### RPE Parallel Gripper-Electric Gripper Series

**Product Specifications**

- **Voltage**: 24 VDC
- **Power Max.**: 40 W
- **Operating Temperature**: 5° / 50° C (40° / 120°F)
- **Protection Class**: IP54
- **Clean Room**: 100
- **Clean Room with Scavenge Port**: 10

*Contact Tech Support.*

**Maintenance Specifications**

- **Field Repairable**: Yes

**Application Restrictions**

- Timing, power and load beyond specifications
- Suitable for external gripping only

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### Technical Specifications:

<table>
<thead>
<tr>
<th>Product Specifications</th>
<th>Voltage</th>
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<th>Operating Temperature</th>
<th>Protection Class</th>
<th>Clean Room</th>
<th>Clean Room with Scavenge Port</th>
</tr>
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<tbody>
<tr>
<td></td>
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</table>

**Sensing:**

Adjustable inductive proximity sensors available.

**Low System Impact:**

Easily integrated into current engineering and manufacturing processes.

**Miniature size:**

Compact design allows for gripping small parts in small spaces.

**Failsafe Operation:**

Spring closed feature allows for full grip force during power off conditions.

**Electrically Actuated:**

Requires simple 24VDC pulsed signal. No programmable or expensive controller required.

**Precision applications:**

Preloaded “Dual-V” roller bearings eliminate side play for excellent part position repeatability.

**Delicate part handling:**

Low friction mechanism allows for repeatable gripping forces for holding delicate parts. Grip force is constant throughout stroke.

**Clean room suitable:**

A corrosion resistant shield protects the drive and bearing mechanism. All internal components are lubricated with Krytox™ grease.

**Harsh environments:**

All moving components are located within the corrosion resistant cover.

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**Mounting Information:**

- Gripper can be mounted and operated in any orientation.
- Body mounts with screws and locates with slip fit dowel pins for accuracy.
- Fingers attach to jaws with screws and locate with dowel pins.

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Patent Pending.

The RPE is CE marked.

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
**Product Features**

**Quality Components**
Body made from aluminum alloy with Teflon™ impregnated hardcoat anodize. Jaws, housing, and end cap nickel plated for use in medical parts handling applications.

**Energy Efficient**
Power is only required for 50 msec to open and close the gripper, no power is required to keep the part gripped or to keep the gripper fully opened.

**Adjustable Preloaded Bearings**
Adjustable preload screw allows for adjustment of preload on roller bearings. Bearings are preloaded for maximum support and zero side play.

**Spring Close**
Spring closed feature for failsafe operation

**Sensor Option**
Reads position of jaw (sold separately)—see “How to order” Section for more info.

**Hardened Plated Jaws**
For wear resistance and longer life

**Roller Bearings**
Patented Dual “V” roller bearings provide low friction rolling motion and maximum rigidity for fingers

**Stainless Steel Cover**
Stationary and non-contacting cover eliminates the possibility of particle generation

**Clean Room**
Krytox™ clean-room grade lubricant standard. FDA approved lubricants available. Vacuum scavenging ports are available

**Operating Principle**

- A short power pulse releases the latching solenoid’s plunger, allowing the spring to drive the wedge mechanism.
- The spring driven wedge drives the jaws towards one another to grip the part. No power is required to maintain grip force.
- To open the gripper, a short power pulse to the solenoid retracts the plunger to the latched position, which opens the jaws. No power is required to maintain the open position.
- Suitable for external gripping only.

**Style-RPE**

<table>
<thead>
<tr>
<th>Style</th>
<th>Size -100M</th>
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</thead>
<tbody>
<tr>
<td>Style:</td>
<td>RPE-100M</td>
</tr>
<tr>
<td>Stroke:</td>
<td>4 mm (0.16 in)</td>
</tr>
<tr>
<td>Grip Force:</td>
<td>5 N (1.1 lbs)</td>
</tr>
<tr>
<td>Weight:</td>
<td>226 g (0.50 lbs)</td>
</tr>
</tbody>
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| Style-RPE |
| Style: RPE-101M |
| Stroke: 4 mm (0.16 in) |
| Grip Force: 5 N (1.1 lbs) |
| Weight: 226 g (0.50 lbs) |

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PARALLEL GRIPPER RPE-100M/-101M

E-GRIPPER SERIES

Specifications

<table>
<thead>
<tr>
<th></th>
<th>RPE-100M/-101M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Finger Length</td>
<td>50 mm (1.9 in)</td>
</tr>
<tr>
<td>Stroke</td>
<td>4 mm (0.16 in)</td>
</tr>
<tr>
<td>Gripping Force in Closing</td>
<td>5 N (1.1 lbs)</td>
</tr>
<tr>
<td>Closing Time/Opening Time</td>
<td>0.1 sec (0.1 sec)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.02 mm (0.0008 in)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 0.05 mm (0.002 in)</td>
</tr>
<tr>
<td>Voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Power Max.</td>
<td>40 Watts</td>
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<td>Min./Max Operating Temperature</td>
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</tbody>
</table>

*Contact Tech Support.

How to Order:
(Order Accessories separately from Basic Model)

RPE -

100M

GRIPPING ORIENTATION

-100M -101M

Gripping Direction Perpendicular to Connector

Gripping Direction In-line to Connector

Loading Information

<table>
<thead>
<tr>
<th>Force vs Length</th>
<th>0</th>
<th>0.39</th>
<th>.79</th>
<th>1.18</th>
<th>1.57</th>
<th>1.97</th>
<th>2.36</th>
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</thead>
<tbody>
<tr>
<td>FINGERS/INCHES</td>
<td>2.5</td>
<td>.56</td>
<td>.39</td>
<td>.24</td>
<td>.18</td>
<td>.11</td>
<td>.05</td>
</tr>
</tbody>
</table>

How to Order:

BASIC MODEL

GRIPPING ORIENTATION

RPE -

100M

Gripping Direction Perpendicular to Connector

Gripping Direction In-line to Connector

ACCESSORIES*

| Inductive Sensor Mounting Kit (mounts one sensor) | OSMK-130 |
| PN PNP Inductive Sensor with Quick Disconnect* | OISK-019 & OISP-019 |
| Quick Disconnect 2 Meter Cable Length* | CABL-010 |
| Quick Disconnect 5 Meter Cable Length* | CABL-013 |

*Sensor and cables sold separately. †Power cable plus 1 or 2 sensor cables.

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

-100M -101M

Dimensions are symmetrical about centerline

Third Angle Projection

All Dowel Holes are SF (Slip Fit).
Locational Tolerance ±.013mm

Metric Threads
Course Pitch

Metric [mm]

[0.0] = [±.13]

[0.00] = [±.013]

[0] [±.25]

[0.0] [±.13]

[0.00] [±.013]

A

A

Weight

226 g (0.50 lbs)

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PARALLEL GRIPPER RPE-100M/-101M
E-GRIPPER SERIES

Installation and Operation:

1. Mount fingers (customer supplied) to gripper jaws using dowel pins and threaded fasteners. See dimensional drawing for hole sizes. Use Loctite® 242 threadlocker or equivalent.

2. Mount gripper using dowel pins and threaded fasteners. Gripper can be mounted and operated in any orientation. See dimensional drawing for mounting hole pattern and sizes. Use Loctite® 242 threadlocker or equivalent.

3. The following instructions apply to standard operation and require a 24VDC power supply:

   To open gripper, connect positive lead of power supply to Pin 1 of the connector and negative lead to Pin 3 of the connector. See below for pin orientation. Pulse for 50msec maximum as shown in Timing Diagram. After 50 msec pulse, allow 450msec minimum dwell time. To close gripper, connect positive lead of power supply to Pin 3 of connector and negative lead to Pin 1 of connector. Pulse for 50msec maximum as shown in Timing Diagram. After 50msec pulse, allow 450msec minimum dwell time.

WARNING:

- Operating gripper outside of power voltages and pulse times will cause damage and void warranty.
- Do not insert any foreign objects (tools, body parts, etc) between gripper fingers when power is applied.
- Disconnect power from gripper before performing maintenance or making adjustments.
- Do not apply power to gripper for more than 100msec maximum. Observe 10% duty cycle at all times.

NOTE: The RPE is CE marked.

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
RPE Series Exploded View

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1</td>
<td>Body</td>
</tr>
<tr>
<td>02</td>
<td>2</td>
<td>Jaw</td>
</tr>
<tr>
<td>03</td>
<td>1</td>
<td>Housing</td>
</tr>
<tr>
<td>04</td>
<td>1</td>
<td>Cap</td>
</tr>
<tr>
<td>05</td>
<td>1</td>
<td>Wedge</td>
</tr>
<tr>
<td>06</td>
<td>4</td>
<td>Way</td>
</tr>
<tr>
<td>07</td>
<td>2</td>
<td>Shield</td>
</tr>
<tr>
<td>08</td>
<td>1</td>
<td>Clevis Pin</td>
</tr>
<tr>
<td>09</td>
<td>1</td>
<td>Spacer</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Solenoid</td>
</tr>
<tr>
<td>11</td>
<td>4</td>
<td>Kit, Roller Bearing and Cage</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>Preload Screw</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>Set Screw-Way Locating</td>
</tr>
<tr>
<td>14</td>
<td>4</td>
<td>BHCS-Shield Mounting Screw</td>
</tr>
<tr>
<td>15</td>
<td>4</td>
<td>BHCS Solenoid Mounting Screw</td>
</tr>
<tr>
<td>16</td>
<td>8</td>
<td>FHCS-Housing Mounting Screw</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>Retaining Ring</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>Dowel Pin</td>
</tr>
</tbody>
</table>

NOTE: Contact the DE-STA-CO Customer Service for a complete spare parts list with order numbers and prices.

Assembly Procedure

1) Lubricate #1 body, #5 wedge, and #11 bearings using Krytox™ grease.
2) Insert #2 jaws and #5 wedge into body.
3) Insert #6 way and #11 bearings into each end of the body.
4) Adjust preload by adjusting #12 preload screws.
   (See below for procedure)
5) Install #10 solenoid plunger with #8 clevis pin and #17 retaining rings.
6) Fasten #10 solenoid to housing. Do not tighten yet, allowing the solenoid to freely move within slots.
7) Slide #9 spacer and #10 solenoid spring onto plunger.
8) Fasten #1 body into #3 housing. Completely fasten the two screws that are located on the same side as the #10 solenoid 3-pin connector then fasten the two remaining screws on the opposite side.
9) Fully open jaws and tighten #15 screws securely.
10) Install #7 shields to gripper.
11) Fasten #10 3-pin connector.
12) Fasten #4 cap into housing. Completely fasten the two screws that are located on the same side as the #10 solenoid 3-pin connector then fasten the two remaining screws on the opposite side.

Preload Adjustment Procedure

1) Install preload screws (12) with Loctite® 7649 primer and Loctite® 242 thread locker on threads.
2) Tighten until there is no side play in the jaws.
3) Cycle gripper (with finger assembly)
4) Recheck for play in jaws & tighten or loosen as needed.

For more information call us at: 1.888.DESTACO or 248.836.6700 Fax: 248.836.6901 Visit us on the Internet at: www.destaco.com
**Accessory Installation & Adjustment Instructions**

**Installation**
1) Install sensors as shown.
2) Adjust for desired end of stroke detection.

* Fingers should be designed to act as target for inductive sensor. Sensing range is 0.031 [0.8].
* The center line of the sensor diameter is located 0.094 [2.4] off of jaw mounting surface.

Fingers supplied by customer.

**Flange Mounting Plate, Gang Mounting and more...**

Drawings shown are for concept only. Contact DE-STA-CO Tech Support with project requirements.