ONE-TOUCH CLAMPS

ONE-TOUCH CLAMPS

SNAP CLAMPS
THRUST CLAMPS (Vertical)
Part No. QLRCF

CLAMPING BARS
Part No. QLRCS

CAM EDGE CLAMPS
Part No. QLSCH

LOW-PROFILE CAM EDGE CLAMPS
Part No. QLSCL-R

SPIRAL CAM CLAMPS
Part No. CP135-L

CAM EDGE CLAMPS
Part No. QLSC

CAM PUSH CLAMPS
Part No. QLCP

PRECISION THRUST CLAMPS
Part No. QLPCT

PULL CLAMPS (Standard)
Part No. QLPD

CLAMPING PINS (Standard)
Part No. QLPD-X

CLAMPING SCREWS (Standard)
Part No. QLPD-M

PULL CLAMPS (Heavy)
Part No. QLPDH

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ONE-TOUCH CLAMPS

CLAMPING PINS (Heavy)
Part No. QLPDH-X

CLAMPING SCREWS (Heavy)
Part No. QLPDH-M

PUSH CLAMPS (Standard)
Part No. QLPU

STANDARD HANDLES
Part No. QLSL

ADJUSTABLE-TORQUE HANDLES
Part No. QLTL

SNAP CLAMPS

VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS
Part No. QLSND

EXTENSION ARM
Part No. QLSND-EX20

ANGLE ADAPTOR
Part No. QLSND-AN10

VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS (Mini)
Part No. QLSNDM

PUSH-PULL SNAP CLAMPS
Part No. QLSNS

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One-Touch Clamps

Any Tools Needed? No Need! Just Turn the Handle!

Quick Manual Clamps with No Tools

Imao One-Touch Clamps allow clamping and unclamping the workpiece just by turning the handle, without any tools. This one-touch feature helps to slash workpiece loading/unloading time, for drastic setup time reduction and increased productivity.

One-Touch Clamps reduce setup time in machining, assembly, inspection and testing fixtures for various industries.

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This extended line of One-Touch Clamps covers a wide range of clamping applications for small parts, and aluminum, zinc, cast-iron or steel parts.
### Technical Information

**Allowable Loads in Machining of Workpiece Bottom**

Ensure that any force more than stated below is not applied.

**How To Use**

1. **Operation of CW Type** (Invert the operation for CCW type.)
2. **How to Change Handle Position**
   - The dodecagonal socket in the hub of the handle allows changing the handle position by 30°.

### Performance Curve

![Performance Curve Diagram]

### Technical Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Clamping Height (*)</th>
<th>Allowable Operating Load (N) **</th>
<th>Clamping Force (kN)</th>
<th>Clamping Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSWC100R</td>
<td>CW</td>
<td>22.8 (22.3~23.3)</td>
<td>50 15</td>
<td>100</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24.8 (24.3~25.3)</td>
<td></td>
<td></td>
<td>Spiral Cam Cam Angle: 5°</td>
</tr>
<tr>
<td>QLSWC100L</td>
<td>CCW</td>
<td>31.3 (30.6~32)</td>
<td>63 20</td>
<td>150</td>
<td>1.8</td>
</tr>
<tr>
<td>QLSWC150R</td>
<td>CW</td>
<td>32.2 (31.5~32.9)</td>
<td>40 (39.2~40.7)</td>
<td>45 23</td>
<td>Spiral Cam Cam Angle: 4°</td>
</tr>
<tr>
<td>QLSWC150L</td>
<td>CCW</td>
<td>33.5 (32.7~34.2)</td>
<td></td>
<td>65 30</td>
<td></td>
</tr>
<tr>
<td>QLSWC200R</td>
<td>CW</td>
<td>39 (38.2~39.7)</td>
<td>8 55</td>
<td>85 40</td>
<td></td>
</tr>
<tr>
<td>QLSWC200L</td>
<td>CCW</td>
<td>35.5 (35.5~37.4)</td>
<td>46 (45~46.9)</td>
<td>55 25.4</td>
<td></td>
</tr>
<tr>
<td>QLSWC300R</td>
<td>CW</td>
<td>46 (38~39.9)</td>
<td>48.5 (47.5~49.4)</td>
<td>85 15.5</td>
<td></td>
</tr>
<tr>
<td>QLSWC300L</td>
<td>CCW</td>
<td>46 (45~46.9)</td>
<td></td>
<td>10 15</td>
<td></td>
</tr>
</tbody>
</table>

*) Clamping height can be adjusted. The parenthesised values denote clamping height range.

**) Allowable load to operate the handle.
QLSWC SWING CLAMPS WITH CAM HANDLE

<table>
<thead>
<tr>
<th>Style</th>
<th>Body/Washer/Clamping Spindle</th>
<th>Arm/Handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSWC</td>
<td>S45C steelQuenched and tempered Black oxide finish</td>
<td>SCM440 steelQuenched and tempered Black oxide finish</td>
</tr>
<tr>
<td>QLSWC-NP</td>
<td>S45C steelQuenched and tempered Electroless nickel plated</td>
<td>SCM440 steelQuenched and tempered Electroless nickel plated</td>
</tr>
</tbody>
</table>

Counterclockwise Clamping

Clockwise Clamping

Clamp Starting Position

Recommended Clamping Position

Clamping End

Unclamping Position

Mounting Holes

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## Technical Data

- **Allowable Loads in Machining of Workpiece Bottom**:
  - Ensure that any force more than stated below is not applied.

### Performance Curve

<table>
<thead>
<tr>
<th>Series</th>
<th>Allowable Force To Workpiece Bottom (Per Clamp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSWC100</td>
<td>max.2.3kN</td>
</tr>
<tr>
<td>QLSWC150</td>
<td>max.3.6kN</td>
</tr>
<tr>
<td>QLSWC200</td>
<td>max.3.7kN</td>
</tr>
<tr>
<td>QLSWC300</td>
<td>max.5.6kN</td>
</tr>
</tbody>
</table>

## How To Use

- **Operation of CW Type (Invert the operation for CCW type.)**

1. **Unclamped Load or unload a workpiece.**
2. **Arm Swing**
   - Turn the handle to set the clamp arm in position.
3. **Clamping**
   - Set the handle down to clamp the workpiece.

## Technical Data

### QLSWC (Black Oxide Finish)

<table>
<thead>
<tr>
<th>QLSWC-NP</th>
<th>(Electroless Nickel Plated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>Weight (g)</td>
</tr>
<tr>
<td>QLSWC-100VR-NP</td>
<td>134</td>
</tr>
<tr>
<td>QLSWC-100VL-NP</td>
<td>272</td>
</tr>
<tr>
<td>QLSWC-150VR-NP</td>
<td>272</td>
</tr>
<tr>
<td>QLSWC-150VL-NP</td>
<td>625</td>
</tr>
<tr>
<td>QLSWC-200VR-NP</td>
<td>1340</td>
</tr>
<tr>
<td>QLSWC-200VL-NP</td>
<td>1340</td>
</tr>
</tbody>
</table>

### QLSWC (Part Number)

| Part Number | Weight (g) |
| QLSWC-100VR | 134 |
| QLSWC-100VL | 272 |
| QLSWC-150VR | 272 |
| QLSWC-150VL | 625 |
| QLSWC-200VR | 1340 |
| QLSWC-200VL | 1340 |

### Cam Handling Information

- **LSQCA-05**: 100 kN, 0.8 mm
- **LSQCA-06**: 150 kN, 1.5 mm
- **LSQCA-08**: 200 kN, 2.1 mm
- **LSQCA-10**: 300 kN, 2.8 mm

### Part Number

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Height *)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSWC-100VR</td>
<td>CW</td>
</tr>
<tr>
<td>QLSWC-100VL</td>
<td>CCW</td>
</tr>
<tr>
<td>QLSWC-150VR</td>
<td>CW</td>
</tr>
<tr>
<td>QLSWC-150VL</td>
<td>CCW</td>
</tr>
<tr>
<td>QLSWC-200VR</td>
<td>CW</td>
</tr>
<tr>
<td>QLSWC-200VL</td>
<td>CCW</td>
</tr>
<tr>
<td>QLSWC-300VR</td>
<td>CW</td>
</tr>
<tr>
<td>QLSWC-300VL</td>
<td>CCW</td>
</tr>
</tbody>
</table>

*) Clamping height can be adjusted. The parenthesized values denotes clamping height range.

### Performance Curve

- **Operating Load (N)**
- **Clamping Force (kN)**

### On Request

- **Part Number**
- **Weight (g)**
- **Clamping Stroke**
- **Overall Stroke**
- **L_2**
- **L_3**
- **L_1**
- **L_4**
- **W**
- **L_5**
- **B**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Clamping Height *)</th>
<th>Overall Stroke</th>
<th>Cam Handles</th>
<th>Allowable Operating Load (N)</th>
<th>Clamping Force (kN)</th>
<th>Clamping Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSWC-100VR</td>
<td>CW</td>
<td>22.8 (22.4~23.2)</td>
<td>1.2</td>
<td>26 11.5</td>
<td>36 18 6</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>QLSWC-100VL</td>
<td>CCW</td>
<td>24.8 (24.4~25.2)</td>
<td>1.2</td>
<td>35 15.3</td>
<td>45 23 8</td>
<td>5.3</td>
<td></td>
</tr>
<tr>
<td>QLSWC-150VR</td>
<td>CW</td>
<td>31.3 (30.8~31.8)</td>
<td>1.6</td>
<td>37 9</td>
<td>45 20.7</td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td>QLSWC-150VL</td>
<td>CCW</td>
<td>33.3 (32.8~33.3)</td>
<td>0.8</td>
<td>38 6</td>
<td>65 30 12</td>
<td>10.5</td>
<td></td>
</tr>
<tr>
<td>QLSWC-200VR</td>
<td>CW</td>
<td>32.5 (31.9~33.1)</td>
<td>1.2</td>
<td>37 8</td>
<td>45 20.7</td>
<td>12.4</td>
<td></td>
</tr>
<tr>
<td>QLSWC-200VL</td>
<td>CCW</td>
<td>39 (38.4~39.6)</td>
<td>1.5</td>
<td>37 8</td>
<td>65 30 12</td>
<td>14.5</td>
<td></td>
</tr>
<tr>
<td>QLSWC-300VR</td>
<td>CW</td>
<td>36.5 (35.7~37.2)</td>
<td>1.5</td>
<td>37 8</td>
<td>65 30 12</td>
<td>16.6</td>
<td></td>
</tr>
<tr>
<td>QLSWC-300VL</td>
<td>CCW</td>
<td>46 (45.2~46.7)</td>
<td>2.3</td>
<td>45 20.7</td>
<td>80 40 15</td>
<td>18.7</td>
<td></td>
</tr>
</tbody>
</table>

**) Allowable load to operate the handle

### Technical Data

- **Operate only in a safe manner**
- **Operate under a maximum of 1.5 kN**
- **Avoid direct forces on the clamps**
- **Ensure proper handling of the clamps**
- **Do not exceed the specified load limits**

### Performance Curve

- **Operating Load (N)**
- **Clamping Force (kN)**
- **Load Limit**
- **Stated Load**
- **Maximum Allowable**

### How To Use

1. **Unclamped Load or unload a workpiece.**
2. **Arm Swing**
   - Turn the handle to set the clamp arm in position.
3. **Clamping**
   - Set the handle down to clamp the workpiece.

---

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---

**IMAO CORPORATION**
QLSWC SWING CLAMPS WITH ADJUSTABLE HANDLE

- Clamp worked by a screw-locking mechanism which allows providing longer clamping stroke and greater clamping force than a cam-locking mechanism.
- Operated by an adjustable handle that allows for flexible handle positioning.

<table>
<thead>
<tr>
<th>Base/Washer/Clamping Spindle</th>
<th>Body</th>
<th>Handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>S45C steel</td>
<td>SCM440 steel</td>
<td>ZDC1 die cast zinc</td>
</tr>
<tr>
<td>Quenched and tempered</td>
<td>Quenched and tempered</td>
<td>Coated with paint</td>
</tr>
<tr>
<td>Black oxide finish</td>
<td>Black oxide finish</td>
<td>Black</td>
</tr>
</tbody>
</table>

Counterclockwise Clamping

Clockwise Clamping

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### How To Use

- Turning the handle allows the clamp arm to swing for clamping.
- Lifting the handle allows the handle to be disengaged from the teeth of the locking element and then be turned to a desired position.

### Part Number

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Clamping Height *)</th>
<th>Clamping Stroke</th>
<th>Adjustable Handles **)</th>
<th>Allowable Operating Load (N) ***</th>
<th>Clamping Force (kN)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSWC-0618KR</td>
<td>CW</td>
<td>21.8</td>
<td>3</td>
<td>22</td>
<td>170</td>
<td>2</td>
<td>121</td>
</tr>
<tr>
<td>QLSWC-0618KL</td>
<td>CCW</td>
<td>21.8~24.8</td>
<td>6</td>
<td>26</td>
<td>45</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>QLSWC-0823KR</td>
<td>CW</td>
<td>30.3</td>
<td>4</td>
<td>30</td>
<td>35</td>
<td>8</td>
<td>34</td>
</tr>
<tr>
<td>QLSWC-0823KL</td>
<td>CCW</td>
<td>30.3~34.3</td>
<td>8</td>
<td>45</td>
<td>55</td>
<td>12</td>
<td>48</td>
</tr>
<tr>
<td>QLSWC-1030KR</td>
<td>CW</td>
<td>30.5</td>
<td>5</td>
<td>45</td>
<td>55</td>
<td>15</td>
<td>64</td>
</tr>
<tr>
<td>QLSWC-1030KL</td>
<td>CCW</td>
<td>30.5~34.5</td>
<td>10</td>
<td>65</td>
<td>65</td>
<td>20</td>
<td>72</td>
</tr>
<tr>
<td>QLSWC-1240KR</td>
<td>CW</td>
<td>34.5</td>
<td>5</td>
<td>55</td>
<td>60</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>QLSWC-1240KL</td>
<td>CCW</td>
<td>34.5~39.5</td>
<td>10</td>
<td>85</td>
<td>85</td>
<td>40</td>
<td>121</td>
</tr>
</tbody>
</table>

*) Clamping height can be adjusted. The parenthesised values denote clamping height range.

**) Studs are bonded with FKF handles.

***) Allowable load to operate the handle.

Note: The above indicates the handle operation of CW type. Invert the operation for CCW type.

### Performance Curve

![Performance Curve Graph](chart.png)

- QLSWC-0618
- QLSWC-0823
- QLSWC-1030
- QLSWC-1240

**Stronger type without handle is available.**
QLSW SWING CLAMPS (Standard)

<table>
<thead>
<tr>
<th>Body / Shaft</th>
<th>Clamp Arm / Adaptor Head</th>
<th>Handle</th>
<th>Ball Knob</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM440 steel Quenched and tempered</td>
<td>S45C steel Quenched and tempered</td>
<td>S45C steel</td>
<td>ABS resin</td>
</tr>
<tr>
<td>Black oxide finish</td>
<td>Black oxide finish</td>
<td>Black</td>
<td></td>
</tr>
</tbody>
</table>

Counter-clockwise Clamping

Clockwise Clamping

Clamping End

Unclamping Position

Recommended Clamping Position

Clamp Starting Position

Unclamping Position

Clamp Starting Position

Throw

M2-3 Handle-Mounting Holes (Angle between 2 holes: 35)

3 Options of Handle Mounting Position

Bottom

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# ONE-TOUCH CLAMPS

<table>
<thead>
<tr>
<th>Size/Type</th>
<th>Clamping Direction</th>
<th>H</th>
<th>A</th>
<th>R1</th>
<th>M1</th>
<th>L2</th>
<th>L1</th>
<th>L3</th>
<th>D</th>
<th>M</th>
<th>Dp</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSW150R</td>
<td>CW</td>
<td>32</td>
<td>*)</td>
<td>14</td>
<td>7</td>
<td>M6×1</td>
<td>25</td>
<td>32</td>
<td>17.5</td>
<td>30 M4×0.7</td>
<td>18</td>
</tr>
<tr>
<td>QLSW150L</td>
<td>CCW</td>
<td>45</td>
<td>**)</td>
<td>16</td>
<td>8</td>
<td>M8×1.25</td>
<td>32</td>
<td>40</td>
<td>21.5</td>
<td>40 M6X1</td>
<td>25</td>
</tr>
</tbody>
</table>

* ) Actual clamping height: 31.4 to 32.6 (clamping stroke: 1.2)
**) Actual clamping height: 44.1 to 45.9 (clamping stroke: 1.8)

<table>
<thead>
<tr>
<th>Size/Type</th>
<th>H</th>
<th>D1</th>
<th>H3</th>
<th>H2</th>
<th>M2</th>
<th>H4</th>
<th>L4</th>
<th>Clamping Force (kN)</th>
<th>Clamping Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSW150R</td>
<td>57.5</td>
<td>30</td>
<td>10</td>
<td>46</td>
<td>M5×0.8</td>
<td>51</td>
<td>15</td>
<td>0.8</td>
<td>Spiral Cam</td>
</tr>
<tr>
<td>QLSW150L</td>
<td>78.1</td>
<td>38</td>
<td>13</td>
<td>63</td>
<td>M6X1</td>
<td>69.5</td>
<td>20</td>
<td>1.2</td>
<td>Cam Angle: 4°</td>
</tr>
</tbody>
</table>

**With Handle**

- **Part Number**
  - QLSW150R
  - QLSW150L
  - QLSW200R
  - QLSW200L

- **R**
  - 73
  - 107

- **D2**
  - 20
  - 25

- **Allowable Operating Load (N)***
  - 150
  - 200

- **Weight (g)**
  - 320
  - 710

***) Allowable load to operate the handle

**Without Handle**

- **Part Number**
  - QLSW150NR
  - QLSW150NL
  - QLSW200NR
  - QLSW200NL

- **Weight (g)**
  - 295
  - 660

Note: The handle must be ordered separately.
- [QLSL] STANDARD HANDLES
- [QLTL] ADJUSTABLE-TORQUE HANDLES

---

### How To Use

**Counter-clockwise Clamping**

- **Contact Bolt** BJ732
- **Custom Riser**

**Tip Installation**

When installing a tip on the clamp arm, lock the clamp arm using a wrench to prevent the clamp from receiving any torque.

---

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**Technical Information**

Allowable Loads in Machining of Workpiece Bottom

<table>
<thead>
<tr>
<th>Type</th>
<th>Allowable Force To Workpiece Bottom (Per Clamp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSW150</td>
<td>max. 2.1kN</td>
</tr>
<tr>
<td>QLSW200</td>
<td>max. 2.7kN</td>
</tr>
</tbody>
</table>

**Performance Curve**

QLSL STANDARD HANDLES

The performance curves shown below do not denote the guaranteed performance.

QLTL ADJUSTABLE-TORQUE HANDLES

Use a force gauge when measuring handle-operating loads.

The performance curves shown below do not denote the guaranteed performance.
### Clamp Arm

**Custom Clamp Arm**

Recommended Dimensions

<table>
<thead>
<tr>
<th>Type</th>
<th>L5 (Max. *)</th>
<th>L6</th>
<th>W</th>
<th>H6</th>
<th>L7</th>
<th>d (F8)</th>
<th>R2</th>
<th>B</th>
<th>H7</th>
<th>M3</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSW150</td>
<td>45</td>
<td>15</td>
<td>30</td>
<td>12</td>
<td>32</td>
<td>10</td>
<td>11</td>
<td>1.5</td>
<td>5</td>
<td>M4×0.7</td>
<td>C5</td>
</tr>
<tr>
<td>QLSW200</td>
<td>55</td>
<td>20</td>
<td>40</td>
<td>16</td>
<td>42</td>
<td>16</td>
<td>15</td>
<td>2</td>
<td>6</td>
<td>M5×0.8</td>
<td>C8</td>
</tr>
</tbody>
</table>

*) See page [QLSW-SH] clamping force vs. clamp - arm length

**Installation / Removal**

To install a clamp arm,
1. Fit it onto the shaft getting the stop pin received in the stop-pin slot provided on the clamp-arm bottom.
2. Place the adaptor head onto the shaft getting the shaft fitted into the shaft-receiving pocket in the adaptor head, and then lock the adaptor head using a hex. socket head cap screw.
3. Tighten the ball plungers inside the clamp arm.

To remove the clamp arm, follow the above steps back.

**How to Determine H6 Dimensions**

<table>
<thead>
<tr>
<th>Type</th>
<th>H2</th>
<th>H6</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSW150</td>
<td>46</td>
<td>46–Clamping Height</td>
</tr>
<tr>
<td>QLSW200</td>
<td>63</td>
<td>63–Clamping Height</td>
</tr>
</tbody>
</table>

**Ball Plunger**

<table>
<thead>
<tr>
<th>Type</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSW150</td>
<td>LBSTH4</td>
</tr>
<tr>
<td>QLSW200</td>
<td>LBSTH5</td>
</tr>
</tbody>
</table>

---

**Clamp Arm Customization Examples**

- Low Height Clamping
- Distant Point Clamping
- Plastic Pad Attachment
- Clamping on Narrow Surface
QLSW-SH MACHINABLE CLAMP ARMS FOR STANDARD SWING CLAMPS

Part Number | L  | W  | H  | d (F8) | L1 | M   | Allowable Weight of Clamping Tip (g) * | Weight (g) | Swing Clamps
-------------|----|----|----|--------|----|-----|------------------------------------------|------------|--------------------------
QLSW150-SH   | 60 | 30 | 12 | 10     | 45 | M4  | 100                                      | 150        | QLSW150Series
QLSW200-SH   | 75 | 40 | 16 | 16     | 55 | M5  | 100                                      | 330        | QLSW200Series

*) A clamping tip to mount on the end of the clamp arm must not weigh over 100g.

How To Use

- Use for QLSW clamp arm customization
- Machine to your clamping requirements

**(Clamping Height in Use of Machinable Clamp Arms)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>H1</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSW150-SH</td>
<td>34 **)</td>
</tr>
<tr>
<td>QLSW200-SH</td>
<td>47 ***)</td>
</tr>
</tbody>
</table>

**) Actual clamping height: 33.4 to 34.6 (clamping stroke: 1.2)
***) Actual clamping height: 46.1 to 47.9 (clamping stroke: 1.8)

Notes:
- Clamp arm length denotes L dimensions below.
- Clamping force and strain during clamping denote values gained when the max. allowable load is applied to the handle.

Note

Use within smaller clamping stroke when the clamp arm becomes longer than standard one.
QLRE  RETRACTABLE CLAMPS WITH CAM HANDLE

<table>
<thead>
<tr>
<th>Body/Spindle</th>
<th>Arm/Joint</th>
<th>Cam Handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>S45C steel</td>
<td>SCM435 steel</td>
<td>SCM440 steel</td>
</tr>
<tr>
<td>Quenched and tempered</td>
<td>Quenched and tempered</td>
<td>Quenched and tempered</td>
</tr>
<tr>
<td>Black oxide finish</td>
<td>Black oxide finish</td>
<td>Black oxide finish</td>
</tr>
</tbody>
</table>

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**ONE-TOUCH CLAMPS**

### Performance Curve

- **QLRE150**
- **QLRE100**

**Operating Load (N)**

<table>
<thead>
<tr>
<th>Clamping Force (kN)</th>
<th>0.2</th>
<th>0.4</th>
<th>0.6</th>
<th>0.8</th>
<th>1.0</th>
<th>1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>20</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
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<td></td>
<td></td>
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<td>140</td>
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<tr>
<td>160</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**How To Use**

1. **Unclamped**
   - Load a workpiece.

2. **Clamping Setup**
   - Set the arm in clamping position holding it at the arm pivot.

3. **Clamping**
   - Set the handle down to clamp the workpiece.
   - (For unclamping, follow the above steps back.)

---

### Technical Information

- **Allowable Loads in Machining of Workpiece Bottom**
  - Ensure that any force more than stated below is not applied.

- **Part Number** | **Allowable Force to Workpiece Bottom (per Clamp)** |
  | QLRE100 | max. 5kN |
  | QLRE150 | max. 6kN |

---

**How to Operate**

- **Arm Pivot**

---

[How To Use Diagram]

[Technical Information Diagram]

[Performance Curve Diagram]
QLRE
RETRACTABLE CLAMPS WITH ADJUSTABLE HANDLE

<table>
<thead>
<tr>
<th>Body/Spindle</th>
<th>Arm/Joint</th>
</tr>
</thead>
<tbody>
<tr>
<td>S45C steel</td>
<td>SCM435 steel</td>
</tr>
<tr>
<td>Quenched and tempered</td>
<td>Quenched and tempered</td>
</tr>
<tr>
<td>Black oxide finish</td>
<td>Black oxide finish</td>
</tr>
</tbody>
</table>

Screw clamping mechanism allows for longer clamping stroke and greater clamping force.

Unclamped

Clamping Position

Clamping Stroke

Clamping Throw

Rough Surface Contact

Finished Surface Contact

Spindle

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**How To Use**

**How to Operate**

1. Unclamped
   Load a workpiece.

2. Clamping Setup
   Set the arm in clamping position holding it at the arm pivot.

3. Clamping
   Tighten the adjustable handle to clamp the workpiece.
   (For unclamping, follow the above steps back.)

**Technical Information**

- **Allowable Loads in Machining of Workpiece Bottom**
  Ensure that any force more than stated below is not applied.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Allowable Force to Workpiece Bottom (per Clamp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRE-06</td>
<td>max. 5kN</td>
</tr>
<tr>
<td>QLRE-08</td>
<td>max. 6kN</td>
</tr>
</tbody>
</table>

**Performance Curve**

- **QLRE-06**
- **QLRE-08**
QLRC  THRUST CLAMPS

Light-Duty (Marked with Blue Arrow)  Heavy-Duty (Marked with Black Arrow)

Note: Clamping bar is not included.

<table>
<thead>
<tr>
<th>Body/Lever Arm</th>
<th>Cam</th>
<th>Handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>S45C steel</td>
<td>SCM415 steel Carburized-hardened Black oxide finish</td>
<td>Phenolic plastic Black matte</td>
</tr>
</tbody>
</table>

M-4 Handle-Mounting Holes (provided every 90° angle) (4 options of mounting position)

Unclamping Position

Clamping Position

Blue Arrow for Light-Duty
Black Arrow for Heavy-Duty

Clockwise Clamping

Clamping Position

Unclamping Position

Clamping Stroke

Projection Range

Clamping Bar

QLRCS (To be ordered separately)

Counterclockwise Clamping

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## ONE-TOUCH CLAMPS

### Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Clamping Stroke</th>
<th>D₂</th>
<th>H₁</th>
<th>L₄</th>
<th>W</th>
<th>L₃</th>
<th>H₂</th>
<th>d</th>
<th>P</th>
<th>H</th>
<th>D₁</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
<th>R</th>
<th>B</th>
<th>A</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRC-08</td>
<td>1.5</td>
<td>8</td>
<td>18</td>
<td>20</td>
<td>54</td>
<td>14</td>
<td>8</td>
<td>5.5</td>
<td>40</td>
<td>32</td>
<td>28</td>
<td>26</td>
<td>68.5</td>
<td>40</td>
<td>13</td>
<td>80</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>QLRC-12</td>
<td>2.3</td>
<td>12</td>
<td>25</td>
<td>30</td>
<td>80</td>
<td>20</td>
<td>12</td>
<td>9</td>
<td>60</td>
<td>45</td>
<td>40</td>
<td>36</td>
<td>93.7</td>
<td>55</td>
<td>20</td>
<td>132</td>
<td>50</td>
<td>21</td>
</tr>
</tbody>
</table>

### QLRC-L (Light-Duty)

#### Part Number

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Allowable Operating Load</th>
<th>Clamping Force</th>
<th>Weight</th>
<th>Clamping-Bar Projection Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRC-08R-L</td>
<td>CW</td>
<td>40</td>
<td>0.2</td>
<td>330</td>
<td>QLRC-08100 0~30</td>
</tr>
<tr>
<td>QLRC-08L-L</td>
<td>CCW</td>
<td></td>
<td></td>
<td></td>
<td>QLRC-08125 0~55</td>
</tr>
<tr>
<td>QLRC-12R-L</td>
<td>CW</td>
<td>100</td>
<td>0.7</td>
<td>930</td>
<td>QLRC-12125 0~29</td>
</tr>
<tr>
<td>QLRC-12L-L</td>
<td>CCW</td>
<td></td>
<td></td>
<td></td>
<td>QLRC-12150 0~54</td>
</tr>
</tbody>
</table>

### QLRC (Heavy-Duty)

#### Part Number

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Allowable Operating Load</th>
<th>Clamping Force</th>
<th>Weight</th>
<th>Clamping-Bar Projection Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRC-08R</td>
<td>CW</td>
<td>80</td>
<td>0.5</td>
<td>330</td>
<td>QLRC-08100 0~30</td>
</tr>
<tr>
<td>QLRC-08L</td>
<td>CCW</td>
<td></td>
<td></td>
<td></td>
<td>QLRC-08125 0~55</td>
</tr>
<tr>
<td>QLRC-12R</td>
<td>CW</td>
<td>150</td>
<td>1.4</td>
<td>910</td>
<td>QLRC-12125 0~29</td>
</tr>
<tr>
<td>QLRC-12L</td>
<td>CCW</td>
<td></td>
<td></td>
<td></td>
<td>QLRC-12150 0~54</td>
</tr>
</tbody>
</table>

### How To Use

#### Operation of CW Type (Invert the operation for CCW type.)

1. Unclamped Load or unload a part.
2. Clamping Setup Project the clamping bar until it contacts the part.
3. Clamping Turn the lever handle (120°) to the clamping position.

### Feature

- Spring-loaded clamp that provides constant clamping force.
- Long clamping-bar projection range allows clamping a recessed part.
- Clamping Bars are not included (must be ordered separately).
  (When using your own clamping bar, ensure that the diameter is finished to a h9 or better tolerance)

### Note

When a reaction force (F) becomes greater than a clamping force, the clamping bar slides back to get a part unclamped.

<table>
<thead>
<tr>
<th>Type</th>
<th>Clamp Releasing Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRC-08-L</td>
<td>F&gt;0.2kN</td>
</tr>
<tr>
<td>QLRC-12-L</td>
<td>F&gt;0.7kN</td>
</tr>
<tr>
<td>QLRC-08</td>
<td>F&gt;0.5kN</td>
</tr>
<tr>
<td>QLRC-12</td>
<td>F&gt;1.4kN</td>
</tr>
</tbody>
</table>

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QLRCF - THRUST CLAMPS (Vertical)

Body/Lever Arm | Cam | Handle
--- | --- | ---
S45C steel Black oxide finish | SCM415 steel Carburized-hardened Black oxide finish | Phenolic plastic Black matte

Light-Duty (Marked with Blue Arrow)
Heavy-Duty (Marked with Black Arrow)

Note: Clamping bar is not included.

M1-4 Lever-Arm Mounting Holes (angle between 2 holes: 90°)
(4 options of mounting position)

Unclamping Position
Clamping Position
Clockwise Clamping

Unclamping Position
Clamping Position
Counterclockwise Clamping

<table>
<thead>
<tr>
<th>Type</th>
<th>Clamping Stroke</th>
<th>D2</th>
<th>W</th>
<th>H</th>
<th>L2</th>
<th>M</th>
<th>P</th>
<th>L</th>
<th>L1</th>
<th>L3</th>
<th>D</th>
<th>D1</th>
<th>R</th>
<th>B</th>
<th>A</th>
<th>M8</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRCF-08</td>
<td>1.5</td>
<td>8</td>
<td>57</td>
<td>28</td>
<td>8</td>
<td>M 6x1 (Prepared Hole 5.2)</td>
<td>45</td>
<td>68.5</td>
<td>53</td>
<td>8</td>
<td>26</td>
<td>20</td>
<td>80</td>
<td>28</td>
<td>14</td>
<td>M5x0.8</td>
</tr>
<tr>
<td>QLRCF-12</td>
<td>2.3</td>
<td>12</td>
<td>85</td>
<td>40</td>
<td>12</td>
<td>M10x1.5 (Prepared Hole 8.5)</td>
<td>65</td>
<td>90.7</td>
<td>72</td>
<td>12</td>
<td>36</td>
<td>30</td>
<td>132</td>
<td>50</td>
<td>21</td>
<td>M6x1</td>
</tr>
</tbody>
</table>

CAD Download: https://www.imao.biz/en
### QLRCF-L (Light-Duty)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Allowable Operating Load (N)</th>
<th>Clamping Force (kN)</th>
<th>Weight (g)</th>
<th>Clamping-Bar Projection Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRCF-08R-L</td>
<td>CW</td>
<td>40</td>
<td>0.2</td>
<td>330</td>
<td>QLRC-08100 0~22</td>
</tr>
<tr>
<td>QLRCF-08L-L</td>
<td>CCW</td>
<td>80</td>
<td>0.5</td>
<td>330</td>
<td>QLRC-08125 0~47</td>
</tr>
<tr>
<td>QLRCF-12R-L</td>
<td>CW</td>
<td>150</td>
<td>0.7</td>
<td>930</td>
<td>QLRC-12125 0~20</td>
</tr>
<tr>
<td>QLRCF-12L-L</td>
<td>CCW</td>
<td>150</td>
<td>1.4</td>
<td>950</td>
<td>QLRC-12150 0~45</td>
</tr>
</tbody>
</table>

### QLRCF (Heavy-Duty)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Allowable Operating Load (N)</th>
<th>Clamping Force (kN)</th>
<th>Weight (g)</th>
<th>Clamping-Bar Projection Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRCF-08R</td>
<td>CW</td>
<td>80</td>
<td>0.5</td>
<td>330</td>
<td>QLRC-08100 0~22</td>
</tr>
<tr>
<td>QLRCF-08L</td>
<td>CCW</td>
<td>80</td>
<td>0.7</td>
<td>330</td>
<td>QLRC-08125 0~47</td>
</tr>
<tr>
<td>QLRCF-12R</td>
<td>CW</td>
<td>150</td>
<td>1.4</td>
<td>950</td>
<td>QLRC-12125 0~20</td>
</tr>
<tr>
<td>QLRCF-12L</td>
<td>CCW</td>
<td>150</td>
<td>1.4</td>
<td>950</td>
<td>QLRC-12150 0~45</td>
</tr>
</tbody>
</table>

### Feature

- Can be used in both vertical and horizontal clamping applications.
- The horizontal style is also available. (see page for QLRC)
- Spring-loaded clamp that provides constant clamping force.
- Long clamping-bar projection range allows clamping a recessed part.
  (When using your own clamping bar, ensure that the diameter is finished to a h9 or better tolerance)

### How To Use

■ Operation of CW Type (Invert the operation for CCW type.)

1. Unclamped Load or unload a part.

2. Clamping Setup Project the clamping bar until it contacts the part.

3. Clamping Turn the lever handle (120°) to the clamping position.

■ Application Example (Vertical Clamping)

### Note

When a reaction force (F) becomes greater than a clamping force, the clamping bar slides back to get a part unclamped.

<table>
<thead>
<tr>
<th>Type</th>
<th>Clamp Releasing Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRCF-08-L</td>
<td>F &gt; 0.2kN</td>
</tr>
<tr>
<td>QLRCF-12-L</td>
<td>F &gt; 0.7kN</td>
</tr>
<tr>
<td>QLRCF-08</td>
<td>F &gt; 0.5kN</td>
</tr>
<tr>
<td>QLRCF-12</td>
<td>F &gt; 1.4kN</td>
</tr>
</tbody>
</table>

■ How to Mount

- Face Mounting
  (Use cap screws with one-size smaller threads than mounting-hole threads.)

- Back Mounting
  (Use cap screws with threads of the same size as mounting-hole threads.)
QLRCS CLAMPING BARS

How To Use

- QLRCS THRUST CLAMPS
- QLRCP THRUST CLAMPS (Vertical)
- Can be cut shorter to a desired length.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>D₁ (mm)</th>
<th>L</th>
<th>L₁</th>
<th>D</th>
<th>W</th>
<th>M</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLRCS-08100</td>
<td>8</td>
<td>100</td>
<td>19</td>
<td>20</td>
<td>7</td>
<td>M4×0.7 Depth 8</td>
<td>50</td>
</tr>
<tr>
<td>QLRCS-08125</td>
<td>125</td>
<td>125</td>
<td>19</td>
<td>20</td>
<td>7</td>
<td>M4×0.7 Depth 8</td>
<td>60</td>
</tr>
<tr>
<td>QLRCS-08150</td>
<td>150</td>
<td>150</td>
<td>19</td>
<td>20</td>
<td>7</td>
<td>M4×0.7 Depth 8</td>
<td>70</td>
</tr>
<tr>
<td>QLRCS-12125</td>
<td>12</td>
<td>125</td>
<td>24</td>
<td>25</td>
<td>10</td>
<td>M6×1 Depth 12</td>
<td>130</td>
</tr>
<tr>
<td>QLRCS-12150</td>
<td>150</td>
<td>150</td>
<td>24</td>
<td>25</td>
<td>10</td>
<td>M6×1 Depth 12</td>
<td>150</td>
</tr>
<tr>
<td>QLRCS-12200</td>
<td>200</td>
<td>150</td>
<td>24</td>
<td>25</td>
<td>10</td>
<td>M6×1 Depth 12</td>
<td>190</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arm</th>
<th>Ball Knob</th>
</tr>
</thead>
<tbody>
<tr>
<td>S45C steel</td>
<td>ABS resin Black</td>
</tr>
</tbody>
</table>

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QLSCH CAM EDGE CLAMPS

<table>
<thead>
<tr>
<th>Type</th>
<th>Body</th>
<th>Jaw/Handle Shaft</th>
<th>Handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSCH-L</td>
<td>S45C steel</td>
<td>S45C steel Quenched &amp; tempered</td>
<td>SCM440 steel Quenched &amp; tempered Electroless nickel plated</td>
</tr>
<tr>
<td></td>
<td>Black oxide finished</td>
<td>Black oxide finished</td>
<td>SCM440 steel Quenched &amp; tempered</td>
</tr>
<tr>
<td>QLSCH</td>
<td></td>
<td>Precision ground</td>
<td>Black oxide finished</td>
</tr>
</tbody>
</table>

QLSCH-L (Light-Duty)

QLSCH (Standard)

2-M1 Hex-Socket Setscrew (Sharp-pointed)

40° Clamping Stroke

80° Advance Throw

10° Clamping Position

5° Handle

5° Clamping Position

180° Clamping Throw

180° Clamping End

Cam Handle

Recommended Clamping Position

Unclamping Position

Unclamping Position 1

Unclamping Position 2

H

H6

L

L1

L2

L3

L4

L5

M

P1

P

R

W

W1

W2

H1

H2

H3

H4

H5

H6

A

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## Light-Duty

### Standard

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A</th>
<th>Clamping Stroke</th>
<th>Handle Number</th>
<th>Operating Load (N) ***</th>
<th>Clamping Force (kN)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSCH32</td>
<td>19</td>
<td>1.6</td>
<td>QLCA-06</td>
<td>150</td>
<td>2</td>
<td>620</td>
</tr>
<tr>
<td>QLSCH40</td>
<td>24</td>
<td>2.2</td>
<td>QLCA-08</td>
<td>200</td>
<td>3</td>
<td>1360</td>
</tr>
</tbody>
</table>

### Feature

- The cam handle allows fast clamping in single operation.
- Spring-loaded light-duty style allows distributing constant clamping force.
- Standard style allows adjusting clamping force depending on operating loads.
- Precision-ground jaw is perfect for clamping the workpiece on its finished surface.
- In clamping, the jaw provides downward force to prevent part lift.

### How To Use

#### Standard

Turning the cam handle allows the jaw to advance to the workpiece for clamping. For clamping forces, see the performance curve.

#### Light-Duty

Turning the handle to the clamping position allows clamping the workpiece with constant clamping force.

### Installation Instructions for Light-Duty Style

The steps below must be followed so that constant clamping force can be distributed within the clamping stroke.

1. Set the handle to the clamp starting position.
2. Contact the jaw to the workpiece.
3. Fasten the clamp with hex socket-head cap screws, and then turn the handle to the clamping position for clamping.

---

### Performance Curve

![Performance Curve Graph](https://www.imao.biz/en)

- Standard
- QLSCH40
- QLSCH32

---

### Related Product

- Stronger type without handle is available.
- **QLSCH-H** SIDE CLAMPS

---

### Changing Handle Position

The handle shaft has 4 countersinks which are provided every 90° for 4 options of handle position.

- 4-countersinks (every 90°)
- 2-Hex Socket Setscrew (Sharp-pointed)

Note: The setscrews must be tightened into 2 countersinks.
QLSCL-R LOW-PROFILE CAM EDGE CLAMPS

Body | Jaw/Cam | Handle
---|---|---
S45C steel Black oxide finish | SCM440 steel Quenched and tempered Black oxide finish |
S45C steel Quenched and tempered Black oxide finish

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Stroke</th>
<th>W1</th>
<th>W2</th>
<th>H3</th>
<th>H4</th>
<th>L2</th>
<th>W</th>
<th>L</th>
<th>H2</th>
<th>d</th>
<th>P</th>
<th>H5</th>
<th>L1</th>
<th>Clamping Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSCL10R</td>
<td>1</td>
<td>38</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td>15</td>
<td>45</td>
<td>33.5</td>
<td>10</td>
<td>5.2</td>
<td>36</td>
<td>5</td>
<td>30.5</td>
<td>Spiral Cam Cam Angle: 4°</td>
</tr>
<tr>
<td>QLSCL15R</td>
<td>2</td>
<td>60</td>
<td>12</td>
<td>9</td>
<td>5</td>
<td>22</td>
<td>70</td>
<td>50</td>
<td>15</td>
<td>8.2</td>
<td>55</td>
<td>7</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>H</th>
<th>D</th>
<th>H1</th>
<th>R</th>
<th>A</th>
<th>B</th>
<th>M1</th>
<th>Allowable Operating Load (N)</th>
<th>Clamping Force (kN)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSCL10R</td>
<td>30</td>
<td>13</td>
<td>63</td>
<td>12</td>
<td>8</td>
<td></td>
<td>M4×0.7-4L</td>
<td>170</td>
<td>4</td>
<td>130</td>
</tr>
<tr>
<td>QLSCL15R</td>
<td>46</td>
<td>19</td>
<td>100</td>
<td>18</td>
<td>12</td>
<td></td>
<td>M5×0.8-5L</td>
<td>280</td>
<td>6</td>
<td>440</td>
</tr>
</tbody>
</table>

*) Allowable load to operate the handle
### Feature

Designed to prevent part lift.

### How To Use

Turning the handle allows the cam to project the jaw for clamping. When the handle is turned back for unclamping, the loaded spring lets the jaw return to the original position.

### Performance Curve

The handle has the dodecagonal socket to allow changing the handle position by 30°

### Note

Ensure that mounting surfaces are finished to $\frac{6.3}{6.3}$ (6.3a) or better, without any scratches or dents.

### QLSCL-NR LOW-PROFILE CAM EDGE CLAMPS

Without handle type is available.
# CP135-L SPIRAL CAM CLAMPS

![Image of CP135-L and CP135-AL handles](image)

**Key Point**
Space saving. Long clamping stroke.

<table>
<thead>
<tr>
<th>Spiral Cam Clamp</th>
<th>Handle</th>
<th>Clamping Plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM440 steel</td>
<td>SCM440 steel</td>
<td>SUS304CSP stainless steel</td>
</tr>
<tr>
<td>Black oxide finished</td>
<td>Black oxide finish</td>
<td></td>
</tr>
<tr>
<td>HRC33-39</td>
<td>HRC30-35</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>S</th>
<th>L</th>
<th>L₁</th>
<th>D</th>
<th>M</th>
<th>H₁</th>
<th>L₃</th>
<th>D₁</th>
<th>H₂</th>
<th>R</th>
<th>H₃</th>
<th>A</th>
<th>Allowable Operating Load (N)</th>
<th>Clamping Force (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP135-08001</td>
<td>2.2</td>
<td>6</td>
<td>8.2</td>
<td>12</td>
<td>M 8×1.25</td>
<td>6</td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>25</td>
<td>1.5</td>
<td>8.5</td>
<td>50</td>
<td>0.3</td>
</tr>
<tr>
<td>CP135-10001</td>
<td>2.5</td>
<td>7</td>
<td>9.5</td>
<td>14</td>
<td>M10×1.5</td>
<td>7</td>
<td>15</td>
<td>12</td>
<td>11</td>
<td>30</td>
<td>1.8</td>
<td>10</td>
<td>70</td>
<td>0.5</td>
</tr>
<tr>
<td>CP135-12001</td>
<td>2.9</td>
<td>8</td>
<td>10.9</td>
<td>16</td>
<td>M12×1.75</td>
<td>8</td>
<td>18</td>
<td>14</td>
<td>13</td>
<td>40</td>
<td>2.2</td>
<td>12</td>
<td>100</td>
<td>0.7</td>
</tr>
</tbody>
</table>

### CP135-AL (With Clamping Plate)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>H</th>
<th>W₁</th>
<th>L₂</th>
<th>Clamping Plates</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP135-08001AL</td>
<td>7</td>
<td>12</td>
<td>15.5</td>
<td>CP135-08001P</td>
<td>19</td>
</tr>
<tr>
<td>CP135-10001AL</td>
<td>8</td>
<td>14</td>
<td>18</td>
<td>CP135-10001P</td>
<td>32</td>
</tr>
<tr>
<td>CP135-12001AL</td>
<td>9</td>
<td>16</td>
<td>20</td>
<td>CP135-12001P</td>
<td>54</td>
</tr>
</tbody>
</table>

### CP135-L (Without Clamping Plate)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP135-08001L</td>
<td>17</td>
</tr>
<tr>
<td>CP135-10001L</td>
<td>30</td>
</tr>
<tr>
<td>CP135-12001L</td>
<td>51</td>
</tr>
</tbody>
</table>

**CAD Download:** [https://www.imao.biz/en](https://www.imao.biz/en)
**Feature**

- The spiral cam provides quick and powerful clamping.
- The simple design keeps cost low and the small size allows more workpieces per load.
- Clamping Plate avoids marring workpiece surfaces.

**How To Use**

### Mounting Hole Dimension

**With Clamping Plate**

![Diagram of mounting hole with clamping plate]

**Without Clamping Plate**

![Diagram of mounting hole without clamping plate]

<table>
<thead>
<tr>
<th>Type</th>
<th>A</th>
<th>S</th>
<th>S1</th>
<th>S2</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP135-08001</td>
<td>7.1</td>
<td>2.2</td>
<td>1.1</td>
<td>1.1</td>
<td>M 8×1.25</td>
</tr>
<tr>
<td>CP135-10001</td>
<td>8.3</td>
<td>2.5</td>
<td>1.3</td>
<td>1.2</td>
<td>M10×1.5</td>
</tr>
<tr>
<td>CP135-12001</td>
<td>9.5</td>
<td>2.9</td>
<td>1.5</td>
<td>1.4</td>
<td>M12×1.75</td>
</tr>
</tbody>
</table>

Note: Dimension A and A+1 are the recommended distances between the mounting hole and the end of the workpiece.

### How to Install Handle

![Diagram of handle installation]

The handle position is adjustable by 60°.

### Note

- Tighten Spiral Cam Clamp fully and loosen it about one turn. Then mount a workpiece.
- Tighten clockwise to clamp the workpiece.
- Mount a stop on the right side of the workpiece.

**CP135-P Clamping Plates**

![Diagram of clamping plates]

**CP135 SPIRAL CAM CLAMPS**

![Diagram of spiral cam clamps]

Without handle type is available.
QLSC CAM EDGE CLAMPS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>H₂</th>
<th>S</th>
<th>W</th>
<th>W₁</th>
<th>H₃</th>
<th>L₁</th>
<th>L</th>
<th>L₂</th>
<th>H₄</th>
<th>M</th>
<th>L₃</th>
<th>H₁</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSC-08R</td>
<td>CW</td>
<td>20</td>
<td>3.8</td>
<td>32</td>
<td>10</td>
<td>8</td>
<td>28.5</td>
<td>44</td>
<td>26.5</td>
<td>7</td>
<td>M 8×1.25</td>
<td>13</td>
<td>20</td>
<td>38</td>
</tr>
<tr>
<td>QLSC-08L</td>
<td>CCW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QLSC-12R</td>
<td>CW</td>
<td>30</td>
<td>5.5</td>
<td>46</td>
<td>14</td>
<td>12</td>
<td>39.5</td>
<td>62</td>
<td>37.5</td>
<td>11</td>
<td>M12×1.75</td>
<td>17</td>
<td>30</td>
<td>55</td>
</tr>
<tr>
<td>QLSC-12L</td>
<td>CCW</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>R</th>
<th>D</th>
<th>W₂</th>
<th>Allowable Operating Load (N)</th>
<th>Clamping Force (kN)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSC-08R</td>
<td>100</td>
<td>20</td>
<td>6</td>
<td>250</td>
<td>2.5</td>
<td>195</td>
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<tr>
<td>QLSC-08L</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QLSC-12R</td>
<td>146</td>
<td>25</td>
<td>10</td>
<td>400</td>
<td>5</td>
<td>600</td>
</tr>
<tr>
<td>QLSC-12L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Feature**
Enables one-touch clamping / unclamping of workpiece.

**How To Use**
Secure the body and the flanged collar with a socket head cap screw, and then turn the handle to clamp a workpiece.

**Related Product**
[B162] CAM EDGE CLAMPS
Without handle type is available.

CAD Download: https://www.imao.biz/en
QLCP CAM PUSH CLAMPS

**Features**

- **Body**: S45C steel
- **Piston / Pin**: S45C steel
- **Cam Handle**: SCM440 steel
- **Finish**: Black oxide finish

**Performance Curve**

![Performance Curve Image]

**How To Use**

1. **Turning the handle in the clamping direction** lets the cam work to project the piston for clamping.
2. **Turning the handle back** lets the spring work to retract the piston for unclamping.

**Part Numbers and Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Clamping Stroke</th>
<th>Clamping Force (kN)</th>
<th>Clamping Mechanism</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLCP080R</td>
<td>CW</td>
<td>1.2</td>
<td>80</td>
<td>0.9</td>
<td>130</td>
</tr>
<tr>
<td>QLCP080L</td>
<td>CCW</td>
<td>1.2</td>
<td>150</td>
<td>2.4</td>
<td>350</td>
</tr>
</tbody>
</table>

*) Allowable load to operate the cam handle

**Feature**

The tapped hole in the piston allows a tip to be fitted to the push clamp.
QLPCT PRECISION THRUST CLAMPS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Force(N) Initial - Final</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPCT20-07</td>
<td>55~ 85</td>
<td>170</td>
</tr>
<tr>
<td>QLPCT20-13</td>
<td>90~175</td>
<td></td>
</tr>
</tbody>
</table>

*) The minimum clamping force at clamping end position, and the maximum clamping force at clamp starting position.

CAD Download : https://www.imao.biz/en
**Feature**

- Precision Thrust Clamps can clamp at the same position by precise projection of clamping bars.
- Spring-loaded clamp provides constant clamping force.
- The handle clicks to indicate completed clamping.

**Note**

**How to Install Attachments**

When installing an attachment on the clamping bar, lock the clamping bar using a wrench to prevent it from receiving any torque.

**How to Replace Handle**

The handle is replaceable. When installing/removing a handle, do not apply torque to the Linkage End.

**Technical Information**

**Allowable Load and Accuracy of Clamping Bar**

- Allowable Weight of Attachments on Clamping Bar: 500g
- Deflection: ±0.05
- Allowable Rotation Torque: ±0.5N·m
- Rotation Accuracy: ±0.1° (Under no load)
  ±1° (Under load at allowable rotation torque)

**How To Use**

For clamping a recessed part / clamping with constant clamping force

For press-fit fixtures and conduction test fixtures that require precise projection of clamping bars.

**CAD Download**: [https://www.imao.biz/en](https://www.imao.biz/en)
QLPD PULL CLAMPS (Standard)

CCW Clamping With Handle

CW Clamping Without Handle

CW Clamping With Handle

Note: Clamping Pins or Screws must be ordered separately.

Key Point
Easy clamping without screws.

Counterclockwise Clamping

Clockwise Clamping

Recommended Clamping Position

Recommended Clamping Position

Unclamping Position

Unclamping Position

Clamping End

Clamping End

Throw

Throw

M1-3 Handle Mounting Holes
(Angle between 2 holes: 30°)

3 Options of Handle Mounting Position

\( \phi 0.02 \) A

Locating-Pin Hole

CAD Download: https://www.imao.biz/en
**ONE-TOUCH CLAMPS**

<table>
<thead>
<tr>
<th>Type</th>
<th>S</th>
<th>d  (G6)</th>
<th>d1 (F7)</th>
<th>H2</th>
<th>D1 (±0.01)</th>
<th>D</th>
<th>θ</th>
<th>Dp</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPD150</td>
<td>1.5</td>
<td>8</td>
<td>5</td>
<td>10</td>
<td>13.5</td>
<td>40</td>
<td>90°</td>
<td>18</td>
<td>M4×0.7 Depth 8</td>
</tr>
<tr>
<td>QLPD200</td>
<td>2</td>
<td>12</td>
<td>8</td>
<td>13</td>
<td>18</td>
<td>50</td>
<td>110°</td>
<td>25</td>
<td>M6×1 Depth 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>M1</th>
<th>H1</th>
<th>Clamping Force (kN)</th>
<th>Clamping Mechanism</th>
<th>Recommended Workpiece Thickness Tolerance **)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPD150</td>
<td>M5×0.8</td>
<td>24.5</td>
<td>0.9</td>
<td>Spiral Cam</td>
<td>±0.3</td>
</tr>
<tr>
<td>QLPD200</td>
<td>M6×1</td>
<td>30.7</td>
<td>2.5</td>
<td>Cam Angle: 4°</td>
<td>±0.5</td>
</tr>
</tbody>
</table>

**With Handle**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>R</th>
<th>D2</th>
<th>Allowable Operating Load(N) ***</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPD150R</td>
<td>CW</td>
<td>76.5</td>
<td>20</td>
<td>150</td>
<td>245</td>
</tr>
<tr>
<td>QLPD150L</td>
<td>CCW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QLPD200R</td>
<td>CW</td>
<td>111.5</td>
<td>25</td>
<td>200</td>
<td>470</td>
</tr>
<tr>
<td>QLPD200L</td>
<td>CCW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Without Handle ****)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPD150NR</td>
<td>CW</td>
<td>220</td>
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<tr>
<td>QLPD150NL</td>
<td>CCW</td>
<td></td>
</tr>
<tr>
<td>QLPD200NR</td>
<td>CW</td>
<td>420</td>
</tr>
<tr>
<td>QLPD200NL</td>
<td>CCW</td>
<td></td>
</tr>
</tbody>
</table>

*) Grip length of QLPD-X Clamping Pin (workpiece thickness)

**) Maintaining these recommended tolerances allows minimizing the variation of handle position in the clamping mode in clamping with the use of the Clamping Pin.

***) Allowable load to operate the handle.

****) The handle must be ordered separately.

- [QLSU] STANDARD HANDLES
- [QLTL] ADJUSTABLE-TORQUE HANDLES

---

**How To Use**

1. Basic Method

2. Method for clamping and locating a workpiece at a time Give an accuracy shown below to the hole spacing to generate a locating accuracy of ±0.08.

---

Continuing on Next Page
**Technical Information**

- Allowable Loads in Machining of Workpiece Bottom
  
  Ensure that a force more than indicated below is not applied to the workpiece bottom.

<table>
<thead>
<tr>
<th>Type</th>
<th>Allowable Force To Workpiece Bottom (Per Clamp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPD150</td>
<td>max. 2 kN</td>
</tr>
<tr>
<td>QLPD200</td>
<td>max. 5.5kN</td>
</tr>
</tbody>
</table>

**Performance Curve**

- QLSL STANDARD HANDLES
  
  The performance curves shown below do not denote the guaranteed performance.

- QLTL ADJUSTABLE-TORQUE HANDLES
  
  Use a force gauge when measuring handle-operating loads.

  The performance curves shown below do not denote the guaranteed performance.

  **Pull Clamps (QLPD150)**
  
  ![Graph]

  When clamping force is 0.5(kN), load-setting distance is 5mm, and handle operating load is 120N.

  **Pull Clamps (QLPD200)**
  
  ![Graph]
QLPD-X

CLAMPING PINS (Standard)

On Request

QLPD Series

M-Hex. Socket Setscrew

Knurled Head

L dimension is adjustable by ±1mm to fit actual workpiece thickness.

<table>
<thead>
<tr>
<th>Shank</th>
<th>Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM435 steel</td>
<td>$45C steel</td>
</tr>
<tr>
<td>Induction hardened (taper seat)</td>
<td>Quenched and tempered</td>
</tr>
<tr>
<td>Precision ground</td>
<td>Black oxide finish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>D2 (f7)</th>
<th>D1 (f7)</th>
<th>L1 (By 0.1mm)</th>
<th>D</th>
<th>L2</th>
<th>L1</th>
<th>D3</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPD150-5×5-5</td>
<td>5</td>
<td>5</td>
<td>3≤L≤50</td>
<td>10</td>
<td>10</td>
<td>17</td>
<td>3</td>
<td>M3×0.5-4L</td>
</tr>
<tr>
<td>QLPD150-5×6-6</td>
<td>6</td>
<td>6</td>
<td></td>
<td>10</td>
<td>10</td>
<td>17</td>
<td>3</td>
<td>M3×0.5-4L</td>
</tr>
<tr>
<td>QLPD200-8×8-8</td>
<td>8</td>
<td>8</td>
<td>4≤L≤80</td>
<td>16</td>
<td>15</td>
<td>22</td>
<td>4.3</td>
<td>M5×0.8-5L</td>
</tr>
<tr>
<td>QLPD200-8×10-10</td>
<td>10</td>
<td>10</td>
<td></td>
<td>16</td>
<td>15</td>
<td>22</td>
<td>4.3</td>
<td>M5×0.8-5L</td>
</tr>
</tbody>
</table>

Part Number

<table>
<thead>
<tr>
<th>M1</th>
<th>Weight (g)</th>
<th>Pull Clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3×0.5</td>
<td>min. 8~max.16</td>
<td>QLPD150Series</td>
</tr>
<tr>
<td>M3×0.5</td>
<td>min. 8~max.19</td>
<td>QLPD150Series</td>
</tr>
<tr>
<td>M5×0.8</td>
<td>min.30~max.60</td>
<td>QLPD200Series</td>
</tr>
<tr>
<td>M5×0.8</td>
<td>min.31~max.77</td>
<td>QLPD200Series</td>
</tr>
</tbody>
</table>

*) For ordering, specify workpiece thickness.

How To Use

Note

The length of L dimension should be decided depending on the workpiece thickness.

Ordering Example

QLPD150-5×5-10.5

Shank Size

L Dim.

※ QLPD150-5×5 for 10.5mm thickness workpiece.
QLPD-M CLAMPING SCREWS (Standard)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>D1</th>
<th>M</th>
<th>L1</th>
<th>L</th>
<th>D</th>
<th>L2</th>
<th>D2</th>
<th>W</th>
<th>L3</th>
<th>Weight (g)</th>
<th>Pull Clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPD150-M 5</td>
<td>5</td>
<td>M5×0.8</td>
<td>6</td>
<td>17</td>
<td>8</td>
<td>1.2</td>
<td>3</td>
<td>4</td>
<td>2.5</td>
<td>3</td>
<td>QLPD150</td>
</tr>
<tr>
<td>QLPD150-M 6</td>
<td>6</td>
<td>M6×1</td>
<td>7</td>
<td>22</td>
<td>12</td>
<td>1.5</td>
<td>4.3</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>QLPD200</td>
</tr>
<tr>
<td>QLPD200-M 8</td>
<td>8</td>
<td>M8×1.25</td>
<td>9</td>
<td>22</td>
<td>12</td>
<td>1.5</td>
<td>4.3</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td>QLPD150</td>
</tr>
<tr>
<td>QLPD200-M10</td>
<td>10</td>
<td>M10×1.5</td>
<td>11</td>
<td>22</td>
<td>12</td>
<td>1.5</td>
<td>4.3</td>
<td>6</td>
<td>4</td>
<td>13</td>
<td>QLPD200</td>
</tr>
</tbody>
</table>

Note
Custom Clamping Screws (different screw thread sizes) are available on request.

How To Use

Recommended Spacing Tolerance in Use of Clamping Screws

- Trapped/Hole Spacing: ±0.2

Locating Pin Workpiece
## Advantage of PULL CLAMPS

### Conventional Method

**Conventional**
- Uses hex socket screw

![Image of Conventional Method](image1)

Requires wrench & screw in addition to block for clamping.

### QLPD PULL CLAMP

**Uses dedicated clamping pin**

![Image of QLPD PULL CLAMP](image2)

Simply turn the handle after inserting the pin.

= Setup time becomes 1/3!!

### Conventional Method

**Conventional**
- Uses hex head screw

![Image of Conventional Method](image3)

Require to operate from bottom.

### QLPD PULL CLAMPS

**Use dedicated clamping screw**

![Image of QLPD PULL CLAMPS](image4)

Simply turn the handle after inserting the clamping screw mounted on the workpiece.

= Setup time becomes 1/3!!

---

**Advantage of PULL CLAMPS**

- **Wrench**
- **Hex Socket Screw**
- **CLAMPING PIN**
- **PULL CLAMP**
- **Workpiece**
- **Spanner**
- **Hex Head Screw**
- **CLAMPING SCREW**
- **PLUG-IN HANDLE**

**PLUG-IN HANDLE ADAPTOR** type enables machining from 5 sides.

---

**CAD Download:** [https://www.imao.biz/en](https://www.imao.biz/en)
QLPDH PULL CLAMPS (Heavy)

★ Key Point
Easy clamping without screws.

Note: Clamping Pins or Screws must be ordered separately.

<table>
<thead>
<tr>
<th>Body</th>
<th>Handle Shank</th>
<th>Handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM440 steel</td>
<td>S45C steel</td>
<td>Phenolic plastic</td>
</tr>
<tr>
<td>Quenched and tempered</td>
<td>Quenched and tempered</td>
<td>Black oxide finish</td>
</tr>
<tr>
<td>Black oxide finish</td>
<td></td>
<td>Black</td>
</tr>
</tbody>
</table>

Counterclockwise Clamping

Clockwise Clamping

- The handle can be removed by loosening the locking screw.
- To keep the handle mounted permanently, make sure that the locking screw is fully tightened.
- 3 options of handle mounting position.
**Technical Information**

How to Locate Workpiece

1. Basic Method

2. Method for clamping and locating a workpiece at a time

   Give an accuracy shown below to the hole spacing to generate a locating accuracy of ±0.08.

   ![Diagram of clamping and locating a workpiece](image)

   (Clamping-Pin Hole Spacing)

   Clamping-Pin Hole (F7)

   See QLPDH-X Clamping Pins

   ±0.02

**Performance Curve**

![Performance Curve Graph](image)

**How To Use**

**Related Product**

- QLPDH-X CLAMPING PINS (Heavy)
- QLPDH-M CLAMPING SCREWS (Heavy)

**Part Number**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Direction</th>
<th>S</th>
<th>d</th>
<th>H</th>
<th>D1</th>
<th>H (±0.01)</th>
<th>D</th>
<th>M</th>
<th>Dp</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPDH400R</td>
<td>CW</td>
<td>2</td>
<td>12</td>
<td>10</td>
<td>28</td>
<td>50</td>
<td>65</td>
<td>M8×1.25</td>
<td>14</td>
<td>40</td>
</tr>
<tr>
<td>QLPDH400L</td>
<td>CCW</td>
<td>2.5</td>
<td>16</td>
<td>12</td>
<td>34</td>
<td>63</td>
<td>80</td>
<td>M10×1.5</td>
<td>18</td>
<td>50</td>
</tr>
</tbody>
</table>

* ) Grip length of QLPDH-X Clamping Pin (workpiece thickness)

**) Allowable load to operate the handle

****) Maintaining these recommended tolerances allows minimizing the variation of handle position in the clamping mode in clamping with the use of the Clamping Pin in.

****) QLPDH500 is available only with Clockwise Clamping.

**Part Number**

<table>
<thead>
<tr>
<th>Part Number</th>
<th></th>
<th>D2</th>
<th>H1</th>
<th>Allowable Operating Load (N) **</th>
<th>Clamping Force (kN)</th>
<th>Clamping Mechanism</th>
<th>Recommended Workpiece Thickness Tolerance ***</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPDH400R</td>
<td>26</td>
<td>32.8</td>
<td>600</td>
<td>6</td>
<td>Spiral Cam Cam Angle: 4°</td>
<td>±0.5</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>QLPDH400L</td>
<td>28</td>
<td>41.1</td>
<td>600</td>
<td>8</td>
<td>Spiral Cam Cam Angle: 4°</td>
<td>±0.8</td>
<td>2.2</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

- Ensure that a force more than indicated below is not applied to the workpiece bottom.

<table>
<thead>
<tr>
<th>Type</th>
<th>Allowable Force To Workpiece Bottom (Per Clamp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPDH400</td>
<td>max. 8kN</td>
</tr>
<tr>
<td>QLPDH500</td>
<td>max. 14kN</td>
</tr>
</tbody>
</table>

**Related Product**

- QLPDH-X CLAMPING PINS (Heavy)
- QLPDH-M CLAMPING SCREWS (Heavy)
QLPDH-X  CLAMPING PINS (Heavy)

On Request

**Shank**
- SCM435 steel
- Induction hardened (taper seat)
- Precision ground

**Head**
- S45C steel
- Quenched and tempered
- Black oxide finish

<table>
<thead>
<tr>
<th>Part Number</th>
<th>D₂ (F7)</th>
<th>D₁ (F7)</th>
<th>L¹ (By 0.1mm)</th>
<th>D</th>
<th>L₂</th>
<th>L₁</th>
<th>L₃</th>
<th>D₃</th>
<th>M</th>
<th>M₁</th>
<th>Weight (g)</th>
<th>Pull Clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPDH400-12-(L Dim. In mm)</td>
<td>12</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>18</td>
<td>23</td>
<td>38</td>
<td>21.5</td>
<td>6.5</td>
<td>M 8×1.25-8L</td>
<td>min. 70~max.160</td>
<td>QLPDH400R</td>
</tr>
<tr>
<td>QLPDH400-16-(L Dim. In mm)</td>
<td>16</td>
<td>16</td>
<td>20</td>
<td>16</td>
<td>24</td>
<td>30</td>
<td>48</td>
<td>28</td>
<td>9.5</td>
<td>M10×1.5-10L</td>
<td>min.160~max.350</td>
<td>QLPDH500R</td>
</tr>
<tr>
<td>QLPDH500-16-(L Dim. In mm)</td>
<td>16</td>
<td>16</td>
<td>20</td>
<td>16</td>
<td>24</td>
<td>30</td>
<td>48</td>
<td>28</td>
<td>9.5</td>
<td>M10×1.5-10L</td>
<td>min.160~max.350</td>
<td>QLPDH500R</td>
</tr>
<tr>
<td>QLPDH500-20-(L Dim. In mm)</td>
<td>20</td>
<td>20</td>
<td>30</td>
<td>20</td>
<td>30</td>
<td>48</td>
<td>48</td>
<td>38</td>
<td>9.5</td>
<td>M10×1.5-10L</td>
<td>min.160~max.350</td>
<td>QLPDH500R</td>
</tr>
</tbody>
</table>

*) For ordering, specify workpiece thickness.

**How To Use**

**Ordering Example**

**QLPDH400-12-20.5**

Shank Size

L Dim.

※ QLPD400-12 for 20.5mm thickness workpiece.

**Note**

The length of L dimension should be decided depending on the workpiece thickness.

CAD Download: https://www.imao.biz/en
QLPDH-M CLAMPING SCREWS(Heavy)

**Note**
Custom Clamping Screws (different screw thread sizes) are available on request.

**How To Use**
- Recommended Spacing Tolerance in Use of Clamping Screws

<table>
<thead>
<tr>
<th>Part Number</th>
<th>D1</th>
<th>M</th>
<th>L1</th>
<th>L</th>
<th>D</th>
<th>L2</th>
<th>L3</th>
<th>D2</th>
<th>W</th>
<th>L4</th>
<th>Weight (g)</th>
<th>Pull Clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPDH400-M12</td>
<td>12</td>
<td>M12×1.75</td>
<td>13</td>
<td>38</td>
<td>20</td>
<td>21.5</td>
<td>2</td>
<td>6.5</td>
<td>10</td>
<td>4</td>
<td>40</td>
<td>QLPDH400R</td>
</tr>
<tr>
<td>QLPDH400-M16</td>
<td>12</td>
<td>M16×2</td>
<td>17</td>
<td>48</td>
<td>25</td>
<td>28</td>
<td>2.5</td>
<td>9.5</td>
<td>13</td>
<td>5</td>
<td>90</td>
<td>QLPDH500R</td>
</tr>
<tr>
<td>QLPDH500-M16</td>
<td>16</td>
<td>M20×2.5</td>
<td>21</td>
<td>48</td>
<td>25</td>
<td>28</td>
<td>2.5</td>
<td>9.5</td>
<td>13</td>
<td>5</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>QLPDH500-M20</td>
<td>26</td>
<td>M20×2.5</td>
<td>21</td>
<td>56</td>
<td>30</td>
<td>32</td>
<td>3.0</td>
<td>12.5</td>
<td>15</td>
<td>5</td>
<td>140</td>
<td></td>
</tr>
</tbody>
</table>

**Body**
- SCM435 steel
- Quenched and tempered
- Black oxide finish

CAD Download: https://www.imao.biz/en

IMAOTO CORPORATION
### QLPU PUSH CLAMPS (Standard)

#### With Handle

<table>
<thead>
<tr>
<th>Type</th>
<th>H</th>
<th>S</th>
<th>D₂</th>
<th>M</th>
<th>W</th>
<th>θ</th>
<th>D</th>
<th>D₁</th>
<th>M₁</th>
<th>Dₚ</th>
<th>H₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPU150</td>
<td>25 *)</td>
<td>1.7</td>
<td>12</td>
<td>M₄x0.7 Depth 6</td>
<td>10</td>
<td>123°</td>
<td>25</td>
<td>23</td>
<td>M₄x0.7 Depth 6</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>QLPU200</td>
<td>32 **)</td>
<td>2.5</td>
<td>15</td>
<td>M₆x1 Depth 9</td>
<td>13</td>
<td>135°</td>
<td>32</td>
<td>30</td>
<td>M₆x1 Depth 9</td>
<td>20</td>
<td>19.5</td>
</tr>
</tbody>
</table>

*) Actual clamping height : 25 to 26.7 (clamping stroke : 1.7)
**) Actual clamping height : 32 to 34.5 (clamping stroke : 2.5)

#### Without Handle

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Handle Mounting Hole</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPU150NR</td>
<td>M₅x0.8</td>
<td>75</td>
</tr>
<tr>
<td>QLPU200NR</td>
<td>M₆x1</td>
<td>150</td>
</tr>
</tbody>
</table>

The handle must be ordered separately.

- **QLSL** STANDARD HANDLES
- **QLLT** ADJUSTABLE-TORQUE HANDLES

---

**With Handle**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>R</th>
<th>D₃</th>
<th>Allowable Operating Load (N) ***)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLPU150R</td>
<td>69.5</td>
<td>20</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>QLPU200R</td>
<td>103</td>
<td>25</td>
<td>200</td>
<td>200</td>
</tr>
</tbody>
</table>

***) Allowable load to operate the handle.
How To Use

Application Examples

Downdruth Clamping  Downward Clamping  Sideways Clamping

Note

- When installing a tip on the piston, lock the piston using a wrench to prevent the clamp from receiving any torque.
- The piston goes down when turning handle over clamping end.

Performance Curve

QLSL STANDARD HANDLES

The performance curves shown below do not denote the guaranteed performance.

QLTL ADJUSTABLE-TORQUE HANDLES

- Use a force gauge when measuring handle-operating loads.

The performance curves shown below do not denote the guaranteed performance.

Pull Clamps (QLPD150)

Pull Clamps (QLPD200)
## QLSL - STANDARD HANDLES

### (Screw-In Handles)

![QLSL](image)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>L</th>
<th>D₁</th>
<th>D</th>
<th>M</th>
<th>L₁</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSL150</td>
<td>59</td>
<td>20</td>
<td>8</td>
<td>M₅x0.8</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>QLSL200</td>
<td>89</td>
<td>25</td>
<td>10</td>
<td>M₆x1</td>
<td>6</td>
<td>50</td>
</tr>
</tbody>
</table>

### (Plug-In Handles)

![QLSL-RL](image)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>L</th>
<th>D₁</th>
<th>D</th>
<th>d</th>
<th>L₁</th>
<th>M₁</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSL150-RL</td>
<td>51</td>
<td>20</td>
<td>13</td>
<td>6</td>
<td>11</td>
<td>M₅x0.8-5L</td>
<td>45</td>
</tr>
<tr>
<td>QLSL200-RL</td>
<td>79</td>
<td>25</td>
<td>15</td>
<td>8</td>
<td>13</td>
<td>M₆x1 -6L</td>
<td>90</td>
</tr>
</tbody>
</table>

### (Plug-In-Handle Adaptors)

![QLSL-RA](image)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>L</th>
<th>D</th>
<th>L₂</th>
<th>D₂</th>
<th>M</th>
<th>L₁</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSL150-RA</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>M₅x0.8</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>QLSL200-RA</td>
<td>10</td>
<td>10</td>
<td>12</td>
<td>8</td>
<td>M₆x1</td>
<td>6</td>
<td>14</td>
</tr>
</tbody>
</table>

### Technical Specifications

- **Type**: QLSL
- **Material**: S45C steel, Black oxide finish
- **Handle**: ABS resin, Black
- **Shaft**: SCM435 steel, Quenched and tempered, Black oxide finish
How To Use

Secure the Plug-In Handle to the Adaptor using the locking screw if necessary.

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSL150</td>
<td>59</td>
</tr>
<tr>
<td>QLSL200</td>
<td>89</td>
</tr>
</tbody>
</table>
**QLTL**

**ADJUSTABLE-TORQUE HANDLES**

---

### QLTL

**Screw-In Handles**

- **Part Number**: QLTL120, QLTL160
- **Dimensions**: L, L₁, D, L₂, L₃, D₁, W, M, L₄, M₁
- **Weight**: QLTL120: 90 g, QLTL160: 140 g

### QLTL-RL

**Plug-In Handles**

- **Part Number**: QLTL120-RL, QLTL160-RL
- **Dimensions**: L, L₁, D, d, L₃, M₂, M₁
- **Weight**: QLTL120-RL: 70 g, QLTL160-RL: 130 g

### QLTL-RA

**Plug-In-Handle Adaptors**

- **Part Number**: QLTL120-RA, QLTL160-RA
- **Dimensions**: L, L₁, D, L₂, L₃, D₁, L₅, D₂, M, L₄
- **Weight**: QLTL120-RA: 20 g, QLTL160-RA: 40 g

---

**Type** | **Stem** | **Locking Nut** | **Handle**
--- | --- | --- | ---
QLTL | SCM435 steel Quenched & tempered Black oxide finished | S45C steel Black oxide finished | —
QLTL-RL | — | — | S45C steel Quenched & tempered Black oxide finished
QLTL-RA | — | — | S45C steel Black oxide finished

---

**CAD Download**: https://www.imao.biz/en
How To Use

Turning the setscrew inside the handle allows adjusting the torque to set a desired clamping force.

[Operating-Load Setting Range]
QLTL120/QLTL120-RL: 30N to 120N
QLTL160/QLTL160-RL: 50N to 160N

Note: Ensure that the operating load is not set below the lower limit to prevent the handle from returning to the unclamping position due to shock load generated during the transfer of machine pallets.

Plug-In Handle Coupled with the Adaptor

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLTL120</td>
<td>104.5</td>
</tr>
<tr>
<td>QLTL160</td>
<td>137</td>
</tr>
</tbody>
</table>

Proper One-Touch Clamps

- SWING CLAMPS <QLSW>
- PULL CLAMPS <QLPD>
- PUSH CLAMPS <QLPU>

Operating Load

The desired clamping force is reached when the handle folds approximately 15°. See the page of each clamp for the information on operating load vs. clamping force.

Plug-In Handle Installation

- When coupling the handle with the adaptor, ensure that the handle has full contact with the adaptor's mating face. Secure the handle to the adaptor using the lockingscrew if necessary.

Note: When installing the adaptor, ensure that the mating face is set horizontally.

Horizontal Folding
SNAP CLAMPS

Click-Out Clamping!

500,000 Cycles!

A click indicates completed clamping.

Hold-Down Style  Push-Pull Style  Hold-Down (Mini) Style

IMAO’s Snap-On System

As the handle is operated, the built-in balls move following the slit to let tension accumulate on the flat spring. When the balls are positioned in the clamping pockets, the accumulated tension is released and transformed into clamping force.

Stable Clamping!

Provide the firm clamping force at every operation.

Smooth Clamping!

A small handle operating load generates a maximal clamping capacity.

Secure Clamping!

A snap-on system allows clamping a part with no errors.

Highly Durable!

New Sturdy Clamps! 500,000 Cycles Cleared! *)

Due to one-piece body construction and heat treatment to the pressurizing members, Snap Clamps can work with little wear-out, deformation or deterioration, and do not get shaky or weak in clamping even after long-term use. Snap Clamps are far more durable than traditional toggle clamps or the like, and can be used without maintenance.

*) Result of Imao original proof test (note that cycle life varies with operating conditions and environments).

Visible Clamping Force

A label number stands for clamping force.

Example:

Clamping Force 6 … 60N

One-Piece Body

CAD Download: https://www.imao.biz/en
QLSND VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS

Unclamping Mode

Clamping Mode

Key Point
The handle clicks at clamping end.

<table>
<thead>
<tr>
<th>Body</th>
<th>Clamping Arm</th>
<th>Handle</th>
<th>Knob</th>
<th>Clamping Spindle</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZDC2 steel, Carbon coating finish Black</td>
<td>SCM440 steel, Quenched and tempered Black oxide finish</td>
<td>S45C steel, Chrome plated Black</td>
<td>Phenolic plastic Black</td>
<td>SCM435 steel, Quenched and tempered Black oxide finish</td>
</tr>
</tbody>
</table>

Spindle Position

Recommended Clamping Position

Clamping Stroke
### ONE-TOUCH CLAMPS

#### Table

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Clamping Stroke</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>W</th>
<th>H4</th>
<th>B</th>
<th>L5</th>
<th>P</th>
<th>L6</th>
<th>H max.</th>
<th>H1</th>
<th>H2</th>
<th>H3</th>
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<tbody>
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<td>3</td>
<td>65</td>
<td>10</td>
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<td>12</td>
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<td>520</td>
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<td>6</td>
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<td>QLSND30-06</td>
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<td>98</td>
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</tr>
</tbody>
</table>

#### How To Set Handle To Recommended Clamping Position

1. Set the clamping spindle to contact a workpiece at clamping end position.
2. Project the clamping spindle by about half of the clamping stroke and tighten the nut.
3. Setting Completed

#### Note

- The clamping forces and handle operating loads stated above can vary by up to ± 20%.
- When the reaction force (F) becomes greater than the clamping force, clamping is lifted.

#### Feature

- The long handle facilitates clamping operation.
- The handle is locked at the unclamping position.
- Uses a snap-on system (double locking)

#### Related Product

- QLSND-EX20 | Extension Arms to extend the clamp arm.
- QLSND-AN10 | Angle Adaptors to set the handle in an angled position.
- UB | Clamping Spindles to protect workpieces from being marred.
### QLSND-EX20 EXTENSION ARM

**Supplied With**

Hex. socket head setscrew M5×0.8-14L × 2 pcs.

**How To Use**

Use to extend the clamping arm for clamping at a more distant point.

**Face Mounting**

- Hex. socket head setscrew M5×0.8-14L

**Back Mounting**

- Hex. socket head setscrew M5×0.8-14L

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Weight (g)</th>
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<tbody>
<tr>
<td>QLSND-EX20</td>
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<table>
<thead>
<tr>
<th>Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>S45C steel</td>
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<tr>
<td>Black oxide finish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clamping Forces Generated in Use of Extension Arms</th>
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</thead>
<tbody>
<tr>
<td>Part Number</td>
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<tr>
<td>-------------</td>
</tr>
<tr>
<td>QLSND28-02</td>
</tr>
<tr>
<td>QLSND28-05</td>
</tr>
<tr>
<td>QLSND30-03</td>
</tr>
<tr>
<td>QLSND30-06</td>
</tr>
</tbody>
</table>

CAD Download: https://www.imao.biz/en
## Dimensions of Snap Clamps with Angular Adaptor Installed

<table>
<thead>
<tr>
<th>Type</th>
<th>H</th>
<th>L</th>
<th>H₁</th>
<th>L₁</th>
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</thead>
<tbody>
<tr>
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<td>130</td>
<td>57</td>
<td>71</td>
<td>84</td>
</tr>
<tr>
<td>QLSND30</td>
<td>145</td>
<td>61</td>
<td>79</td>
<td>92</td>
</tr>
</tbody>
</table>

### Supplied With

Hex.socket head cap screw M6×1-12L × 1pc.

### How To Use

Remove the handle and then install an Angular Adaptor between the body and the handle. (Use a wrench of nominal size 9 for removal of the handle.)

Perfect in applications where the handle cannot be turned to the clamping position.
QLSNDM  VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS (Mini)

<table>
<thead>
<tr>
<th>Type</th>
<th>Body</th>
<th>Clamping Arm / Handle</th>
<th>Clamping Spindle</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSNDM08</td>
<td>S45C steel</td>
<td>SCM440 steel</td>
<td>SUS304 stainless steel</td>
</tr>
<tr>
<td>QLSNDM12</td>
<td>Black oxide finish</td>
<td>SCM435 steel</td>
<td>SUS304 stainless steel</td>
</tr>
<tr>
<td>QLSNDM08-SUS</td>
<td>SC513 steel</td>
<td>SC513 steel (equivalent to SUS304)</td>
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</tr>
<tr>
<td>QLSNDM12-SUS</td>
<td>(equivalent to SUS304)</td>
<td>(equivalent to SUS304)</td>
<td></td>
</tr>
<tr>
<td>QLSNDM08-NP</td>
<td>S45C steel</td>
<td>SCM440 steel</td>
<td>SUS304 stainless steel</td>
</tr>
<tr>
<td>QLSNDM12-NP</td>
<td>Electroless Nickel Plated</td>
<td>Electroless Nickel Plated</td>
<td></td>
</tr>
</tbody>
</table>

---

**Recommended Clamping Position**

**Clamp Starting Position**

**Clamping Stroke**

**Clamping End**

**Unclamping Position**

**Incomplete Thread Length**

**H1**

**H2**

**H3**

**D**

**L**

**L1**

**L2**

---

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### ONE-TOUCH CLAMPS

**Type | Clamping Stroke | L₂ | M | H₁ | H | D | L₁ | W | H₃ | H₂ | M₁ | H₄ | L | A | H₅**
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---
QLSNDM08-01 | 1 | 17 | M | 8×1.25 | 16 | 39.5 | 16 | 21 | 8 | 6 | 12 | M₄×0.7-12L | Incomplete Thread Length :1 | 15 | 28.5 | 11 | 5
QLSNDM12-01 | 1.5 | 22 | M₁₂×1.75 | 24 | 53.5 | 22 | 27 | 10 | 8 | 17 | M₅×0.8-15L | Incomplete Thread Length :1.5 | 18.5 | 38 | 13 | 7
QLSNDM12-03 | 1.5 | 22 | M₁₂×1.75 | 24 | 53.5 | 22 | 27 | 10 | 8 | 17 | M₅×0.8-15L | Incomplete Thread Length :1.5 | 18.5 | 38 | 13 | 7

**QLSNDM** (Black Oxide Finish)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Handle Operating Load (N)</th>
<th>Clamping Force (N)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSNDM08-01</td>
<td>5</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>QLSNDM12-01</td>
<td>13</td>
<td>30</td>
<td>120</td>
</tr>
</tbody>
</table>

**Feature**
- The clamp clicks when clamping is done.
- Perfect for clamping of a small part, and for use in limited space.
- Designed for fingertip handle operation.
- The handle is locked at the unclamping position.
- Uses a snap-on system (single locking).

**How To Use**

Use a [BJ601](#) Small Cylindrical Risers to raise these clamps.

![Small Cylindrical Risers BJ601](#)

**Related Product**

UB: Clamping Spindles with a plastic tip are available for clamping without marring a part.

**How To Set Handle To Recommended Clamping Position**

1. Set the clamping spindle to contact a workpiece at clamping end position.
2. Project the clamping spindle by about half of the clamping stroke and tighten the nut.
3. Setting Completed

**QLSNDM-SUS** (Stainless Steel)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Handle Operating Load (N)</th>
<th>Clamping Force (N)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSNDM08-01-SUS</td>
<td>5</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>QLSNDM12-01-SUS</td>
<td>13</td>
<td>30</td>
<td>120</td>
</tr>
</tbody>
</table>

**QLSNDM-NP** (Electroless Nickel Plated)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Handle Operating Load (N)</th>
<th>Clamping Force (N)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSNDM08-01-NP</td>
<td>5</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>QLSNDM12-03-NP</td>
<td>13</td>
<td>30</td>
<td>120</td>
</tr>
</tbody>
</table>

**Note**
- The clamping forces and handle operating loads stated above can vary by up to ± 20%.
- When the reaction force(F) becomes greater than the clamping force, clamping is lifted.

![Clamping Is Lifted When](#)

**How To Set Handle To Recommended Clamping Position**

1. Set the clamping spindle to contact a workpiece at clamping end position.
2. Project the clamping spindle by about half of the clamping stroke and tighten the nut.
3. Setting Completed

**Related Product**

UB: Clamping Spindles with a plastic tip are available for clamping without marring a part.

**How To Set Handle To Recommended Clamping Position**

1. Set the clamping spindle to contact a workpiece at clamping end position.
2. Project the clamping spindle by about half of the clamping stroke and tighten the nut.
3. Setting Completed

**Note**
- The clamping forces and handle operating loads stated above can vary by up to ± 20%.
- When the reaction force(F) becomes greater than the clamping force, clamping is lifted.
QLNS PUSH-PULL SNAP CLAMPS

- **Body**: ZDC2 steel
  - Cation coating finish
  - Black
- **Handle Link**: SCM440 steel
  - Quenched and tempered
  - Black oxide finish
- **Shaft**: S25C steel
  - Carburized nitriding hardened
  - Black oxide finish
- **Lever**: S45C steel
  - Chrome plated
  - Phenolic plastic
  - Black
  - Black oxide finish

**Key Point**
The handle clicks at clamping end.

**Dimensions**

- Hex-Head Bolt M6×1-20L
  - (Threaded hole depth: 12)
- **L1**: Projecting Stroke
- **W**:
- **P**:
- **D**:
- **L2**:
- **L4**:
- **2-d**:

**Recommended Clamping Position**

- **H**:
- **M4×0.7 Depth 8**: Incomplete Thread Length: 2

**Clamping Mode**

**Unclamping Mode**

**Clamping End**

**Clamping Stroke**

**Clamping Spindle**

**CAD Download**: https://www.imao.biz/en
## ONE-TOUCH CLAMPS

### How To Set Handle To Recommended Clamping Position

1. Set the clamping spindle to contact a workpiece at clamping end position.
2. Project the clamping spindle by about half of the clamping stroke and tighten the nut.
3. Setting Completed

### Part Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Projecting Stroke</th>
<th>Clamping Stroke</th>
<th>H₃</th>
<th>L₁</th>
<th>L₂</th>
<th>L₃</th>
<th>W</th>
<th>H₂</th>
<th>d</th>
<th>L₄</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSNS28-05</td>
<td>12</td>
<td>1.5</td>
<td>20</td>
<td>22</td>
<td>63</td>
<td>35</td>
<td>40</td>
<td>5</td>
<td>5.5</td>
<td>5</td>
<td>28</td>
</tr>
<tr>
<td>QLSNS28-12</td>
<td>22</td>
<td></td>
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<td>33</td>
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<td>6</td>
<td>30</td>
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<table>
<thead>
<tr>
<th>Part Number</th>
<th>H max.</th>
<th>H₁</th>
<th>A</th>
<th>L</th>
<th>θ</th>
<th>θ₀</th>
<th>Handle Operating Load (N)</th>
<th>Clamping Force (N)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLSNS28-05</td>
<td>133</td>
<td>33</td>
<td>20</td>
<td>101</td>
<td>50°</td>
<td>50°</td>
<td>9</td>
<td>50</td>
<td>370</td>
</tr>
<tr>
<td>QLSNS28-12</td>
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<td>38</td>
<td>26</td>
<td>131</td>
<td>60°</td>
<td>45°</td>
<td>6</td>
<td>70</td>
<td>500</td>
</tr>
</tbody>
</table>

### Note

- The clamping forces and handle operation loads stated above can vary by up to ± 20%.
- When the reaction force (F) becomes greater than the clamping force, clamping is lifted.

### Feature

- The long handle facilitates clamping operation.
- The handle is locked at the unclamping position.
- Uses a snap-on system (double locking)

### Related Product

- QLSND-AN10 Angle Adaptors to set the handle in an angled position.
- UB Clamping Spindles to protect workpieces from being marred.
UB

CLAMPING SPINDLES

Dedicated for Snap Clamps

<table>
<thead>
<tr>
<th>Part Number</th>
<th>M</th>
<th>L</th>
<th>D</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>UB4×15</td>
<td>M4×0.7</td>
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<td>10</td>
<td>7</td>
<td>14</td>
<td>2.4</td>
</tr>
<tr>
<td>UB5×15</td>
<td>M5×0.8</td>
<td>30</td>
<td>12.5</td>
<td>9</td>
<td>13.5</td>
<td>3.2</td>
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<td>UB5×30</td>
<td>M5×1</td>
<td>20</td>
<td>15</td>
<td>10</td>
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<td>3.6</td>
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<table>
<thead>
<tr>
<th>Part Number</th>
<th>d</th>
<th>W</th>
<th>Weight (g)</th>
<th>Proper Snap Clamps</th>
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</thead>
<tbody>
<tr>
<td>UB4×15</td>
<td>4.2</td>
<td>3</td>
<td>4</td>
<td>Mini Hold-Down</td>
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<tr>
<td>UB5×15</td>
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<tr>
<td>UB5×30</td>
<td>6.0</td>
<td>5</td>
<td>8</td>
<td>Push-Pull</td>
</tr>
</tbody>
</table>

Tip | Screw | Hex. Nut |
---|-------|----------|
Black urethane plastic | SCM435 steel | Trivalent chromate plated |
Shore A90 | Trivalent chromate plated |

Installation example
The urethane tip avoids marring soft or finished surfaces.