New

Level Unit

Adjusts the level, just by loading a mold!

Model MHL
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Level Unit

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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. Loading Weight**

Maximum loading weight is up to **2.5 ton**.
※ In case of MHL0□□□0 (Air pressure at 0.7MPa)

![2.5 ton](image)

• **Mold Height Variation Possible**

Mold Height Variation is possible up to **125 mm**.
※ In case of MHL0□□□-L

![125 mm](image)

• **Compact**

Compact unit design allows for minimum interference.

![Compact](image)

• **Simple Circuit Connection**

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

![Simple Circuit](image)
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.

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.
Model No. Indication

MHL 03 J 0 - L - 0 - T10

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)

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)
L : Full Stroke 150mm (Allowable Mold Height Variation 125mm)

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

5 Option

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

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

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

<table>
<thead>
<tr>
<th>Model No.</th>
<th>MHL02□□O-L</th>
<th>MHL03□□O-L</th>
<th>MHL04□□O-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>Air Pressure at 0.4MPa (^{\text{R1}})</td>
<td>0.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Mold Loading</td>
<td>Air Pressure at 0.5MPa (^{\text{R1}})</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Weight (ton)</td>
<td>Air Pressure at 0.7MPa (^{\text{R1}})</td>
<td>0.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Allowable Angle when loading a mold</td>
<td></td>
<td>5°</td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td></td>
<td>0.3°</td>
<td></td>
</tr>
<tr>
<td>Full Stroke (^{\text{R2}}) mm</td>
<td>Incase of S (^{\text{R2}})</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incase of L</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Usable Fluid</td>
<td>Dry Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature (^{\text{R3}}) °C</td>
<td></td>
<td>0 ~ 120</td>
<td></td>
</tr>
<tr>
<td>Use Frequency</td>
<td></td>
<td>20 cycles or less / day</td>
<td></td>
</tr>
<tr>
<td>Precision Air Regulator (^{\text{R4}})</td>
<td>IR1020-018G-A (Made by SMC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boosting Valve  (^{\text{R4}})</td>
<td>VBA10A-02GN (Made by SMC)</td>
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<td></td>
</tr>
</tbody>
</table>

Notes:

1. The air pressure is for reference. Adjust the air pressure with air regulator according to mold weight.
2. Please contact us in case of Full Stroke S : 100mm.
3. Operating temperature for air cylinder part is below 60°C.
4. Follow the circuit diagram for piping of the precision air regulator and boosting valve.

Circuit Diagram

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

Note:

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

Mold Hanging Hook

Follow the direction of the mold hanging hook in this drawing. Hanging in a rotation direction will not locate the mold parallel.
**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.

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 MHL03J0-L (available for new machines / Full Stroke: 150mm).
Please contact us for dimensions of other options.

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**MHL03J0-L**

![Diagram of 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.

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.

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.

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
   Follow the direction of the mold hanging hook in the drawing
   below. Four-point hanging or hanging in a rotation direction
   will not adjust the mold level.

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.
Cautions

Notes on Handling

1) It should be operated by qualified personnel.
2) 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.
   ① Otherwise your hands may be caught in the connection part leading to an injury.
   ② Never get into under the mold for operation. It may cause an accident.

4) Do not exceed the maximum mold lowering speed.
   ① When placing a mold on the level unit, lower it at a speed of 50 mm/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.
   ① It may lead to malfunction or deterioration of the product and cause an accident.

6) Do not disassemble or modify.
   ① If the product is taken apart or modified, the warranty will be voided even within the warranty period.
● Maintenance and Inspection

1) Removal of the Product and Shut-off of Pressure Source
   ● Before removing the product, 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 circuit.
   ● Make sure there is no abnormality in the bolts and respective parts before restarting.

2) Regularly tighten piping, mounting bolts, nut, snap rings and cylinder etc., to ensure proper use.

3) Make sure the hydraulic fluid has not deteriorated.

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.