

# Parallel Motion Grippers – Com-Pick II Pneumatic Grippers 2 Jaw

## Introduction

### True Parallel Motion Grippers & Accessories

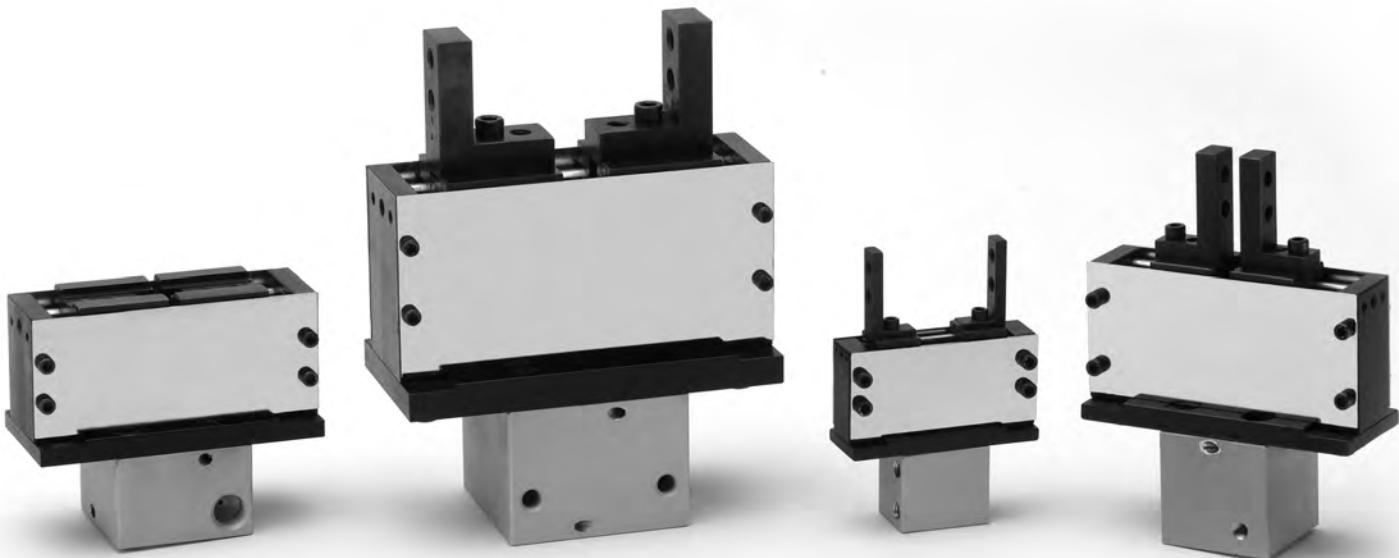
**Com-Pick II** grippers are designed for use in industrial applications such as robotics, pick-n-place, automated assembly, and manipulator/tooling. All units feature a self-contained, double-acting actuator. "Generic" grippers can be mounted to any manufacturer's robot, manipulator or actuator by way of an adapter flange. Low unit weight, high output and compact size are features of all models. Special materials, tooling, and adapter flanges are available upon request.

Seal options, jaw options, sensor options, etc., can be easily added at assembly for prompt delivery of all variations.

Parallel motion grippers represent a highly versatile and flexible design. The integral pneumatic cylinder pushes the jaws open. The jaws slide along two hardened guide rods providing rigid, long lasting true parallel motion. The pull stroke closes the jaws. A four-way valve circuit is required for control.

All units are of two jaw design.

Gripping forces, formulas, unit weights, and dimensions are included in the following sections.



# How to Order: Parallel Grippers

**Parallel Grippers** Example: APBG072X12-LF

| MAGNETIC PISTON OPTION ONLY | GRIPPER STYLE | BORE  | JAW TRAVEL | OPTION | OPTION  |
|-----------------------------|---------------|-------|------------|--------|---------|
| 1 A                         | 2 PBG         | 3 072 | 4 X        | 5 12   | 6 LF XX |

| 1 Magnetic Piston |   |
|-------------------|---|
| Code              | Description                                       |
| A                 | Magnetic piston Cylinder and sensor mounting rail |

| 2 Style |   |
|---------|---|
| Code    | Description                               |
| PSG     | Parallel Square Body (End Mount) Gripper  |
| PBG     | Parallel Square Body (Side Mount) Gripper |

| 3   | Code | Bore   |
|-----|------|--------|
| 052 |      | 1/2"   |
| 072 |      | 3/4"   |
| 112 |      | 1-1/8" |
| 132 |      | 1-3/8" |
| 162 |      | 1-5/8" |
| 202 |      | 2"     |

| 4  | Code | Jaw Travel                                  |
|----|------|---|
| 18 |      | 1/8" (Only available on 1/2" bore)          |
| 14 |      | 1/4" (Only available on 1/2-1-1/8" bore)    |
| 12 |      | 1/2" (Only available on 3/4" bore and up)   |
| 34 |      | 3/4" (Only available on 1-3/8" bore and up) |

| 5 Jaw Option |             |
|--------------|-------------|
| Code         | Description |
| LF           | L Shape Jaw |

| 6 Options |                              |
|-----------|------------------------------|
| Code      | Description                  |
| ADJC      | Adjustment Closed            |
| ADJO      | Adjustment Open              |
| HTV       | High Temperature Viton Seals |

# Parallel Motion Grippers – Com-Pick II Pneumatic Grippers 2 Jaw

## Engineering Data

### Self Contained Actuator

Cylinders feature low profiles, low weight aluminum alloy bodies, and stainless steel piston rods. All units are prelubricated for life.

### Actuator Seals

As standard, actuators are packed with seals of Buna-N rubber. Temperature limits are from 0°F to 200°F (-18°C to 90°C). All actuators are prelubricated at the factory and do not require additional lubrication.

Seal options — page 24.

### Materials

Actuators are aluminum alloy with bronze rod bushings. All sliding parts are heat treated steel for long, trouble-free operation. Mechanism cover pieces are stamped stainless steel.

### Tooling

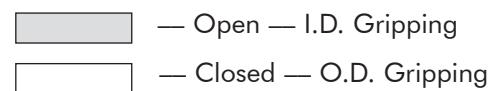
Com-Pick II grippers are "generic" in standard form. Base jaws are slotted and tapped for tooling. Pre-modified "L" jaws are available or you can add your own V-blocks, pads, sensors, etc. Also, see page 18.

## Pressure Ratings

|                  |  |
|------------------|--|
| <b>Pneumatic</b> | Clean, dry or lubricated — 15 PSI to 200 PSI (125 PSI in 052 series) |
| <b>Hydraulic</b> | Consult factory  |

## Pre-Calculated Gripping Forces

| Gripper    |        | Air Pressure (PSI) |          |           |           |          |
|------------|--------|--------------------|----------|-----------|-----------|----------|
| Series     | Bore   | 20 PSI             | 40 PSI   | 60 PSI    | 80 PSI    | 100 PSI  |
| <b>052</b> | 1/2"   | 2 LBS.             | 4 LBS.   | 6 LBS.    | 8 LBS.    | 10 LBS.  |
|            |        | 1.5 LBS.           | 3 LBS.   | 4.5 LBS.  | 6 LBS.    | 7.5 LBS. |
| <b>072</b> | 3/4"   | 4.4LBS.            | 8.8 LBS. | 13.2 LBS. | 17.6 LBS. | 22 LBS.  |
|            |        | 3.6LBS.            | 7.2 LBS. | 10.8 LBS. | 14.4 LBS. | 18 LBS.  |
| <b>112</b> | 1-1/8" | 10 LBS.            | 20 LBS.  | 30 LBS.   | 40 LBS.   | 50 LBS.  |
|            |        | 8 LBS.             | 16 LBS.  | 24 LBS.   | 32 LBS.   | 40 LBS.  |
| <b>132</b> | 1-3/8" | 15 LBS.            | 30 LBS.  | 45 LBS.   | 60 LBS.   | 75 LBS.  |
|            |        | 12 LBS.            | 24 LBS.  | 36 LBS.   | 48 LBS.   | 60 LBS.  |
| <b>162</b> | 1-5/8" | 20 LBS.            | 40 LBS.  | 60 LBS.   | 80 LBS.   | 100 LBS. |
|            |        | 17 LBS.            | 34 LBS.  | 51 LBS.   | 68 LBS.   | 85 LBS.  |
| <b>202</b> | 2"     | 30 LBS.            | 60 LBS.  | 90 LBS.   | 120 LBS.  | 150 LBS. |
|            |        | 27 LBS.            | 54 LBS.  | 81 LBS.   | 108 LBS.  | 135 LBS. |



### \* Important Notes \*

- Gripping forces are theoretical and will vary due to friction. 7% to 10% force reduction per inch of tooling length is approximate force loss.
- Long, heavy tooling decreases performance of the gripper and should be avoided.

Maximum recommended tooling length:

- Series 052, 072 and 112 = 2"
- Series 132, 162 and 202 = 5"

# Parallel Motion Grippers – Com-Pick II Pneumatic Grippers 2 Jaw

## Engineering Data Continued

### Estimated Unit Weights Without Tooling (Lbs)

| Series              | 052 | 072 | 112  | 132  | 162  | 202  |
|---------------------|-----|-----|------|------|------|------|
| <b>Short Travel</b> | .21 | .60 | .95  | 2.05 | 2.20 | 2.65 |
| <b>Long Travel</b>  | .25 | .70 | 1.10 | 2.30 | 2.45 | 2.95 |

### Theoretical Gripping Force Formulas

NOTE: Gripping forces are constant at any point of jaw travel. Due to friction caused by leverage, 7% to 10% force loss per inch of tooling length should be considered. Long jaw tooling will reduce the life of the gripper and is not recommended. Consult factory.

$$\text{Gripping Force} = \frac{\text{PSI} \times \text{Piston Area}}{2}$$

| BORE                          | 1/2" | 3/4" | 1-1/8" | 1-3/8" | 1-5/8" | 2"  |
|-------------------------------|------|------|--------|--------|--------|-----|
| SERIES                        | 052  | 072  | 112    | 132    | 162    | 202 |
| IN. <sup>2</sup> Push (Open)  | .2   | .44  | 1.0    | 1.5    | 2      | 3   |
| IN. <sup>2</sup> Pull (Close) | .15  | .36  | .8     | 1.2    | 1.7    | 2.7 |

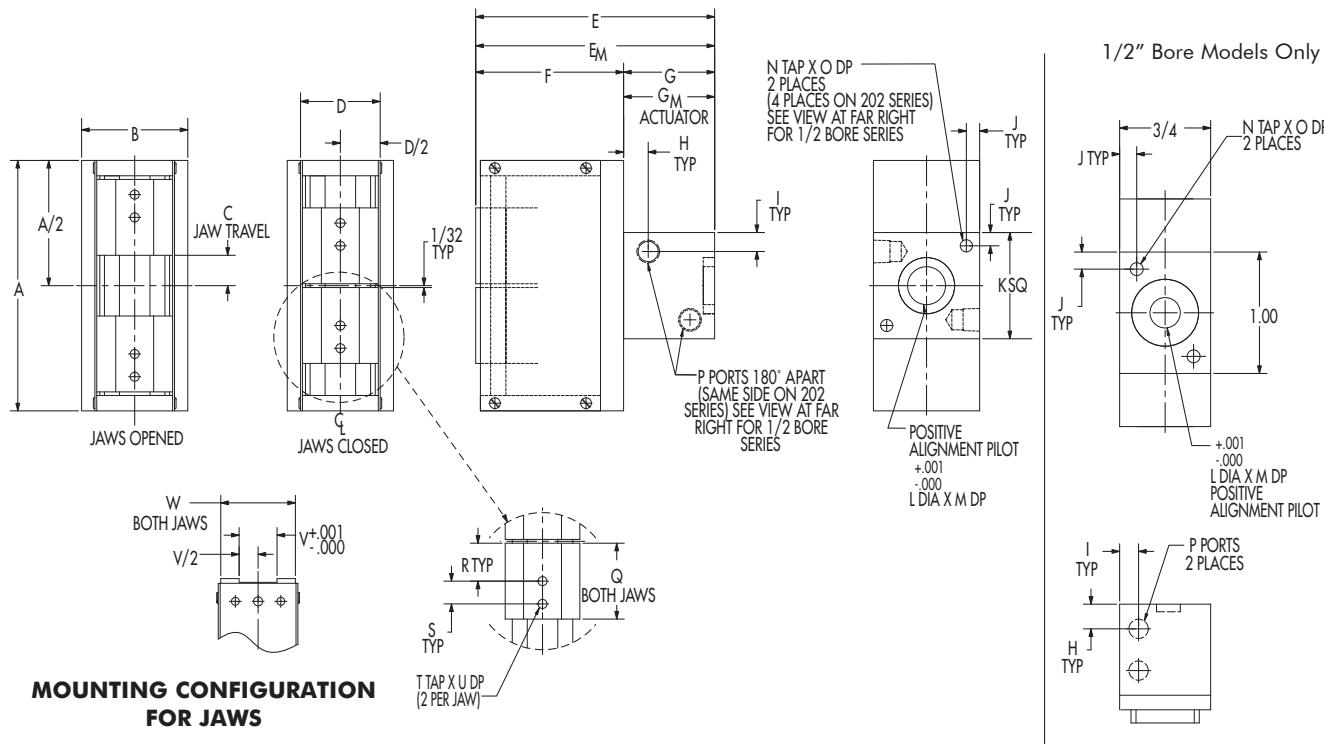
### Double Rod End Actuators

Unlike the angular type grippers, Double Rod End Actuators are not standard for Parallel Grippers due to the extra length the double ended rod adds in the longer strokes required for parallel gripping. Double Rod End Actuators can be special ordered. Primary application for this option is limit sensing with mechanical switches. See pages 21-23 for sensors.

# Parallel Grippers: 2 Jaw

## Square Body Grippers "PSG" (End/Rear Face Mounted)

**Important Note:** Unit mounting holes are ONLY difference between styles "PSG" & "PBG"



| Bore   | Gripper                            | Part #       | A     | B     | C   | D      | E       | **E <sub>M</sub> | F       | G     | **G <sub>M</sub> | H     | I    | J    | K     | L    |
|--------|------------------------------------|--------------|-------|-------|-----|--------|---------|------------------|---------|-------|------------------|-------|------|------|-------|------|
| 1/2"   | Square 1/2 Bore x 1/8 Jaw Travel   | PSG052 x 1/8 | 1-7/8 | 3/4   | 1/8 | 9/16   | 1-3/4   | 2.0              | 1.0     | 3/4   | 1.0              | 13/64 | 5/32 | 9/64 | 1.0   | .250 |
|        | Square 1/2 Bore x 1/4 Jaw Travel   | PSG052 x 1/4 | 2-1/8 | 3/4   | 1/4 | 9/16   | 2-1/8   | 2-3/8            | 1-1/4   | 7/8   | 1-1/8            | 13/64 | 5/32 | 9/64 | 1.0   | .250 |
| 3/4"   | Square 3/4 Bore x 1/4 Jaw Travel   | PSG072 x 1/4 | 2-5/8 | 1-1/4 | 1/4 | 13/16  | 2-3/8   | 2-5/8            | 1-3/8   | 1.0   | 1-1/4            | 9/32  | 5/16 | 3/16 | 1-1/4 | .312 |
|        | Square 3/4 Bore x 1/2 Jaw Travel   | PSG072 x 1/2 | 3-1/8 | 1-1/4 | 1/2 | 13/16  | 3.0     | 3-1/4            | 1-3/4   | 1-1/4 | 1-1/2            | 9/32  | 5/16 | 3/16 | 1-1/4 | .312 |
| 1-1/8" | Square 1-1/8 Bore x 1/4 Jaw Travel | PSG112 x 1/4 | 3-1/8 | 1-1/2 | 1/4 | 1-1/16 | 2-5/8   | 2-7/8            | 1-5/8   | 1.0   | 1-1/4            | 9/32  | 1/4  | 3/16 | 1-1/2 | .500 |
|        | Square 1-1/8 Bore x 1/2 Jaw Travel | PSG112 x 1/2 | 3-5/8 | 1-1/2 | 1/2 | 1-1/16 | 3-1/4   | 3-1/2            | 2.0     | 1-1/4 | 1-1/2            | 9/32  | 1/4  | 3/16 | 1-1/2 | .500 |
| 1-3/8" | Square 1-3/8 Bore x 1/2 Jaw Travel | PSG132 x 1/2 | 4-1/8 | 1-3/4 | 1/2 | 1-5/16 | 3-15/16 | 4-3/16           | 2-7/16  | 1-1/2 | 1-3/4            | 13/32 | 5/16 | 7/32 | 1-3/4 | .625 |
|        | Square 1-3/8 Bore x 3/4 Jaw Travel | PSG132 x 3/4 | 4-5/8 | 1-3/4 | 3/4 | 1-5/16 | 4-9/16  | 4-13/16          | 2-13/16 | 1-3/4 | 2.0              | 13/32 | 5/16 | 7/32 | 1-3/4 | .625 |
| 1-5/8" | Square 1-5/8 Bore x 1/2 Jaw Travel | PSG162 x 1/2 | 4-1/8 | 2.0   | 1/2 | 1-5/16 | 3-15/16 | 4-3/16           | 2-7/16  | 1-1/2 | 1-3/4            | 13/32 | 5/16 | 1/4  | 2.0   | .625 |
|        | Square 1-5/8 Bore x 3/4 Jaw Travel | PSG162 x 3/4 | 4-5/8 | 2.0   | 3/4 | 1-5/16 | 4-9/16  | 4-13/16          | 2-13/16 | 1-3/4 | 2.0              | 13/32 | 5/16 | 1/4  | 2.0   | .625 |
| 2"     | Square 2.0 Bore x 1/2 Jaw Travel   | PSG202 x 1/2 | 4-1/8 | 2-1/2 | 1/2 | 1-5/16 | 4-1/16  | 4-5/16           | 2-7/16  | 1-5/8 | 1-7/8            | 7/16  | 3/4  | 1/4  | 2-1/2 | .750 |
|        | Square 2.0 Bore x 3/4 Jaw Travel   | PSG202 x 3/4 | 4-5/8 | 2-1/2 | 3/4 | 1-5/16 | 4-11/16 | 4-15/16          | 2-13/16 | 1-7/8 | 2-1/8            | 7/16  | 3/4  | 1/4  | 2-1/2 | .750 |

| Bore   | Part #       | M    | N        | O    | P       | Q     | R   | S    | T      | U    | V    | W     |
|--------|--------------|------|----------|------|---------|-------|-----|------|--------|------|------|-------|
| 1/2"   | PSG052 x 1/8 | 1/16 | #6-32    | 5/16 | #10-32  | 1/2   | 1/4 | 5/32 | #4-40  | 7/32 | .250 | .480  |
|        | PSG052 x 1/4 | 1/16 | #6-32    | 3/8  | #10-32  | 1/2   | 1/4 | 5/32 | #4-40  | 7/32 | .250 | .480  |
| 3/4"   | PSG072 x 1/4 | 1/8  | #1/4-20  | 1/2  | #10-32* | 3/4   | 3/8 | 1/4  | #6-32  | 3/16 | .375 | .730  |
|        | PSG072 x 1/2 | 1/8  | #1/4-20  | 1/2  | #10-32* | 3/4   | 3/8 | 1/4  | #6-32  | 3/16 | .375 | .730  |
| 1-1/8" | PSG112 x 1/4 | 1/8  | #1/4-20  | 1/2  | #1/8-27 | 1.0   | 1/2 | 5/16 | #6-32  | 1/4  | .500 | .980  |
|        | PSG112 x 1/2 | 1/8  | #1/4-20  | 1/2  | #1/8-27 | 1.0   | 1/2 | 5/16 | #6-32  | 1/4  | .500 | .980  |
| 1-3/8" | PSG132 x 1/2 | 3/16 | #1/4-20  | 1/2  | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 |
|        | PSG132 x 3/4 | 3/16 | #1/4-20  | 1/2  | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 |
| 1-5/8" | PSG162 x 1/2 | 3/16 | #1/4-20  | 1/2  | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 |
|        | PSG162 x 3/4 | 3/16 | #1/4-20  | 1/2  | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 |
| 2"     | PSG202 x 1/2 | 1/4  | #5/16-18 | 5/8  | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 |
|        | PSG202 x 3/4 | 1/4  | #5/16-18 | 5/8  | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 |

\* 1/8-27 Pipe Tap, Optional  
\*\* For magnetic piston, specify prefix "A". Refer to page 21 for track locations and see pages 22-23 for additional sensor information.

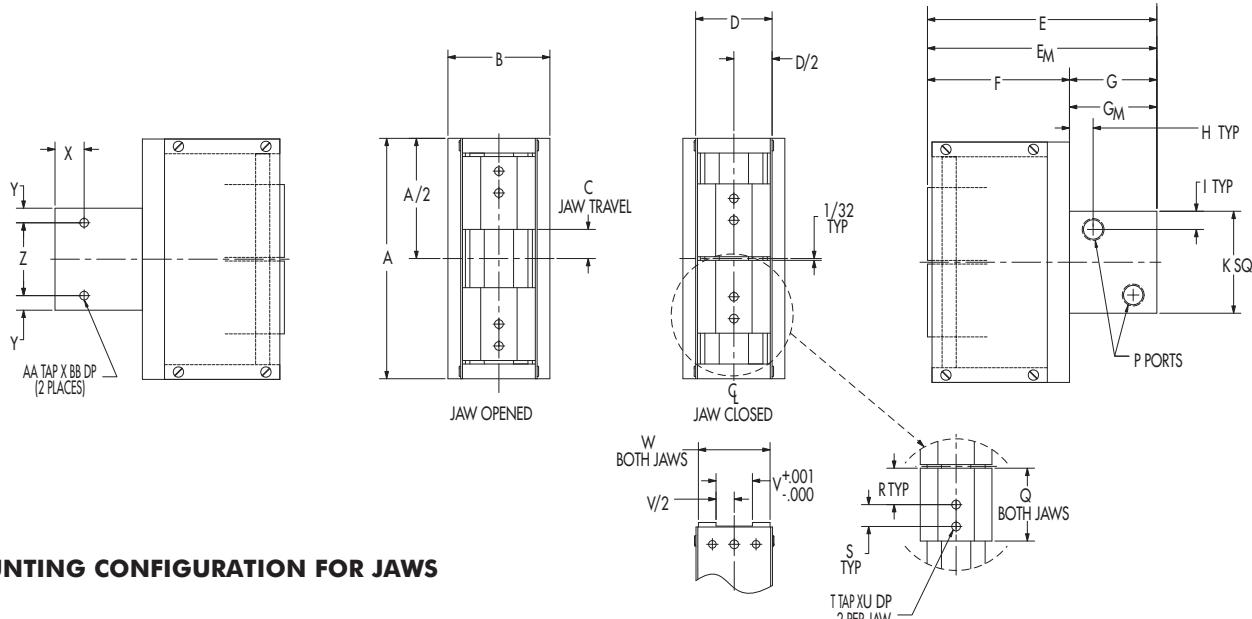
See Notes on page 18.

All Dimensions in Inches

# Parallel Grippers: 2 Jaw

## Base Mounted Gripper "PBG" (Square Body With Base Mounting Holes)

**Important Note:** Unit mounting holes are ONLY difference between styles "PBG" & "PSG"



### MOUNTING CONFIGURATION FOR JAWS

| Bore   | Gripper                            | Part #       | A     | B     | C   | D      | E       | **E <sub>M</sub> | F       | G     | **G <sub>M</sub> | H     | I    | K     |
|--------|------------------------------------|--------------|-------|-------|-----|--------|---------|------------------|---------|-------|------------------|-------|------|-------|
| 3/4"   | Square 3/4 Bore x 1/4 Jaw Travel   | PBG072 x 1/4 | 2-5/8 | 1-1/4 | 1/4 | 13/16  | 2-3/8   | 2-5/8            | 1-3/8   | 1.0   | 1-1/4            | 9/32  | 5/16 | 1-1/4 |
|        | Square 3/4 Bore x 1/2 Jaw Travel   | PBG072 x 1/2 | 3-1/8 | 1-1/4 | 1/2 | 13/16  | 3.0     | 3-1/4            | 1-3/4   | 1-1/4 | 1-1/2            | 9/32  | 5/16 | 1-1/4 |
| 1-1/8" | Square 1-1/8 Bore x 1/4 Jaw Travel | PBG112 x 1/4 | 3-1/8 | 1-1/2 | 1/4 | 1-1/16 | 2-5/8   | 2-7/8            | 1-5/8   | 1.0   | 1-1/4            | 9/32  | 1/4  | 1-1/2 |
|        | Square 1-1/8 Bore x 1/2 Jaw Travel | PBG112 x 1/2 | 3-5/8 | 1-1/2 | 1/2 | 1-1/16 | 3-1/4   | 3-1/2            | 2.0     | 1-1/4 | 1-1/2            | 9/32  | 1/4  | 1-1/2 |
| 1-3/8" | Square 1-3/8 Bore x 1/2 Jaw Travel | PBG132 x 1/2 | 4-1/8 | 1-3/4 | 1/2 | 1-5/16 | 3-15/16 | 4-3/16           | 2-7/16  | 1-1/2 | 1-3/4            | 13/32 | 5/16 | 1-3/4 |
|        | Square 1-3/8 Bore x 3/4 Jaw Travel | PBG132 x 3/4 | 4-5/8 | 1-3/4 | 3/4 | 1-5/16 | 4-9/16  | 4-13/16          | 2-13/16 | 1-3/4 | 2.0              | 13/32 | 5/16 | 1-3/4 |
| 1-5/8" | Square 1-5/8 Bore x 1/2 Jaw Travel | PBG162 x 1/2 | 4-1/8 | 2.0   | 1/2 | 1-5/16 | 3-15/16 | 4-3/16           | 2-7/16  | 1-1/2 | 1-3/4            | 13/32 | 5/16 | 2.0   |
|        | Square 1-5/8 Bore x 3/4 Jaw Travel | PBG162 x 3/4 | 4-5/8 | 2.0   | 3/4 | 1-5/16 | 4-9/16  | 4-13/16          | 2-13/16 | 1-3/4 | 2.0              | 13/32 | 5/16 | 2.0   |
| 2"     | Square 2.0 Bore x 1/2 Jaw Travel   | PBG202 x 1/2 | 4-1/8 | 2-1/2 | 1/2 | 1-5/16 | 4-1/16  | 4-5/16           | 2-7/16  | 1-5/8 | 1-7/8            | 7/16  | 3/4  | 2-1/2 |
|        | Square 2.0 Bore x 3/4 Jaw Travel   | PBG202 x 3/4 | 4-5/8 | 2-1/2 | 3/4 | 1-5/16 | 4-11/16 | 4-15/16          | 2-13/16 | 1-7/8 | 2-1/8            | 7/16  | 3/4  | 2-1/2 |

| Bore   | Part #       | P       | Q     | R   | S    | T      | U    | V    | W     | X   | Y    | Z     | AA       | BB   |
|--------|--------------|---------|-------|-----|------|--------|------|------|-------|-----|------|-------|----------|------|
| 3/4"   | PBG072 x 1/4 | #10-32* | 3/4   | 3/8 | 1/4  | #6-32  | 3/16 | .375 | .730  | 3/8 | 3/16 | 7/8   | #10-24   | 5/16 |
|        | PBG072 x 1/2 | #10-32* | 3/4   | 3/8 | 1/4  | #6-32  | 3/16 | .375 | .730  | 3/8 | 3/16 | 7/8   | #10-24   | 5/16 |
| 1-1/8" | PBG112 x 1/4 | #1/8-27 | 1.0   | 1/2 | 5/16 | #6-32  | 1/4  | .500 | .980  | 3/8 | 3/16 | 1-1/8 | #10-24   | 5/16 |
|        | PBG112 x 1/2 | #1/8-27 | 1.0   | 1/2 | 5/16 | #6-32  | 1/4  | .500 | .980  | 3/8 | 3/16 | 1-1/8 | #10-24   | 5/16 |
| 1-3/8" | PBG132 x 1/2 | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 | 1/2 | 1/4  | 1-1/4 | #10-24   | 5/16 |
|        | PBG132 x 3/4 | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 | 1/2 | 1/4  | 1-1/4 | #10-24   | 5/16 |
| 1-5/8" | PBG162 x 1/2 | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 | 1/2 | 1/4  | 1-1/2 | #1/4-20  | 3/8  |
|        | PBG162 x 3/4 | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 | 1/2 | 1/4  | 1-1/2 | #1/4-20  | 3/8  |
| 2"     | PBG202 x 1/2 | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 | 1/2 | 1/4  | 2.0   | #5/16-18 | 1/2  |
|        | PBG202 x 3/4 | #1/8-27 | 1-1/4 | 5/8 | 3/8  | #10-24 | 3/8  | .625 | 1.230 | 1/2 | 1/4  | 2.0   | #5/16-18 | 1/2  |

\* 1/8-27 Pipe Tap, Optional  
\*\* For magnetic piston, specify prefix "A". Refer to page 21 for track locations and see pages 22-23 for additional sensor information.

### Notes:

|    |   |
|----|---|
| #1 | Positive alignment mounting available on "B" Style Grippers. Consult factory. |
| #2 | See page 20 for adjustable Jaw movement option.                               |
| #3 | See page 19 for standard Jaws.  |
| #4 | Gripping force and unit weights on pages 15-16                                |

All Dimensions in Inches

# Parallel Grippers: 2 Jaw

## Com-Pick II Pneumatic Grippers

**Jaw Options:** Jaw inserts below can be mounted to Master Jaws on gripper using 1 screw. By turning and

### "L" Shaped Jaw Option "LF"

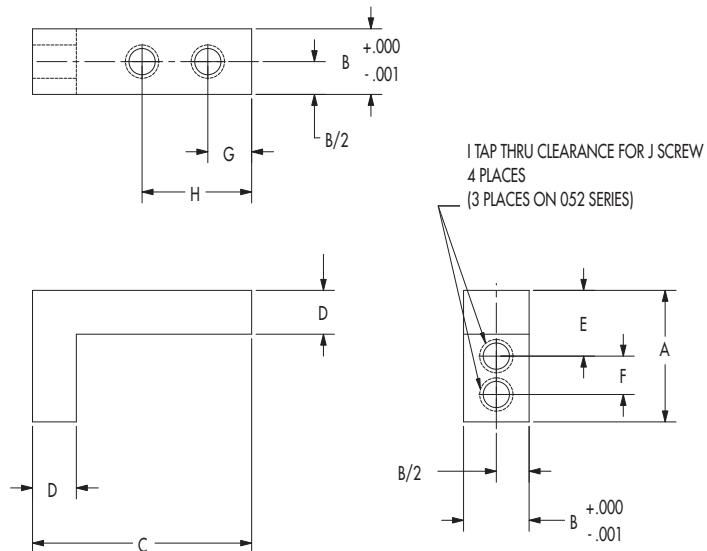
Tooling Only

To order a "set" of jaws only:

Specify: F **112** PLF

Series required

See Ordering Instructions to order attached to gripper



| Gripper Series | Bore (Ref.)   | A     | B    | C     | D   | E   | F     | G    | H     | I       | J   |
|----------------|---------------|-------|------|-------|-----|-----|-------|------|-------|---------|-----|
| <b>052</b>     | <b>1/2"</b>   | 1/2   | .249 | 1.0   | 1/8 | 1/4 | -     | 3/16 | 1/2   | #8-32   | #4  |
| <b>072</b>     | <b>3/4"</b>   | 3/4   | .374 | 1-1/4 | 1/4 | 3/8 | 7/32  | 1/4  | 5/8   | #10-24  | #6  |
| <b>112</b>     | <b>1-1/8"</b> | 1.0   | .499 | 1-1/4 | 1/4 | 1/2 | 9/32  | 1/4  | 5/8   | #10-24  | #6  |
| <b>132</b>     | <b>1-3/8"</b> |       |      |       |     |     |       |      |       |         |     |
| <b>162</b>     | <b>1-5/8"</b> | 1-1/4 | .624 | 1-1/2 | 3/8 | 5/8 | 11/32 | 1/4  | 11/16 | #1/4-20 | #10 |
| <b>202</b>     | <b>2"</b>     |       |      |       |     |     |       |      |       |         |     |

#### Notes:

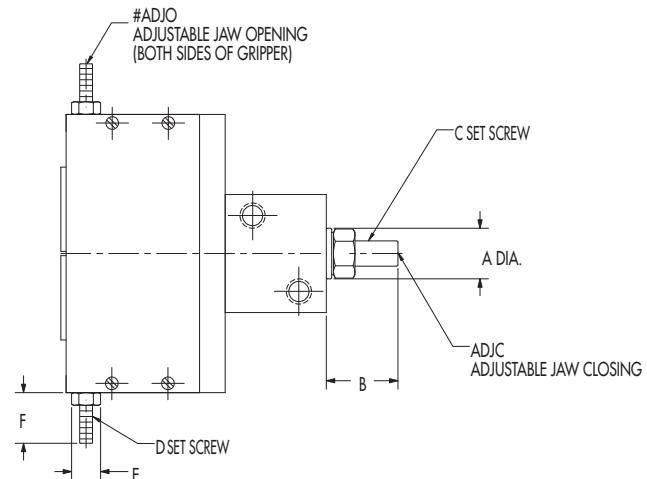
|           |  |
|-----------|--|
| <b>#1</b> | Several mounting options for different open and closed position. |
| <b>#2</b> | Jaws made of "1018" Steel.                                       |
| <b>#3</b> | Mounting screws are provided.                                    |

# Options and Accessories

## Com-Pick and Comp-Pick II

### Adjustable Jaw Travel – Parallel Grippers Option "ADJO" / "ADJC"

| Bore   | Gripper Series | A     | B      | C      | D     | E   | F     |
|--------|----------------|-------|--------|--------|-------|-----|-------|
| 1/2"   | PG052 x 1/8    | 15/32 | 3/8    | 10-32  | 4-40  | .29 | 5/16  |
|        | PG052 x 1/4    | 15/32 | 1/2    | 10-32  | 4-40  | .29 | 7/16  |
| 3/4"   | PG072 x 1/4    | 9/16  | 11/16  | 1/4-20 | 6-32  | .36 | 7/16  |
|        | PG072 x 1/2    | 9/16  | 15/16  | 1/4-20 | 6-32  | .36 | 11/16 |
| 1-1/8" | PG112 x 1/4    | 3/4   | 13/16  | 3/8-16 | 8-32  | .36 | 7/16  |
|        | PG112 x 1/2    | 3/4   | 1-1/16 | 3/8-16 | 8-32  | .36 | 11/16 |
| 1-3/8" | PG132 x 1/2    | 3/4   | 1-1/16 | 3/8-16 | 10-24 | .43 | 3/4   |
|        | PG132 x 3/4    | 3/4   | 1-5/16 | 3/8-16 | 10-24 | .43 | 1     |
| 1-5/8" | PG162 x 1/2    | 3/4   | 1-1/16 | 3/8-16 | 10-24 | .43 | 3/4   |
|        | PG162 x 3/4    | 3/4   | 1-5/16 | 3/8-16 | 10-24 | .43 | 1     |
| 2"     | PG202 x 1/2    | 1     | 1-1/4  | 1/2-13 | 10-24 | .43 | 3/4   |
|        | PG202 x 3/4    | 1     | 1-1/2  | 1/2-13 | 10-24 | .43 | 1     |

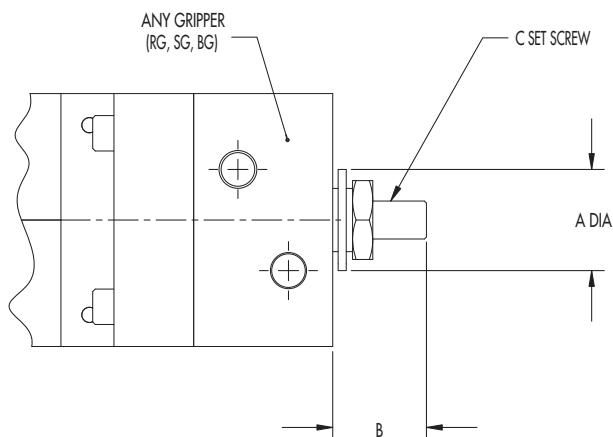


#### Notes:

|    |   |
|----|---|
| #1 | ADJC consists of Set Screw, Locking Nut, and Thread Seal.<br>(Max. 200°F) |
| #2 | ADJO consists of 2 Set Screws and 2 Locking Nuts.                         |
| #3 | "PA" option not available on ADJC option.                                 |

### Adjustable Jaw Travel – Angular Grippers Option ADJ (Closed Adjustment Only)

#### Adjustment of Jaw Closure on 2 & 3 Jaw Angular Grippers



| Series | 052   | 072/073 | 112/113 | 162/163 | 202    | 252/253 | 302/303 | 402/412/<br>403 | 502/503 | 602/603 | 802/803 |
|--------|-------|---------|---------|---------|--------|---------|---------|-----------------|---------|---------|---------|
| Bore   | 1/2   | 3/4     | 1-1/8   | 1-5/8   | 2      | 2-1/2   | 3       | 4               | 5       | 6       | 8       |
| A      | 15/32 | 9/16    | 3/4     | 3/4     | 1      | 1       | 1-3/8   | 1-3/8           | 1-3/8   | 1-3/8   | 1-3/8   |
| B      | 3/8   | 9/16    | 11/16   | 11/16   | 15/16  | 15/16   | 1-1/4   | 1-3/8           | 1-3/8   | 1-1/2   | 1-3/4   |
| C      | 10-32 | 1/4-28  | 3/8-24  | 3/8-24  | 1/2-13 | 1/2-13  | 3/4-10  | 3/4-10          | 3/4-10  | 3/4-10  | 3/4-10  |

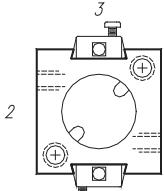
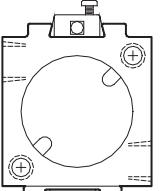
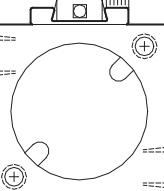
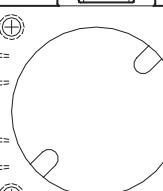
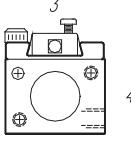
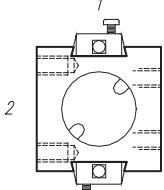
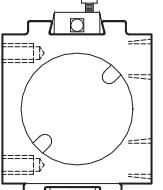
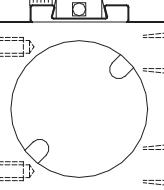
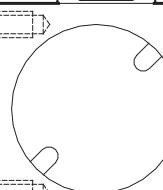
Dimensions typical for RG, SG, & BG style angular grippers.

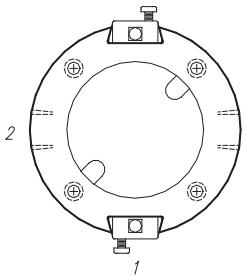
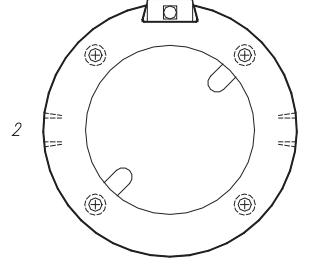
| Notes: |  |
|--------|--|
| #1     | Adjustment consists of Set Screw, Locking Nut, and Thread Seal. (Max. 200°F) |
| #2     | Adjustment for Jaw closing only.   |
| #3     | "PA" option not available with ADJ option.                                   |

# Options and Accessories

## Sensor Track Locations for Magnetic Piston Grippers

Diagrams illustrate rear of gripper actuator

|                             | 1/2"  | 3/4"   | 1-1/8"   | 1-3/8" – 1-5/8"   | 2" – 3"  |
|-----------------------------|---|--|--|---|--|
| <b>Style "S" End Mount</b>  | Design accommodates one sensor only   |   |   |  <p>◆ Omit track on side 1</p>  |   |
| <b>Style "B" Base Mount</b> |  |  |  |  <p>◆ Omit track on side 3</p> |  |

|                            | 3/4" – 1-5/8"   | 2" – 5"   |
|----------------------------|---|---|
| <b>Style "R" End Mount</b> |  |  |

### Dimensional Information

#### Angular Gripper

1/2" – See page 6  
 3/4" thru 8" – Prefix "A" adds 1/4" to the overall actuator length

#### Parallel Gripper

Pre-calculated on dimensional pages 16-17

**NOTE:** The magnetic option is designed for sensing jaws "fully open" and "fully closed" only, not for indication of part. Reliable limit sensing may be adversely affected by minimal stroke grippers when sensing both open and close positions.

Consult factory for 6" and 8" bore sensor track locations.

# Sensors

## Standard Limit Sensors

- Low Cost and compact size
- Dual LED indicators for power and signal
- Circuit protection for surge and polarity
- High-flex robotic grade cable with 4,8mm (3/16") bend radius. 105 strand primaries.
- CE compliant / IP67 and NEMA 6P rated
- 100% solid state device for maximum life
- 3 cord options

(Shown with Quick Disconnect Option)



| Part No. |        | Sensor Type<br>(Wiring diagrams and definitions on page 23) | Cord Types       |         |         |
|----------|--------|---|------------------|---------|---------|
| Sinking  | WSKL   |   | Quick Disconnect | 1 Meter | 3 Meter |
| Sinking  | WSKLP  | NPN   | 3*               |         |         |
|          | WSKL-3 |   |                  |         | 3       |
|          | WSKLPS |   | 3*               |         |         |
|          | WSCL   |   |                  | 3       |         |
| Sourcing | WSCLP  | PNP   | 3*               |         |         |
|          | WSCL-3 |   |                  |         | 3       |
|          | WSCLPS |   | 3*               |         |         |
|          |        |   |                  |         |         |

\*NOTE: Mating 3 socket receptacle available, part # R3

### 3 Prong Plug

#WSKLP, #WSCLP, #WSKLPS, #WSCLPS

**WS\_LP**

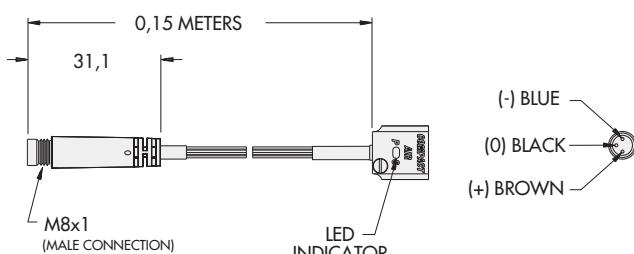
**WS\_LPS**

## Optional Quick Disconnect Sensor Cable

with threaded, sealed connectors

**Part Number** – Specify **K** or **C**

### Plug – 3 Prong



### 3 Socket Mating Cable

For use with:  
#WSKLP, #WSCLP, #WSKLPS, #WSCLPS,

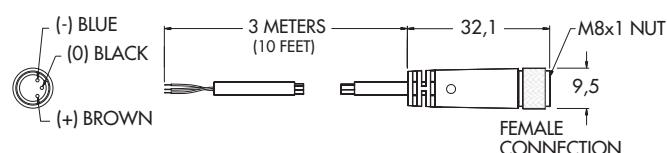


**Sold Separately**

**Part Number**

R3

### Receptacle – 3 Socket



Hoge Buizen 53 -1980 EPPEGEM (BE)

[www.LDA.be](http://www.LDA.be) - [LDA@LDA.be](mailto:LDA@LDA.be)

+32(0) 2 266 13 13

# Sensors

## Comtronic® Sensors Dimensional Information

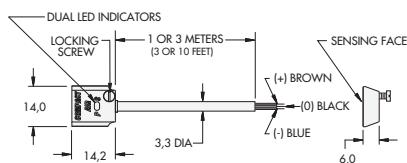
Must specify 'K' (sinking) or 'C' (sourcing) when ordering

**Part Number** – Specify K or C

**WS\_L**

**WS\_L-3**

"3" denotes 3 meter cable



**Part No. WSKL-3** – Sinking output with 3 meter cable.

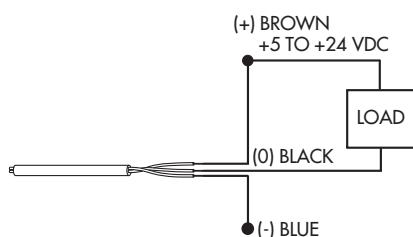


| Specifications                      |  |                         |
|-------------------------------------|--|-------------------------|
| Parameters                          | Comtronic® Standard Limit Sensors      |                         |
| Part Number                         | NPN (sinking)                          | PNP (sourcing)          |
| <b>Operating Voltage</b>            | 5-24 VDC                               |                         |
| <b>Current Consumption</b>          |  |                         |
| <b>On</b>                           | 16mA (at 24V)                          | 14mA (at 24V)           |
| <b>Off</b>                          | 7mA (at 24V)                           | 7mA (at 24V)            |
| <b>Switching Current</b>            | 100mA Max                              |                         |
| <b>Voltage Drop</b>                 | 1.5 V Max @ 100mA                      |                         |
| <b>Operating Frequency</b>          | 1 KHz Max                              |                         |
| <b>Switch Logic</b>                 | Sinking, Normally Open                 | Sourcing, Normally Open |
| <b>LED Function</b>                 |  |                         |
| <b>Green</b>                        | Power On                               |                         |
| <b>Red</b>                          | Switch Active (Magnet Present)         |                         |
| <b>Operating Temperature</b>        | 0°C to 70°C                            |                         |
| <b>Circuit Protection</b>           | Reverse Polarity / Surge Absorber      |                         |
| <b>Environmental Certifications</b> | IEC standard IP67, NEMA 6P             |                         |
| <b>Wire Type</b>                    | High flex, 24 AWG / 105 strand primary |                         |
| <b>Housing Material</b>             | Zinc diecast                           |                         |
| <b>Housing Color Code</b>           | Black                                  | Silver                  |
| <b>Shock Resistance</b>             | 30G Max                                |                         |
| <b>Vibration Strength</b>           | 9G Max                                 |                         |

## Wiring Diagrams and Definitions

For units with flying leads

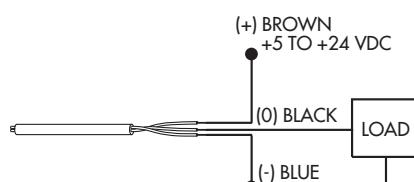
### NPN Output Sinking (K)



- Ideal for complex controls utilizing multiple power supplies.

A "sinking" output sensor complete a circuit by connecting the load to ground. Sinking output sensors in a sequence can have different supply voltages. The ground is their common factor.

### PNP Output Sourcing (C)



- Ideal for single power supply applications.

A "sourcing" output sensor completes a circuit by connecting the load to the supply current. All sourcing output sensors must have the same supply voltage.



# Options and Accessories

## Com-Pick and Com-Pick II 2 & 3 Jaw Pneumatic Grippers

### Actuator Seal Options

| Seal Type                    | Standard | Option | Code | (PSI) Pressure | °F Temperature Range |
|------------------------------|----------|--------|------|----------------|----------------------|
| BUNA-N                       | 3        |        | --   | 2-200 PSI      | 0°F TO 200°F         |
| ** Hi Temp. Viton            |          | 3      | HTV  | 10-200 PSI     | 0°F TO 400°F         |
| **Corrosion Resistant Teflon |          | 3      | CRT* | 10-200 PSI     | 200°F TO 500°F       |

\* Not available on parallel grippers and 1/2" bore models.

\*\* Due to metal expansion in elevated temperatures, our Jaw fit may have to be re-ground to compensate. Consult factory regarding other seal compounds or applications using media other than compressed air.

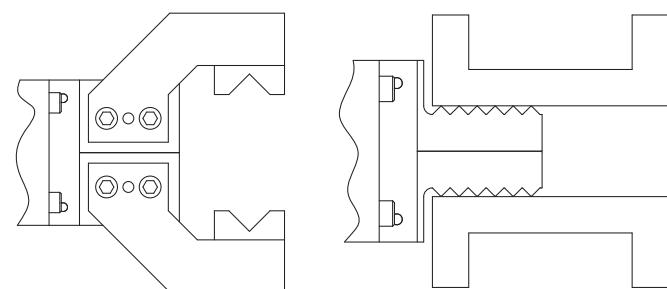
## Application Ideas

### Specials Welcome

For Engineering or Technical Assistance Consult Factory.



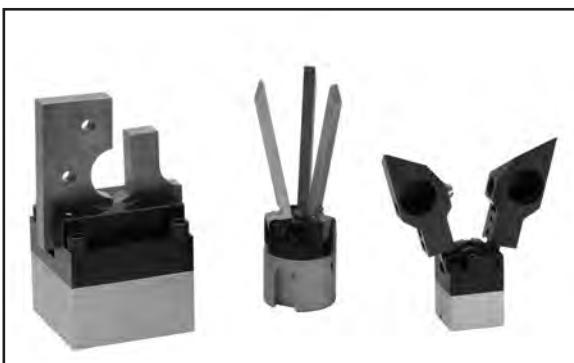
Typical Modifications to Blank Jaws



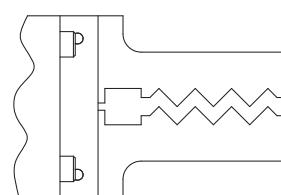
Bolt-on tooling

I.D. Gripping

- Textile applications
- Bulk wire handling

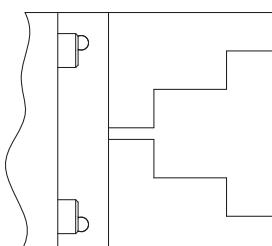


Special Tooling Modifications



**"Spru-pickers" for Plastic Molds**

- Serrated and carburized jaws



**Stepped Jaws**

- Benchtop workholding
- Multi-sized parts handling