Stay up-to-date on new products!

Products added after the R14 EOAT catalog was printed will be available here.

For additional information on new products, subscribe to our monthly e-newsletter at: www.emicorp.com/contact

Look for these ‘new’ color bars to identify new products

www.EMIcorp.com
This is what you can find in our new catalog:

10–11  Small size quick changer & electrical connectors for small QC.
16    Electrical connection cables. Now the robot side and EOAT side are sold separately.
18    Quick changer with air shut off lever. Shuts off air flow to the EOAT side before the EOAT can be disengaged.
20–21  6-axis robot adapters.
82, 85 Long angle clamp with hinge and swivel ball joint clamp. Additional sizes of elbow arms.
100, 121 Drop-in slotted nut.
102–103 Profile end joint connectors make a very strong connection.
120    Long angle clamp with hinged clamp.
158–159 High-load, non-rotating, stainless steel suspensions are very smooth acting and can handle side loading.
172–173 Super duty suspensions are ideal for putting actuators like grippers on them.
174, 175 Suspensions with clamp ends instead of threads. Inline or 90°. Can also be used with grippers.
176–181 Vacuum suspensions are ideal for use in packaging and part picking applications.
194–199 Vacuum cups are now available in Hithane. Low cost nitrile have also been added.
210–213 ShorTec dual durometer vacuum cups.
315    Steel sensor finger mini sprue grippers.
317–321 Several new finger materials and jaw styles for mini PB sprue grippers.
328    Suspension add-on kit for compact sprue grippers.
370–371 TPU finger pads for gripper fingers.
381    Double acting gripper fingers.
386    Ø14mm hybrid gripper fingers.
421    Threaded mounting adaptors for expansion grippers.
436–451 Servo electric grippers in 2-finger and 3-finger styles.
554–557 Clean room, completely sealed grippers available in 2-finger and 3-finger styles.
562–563 High load, compact grippers.
572–573 Longer stroke (30mm) version of OFL vacuum cylinders.
576–579 Heavy-duty short stroke cylinders with various end effectors.
586–587 Clampable mini cylinders.
666–673 Servo electric rotaries.
798–805 Stationary and sliding compact nippers in sizes 5, 10, and 20.
864–865 Photo sensors.
866    Vacuum monitor sensors. Preset set point model is lower price. User determinable set point model is available at a higher price.
867    Sensor cables - available in 3-wire and now also 4-wire.
1004   Finger blanks for Compact Parallel Grippers SGP-S
1005   Micro Sprue Gripper with Sensor Slot
1006–1007 Jumbo Size Gimatic Quick Changers
1009   Gimatic Degating Blade Holder
1010–1013 Gimatic Sensor Box with direct M8 Connection
1014–1019 Digital Fiber Optic Sensors
1020–1021 ShorTec Dual Durometer Vacuum Cups with Large Lip - 2.5 Bellows
Finger Blanks for Compact Parallel Gripper SGP-S

- Available in Aluminum or Delrin

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Price</th>
<th>Fits SGP-S</th>
<th>Material</th>
<th>Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7272</td>
<td>SGP-20-FBA</td>
<td>$19.30</td>
<td>SGP-20S</td>
<td>Aluminum</td>
<td>35g</td>
</tr>
<tr>
<td>7273</td>
<td>SGP-20-FBP</td>
<td>$19.30</td>
<td>SGP-20S</td>
<td>Delrin</td>
<td>19g</td>
</tr>
<tr>
<td>7274</td>
<td>SGP-25-FBA</td>
<td>$23.85</td>
<td>SGP-25S</td>
<td>Aluminum</td>
<td>72g</td>
</tr>
<tr>
<td>7275</td>
<td>SGP-25-FBP</td>
<td>$23.85</td>
<td>SGP-25S</td>
<td>Delrin</td>
<td>38g</td>
</tr>
<tr>
<td>7276</td>
<td>SGP-32-FBA</td>
<td>$27.20</td>
<td>SGP-32S</td>
<td>Aluminum</td>
<td>117g</td>
</tr>
<tr>
<td>7277</td>
<td>SGP-32-FBP</td>
<td>$27.20</td>
<td>SGP-32S</td>
<td>Delrin</td>
<td>61g</td>
</tr>
<tr>
<td>7278</td>
<td>SGP-40-FBA</td>
<td>$29.65</td>
<td>SGP-40S</td>
<td>Aluminum</td>
<td>196g</td>
</tr>
<tr>
<td>7279</td>
<td>SGP-40-FBP</td>
<td>$29.65</td>
<td>SGP-40S</td>
<td>Delrin</td>
<td>102g</td>
</tr>
</tbody>
</table>

Dimensions with fingers open:

Dimensions with fingers closed:
(finger blanks are shown overlapped. Cut away material to fit your part)
Micro Sprue Gripper with Sensor Slot (PB-0009S)

- **Simple, easy sensing.** This is based on the popular PB-0008 gripper, but with the addition of a sensor slot on the finger. Using a single sensor mounted on the finger positively confirms the sprue is gripped. Eliminates ‘hide and seek’ process of sensor set-up.
- **Utilizes the same simple, strong, and lightweight mechanism as the other PB grippers with years of proven reliable service.**
- **Gripper fingers join at the tip to prevent small part/sprue loss for diameters as small as 1mm.**
- **Small diamond-textured gripping surface aids in both pulling and cradling small sprues.**
- **Ø10mm diameter mounting post with M5 airport allows this gripper to be used with standard mounting and air connection components.**
- **Very compact and lightweight but with enough grip force to reliably grip small parts and sprues.**

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Price</th>
<th>Applicable Sprue Ø</th>
<th>lbs. Force at 18mm</th>
<th>Tooling Length*</th>
<th>Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7280</td>
<td>PB-0009S</td>
<td>$164.00</td>
<td>1–6mm</td>
<td>6.0 lbf</td>
<td></td>
<td>25g</td>
</tr>
</tbody>
</table>

Recommended Sensors:
- 1882 SS4N225Y $26.14 PNP sensor 3-wire SS Style with 2.5m leads
- 6282 SS3N203Y $29.96 PNP sensor 3-wire SS Style with M8 connector
- 1883 SS4M225Y $26.14 NPN sensor 3-wire SS Style with 2.5m leads
- 1884 SS3M203Y $29.96 NPN sensor 3-wire SS Style with M8 connector

* Force when compressed air is supplied at 87psi. Tooling length is measured from jaw pivot point.
Jumbo Size EOAT Quick Changer

Detachment of the two parts is quick and easy.

Specifications

<table>
<thead>
<tr>
<th></th>
<th>Robot Side</th>
<th>Gripper Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>2640g</td>
<td>1890g</td>
</tr>
<tr>
<td>Maximum Air Pressure</td>
<td>6 bar (87psi)</td>
<td></td>
</tr>
<tr>
<td>Air Ports</td>
<td>(12X) G1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>Electrical Connector</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>Safety Loads:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>449 lbs.</td>
<td></td>
</tr>
<tr>
<td>Mt</td>
<td>442 ft-lbs.</td>
<td></td>
</tr>
<tr>
<td>Mb</td>
<td>221 ft-lbs.</td>
<td></td>
</tr>
</tbody>
</table>

See page 22–31 for additional mounting adapters.
Jumbo Quick Changers

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7258</td>
<td>QC200-A</td>
<td>Robot Side - Jumbo size</td>
<td>$599.00</td>
</tr>
<tr>
<td>7259</td>
<td>QC200-B</td>
<td>Gripper Side - Jumbo size</td>
<td>$349.00</td>
</tr>
<tr>
<td>5039</td>
<td>CAQC</td>
<td>Robot-Side Electrical Connector</td>
<td>$79.00</td>
</tr>
<tr>
<td>5040</td>
<td>CBQC</td>
<td>Gripper-Side Electrical Connector</td>
<td>$44.00</td>
</tr>
<tr>
<td>6070</td>
<td>CEQC-A</td>
<td>Robot-Side Cable for Electrical Connectors</td>
<td>$21.00</td>
</tr>
<tr>
<td>6071</td>
<td>CEQC-B</td>
<td>Gripper-Side Cable for Electrical Connectors</td>
<td>$21.00</td>
</tr>
</tbody>
</table>

**Robot-Side Mounting Options**

To use the threaded M10 holes in the quick changer, use 10.5mm thru holes in your robot tooling plate.

You can use the holes in the quick changer as 8.5mm thru holes. Tap M8 threaded holes in your robot tooling plate.
New Products Coming Soon!
Blade Holder

- Suitable for trimming, degating and deburring.
- Continuously adjustable angle from -45° to +45°.
- It can be mounted on either side.
- Optional heating system.
- Uses same Thermocouple and Temperature Control Box as Gimatic Thrust Cut Nippers

**Blade Holder**

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7286</td>
<td>MFI-A272</td>
<td>175g</td>
<td>$176.67</td>
</tr>
</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7301</td>
<td>376Y234 10</td>
<td>Spare Blade (in sets of 10)</td>
<td>$17.60</td>
</tr>
<tr>
<td>7300</td>
<td>R50 G</td>
<td>Thermocouple / Blade Heater</td>
<td>$114.68</td>
</tr>
<tr>
<td>5623</td>
<td>GSE TCHP CM</td>
<td>Heater Control Box</td>
<td>$598.00</td>
</tr>
</tbody>
</table>
SB - Sensor Junction Box

- 3-pin M8x1 direct connection
- Connect different types of sensors in parallel or in series
- Signals can be converted (PNP to NPN & NPN to PNP)
- I/O may be PNP = sourcing, NPN = sinking, or dry contact
- Several boxes may be connected in a series to accommodate additional sensors
- LED indicators allow for easy troubleshooting
- Regenerates signals & protects contacts
- Optional M8 male cabling connectors available

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7283</td>
<td>SB6B</td>
<td>6 Input Relay Box</td>
<td>193g</td>
<td>$179.00</td>
</tr>
</tbody>
</table>

Note: Only M8 connectors having 3 pins can be use with this junction box.

1. Direct connection with M8x1 3-Pin cables only
2. PNP/NPN/2-wire inputs selectable by sliding switches
3. Short circuit protection with auto-fuse and RED led indicator
4. PNP/NPN/relay outputs selectable by sliding switches
5. Easy push terminals for outputs, no tools required
Cut long sensor cables to the desired length. These connectors have terminal screws to make it easy and fast to make custom length cables. Cutting long cables reduces the overall EOAT weight and helps prevent coils from snagging.

Use the Male version (Q# 7285) when connecting to the SB6B Sensor Box.

### M8 Connectors for Sensor Junction Box SB6B

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7285</td>
<td>CMGM800300</td>
<td>3-pin Male M8 Connector used to connect to SB6B sensor box</td>
<td>11g</td>
<td>$13.47</td>
</tr>
<tr>
<td>7284</td>
<td>CFGM800300</td>
<td>3-pin Female M8 Connector</td>
<td>11g</td>
<td>$13.47</td>
</tr>
</tbody>
</table>

#7283 - 6 Input Relay Box  
#7285 - Male M8 Connector  
#7284 - Female M8 Connector
Terminal box with Direct Connection - Functioning

After the inputs have been cabled (Grey Area) as shown on the circuit board you must use “Jumper” to select the Inputs signal type (Brown Area). Then use “Jumper” to define if you want to convert the input signals in NO/NC series or parallel outputs (Blue area). Use “Jumper” also to select the Output signal (PNP; NPN; relay) (Red Area) through a relay circuit so as to avoid the voltage drop. When the selection is completed, the Outputs (Yellow Area) are to be cabled.

Power supply: 24 V dc (±10%)

Inputs: Maximum 6 PNP, NPN or dry contact (NO or NC) (GREY AREA) sensors switched by jumpers (BROWN AREA).

Outputs: 1 up to 6 PNP, NPN or dry contact (NO) outputs (YELLOW AREA) switched by jumpers (RED AREA).
**Power supply**

24 V dc (±10%)

**Inputs**

2 PNP INPUTS (IN3/IN6)
2 NPN INPUTS (IN1/IN4)
2 DRY CONTACT (IN2/IN5)

**Outputs**

1 PNP OUTPUT SERIES (OUT3)
1 NPN OUTPUT SERIES (OUT6)
Fiber optic Sensors have a high-functioning amplifier and many sensor head options making them an ideal choice for the most challenging detection conditions.

- Its high power enables use in a wide range of detection applications including: transparent targets, repeated bending, small targets, variable target position

- Mounting options include: threaded mounting, set screw mounting, integrated bracket mounting, limited space mounting

- If debris build-up causes the light intensity to drop, the sensor automatically detects the drop in intensity, and recalibrates to the original display state.

- Up to 16 expansion units can be powered with 1 main unit.

Built-in Application Modes: Advanced mode settings are pre-programmed into the amplifier. Simply choose a mode according to the application and the optimal settings are automatically selected.

Interference Prevention: Avoid light interference up to 30,000 lux. Strong resistance to the effects of sunlight and fluorescent lighting enables stable detection.

Automatic Maintenance Function: The automatic maintenance function detects light intensity reduction due to dirt or misalignment, and returns the sensor to its original display state. This feature can cancel the effects of the ambient environment, enabling continuous and highly accurate detection. As build-up occurs, the setting value changes according to light intensity. Datum corrects the setting value based on a running average of this received light intensity value. Since the display values are scaled, the current value is displayed as an even “100.0” rather than an arbitrary value, making target presence evident.

Power-Saving Sleep Function: This function holds the amplifier in a power save state during external signal input. The normal display is restored after any key is pressed. Once sleep mode is entered, light transmission is stopped and the display monitor switches off. A single segment on the digital monitor pulses across the display.
**Saturation Avoidance:** This function adjusts the optimum power to prevent excess light intensity. When a small target is being detected by a thrubeam sensor, or when a reflective sensor experiences background reflections, the ambient light may be too strong and might interfere with accurate target detection.

In this case, simply press two buttons, and this function will automatically adjust the light intensity to the optimum level.

Excess light intensity causes the display value to go off the scale.

<table>
<thead>
<tr>
<th>Target Present</th>
<th>No Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Excess Light Intensity" /></td>
<td><img src="image2.png" alt="Excess Light Intensity" /></td>
</tr>
</tbody>
</table>

Light transmission level and light intensity gain are automatically calibrated so stable detection can be achieved.

<table>
<thead>
<tr>
<th>Target Present</th>
<th>No Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Light Transmission" /></td>
<td><img src="image4.png" alt="Light Transmission" /></td>
</tr>
</tbody>
</table>

**NEO MEGA Switch:** The amplifiers are equipped with 5 light transmission modes for increasing the light intensity. The most powerful of these modes is "MEGA Mode". The power can be increased 64-fold from normal power by simply using 1 switch. With the touch of a button, light intensity can easily be switched to 64 times the normal intensity. This is often needed for long-distance detection or in adverse environmental conditions where strong light intensity is required.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Normal) FINE Mode</td>
<td>50</td>
</tr>
<tr>
<td>(2x) TURBO Mode</td>
<td>100</td>
</tr>
<tr>
<td>(4x) SUPER Mode</td>
<td>200</td>
</tr>
<tr>
<td>(16x) ULTRA Mode</td>
<td>800</td>
</tr>
<tr>
<td>(64x) MEGA Mode</td>
<td>3200</td>
</tr>
</tbody>
</table>

*There is also a high-speed response HSP mode.*
**Digital Fiber Optic Sensors**

- A maximum of 16 expansion units can be powered using 1 main unit.
- Amplifiers can be mounted to electrical units using DIN rail.

### Amplifier

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Control Outputs</th>
<th>External Input</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2698</td>
<td>FS-N11N</td>
<td>Main Unit - NPN Output</td>
<td>1</td>
<td>0</td>
<td>$169.00</td>
</tr>
<tr>
<td>2699</td>
<td>FS-N11P</td>
<td>Main Unit - PNP Output</td>
<td>1</td>
<td>0</td>
<td>$169.00</td>
</tr>
<tr>
<td>2700</td>
<td>FS-N12N</td>
<td>Expansion Unit - NPN Output</td>
<td>1</td>
<td>0</td>
<td>$169.00</td>
</tr>
<tr>
<td>2701</td>
<td>FS-N12P</td>
<td>Expansion Unit - PNP Output</td>
<td>1</td>
<td>0</td>
<td>$169.00</td>
</tr>
</tbody>
</table>

**Optional - Mounting**

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2704</td>
<td>OP-26751</td>
<td>End Unit</td>
<td>$7.70</td>
</tr>
<tr>
<td>5073</td>
<td>EL-704W</td>
<td>DIN Rail</td>
<td>$18.92</td>
</tr>
</tbody>
</table>

Dimensions when several units are connected (typical configuration)

*End units must be used when several units are connected.*

<table>
<thead>
<tr>
<th>No. of Units</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.8</td>
</tr>
<tr>
<td>2</td>
<td>19.6</td>
</tr>
<tr>
<td>3</td>
<td>29.4</td>
</tr>
<tr>
<td>4</td>
<td>39.2</td>
</tr>
<tr>
<td>5</td>
<td>49.0</td>
</tr>
<tr>
<td>6</td>
<td>58.8</td>
</tr>
<tr>
<td>7</td>
<td>68.6</td>
</tr>
<tr>
<td>8</td>
<td>78.4</td>
</tr>
<tr>
<td>9</td>
<td>88.2</td>
</tr>
<tr>
<td>10</td>
<td>98.0</td>
</tr>
<tr>
<td>11</td>
<td>107.8</td>
</tr>
<tr>
<td>12</td>
<td>117.6</td>
</tr>
<tr>
<td>13</td>
<td>127.4</td>
</tr>
<tr>
<td>14</td>
<td>137.2</td>
</tr>
<tr>
<td>15</td>
<td>147.0</td>
</tr>
<tr>
<td>16</td>
<td>156.8</td>
</tr>
<tr>
<td>17</td>
<td>166.6</td>
</tr>
</tbody>
</table>
**Digital Fiber Optic Sensors**

**Cable Type, Main unit**

- Maximum when the cover is opened: 100
- Φ3.9, 3-core Brown/Blue/Black: 0.34 mm²
- Cable length: 2m

**Cable Type, Expansion unit**

- Maximum when the cover is opened: 100
- Φ2.6, 1-core Black: 0.34 mm²
- Cable length: 2m

**End Unit (OP-26751 sold separately)**

- DIN-rail mounting

**Material:** Polycarbonate

**DIN-rail mounting**

When several units are connected:

- Common for all types

*1 End units must be used when several units are connected. (OP-26751)

**No. of units L (mm)**

- 1: 9.8
- 2: 19.6
- 3: 29.4
- 4: 39.2
- 5: 49.0
- 6: 58.8
- 7: 68.6
- 8: 78.4
- 9: 88.2
- 10: 98.0
- 11: 107.8
- 12: 117.6
- 13: 127.4
- 14: 137.2
- 15: 147.0
- 16: 156.8
- 17: 166.6

**Cable Type, Main unit**

- FS-N11N/FS-N13N: Φ3.9
- 4-core Brown/Blue: 0.34 mm², Black/Orange: 0.18 mm²

**Cable Type, Expansion unit**

- FS-N14N/N14P: Φ3.9
- 3-core Black/White/Pink: 0.18 mm²

*1 FS-N14N/N14P: min. 8

**Cable length:** 2m

**Maximum when the cover is opened:** 100

**170° max.**

**End unit** (OP-26751 sold separately)

- Width: 22.6
- Height: 20.8
- Depth: 9.2
- DIN-rail mounting

**Cable length:** 2m

**Maximum when the cover is opened:** 100

**170° max.**

**Additional Information:**

- **9.8**
- **20.8**
- **35.4**
- **53.8**

**Cable length:** 2m

**Maximum when the cover is opened:** 100

**170° max.**

**Dimensions:**

- Width: 22.6
- Height: 20.8
- Depth: 9.2

**DIN-rail mounting**

- Width: 22.6
- Height: 20.8
- Depth: 9.2

**FS-N11MN:** Φ3.9, 4-core Brown/Blue: 0.34 mm², Black/Orange: 0.18 mm²

**FS-N13N/N13P:** Φ3.9, 5-core Brown/Blue: 0.34 mm², Black/White/Pink: 0.18 mm²

**FS-N14N/N14P:** Φ3.9, 3-core Black/White/Pink: 0.18 mm²

**FS-N14N/N14P:** min. 8

**Cable Type, Main unit**

- NM11N/P31N/N11N-SF: Cable type, Main unit
- P41N/N41N/P21N/N21N-SF: Cable type, Expansion unit

**Cable Type, Expansion unit**

- FS-N11MN: Φ3.9, 4-core Brown/Blue: 0.34 mm², Black/Orange: 0.18 mm²
- FS-N13N/N13P: Φ3.9, 5-core Brown/Blue: 0.34 mm², Black/White/Pink: 0.18 mm²
- FS-N14N/N14P: Φ3.9, 3-core Black/White/Pink: 0.18 mm²

**Cable Type, Main unit**

- NM11N/P31N/N11N-SF: Cable type, Main unit
- P41N/N41N/P21N/N21N-SF: Cable type, Expansion unit

**Cable Type, Expansion unit**

- FS-N11MN: Φ3.9, 4-core Brown/Blue: 0.34 mm², Black/Orange: 0.18 mm²
- FS-N13N/N13P: Φ3.9, 5-core Brown/Blue: 0.34 mm², Black/White/Pink: 0.18 mm²
- FS-N14N/N14P: Φ3.9, 3-core Black/White/Pink: 0.18 mm²
Digital Fiber Optic Sensors

Threaded and Hex Shaped Fibers

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Detecting Distance (mm)*</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mega - Fine</td>
<td>Ultra: 290, Super: 190</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2705</td>
<td>FU-3SFZ</td>
<td>Threaded, 1m Free-cut fiber length; -40° to 122°F</td>
<td>Fine: 72</td>
<td>6g</td>
<td>$72.00</td>
</tr>
<tr>
<td>2707</td>
<td>FU-67TZ</td>
<td>Hex Shaped, 2m Free-cut fiber length; -40° to 122°F</td>
<td>Fine: 210</td>
<td>32g</td>
<td>$69.00</td>
</tr>
</tbody>
</table>

*Standard target: White mat paper (Reflective type only).

Note: Threaded fibers must be mounted onto brackets before use.

Narrow field of view based on focused aperture angle. This sensor reduces stray light for stable target detection. The high-power reflective type with an 8° aperture angle is suitable for detecting objects at longer distances.

Focused Beam / High Power

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Detecting Distance (mm)*</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2708</td>
<td>FU-40</td>
<td>2m Free-cut fiber length; -40° to 122°F</td>
<td>Fine: 30 to 2300, fine: 30</td>
<td>23g</td>
<td>$149.00</td>
</tr>
</tbody>
</table>

*Standard target: White mat paper (Reflective type only).

This thin profile sensor comes with mounting holes for installation where space is limited and has no openings where dust and other foreign matter can enter. Metal housing eliminates concern about damaged sensors.

Space Saving Type / Flat Bracket Fibers

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Detecting Distance (mm)*</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2709</td>
<td>FU-42TZ</td>
<td>2m Free-cut fiber length; -40° to 122°F</td>
<td>Fine: 1 to 70</td>
<td>24g</td>
<td>$119.00</td>
</tr>
</tbody>
</table>

*Standard target: White mat paper (Reflective type only).

The fiber tip is incorporated into a thin sleeve, and installed by drilling a hole and using a set screw. When determining the smallest detectable object, positioning the sensor too closely to the object causes the object to disappear, making alignment difficult. With the sleeve type, the sensor itself does not become an obstruction and alignment is much easier.

Space Saving Type / Sleeve

<table>
<thead>
<tr>
<th>Quick#</th>
<th>Part#</th>
<th>Description</th>
<th>Detecting Distance (mm)*</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2710</td>
<td>FU-31</td>
<td>2m Free-cut fiber length; -40° to 158°F</td>
<td>Fine: 32</td>
<td>5g</td>
<td>$194.00</td>
</tr>
</tbody>
</table>

*Standard target: White mat paper (Reflective type only).
Digital Fiber Optic Sensors

Mounting Bracket included with #2708

Mounting Bracket included with #2709
**New Dual Durometer Vacuum Cups, now with Larger Lip!**

Dual durometer-style vacuum cups are considered to be the best performing polyurethane cup.

These new yellow dual durometer cups are comparable to our current cups on page 210–211 but with larger and more flexible lips. They use mark-free and long-lasting polyurethane, and fit the same size nipples. The yellow bellows have a 55° shore and a large, flexible sealing surface with a lighter blue 30° shore.

**Vacuum Cup Properties**

<table>
<thead>
<tr>
<th>Material</th>
<th>Color</th>
<th>Temp. Range</th>
<th>Durometer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyurethane</td>
<td>Yellow / Blue</td>
<td>50°–122°F</td>
<td>30° / 55° Shore</td>
</tr>
</tbody>
</table>

Order nipples separately. See page 216–217 for nipple dimensions.

<table>
<thead>
<tr>
<th>Cup Ø</th>
<th>Material</th>
<th>Quick#</th>
<th>Part#</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>25mm</td>
<td>Polyurethane</td>
<td>2066</td>
<td>25B-DDBC-25</td>
<td>$9.20</td>
</tr>
<tr>
<td>Nipple</td>
<td>G 1/8' Male</td>
<td>5982</td>
<td>F02-G8M</td>
<td>$2.88</td>
</tr>
<tr>
<td></td>
<td>G 1/8' Female</td>
<td>5983</td>
<td>F02-G8F</td>
<td>$2.88</td>
</tr>
</tbody>
</table>

* 7/16mm Compressed
### ShorTec™ Dual Durometer with Large Lip – 2.5 Bellows

- **35mm Polyurethane**
  - Quick#: 2067
  - Part#: 25B-DDBL-35
  - Price: $12.10
- **Nipple**
  - G 1/8” Male: 5982, F02-G8M: $2.88
  - G 1/8” Female: 5983, F02-G8F: $2.88

- **45mm Polyurethane**
  - Quick#: 2068
  - Part#: 25B-DDBL-45
  - Price: $14.20
- **Nipple**
  - G 1/4” Male: 5984, F03-G4M: $3.58
  - G 1/4” Female: 5985, F03-G4F: $3.58

- **55mm Polyurethane**
  - Quick#: 2069
  - Part#: 25B-DDBL-55
  - Price: $16.30
- **Nipple**
  - G 3/8” Male: 5986, F04-G3M: $3.92
  - G 3/8” Female: 5987, F04-G3F: $3.92

(Shown Actual Size)

*11.5mm Compressed

*15mm Compressed

*18mm Compressed