PERMANENT ELECTROMAGNETIC CHUCKS

Model EP-Q
PERMANENT ELECTROMAGNETIC CHUCK FOR CUTTING

A Line-up of products selectable according to machining methods and workpieces.

- Considerable power saving and reduction in size of the Chuck Master by the renewed design.
- The detachable connector type is employed to respond to pallet changing.
- Electricity is used only when mounting and demounting workpieces. Workpieces can be held firmly in the event of power failure.
- Usable in wet machining operations.

![An example of machining by use of straightening block](image)

**[Application]**
Suitable for securing workpieces during cutting on milling machines and machining centers.

**[Features]**
- The power cord is of detachable connector type for easy use. The connector cap is of waterproof type.
- Can be used in wet machining operations.
- The chuck is very thin, 70 mm in height, and light weight.
- Less accuracy change and highly rigid construction.
- Considerable power saving compared with conventional products. (%: 70% reduction, □: 50% reduction)

### EP-QN Series

<table>
<thead>
<tr>
<th>Standard Size Model</th>
<th>Work Face</th>
<th>Pole Dimensions</th>
<th>Mounting Face</th>
<th>Tapped Hole on Attractive Face</th>
<th>Mass</th>
<th>Applicable Chuck Master</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-QN5</td>
<td>300x110</td>
<td>610x240</td>
<td>252x110</td>
<td>570.240</td>
<td>60</td>
<td>EPS-P2100B</td>
</tr>
<tr>
<td></td>
<td>400x150</td>
<td>600x300</td>
<td>372x146</td>
<td>760.290</td>
<td>60</td>
<td>EPS-P2100B</td>
</tr>
<tr>
<td>50100A</td>
<td>500x190</td>
<td>960x378</td>
<td>432x172</td>
<td>917.361</td>
<td>72</td>
<td>EPS-P2100B</td>
</tr>
<tr>
<td>60100A</td>
<td>600x234</td>
<td>960x430</td>
<td>552x217</td>
<td>108</td>
<td>72</td>
<td>EPS-P2100B</td>
</tr>
</tbody>
</table>

### EP-QS Series

<table>
<thead>
<tr>
<th>Standard Size Model</th>
<th>Work Face</th>
<th>Pole Dimensions</th>
<th>Mounting Face</th>
<th>Tapped Hole on Attractive Face</th>
<th>Mass</th>
<th>Applicable Chuck Master</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-QS5</td>
<td>300x110</td>
<td>610x240</td>
<td>252x110</td>
<td>570.240</td>
<td>60</td>
<td>EPS-P2100B</td>
</tr>
<tr>
<td></td>
<td>400x150</td>
<td>600x300</td>
<td>372x146</td>
<td>760.290</td>
<td>60</td>
<td>EPS-P2100B</td>
</tr>
<tr>
<td>50100A</td>
<td>500x190</td>
<td>960x378</td>
<td>432x172</td>
<td>917.361</td>
<td>72</td>
<td>EPS-P2100B</td>
</tr>
<tr>
<td>60100A</td>
<td>600x234</td>
<td>960x430</td>
<td>552x217</td>
<td>108</td>
<td>72</td>
<td>EPS-P2100B</td>
</tr>
</tbody>
</table>

**[Features]**
- Magnetization and demagnetization in a very short time.
- Tapped holes on the attractive face can be used to install various blocks to hold workpieces by various methods according to machining operations.
- Straightening blocks are also available that are mounted on the chuck work face to hold workpieces by an induction field. These optional products are very useful for workpieces having irregular attractive faces that for example have steps and distortion and for machining the bottom and side faces of workpieces. (See [Options on page 32.])

- Turning the permanent electromagnetic chucks on and off must be limited to once per several minutes. If on/off operations are repeated frequently, the chucks may be damaged by overheat.
**EP-Q / EPS-P / KT-Q**

**Model designation**

CHUCK : EP-QN5-3060A

- Normal (Ribs arranged between poles)
- Strong (Ribs arranged densely)

Pole size: 5...50, 7...70

**A guide for selection**

- General milling
  - Good holding conditions such as plate machining: QN
  - Poor holding conditions such as heavy duty cutting: QS
- Planomiller, horizontal M/C, use of straightening blocks, etc.

Selection of pole size: 50 or 70

- The 70 size is superior in the absolute holding power and gap characteristic.
- The 50 size is recommended for relatively small and thin workpieces. (The plate thickness of magnetic saturation is 20 to 25 mm for \( \Box \)50 and 30 to 35 mm for \( \Box \)70.)

**Relation between chuck models and holding power**

Comparison of holding power of chucks of same size

**Holding power**

- \( \Box \)50 generates the max. holding power of 2.94 kN (300 kgf) or over per pole
- \( \Box \)70 generates 5.88 kN (600 kgf) or over per pole.

(An example of calculation)

Max. holding power on whole attractive face of EP-QS5-4080A

\[
2.94kN \times 60 \text{ (number of poles)} = 176.4kN \text{ (1800 kgf)}
\]

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)

**EP-Q type holding power characteristic**

1. Relation between workpiece thickness and holding power
   Test piece held by 4 poles

2. Relation between gap and holding power
   Holding on whole face

**Model of special specification**

Model with T-slots available

For more information, please contact us.

EP-Q50-S

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)

**Holding power**

- \( \Box \)50 generates the max. holding power of 2.94 kN (300 kgf) or over per pole
- \( \Box \)70 generates 5.88 kN (600 kgf) or over per pole.

(An example of calculation)

Max. holding power on whole attractive face of EP-QS5-4080A

\[
2.94kN \times 60 \text{ (number of poles)} = 176.4kN \text{ (1800 kgf)}
\]

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)

**EP-Q type holding power characteristic**

1. Relation between workpiece thickness and holding power
   Test piece held by 4 poles

2. Relation between gap and holding power
   Holding on whole face

**Model of special specification**

Model with T-slots available

For more information, please contact us.

EP-Q50-S

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)

**EP-Q type holding power characteristic**

1. Relation between workpiece thickness and holding power
   Test piece held by 4 poles

2. Relation between gap and holding power
   Holding on whole face

**Model of special specification**

Model with T-slots available

For more information, please contact us.

EP-Q50-S

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)

**EP-Q type holding power characteristic**

1. Relation between workpiece thickness and holding power
   Test piece held by 4 poles

2. Relation between gap and holding power
   Holding on whole face

**Model of special specification**

Model with T-slots available

For more information, please contact us.

EP-Q50-S

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)

**EP-Q type holding power characteristic**

1. Relation between workpiece thickness and holding power
   Test piece held by 4 poles

2. Relation between gap and holding power
   Holding on whole face

**Model of special specification**

Model with T-slots available

For more information, please contact us.

EP-Q50-S

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)

**EP-Q type holding power characteristic**

1. Relation between workpiece thickness and holding power
   Test piece held by 4 poles

2. Relation between gap and holding power
   Holding on whole face

**Model of special specification**

Model with T-slots available

For more information, please contact us.

EP-Q50-S

**EPS-P EP Chuck Master**

Compact design for limited installation space.

**Options**

1. Straightening block, for \( \Box \)50 and \( \Box \)70 (KT-Q)