Swift Klamp

5-axis Workholding

Manual Clamping Head (Manual Exchange)

![Manual Clamping Head](image)

**Part No.**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HSK Type</th>
<th>L</th>
<th>ØD</th>
<th>ØD₁</th>
<th>L₁</th>
<th>G</th>
<th>PCD</th>
<th>Clamping Force kN</th>
<th>Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHK-A40-50</td>
<td>HSK-A40</td>
<td>50</td>
<td>40</td>
<td>100</td>
<td>25</td>
<td>8-M6x30</td>
<td>55–85</td>
<td>10</td>
<td>1.7</td>
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<tr>
<td>MHK-A63-70</td>
<td>HSK-A63</td>
<td>70</td>
<td>63</td>
<td>125</td>
<td>30</td>
<td>8-M8x35</td>
<td>80–100</td>
<td>20</td>
<td>3.8</td>
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<td>HSK-A100</td>
<td>110</td>
<td>100</td>
<td>200</td>
<td>50</td>
<td>M12x50</td>
<td>125–160</td>
<td>30</td>
<td>14</td>
</tr>
</tbody>
</table>

**Option**
- Mounting plate

**Standard Accessories**
- T-handle wrench
- Mounting bolt×4pcs.

**Note**
- The manual clamping hole on the work holder is required for mounting.
- When you can’t install it directly on the machine table, please use the mounting plate.
- Contact us about the custom-made mounting plate for your machine table.

**Mounting Plate**

In the case where you can’t mount the head directly to your machine table, please use this mounting plate. We can supply a blank that is customisable and also manufacture a special mounting plate just for you. For more information, please feel free to contact us.

![Mounting Plate](image)

**Part No.**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HSK Type</th>
<th>Fig.</th>
<th>T</th>
<th>ØD</th>
<th>ØH</th>
<th>G₁</th>
<th>G₂</th>
<th>PCD</th>
<th>Kg</th>
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</thead>
<tbody>
<tr>
<td>MD160-K40</td>
<td>HSK-A40</td>
<td>1</td>
<td>20</td>
<td>160</td>
<td>32</td>
<td>M5x20</td>
<td>M6x20</td>
<td>80–125</td>
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<tr>
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<td>HSK-A40</td>
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<td>25</td>
<td>200</td>
<td>32</td>
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<td>M10x25</td>
<td>100–160</td>
<td>5</td>
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<tr>
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<td>HSK-A63</td>
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<td>20</td>
<td>160</td>
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<td>M5x20</td>
<td>M6x20</td>
<td>80–125</td>
<td>2.4</td>
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<tr>
<td>MD200-K63</td>
<td>HSK-A63</td>
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<td>25</td>
<td>200</td>
<td>50</td>
<td>M8x25</td>
<td>M10x25</td>
<td>100–160</td>
<td>4.7</td>
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<tr>
<td>MD250-K63</td>
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<td>250</td>
<td>50</td>
<td>M10x30</td>
<td>M12x30</td>
<td>140–200</td>
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<tr>
<td>MD250-K100</td>
<td>HSK-A100</td>
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<td>30</td>
<td>250</td>
<td>80</td>
<td>M10x30</td>
<td>M12x30</td>
<td>140–200</td>
<td>8.7</td>
</tr>
</tbody>
</table>
Using the charts below, please confirm the machining load limits for your work-piece size (length $L$ and dia $R$). When you start machining using the Smart Grip, reduce the machining load 60–80% based upon the chart. Please choose the optimum work holder for your machining conditions.

(ex.) The value of maximum cutting force

Maximum cutting force?

Please confirm the machining load limit value (N) of the HSK-A63 with $L=175$mm from the chart. Max. 4,000N (please start at 2,400–3,200N)
This work-piece clamping system maximizes the performance of your 5-axis machining center

The HSK interface (between the head and the work-holder) and the dovetail clamping (between the work-holder and the work-piece) create a compact design with less interference and high rigidity for metalworking applications

- The rigid system developed for metalworking applications.
- No interference and superior accessibility.
- Handling the work-piece is easy using a general-purpose robot.

Supports Various Work-Piece Shapes

2-Face Clamping Work-Piece

Dovetail Clamping Work-Holder

HSK Interface Head
**Dovetail Clamping System**

**Strong Clamping with Small Clamping Area**

- By minimizing the clamping surface of the work-piece, optimum tool holder accessibility is possible.
- It allows stable and heavy machining from various directions without the work-piece rising.

![Dovetail Clamping vs Conventional Clamping](image)

**HSK Interface**

**Strong Clamping**

- Uses the HSK-A type, time-proven tool holder shank to connect the head and the work-piece holder.

<table>
<thead>
<tr>
<th>HSK Type</th>
<th>Clamping Force kN</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSK-A40</td>
<td>10</td>
</tr>
<tr>
<td>HSK-A63</td>
<td>20</td>
</tr>
<tr>
<td>HSK-A100</td>
<td>30</td>
</tr>
</tbody>
</table>

**Superior Bending Rigidity**

- The dovetail clamping work-holder with the HSK head works with heavy-duty milling.
Swift Klamp 5-axis Workholding

High Positioning Accuracy

- Concentricity: 2 μm/L
- Z Axis Direction: 1 μm/L
- Rotating Direction: 0.1~0.3 mm/D

Offsetting the work-piece position in the rotating direction using a touch probe

- Measuring two locations along the work-piece side face using a touch probe enables you to offset the machine table angle easily.

BLUM high accuracy touch probe

Quick Work-piece Changing (Manual Clamping Head)

- Off-line setup in advance allows quick work-piece changing, minimizing machine downtime.

For Automation (Hydraulic Automatic Clamping Head)

- The hydraulic clamping design allows for automated work-piece changing, and makes it possible for you to combine your machining centers with robots to create a fully-automated system.

Hydraulic Automatic Clamping Head
The Swift Klamp System:

**Work-piece Clamping & Mounting Options**

### Workpiece Options

- **Dovetail** (max. 200mm)
- **Large Diameters** (max. 200mm)
- **Rectangular** (max. depth 30mm)
- **Square** (max. 40mm)
- **Small diameters** (max. 25mm)

### Workholder Options

- **Dovetail Clamping**
  - Page 9
- **Dovetail Vise**
  - Pages 9-10
- **Flange Clamping**
  - Pages 14-15
- **Side Clamp A**
  - Page 16
- **Side Clamp B**
  - Page 16
- **Collet Holder**
  - Page 19
- **Dovetail Vise**
  - Page 19

### Head Options

- **Manual Clamping**
  - HSK-A40
  - HSK-A63
  - HSK-A100
  - Manual Clamping Head
  - Page 8
  - Mounting Plate

- **Automatic Clamping**
  - Hydraulic Automatic Clamping Head
  - Pages 17-18
  - Mounting Plate

### Machine Table