For post-stoppage positioning and locking of carriers, line pallets, carts, etc.

Pallet Lock Cylinder

- Centering applied to correct positional deviation of up to ±50 mm
- Through the toggle mechanism, max. clamping force of 4430 N

- Arm opening angle: Approx. 70°
  A wide arm opening angle prevents contact with the workpiece.
  (Cylinder sliding is not necessary.)
  * Values for W-R1 Series

- Integration of the clamping unit and cylinder unit reduces design and assembly labor

- Selectable when the mass of the transferred object is either 1000 kg or 3000 kg, with consideration given to the impact during positioning

W-R1/W-R3 Series
Pallet Lock Cylinder

**W-R1/W-R3 Series**

### How to Order

**Type 1**  
W-R1 - S2 - B

**Type 3**  
W-R3 - S - B

***Proximity Switch***

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With mounting bracket (Without proximity switch)</td>
<td>With proximity switch</td>
</tr>
</tbody>
</table>

* For details, refer to the table below.

### Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Type 1</th>
<th>Type 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass of transferred object</td>
<td>1000 kg or less</td>
<td>3000 kg or less</td>
</tr>
<tr>
<td>Possible amount of positional correction</td>
<td>±50 mm or less</td>
<td></td>
</tr>
<tr>
<td>Clamping force</td>
<td>4430 N</td>
<td>4070 N</td>
</tr>
<tr>
<td>Operating time</td>
<td>1.0 s or more</td>
<td>0.8 s or more</td>
</tr>
<tr>
<td>Cylinder operation stroke</td>
<td>83.5 mm</td>
<td>140 mm</td>
</tr>
<tr>
<td>Bore size</td>
<td>100 mm</td>
<td></td>
</tr>
<tr>
<td>Cylinder proof pressure</td>
<td>1 MPa</td>
<td></td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>0.49 MPa Non-lube</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>5 to 60°C</td>
<td></td>
</tr>
<tr>
<td>Piston rod size</td>
<td>30 mm</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>28 kg</td>
<td>35 kg</td>
</tr>
</tbody>
</table>

### Clamping Force

**W-R1-S2-□**

**W-R3-S-□**

### Proximity Switch Specifications/Maker: OMRON Corporation

- **Model**: E2E-X7D1-M1J-T10.3M
- **Voltage range**: 10 to 30 VDC (Allowable ripple: 10% or less (P-P))
- **Temperature range**: -25 to 70°C (with no freezing or condensation)
- **Humidity range**: 35 to 95% RH
- **Light**: Lights up green when turned ON
- **Connector size**: M12 x 1

### Connector pin arrangement

<table>
<thead>
<tr>
<th>Type</th>
<th>Connector pins and arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>E2E-X7D1-M1J-T10.3M</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>OUT (+) OUT (+)</td>
</tr>
</tbody>
</table>
Pallet Lock Cylinder *W-R1/W-R3 Series*

**Dimensions**

**W-R1-S2-**

- **Position of fulcrum**
- **2 x ø18.5** Proximity switch mounting bracket (Option)
- **Proximity switch**
- **4 x ø11** (Clamp block mounting hole)
- **2 x ø8H7** +0.015 0
- **4 x ø20** counterbore depth 8 (Mounting hole)
- **4 x ø13** through
- **2 x M8 x 1.25 thread depth 13** (External cover mounting screw)

**W-R3-S-**

- **Position of fulcrum**
- **2 x ø18.5** Proximity switch mounting bracket (Option)
- **Proximity switch**
- **4 x ø11** (Clamp block mounting hole)
- **2 x ø8H7** +0.015 0
- **4 x ø26** counterbore depth 9 (Mounting hole)
- **4 x ø13** through
- **2 x M8 x 1.25 thread depth 13** (External cover mounting screw)

---

**Proximity switch** (Option)

**Position of fulcrum**

**2 x ø18.5** Proximity switch mounting bracket (Option)

**Proximity switch**

**4 x ø11** (Clamp block mounting hole)

**2 x ø8H7** +0.015 0

**4 x ø20** counterbore depth 8 (Mounting hole)

**4 x ø13** through

**2 x M8 x 1.25 thread depth 13** (External cover mounting screw)
⚠️ **Safety Instructions**
Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” on the SMC website: http://www.smc-world.com

⚠️ **Warning**
1. Affix a safety cover in places where there is a danger of personal injury.
   A large gripping force is generated during clamping. If there is a possible pinching hazard, design the structure to avoid contact with the human body.

⚠️ **Caution**
1. Avoid using material handling equipment in a way that applies torsion, inertial force, or impact.
2. Use the product under air pressure of up to 0.49 MPa.
3. Make sure that the clamp arm length is not longer than the lengths shown below.

<table>
<thead>
<tr>
<th></th>
<th>W-R1-S</th>
<th>W-R3-S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length A</td>
<td>109.5 mm</td>
<td>150.5 mm</td>
</tr>
</tbody>
</table>

⚠️ **Caution**
4. Make sure that the offset of the clamping position is within ±15 mm as shown in the figure below.

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**W-R1/W-R3 Series**

**Specific Product Precautions**

Be sure to read this before handling the products. For safety instructions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: http://www.smcworld.com