Quick Die Change Systems

Exclusive and Additional Products

The Best Solutions for Your Needs
KOSMEK Quick Die Change Systems
The Best Solutions for Your Needs

Hydraulic Clamp
T-Slot Automatic Slide
Model GY1090
- Hydraulic Clamp that Slides Automatically on the T-Slot
- Protrusion from the Press Slide is Less than Half of the Standard Model

Hydraulic Clamp
Without T-Slot Manual Slide
Model GP-Z
- The clamp can slide manually between the fixed blocks in order to avoid interference with the die when loading/unloading.

Hydraulic Clamp
Swing Lever
Model GY1310
- Swing the Lever 90° by Hand
- No Interference with the Die when Loading/Unloading

Hydraulic Hollow Cylinder
Bolt Fastening
Model DY1700
- Fasten the Die Mounting Bolts with Hydraulic Force
- Suitable for Unreachable or Non-visible Places

Hydraulic Clamp
Long Stroke
Model GA-S
- Clamps the U-cut of the Die
- Longer Stroke Clamp Enables Variation in Die Thickness

Hydraulic Clamp
Cylinder Embedded
Model GA-F1
- The Cylinder is Embedded and the Rod Clamps the U-cut
- Space Saving with No Interference

Hydraulic Clamp
Swing Rod
Model GY1400
- The Rod Automatically Swings 90° and Clamps the Die
- The Die Clamps are Automated with the Proximity Switch

Hydraulic Clamp
Extreme Conditions
Model GB-Y
- Resists Rusting Caused by Mold Lubricant and Dust
- High Durability Makes it Suitable for Die Cast Machines
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.

http://www.kosmek.co.jp

### Pneumatic Clamp
**Model HC/HB/HE**
- The Same Force as a Hydraulic Clamp. Even with Air Pressure
- Suitable for Environments where Low Vibration is Needed

▶ P. 17

### Overload Protector
**Model PV/PW**
- For Use on Unbalanced Load of 2-point and 4-point Presses
- Instant Response Prevents Damage to Presses or Dies

▶ P. 21

### Auto Coupler
**Model JY**
- Automation of Connecting Circuit
- Suitable for Fluid Supply to Moving Bolsters

▶ P. 23

### Pneumatic Double Action
**Robotic Hand Changer**
**Model SWR**
- For Changing Workpiece Transfer Arms in the Automatic Press Line
- High Accuracy: Within 3 μm, High Rigidity: “0” Backlash
- Long Life: A Million Cycles

▶ P. 25

### Hydraulic Clamp
**For Knockout Rod**
**Model PPK**
- Fasten the Knockout Rod with Hydraulic Force
- Manual Fastening is not Required, Saving Time and Ensuring Safety

▶ P. 19

### Screw Locator
**High Accuracy Locating Pin**
**Model VXF**
- High Accuracy Die Locating with a Simple Manual Setup
- Locating Repeatability: Within 3 μm

▶ P. 27
Hydraulic Clamp

T-Slot Automatic-Slide

Model GY1090

Hydraulic Clamp that Slides Automatically on the T-slot

Protrusion from the Press Slide is **Less than Half of the Standard Model**

**Problem**

The air cylinder of the automatic-slide clamp interferes with surrounding objects due to its length.

**Before**

Hydraulic clamp slides automatically with an air cylinder.

**Problem**

The air cylinder protrudes excessively from the press slide.

**Results in Interference**

**After**

GY Clamp: Hydraulic clamp slides automatically with an air cylinder and link function.

**Solution**

Protrusion is less than half compared to the standard model.
### Action Description

#### Locking Action

1. Supply air to push side of the air cylinder → Clamp moves forward until it contacts with the die.
2. Proximity switch detects the seating of the die.
3. Supply hydraulic pressure. → Clamps the die (U-slot)

#### Release Action

1. Release hydraulic pressure. → Clamp releases the die with built-in spring force.
2. Supply air to pull side → Clamp moves backward.
3. Proximity switch detects that clamp moved backward.

### Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>GY1090</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamping Force (Hydraulic Pressure at 24.5 MPa)</td>
<td>39.2 kN</td>
</tr>
<tr>
<td>Full Stroke</td>
<td>mm 8</td>
</tr>
<tr>
<td>Clamping Stroke</td>
<td>mm 5</td>
</tr>
<tr>
<td>Extra Stroke</td>
<td>mm 3</td>
</tr>
<tr>
<td>Slide Stroke</td>
<td>mm 200</td>
</tr>
<tr>
<td>Cylinder Capacity (at Full Stroke)</td>
<td>cm³ 13</td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>MPa 24.5</td>
</tr>
<tr>
<td>Maximum Operating Pressure</td>
<td>MPa 27.0</td>
</tr>
<tr>
<td>Withstanding Pressure</td>
<td>MPa 36.8</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>°C 0 ~ 70</td>
</tr>
<tr>
<td>Use Frequency ¹</td>
<td>Less than 20 cycles/day</td>
</tr>
</tbody>
</table>

**Note**

¹ Please contact us for more frequent use.

### External Dimensions

This drawing briefly shows the dimensions of GY1090. Please contact us for further information.

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GY1090 is just one example. Other clamping force and slide strokes are available upon request. Please contact us for further information. www.kosmek.co.jp

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² We produce GY clamps according to the die thickness of the clamping part’s ‘h’ and T-slot dimensions.
**Hydraulic Clamp**

Without T-Slot • Manual-Slide

**Model GP-Z**

The clamp can slide manually between the fixed blocks in order to avoid interference with the die when loading.

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**Problem**

The lever of the fixed clamp interferes with the die when loading/unloading.

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**Before**

Using a bolted fixed clamp.

**After**


1. When loading the die, move the hydraulic clamp backward.

2. After loading the die, move the hydraulic clamp forward.

**Solution**

When loading/unloading, move the clamp backward

No Interference
**Specifications**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamping Force (kN)</td>
<td>9.8</td>
<td>15.7</td>
<td>24.5</td>
<td>39.2</td>
<td>61.7</td>
<td>98</td>
<td>157</td>
</tr>
<tr>
<td>Operating Pressure (MPa)</td>
<td>24.5 (For Rated Clamp Force)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Operating Pressure (MPa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withstanding Pressure (MPa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Stroke (mm)</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Clamp Stroke (mm)</td>
<td>3</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Extra Stroke (mm)</td>
<td>3</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Slide Stroke (mm)</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>Cylinder Capacity (at Full Stroke) (cm³)</td>
<td>2.5</td>
<td>4.8</td>
<td>7.2</td>
<td>11.9</td>
<td>21.6</td>
<td>34.7</td>
<td>55.2</td>
</tr>
<tr>
<td>Operating Temperature (°C)</td>
<td></td>
<td>0~70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use Frequency</td>
<td>&lt;1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 1. Please contact us for more frequent use.

**External Dimensions**

This drawing briefly shows the dimensions of GP0250-Z with an option of 24mm slide stroke. Please contact us for other specifications.

![Diagram of dimensions](image)

4-M12 x 1.75 x 45 Bolt (Included)
4-Spring Lock Washer (Included)

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*2. We produce hydraulic clamps according to the die thickness of the clamping part’s ‘H’ and T-slot dimensions.

This is just one example of the exclusive products we produced in the past. Other sizes and slide strokes are available upon request. We also offer an automatic slide clamp with air cylinder. Please contact us for further information. www.kosmek.co.jp
Hydraulic Clamp
Swing Lever

Model GY1310

Swing the Lever 90° by Hand
No Interference with the Die when Loading/Unloading

Problem
The lever of the fixed clamp interferes with the die when loading/unloading.

Before
Using a bolted fixed clamp.

After
Swing Lever Model: Bolt-Fixed + Manual Swing Lever

1. When loading the die, swing the clamp lever to avoid interference with the die.
2. After loading the die, swing the clamp lever over the die.

Solution
When loading/unloading, swing the lever 90°
No Interference
Specifications

<table>
<thead>
<tr>
<th></th>
<th>GY1310-35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
<td></td>
</tr>
<tr>
<td>Clamping Force (Hydraulic Pressure at 24.5 MPa) kN</td>
<td>12.6</td>
</tr>
<tr>
<td>Full Stroke mm</td>
<td>5</td>
</tr>
<tr>
<td>Clamping Stroke mm</td>
<td>3</td>
</tr>
<tr>
<td>Extra Stroke mm</td>
<td>2</td>
</tr>
<tr>
<td>Cylinder Capacity (at Full Stroke) cm³</td>
<td>2.7</td>
</tr>
<tr>
<td>Operating Pressure MPa</td>
<td>24.5</td>
</tr>
<tr>
<td>Maximum Operating Pressure MPa</td>
<td>27.0</td>
</tr>
<tr>
<td>Withstanding Pressure MPa</td>
<td>36.8</td>
</tr>
<tr>
<td>Operating Temperature °C</td>
<td>0 ~ 70</td>
</tr>
</tbody>
</table>

Note
1. Clamping force graph shows the calculated value.

External Dimensions

Notes
2. This drawing briefly shows the dimensions of GY1310-35. Please contact us for more detailed dimensions.
3. This drawing shows the released position.
4. Lever swings 90° both left and right.

※1. We produce hydraulic clamps according to the die thickness of the clamping part’s 'h' and T-slot dimensions.

GY1310 is just one example of the exclusive products we produced in the past. Please contact us for other specifications and dimensions. www.kosmek.co.jp
Hydraulic Hollow Cylinder

Bolt Fastening

Model DY1700

The Solution to Bad Work Conditions and Limited Space
Refastening of the Die Mounting Bolt is not Required

Problem

Unable to fasten the mounting bolt due to limited work space.

Before

Die mounting method with bolts: Fasten the bolt with a wrench.

After

Die mounting method with DY Hollow Cylinder: Pull the bolt with hollow cylinder.

1. Temporarily fasten the bolt by hand.

2. The piston lifts up with hydraulic pressure, pulls the bolt, and locks the die.

Solution

Even if there is no space, it is easy to lock the die with constant force.

Safe and Efficient
Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>DY1700</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder Output Force (Hydraulic Pressure at 25.0MPa) kN</td>
<td>40.0</td>
</tr>
<tr>
<td>Stroke</td>
<td>mm</td>
</tr>
<tr>
<td>Effective Area</td>
<td>cm²</td>
</tr>
<tr>
<td>Maximum Operating Pressure MPa</td>
<td>25.0</td>
</tr>
<tr>
<td>Withstanding Pressure MPa</td>
<td>37.5</td>
</tr>
<tr>
<td>Cylinder Capacity cm³</td>
<td>32.4</td>
</tr>
<tr>
<td>Return Spring Force kN</td>
<td>0.39 ~ 0.45</td>
</tr>
<tr>
<td>Operating Temperature °C</td>
<td>0 ~ 70</td>
</tr>
</tbody>
</table>

External Dimensions

DY1700 is just one example of the exclusive products we produced in the past. Special specifications of the cylinder output force, bolt size and external dimensions are available. Thinner type with equivalent force is also available. Please contact us for further information. [www.kosmek.co.jp](http://www.kosmek.co.jp)
Hydraulic Clamp

Long Stroke
Model GA-S
Cylinder Embedded
Model GA-F1

Clamps the U-cut of the Die
Longer Stroke Clamp Enables Variation in Die Thickness

Problem
Using hydraulic clamps for a variety of dies with different thicknesses.

Before
Short Stroke (Full Stroke 8mm), Compact Model

<table>
<thead>
<tr>
<th>Thickness of Die Clamping Part</th>
<th>Standard Model</th>
<th>Interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die</td>
<td>GA Clamp</td>
<td>Insufficient Stroke</td>
</tr>
<tr>
<td>T-Slot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolster</td>
<td>GA Clamp</td>
<td></td>
</tr>
</tbody>
</table>

Die Clamping Part: Thin

<table>
<thead>
<tr>
<th>Standard Model</th>
<th>Interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA Clamp</td>
<td>Insufficient Stroke</td>
</tr>
</tbody>
</table>

With standard stroke, thickness of die clamping part must be standardized.

After
GA Clamp Long Stroke Model (-S1: Full Stroke 12.5mm, -S2: Full Stroke 20mm)

<table>
<thead>
<tr>
<th>Thickness of Die Clamping Part</th>
<th>Long Stroke</th>
<th>Interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die</td>
<td>GA-S Clamp</td>
<td>Locks the die!</td>
</tr>
<tr>
<td>T-Slot</td>
<td>GA-S Clamp</td>
<td></td>
</tr>
<tr>
<td>Bolster</td>
<td>GA-S Clamp</td>
<td></td>
</tr>
</tbody>
</table>

Die Clamping Part: Thin

<table>
<thead>
<tr>
<th>Long Stroke</th>
<th>Interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA-S Clamp</td>
<td>Locks the die!</td>
</tr>
</tbody>
</table>

With a longer stroke, able to clamp a variety of dies with different thicknesses.
Problem

GA clamp interferes with the die due to insufficient space around the U-cut of the die.

Before

The cylinder of the clamp locks the die.

Interference!

Cylinder

Standard Model
GA Clamp

U-Cut of the Die

Embedded Cylinder

The cylinder of the clamp is embedded and locks the die with the rod.

Locks the die

Rod

The rod does not need much space!

Improvement

With embedded cylinder,

there is no interference.

Frangne model is also available.

Model GA-F2

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Long Stroke (GA□-S□-S□)</th>
<th>Embedded Cylinder (GA□-F□)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA0100</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
<tr>
<td>GA0160</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
<tr>
<td>GA0250</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
<tr>
<td>GA0400</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
<tr>
<td>GA0630</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
<tr>
<td>GA1000</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
<tr>
<td>GA1600</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
<tr>
<td>GA2500</td>
<td>-S1(-S2)</td>
<td>-F1</td>
</tr>
</tbody>
</table>

- Full Stroke (mm): -S1: 12.5, -S2: 20
- Clamping Stroke (mm): -S1: 10.5, -S2: 18
- Extra Stroke (mm): 2
- Operating Pressure (MPa): 24.5
- Maximum Operating Pressure (MPa): 27.0
- Withstanding Pressure (MPa): 36.8
- Operating Temperature (°C): 0 ~ 70
- Use Frequency (cycles/day): Less than 20 cycles/day

Note: *1. Please contact us for more frequent use.

We offer a wide range of options for the GA clamp.
Please visit our website (www.kosmek.co.jp), view the complete catalog (Catalog No.QDCS20□□□-□□□-GB), or contact us for more details on specifications and dimensions.
Hydraulic Clamp

Swing Rod

Model GY1400

The Rod Automatically Swings 90° and Locks the Die
The Die Clamps are Automated with the Proximity Switch

Problem

The rod of the cylinder embedded clamp interferes with the die when loading/unloading.

Before

Locking the die with the rod of the cylinder embedded clamp.

Solution

When loading/unloading, rod swings 90° automatically.

Able to Avoid Interference

Note
If hydraulic supply is shut down when using the swing rod clamp for the upper die, the clamp operates in released action and the die may drop off. Please be sure to prepare safety measures. (Ex. Cross circuit)
**Action Description**

<table>
<thead>
<tr>
<th>Description</th>
<th>ON (Pressure rising)</th>
<th>OFF (Pressure released)</th>
<th>ON (Pressure completed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydraulic Pressure for Locking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic Pressure for Releasing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity Switch for Locking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity Switch for Releasing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>GY1400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamping Force</td>
<td>100 (Hydraulic Pressure at 245 MPa) kN</td>
</tr>
<tr>
<td>Cylinder Area</td>
<td>44.2 cm²</td>
</tr>
<tr>
<td>Full Stroke</td>
<td>27.5 mm</td>
</tr>
<tr>
<td>Swing Stroke (90°)</td>
<td>19 mm</td>
</tr>
<tr>
<td>Lock Stroke</td>
<td>8.5 mm</td>
</tr>
<tr>
<td>Swing Angle Accuracy</td>
<td>90° ± 3°</td>
</tr>
<tr>
<td>Cylinder Capacity For Locking</td>
<td>121.5 cm³</td>
</tr>
<tr>
<td>Cylinder Capacity For Releasing</td>
<td>149.1 cm³</td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>24.5 MPa</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 ~ 70°C</td>
</tr>
<tr>
<td>Use Frequency §1</td>
<td>Less than 20 cycles/day</td>
</tr>
</tbody>
</table>

**Note**: §1. Please contact us for more frequent use.

**External Dimensions**

This drawing shows released condition.

- **4-M10×1.5 Thread Depth 26**
- **Lock Direction**
- **Die + Slide Thickness **2

![Diagram](image)

**GY1400 is just one example of products we have produced in the past.**

**Please contact us for GY clamps with other specifications and dimensions.**

[www.kosmek.co.jp](http://www.kosmek.co.jp)
Hydraulic Clamp

Extreme Conditions

Model GB-Y

Resists Rusting Caused by Mold Lubricant and Dust

High Durability Makes it Suitable for Diecast Machines

Problem

Working under conditions where mold lubricant for the hot forging press machine is used.

Before

Malfunction
Comparison Model
Invasion of Mold Lubricant

Problem

Mold lubricant and dust.

Malfunctions

After

Extreme Conditions Model: It prevents any foreign substances from entering into the clamp.

Solution

Our exclusive sealing technique prevents rusting.

No Malfunction
Features

**Protective Cover**
Keeps out mold lubrication and dust that cause malfunctions.

**Anaerobically-Sealed Cylinder**
Prevents entry of foreign substances into the cylinder.

**Special Coating**
Special coating on the lever and body prevents rust caused by mold lubricant.

**Rotary Shaft Special Sealing**
Two kinds of sealings prevent malfunctions mainly caused by mold lubricant and dust. Special sealings also ensure proper operation by keeping the rotary shaft free of rust.

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>GB0400-Y</th>
<th>GB0630-Y</th>
<th>GB1000-Y</th>
<th>GB1600-Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamping Force (Hydraulic Pressure at 24.5 MPa)</td>
<td>32.3</td>
<td>50.0</td>
<td>93.1</td>
<td>137</td>
</tr>
<tr>
<td>Clamping Capacity (Hydraulic Pressure at 24.5 MPa)</td>
<td>39.2</td>
<td>61.7</td>
<td>98.0</td>
<td>157</td>
</tr>
<tr>
<td>Full Stroke</td>
<td>mm</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Clamping Stroke</td>
<td>mm</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Extra Stroke</td>
<td>mm</td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Cylinder Capacity (at Full Stroke)</td>
<td>cm³</td>
<td>9.7</td>
<td>17.5</td>
<td>32.5</td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>MPa</td>
<td></td>
<td></td>
<td>24.5</td>
</tr>
<tr>
<td>Maximum Operating Pressure</td>
<td>MPa</td>
<td></td>
<td></td>
<td>27.0</td>
</tr>
<tr>
<td>Withstanding Pressure</td>
<td>MPa</td>
<td></td>
<td></td>
<td>36.8</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>°C</td>
<td></td>
<td></td>
<td>0 ~ 120</td>
</tr>
<tr>
<td>Use Frequency</td>
<td></td>
<td></td>
<td></td>
<td>Less than 20 cycles/day</td>
</tr>
</tbody>
</table>

Notes
1. Clamping capacity indicates the force that applies opposite to the mold releasing force.
2. Please contact us for more frequent use.

We offer a wide range of options for the extreme conditions clamp. Please visit our website (www.kosmek.co.jp), view our catalog or contact us for detailed specifications and external dimensions.
Pneumatic Clamp

Fixed
Model HC

Manual-Slide
Model HB

Automatic-Slide
Model HE

The Same Force as a Hydraulic Clamp, Even with Air Pressure
Suitable for Environments where Low Vibration is Needed

Problem
Using automated clamps without hydraulic pressure.

Pneumatic Clamp
Mechanical locking system allows pneumatic clamps to exert the same clamping force as hydraulic clamps.

Locking Action
HC Pneumatic Clamp

The lever clamps the die by supplying air pressure to lock port.

Releasing Action

The lever retracts into the clamp by supplying air pressure to release port.

Solution
Pneumatic clamps for conditions where vibration needs to be at a minimum.

No Manual Fastening or Hydraulic Systems Required
Internal Structure

Exert the same clamping force as hydraulic clamps with mechanical lock + air pressure + spring force.

Spring force maintains locking of the die even when air pressure is cut off.

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>HC0102</th>
<th>HC0162</th>
<th>HC0253</th>
<th>HC0403</th>
<th>HC0633</th>
<th>HC1003</th>
<th>HC1603</th>
<th>HC2503</th>
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<tbody>
<tr>
<td>Clamping Force</td>
<td>KN</td>
<td>9.8</td>
<td>15.7</td>
<td>24.5</td>
<td>39.2</td>
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<td>98</td>
<td>157</td>
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<tr>
<td>Retaining Force Air Pressure at 0.39 MPa</td>
<td>KN</td>
<td>9.8</td>
<td>15.7</td>
<td>24.5</td>
<td>39.2</td>
<td>61.7</td>
<td>98</td>
<td>157</td>
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<tr>
<td>Air Pressure at 0 MPa</td>
<td>KN</td>
<td>2.9</td>
<td>5.9</td>
<td>7.8</td>
<td>11.8</td>
<td>17.6</td>
<td>26.5</td>
<td>40.9</td>
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<tr>
<td>Air Pressure at 0.49 MPa</td>
<td>KN</td>
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<td>13.7</td>
<td>19.6</td>
<td>31.4</td>
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<td>75.5</td>
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<td>KN</td>
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<tr>
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<td>mm</td>
<td>2</td>
<td>2</td>
<td>2.1</td>
<td>2.3</td>
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<tr>
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<td>mm</td>
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<td>1</td>
<td>1</td>
<td>1.1</td>
<td>1.2</td>
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<tr>
<td>Extra Stroke</td>
<td>mm</td>
<td>1</td>
<td>1</td>
<td>1.1</td>
<td>1.2</td>
<td>1.4</td>
<td>1.6</td>
<td>1.8</td>
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<tr>
<td>Air Cylinder Capacity For Locking</td>
<td>cm³</td>
<td>56</td>
<td>94</td>
<td>144</td>
<td>259</td>
<td>444</td>
<td>773</td>
<td>1334</td>
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<td>For Releasing</td>
<td>cm³</td>
<td>52</td>
<td>88</td>
<td>135</td>
<td>244</td>
<td>416</td>
<td>729</td>
<td>1262</td>
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<td>Air Pressure Normal (Recommended)</td>
<td>MPa</td>
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<tr>
<td>Minimum</td>
<td>MPa</td>
<td>0.39</td>
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<tr>
<td>Operating Temperature</td>
<td>°C</td>
<td>0 ~ 70</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Use Frequency</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 1. Please contact us for more frequent use.

We also offer pneumatic auto-sliding T-slot clamps.
Please visit our website (www.kosmek.co.jp), view our catalog or contact us for more detailed specifications and external dimensions.
Hydraulic Clamp
For Knockout Rod
Model PPK

Fasten the Knockout Rod with Hydraulic Force
Manual Fastening is Not Required, Saving Time and Ensuring Safety

Problem
When changing the die, adjusting the knockout rod in elevated locations is dangerous.

Before
Fastening the knockout rod by hand

Problem
In order to lock the knockout rod, bolts are manually fastened in elevated locations.

Fastening force is not constant.
Working in Elevated Locations

Solution
One touch operation to lock the hydraulic clamp.

Fastening force is always constant.
No Working in Elevated Locations

After
PPK Clamp: Fastening the knockout rod with the hydraulic clamp.
Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>PPK1A0</th>
<th>PPK15A0</th>
<th>PPK20A0</th>
<th>PPK30A0</th>
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<tbody>
<tr>
<td>Press Machine Capacity</td>
<td>ton</td>
<td>110</td>
<td>150</td>
<td>200</td>
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<tr>
<td>Withstanding Knockout Force</td>
<td>ton</td>
<td>2.8</td>
<td>3.8</td>
<td>5.0</td>
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<tr>
<td>Extra Stroke</td>
<td>mm</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylinder Capacity (for Locking)</td>
<td>cm³</td>
<td>2.3</td>
<td>3.3</td>
<td>3.7</td>
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<td>Operating Pressure</td>
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<td>Maximum Operating Pressure</td>
<td>MPa</td>
<td>27.0</td>
<td></td>
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<tr>
<td>Withstanding Pressure</td>
<td>MPa</td>
<td>36.8</td>
<td></td>
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<tr>
<td>Operating Temperature</td>
<td>°C</td>
<td>0 ~ 70</td>
<td></td>
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</tr>
<tr>
<td>Use Frequency</td>
<td>Less than 20 cycles/day</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes
1. Please use 2 clamps per press machine.
2. Knockout rod is not included.
3. Withstanding knockout force is the rated value when using 2 clamps. It varies according to friction coefficient of knockout rod.
4. (Material of Knockout Rod: S45C, in a dried condition)
5. Please contact us for more frequent use.

External Dimensions

Drawings shown are PPK1A0, PPK15A0, and PPK20A0.
Drawings indicate when the product is set on the left side as seen from the front of press machine.
When setting it on the right side, Z surface should be top side.

Drawing shown is PPK30A0.
There are two hydraulic ports and both of them can be used for supplying hydraulic pressure. Unused port should be covered with an attached plug.

Note
3. Rod diameter is adjustable to each maker’s knockout rod.

Please contact us for further information. www.kosmek.co.jp
Overload Protector
Multi-Load Model

Model PV (Pneumatic)
Model PW (Spring)

For Use on Unbalanced Loads with 2-point and 4-point Presses
Instant Response Prevents Damage to Presses or Dies

Problem
Standard overload protectors have slow response times when a two-point press has an overload.

Before

Overload Protector
Slow Response
Two-Point Press

Press machine is damaged!
Overload Cylinder
Slide
Die
Bolster

Overload in Eccentric Condition!

Problem
When an overload occurs in eccentric condition, the overload protector does not start working until hydraulic pressure on both sides of the overloaded cylinder increases.

Slow Response
Not Supported with Eccentric Load

Solution
For overload in an eccentric condition, when hydraulic pressure of overload cylinder on one side increases, the overload protector actuates to release cylinders on both sides.

Fast Response
Supported with Eccentric Load
Overload Protector

Overload protector detects sudden increases in hydraulic pressure in the overload cylinder within the press slide, releasing hydraulic oil instantly in order to protect the press machine and sends an emergency stop signal to the press machine.

Features

● **Compact · Light Weight**

● **A Wide Variety**
  Available for various size presses from small presses (200kN) to large presses (20000kN).

● **High Stability**
  The accuracy of the press machine is maintained with a high pre-load in the overload cylinder.

● **Malfunction Prevention**
  Pressure regulating valve prevents malfunction caused by the rising temperature of hydraulic oil during press operation.

● **High Accuracy**
  Even if the amount of overload increases, the operating accuracy of overload protector remains within 10% and repeatability is better than ±3%.

● **Shock Tolerance**
  Shock tolerance of the switch is more than 70G.

● **Simple Setting**
  Pressure setting of overload is simple and accurate.

● **Easy to Recover**
  After removing the cause of an overload, hydraulic pressure will be charged in the overload cylinder by supplying air pressure and the overload protector starts again.

Please contact us for further information on specifications and external dimensions.
www.kosmek.co.jp
Auto Coupler
Air Supply
Model JY

Automation of the Connecting Circuit
Suitable for Fluid Supply to Moving Bolsters

**Problem**

Automation of fluid (air) supply to a moving bolster.

**Auto Coupler**

Automatically connects the coupler and supplies fluid to a moving bolster.

1. Load the moving bolster to the straight side press.

2. After seating of the moving bolster, the auto coupler is connected and fluid can be supplied.

**Solution**

Auto coupler connects the fluid circuit to the moving bolster.

Automated • Safe
**Action Description**

Disconnected

Loading the moving bolster

Connected

After the moving bolster is seated, fluid can be supplied. The seals at the connection point adhere to the bolster and prevent leakage.

---

**Specifications**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>JY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Pressure</td>
<td>MPa</td>
</tr>
<tr>
<td>Withstanding Pressure</td>
<td>MPa</td>
</tr>
<tr>
<td>Minimum Passage Area</td>
<td>mm²</td>
</tr>
<tr>
<td>Allowable Offset</td>
<td>mm</td>
</tr>
<tr>
<td>Allowable Angle</td>
<td>°</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>°C</td>
</tr>
<tr>
<td>Usable Fluid</td>
<td></td>
</tr>
<tr>
<td>Reaction Force</td>
<td>KN</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

1. Do not connect or disconnect the auto coupler when pressurizing (or when pressure remains).
2. Do not connect the auto coupler when foreign substances such as cutting chips get onto the connecting surface.

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The above is just one example of our exclusive products. External dimensions are determined according to the arrangement of each press machine. We also offer auto couplers for other types of fluids. Please contact us for further information. www.kosmek.co.jp
Robotic Hand Changer
Pneumatic Double Action
Model SWR

For Changing Workpiece Transfer Arms in the Automatic Press Line
High Accuracy: Within 3 μm, High Rigidity: "0" Backlash, Long Life: A Million Cycles

Problem

With a general hand changer, the backlash of the transfer arm is high.

Before

Changing transfer arms with a general hand changer.

Problem

At connection points of hand changer, there is some clearance (backlash).

Fluctuation of Arm is High

After

SWR Robotic Hand Changer: Changing transfer arms with KOSMEK hand changer.

Solution

At connection points of hand changer, there is zero clearance (no backlash).

Fluctuation of Arm is Low
Time Reduction in Changing Transfer Arm

Simple and Quick Arm Change

Fluctuation is minimum even with longer arms.

- **Productive**
  - Improves Work Efficiency
  - No backlash on connected part is due to *the dual surface mechanism* with movable taper sleeve.

- **Safe**
  - Prevents Arms from Falling Off
  - Mechanical lock system maintains connected condition with built-in spring.

- **Space Saving**
  - Compact and Light Weight

**Allowable weight is 3~120kg with seven body sizes.**
**A variety of electrodes are available as an external option.**
**Please visit our website (www.kosmek.co.jp) or view our catalog for further information.**
Screw Locator
High-Accuracy Locating

Model VXF

High-Accuracy Die Locating with a Simple Manual Setup
Locating Repeatability: Within 3 μm

Problem
For the table press machine, the accuracy of die locating with general fixed pins is low.
(In case that only the lower die requires high accuracy locating.)

Before
Die locating with general fixed pins + fastening with bolts

- Table Press Machine (Press Capacity: 0.5 ton)
- Upper Die (No Changeover)
- Lower Die (Changed) (3 ~ 4 kg)
- Backlash
- Round Pin
- Diamond Pin
- bolts for locating lower die

Problem
Pins and bolts are located in different places.
Requires More Space
Locating accuracy is low.
Requires Re-adjusting

Solution
Pins and bolts are located in the same places.
Space Saving
Locating Repeatability: Within 3 μm
Re-adjusting is not Required

After
Screw Locator: High-accuracy die locating with screw locator + fastening with bolts.

- Table Press Machine (Press Capacity: 0.5 ton)
- Upper Die (No Changeover)
- Lower Die (Changed) (3 ~ 4 kg)
- No Backlash!
- datum Pin (for reference locating)
- cut Pin (for one direction locating)
- Locating bush
### Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>VXF0040</th>
<th>VXF0050</th>
<th>VXF0060</th>
<th>VXF0080</th>
<th>VXF0100</th>
<th>VXF0120</th>
<th>VXF0160</th>
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<tbody>
<tr>
<td>Locating Repeatability mm</td>
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<td></td>
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<tr>
<td>Stroke mm</td>
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<td></td>
<td></td>
<td></td>
<td>0.3</td>
<td></td>
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<tr>
<td>Max. Loading T kN</td>
<td>Horizontal Mounting</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>500</td>
<td>600</td>
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<tr>
<td>Weight kg</td>
<td>Vertical Mounting</td>
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<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>120</td>
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<td>3.0</td>
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<td>Tightening Procedure</td>
<td>Datum Pin (VXF-PD) → Cut Pin (VXF-PC)</td>
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<td>Mass g</td>
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<td></td>
<td>Locating Bush</td>
<td>4</td>
<td>7</td>
<td>10</td>
<td>11</td>
<td>22</td>
<td>36</td>
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</tbody>
</table>

**Notes**

1. This product is used only for locating and does not have a clamping function (Clamping force is the tightening force of bolts).
2. Tightening force is required for locating with this product.

※1. Indicates the required tightening force (pressing force) per locating nut.

### Structure

This figure shows connected condition.

※ Screw locator is composed of locating pin (datum pin/cut pin) and locating bush.

### Dimensions

<table>
<thead>
<tr>
<th>Model No.</th>
<th>VXF0040</th>
<th>VXF0050</th>
<th>VXF0060</th>
<th>VXF0080</th>
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<td>A</td>
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<td>16</td>
<td>18</td>
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<tr>
<td>B</td>
<td>6.8</td>
<td>7.8</td>
<td>8.3</td>
<td>8.8</td>
<td>10.8</td>
<td>12.8</td>
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<td>AA</td>
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<td>14</td>
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<tr>
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<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>5</td>
<td>6</td>
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<td>AF</td>
<td>9</td>
<td>10.8</td>
<td>12.8</td>
<td>14.8</td>
<td>18.6</td>
<td>22.2</td>
<td>27.3</td>
</tr>
</tbody>
</table>

---

We also offer all-automated high-power pneumatic products for high-accuracy locating.

Clamping force is 4~16kN with four available body sizes.

**High-Power Pneumatic Pallet Clamp**

Please contact us for further information. www.kosmek.co.jp
■ Product Line-Up

We manufacture a wide range of clamping systems and components. Feel free to contact us.

■ QUICK DIE CHANGE SYSTEMS

Kosmek Quick Die Change Systems are a cost effective way to improve the working environment, allow diversified and small-lot production, and reduce press down time. Available for a wide range of machines from large size transfer-presses to smaller high speed presses.

QDCS Complete Catalog
Catalog No.QDCS20□-□-GB

■ QUICK MOLD CHANGE SYSTEMS

Automatic clamping systems have reduced mold change times and increased production efficiency for plastics manufactures in a multitude of industries. We offer a variety of clamping options including hydraulically powered clamps, pneumatic clamps with a force multiplying mechanism, and magnetic clamping systems.

■ DIECAST CLAMPING SYSTEMS

Kosmek Diecast Clamping Systems (KDCS) enable stable die clamping for die casting and magnesium molding machines that are subjected to severe conditions caused by exposure to mold release agents and high temperature.

■ KOSMEK WORK CLAMPING SYSTEMS

Our clamping system enables boltless automation making loading and unloading workpieces easier. The non-leak valve enables the use of hydraulic source and fixtures in a disconnected condition after locking (clamping action).

http://www.kosmek.co.jp

Kosmek Quick Die Change Systems

Kosmek Diecast Clamping Systems

Kosmek Work Clamping Systems

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