3P Parallel Gripper - 3-Jaw Precision Series

Precision Gripper
The 3 concentric jaws and very good repeatability [0.02mm] allows loading and unloading accurate cylindrical parts.

Harsh Environments
Shielded design (+E) repels chips and other particulate from internal drive mechanism depending on the chosen material of the shield.

Compact and Powerful
This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Optional safety springs retain the components, should the air supply fail or to increase grip force.

Multipurpose Gripper
A wide range of options and accessories (extended stroke, hydraulic power, safety springs for internal or external gripping, inductive sensors, tandem cylinder, Viton® seals, and protective boot) allow these grippers to be used in a number of applications.

Mounting Information:
- Gripper can be mounted and operated in any orientation
- Gripper is located using pilot boss and a dowel pin and assembled with 4 or 6 through body screws.
- Gripper can be operated utilizing top manifold air ports.
- Fingers are located on jaw with 2 dowel pins and assembled with 1 or 2 screws.

Technical Specifications:

<table>
<thead>
<tr>
<th>Pneumatic Specifications</th>
<th>Imperial</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Operating Range</td>
<td>30-100 psi</td>
<td>2-7 bar</td>
</tr>
<tr>
<td>Cylinder Type</td>
<td>Double or double acting spring-assisted or single acting with spring</td>
<td></td>
</tr>
<tr>
<td>Dynamic Seals</td>
<td>Buna-N</td>
<td></td>
</tr>
<tr>
<td>Valve Required to Operate:</td>
<td>4-way, 2-position</td>
<td></td>
</tr>
<tr>
<td>Double Acting</td>
<td>3-way, 2-position</td>
<td></td>
</tr>
<tr>
<td>Single acting (Option RE or RI)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Air Quality Requirements |
| Filtration | 40 Micron or Better |
| Lubrication | Not Necessary* |

| Temperature Operating Range |
| Buna-N Seals (standard) | -30°~180° F | -35°~80° C |
| Viton® Seals (optional) | -20°~300° F | -30°~150° C |

| Application Restrictions |
| Expected Life | 5 million cycles |
| Normal Application w/ Preventative Maintenance | 10+ million cycles* |
| Field Repairable | Yes |
| Seal Repair Kits Available | Yes |

*Addition of lubrication will greatly increase service life

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. Other essential parts of the gripper are made of hardened and precision ground steel.

Standard and Extended Stroke (–C)
Each model of gripper is available in two stroke lengths

Versatile Finger Mounting
2 finger mounting surfaces on each jaw

Viton® Seals
Optional Viton® seals for high temperatures

Protective Gripper Boot
Optional Gripper Boot (+B) to protect the mechanism of the clamp are liquid and large external impurities.

Spring Assist
Spring assist retains the component should the air supply fail, to assist the gripper for internal (+B) or external (+B) gripping, or in single acting mode

Tandem Cylinder
Option (+M) doubles the grip force

Sensor Target
Option (+T) to control the jaw position at the rear of the clamp

Sensor Unit
Option (+K) to benefit from integrated detection

Pneumatic Power
Side or top ports (sealing face / face)

Hydraulic Power
Option (+K) up to 20 bar max, (+BBD) up to 80 bar max.

Operating Principle

- A large double-acting piston is connected to the piston shaft at its end with a driving groove.
- Levers pivot in the body about an axis of articulation. Their two heads agree precisely on one side in the groove of the small piston, the other in a groove cut in each jaw holder.
- The rotation of the lever converts the vertical movement of the piston in a horizontal motion and synchronized two-bit gates, which are guided in grooves in +T fitting body.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation
- Optional failsafe spring can be used to maintain gripping force if gripper loses air pressure or as a single acting return gripper.

Style: 3P Precision Parallel Gripper

<table>
<thead>
<tr>
<th>Style: 3P Precision Parallel Gripper</th>
<th>6003P</th>
<th>6003P-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Stroke:</td>
<td>10 mm</td>
<td>16 mm</td>
</tr>
<tr>
<td>Force at 6Bar:</td>
<td>676 N</td>
<td>822 N</td>
</tr>
<tr>
<td>Force w/o air:</td>
<td>172 N</td>
<td>217 N</td>
</tr>
<tr>
<td>Weight:</td>
<td>0.60 kg</td>
<td>0.80 kg</td>
</tr>
</tbody>
</table>

See Page 1.252 & 1.253

Style: 3P Precision Parallel Gripper

<table>
<thead>
<tr>
<th>Style: 3P Precision Parallel Gripper</th>
<th>8003P</th>
<th>8003P-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Stroke:</td>
<td>13 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td>Force at 6Bar:</td>
<td>1888 N</td>
<td>2191 N</td>
</tr>
<tr>
<td>Force w/o air:</td>
<td>617 N</td>
<td>888 N</td>
</tr>
<tr>
<td>Weight:</td>
<td>0.97 kg</td>
<td>0.97 kg</td>
</tr>
</tbody>
</table>

See Page 1.254 & 1.255

Style: 3P Precision Parallel Gripper

<table>
<thead>
<tr>
<th>Style: 3P Precision Parallel Gripper</th>
<th>11003P</th>
<th>11003P-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Stroke:</td>
<td>20 mm</td>
<td>30 mm</td>
</tr>
<tr>
<td>Force at 6Bar:</td>
<td>2967 N</td>
<td>3791 N</td>
</tr>
<tr>
<td>Force w/o air:</td>
<td>941 N</td>
<td>1288 N</td>
</tr>
<tr>
<td>Weight:</td>
<td>2.35 kg</td>
<td>2.35 kg</td>
</tr>
</tbody>
</table>

See Page 1.256 & 1.257

Style: 3P Precision Parallel Gripper

<table>
<thead>
<tr>
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<th>14003P</th>
<th>14003P-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Stroke:</td>
<td>26 mm</td>
<td>40 mm</td>
</tr>
<tr>
<td>Force at 6Bar:</td>
<td>6077 N</td>
<td>9330 N</td>
</tr>
<tr>
<td>Force w/o air:</td>
<td>2246 N</td>
<td>3463 N</td>
</tr>
<tr>
<td>Weight:</td>
<td>4.70 kg</td>
<td>4.70 kg</td>
</tr>
</tbody>
</table>

See Page 1.258 & 1.259

Style: 3P Precision Parallel Gripper

<table>
<thead>
<tr>
<th>Style: 3P Precision Parallel Gripper</th>
<th>16503P</th>
<th>16503P-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Stroke:</td>
<td>30 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Force at 6Bar:</td>
<td>11190 N</td>
<td>17390 N</td>
</tr>
<tr>
<td>Force w/o air:</td>
<td>3730 N</td>
<td>5590 N</td>
</tr>
<tr>
<td>Weight:</td>
<td>9.04 kg</td>
<td>9.04 kg</td>
</tr>
</tbody>
</table>

See Page 1.260 & 1.261

OPTIONS & ACCESSORIES

See Page 1.264 & 1.267

1. Force with spring and air at 6Bar
2. Force with spring without air
PARALLEL GRIPPER 6003P
PRECISION 3P GRIPPER SERIES

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grip Force (Fx+Ry) / 6 bars, Springs Mid-Way, Lx=0</td>
<td>678 N</td>
</tr>
<tr>
<td>Grip Force (Fx+Ry) / 6 bars, Springs Mid-Way, Lx=0</td>
<td>172 N</td>
</tr>
<tr>
<td>Total Stroke</td>
<td>10 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.60 kg</td>
</tr>
<tr>
<td>Pressure Range</td>
<td>2 - 7 bar</td>
</tr>
<tr>
<td>Pressure Range with Springs</td>
<td>3 - 7 bar</td>
</tr>
<tr>
<td>Ø Cylinder Bore</td>
<td>40 mm</td>
</tr>
<tr>
<td>Displacement</td>
<td>12 cm³</td>
</tr>
<tr>
<td>Actuation (open / close)</td>
<td>0.07 s / 0.07 s</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.02 mm</td>
</tr>
</tbody>
</table>

1. Force with spring and air at fiber
2. Force with spring without air

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline
Third Angle Projection
All Dowel Holes are SF (Stop Fits)
Locational Tolerance ±0.005" or ±0.013mm
Metric Thrusts

Imperial in.  Metric [mm]
0.00 = ± 0.1
0.000 = ± 0.005
(0.0) = ± 0.25
([0.0]) = ± 0.13

Grippers are supplied with open side air ports and top manifold air ports plugged.
Top manifold sealing dimensions shown.

Loading Information:

Force transmitted by the jaws on the workpiece
(Springs compressed at 50% stroke)

<table>
<thead>
<tr>
<th>F (N)</th>
<th>FINGER LENGTH &quot;L&quot; (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>667</td>
</tr>
<tr>
<td>333</td>
<td>500</td>
</tr>
<tr>
<td>167</td>
<td>333</td>
</tr>
<tr>
<td>85</td>
<td>167</td>
</tr>
</tbody>
</table>

ATTENTION: DO NOT EXCEED MAXIMUM EFFECTIVE FINGER LENGTHS

Loading Capacity*

<table>
<thead>
<tr>
<th></th>
<th>Static</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Tensile T</td>
<td>819 N</td>
<td>175 N</td>
</tr>
<tr>
<td>Maximum Compressive C</td>
<td>1556 N</td>
<td>175 N</td>
</tr>
<tr>
<td>Maximum Moment Mx</td>
<td>42 Nm</td>
<td>5 Nm</td>
</tr>
<tr>
<td>Maximum Moment My</td>
<td>49 Nm</td>
<td>6 Nm</td>
</tr>
<tr>
<td>Maximum Moment Mz</td>
<td>54 Nm</td>
<td>6 Nm</td>
</tr>
</tbody>
</table>

* The Capacities are per set of jaws and are not simultaneous.

How To Order:

BASE MODEL  SPRINGS  SENSOR UNIT  PROTECTIVE BOOT  VITON® SEALS

POWER TYPE  TARGET FLAG  T  SD  V  M

PROTECTIVE BOOT ACCESSORIES

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>ER63P</td>
<td>1</td>
</tr>
<tr>
<td>E3</td>
<td>E3R63P</td>
<td>1</td>
</tr>
</tbody>
</table>

SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)
M6 Inductive Sensor NPN with M6 connector
M6 Inductive Sensor NPN with M6 connector
Cable (2 meters) with M8 screw right gold

PNEUMATIC ACCESSORIES

Standard Seal Repair Kit
Viton® Seal Repair Kit
Hydraulic Seal Repair Kit

Options and Accessories: See Pages 1.264-1.267

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
Specifications

- **6003P-C**
  - Grip Force (Fs+Rf): 8 bars, Springs Mid-Way, L=0
  - Grip Force (Fs+Rf): 0 bars, Springs Mid-Way, L=0
  - Total Stroke: 16 mm
  - Weight: 0.60 kg
  - Pressure Range: 2 - 7 bar
  - Pressure Range with Springs: 3 - 7 bar
  - Cylinder Bore: 40 mm
  - Displacement: 12 cm³
  - Actuation (open / close): 0.07 s / 0.07 s
  - Repeatability: ± 0.02 mm

1. Force with spring and air at fiber
2. Force with spring without air

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

- Imperial in. Metric [mm]
  - 0.00 = ± 0.1
  - ± 0.005 = ± 0.005

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.

---

**Loading Information:**

Force transmitted by the jaws on the workpiece (Springs compressed at 50% stroke)

**Loading Capacity**

- **Static**
  - Maximum Tensile: 745 N
  - Maximum Compressive: 1415 N
  - Maximum Moment: 34 Nm
  - Maximum Moment: 39 Nm
  - Maximum Moment: 49 Nm

- **Dynamic**
  - Maximum Tensile: 108 N
  - Maximum Compressive: 108 N
  - Maximum Moment: 3 Nm
  - Maximum Moment: 4 Nm
  - Maximum Moment: 4 Nm

*The Capacities are per set of jaws and are not simultaneous.*

---

**How To Order:**

**BASE MODEL**

- **6003P**

**SPRINGS**

- **T**

**SENSOR UNIT**

- **SD**

**EXTENDED STROKE**

- **C**

**PROTECTIVE BOOT**

- **V**

**TANDEM CYLINDER**

**POWER TYPE**

- **P** Pneumatic (Page 1.264)
- **R** Hydraulic

**SPRINGS**

- **E** External Gripping
- **I** Internal Gripping

**SENSOR UNIT**

- **K1**
- **K2**
- **K31**
- **K32**
- **E**
- **E3**

**PROTECTIVE BOOT ACCESSORIES**

- **Model Code**
  - **E** PVC Protective Boot, Brown or Black
  - **E3** Fireproof KEVLAR Protective Boot, Red

**SENSOR ACCESSORIES**

- **SD** Inductive Sensor Kit (1 sensor, 1 flag)
- **OISP-011-C** M8 Inductive Sensor PNP with M8 connector
- **OISN-011-C** M8 Inductive Sensor NPN with M8 connector
- **CABL-010** Cable (2 meters) with M8 screw right gold

**PNEUMATIC ACCESSORIES**

- **SLKT-156** Standard Seal Repair Kit
- **SLKT-156V** Viton Seal Repair Kit
- **SLKT-330** Hydraulic Seal Repair Kit

**Options and Accessories:** See Page 1.264-1.267
**PARALLEL GRIPPER 8003P**

**PRECISION 3P GRIPPER SERIES**

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grip Force (Fs+R), 6 bars, Springs Mid-Way, L=0</td>
<td>1888 N</td>
</tr>
<tr>
<td>Grip Force (Fs+R), 6 bars, Springs Mid-Way, L=10</td>
<td>617 N</td>
</tr>
<tr>
<td>Total Stroke</td>
<td>13 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.97 kg</td>
</tr>
<tr>
<td>Pressure Range</td>
<td>2-7 bar</td>
</tr>
<tr>
<td>Pressure Range with Springs</td>
<td>3-7 bar</td>
</tr>
<tr>
<td>Ø Cylinder Bore</td>
<td>60 mm</td>
</tr>
<tr>
<td>Displacement</td>
<td>35 cm³</td>
</tr>
<tr>
<td>Actuation (open / close)</td>
<td>0.08 ± 0.08 s</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.02 mm</td>
</tr>
</tbody>
</table>

1. Force with spring and air at fiber
2. Force with spring without air

### Loading Information:

**Force transmitted by the jaw on the workplace**

(Springs compressed at 50% stroke)

**ATTENTION:** DO NOT EXCEED MAXIMUM EFFECTIVE FINGER LENGTHS

### How To Order:

**BASE MODEL**

**8003P**

**POWER TYPE**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Pneumatic</td>
<td>(page 1.264)</td>
</tr>
<tr>
<td>H</td>
<td>Hydraulic</td>
<td>(one of two options is mandatory)</td>
</tr>
</tbody>
</table>

**SPRINGS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE</td>
<td>External Gripping</td>
<td>Internal Gripping</td>
</tr>
</tbody>
</table>

**SENSOR UNIT**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>K1</td>
</tr>
<tr>
<td>K2</td>
<td>K2</td>
</tr>
<tr>
<td>X1</td>
<td>X2</td>
</tr>
</tbody>
</table>

**PROTECTIVE BOOT**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>E</td>
</tr>
</tbody>
</table>

**INDUCTIVE SENSOR MOUNT**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>SD60-80P</td>
</tr>
<tr>
<td>OISP</td>
<td>OISP-011-C</td>
</tr>
<tr>
<td>OISN</td>
<td>OISN-011-C</td>
</tr>
</tbody>
</table>

**TANDEM CYLINDER**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CABL</td>
<td>010</td>
</tr>
</tbody>
</table>

**PROTECTIVE BOOT ACCESSORIES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>E3</td>
<td>E3</td>
</tr>
</tbody>
</table>

**SENSOR ACCESSORIES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
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<td>OISP</td>
<td>OISP-011-C</td>
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<td>OISN-011-C</td>
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<tr>
<td>CABL</td>
<td>010</td>
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</tbody>
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**PNEUMATIC ACCESSORIES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>S80</td>
<td>S80</td>
</tr>
<tr>
<td>S80V</td>
<td>S80V</td>
</tr>
<tr>
<td>S80H</td>
<td>S80H</td>
</tr>
</tbody>
</table>

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
Specifications

- **8003P-C**
  - Grip Force (Fe+Rh): 6 bars, Springs Mid-Way, L=O
  - Grip Force (Fs+Rh): 0 bars, Springs Mid-Way, L=O
  - Total Stroke: 20 mm
  - Weight: 0.97 kg
  - Pressure Range: 2 - 7 bar
  - Pressure Range with Springs: 3 - 7 bar
  - Cylinder Bore: 60 mm
  - Displacement: 35 cm³
  - Actuation (open / close): ± 0.08 s / ± 0.08 s
  - Repeatability: ± 0.02 mm

1. Force with spring and air at fiber
2. Force with spring without air

---

**Loading Information:**

Force transmitted by the jaw on the workpiece (Springs compressed at 50% stroke)

**ATTENTION:** Do not exceed maximum effective finger lengths.

**Loading Capacity**

- **Static**
  - Maximum Tensile T: 1097 N
  - Maximum Compressive C: 1853 N
  - Maximum Moment Mx: 39 Nm
  - Maximum Moment My: 44 Nm
  - Maximum Moment Mz: 34 Nm

- **Dynamic**
  - Maximum Tensile T: 281 N
  - Maximum Compressive C: 281 N
  - Maximum Moment Mx: 12 Nm
  - Maximum Moment My: 13 Nm
  - Maximum Moment Mz: 13 Nm

*The Capacities are per set of jaws and are not simultaneous.*

---

**How To Order:**

**BASE MODEL**

**SPRING**

**SENSOR UNIT**

**EXTENDED STROKE**

**PROTECTIVE BOOT**

**POWER TYPE**

- P: Pneumatic
- H: Hydraulic

**SPRING**

- RE: External Gripping
- IN: Internal Gripping

**SENSOR UNIT**

- K1: K1
- K2: K2

**PROTECTIVE BOOT**

- E: E
- E3: E3

**Options and Accessories:**

- Please see page 1.264-1.267

---

**PROTECTIVE BOOT ACCESSORIES**

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>ER33P</td>
<td>1</td>
</tr>
<tr>
<td>E3</td>
<td>E3R33P</td>
<td>1</td>
</tr>
</tbody>
</table>

**SENSOR ACCESSORIES**

- Inductive Sensor Kit (1 holder, 1 flag)
- M8 Inductive Sensor PNP with M8 connector
- M8 Inductive Sensor NPN with M8 connector
- Cable (2 meters) with M8 screw right gold

**PNEUMATIC ACCESSORIES**

- Standard Seal Repair Kit
- Viton® Seal Repair Kit
- Hydraulic Seal Repair Kit

- S80
- S80V
- S80H

---

**Grippers are supplied with open side air ports and top manifold air ports plugged.**

**Top manifold sealing dimensions shown.**
**PARALLEL GRIPPER 11003P**  
**PRECISION 3P GRIPPER SERIES**

**Specifications**
- **Grip Force** (Fr+Rr), 6 bars, Springs Mid-Way, L=O:
  - 2967 N
- **Grip Force** (Fr+Rr), 0 bars, Springs Mid-Way, L=O:
  - 941 N
- **Total Stroke**:
  - 20 mm
- **Weight**
  - 2.35 kg
- **Pressure Range**
  - 2 - 7 bar
- **Pressure Range with Springs**
  - 4 – 7 bar
- **Displacement**
  - 87 cm³
- **Actuation (open / close)**
  - 0.10 ± 0.10 s
- **Repeatability**
  - ± 0.02 mm

1. Force with spring and air at fiber
2. Force with spring without air

---

**Loading Information:**

*Force transmitted by the jaw on the workpiece (Springs compressed at 50% stroke)*

**Loading Capacity**
- **Static**
  - Maximum Tensile T: 1560 N
  - Maximum Compressive C: 2652 N
- **Dynamic**
  - Maximum Moment Mx: 60 Nm
  - Maximum Moment My: 80 Nm
  - Maximum Moment Mz: 90 Nm

*The Capacities are per set of jaws and are not simultaneous.*

---

**How To Order:**

**BASE MODEL**
- **11003P**

**SPRINGS**
- Target Flag
- T
- SD
- V
- M

**SENSOR UNIT**
- Protective Boot
- Protective Boot ACCESSORIES

**PROTECTIVE BOOT ACCESSORIES**
- PVC Protective Boot, Brown or Black
- Fireproof KEVLAR Protective Boot, Red
- M8 Inductive Sensor PNP with M8 connector
- M8 Inductive Sensor NPN with M8 connector
- Cable (2 meters) with M8 screw right gold

**SPECIAL ACCESSORIES**
- Standard Seal Repair Kit
- Viton® Seal Repair Kit
- Hydraulic Seal Repair Kit

---

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
### Specifications

- **11003P-C**
  - Grip Force (F1+H1): 6 bars, Springs Mid-Way, L=O: 1979 N
  - Grip Force (F1+H1): 6 bars, Springs Mid-Way, L=O: 628 N
  - Total Stroke: 30 mm
  - Weight: 2.35 kg
  - Pressure Range: 2-7 bar
  - Pressure Range with Springs: 4-7 bar
  - Ø Cylinder Bore: 76 mm
  - Displacement: 87 cm³
  - Actuation (open / close): 0.10 s / 0.10 s
  - Repeatability: ± 0.02 mm

1. Force with spring and air at fiber
2. Force with spring without air

---

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

<table>
<thead>
<tr>
<th>Dimensions are symmetrical about centerline</th>
<th>Third Angle Projection</th>
<th>Metric Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Imperial in.</td>
</tr>
<tr>
<td>All Dowel Holes are SF (Slip Fit).</td>
<td></td>
<td>0.00 = ± .01</td>
</tr>
<tr>
<td>Locations Tolerance</td>
<td></td>
<td>± .0005 ± .025</td>
</tr>
<tr>
<td>± .013</td>
<td></td>
<td>± .013</td>
</tr>
</tbody>
</table>

---

### Loading Information:

**Force transmitted by the jaw on the workplace (Springs compressed at 50% stroke)**

![Loading Diagram](image)

**Loading Capacity**

- **Static**
  - Maximum Tensile T: 1418 N
  - Maximum Compressive C: 2411 N
  - Maximum Moment Mx: 50 Nm
  - Maximum Moment My: 66 Nm
  - Maximum Moment Mz: 84 Nm

- **Dynamic**
  - Maximum Tensile T: 463 N
  - Maximum Compressive C: 463 N
  - Maximum Moment Mx: 22 Nm
  - Maximum Moment My: 30 Nm
  - Maximum Moment Mz: 30 Nm

*The Capacities are per set of jaws and are not simultaneous.*

---

### How To Order:

**BASE MODEL**

**SPRINGS**

**SENSOR UNIT**

**EXTENDED STROKE**

**PROTECTIVE BOOT**

**POWER TYPE**

**TARGET FLAG**

**INDUCTIVE SENSOR MOUNT**

**VITON® SEALS**

**TANDEM CYLINDER**

---

### Options and Accessories:

See Page 1.264-1.267

---

### PROTECTIVE BOOT ACCESSORIES

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>ER113P</td>
<td>1</td>
</tr>
<tr>
<td>E3</td>
<td>E3R113P</td>
<td>1</td>
</tr>
</tbody>
</table>

### SENSOR ACCESSORIES

- **SD**
  - Inductive Sensor Kit (1 holder, 1 flag)
  - M8 Inductive Sensor PNF with M8 connector
  - M8 Inductive Sensor NPN with M8 connector
  - Cable (2 meters) with M8 screw right gold

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD110P</td>
<td>1 or 2</td>
<td></td>
</tr>
<tr>
<td>OISP-011-C</td>
<td>1 or 4</td>
<td></td>
</tr>
<tr>
<td>OISN-011-C</td>
<td>1 or 4</td>
<td></td>
</tr>
<tr>
<td>CABL-010</td>
<td>1 or 4</td>
<td></td>
</tr>
</tbody>
</table>

### PNEUMATIC ACCESSORIES

- **s**
  - Standard Seal Repair Kit
  - Viton® Seal Repair Kit
  - Hydraulic Seal Repair Kit

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>S110</td>
<td>1</td>
</tr>
<tr>
<td>S110V</td>
<td>1</td>
</tr>
<tr>
<td>S110H</td>
<td>1</td>
</tr>
</tbody>
</table>

---

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
PARALLEL GRIPPER 14003P
PRECISION 3P GRIPPER SERIES

Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>14003P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grip Force (Fw+M), 6 bars, Springs Mid-Way, L=O</td>
<td>6077 N</td>
</tr>
<tr>
<td>Grip Force (Fw+M), 0 bars, Springs Mid-Way, L=O</td>
<td>2248 N</td>
</tr>
<tr>
<td>Total Stroke</td>
<td>26 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>4.70 kg</td>
</tr>
<tr>
<td>Pressure Range</td>
<td>2-7 bar</td>
</tr>
<tr>
<td>Pressure Range with Springs</td>
<td>4.5-7 bar</td>
</tr>
<tr>
<td>Ø Cylinder Bore</td>
<td>105 mm</td>
</tr>
<tr>
<td>Displacement</td>
<td>220 cm3</td>
</tr>
<tr>
<td>Actuation (open / close)</td>
<td>0.16 s / 0.16 s</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.02 mm</td>
</tr>
</tbody>
</table>

1. Force with spring and air at filter
2. Force with spring without air

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

<table>
<thead>
<tr>
<th>Unit</th>
<th>Imperial in.</th>
<th>Metric [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[0] = ± 0.25</td>
<td>[0] = ± 1.3</td>
</tr>
<tr>
<td></td>
<td>[0.0001] = ± 0.005</td>
<td>[0.001] = ± 0.013</td>
</tr>
</tbody>
</table>

Grippers are supplied with open side air ports and top manifold air plugs. Top manifold sealing dimensions shown.

Loading Information:

Force transmitted by the jaw on the workpiece
(Springs compressed at 50% stroke)

How To Order:

1. Choose the model
2. Select the type of power
3. Select the target flag
4. Select the sensor unit
5. Select the protective boot
6. Select the Viton® seals

POWER TYPE
- P Pneumatic (page 1.264)
- N Hydraulic

SPRINGS
- RE External Gripping
- RG Internal Gripping

SENSOR UNIT
- *KT1    *KT2
- *KT3    *KT4

CONSTRUCTION
- E E Wrench

PROTECTIVE BOOT ACCESSORIES

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>KP-317</td>
<td>1</td>
</tr>
<tr>
<td>E3</td>
<td>KP-319</td>
<td>1</td>
</tr>
</tbody>
</table>

SIX INDUCTION SENSOR MOUNT

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>OSN-017-C</td>
<td>1 or 4</td>
</tr>
<tr>
<td>M8 Induction Sensor PNP with M12 connector</td>
<td>1 or 4</td>
<td></td>
</tr>
<tr>
<td>M8 Induction Sensor PNP with M12 connector</td>
<td>1 or 4</td>
<td></td>
</tr>
<tr>
<td>Cable (2 meters) with M12 screw right gold</td>
<td>1 or 4</td>
<td></td>
</tr>
</tbody>
</table>

Options and Accessories: See Page 1.264-1.267

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
Specifications

14003P-C

Grip Force (Fe+Hr) . 6 bars, Springs Mid-Way, L=O
3930 N
Grip Force (Fp+Hr) . 0 bars, Springs Mid-Way, L=O
1453 N
Total Stoke
40 mm
Weight
4.70 kg
Pressure Range
2 - 7 bar
Pressure Range with Springs
4.5 - 7 bar
O Cylinder Bore
105 mm
Displacement
220 cm3
Actuation (open / close)
0.16 s ± 0.16 s
Repeatability
± 0.02 mm

1. Force with spring and air at fiber
2. Force with spring without air

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline

Third Angle Projection

All Dowel Holes are SF (Slot Flats) Locations Tolerance ±.005" or (-.013mm)

Metric Threads
Course Pitch
0.50 = ± .01
0.40 = ± .005
0.30 = ± .003

Imperial in.

Metric [mm]

0.50 = ± .01
0.40 = ± .005
0.30 = ± .003

Grippers are supplied with open side air ports and top manifold air ports plugged.
Top manifold sealing dimensions shown.

Loading Information:

Force transmitted by the jaw on the workpiece
(Springs compressed at 50% stroke)

ATTENTION : DO NOT EXCEED MAXIMUM EFFECTIVE FINGER LENGTHS

FINGER LENGTH / "L" (MM)

14003P

How To Order:

BASE MODEL

SPRINGS

SENSOR UNIT

EXTENDED STROKE

PROTECTIVE BOOT

14003P

TARGET FLAG

INDUCTIVE SENSOR MOUNT

VITON® SEALS

TANDEM CYLINDER

POWER TYPE

P Pneumatic

H Hydraulic

SPRINGS

RE External Gripping

RI Internal Gripping

SENSOR UNIT

KT1

KT2

KX1

KX2

PROTECTIVE BOOT

E

E3

PROTECTIVE BOOT ACCESSORIES

Model Code

Order #

Qty/Unit

PVC Protective Boot, Brown or Black

E

KP-317

1

Fireproof KEVLAR Protective Boot, Red

E3

KP-319

1

SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)

SD

GSMX-114

1 or 2

M8 Inductive Sensor PNP with M12 connector

OISP-017-C

1 or 4

OISN-017-C

1 or 4

M8 Inductive Sensor NPN with M12 connector

Cable (2 meters) with M12 screw right gold

PNEUMATIC ACCESSORIES

Standard Seal Repair Kit

SLKT-333

1

Viton® Seal Repair Kit

SLKT-333V

1

Hydraulic Seal Repair Kit

SLKT-334

1

Options and Accessories:

See Page 1.264-1.267

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
### PARALLEL GRIPPER 16503P
#### PRECISION 3P GRIPPER SERIES

**Specifications**

- **16503P**
  - Grip Force (Fs+Ff), 6 bars, Springs Mid-Way, L=O: 11190 N
  - Grip Force (Fs+Ff), 0 bars, Springs Mid-Way, L=O: 3730 N
  - Total Stroke: 30 mm
  - Weight: 9.04 kg
  - Pressure Range: 2 - 7 bar
  - Pressure Range with Springs: 4.5 - 7 bar
  - Ø Cylinder Bore: 120 mm
  - Displacement: 494 cm³
  - Actuation (open / close): 0.29 s / 0.29 s
  - Repeatability: ± 0.02 mm

1. Force with spring and air at fiber
2. Force with spring without air

---

**Loading Information:**

Force transmitted by the jaw on the workpiece (springs compressed at 50% stroke)

- **ATTENTION:** DO NOT EXCEED MAXIMUM EFFECTIVE FINGER LENGTHS

- **Loading Capacity**
  - Static
    - Maximum Tensile T: 2580 N
    - Maximum Compressive C: 3200 N
  - Dynamic
    - Maximum Moment Mx: 100 Nm
    - Maximum Moment My: 150 Nm
    - Maximum Moment Mz: 140 Nm

- *The Capacities are per set of jaws and are not simultaneous.

---

**How To Order:**

- **BASE MODEL**
  - SPINDLE
  - SENSOR UNIT
  - PROTECTIVE BOOT
  - VITON® SEALS

**POWER TYPE**

- P: Pneumatic (page 1-264)
- H: Hydraulic (page 1-264)

**SPRINGS**

- RE: External Gripping
- RI: Internal Gripping

**SENSOR UNIT**

- KT1
- KT2
- KX1
- KX2

**PROTECTIVE BOOT**

- E
- E3

**POWER TYPE**

- **BASE MODEL**
  - **SPRINGS**
  - **SENSOR UNIT**
  - **PROTECTIVE BOOT**
  - **VITON® SEALS**

**PROTECTIVE BOOT ACCESSORIES**

- PVC Protective Boot, Brown or Black: E
- Fireproof KEVLAR Protective Boot, Red: E3

**SENSOR ACCESSORIES**

- Inductive Sensor Kit (1 holder, 1 flag): SD
- M8 Inductive Sensor PNP with M8 connector: OISM-017-C
- M8 Inductive Sensor NPN with M8 connector: OISN-017-C
- Cable (2 meters) with M8 screw nut gold: CABL-014

**PNEUMATIC ACCESSORIES**

- Standard Seal Repair Kit: SLKT-335
- VITON® Seal Repair Kit: SLKT-335V
- Hydraulic Seal Repair Kit: SLKT-336

---

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

<table>
<thead>
<tr>
<th>Spec</th>
<th>16503P-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grip Force (lbs), 6 bars, Springs Mid-Way, L=10</td>
<td>6767 N</td>
</tr>
<tr>
<td>Grip Force (lbs), 0 bars, Springs Mid-Way, L=10</td>
<td>2235 N</td>
</tr>
<tr>
<td>Total Stroke</td>
<td>50 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>9.04 kg</td>
</tr>
<tr>
<td>Pressure Range</td>
<td>2.7 bar</td>
</tr>
<tr>
<td>Pressure Range with Springs</td>
<td>4.5 - 7 bar</td>
</tr>
<tr>
<td>Ø Cylinder Bore</td>
<td>120 mm</td>
</tr>
<tr>
<td>Displacement</td>
<td></td>
</tr>
<tr>
<td>Actuation (open / close)</td>
<td>0.29 s / 0.29 s</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.02 mm</td>
</tr>
</tbody>
</table>

1. Force with spring and air at fiber
2. Force with spring without air

---

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

### Metric (mm)

- Lengths: ±0.003 mm
- Angles: ±0.005°

### Imperial in.

- All D sub 2 Holes are SF (Slip Fit). Locations Tolerance ±0.005" or [±0.013mm].
- Metric Thread Pitch: 0.005" = 0.005, 0.0005" = 0.0005

---

**Grippers are supplied with**
- Open side air ports and top manifold sealing dimensions shown.
- Raw inlet operation

---

**Loading Information:**

Force transmitted by the jaw on the workpiece
(Springs compressed at 50% stroke)

- **Maximum Tensile** T: 2250 N
- **Maximum Compressive** C: 2800 N
- **Maximum Moment** Mx: 90 Nm
- **Maximum Moment** My: 140 Nm
- **Maximum Moment** Mz: 130 Nm

---

**How To Order:**

**BASE MODEL**

**SPRING**

**SENSOR UNIT**

**EXTENDED STROKE**

**PROTECTIVE BOOT**

---

**Options and Accessories:**

See Page 1.264-1.267

---

**POWER TYPE**

P: Pneumatic
H: Hydraulic (page 1.264)

**SPRINGS**

RE: External Gripping
RI: Internal Gripping

**SENSOR UNIT**

KT1, KT2, KX1, KX2

**PROTECTIVE BOOT**

E, E3

---

**PROTECTIVE BOOT ACCESSORIES**

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>K-320</td>
<td>1</td>
</tr>
<tr>
<td>E3</td>
<td>K-322</td>
<td>1</td>
</tr>
</tbody>
</table>

**SPECIALS ACCESSORIES**

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Order #</th>
<th>Qty/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSR115</td>
<td>OSMK-115</td>
<td>1 or 2</td>
</tr>
<tr>
<td>OISP-17C</td>
<td>OISN-17C</td>
<td>1 or 4</td>
</tr>
<tr>
<td>CABL-014</td>
<td></td>
<td>1 or 4</td>
</tr>
<tr>
<td>SLKT-335</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SLKT-335V</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SLKT-336</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

---

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
OPTIONS AND ACCESSORIES
PRECISION 3P GRIPPER SERIES

SUPPLY: (P) Pneumatic (H) (H80) Hydraulic

As standard, the clamp is supplied with air to a pressure of 7 bar. The clamp is fitted with Viton O-ring seals for high temperatures.

On request (contact us) the gripper can be supplied with hydraulic fluid. The clamp is fitted with seals Viton Quad-Ring.

- Choice (H) allows a hydraulic power to a pressure of 20 bar max. In this case the overall dimensions do not change. For better security the gripper must be fixed on their support before being fired. **CAUTION: Hydraulic cycle times are longer.**

- Choice (H80) allows a hydraulic power to a pressure of 80 bar max. In this case the total height of the gripper is increased (contact us).

The hydraulic power is incompatible with the option tandem (M).

Option (RE) or (RI): Spring Assist

The internal springs of the gripper ensures failsafe operation by retaining the component during pressure loss, to increase the gripforce, or allows the usage of the gripper in single acting operation.

Option (RE) for external gripping. Option (RI) for internal gripping.

The (RE) is incompatible with the option (RI).

Option (T): Sensor Rod

Option (T) is a steel rod which comes out on the rear side of the gripper. The rod is fixed with the piston and has the same stroke movement.

The open end of the rod allows for mounting a cam which allows to control the position of the jaws by using inductive sensors, micro switches, etc

**WARNING:** when screwing on cam rod, make sure the sensor rod does not rotate to prevent twisting of the springs of options (RE) or (RI).

Option (T) is incompatible with option (K).

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>6003P &amp; 6003P-C</td>
<td>35</td>
<td>5</td>
<td>30</td>
<td>15</td>
<td>M6</td>
<td>10</td>
</tr>
<tr>
<td>8003P &amp; 8003P-C</td>
<td>35</td>
<td>6.5</td>
<td>28.5</td>
<td>15</td>
<td>M6</td>
<td>10</td>
</tr>
<tr>
<td>11003P &amp; 11003P-C</td>
<td>35</td>
<td>10</td>
<td>25</td>
<td>15</td>
<td>M6</td>
<td>15</td>
</tr>
<tr>
<td>14003P &amp; 14003P-C</td>
<td>55</td>
<td>13</td>
<td>42</td>
<td>20</td>
<td>M8</td>
<td>15</td>
</tr>
<tr>
<td>16503P &amp; 16503P-C</td>
<td>53</td>
<td>23</td>
<td>30</td>
<td>20</td>
<td>M8</td>
<td>15</td>
</tr>
</tbody>
</table>

**Option (M): Tandem Cylinder**

The (M) is a cylinder light-alloy that fits behind the bottom plate. This actuator’s integral action allows to double the gripforce by using the same pressure.

The combination of tandem option tandem (M) and Option (RE) or (RI) can double the clamping forces of the spring assist option. For cycle times of the tandem option, apply a factor of 3 to the actuation time.

The (M) is incompatible with the option (H).

<table>
<thead>
<tr>
<th>Model</th>
<th>Ay</th>
<th>ØC</th>
<th>ØD</th>
<th>W</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6003P &amp; 6003P-C</td>
<td>28.5</td>
<td>38.1</td>
<td>60</td>
<td>3</td>
<td>0.200</td>
</tr>
<tr>
<td>8003P &amp; 8003P-C</td>
<td>27</td>
<td>50.8</td>
<td>80</td>
<td>3</td>
<td>0.300</td>
</tr>
<tr>
<td>11003P &amp; 11003P-C</td>
<td>34</td>
<td>76.2</td>
<td>110</td>
<td>3</td>
<td>0.750</td>
</tr>
<tr>
<td>14003P &amp; 14003P-C</td>
<td>49</td>
<td>107.95</td>
<td>140</td>
<td>5</td>
<td>2.100</td>
</tr>
<tr>
<td>16503P &amp; 16503P-C</td>
<td>65</td>
<td>127</td>
<td>165</td>
<td>6</td>
<td>3.600</td>
</tr>
</tbody>
</table>

Please see back cover for DE-STA-CO Global Locations. www.destaco.com
Option (KT1), (KX1), (KT2), (KX2): Sensor Unit

The (K) is a lightweight alloy housing that fits on the back of the gripper. An integrated shaft follows the movement of the piston to provide information to the sensor attached to the side of the unit. It can control two positions of the gripper's jaws. 2 types of inductive sensors (KT, KX) and 2 detection zones (1, 2) are possible to allow for the combination of 2 to 4 possible positions (KT1, KX1, KT2, KX2). For KT, KX sensor specifications.

<table>
<thead>
<tr>
<th>Model #</th>
<th>Ax</th>
<th>Bx</th>
<th>ØC</th>
<th>ØD</th>
<th>W</th>
<th>Weight (kg)</th>
<th>No. of Sensing Positions</th>
<th>Information area from the open grip position (green LED)</th>
<th>Area information relative to the closed grip position (yellow LED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6003P</td>
<td>23</td>
<td>30°</td>
<td>38.1</td>
<td>60</td>
<td>3</td>
<td>0.180</td>
<td>1</td>
<td>0 – 1.5 &amp; 0.8 to 5</td>
<td>4 &amp; 0.8 to 10</td>
</tr>
<tr>
<td>6003P-C</td>
<td>23</td>
<td>30°</td>
<td>38.1</td>
<td>60</td>
<td>3</td>
<td>0.180</td>
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Please see back cover for DE-STA-CO Global Locations. www.destaco.com
### Option (V): Viton® Seals
Gripper with Viton® seals allows for use in high temperature environments [-30 °C or 150 °C].

### Accessory (E): Protective Boot
The accessory (E) is a protective boot that fits over the gripper. It protects the mechanism and thus improves the life of the gripper in hostile environments. The accessory (E) causes a different location of the fingers on the jaws as compared to the standard installation. Before attaching the boot, perform the following steps:
1. Mount gripper to machine.
2. Slip boot over gripper and secure in place.
3. Attached fingers to jaws using finger adapter.

Depending on the environment 2 types of envelopes are available:
- (E) Envelope of black or brown PVC for environmental grinding with emery presence.
- (E3) red envelope containing KEVLAR fireproof silicone environment for hot chips and weld spatter.

The accessory (E) is incompatible with the accessory (SD)

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![Diagram of Gripper and Accessories](image_url)

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Accessory (SD): Inductive Sensor Mounting Kit

Allows for sensing of two positions: open and closed jaw. The accessory kit (SD) includes: 1 sensor bracket, 1 flag and screws. Sensors are not provided.

NOTES:

To be usable, the cylindrical inductive sensors selected by the customer must have tapped their bodies to a minimum depth H (see table below).

Depending on their length, the cylindrical inductive sensors can extend below the clamp, requiring provision of suitable housing in the surrounding parts. It is possible to control more than 2 positions using a second attachment (SD).

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