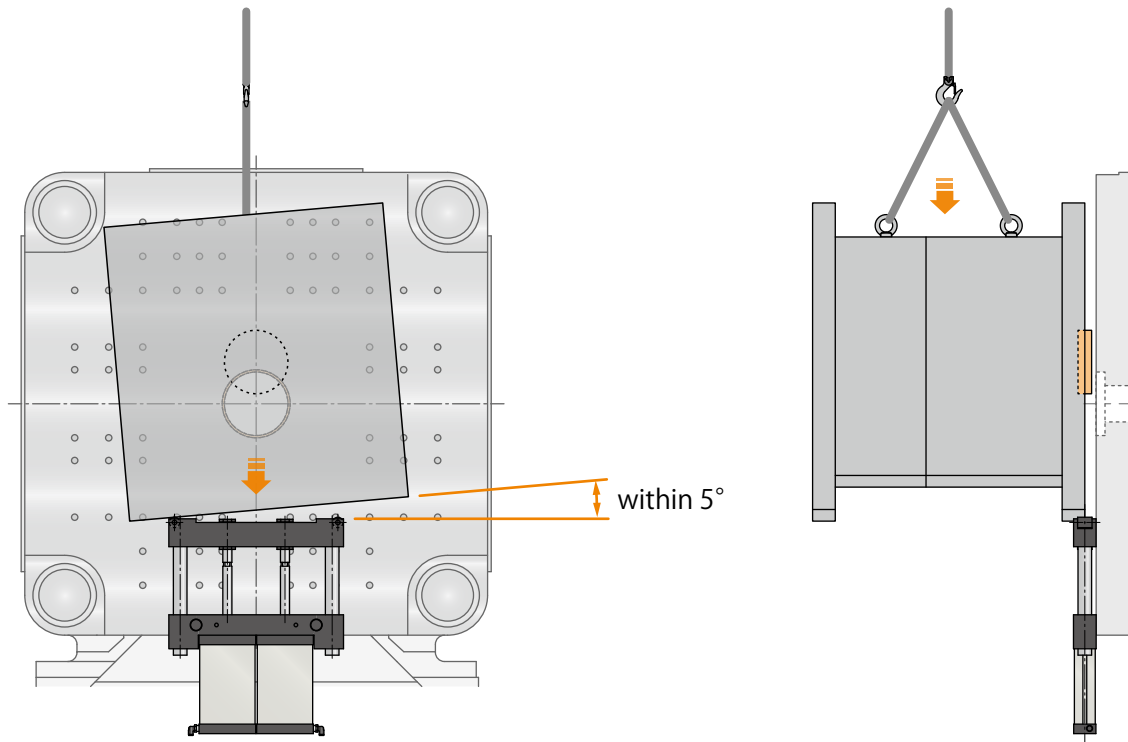
• Simple Circuit Connection

Controlled by one simple air circuit system. No valve for switching operation is required.

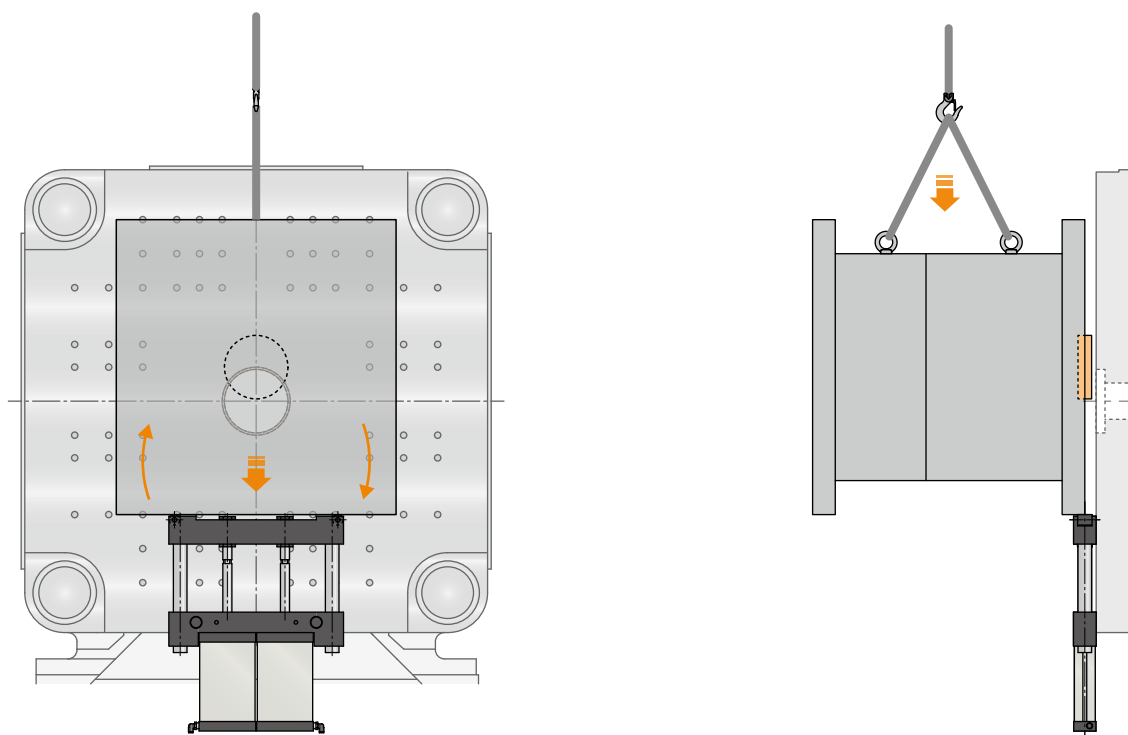


● Action Description

Load the mold with a crane, and place it on the MHL Level Unit.
(Allowable Angle within 5°)

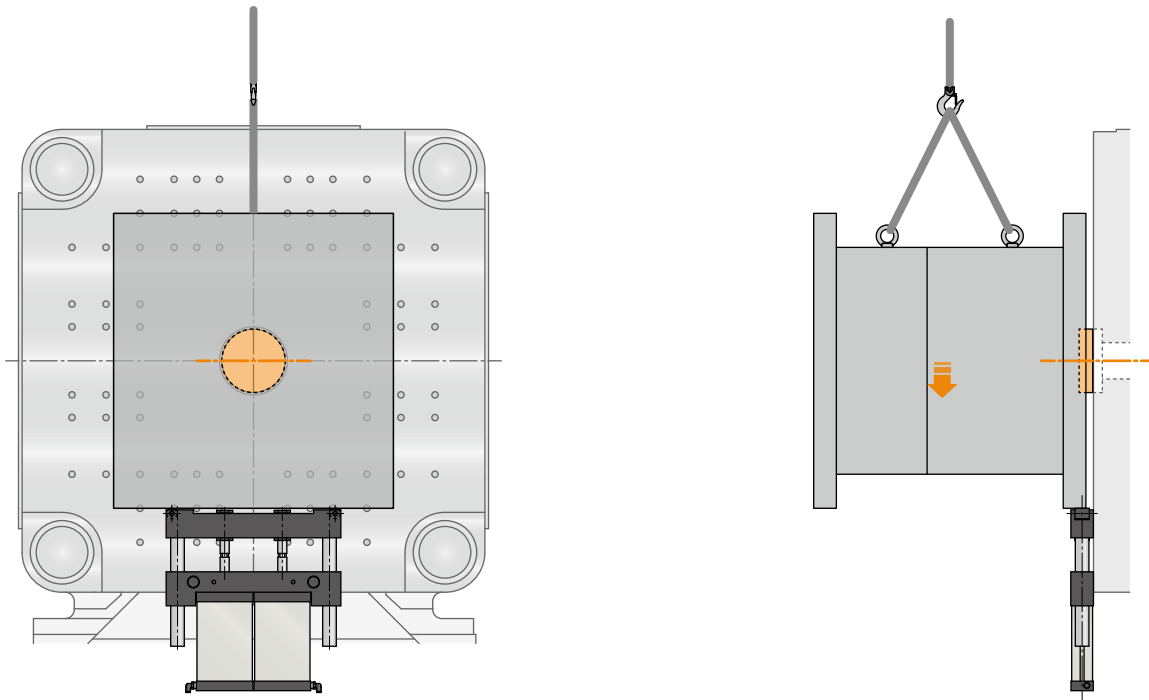


As the mold is further lowered, mold level adjustment is completed.



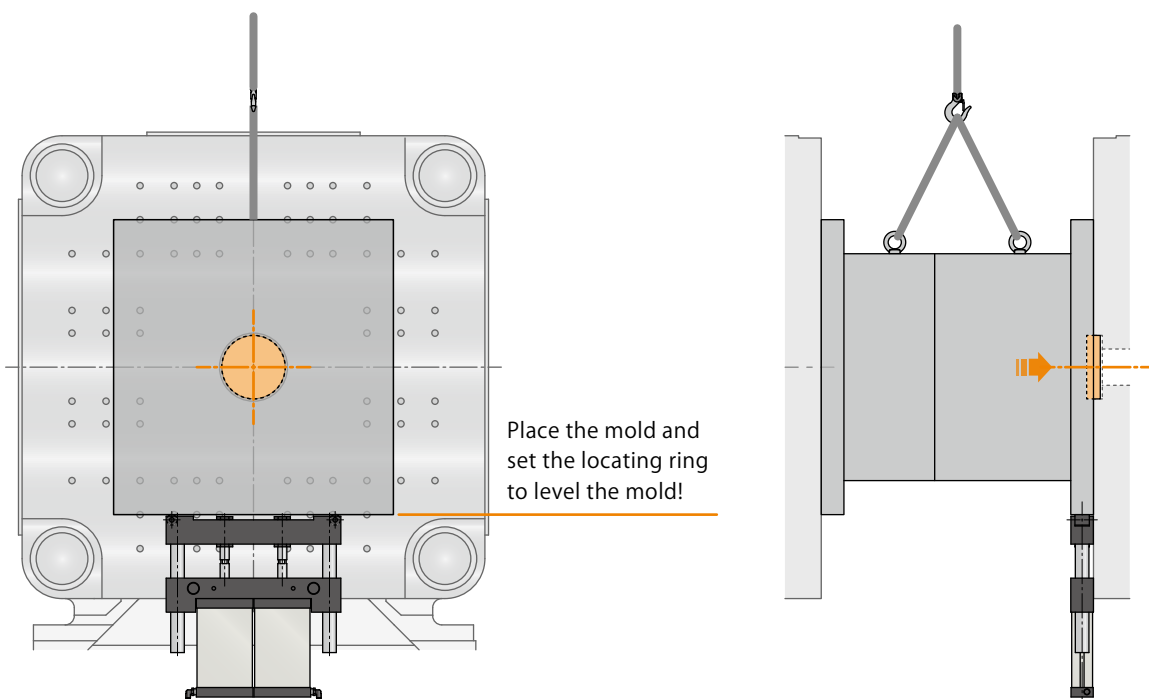
Lower the mold to the locating position with the crane.

Maintains the level even if the mold is moved vertically.



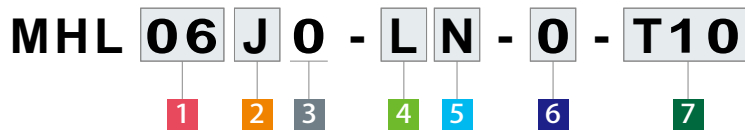
Mold loading is finished by adjusting the position and tightening the mold!

It is simple since the locating ring can be set while lowering the mold.



Place the mold and set the locating ring to level the mold!

Model No. Indication



1 Size (Maximum Mold Loading Weight)

- 02** : Max. Mold Loading Weight 0.5ton (Air Pressure at 0.5MPa) (Reference: Applicable IMM Capacity: 800kN)
Max. Mold Loading Weight 0.7ton (Air Pressure at 0.7MPa) (Reference: Applicable IMM Capacity: 1000kN)
- 03** : Max. Mold Loading Weight 1.0ton (Air Pressure at 0.5MPa) (Reference: Applicable IMM Capacity: 1500kN)
Max. Mold Loading Weight 1.5ton (Air Pressure at 0.7MPa) (Reference: Applicable IMM Capacity: 2500kN)
- 04** : Max. Mold Loading Weight 2.0ton (Air Pressure at 0.5MPa) (Reference: Applicable IMM Capacity: 2500kN)
Max. Mold Loading Weight 2.5ton (Air Pressure at 0.7MPa) (Reference: Applicable IMM Capacity: 3500kN)
- 06** : Max. Mold Loading Weight 3.5ton (Air Pressure at 0.5MPa) (Reference: Applicable IMM Capacity: 5500kN)
Max. Mold Loading Weight 5.0ton (Air Pressure at 0.7MPa) (Reference: Applicable IMM Capacity: 6500kN)

2 Molding Machine (New Machine / Existing Machine)

- J** : Available for New Machines
- P** : Available for Existing Machines

3 Design No.

- 0** : Revision Number

4 Full Stroke

- S** : Full Stroke 100mm (Allowable Mold Height Variation 75mm) (Only for **1** Size **02/03/04**)
- L** : In case of **1** Size **02/03/04**, Full Stroke 150mm (Allowable Mold Height Variation 125mm)
In case of **1** Size **06**, Full Stroke 200mm (Allowable Mold Height Variation 175mm)

Note:

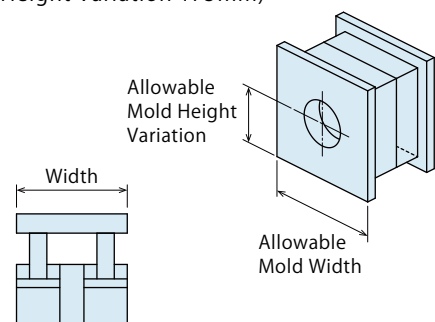
- 1. Please contact us in case of **S** : Full Stroke 100mm.

5 Width

- Blank** : In case of **1** Size **02/03/04**※1
- N** : Width 475mm (Allowable Mold Width 500 ~ 700mm)
- W** : Width 655mm (Allowable Mold Width 700mm or more)

Note:

- ※1. In case of **1** Size **02/03/04**, there is only one width for each size.

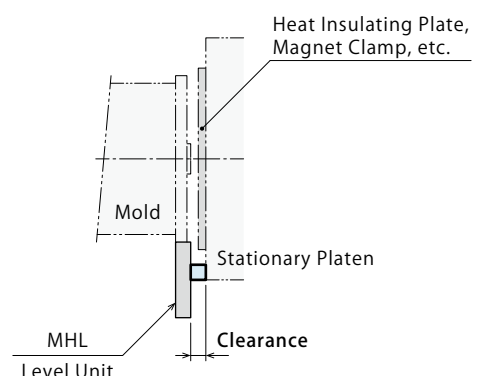


6 Option

- 0** : **without** Regulator or Boosting Valve
- R** : **with** Regulator, **without** Boosting Valve
- H** : **with** Regulator and Boosting Valve

7 Clearance ※ Clearance between the level unit and the platen.

- Blank** : 0mm
- T05** : 5mm **T46** : 46mm
- T10** : 10mm **T51** : 51mm
- T37** : 37mm **T56** : 56mm



Specifications

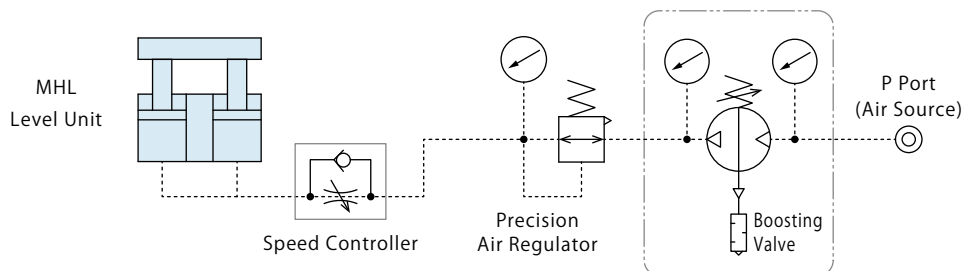
Model No.		MHL02□0-□	MHL03□0-□	MHL04□0-□	MHL06□0-□
Maximum	Air Pressure at 0.4MPa ^{※2}	0.4	0.8	1.6	2.8
Mold Loading	Air Pressure at 0.5MPa ^{※2}	0.5	1.0	2.0	3.5
Weight	Air Pressure at 0.7MPa ^{※2}	0.7	1.5	2.5	5.0
Allowable Angle when loading a mold		5°			
Repeatability		0.3°			
Full Stroke ^{※3}	In case of 4 S ^{※3}	100			—
	In case of 4 L	150			200
Usable Fluid		Dry Air			
Operating Temperature ^{※4}		0 ~ 120			
Use Frequency		20 cycles or less / day			
Precision Air Regulator ^{※5}		IR1020-01BG-A (made by SMC)			
Boosting Valve ^{※5}		VBA10A-02GN (made by SMC)			
Speed Controller ^{※5}		AS2211F-01-06SA (Made by SMC)		AS2002F-06A (made by SMC)	

Notes :

- ※2. The air pressure is a reference value required when a mold is tilted 5° .
The air pressure is for reference. Adjust the air pressure with air regulator according to mold weight and shape.
- ※3. Please contact us in case of **4 Full Stroke S** : 100mm.
- ※4. Operating temperature for air cylinder part is below 60°C. (In case of **1 Size 06**, it should be below 70°C.)
- ※5. Including a precision air regulator, boosting valve and speed controller. Please follow the circuit diagram for piping.

Circuit Diagram

Follow this diagram for piping of the precision air regulator, boosting valve and speed controller.

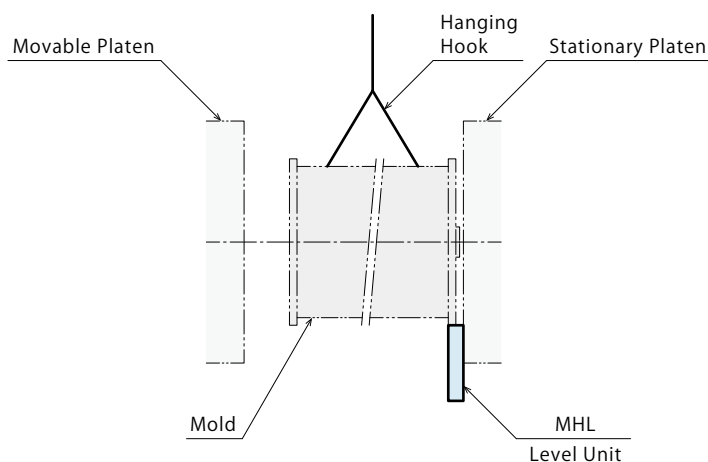


Note :

1. Install a boosting valve when higher pressure than factory air is required.

Mold Hanging Hook

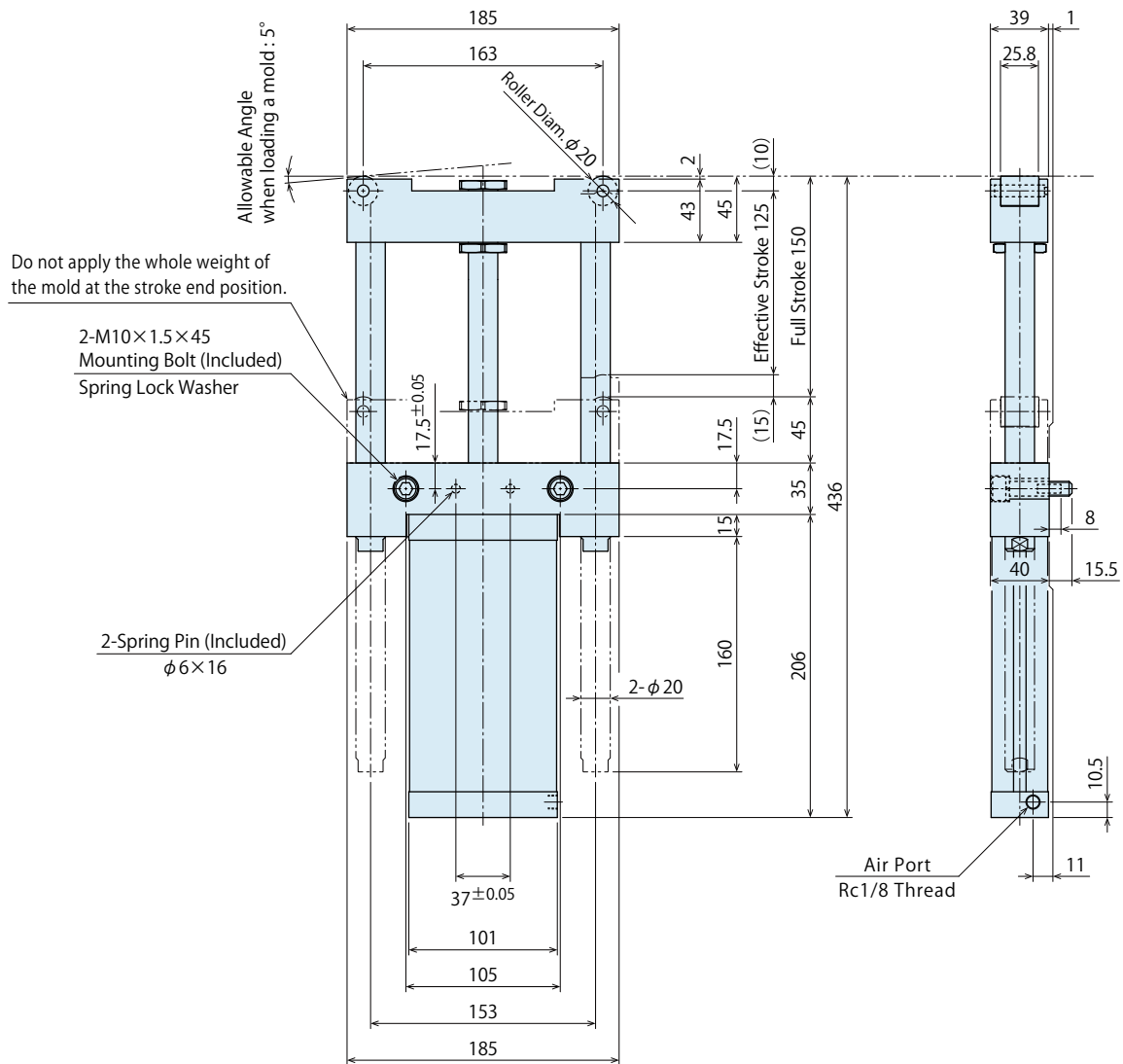
1. Follow the direction of the mold hanging hook in this drawing. Hanging in a rotation direction will not locate the mold parallel.
2. When placing a mold on MHL Level Unit, lower it at the maximum mold lowering speed 50mm/sec or less.



External Dimensions

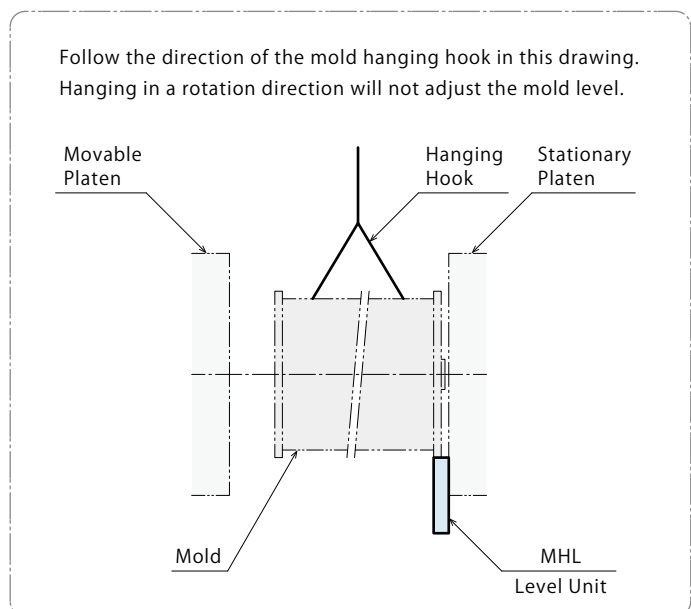
※ This drawing shows the dimensions of the single unit MHL02J0-L (available for new machines / Full Stroke : 150mm).
Please contact us for dimensions of other options.

MHL02J0-L



Note :

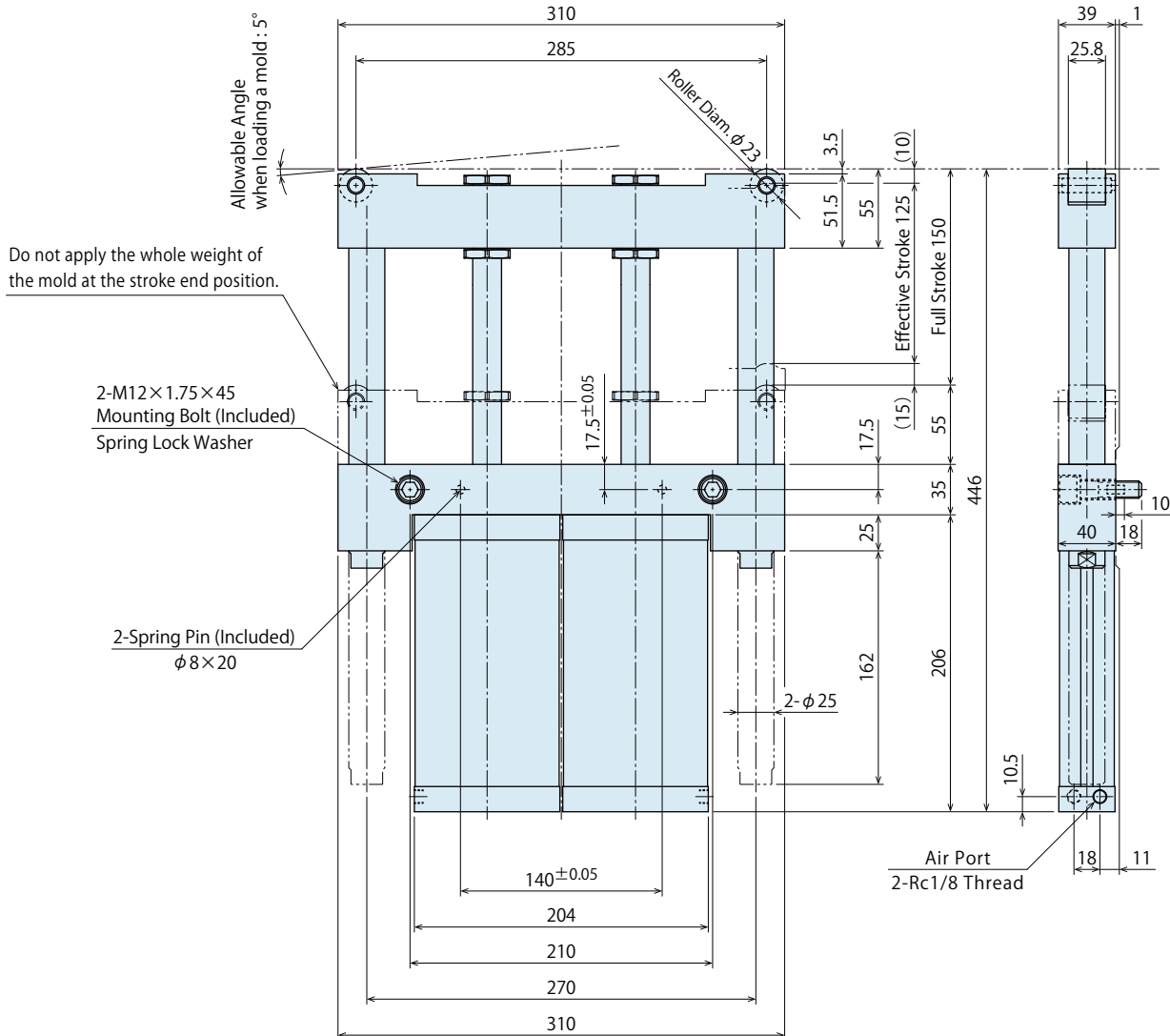
1. It should be located within the range of the effective stroke.



External Dimensions

※ This drawing shows the dimensions of the single unit MHL03J0-L (available for new machines / Full Stroke : 150mm).
 Please contact us for dimensions of other options.

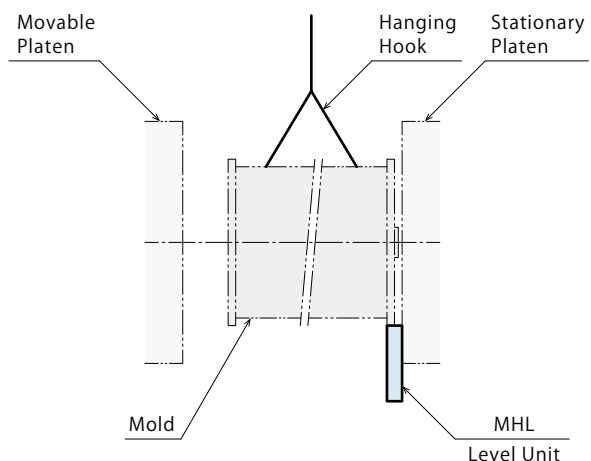
MHL03J0-L



Note :

1. It should be located within the range of the effective stroke.

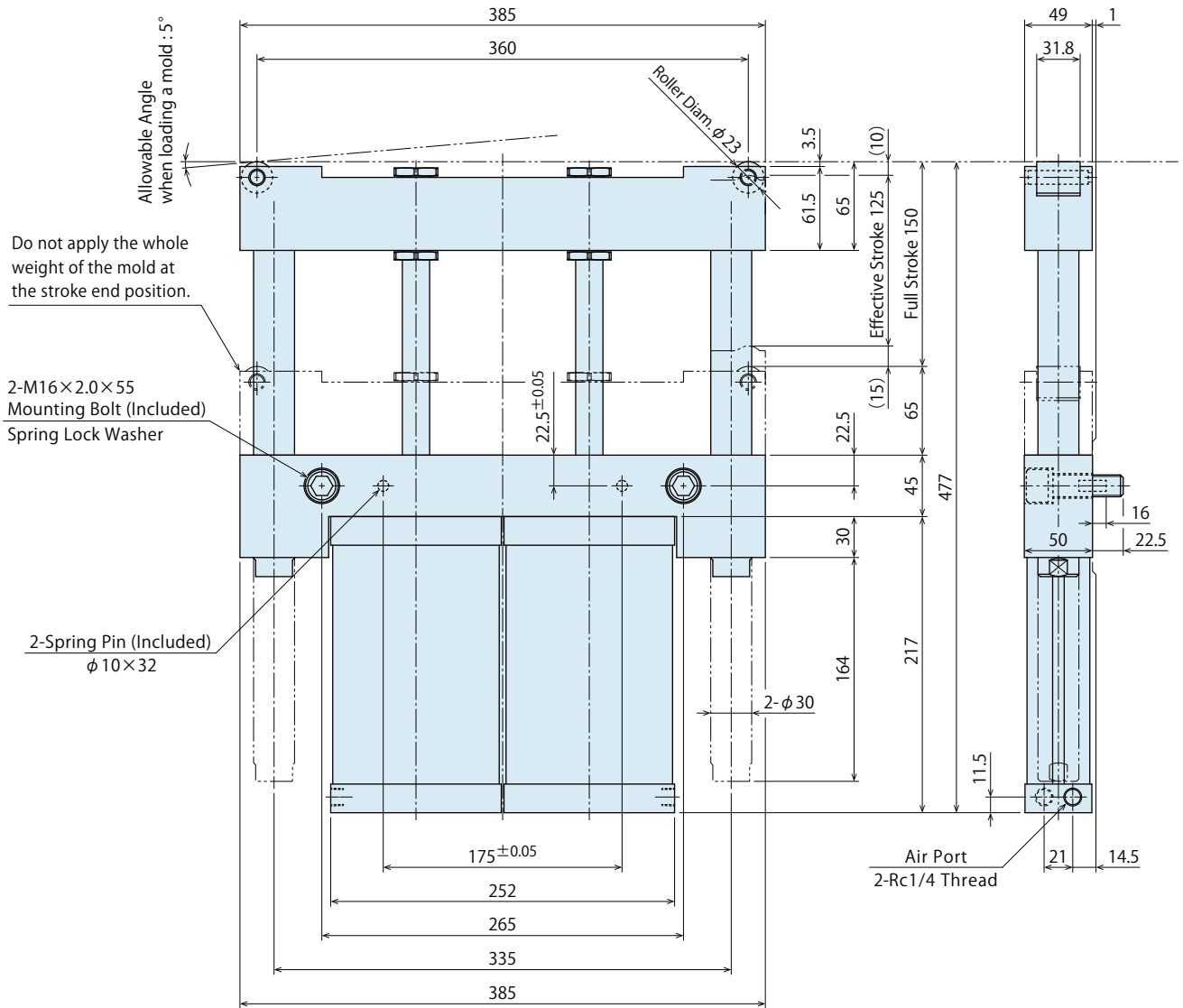
Follow the direction of the mold hanging hook in this drawing.
 Hanging in a rotation direction will not adjust the mold level.



External Dimensions

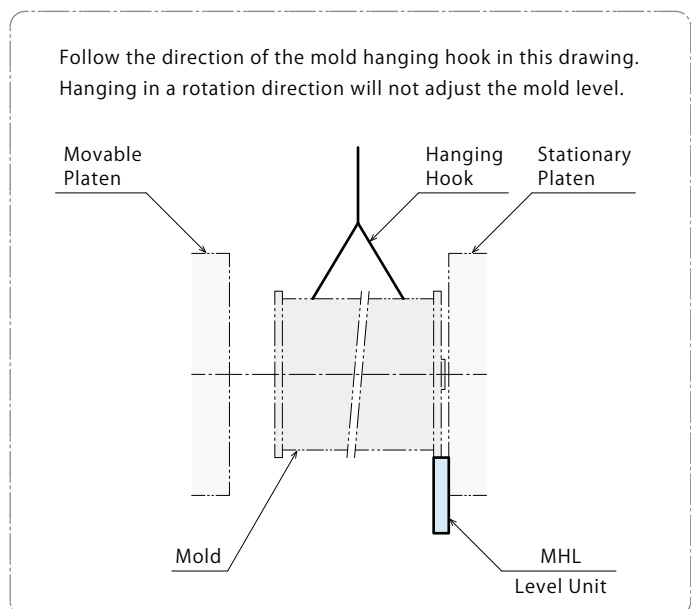
※ This drawing shows the dimensions of the single unit MHL04J0-L (available for new machines / Full Stroke : 150mm).
Please contact us for dimensions of other options.

MHL04J0-L



Note :

1. It should be located within the range of the effective stroke.



Level Unit
Features

Action Description

Model No. Indication
Specifications

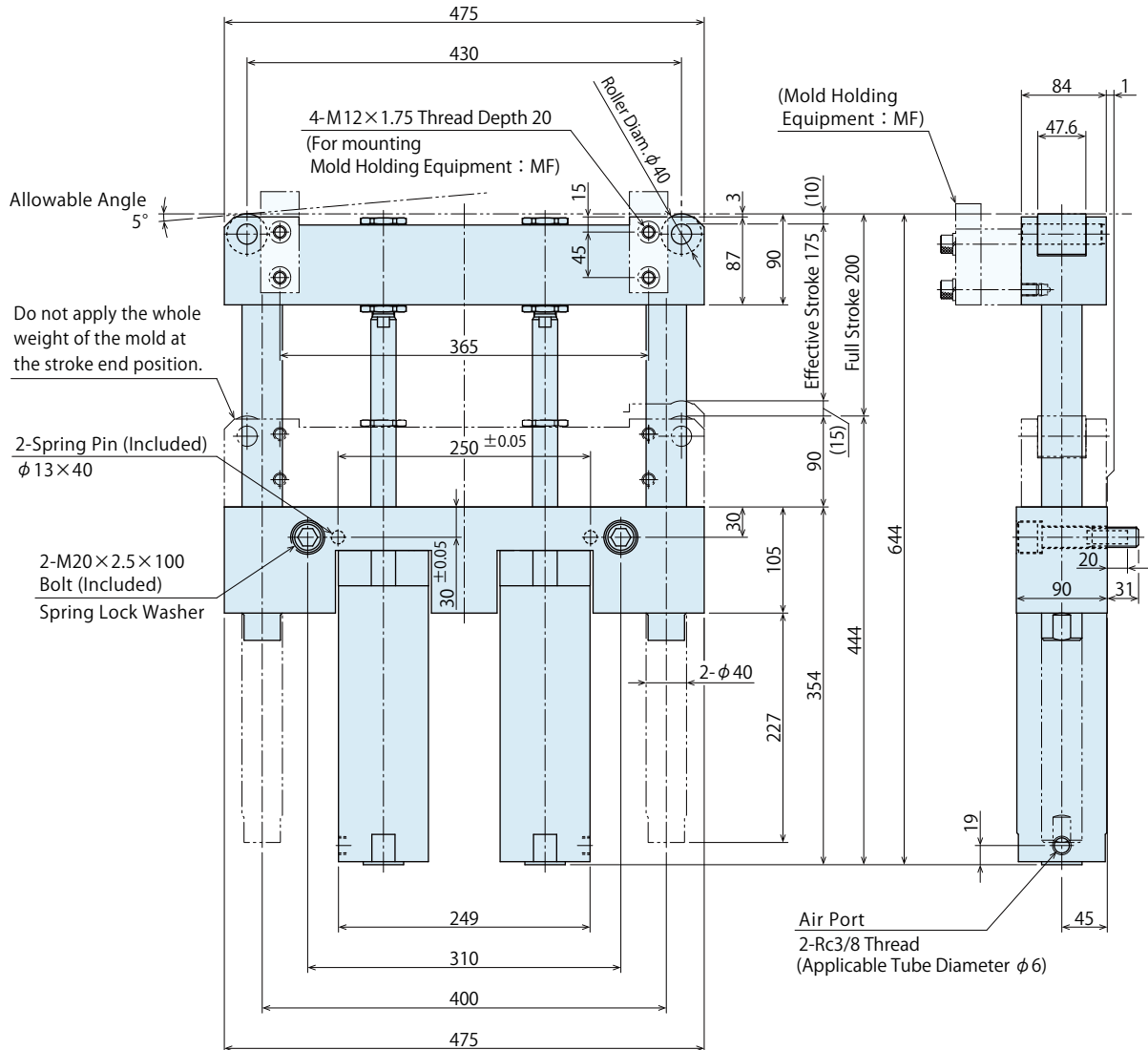
External Dimensions

Cautions

External Dimensions

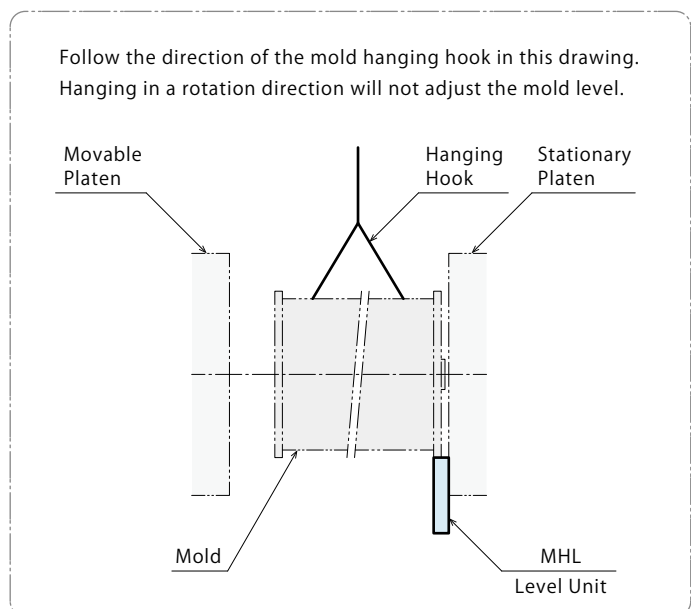
※ This drawing shows the dimensions of the single unit MHL06J0-LN (available for new machines / Full Stroke : 200mm / Width : 475mm). Please contact us for dimensions of other options.

MHL06J0-LN



Note :

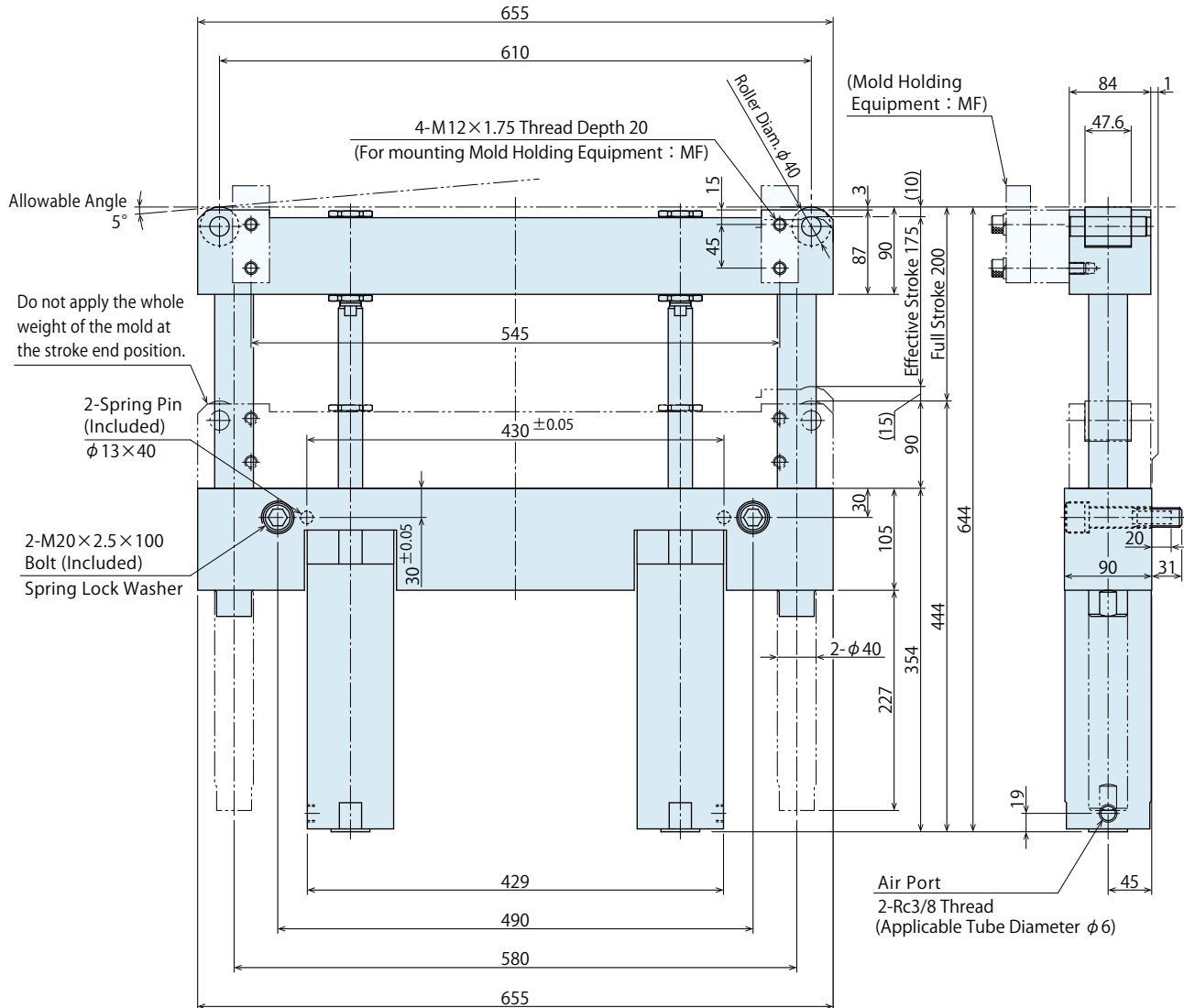
1. It should be located within the range of the effective stroke.



External Dimensions

※ This drawing shows the dimensions of the single unit MHL06J0-LW (available for new machines / Full Stroke : 200mm / Width : 655mm). Please contact us for dimensions of other options.

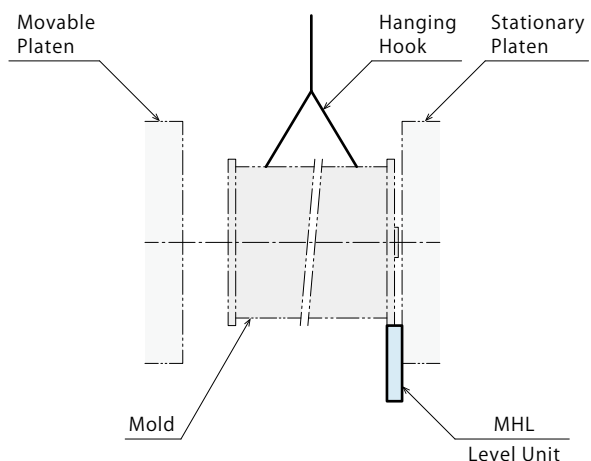
MHL06J0-LW



Note :

1. It should be located within the range of the effective stroke.

Follow the direction of the mold hanging hook in this drawing. Hanging in a rotation direction will not adjust the mold level.



Cautions

Notes for Design

1) Check Specifications

- Please use each product according to the specifications.
Maximum mold loading weight differs depending on the model and air pressure. Air pressure is for reference. Adjust the air pressure with air regulator according to mold weight.
- Since this product is used under various conditions, the suitability to the system should be decided by a hydraulic/pneumatic system designer or the person who decides specifications after an analysis and test as needed.

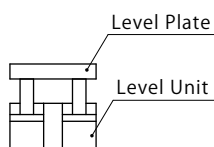
2) Parallel Accuracy

- This product ensures repeatable parallel accuracy.
It will not be parallel depending on platen machining accuracy or tilting of a molding machine when installed.
Adjust the block to be level at an appropriate height, drill the spring pin hole of the base block on the guide and drive the attached spring pin to fix the block position.
- Retighten the mounting bolts with the following torque.

Bolt Size	Tightening Torque (N·m)
M10×1.5	50
M12×1.75	80
M16×2.0	200
M20×2.5	400

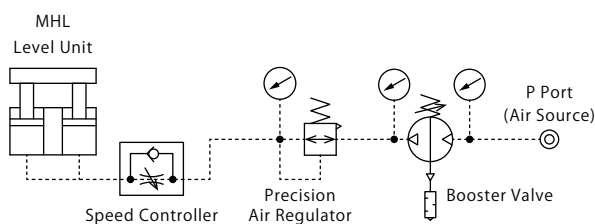
3) Do not use the product with level plate fully stroked (in contact).

- If mold load is applied when the level plate is in contact with the level unit, the level plate will be worn out or damaged.



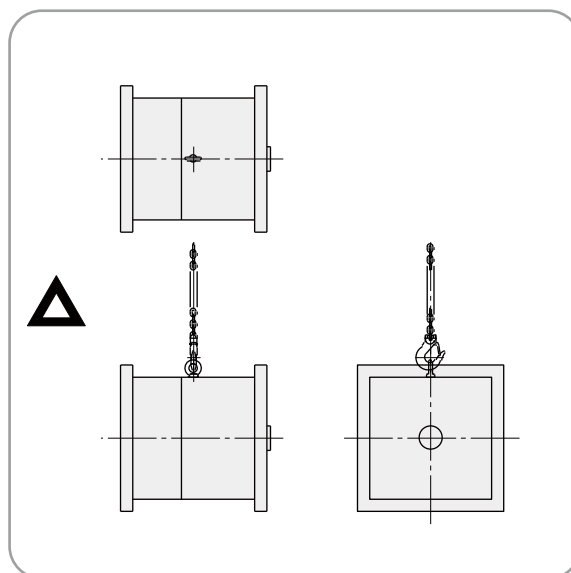
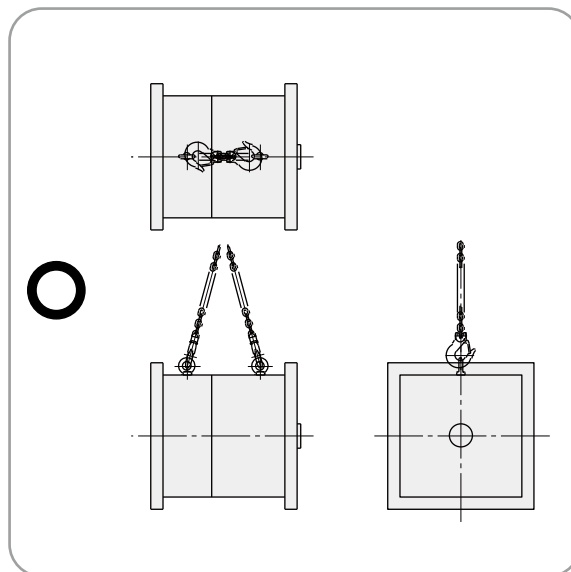
4) Air Circuit

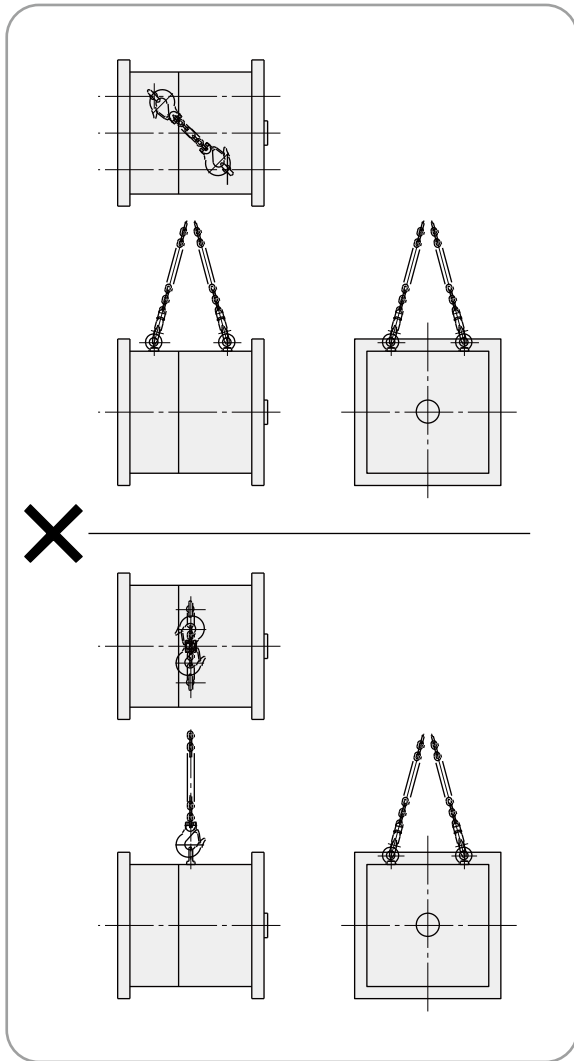
- Please follow the air circuit diagram below.



5) Mold Hanging Hook

- Mold hanging hook must be two-point hanging that is linear in a nozzle direction.
Four-point hanging or hanging in a rotation direction will not adjust the mold level.
- In case of one-point hanging, after a mold touches the level unit, the mold will be tilted to the platen side, and mold loading will be difficult. Set the air pressure 0.1MPa and adjust the pressure by gradually increasing air pressure.
- When placing a mold on the MHL Level Unit, lower it at the maximum mold lowering speed of 50mm/sec or less.





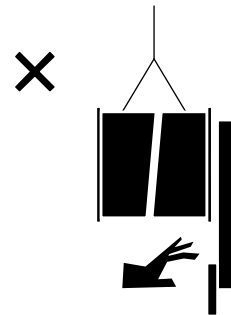
● Cautions

● Installation Notes

- 1) Check the Usable Fluid
 - Please use dry air.
- 2) Procedure before Piping
 - The pipeline and piping connector, etc. should be cleaned by thorough flushing so that no contaminants enter inside.
 - The dust and cutting chips in the circuit may lead to air leakage and malfunction.
 - This product (MHL) is not provided with function to prevent contaminants getting into the air system and piping.
- 3) Applying Sealing Tape
 - Wrap with tape 1 to 2 times following the screwing direction. In order to prevent contaminants from entering into the product during piping, it should be carefully cleaned. Pieces of the sealing tape can lead to air leakage and malfunction.
- 4) Checking Looseness and Retightening
 - At the beginning of the product installation, the bolts, etc. may be tightened lightly. Check the looseness and re-tighten as required.

● Notes on Handling

- 1) It should be operated by qualified personnel.
 - The hydraulic/pneumatic machines and the products should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.
 - ② Before the product is removed, make sure that the above-mentioned safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the air and hydraulic circuits.
 - ③ After stopping the product, do not remove until the temperature drops.
 - ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.
- 3) Pay extra attention when loading/unloading a mold.
 - Otherwise your hands may be caught in the connection part leading to an injury.
 - Never get into under the mold for operation. It may cause an accident.



- 4) Do not exceed the maximum mold lowering speed.
 - When placing a mold on the level unit, lower it at the maximum mold lowering speed of 50mm/sec or less. If it is done too fast the level unit may be damaged and cause an injury.
- 5) Do not pour water / oil over the product.
 - It may lead to malfunction or deterioration of the product and cause an accident.
- 6) Do not disassemble or modify.
 - If the product is taken apart or modified, the warranty will be voided even within the warranty period.

● Maintenance and Inspection

- 1) Regularly tighten piping and mounting bolts to ensure proper use.
- 2) Periodically ensure that supply air pressure is a specified value.
- 3) Make sure to supply filtered clean dry air.
- 4) Make sure there is smooth action and no abnormal noise.
 - Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- 5) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 6) Please contact us for overhaul and repair.

● Warranty

- 1) Warranty Period
 - The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.
- 2) Warranty Scope
 - If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense. Defects or failures caused by the following are not covered.
 - ① If the stipulated maintenance and inspection are not carried out.
 - ② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
 - ③ If it is used or operated in an inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
 - ④ If the defect is caused by reasons other than our responsibility.
 - ⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
 - ⑥ Other caused by natural disasters or calamities not attributable to our company.
 - ⑦ Parts or replacement expenses due to parts consumption and deterioration. (Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.

Level Unit Application Example >>>



Machine Capacity : 100-ton class
 Level Unit : Max. Mold
 Loading Weight 1.5 ton model

http://www.kosmek.co.jp/php_file/video_products.php?id=053&lang=2

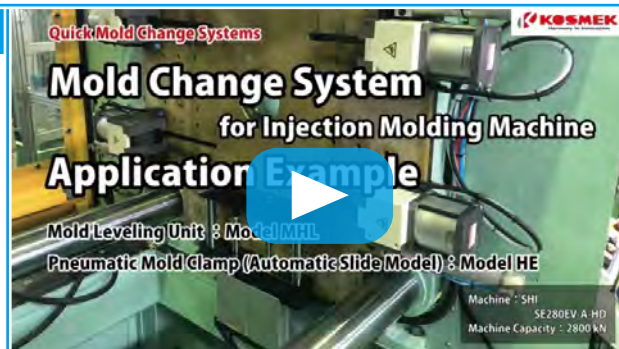


Level Unit Application Example >>>



Machine Capacity : 280-ton class
 Mold Clamp : HE0632 × 4 pcs
 (Stationary Platen)
 Level Unit : Max. Mold
 Loading Weight 2.5 ton model

http://www.kosmek.co.jp/php_file/video_products.php?id=067&lang=2

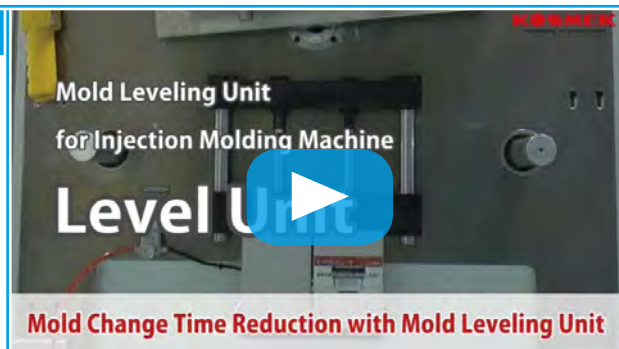


Feature Explanation Video >>>



A video explaining features of Level Unit is available on our website.

http://www.kosmek.co.jp/php_file/video_products.php?id=041&lang=2



KOSMEK LTD.

<http://www.kosmek.com/>

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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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