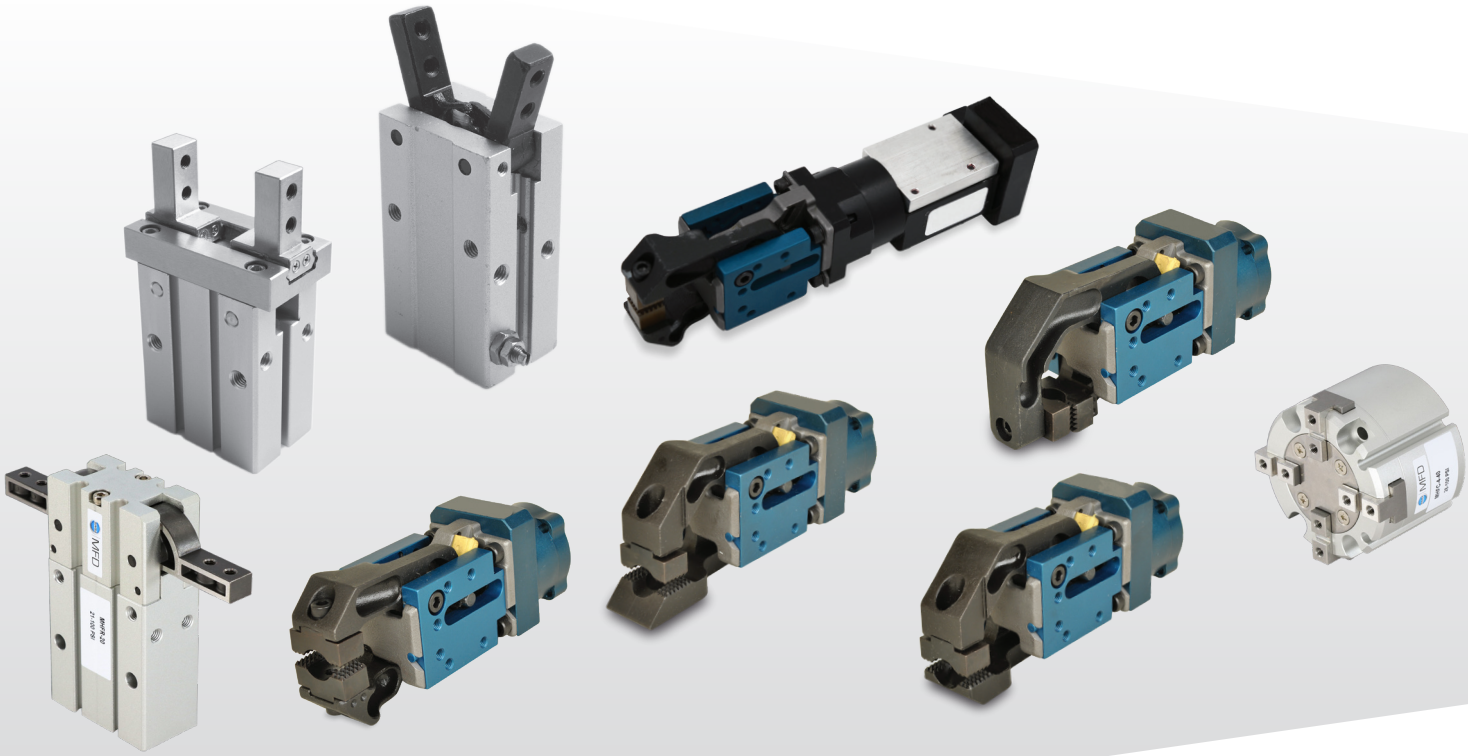


We make things MOVE®

Grippers Catalog

Best-in-class performance, built to last

Bimba is part of IMI Precision Engineering



We Make Things Move®

A forward-thinking innovator, Bimba provides industry-leading pneumatic, hydraulic, electric and vacuum motion solutions that are easy-to-use, reliable and ready for your engineering challenges.

Doing whatever it takes to help you get the job done is what the Bimba companies do best. With an extensive line of industry-leading air cylinders, rotary actuators, linear thrusters, rodless cylinders, NFPA, hydraulics, flow controls, position-sensing cylinders, valves, switches and air preparation equipment, the people of Bimba are ready to tackle your toughest applications.

Bimba is part of IMI Precision Engineering, a world leader in motion and fluid control technologies. Wherever precision, speed and engineering reliability are essential, we deliver exceptional solutions which improve the productivity and efficiency of customers' equipment.

Our range of high-performance products, such as actuators, valves, valve islands, pressure monitoring controls and air preparation products together with trusted products brands including IMI Norgren, IMI Buschjost, IMI FAS, IMI Herion and IMI Maxseal underpin our position as a leading global supplier.

Part of IMI plc, we have a sales and service network in 75 countries, as well as manufacturing capability in the USA, Germany, China, UK, Switzerland.

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Grippers

Bimba's Pneumatic Gripper System (BPGS) provides a versatile yet rugged gripping solution for a wide range of applications. This gripper series offers a high gripping force solution for various industries due to the many jaw options offered. Bimba offers angular, regular, chisel, flange, and shovel jaw types. This high gripping force solution allows for picking up large heavy objects in the most demanding environments. The long-lasting hardened steel chassis ensures that the gripper can withstand hard impacts with the work piece and other items within the environment.

Bimba's latest parallel multi-finger and 180° grippers are ideal solutions for various pick and place applications. The parallel multi-finger gripper is available in multiple bore sizes with 2, 3, or 4 finger options. The 180° grippers allow the fingers to get out of the way prior to clamping so additional operations of moving parts can occur. Bimba's long performing angular and parallel grippers are robust and are available as double acting and single acting. An integrated flow valve allows for easy convenience of adjusting the speed of the opening and closing of the gripping jaw. These grippers can be mounted from three different sides.



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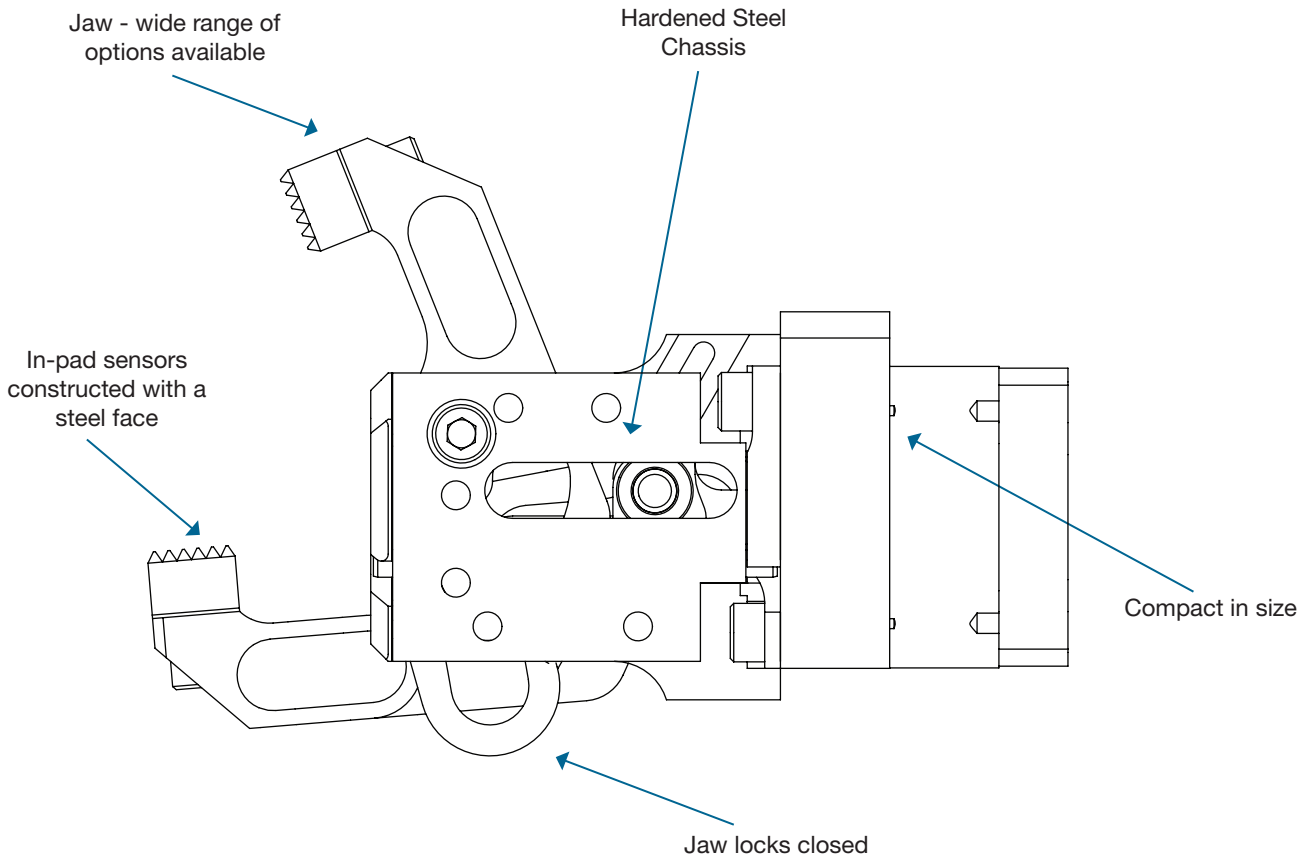
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Features and Benefits

- High gripping forces allow for picking up large heavy objects in demanding environments
  - » Up to 450 lbs. at 80 PSI
- Fast actuation time:
  - » 0.05 second close
  - » 0.09 second open
  - » 425 cycles per minute
- Easily repairable by using a single wrench reducing downtime
- Long-lasting hardened steel chassis ensures that the gripper can withstand hard impacts to the work piece and other items within
- Consult factory for custom options
  - » Part presence
  - » Double blank
- Compact in size
  - » 5.34” x 1.65” x 1.04”

How it Works

Bimba's Pneumatic Gripper System (BPGS) is designed for reliable, high performing gripping solutions. This gripper system is a general purpose gripper for use as a transfer finger or end of arm tool (EOAT). The wide angle jaw opening accomodates blanks with inconsistent pickup locations. This gripper series comes standard with five different styles of jaws to accomodate your specific application.

Jaw options:

- Angular
- Regular
- Chisel
- Flange
- Shovel

Materials of Construction

Chassis:	Hardened steel
Front Face:	Hardened steel
Jaws:	Hardened steel
Jaw Pads:	Hardened steel
Body Sides:	Hardened aluminum

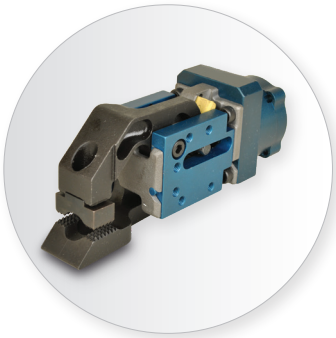
Technical Data

Throat Depth: 0.75" (19.1 mm)
Flange Height: 1.44" (36.7 mm)
Ports: 3/8 NPT or 1/8" Rc
Lubrication: Permanent for non-lube air
Working Pressure: 60 PSI min. - 100 psi max. (413 kPa min - 689 kPa max)
Grip Force: *Up to 450 lb @ 80 PSI (200 kg @ 551 kPa)
Cycles: MCBF 5 million
Actuation Time: 0.05±0.01 sec close/<0.09 sec open
Weight: **1.6 lbs. (0.73 kg)
Air Ports: 1/8" NPS or 1/8 Rc
Operating Temperature: Standard 32°F to 140°F (0°C to 60°C); Hot Metal 32°F to 1652°F (0°C to 900°C)

*Double sided force measurement
**Weight is with air fittings and 1.0" wide pads and without sensors

Application Ideas

- Sheet metal handling
- Automated welding
- Recreational vehicle
- Heavy truck
- White goods (appliances)
- Construction equipment
- Metal plating and coating
- Rail cars
- Military vehicle manufacturing
- Thermoforming
- Plating



Target Applications

The Pneumatic Gripper System (BPGS) has an expanded list of target applications due to many applications requiring a versatile gripping solution. Since Bimba offers a wide range of jaw options, this gripper series is well suited for industries looking for high gripping force. Within the target industries, there are a variety of applications for the gripper system:

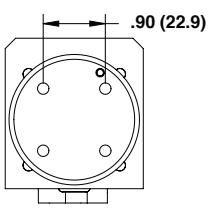
- Pick & place cut sheets
- Material transfer of sheet metal within a press
- Material clamping during welding operations
- Part transfer in plating application
- Lifting of heavy bags

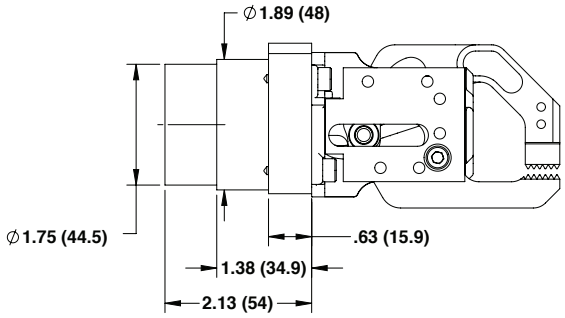
Advantages

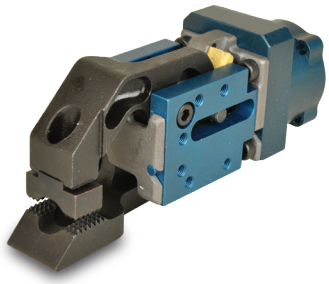
Feature	Advantage	Benefit
Repairable	Lower cost of ownership	Every part of the gripper can be replaced in only a few minutes reducing downtime and eliminating the need to buy another gripper
Single wrench repair	Reduced downtime	4mm hex wrench is all that is needed to repair and reconfigure the gripper making changes fast and easy
Hardened steel chassis	Durability	Enables the gripper to survive in harsh environments without breaking
Interchangeable pads	Flexibility	Allows you to match the gripper to the material being held
Adjustable jaw angle	Fast cycle times	By adjusting the gripper to the proper opening for an applications cycle time can increase by minimizing jaw travel
Double blank sensor	Die protection	Ensure only one sheet is loaded into the press die preventing costly damage to the press and die

Dimensional Drawings

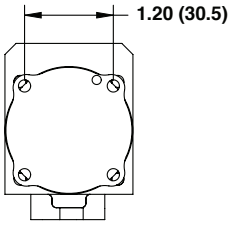
BPGS10

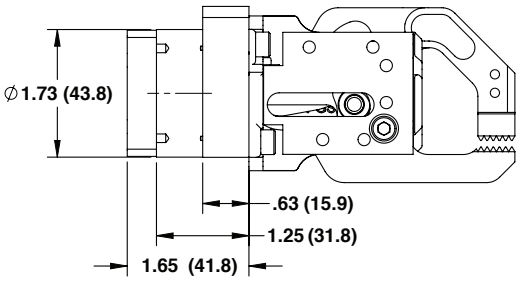






BPGS11

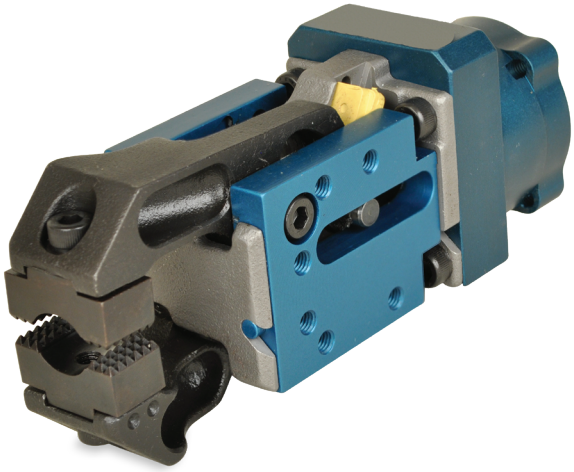






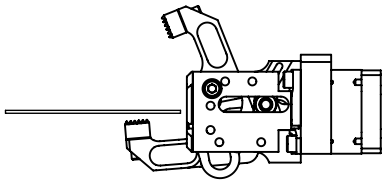
Regular Jaw Grippers

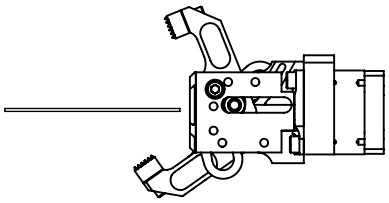
Bimba's regular jaw gripper is a general purpose gripper that is used for transfer finger or end-of-arm tool (EOAT). The wide angle jaw accomodates blanks with inconsistent pick up locations.

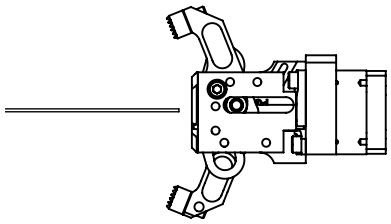


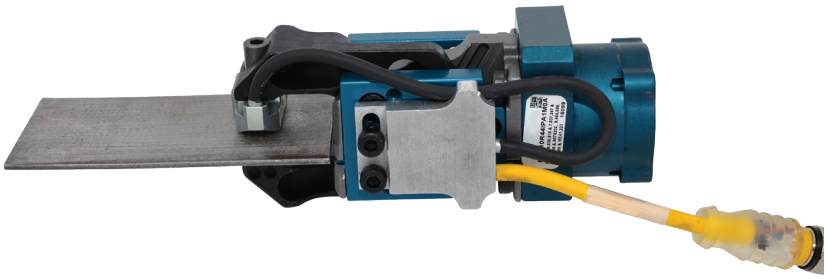
BPGS Regular Jaw Gripper

Diagram below illustrates blank placement between regular jaws, which are ideal for gripping blanks with an inconsistent pick up location:



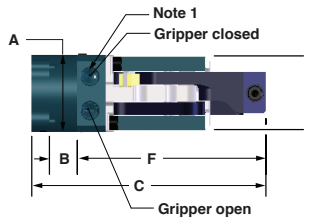




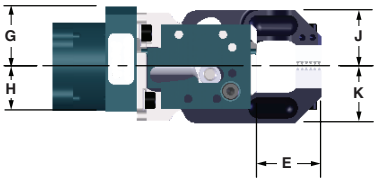


BPGS10 Regular Jaw Gripper - Jaw Angles

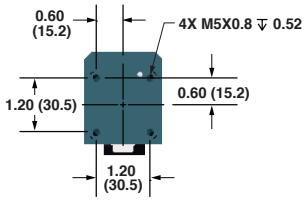
Top view



Side view

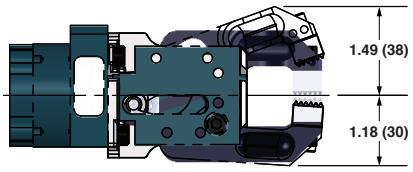


Back view

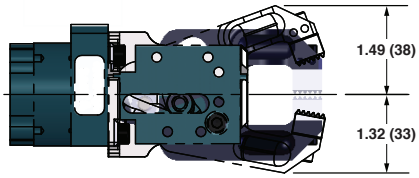


Dimensions	Inches	mm
A	1.73	43.9
B	0.63	16.0
C	5.24	133.1
D	1.73	43.9
E	1.25	31.8
F	4.23	107.4
G	1.18	29.8
H	0.86	21.9
J	1.18	30.0
K	1.21	30.7

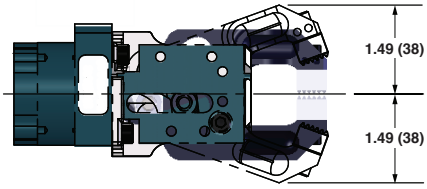
22° X 0°



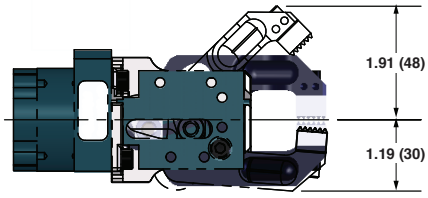
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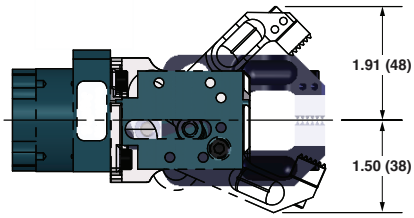
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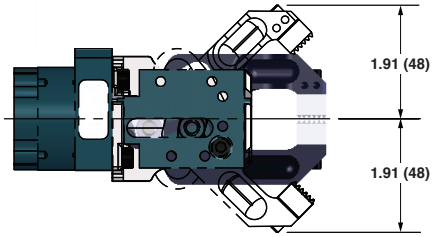
45° X 0°



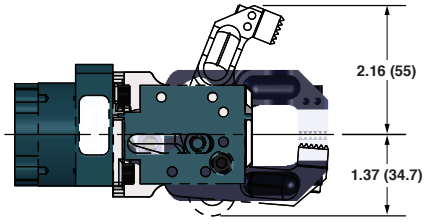
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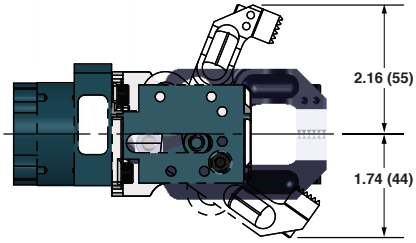
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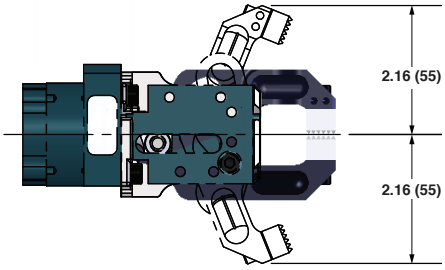
70° X 0°



70° X 35°



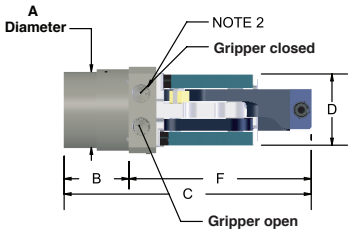
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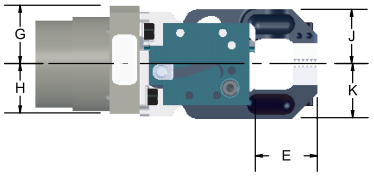
How To Specify

BPGS11 Regular Jaw Gripper - Jaw Angles

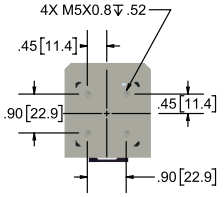
Top view



Side view



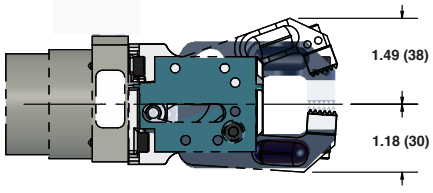
Back view



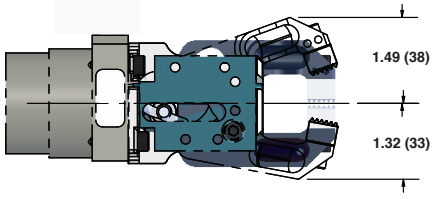
Dimensions	Inches	mm
A	1.75	44.5
B	1.50	38.1
C	5.72	145.3
D	1.65	41.9
E	1.25	31.8
F	4.22	107.2
G	1.18	29.8
H	1.00	25.4
J	1.11	28.1
K	1.11	28.1

Note 1: 1/8" NPS or 1/8 Rc

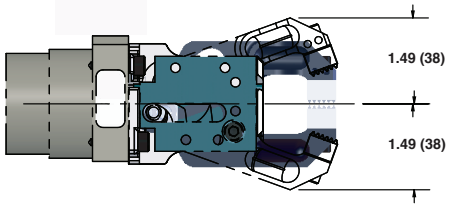
22° X 0°



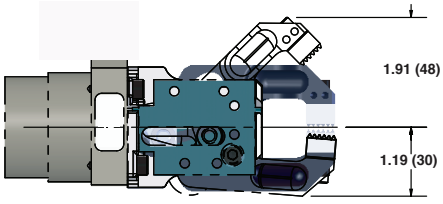
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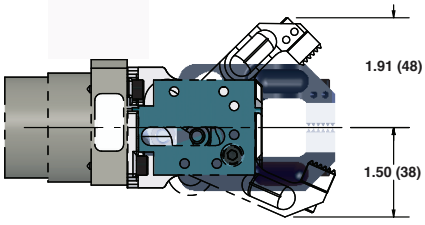
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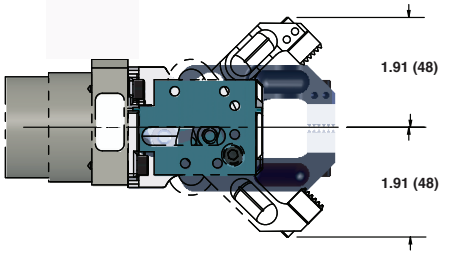
45° X 0°



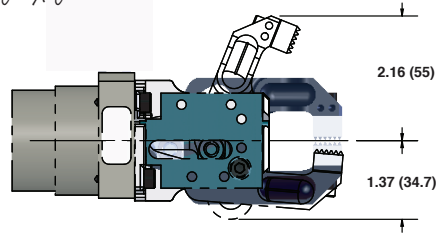
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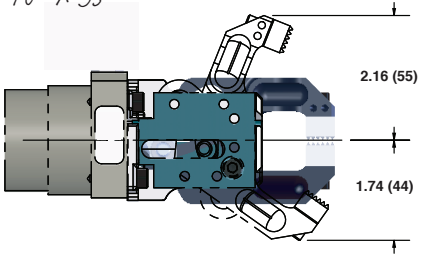
45° X 45°



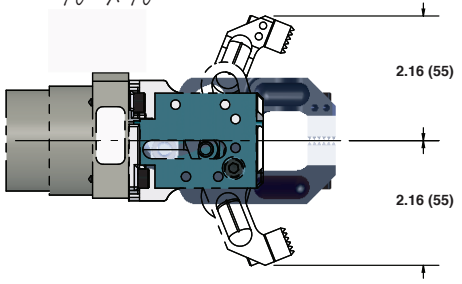
70° X 0°



70° X 35°

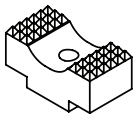


70° X 70°

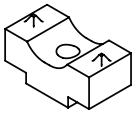


BPGS Regular Jaw Gripper - Gripper Pads

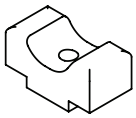
Regular pads



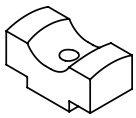
Double point pads



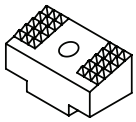
Smooth pads



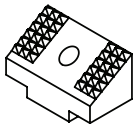
Convex pads



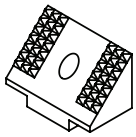
Angled pads



15°

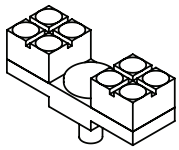


30°

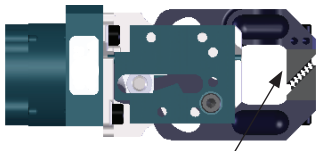


45°

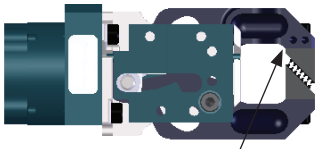
Rubber pads



Angled pad orientation

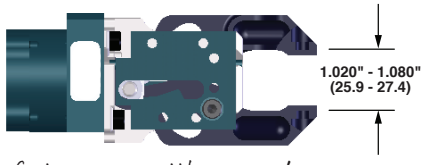


Code 1, 3 or 5



Code 2, 4 or 6

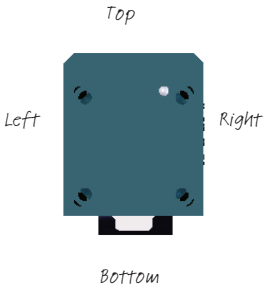
No pads (NUL)



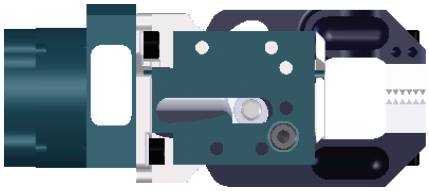
Grip range with no pads

BPGS Regular Jaw Gripper - Port Orientation

Back view



Side view



How to Order

The model number for a regular jaw gripper consists of an alphanumeric cluster designating the following below.

An example of a regular jaw gripper with a standard body style, regular jaw gripper at 22° x 0° angle, indirect double blank sensor, NPN switch, mounted on the right side with a M8 connector, for material between 2.01 and 3.5mm thickness with 1.0" wide regular flat pads, with a port orientation of a top 1/8" NPS is shown below. See below:

Body Style	
10	Standard 1.20"x1.20" bolt pattern
11	Crossover 0.90"x0.90" bolt pattern

Sensor Type	
D	Indirect double blank
H	Indirect part present
I	In-Pad
N	No Sensor

Switch Output	
N	NPN
P	PNP
2	2 Wire (3 Pin)
T	2 Wire (4 Pin)[1,2]
U	No Sensor

Indirect Sensor	
R	Micro M8/Right[8]
L	Micro M8/Left[8]
E	Pico M12/Right[8]
W	Pico M12/Left[8]
R	1/2-20 UNC/Right[7]
L	1/2-20 UNC/Left[7]
L	No Sensor

Material Thickness	
1	0.50-2.00mm
3	2.01-3.50mm
4	3.51-5.00mm
R	0.50-2.5mm[6]
N	No Pads

BPGS10R20DNR3M0E

Jaw	
R	Regular

Jaw Angle	
20	22° x 0°
22	22° x 22°
40	45° x 0°
42	45° x 22°
44	45° x 45°
70	70° x 0°
73	70° x 35°
77	70° x 70°

In Pad Sensor/Pad Type/Connector/ Pad Mount/Body Mount	
A	Reg (0°)/ Micro M8/ Top / Right
B	Reg (0°)/ Micro M8/ Top / Left
C	Reg (0°)/ Micro M8/ Bottom / Right
D	Reg (0°)/ Micro M8/ Bottom / Left
E	Reg (0°)/ Pico M12 (Internal Wire) / Top / Right
F	Reg (0°)/ Pico M12 (Internal Wire) / Top / Left
G	Reg (0°)/ Pico M12 (Internal Wire) / Bottom / Right
H	Reg (0°)/ Pico M12 (Internal Wire) / Bottom / Left
J	Reg (30°)/ Micro M8/ Top / Right
K	Reg (30°)/ Micro M8/ Top / Left
L	Reg (30°)/ Micro M8/ Bottom / Right
M	Reg (30°)/ Micro M8/ Bottom / Left
N	Reg (30°)/ Pico M12 (Internal Wire) / Top / Right
P	Reg (30°)/ Pico M12 (Internal Wire) / Top / Left
Q	Reg (30°)/ Pico M12 (Internal Wire) / Bottom / Right
R	Reg (30°)/ Pico M12 (Internal Wire) / Bottom / Left
S	Double Point / Micro M8 / Top / Right
T	Double Point / Micro M8 / Top / Left
U	Double Point / Micro M8 / Bottom / Right
V	Double Point / Micro M8 / Bottom / Left
W	Double Point / Pico M12 (Internal Wire) / Top / Right
Y	Double Point / Pico M12 (Internal Wire) / Top / Left
Z	Double Point / Pico M12 (Internal Wire) / Bottom / Right
2	Double Point / Pico M12 (Internal Wire) / Bottom / Left
I	Smooth (0°) / Micro M8 / Top / Right
9	Smooth (0°) / Micro M8 / Top / Left
3	Smooth (0°) / Micro M8 / Bottom / Right
4	Smooth (0°) / Micro M8 / Bottom / Left
5	Smooth (0°) / Micro M8 / Top / Right
6	Smooth (0°) / Micro M8 / Top / Left
7	Smooth (0°) / Micro M8 / Bottom / Right
8	Smooth (0°) / Micro M8 / Bottom / Left
L	No Sensor

Port Orientation	
E	Top 1/8" NPS
F	Top 1/8" Rc
L	Right 1/8" NPS
M	Right 1/8" Rc
S	Bottom 1/8" NPS
T	Bottom 1/8" Rc
Z	Left 1/8" NPS
2	Left 1/8" Rc

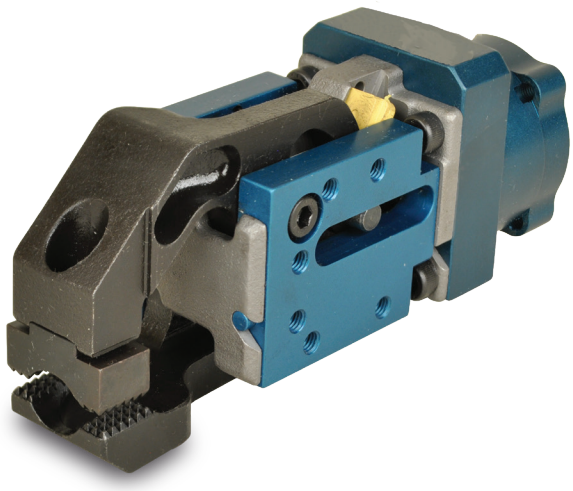
Pad Style	
0	0°
1	15° Forward slope
2	15° Rear slope
3	30° Forward slope
4	30° Rearslope
5	45° Forward slope
6	45° Rear slope
D	Double point[4]
S	Smooth[5]
C	Convex[5]
L	No Pads
R	Rubber

Pad Width	
S	0.5"[3]
M	1.0"[3]
D	1.5"[6]
U	No Pads

[1] Only available with In-Pad
[2] Only available with In-Pad A,B,C,D
[3]Cannot be used with "R" Pad type
[4]Cannot be used with "S" Pad width
[5]Cannot be used with "D" Pad width
[6]Use only with "R" Pad type
[7]Only available with indirect 2 wire sensors only
[8]Not available with indirect 2 wire sensors

Chisel Jaw Grippers

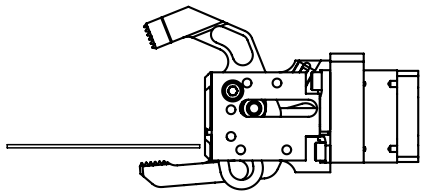
Bimba's low profile chisel jaws fit into applications that require a low or tight clearance and are ideal for picking up flat work pieces. The 14° lower chisel jaw allows the gripper to accommodate for variation in part presentation.

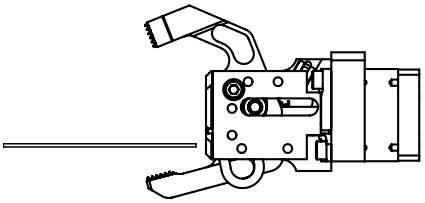


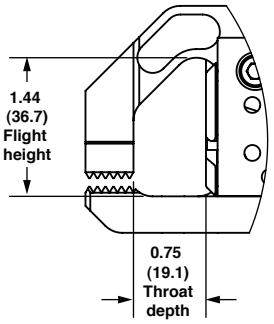
How To Specify

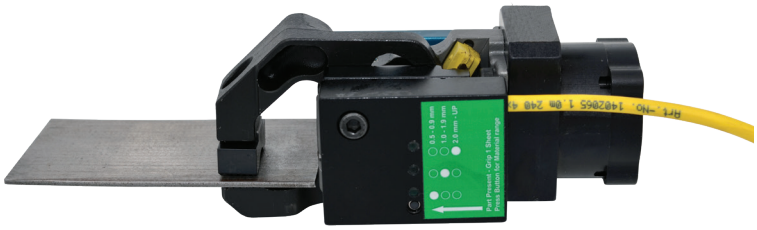
BPGS Chisel Jaw Gripper

Diagram below illustrates blank placement between chisel jaws to meet low clearance requirements:

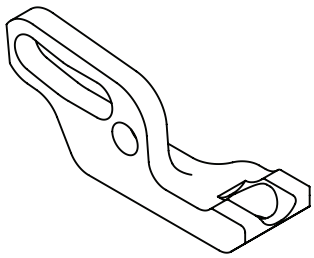






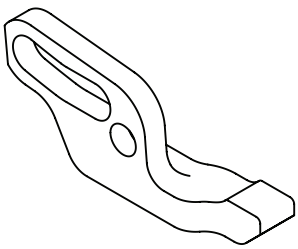


BPGS Jaw Styles - Chisel Jaw Gripper



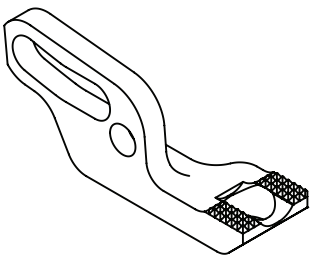
(A) Style jaws

1.0" Wide without teeth



(B) Style jaws

0.50" Wide without teeth

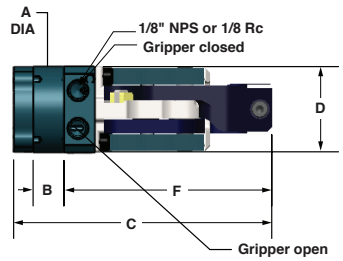


(C, D, E) Style jaws

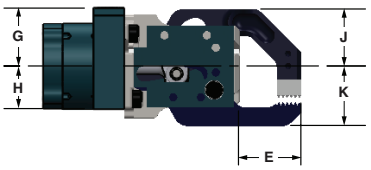
1.0" Wide with teeth

BPGS10 Chisel Jaw Gripper - Jaw Angles

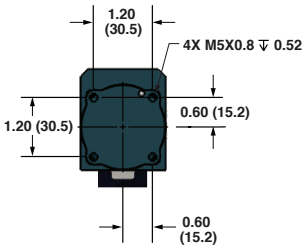
Top view



Side view

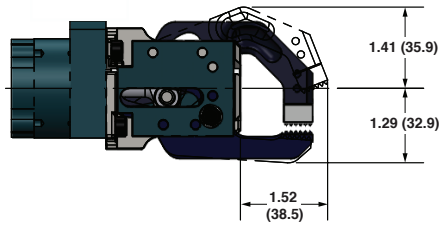


Back view

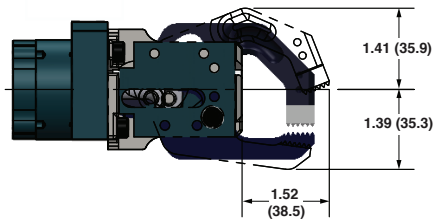


Dimensions	Inches	mm
A	1.73	43.9
B	0.63	16.0
C	5.24	133.1
D	1.73	43.9
E	1.25	31.8
F	4.23	107.4
G	1.18	29.8
H	0.86	21.9
J	1.18	30.0
K	1.21	30.7

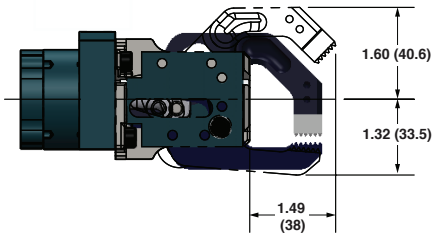
22° X 0°



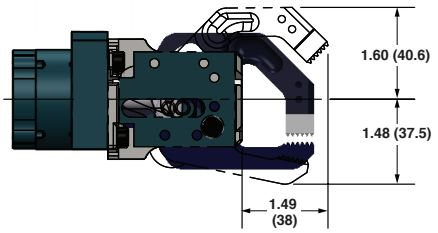
22° X 14°



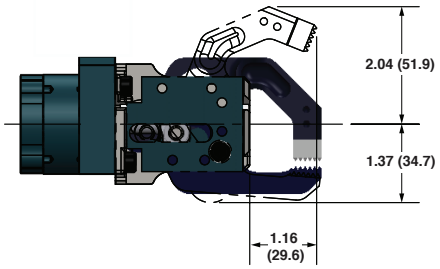
45° X 0°



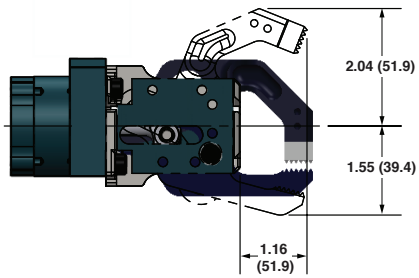
45° X 14°



70° X 0°

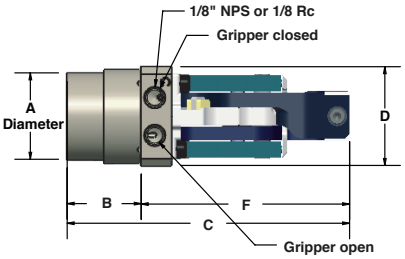


70° X 14°

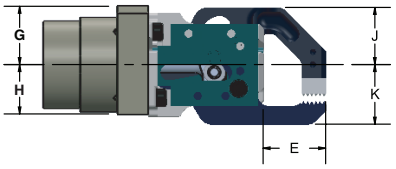


BPGS11 Chisel Jaw Gripper - Jaw Angles

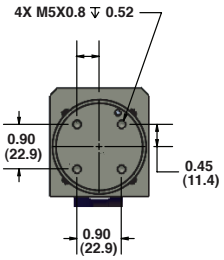
Top view



Side view

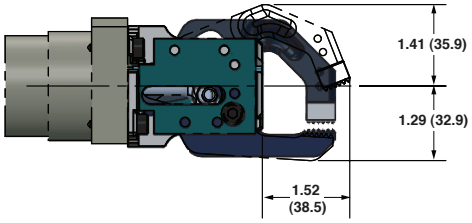


Back view

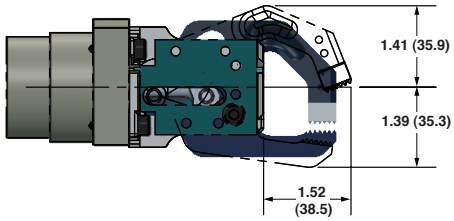


Dimensions	Inches	mm
A	1.75	44.5
B	1.50	38.1
C	5.72	145.3
D	2.00	50.8
E	1.25	31.8
F	4.23	170.4
G	1.18	29.8
H	1.00	25.4
J	1.18	30.0
K	1.21	30.7

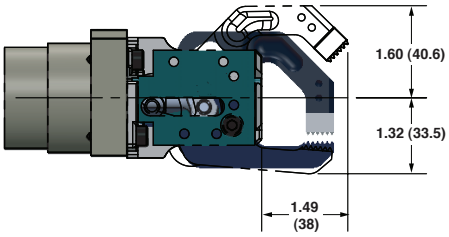
22° X 0°



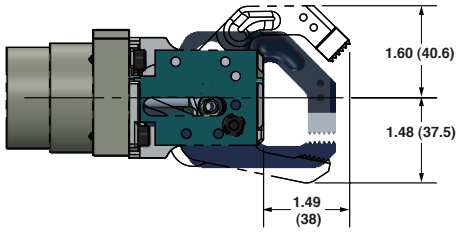
22° X 14°



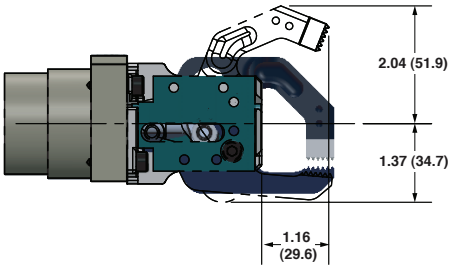
45° X 0°



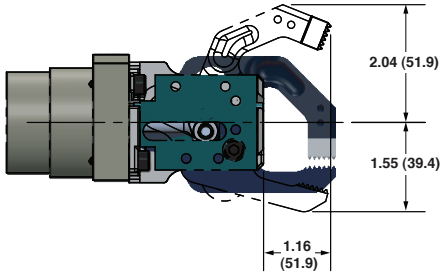
45° X 14°



70° X 0°

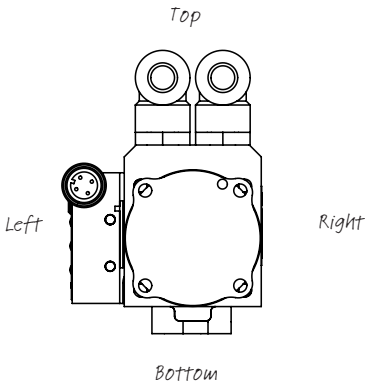


70° X 14°



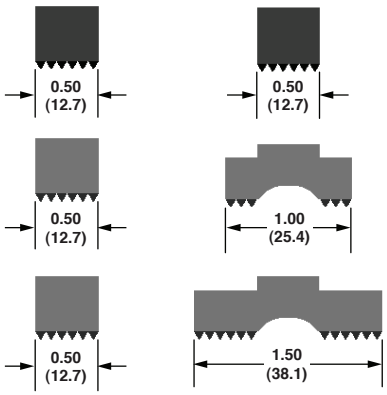
BPGS Chisel Jaw Gripper - Port Orientation

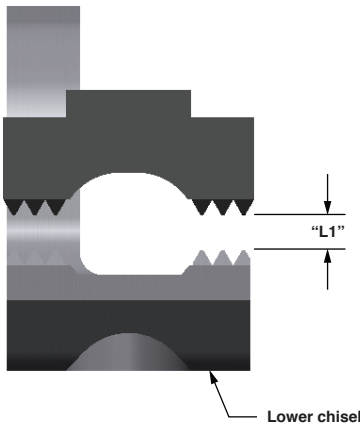




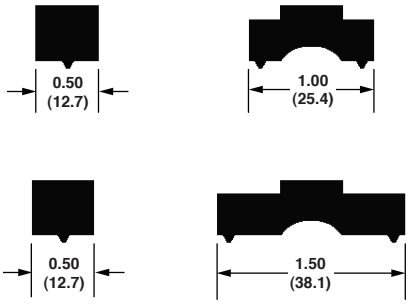
BPGS Jaw Pad - Chisel Jaw Gripper

Regular pads

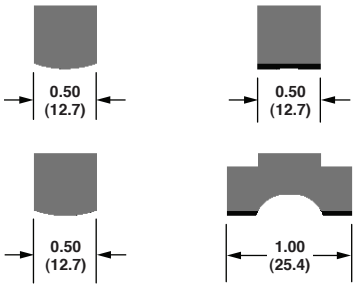




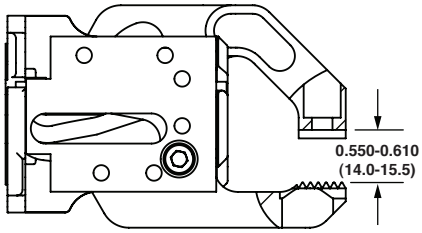
Double point pads



Convex pads

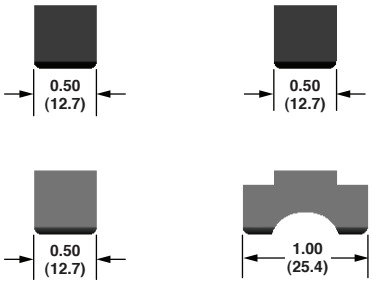


No pads (NUL) Lower chisel jaw



Grip range with no pads

Smooth pads



How to Order

The model number for a chisel jaw gripper consists of an alphanumeric cluster designating the following below.

An example of a chisel jaw gripper with a standard body style, chisel jaw gripper at 22° x 0° angle, indirect double blank sensor, NPN switch, mounted on the right side with a M8 connector, for material between 2.01 and 3.5mm in thickness with 0.5" wide regular flat pads, with a port orientation of a top 1/8" NPS is shown below. See below:

Body Style	
10	Standard 1.20"x1.20" bolt pattern
11	Crossover 0.90"x0.90" bolt pattern

Sensor Type	
D	Indirect double blank
H	Indirect part present
I	In-Pad
N	No Sensor

Switch Output	
N	NPN
P	PNP
2	2 Wire (3 Pin)
T	2 Wire (4 Pin) [4,5]
U	No Sensor

Indirect Sensor	
R	Micro M8/Right[8]
L	Micro M8/Left[8]
E	Pico M12/Right[8]
W	Pico M12/Left[8]
R	1/2-20 UNC/Right[9]
L	1/2-20 UNC/Left[9]
L	No Sensor

Material Thickness	
1	0.50-2.00mm
3	2.01-3.50mm
4	3.51-5.00mm
6	5.01-6.50mm
7	6.51-8.00mm
9	8.01-9.50mm
N	No Pads

BPGS10B20DNR3S0E

Jaw	
A	Chisel (1.0" wide without teeth
B	Chisel (0.5" wide without teeth)
C	Chisel (1.0" wide with teeth)[1]
D	Chisel (1.0" wide with teeth)[2]
E	Chisel (1.0" wide with teeth)[3]

Jaw Angle	
20	22° x 0°
21	22° x 14°
40	45° x 0°
41	45° x 14°
70	70° x 0°

In Pad Sensor/Pad Type/Connector/ Pad Mount/Body Mount	
A	Reg (0°)/ Micro M8/ Top / Right
B	Reg (0°)/ Micro M8/ Top / Left
E	Reg (0°)/ Pico M12 (Internal Wire) / Top / Right
F	Reg (0°)/ Pico M12 (Internal Wire) / Top / Left
S	Double Point / Micro M8 / Top / Right
T	Double Point / Micro M8 / Top / Left
W	Double Point / Pico M12 (Internal Wire) / Top / Right
Y	Double Point / Pico M12 (Internal Wire) / Top / Left
I	Smooth (0°) / Micro M8 / Top / Right
9	Smooth (0°) / Micro M8 / Top / Left
L	No Sensor

Port Orientation	
E	Top 1/8" NPS
F	Top 1/8" Rc
L	Right 1/8" NPS
M	Right 1/8" Rc
S	Bottom 1/8" NPS
T	Bottom 1/8" Rc
Z	Left 1/8" NPS
2	Left 1/8" Rc

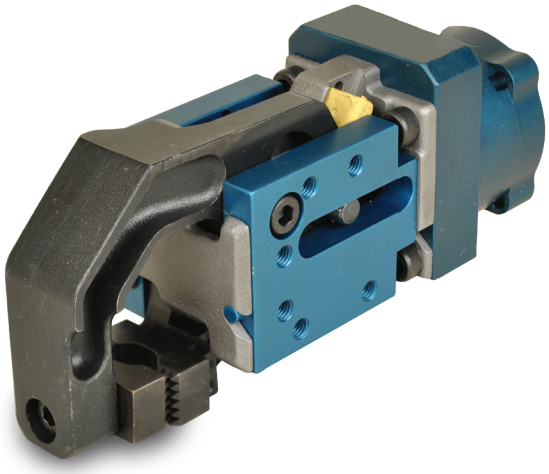
Pad Style	
0	0°
D	Double point[6]
S	Smooth[7]
C	Convex[7]
L	No Pads

Pad Width	
S	0.5"
M	1.0"
D	1.5"
U	No Pads

[1] Use with Material Thickness 1 or 2
[2] Use with Material Thickness 4 or 6
[3] Use with Material Thickness 7 or 9
[4] Only available with In-Pad
[5] Only available with In-Pad A,B,C,D
[6] Cannot be used with "S" Pad width
[7] Cannot be used with "D" Pad width
[8] Only available with indirect 2 wire sensors only
[9] Not available with indirect 2 wire sensors

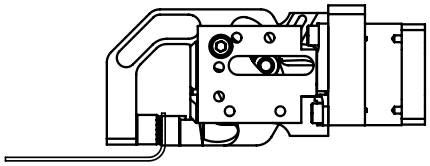
Flange Jaw Grippers

Bimba's flange jaw grippers are mounted 90° to the work piece and allows the gripper to reach around a formed flange edge. The flange jaw gripper is a great choice for applications with no lift and/or panels that have a flange or projecting edge that can be used for gripping.



BPGS Flange Jaw Gripper

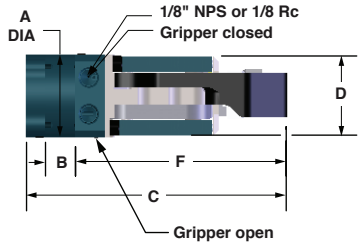
Diagram below shows a flange gripper mounted 90° to a work piece:



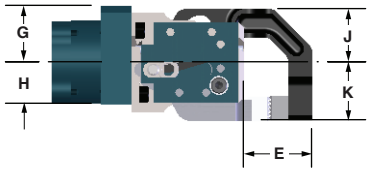


BPGS10 Flange Jaw Gripper - Jaw Angles

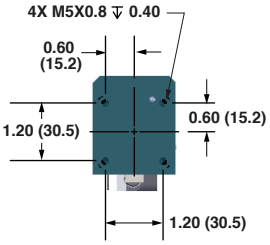
Top view



Side view

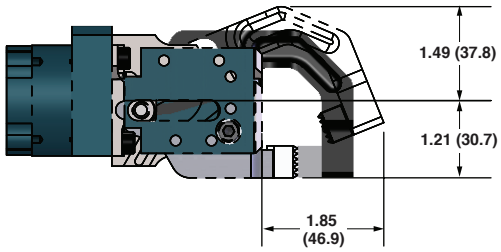


Back view

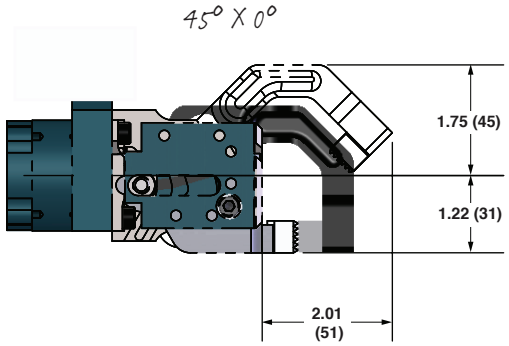


Dimensions	Inches	mm
A	1.73	43.8
B	0.63	15.9
C	5.40	137.2
D	1.65	41.9
E	1.41	35.8
F	4.38	111.2
G	1.18	29.8
H	0.86	21.9
J	1.18	29.9
K	1.21	30.7

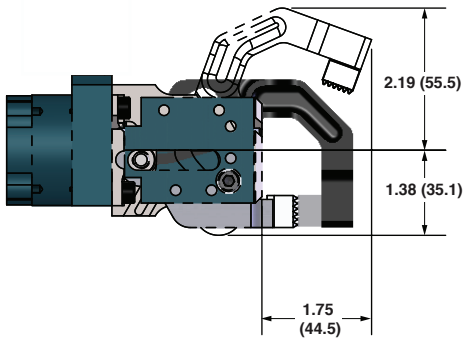
22° X 0°



45° X 0°

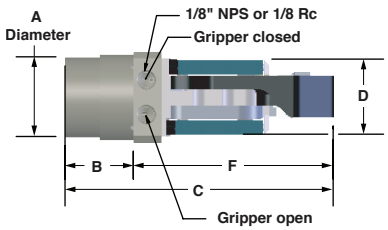


70° X 0°

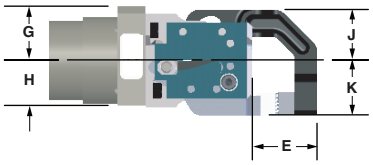


BPGS11 Flange Jaw Gripper - Jaw Angles

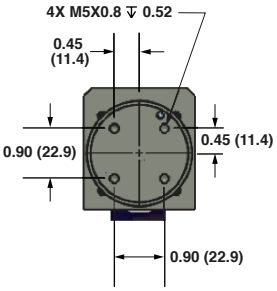
Top view



Side view

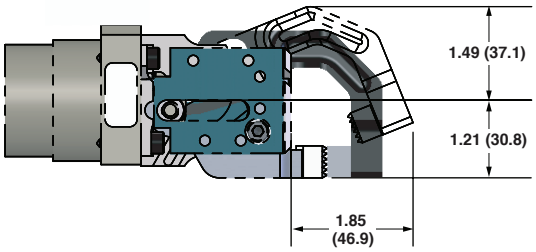


Back view

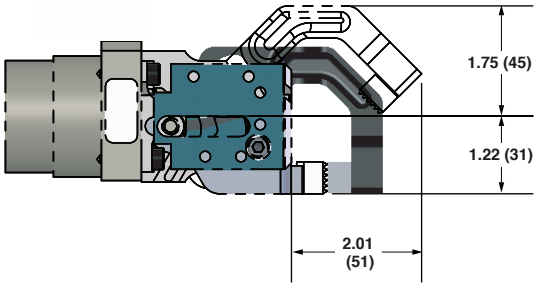


Dimensions	Inches	mm
A	1.73	44.5
B	1.50	38.1
C	5.89	149.6
D	1.65	41.9
E	1.41	35.8
F	4.38	111.2
G	1.18	29.8
H	1	25.4
J	1.18	29.9
K	1.21	30.7

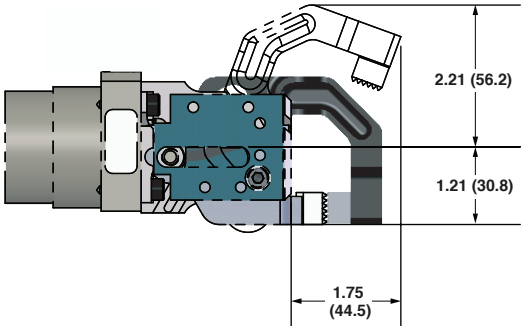
22° X 0°



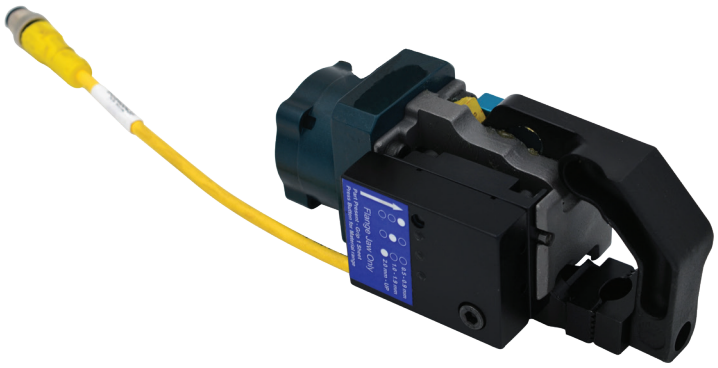
45° X 0°

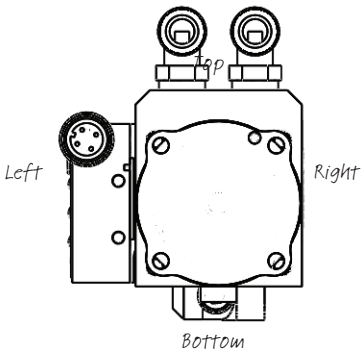


70° X 0°



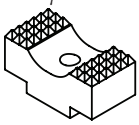
BPGS Flange Jaw Gripper - Port Orientation



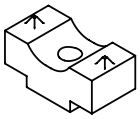


BPGS Jaw Pad - Flange Jaw Gripper

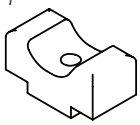
Regular pads



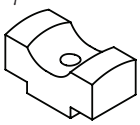
Double point pads



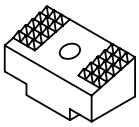
Smooth pads



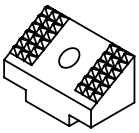
Convex pads



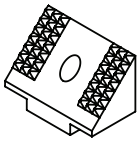
Angular pads



15°

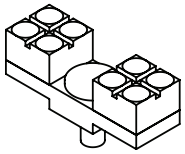


30°

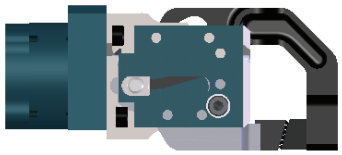


45°

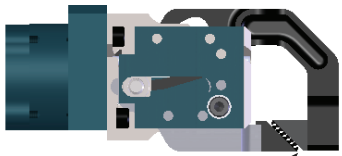
Rubber pads



Angled pad orientation

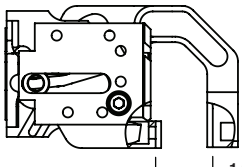


Code 1 (15° angle)



Code 2, 4, 6

No pads (NUL)



Grip range with no pads

1.020 - 1.080
(25.9 - 27.4)

How to Order

The model number for flange jaw gripper consists of an alphanumeric cluster designating the following below.

An example of a flange jaw gripper with a standard body style, flange jaw at 22° x 0° jaw angle, indirect double blank sensor, NPN switch, mounted on the right side with a M8 connector, for material between 0.5 and 2.0mm in thickness with 1.0" wide regular flat pads, with a port orientation of a top 1/8" NPS is shown below. See below:

Body Style	
10	Standard 1.20"x1.20" bolt pattern
11	Crossover 0.90"x0.90" bolt pattern

Sensor Type	
D	Indirect double blank
H	Indirect part present
I	In-Pad
N	No Sensor

Switch Output	
N	NPN
P	PNP
2	2 Wire (3 Pin)
T	2 Wire (4 Pin) [1,2]
U	No Sensor

Indirect Sensor	
R	Micro M8/Right[7]
L	Micro M8/Left[7]
E	Pico M12/Right[7]
W	Pico M12/Left[7]
R	1/2-20 UNC/Right[8]
L	1/2-20 UNC/Left[8]
L	No Sensor

Material Thickness	
1	0.50-2.00mm
3	2.01-3.50mm
4	3.51-5.00mm
R	2.01-3.50mm
N	No Pads

BPGS10F20DNR1M0E

Jaw	
F	Flange

Jaw Angle	
20	22° x 0°
40	45° x 0°
70	70° x 0°

In Pad Sensor Pad Type/Connector/ Pad Mount/Body Mount	
A	Reg (0°)/ Micro M8/ Top / Right
B	Reg (0°)/ Micro M8/ Top / Left
C	Reg (0°)/ Micro M8/ Bottom / Right
D	Reg (0°)/ Micro M8/ Bottom / Left
E	Reg (0°)/ Pico M12 (Internal Wire) / Top / Right
F	Reg (0°)/ Pico M12 (Internal Wire) / Top / Left
G	Reg (0°)/ Pico M12 (Internal Wire) / Bottom / Right
H	Reg (0°)/ Pico M12 (Internal Wire) / Bottom / Left
K	Reg (30°)/ Micro M8/ Top / Left
M	Reg (30°)/ Micro M8/ Bottom / Left
P	Reg (30°)/ Pico M12 (Internal Wire) / Top / Left
R	Reg (30°)/ Pico M12 (Internal Wire) / Bottom / Left
T	Double Point / Micro M8 / Top / Left
V	Double Point / Micro M8 / Bottom / Left
W	Double Point / Pico M12 (Internal Wire) / Top / Right
Y	Double Point / Pico M12 (Internal Wire) / Top / Left
Z	Double Point / Pico M12 (Internal Wire) / Bottom / Right
2	Double Point / Pico M12 (Internal Wire) / Bottom / Left
I	Smooth (0°) / Micro M8 / Top / Right
9	Smooth (0°) / Micro M8 / Top / Left
3	Smooth (0°) / Micro M8 / Bottom / Right
4	Smooth (0°) / Micro M8 / Bottom / Left
6	Smooth (0°) / Micro M8 / Top / Left
8	Smooth (0°) / Micro M8 / Bottom / Left
L	No Sensor

Port Orientation	
E	Top 1/8" NPS
F	Top 1/8" Rc
L	Right 1/8" NPS
M	Right 1/8" Rc
S	Bottom 1/8" NPS
T	Bottom 1/8" Rc
Z	Left 1/8" NPS
2	Left 1/8" Rc

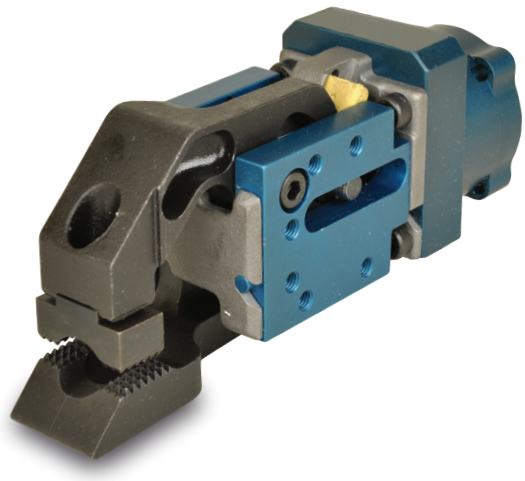
Pad Style	
0	0°
1	15° Forward slope
2	15° Rear slope
4	30° Rear slope
6	45° Rear slope
D	Double point[4]
S	Smooth[5]
C	Convex[5]
R	Rubber
L	No Pads

Pad Width	
S	0.5"[3]
M	1.0"[3]
D	1.5"[6]
U	No Pads

[1] Only available with In-Pad
[2] Only available with In-Pad A,B,C,D
[3] Cannot be used with "R" Pad width
[4] Cannot be used with "S" Pad width
[5] Cannot be used with "S" Pad width
[6] Use with "R" Pad style
[7] Only available with indirect 2 wire sensors only
[8] Not available with indirect 2 wire sensors

Shovel Jaw Grippers

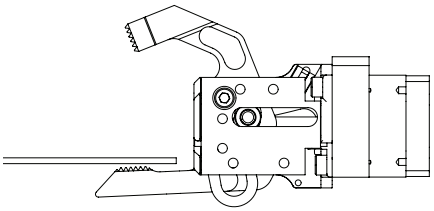
Bimba's shovel jaw gripper is ideal for applications with low clearance. The lower jaw provides a scoop to absorb motion/ shake of the work piece during transfer.



How To Specify

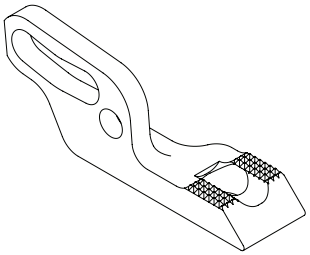
BPGS Shovel Jaw Gripper

Diagram below illustrates blank placement using a shovel jaw gripper:



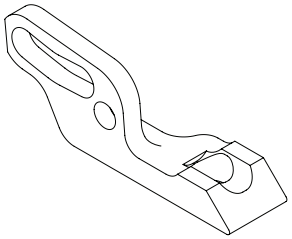


BPGS Shovel Jaw Style



(S, T, U) Style jaws

Shovel jaw with teeth

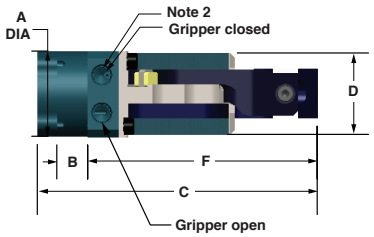


(V, W, Y) Style jaws

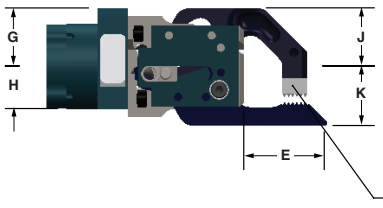
Shovel jaw without teeth

BPGS10 Shovel Jaw Gripper - Jaw Angles

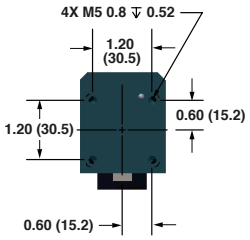
Top view



Side view

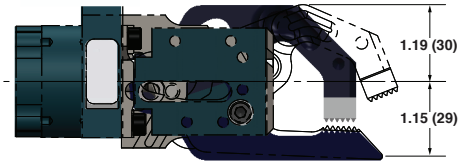


Back view

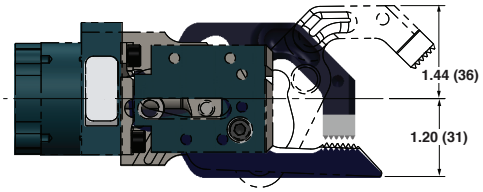


Dimensions	Inches	mm
A	1.73	43.9
B	0.63	16.0
C	5.24	133.1
D	1.73	43.9
E	1.25	31.8
F	4.23	107.4
G	1.18	29.8
H	0.86	21.9
J	1.18	30.0
K	1.21	30.7

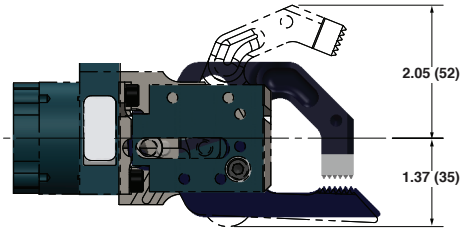
22° X 0°



45° X 0°

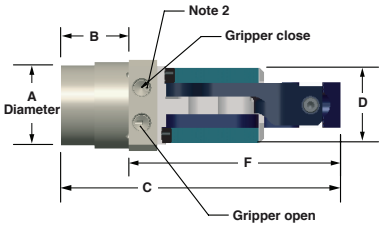


70° X 0°

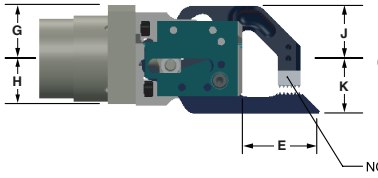


BPGS11 Shovel Jaw Gripper - Jaw Angles

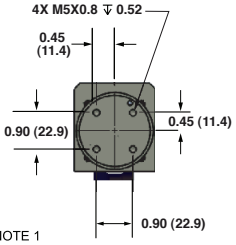
Top view



Side view



Back view



Dimensions	Inches	mm
A	1.75	43.8
B	1.5	15.9
C	6.14	143.5
D	1.65	41.9
E	1.64	42.2
F	4.65	117.6
G	1.18	29.8
H	1	21.9
J	1.16	28.1
K	1.2	28.1

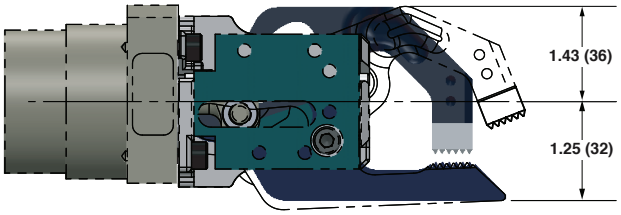
Note 1

See page 34 for various gripper pads

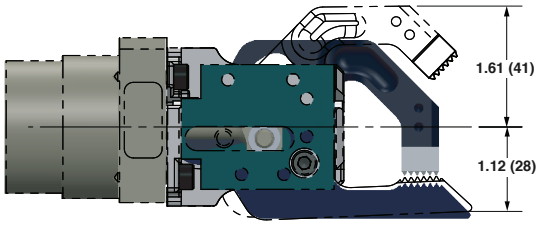
Note 2

1/8 NPS or 1/8 Rc

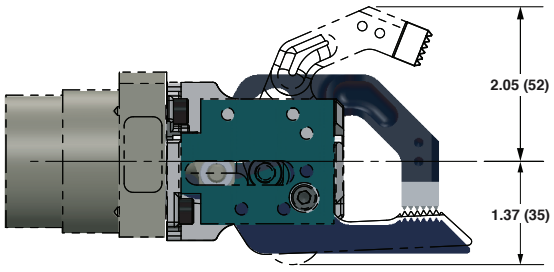
22° X 0°



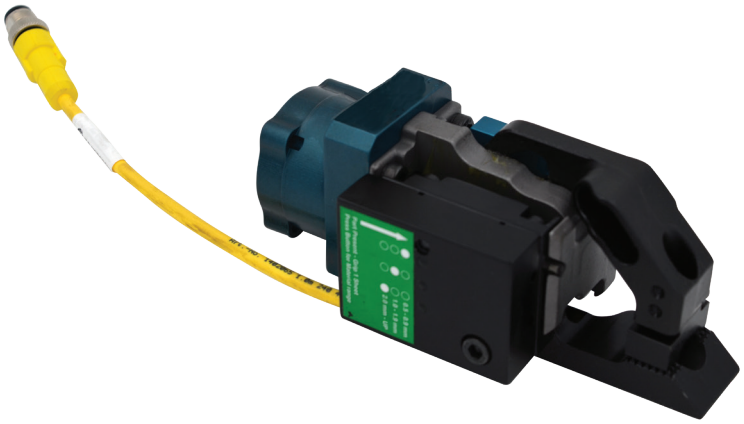
45° X 0°

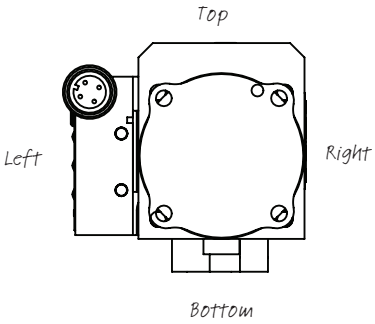


70° X 0°



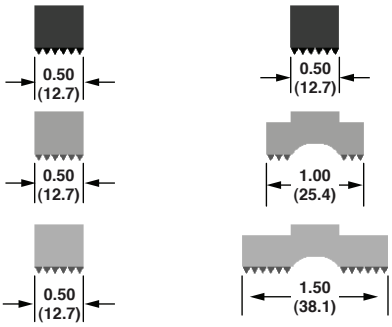
BPGS Shovel Jaw Gripper - Port Orientation



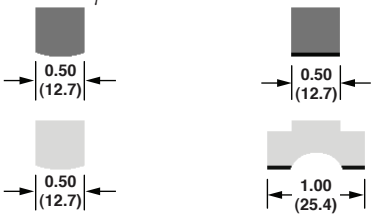


BPGS Jaw Pad - Shovel Jaw

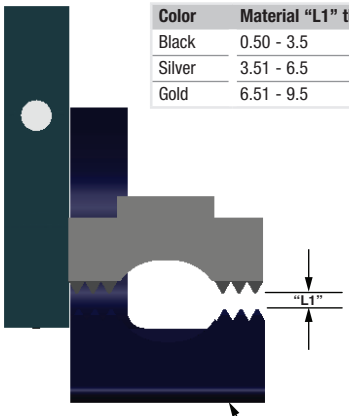
Regular pads



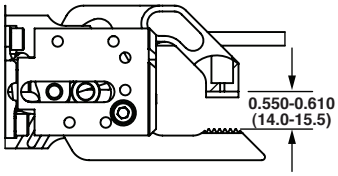
Convex pads



Color	Material "L1" thickness
Black	0.50 - 3.5
Silver	3.51 - 6.5
Gold	6.51 - 9.5

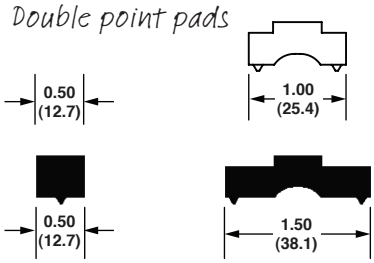


No pads (NUL)

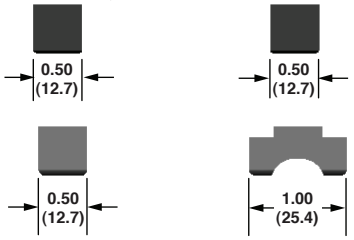


Grip range with no pads

Double point pads



Smooth pads



How to Order

The model number for shovel jaw gripper consists of an alphanumeric cluster designating the following below.

An example of a shovel jaw gripper with a standard body style, shovel jaw at 22° x 0° angle, indirect double blank sensor, NPN switch, mounted on the right side with a M8 connector, for material between 0.5 and 2.0mm in thickness with 1.0” wide regular flat pads, with a port orientation of a top 1/8” NPS is shown below. See below:

Body Style	
10	Standard 1.20”x1.20” bolt pattern
11	Crossover 0.90”x0.90” bolt pattern

Sensor Type	
D	Indirect double blank
H	Indirect part present
I	In-Pad
N	No Sensor

Switch Output	
N	NPN
P	PNP
2	2 Wire (3 Pin)
T	2 Wire (4 Pin) [1,2]
U	No Sensor

Indirect Sensor	
R	Micro M8/Right[5]
L	Micro M8/Left[5]
E	Pico M12/Right[5]
W	Pico M12/Left[5]
R	1/2-20 UNC/Right[6]
L	1/2-20 UNC/Left[6]

Material Thickness	
1	0.50-2.00mm
3	2.01-3.50mm
5	3.51-5.00mm
N	No Pads

BPGS10S20DNR1M0E

Jaw	
S	Shovel (1.0” wide without teeth, 0.50-3.50mm material thickness)
T	Shovel (1.0” wide without teeth, 3.51-6.50mm material thickness)
U	Shovel (1.0” wide without teeth, 6.51-9.50mm material thickness)
V	Shovel (1.0” wide with teeth, 0.50-3.50mm material thickness)
W	Shovel (1.0” wide with teeth, 3.51-6.50mm material thickness)
Y	Shovel (1.0” wide with teeth, 6.51-9.50mm material thickness)

Jaw Angle	
20	22° x 0°
40	45° x 0°
70	70° x 0°

In Pad Sensor/Pad Type/Connector/ Pad Mount/Body Mount	
A	Reg (0°)/ Micro M8/ Top / Right
B	Reg (0°)/ Micro M8/ Top / Left
E	Reg (0°)/ Pico M12 (Internal Wire) / Top / Right
F	Reg (0°)/ Pico M12 (Internal Wire) / Top / Left
S	Double Point / Micro M8 / Top / Right
T	Double Point / Micro M8 / Top / Left
W	Double Point / Pico M12 (Internal Wire) / Top / Right
Y	Double Point / Pico M12 (Internal Wire) / Top / Left
I	Smooth (0°) / Micro M8 / Top / Right
9	Smooth (0°) / Micro M8 / Top / Left
L	No Sensor

Port Orientation	
E	Top 1/8” NPS
F	Top 1/8” Rc
L	Right 1/8” NPS
M	Right 1/8” Rc
S	Bottom 1/8” NPS
T	Bottom 1/8” Rc
Z	Left 1/8” NPS
2	Left 1/8” Rc

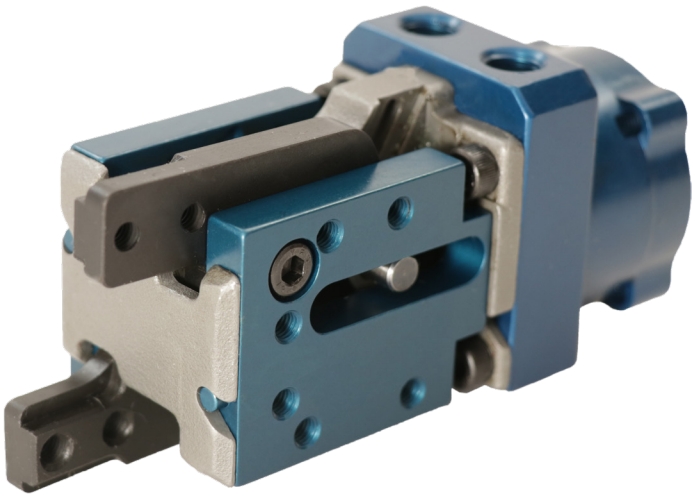
Pad Style	
0	0°
D	Double point[3]
S	Smooth[4]
C	Convex[4]
L	No Pads

Pad Width	
S	0.5”
M	1.0”
D	1.5”
U	No Pads

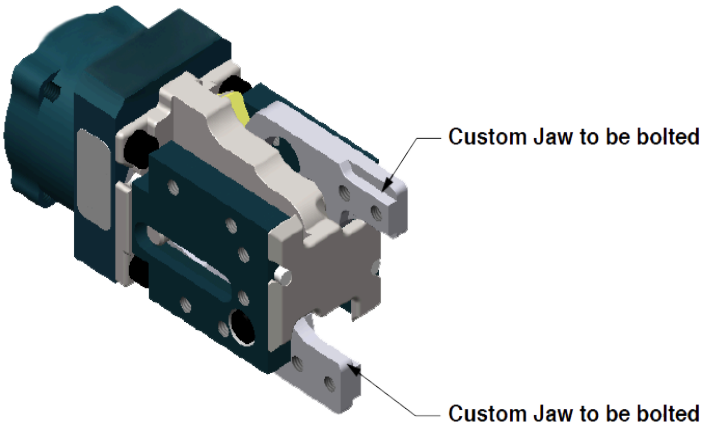
[1] Only available with In-Pad
[2] Only available with In-Pad A,B,C,D
[3]Cannot be used with “S” Pad width
[4]Cannot be used with “D” Pad width
[5]Only available with indirect 2 wire sensors only
[6]Not available with indirect 2 wire sensors

Angular Grippers

Bimba's angular grippers provide users the ability to bolt on custom jaws to the gripper. The angular grippers are ideal for flexible applications due to the ability to use custom jaws designed for your specific application.

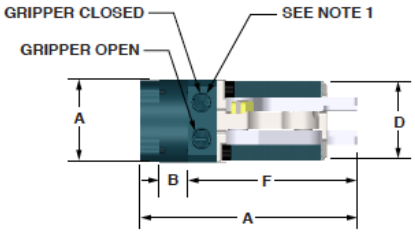


BPGS Angular Gripper

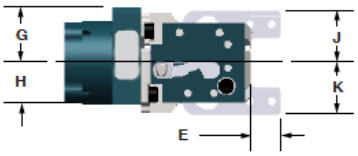


BPGS Angular Gripper - Jaw Angles

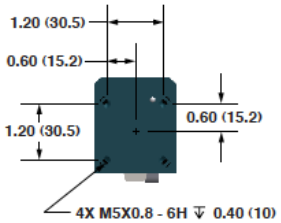
Top view



Side view

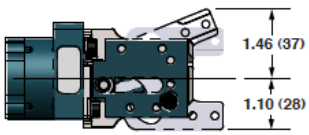


Back view

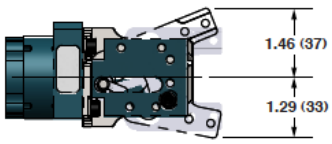


Dimensions	Inches	mm
A	1.73	43.8
B	0.63	15.9
C	4.62	117.3
D	1.65	41.9
E	.64	16.1
F	3.60	91.4
G	1.18	29.8
H	.86	21.9
J	1.10	27.9
K	1.10	27.9

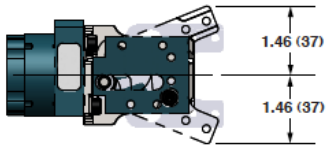
22° x 0°



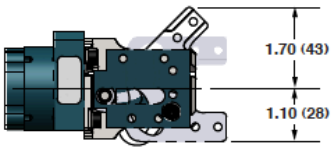
22° x 11°



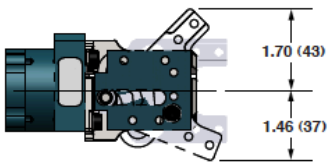
22° x 22°



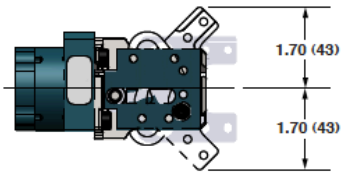
45° x 0°



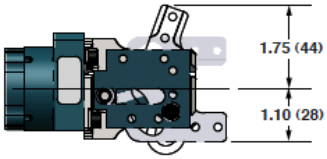
45° x 22°



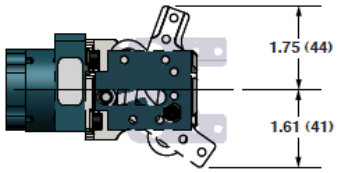
45° x 45°



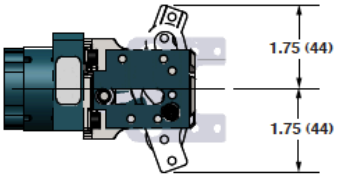
70° x 0°



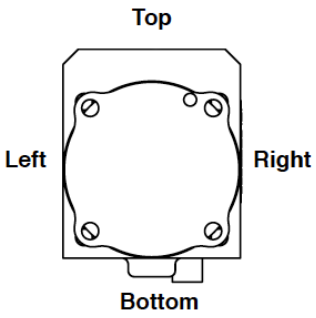
70° x 35°

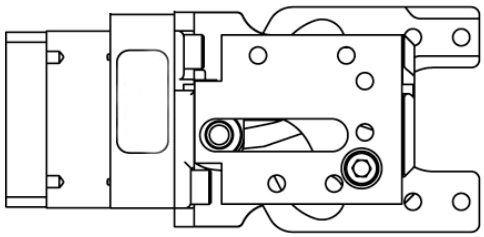


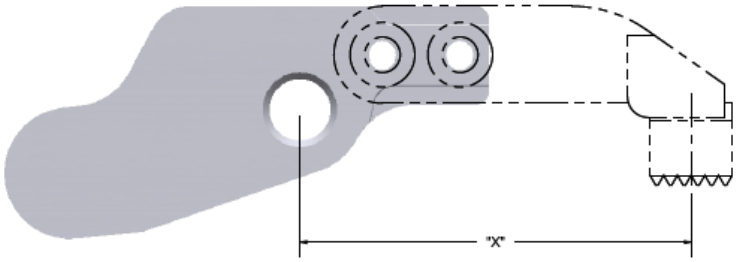
70° x 70°



BPGS Angular Gripper - Port Orientation





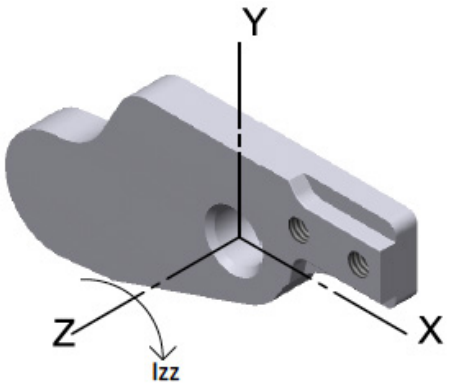


$$\text{Grip Force (F)} = \frac{684 \text{ lbs.in}}{X(\text{in})} \text{ or } \frac{7.88 \text{ kg.m}}{X(\text{m})}$$

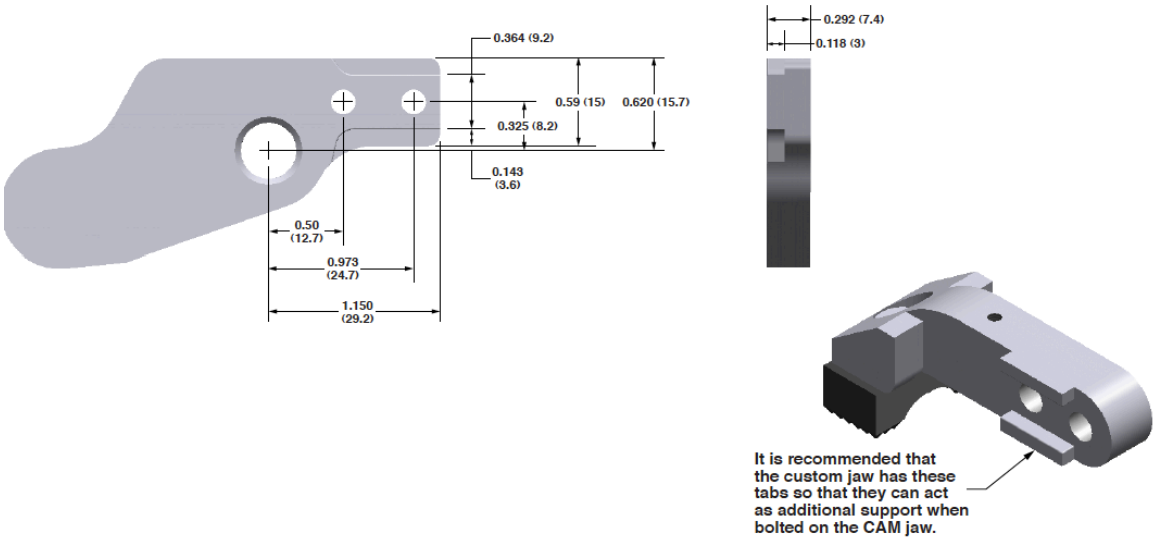
In order to achiev rated MCBD of million cycles, it is recommended that moment of inertia along Izz be less than -

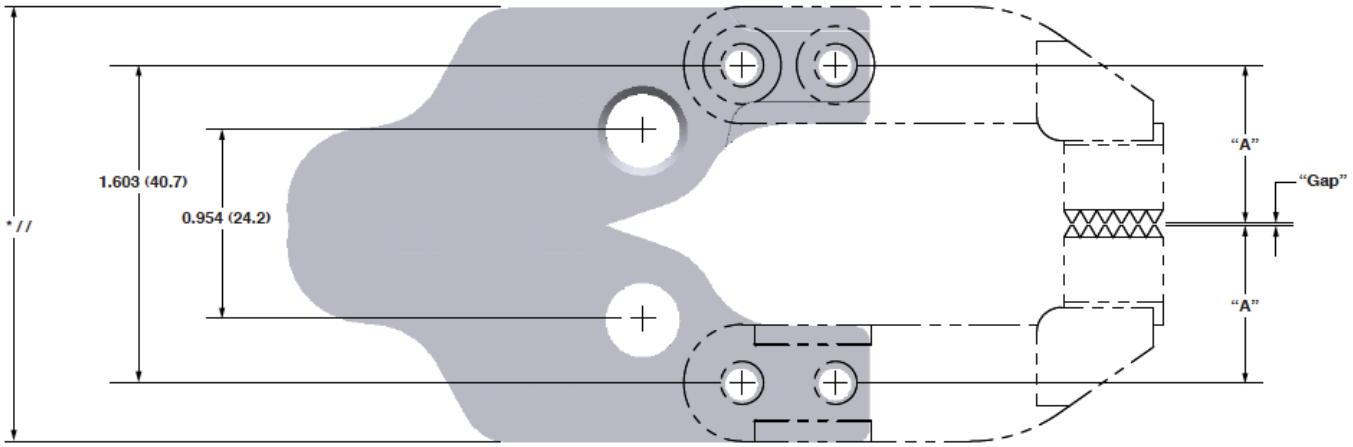
For fully open jaws, Izz < 0.588 lbs.in^2
For 45 opening, Izz < 0.882 lbs.in^2
For 22 opening, Izz < 1.176 lbs.in^2

This includes mounting hardware, pads and jaw extension.



BPGS Angular Gripper - Port Orientation





The gap between the grip points when the jaws are parallel is Gap = Material Thickness - *0.5mm

*0.5mm is used as a correction factor for fits and tolerances

*// indicates the 2 surfaces are parallel

Example - For material thickness of 2mm, Gap is 2mm - 0.5mm=1.5mm

$$A = \frac{40.7\text{mm} - 1.5\text{mm}}{2} = 19.6\text{mm}$$

How to Order

The model number for z line jaw gripper consists of an alphanumeric cluster designating the jaw type and angle, and the port orientation.

An example of an angular jaw gripper with a standard body style, angular jaw at 70° x 70° angle, with a port orientation of a top 1/8" NPS is shown below. See details below:

BPGS10 Z 77 NUL NUL E

Body Style	
10	Standard 1.20"x1.20" bolt pattern
11	Crossover 0.90"x0.90" bolt pattern

Jaw	
Z	Angular

Jaw Angle	
20	22° x 0°
21	22° x 11°
22	22° x 22°
40	45° x 0°
42	45° x 22°
44	45° x 45°
70	70° x 0°
73	70° x 35°
77	70° x 70°

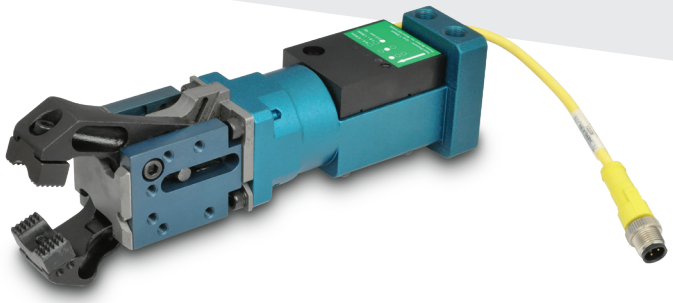
	No Sensor

	No Pad

Port Orientation	
E	Top 1/8" NPS
F	Top 1/8" Rc
L	Right 1/8" NPS
M	Right 1/8" Rc
S	Bottom 1/8" NPS
T	Bottom 1/8" Rc
Z	Left 1/8" NPS
2	Left 1/8" Rc

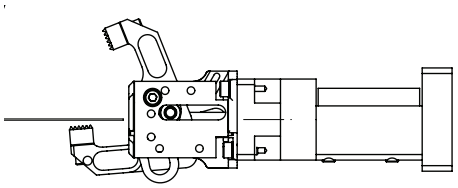
Hot Metal Regular Grippers

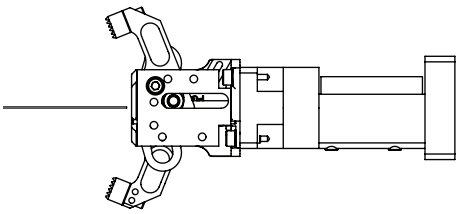
Bimba's Hot Metal Regular Grippers are designed to withstand temperatures up to 900°C. These grippers may be paired with a high temperature tooling system to protect plumbing and and electrical wiring from the heat, without the need for external heat wraps. The wide angle jaw opening can accomodate banks with inconsistent pick up location.



BPGS10 Hot Metal Regular Gripper

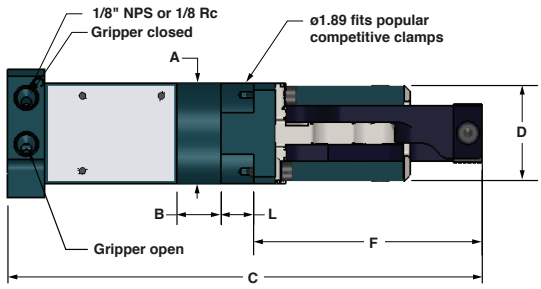
Diagram below illustrates blank placement using a hot metal jaw gripper:





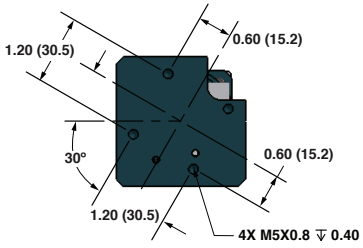
BPGS10 Hot Metal Regular Jaw Gripper - Jaw Angles

Top view

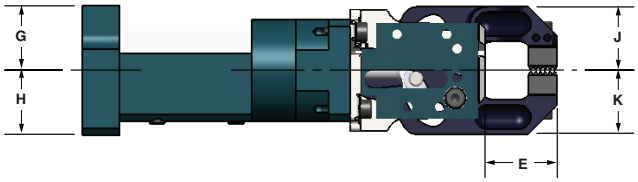


Dimensions	Inches	mm
A	1.75	44.5
B	0.77	19.6
C	8.23	209.2
D	1.65	41.9
E	1.25	31.8
F	3.97	100.8
G	1.12	28.3
H	1.12	28.3
J	1.1	27.9
K	1.1	27.9
L	0.56	14.2

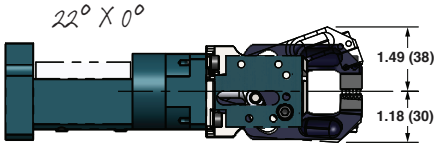
Back view



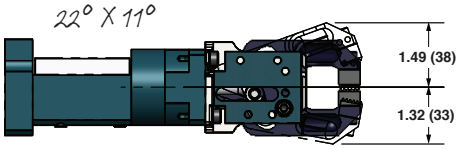
Side view



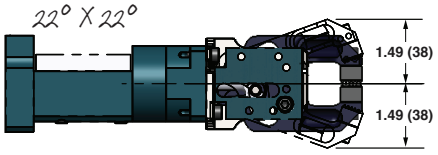
22° X 0°



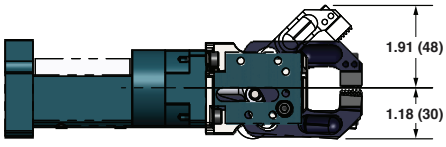
22° X 11°



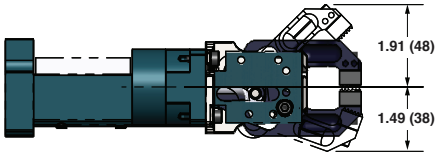
22° X 22°



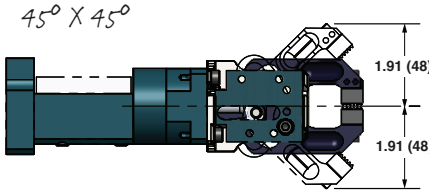
45° X 0°



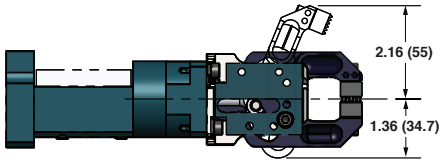
45° X 22°



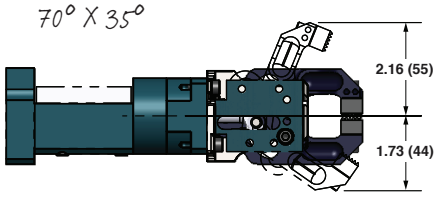
45° X 45°



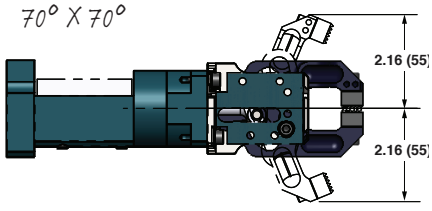
70° X 0°



70° X 35°

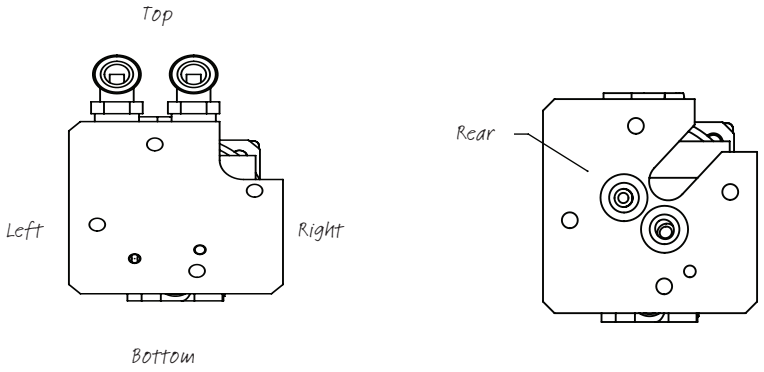


70° X 70°



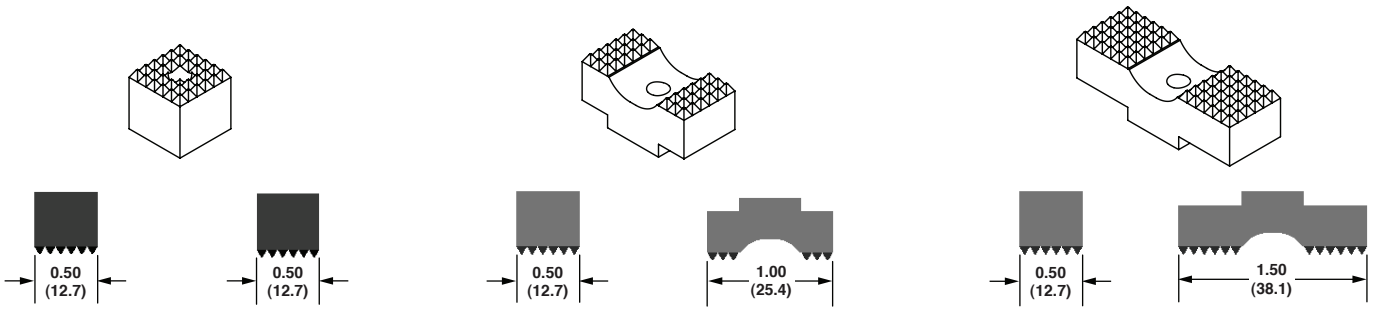
How To Specify

BPGS10 Hot Metal Regular Jaw Gripper - Port Orientation

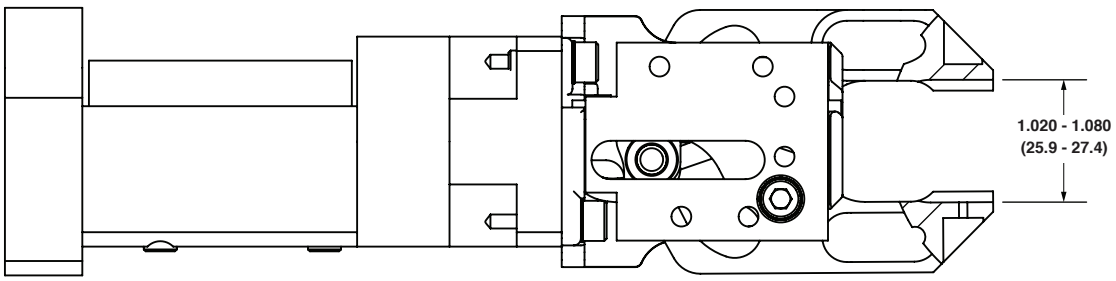


BPGS10 Jaw Pad - Hot Metal Regular Jaw

Regular pads

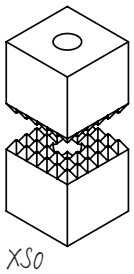


No pads (NUL)

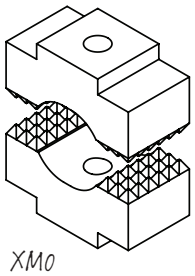


Grip range with no pads

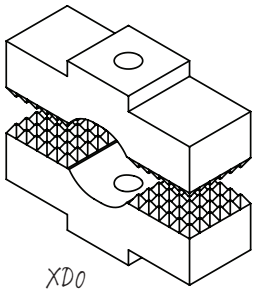
BPGS10 Jaw Pads - Flat Pads for General Purpose Gripping



XS0

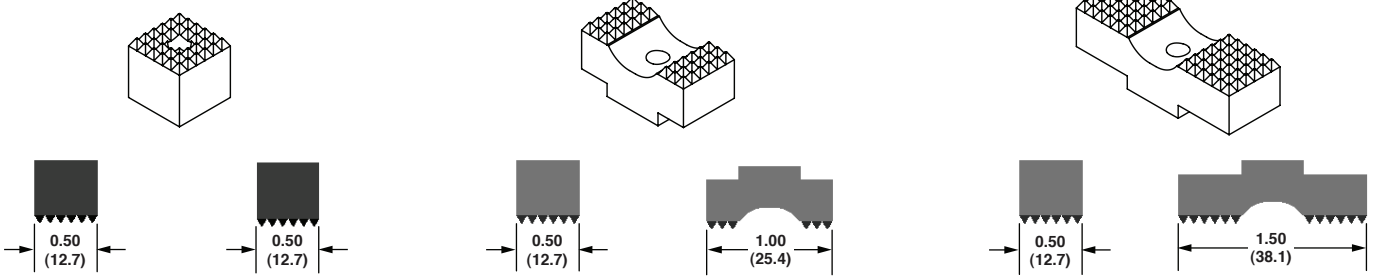


XM0



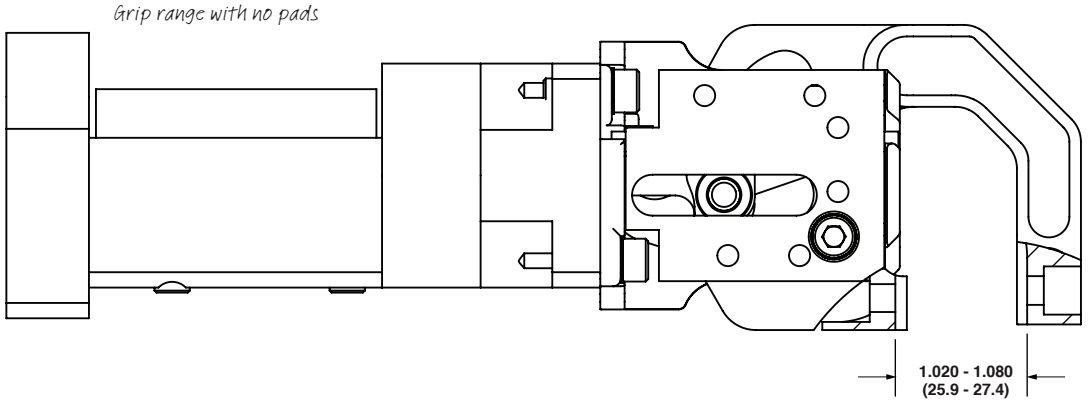
XD0

Regular pads



NO pads (NUL)

Grip range with no pads



How to Order

The model number for hot metal regular jaw gripper consists of an alphanumeric cluster designating the following below.

An example of a hot metal regular jaw gripper with a standard body style, regular jaw at 22° x 0° jaw angle, indirect double blank sensor, NPN switch, mounted on the right side with a M8 connector, for material between 0.5 and 2.0mm in thickness with 1.5" wide regular flat pads, with a port orientation of a top 1/8" NPS is shown below. See details below:

Body Style	
10	Standard 1.20"x1.20" bolt pattern

Sensor Type	
D	Indirect double blank
H	Indirect part present
C	Open Closed
N	No Sensor

Switch Output	
N	NPN
P	PNP
U	No Sensor

Indirect Sensor	
R	Micro M8/Right
E	Pico M12/Right
R	Micro/Right[2]
L	No Sensor

Material Thickness	
1	0.50-2.00mm
3	2.01-3.50mm
4	3.51-5.00mm
N	No Pads

BPGS10HR20DNR1D0E

Jaw	
HR	Hot Metal Regular

Jaw Angle	
20	22° x 0°
21	22° x 11°
22	22° x 22°
40	45° x 0°
42	45° x 22°
44	45° x 45°
70	70° x 0°
73	70° x 35°
77	70° x 70°

Pad Width	
S	0.5"
M	1.0"
D	1.5"
U	No Pads

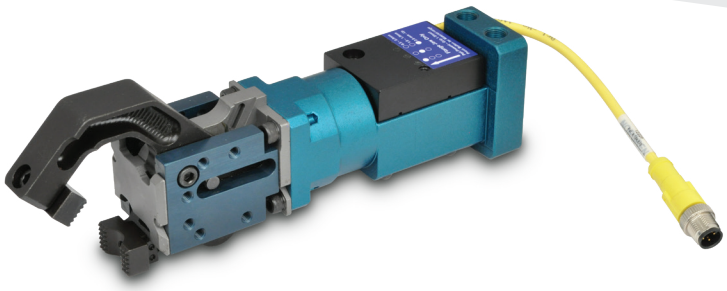
Pad Style	
0	0°
L	No Pads

Port Orientation	
E	Top 1/8" NPS
F	Top 1/8" Rc
L	Right 1/8" NPS
M	Right 1/8" Rc
S	Bottom 1/8" NPS
T	Bottom 1/8" Rc
Z	Left 1/8" NPS
2	Left 1/8" Rc
7	Rear No Fittings[1]

[1] *BPGS10TELXXPX not included*
[2] *Only available with open closed sensors only*

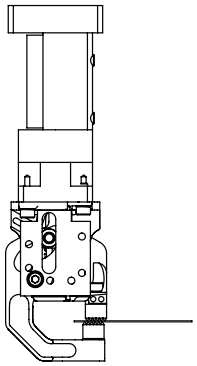
Hot Metal Flange Jaw Grippers

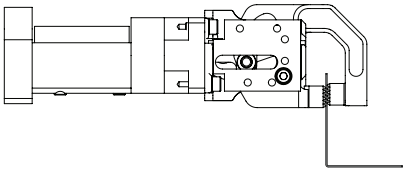
Bimba's hot metal flange jaw grippers are designed to grab workpieces at up to 900°C. The gripper is mounted 90° to the work piece and allows the gripper to reach around a formed flange edge. The flange jaw gripper is a great choice for applications with no lift and/or panels that have a flange or projecting edge that can be used for gripping.



BPGS10 Hot Metal Flange Jaw Gripper

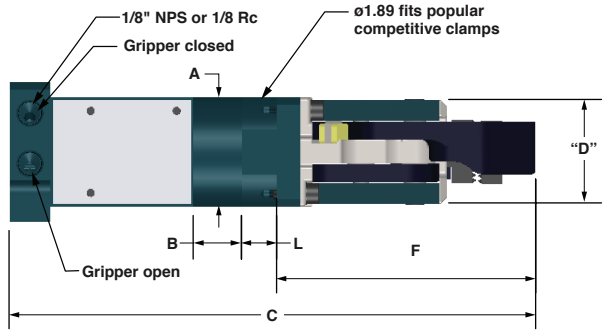
Diagram below illustrates blank placement using a hot metal flange jaw gripper:





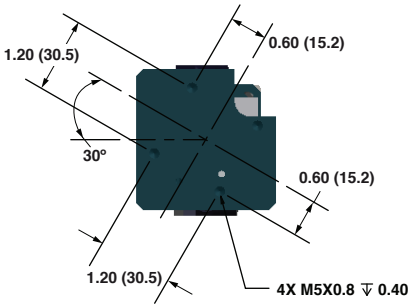
BPGS10 Hot Metal Flange Jaw Gripper - Jaw Angles

Top view

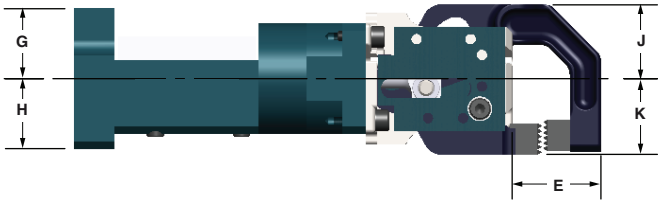


Dimensions	Inches	mm
A	1.75	44.5
B	0.77	19.6
C	8.39	213.2
D	1.65	41.9
E	1.41	35.8
F	4.13	104.9
G	1.12	28.3
H	1.12	28.3
J	1.18	29.9
K	1.21	30.7
L	0.56	14.2

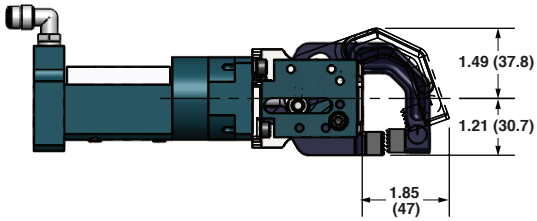
Back view



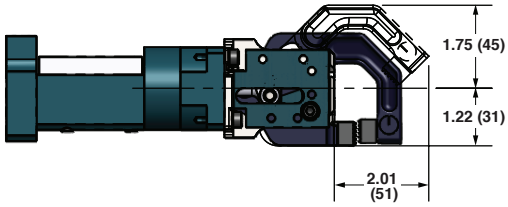
Side view



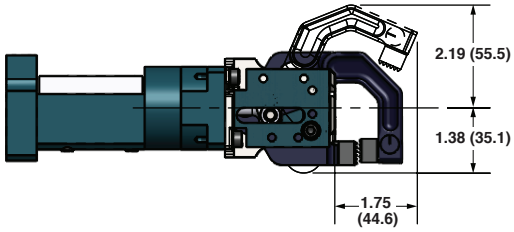
22° X 0°



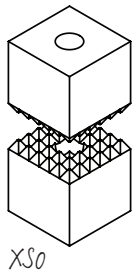
45° X 0°

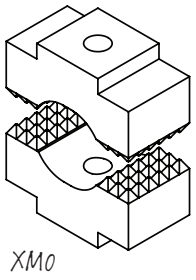


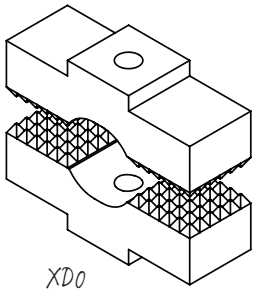
70° X 0°



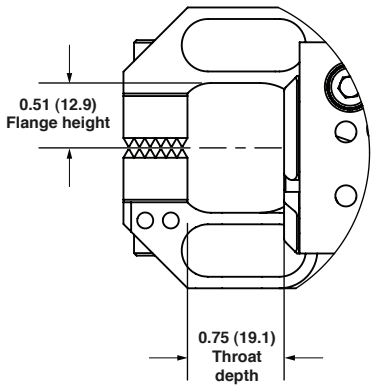
BPGS10 Jaw Pads - Flat Pads for General Purpose Gripping

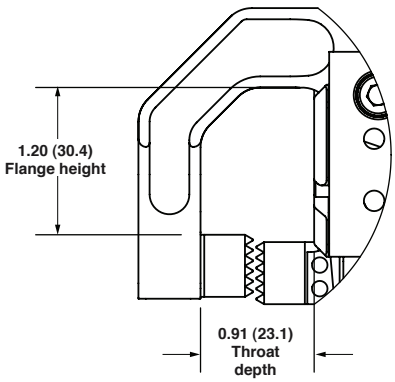






BPGS10 Flange Height and Throat Depth





The model number for hot metal flange jaw gripper consists of an alphanumeric cluster designating the following below.

An example of a hot metal flange jaw gripper with a standard body style, flange jaw, 22° x 0° angle, indirect double blank sensor, NPN switch, mounted on the right side with a M8 connector, for material between 0.5 and 2.0mm in thickness with 1.5" wide regular flat pads, with a port orientation of a top 1/8" NPS is shown below. See details below:

Body Style	
10	Standard 1.20"x1.20" bolt pattern

Sensor Type	
D	Indirect double blank
H	Indirect part present
C	Open Closed
N	No Sensor

Switch Output	
N	NPN
P	PNP
W	No Sensor

Indirect	
R	Micro M8/Right
L	Micro M8/Left
E	Pico M12/Right
W	Pico M12/Left
R	Micro/Right[2]
L	No Sensor

Material Thickness	
1	0.50-2.00mm
3	2.01-3.50mm
4	3.51-5.00mm
N	No Pad

BPGS10HF20DNR1S0E

Jaw	
HF	Hot Metal Flange

Jaw Angle	
20	22° x 0°
40	45° x 0°
70	70° x 0°

Pad Width	
S	0.5"
M	1.0"
D	1.5"
U	No Pads

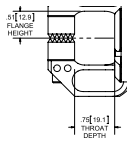
Pad Style	
0	0°
L	No Pads

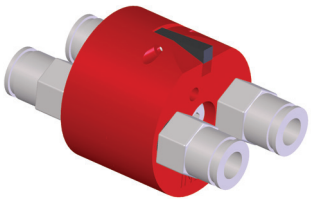
Port Orientation	
E	Top 1/8" NPS
F	Top 1/8" Rc
L	Right 1/8" NPS
M	Right 1/8" Rc
S	Bottom 1/8" NPS
T	Bottom 1/8" Rc
Z	Left 1/8" NPS
2	Left 1/8" Rc
7	Rear No Fittings[1]

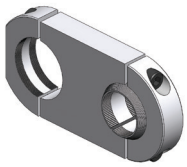
[1]BPGS10TELXXPX not included
[2]Only available with open closed sensors only

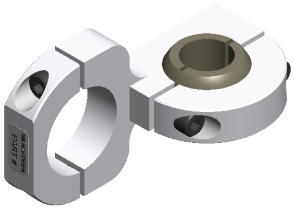
Accessories

Bimba offers a wide range of accessories for the Pneumatic Gripper System such as part gaging kits, internal wiring mount adapters, telescope and stud mounts, rotational clamps, and gripper valves.









Contents

50 Accessories Overview (BPGS)
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54 – Contents
54 – Assembly Instructions
55 – Technical Data

56 Spherical Mount
56 – Technical Data

57 Internal Wire Gripper Mount Adapter
57 – Technical Data

58 Telescope and Stud Mount
58 – Technical Data

59 Bolt Clamp
59 – Technical Data

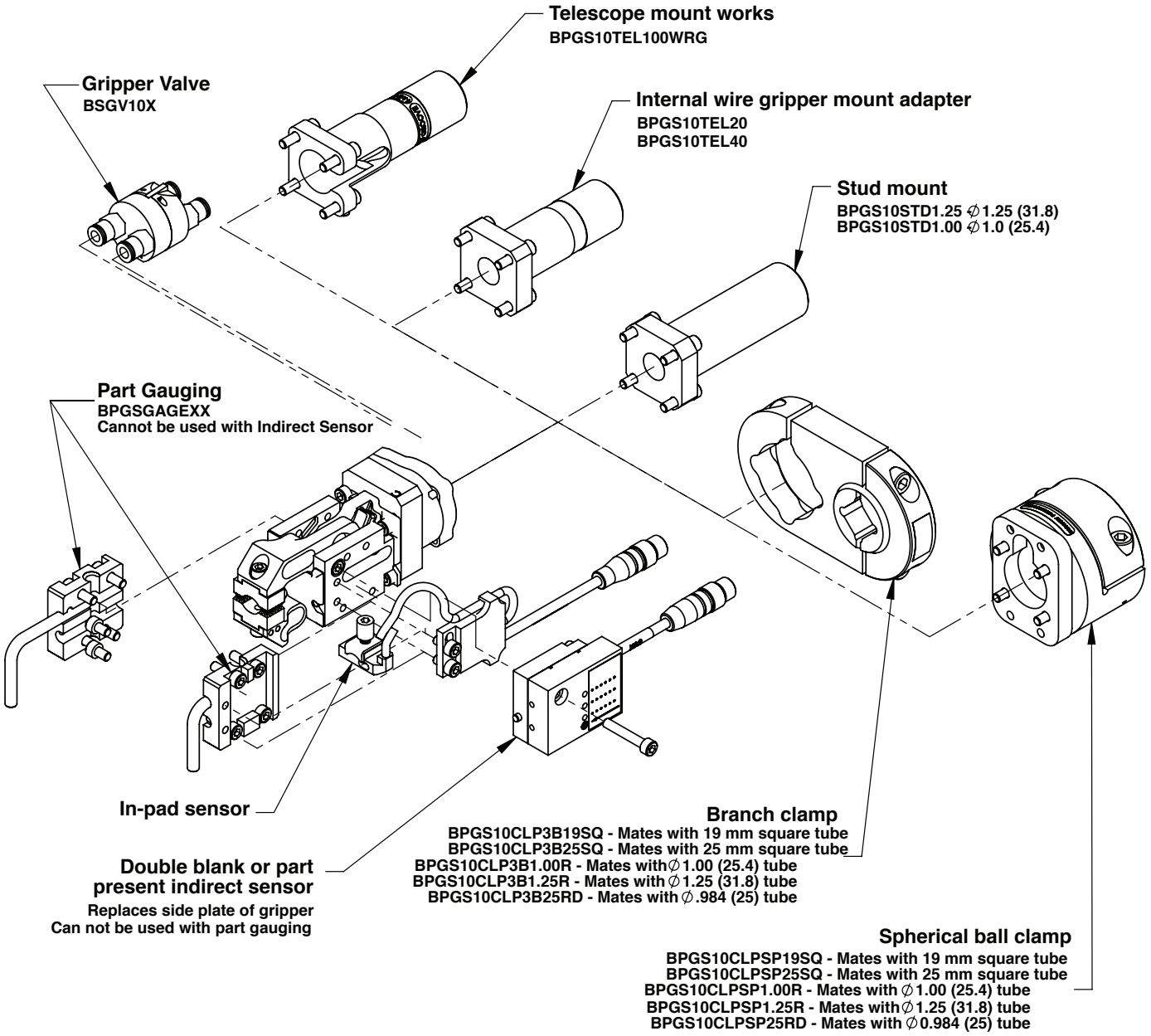
61 Branch Clamp
61 – Technical Data

62 Gripper Valve
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How to Accessorize

BPGS Accessories

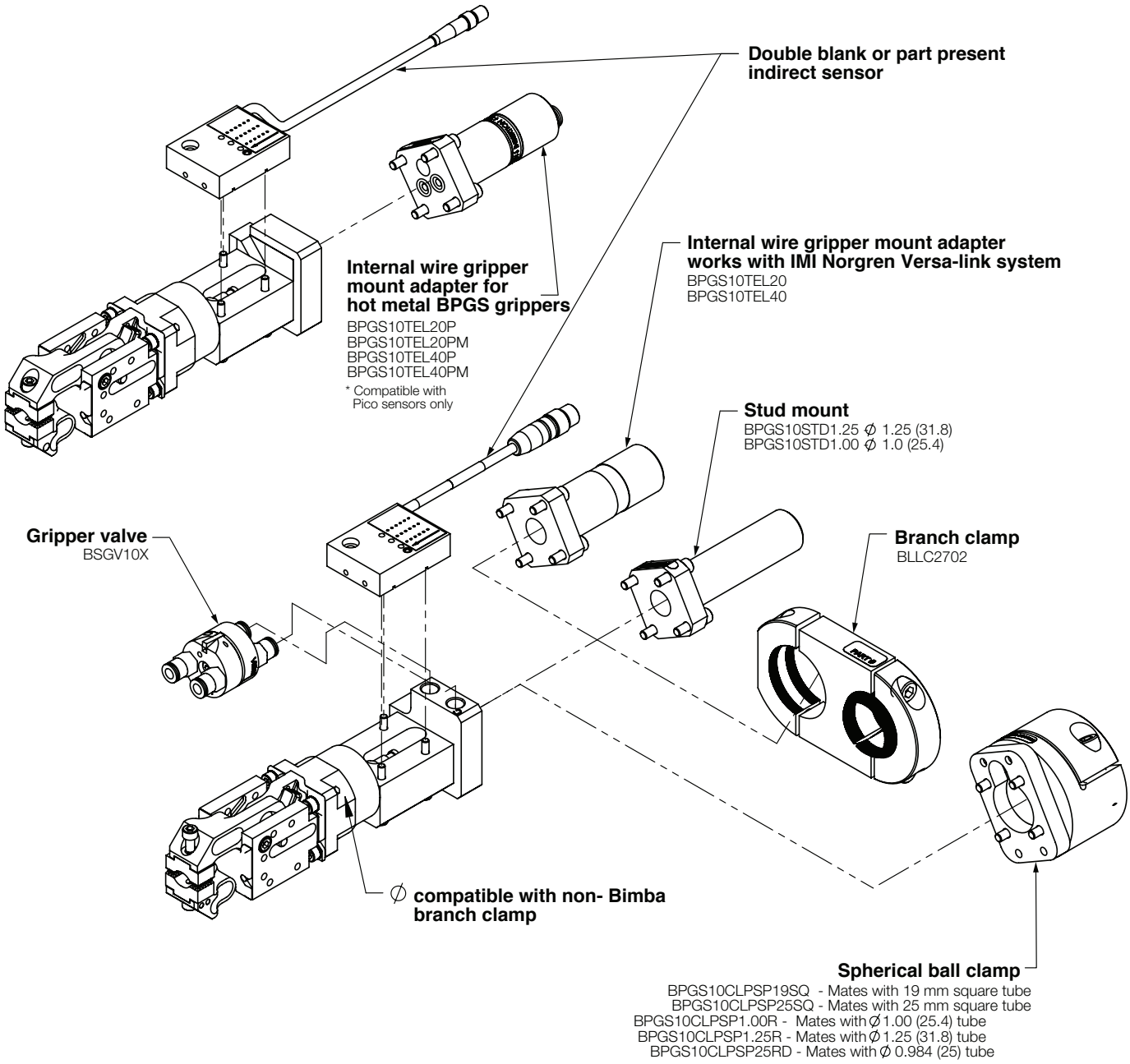
These accessories apply to all non-hot metal versions of the BPGS10 Pneumatic Gripper Series



Dimensions in inches (mm) are for reference only

BPGS10 Hot Metal Gripper Accessories

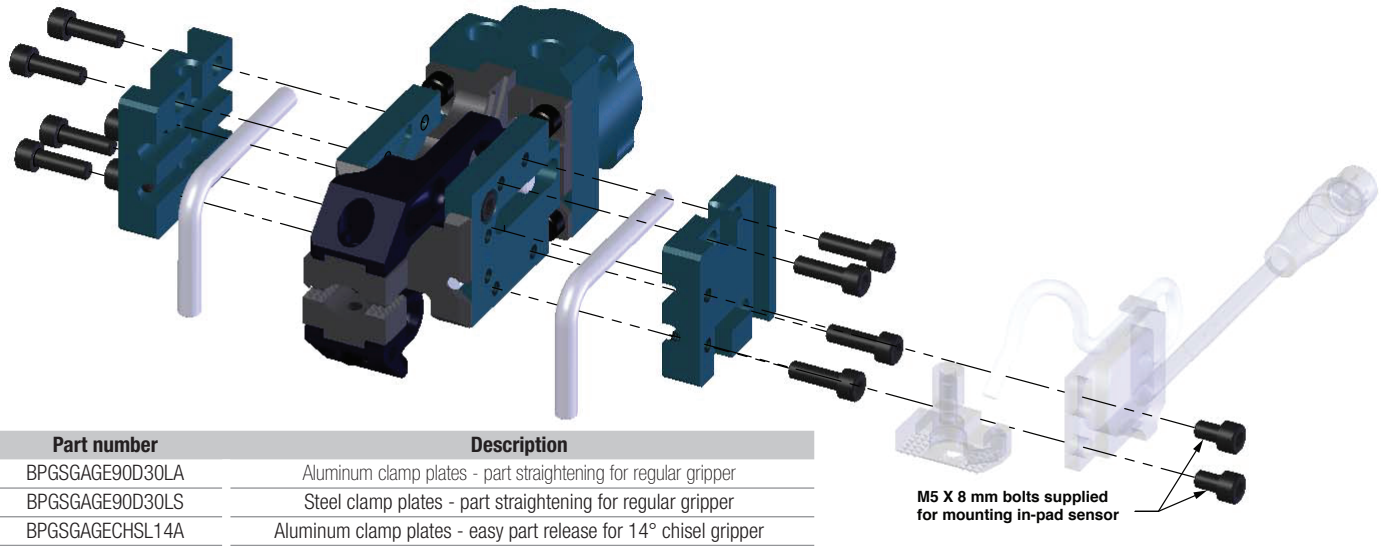
These accessories apply to the BPGS10 hot metal grippers: regular (BPGS10HR) and flange (BPGS10HF) hot metal jaw gripper



Dimensions in inches (mm) are for reference only

How to Accessorize

Part Gaging for BPGS



Part number	Description
BPGSGAGE90D30LA	Aluminum clamp plates - part straightening for regular gripper
BPGSGAGE90D30LS	Steel clamp plates - part straightening for regular gripper
BPGSGAGECHSL14A	Aluminum clamp plates - easy part release for 14° chisel gripper
BPGSGAGECHSL14S	Steel clamp plates - easy part release for 14° chisel gripper
BPGSGAGEFLGU45A	Aluminum clamp plates - easy part release for 45° flange gripper
BPGSGAGEFLGU45S	Steel clamp plates - easy part release for 45° flange gripper
BPGSGAGEFLGU70A	Aluminum clamp plates - easy part release for 70° flange gripper
BPGSGAGEFLGU70S	Steel clamp plates - easy part release for 70° flange gripper

Needed for Assembly

Adhesive	Tool	Torque
Removable thread checker (e.g. Loctite™ 242)	4 mm hex key	72 in-lb (8.1 Nm)

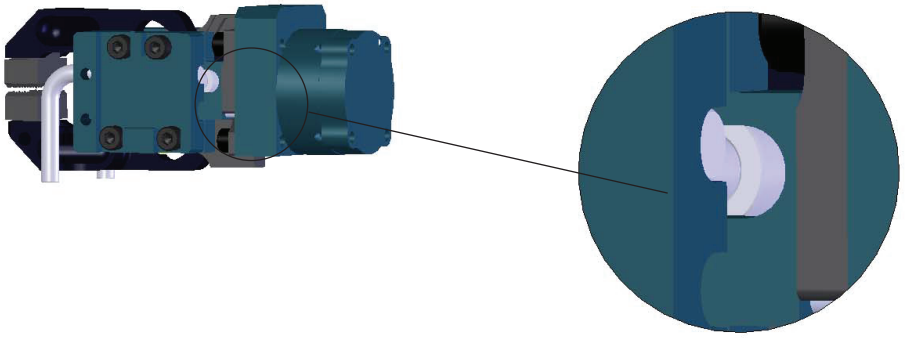
Part Gaging Kit Contents

Qty.	Description
2	Clamps plates
2	Rods
8	SHCS (M5 X 12)
2	SHCS (M5 X 8)*

*Bolts to mount in-pad sensor in place

Assembly Instructions

Apply removable thread checker (e.g. Loctite™ 242) to bolts
Loosely assemble clamp plates
Place gage rod in desired position
Tighten bolts evenly to 72 in-lb (8.1 Nm)
Ensure that gaging plates are parallel to gripper side plate when fully torqued

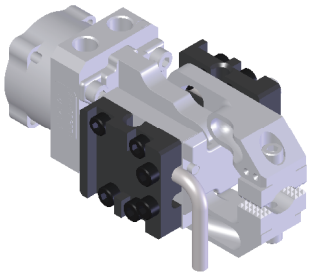


Rod is still accessible to unlock jaws

Use a small blunt object to push rod forward to unlock jaws

Part Gaging for BPGS - BPGSGAGEXX

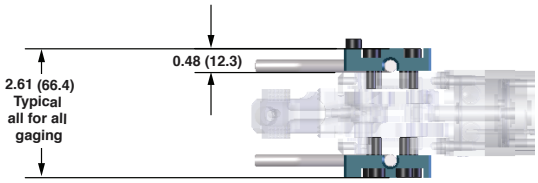
- Used with BPGS series grippers for easy part removal
- Rods can be moved in several different positions
- Rods can be custom made per customer specifications to stabilize parts during transfer
- Can be used to position parts

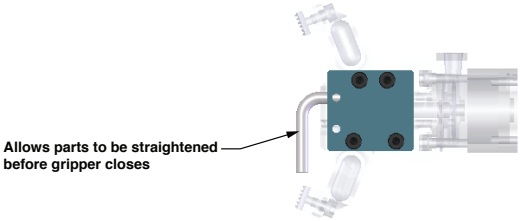


Part number	Gripper	Clamp plate material	Weight lb (kg)
BPGSGAGE90D30LS	Regular	Steel	0.650 (.29)
BPGSGAGE90D30LA	Regular	Aluminum	0.300 (.14)
BPGSGAGECHSL14S	Chisel	Steel	0.670 (.30)
BPGSGAGECHSL14A	Chisel	Aluminum	0.320 (.14)
BPGSGAGEFLGU45S	Flange	Steel	0.680 (.31)
BPGSGAGEFLGU45A	Flange	Aluminum	0.330 (.15)
BPGSGAGEFLGU70S	Flange	Steel	0.680 (.31)
BPGSGAGEFLGU70A	Flange	Aluminum	0.330 (.15)

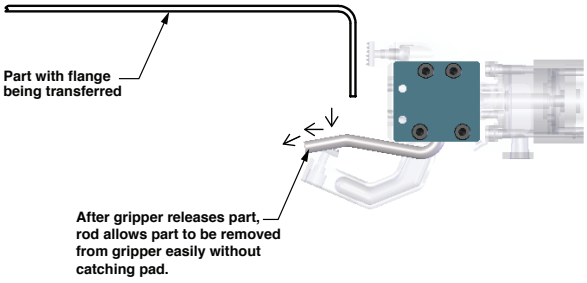
Note: Gaging can be used with in-pad sensors.
Gaging can NOT be used with indirect sensors.

Technical Data

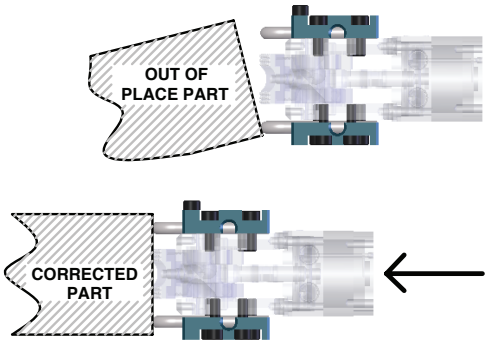


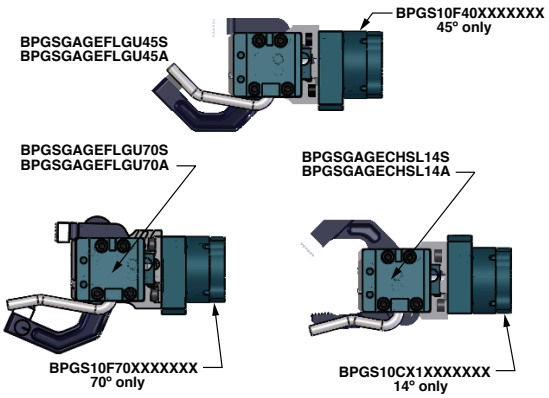


Can be used to prevent parts from hanging up on the gripper when the part is released



Can be used to correct part orientation as gripper moves in

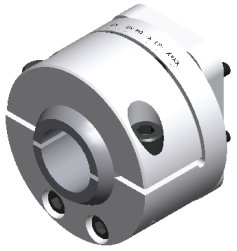




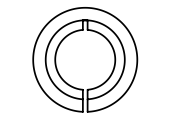
Spherical Mount - BPGS10CLPSPXXXX

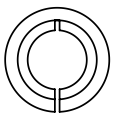
- BPGS10CLPSPXXXX accomodates 1.00" round, 1.25" round, 25 mm round,19 mm square & 25 mm square tubes
- Spherical ball clamp allows 360° rotation and 30° of angular adjustment

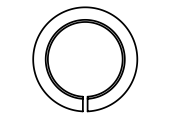
Part number	Weight
BPGS10CLPSP1.00R	1.35 lbs (0.61 kg)
BPGS10CLPSP1.25R	1.21 lbs (0.55 kg)
BPGS10CLPSP25RD	1.35 lbs (0.61 kg)
BPGS10CLPSP19SQ	1.37 lbs (0.62 kg)
BPGS10CLPSP25SQ	1.26 lbs (0.57 kg)

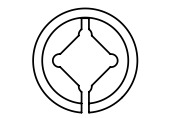


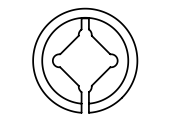
Technical Data

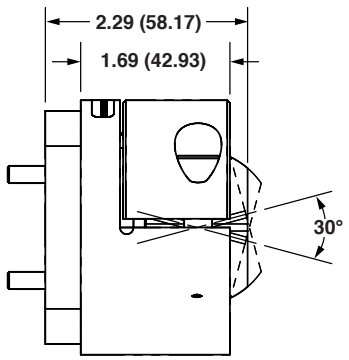


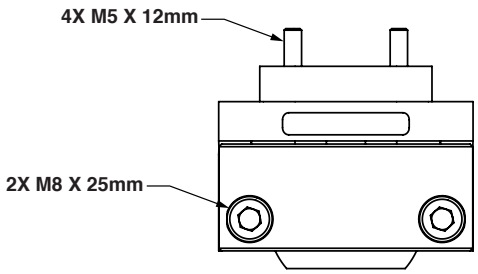


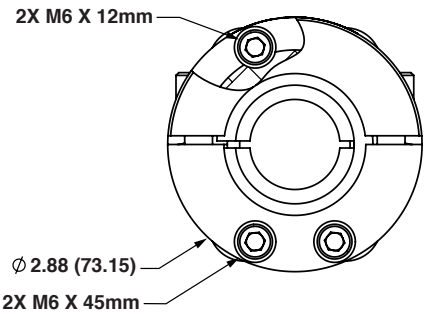












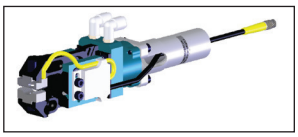
Dimensions in inches (mm) are for reference only

Internal Wire Gripper Mount Adapter - BPGS10TEL100WRG

- Provides telescoping adjustment of gripper position
- Provides entry point for Pico style sensor cable into finger
- Telescoping O.D. sized for insertion into standard Bimba 1.25" O.D. finger link or tubing

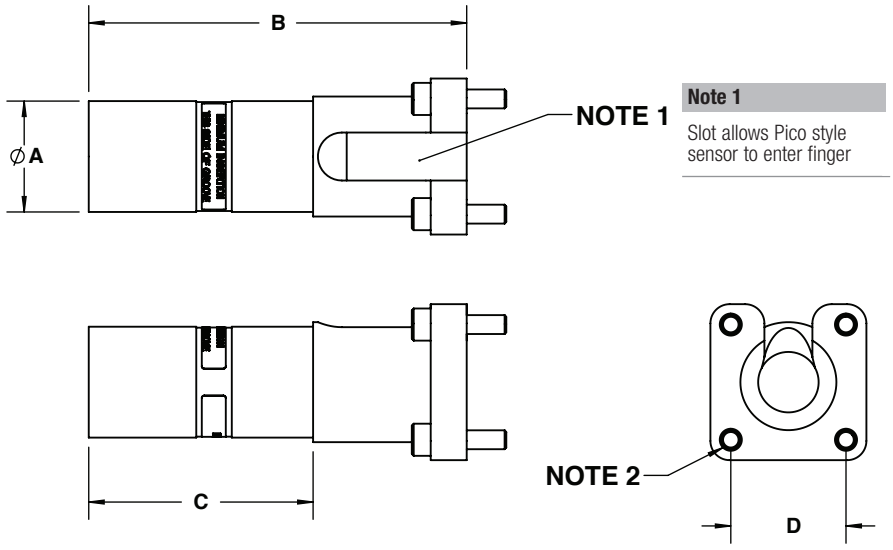
Dim	Weight
BPGS10TEL100WRG	0.322 lbs / 146 g





Technical Data

BPGS10TEL100WRG		
Dim	mm	Inches
øA	29.4	1.16
B	100.0	3.94
C	59.4	2.34
D	30.5	1.20



Note 1
Slot allows Pico style sensor to enter finger

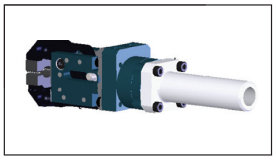
Note 2	
Adapter	Bolt size for mounting
BPGS10TEL100WRG	4X M5 X 20

Dimensions in inches (mm) are for reference only

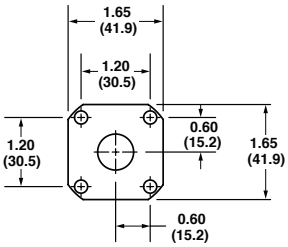
Telescope & Stud Mounts for BPGS10 Series - BPGS10STDXX, BPGS10TELX

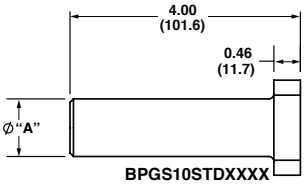
- BPGS10STDXXXX provide mounting stud compatible with various diameter tooling components





Technical Data





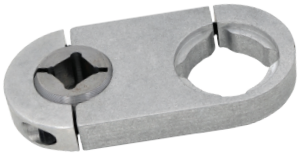
BPGS10STDXXXX	
Ø "A"	
Inch	mm
0.984	25
1.00	25.4
1.08	27.4
1.181	30

BPGS10STDXXXX

Substitute	Feature	Weight
1.00	ø1.0" X 4" Long	0.400 lbs / 180 g
1.08	ø1.08" X 4" Long	0.400 lbs / 180 g
1.25	ø1.25" X 4" Long	0.410 lbs / 185 g
25MM	ø25 mm X 4" Long	0.250 lbs / 115 g
30MM	ø30 mm X 4" Long	0.260 lbs / 120 g

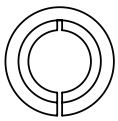
3 Bolt Clamp for BPGS10 Series - BPGS10CLX3BXXXXX

- BPGS10CLX3BXXXXX provides 360º rotation of gripper independent of ball
- BPGS10CLX3BXXXXX accommodates 1.00" round, 1.25" round, 19 mm square, 25 mm square tubes and 25 mm round
- Spherical ball clamp allows 360º rotation and 30º angular adjustment

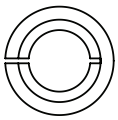


Part number	Description	Weight
BPGS10CLP3B1.00R	57.2 mm center to center for 1.00 tube	0.93 lbs / 422 g
BPGS10CLP3B1.25R	57.2 mm center to center for 1.25 tube	0.78 lbs / 352 g
BPGS10CLP3B19SQ	57.2 mm center to center for 19 mm tube	0.94 lbs / 428 g
BPGS10CLP3B25SQ	57.2 mm center to center for 25 mm tube	0.84 lbs / 378 g
BPGS10CLP3B25RD	57.2 mm center to center for 25 mm tube	1.03 lbs / 468 g
BPGS10CLT3B1.00R	79.5 mm center to center for 1.00 tube	1.21 lbs / 549 g
BPGS10CLT3B1.25R	79.5 mm center to center for 1.25 tube	1.07 lbs / 485 g
BPGS10CLT3B19SQ	79.5 mm center to center for 19 mm tube	1.23 lbs / 560 g
BPGS10CLT3B25SQ	79.5 mm center to center for 25 mm tube	1.13 lbs / 511 g
BPGS10CLT3B25RD	79.5 mm center to center for 25 mm tube	1.21 lbs / 552 g

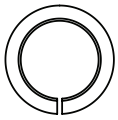
Technical Data



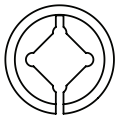
1.00" Round



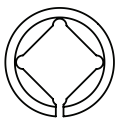
25 mm Round



1.25" Round

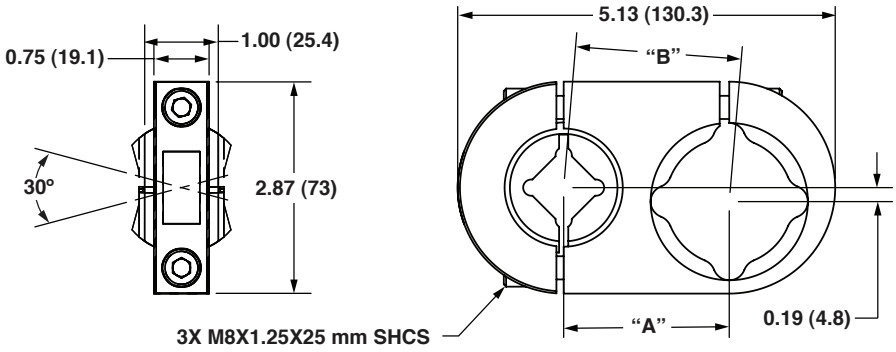


19 mm Square



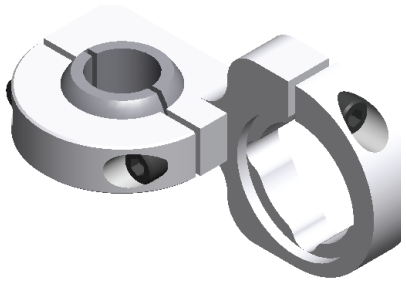
25 mm Square

Part family	"A"	"B"
BPGS10CLP3BXXXX	2.25 (57.2)	2.26 (57.4)
BPGS10CLT3BXXXX	3.13 (79.5)	3.14 (79.8)



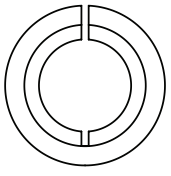
3 Bolt Clamp for BPGS10 Series Grippers Rotated - BPGS10CLR3BXXXXX

- BPGS10CLR3BXXXXX provides 360° rotation of gripper independent of ball
- BPGS10CLR3BXXXX accommodates 1.00", round, 25mm round, 1.25" round, 19mm square & 25mm square tubes
- Spherical ball clamp allows 360° rotation and 30° of angular adjustment
- Ball clamp is 90° to gripper clamp

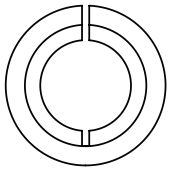


Part number	Description	Weight
BPGS10CLR3B1.00R	For 1.00" tube	1.07 lbs (485 kg)
BPGS10CLR3B25RD	For 25 mm tube	1.07 lbs (485 kg)
BPGS10CLR3B1.25R	For 1.25" tube	0.92 lbs (415 kg)
BPGS10CLR3B19SQ	For 19 mm square tube	1.08 lbs (491 kg)
BPGS10CLR3B25SQ	For 25 mm square tube	1.16 lbs (441 kg)

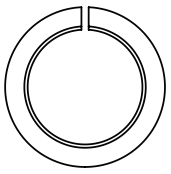
Technical Data



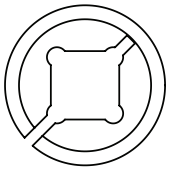
1.00 Round



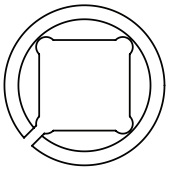
25 mm Round



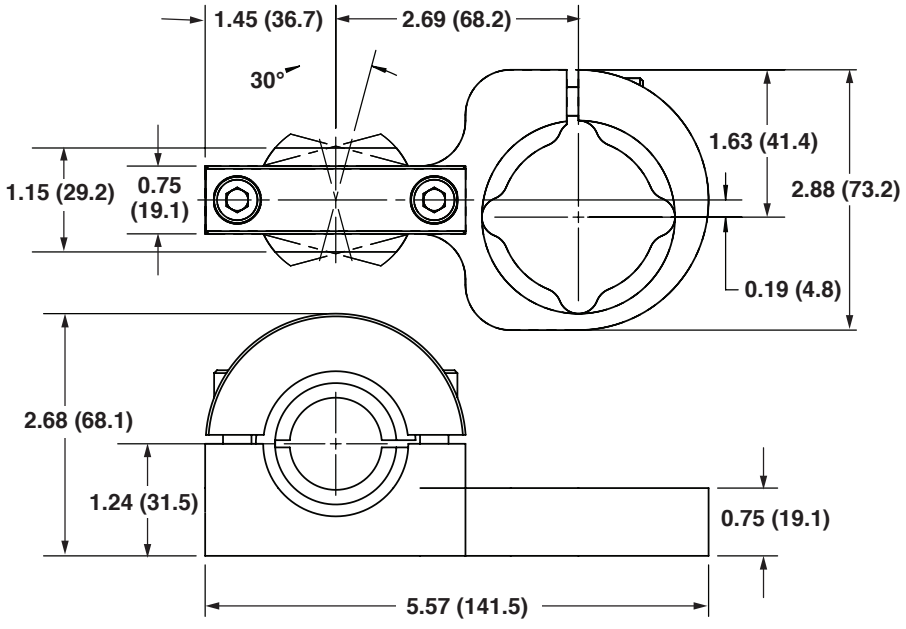
1.25 Round



19 mm Square



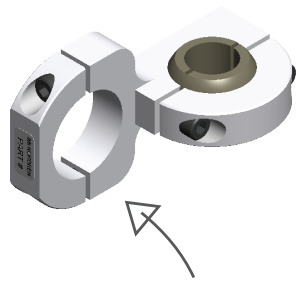
25 mm Square



1.75” Branch Clamp to 25mm Spherical Clamp Rotated - BLLC2302R

- Used to mount BPGS10H and BPGS11 series grippers to 25mm OD branch link tubing, or stud
- Spherical ball clamp allows 360° rotation and 30° of angular adjustment

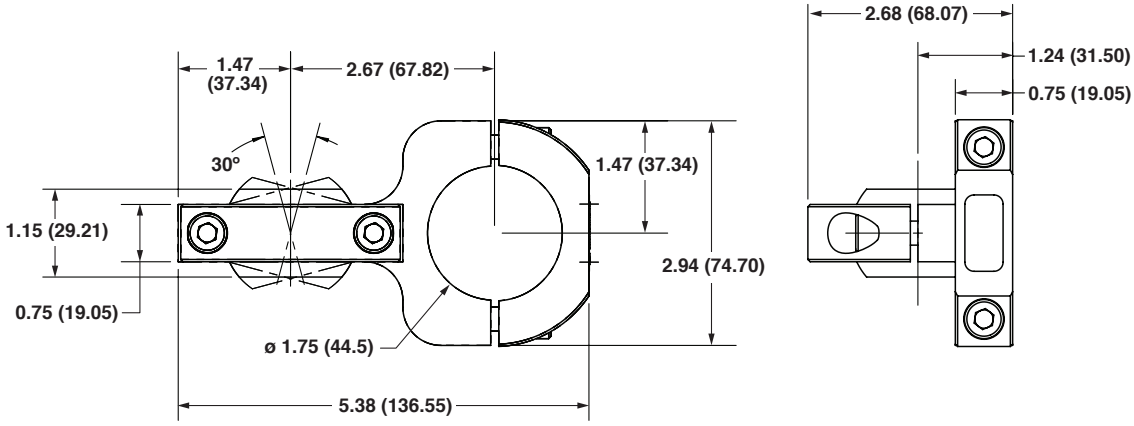
Part number	Description	Weight
BLLC2302R	1.75" Branch clamp to 90° rotated 25mm spherical clamp	1.11 lbs (0.502 kg)

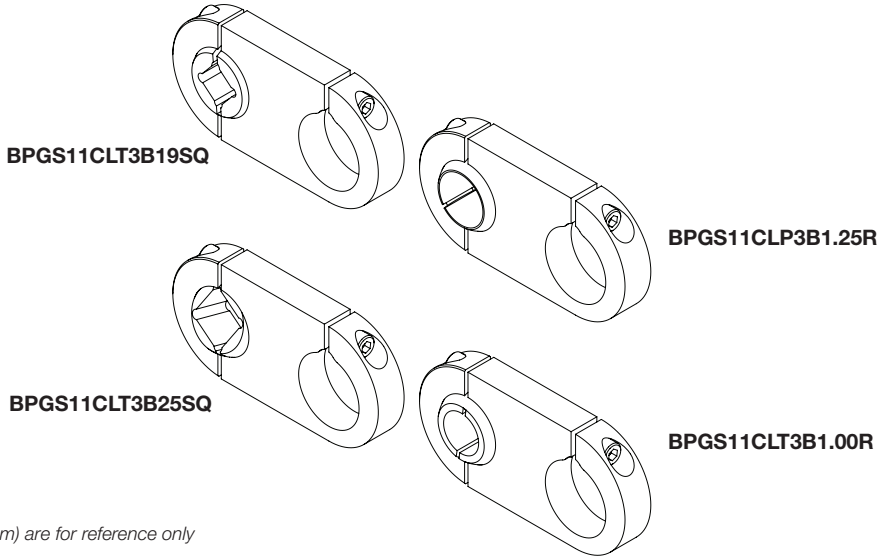


90 ° rotated LLC2302R Branch Clamp

Technical Data

Weight:
1.11 lbs/502 g



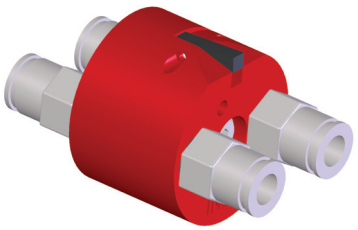


Dimensions in inches (mm) are for reference only

How to Accessorize

BPGS Gripper Valve - BSGV100, 102, 103

- Redirects air from the gripper “closed” air port to the gripper “open” air port
- “Vents” or shuts air off to a single gripper without turning air off the entire system
- Mounts in-line with grippers or rail receivers
- Easily release incorrectly gripped panels

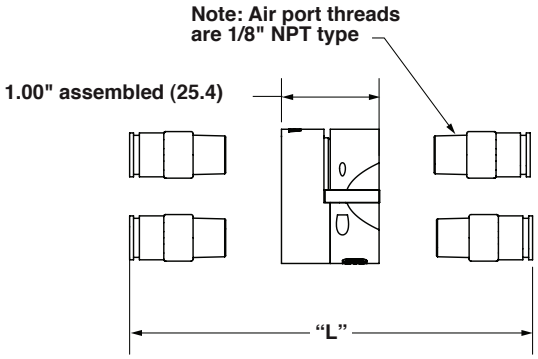


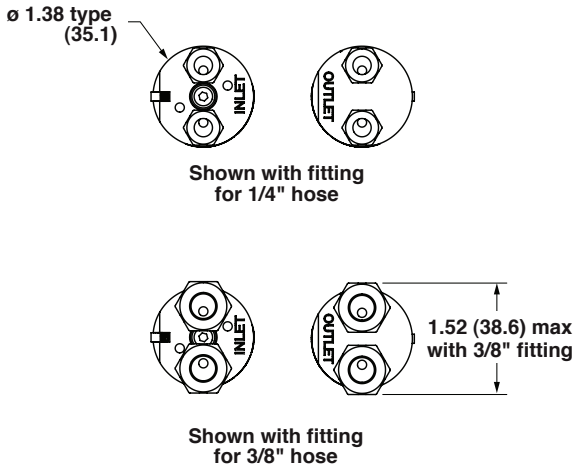
BSGV10X

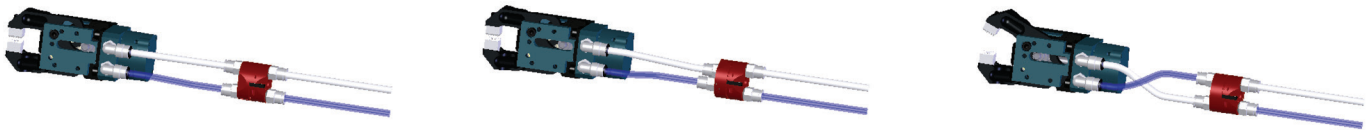
Air fitting	Code
None	0
1/4“ push type	2
3/8“ push type	3

Technical Data

Part number	Air fitting	“L”	Weight
BSVG100	None		1.32 grams
BSVG102	1/4” push type	2.21 (56.1 mm)	
BSVG103	3/8” push type	2.76 (70.1 mm)	







Dimensions in inches (mm) are for reference only

Reconfigurable Kits

Bimba offers a wide variety of reconfigurable kits since our grippers take less than one minute to repair or reconfigure. Our grippers can be easily repaired by using a single wrench reducing downtime for your operations.

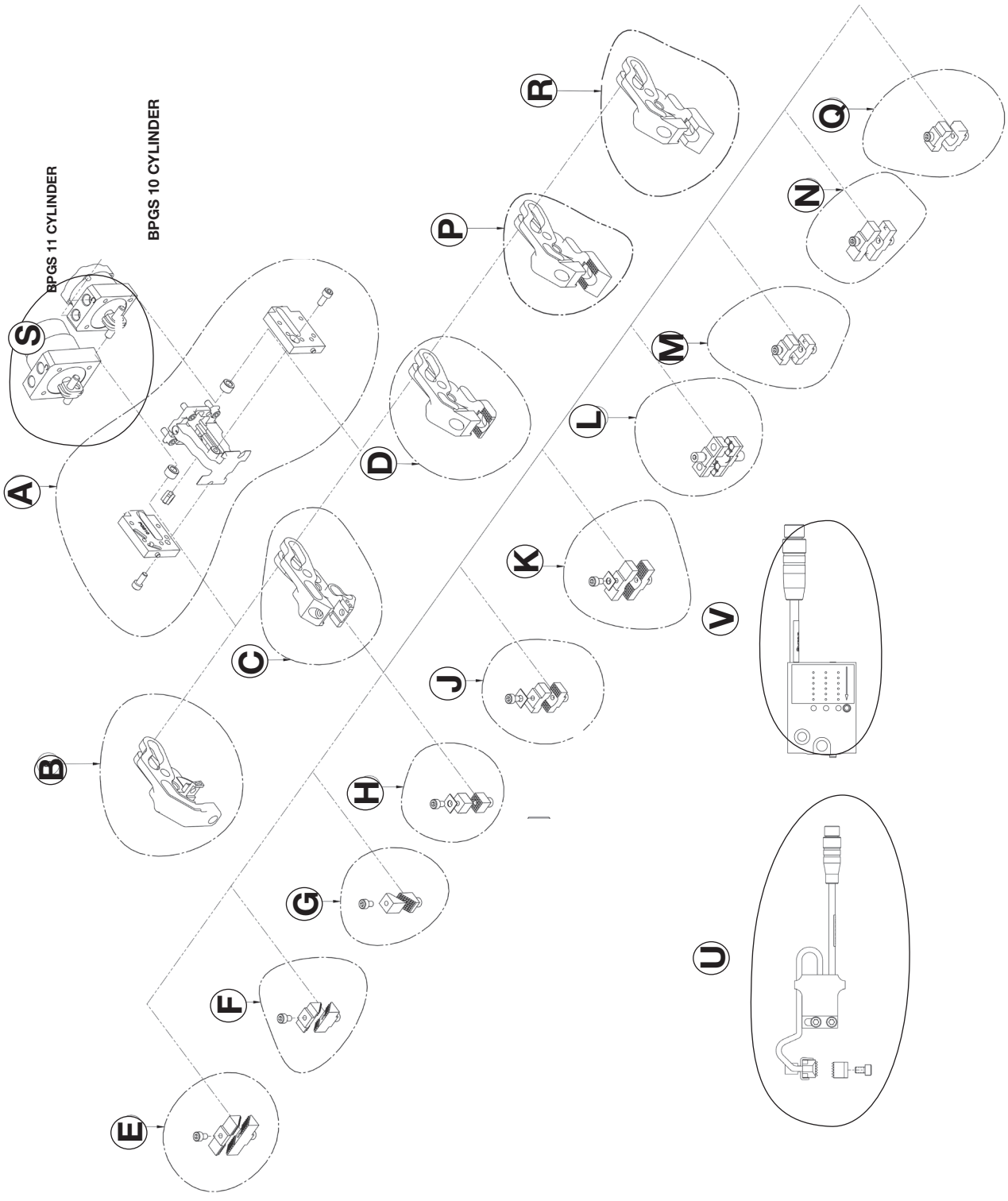


Contents

63 Reconfigurable Kits
66 – Sensors, Air Cylinders, and Air Fitting Kit
67 – Chassis Kit and Jaw Kits
68 – Regular and Flange Jaw Pad Kits
72 – Chisel and Shovel Jaw Pad Kits

BPGS Reconfigurable Kits

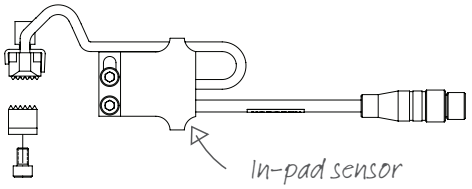
- The diagram below shows the corresponding ID# denoted in the tables within this section



Sensors, Air Cylinders, and Air Fittings Kit

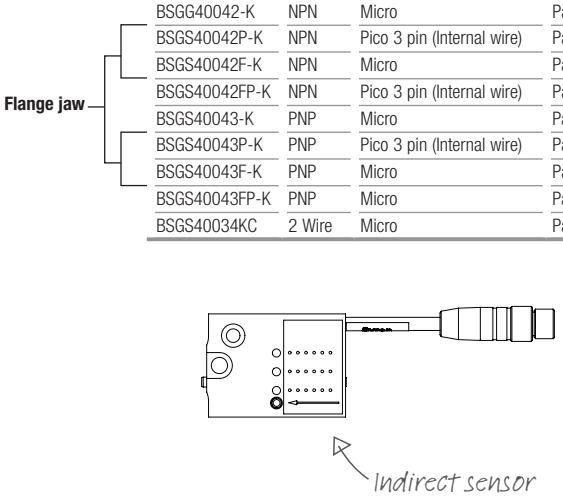
In-Pad Sensor Kits

Part number	Output	Connector	Material thickness	Pad type
BSGS40034KS	2 Wire	Micro 4 pin 1 key	0.5-3.5 mm	Regular
BSGS40034KG	2 Wire	Micro 4 pin 1 key	2.01-5.0 mm	Regular
BSGS40021KS	2 Wire	Micro 3 pin 2 key	0.5-3.5 mm	Single point
BSGS40021KG	2 Wire	Micro 3 pin 2 key	2.01-5.0 mm	Single point
BSGS40020KS	2 Wire	Micro 3 pin 2 key	0.5-3.5 mm	Regular
BSGS40020KG	2 Wire	Micro 3 pin 2 Key	2.01-5.0 mm	Regular
BSGS40020PKS	2 Wire	Pico (Internal wire)	0.5-3.5 mm	Regular
BSGS40020PKG	2 Wire	Pico (Internal wire)	2.01-5.0 mm	Regular
BSGS40020KS-30	2 Wire	Micro 3 pin 2 Key	0.5-3.5 mm	30º
BSGS40020-S-KS	2 Wire	Micro 3 pin 2 Key	0.5-3.5 mm	Smooth (0°)
BSGS40020-S-KG	2 Wire	Micro 3 pin 2 Key	2.01-5.0 mm	Smooth (0°)
BSGS40020-30-S-KS	2 Wire	Micro 3 pin 2 Key	0.5-3.5 mm	Smooth (30°)
BSGS40020-30-S-KG	2 Wire	Micro 3 pin 2 Key	2.01-5.0 mm	Smooth (30°)
BSGS40034KS	2 Wire	Micro 4 pin 1 key	2.01-3.50 mm	Regualr
BSGS40034KC	2 Wire	Micro 4 pin 1 key	0.5-2.00 mm	Regular
BSGS40034KG	2 Wire	Micro 4 pin 1 key	3.51-5.0 mm	Regular
BSGS40034KO	2 Wire	Micro 4 pin 1 key	5.01-6.50 mm	Regular
BSGS40015KS	PNP	Micro 4 pin 1 key	0.5-3.5 mm	Regular
BSGS40015KG	PNP	Micro 4 pin 1 key	2.01-5.0 mm	Regular
BSGS40015PKS	PNP	Pico (Internal wire)	0.5-3.5 mm	Regular
BSGS40015PKG	PNP	Pico (Internal wire)	2.01-5.0 mm	Regular
BSGS40015KS-30	PNP	Micro 4 pin 1 key	0.5-3.5 mm	30º
BSGS40015KG-30	PNP	Micro 4 pin 1 key	2.01-5.0 mm	30º
BSGS40015PKS-30	PNP	Pico (Internal wire)	0.5-3.5 mm	30º
BSGS40015PKG-30	PNP	Pico (Internal wire)	2.01-5.0 mm	30º
BSGS40015-DPKS	PNP	Micro 4 pin 1 key	0.5-3.5 mm	Double point
BSGS40015-DPKG	PNP	Micro 4 pin 1 key	2.01-5.0 mm	Double point
BSGS40015P-DPKS	PNP	Pico (Internal wire)	0.5-3.5 mm	Double point
BSGS40015P-DPKG	PNP	Pico (Internal wire)	2.01-5.0 mm	Double point
BSGS40015-S-KS	PNP	Micro 4 pin 1 key	0.5-3.5 mm	Smooth (0°)
BSGS40015-S-KG	PNP	Micro 4 pin 1 key	2.01-5.0 mm	Smooth (0°)
BSGS40015-30-S-KS	PNP	Micro 4 pin 1 key	0.5-3.5 mm	Smooth (30°)
BSGS40015-30-S-KG	PNP	Micro 4 pin 1 key	2.01-5.0 mm	Smooth (30°)
BSGS40014KS	NPN	Micro 4 pin 1 key	0.5-3.5 mm	Regular
BSGS40014KG	NPN	Micro 4 Pin 1 key	2.01-5.0 mm	Regular
BSGS40014PKS	NPN	Pico (Internal wire)	0.5-3.5 mm	Regular
BSGS40014PKG	NPN	Pico (Internal wire)	2.01-5.0 mm	Regular
BSGS40014KS-30	NPN	Micro 4 pin 1 key	0.5-3.5 mm	30º
BSGS40014KG-30	NPN	Micro 4 pin 1 key	2.01-5.0 mm	30º
BSGS40014PKS-30	NPN	Pico (Internal wire)	0.5-3.5 mm	30º
BSGS40014PKG-30	NPN	Pico (Internal wire)	2.01-5.0 mm	30º
BSGS40014-S-KS	NPN	Micro 4 pin 1 key	0.5-3.5 mm	Smooth (0°)
BSGS40014-S-KG	NPN	Micro 4 pin 1 key	2.01-5.0 mm	Smooth (0°)
BSGS40014-30-S-KS	NPN	Micro 4 pin 1 key	0.5-3.5 mm	Smooth (30°)
BSGS40014-30-S-KG	NPN	Micro 4 pin 1 key	2.01-5.0 mm	Smooth (30°)



Indirect Sensor Kits

Part number	Output	Connector	Sensor type
BSGS40040-K	NPN	Micro	Double blank
BSGS40040P4-K	NPN	Pico 4 pin (Internal wire)	Double blank
BSGS40041-K	PNP	Micro	Double blank
BSGS40041P4-K	PNP	Pico 4 pin (Internal wire)	Double blank
BSGG40042-K	NPN	Micro	Part present
BSGS40042P-K	NPN	Pico 3 pin (Internal wire)	Part present
BSGS40042F-K	NPN	Micro	Part present
BSGS40042FP-K	NPN	Pico 3 pin (Internal wire)	Part present
BSGS40043-K	PNP	Micro	Part present
BSGS40043P-K	PNP	Pico 3 pin (Internal wire)	Part present
BSGS40043F-K	PNP	Micro	Part present
BSGS40043FP-K	PNP	Micro	Part present
BSGS40034KC	2 Wire	Micro	Part present



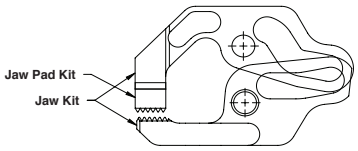
Cylinders

ID#	Gripper	Part number	Description	Color
Ⓢ	BPGS10	**10144**	1/8" NPS air ports	Blue
		10144-01	1/8 Rc air ports	Black

Chassis Kit and Jaw Kits for Regular, Chisel, Flange, and Shovel Grippers

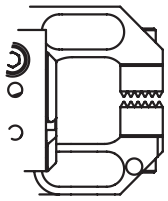
Chassis Kit

ID#	Description	Part number	QTY
Ⓐ	Front end kit	BPGS10FRNTENDKIT	1



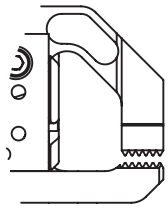
Regular Jaw Kit

ID#	Description	Part number	Quantity	Material thickness	Jaw open angle
Ⓒ	Symetrical regular jaw kit (0.5-5.0)	BPGS10RSYMJAWKIT	1	0.5-5.0mm	70 X 70 45 X 45 22 X 22
Ⓒ	0° Regular jaw kit (0.5-5.0)	BPGS10R0DJAWKIT	1		70 X 0 45 X 0 22 X 0
Ⓒ	50% Regular jaw kit (0.5-5.0)	BPGS10R50JAWKIT	1		70 X 35 45 X 22 22 X 11



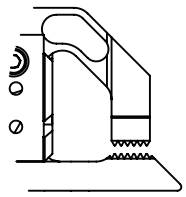
Chisel with teeth C, D & E Jaw Kits

ID#	Description	Part number	Quantity	Material thickness	Jaw open angle
Ⓓ	0° Chisel jaw kit (0.5-3.5)	BPGS10C0DJAWKIT	1	0.5-3.5 mm	70 X 0 45 X 0 22 X 0
Ⓓ	0° Chisel jaw kit (3.51-6.5)	BPGS10D0DJAWKIT	1	3.51-6.5 mm	
Ⓓ	0° Chisel jaw kit (6.51-9.5)	BPGS10E0DJAWKIT	1	6.51-9.5 mm	
Ⓓ	14° Chisel jaw kit (0.5-3.5)	BPGS10C14DJAWKIT	1	0.5-3.5 mm	70 X 14 45 X 14 22 X 14
Ⓓ	14° Chisel jaw kit (3.51-6.5)	BPGS10D14DJAWKIT	1	3.51-6.5 mm	
Ⓓ	14° Chisel jaw kit (6.51-9.5)	BPGS10E14DJAWKIT	1	6.51-9.5mm	



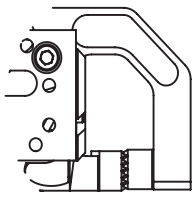
Shovel with Teeth S, T, & U Jaw Kits
Shovel without Teeth V, W, & Y jaw Kits

ID#	Description	Part number	Quantity	Material thickness	Jaw open angle
Ⓟ	0° Shovel jaw kit (0.5-3.5)	BPGS10S0DJAWKIT	1	0.5-3.5 mm	70 X 0 45 X 0 22 X 0
Ⓟ	0° Shovel jaw kit (3.51-6.5)	BPGS10T0DJAWKIT	1	3.51-6.5 mm	
Ⓟ	0° Shovel jaw kit (6.51-9.5)	BPGS10U0DJAWKIT	1	6.51-9.5 mm	
Ⓡ	0° Shovel jaw kit (0.5-3.5)	BPGS10V0DJAWKIT	1	0.5-3.5 mm	
Ⓡ	0° Shovel jaw kit (3.51-6.5)	BPGS10W0DJAWKIT	1	3.51-6.5 mm	
Ⓡ	0° Shovel jaw kit (6.51-9.5)	BPGS10Y0DJAWKIT	1	6.51-9.5 mm	



Flange Jaw Kit

ID#	Description	Part number	Quantity	Material thickness	Jaw open angle
Ⓑ	Flange jaw kit (0.5-5.0)	BPGS10FJAWKIT	1	0.5-5.0 mm	70 X 0 45 X 0 22 X 0

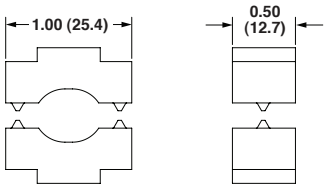


Dimensions in inches (mm) are for reference only

Regular and Flange Jaw Pad Kits

Non-Angled Double Point Pads 1.0" (25.4 mm) Widths

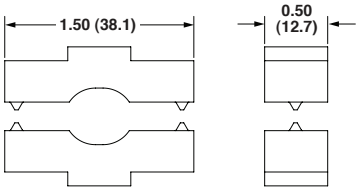
ID#	Part Number	Description
Ⓜ	BLKR1050MP1	Material thickness 0.5-2.0 mm
Ⓜ	BLKR1050MP2	Material thickness 2.01-3.5 mm
Ⓜ	BLKR1050MP3	Material thickness 3.51-5.0 mm



BLKR1050MP1
BLKR1050MP2
BLKR1050MP3

Non-Angled Double Point Pads 1.5" (38.1 mm) Widths

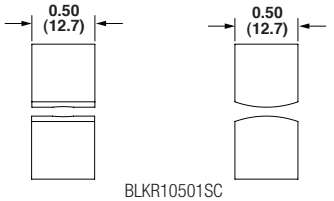
ID#	Part Number	Description
Ⓝ	BLKR1050DP1	Material thickness 0.5-2.0 mm
Ⓝ	BLKR1050DP2	Material thickness 2.01-3.5 mm
Ⓝ	BLKR1050DP3	Material thickness 3.51-5.0 mm



BLKR1050DP1
BLKR1050DP2
BLKR1050DP3

Convex Pads 0.5" (12.7 mm) & 1.0" (25.4 mm) Widths

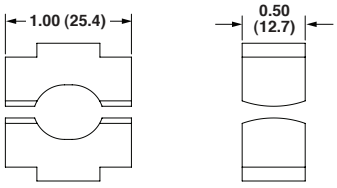
ID#	Part number	Description
Ⓠ	BLKR10501SC	Material thickness 0.5-2.0 mm
Ⓠ	BLKR10503SC	Material thickness 2.01-3.5 mm
Ⓠ	BLKR10504SC	Material thickness 3.51-5.0 mm



BLKR10501SC
BLKR10503SC
BLKR10504SC

Convex 1.0" (25.4 mm) Widths

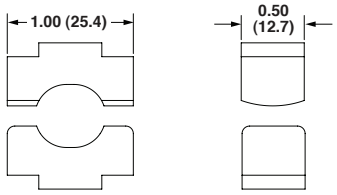
ID#	Part number	Description
Ⓠ	BLKR10501MC	Material thickness 0.5-2.0 mm
Ⓠ	BLKR10503MC	Material thickness 2.01-3.5 mm
Ⓠ	BLKR10504MC	Material thickness 3.51-5.0 mm



BLKR10501MC
BLKR10503MC
BLKR10504MC

Convex- Smooth Pads 0.5" (12.7 mm)

ID#	Part number	Description
Ⓠ	BLKR10501MC-MS	Material thickness 0.5-2.0 mm
Ⓠ	BLKR10503MC-MS	Material thickness 2.01-3.5 mm
Ⓠ	BLKR10504MC-MS	Material thickness 3.51-5.0 mm



BLKR10501MC-MS
BLKR10503MC-MS
BLKR10504MC-MS

Dimensions in inches (mm) are for reference only

Regular and Flange Jaw Pad Kits

Angled Double Pads 1.5" (38.1 mm) Wide

15° angle

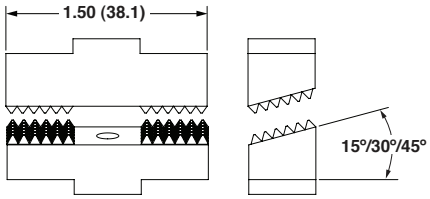
ID#	Part number	Description
Ⓔ	BLKR1050DS1-15	15° pad for material thickness 0.5-2.0 mm
Ⓔ	BLKR1050DS2-15	15° pad for material thickness 2.01-3.50 mm
Ⓔ	BLKR1050DS3-15	15° pad for material thickness 3.51-5.0 mm

30° angle

Ⓔ	BLKR1050DS1-30	30° pad for material thickness 0.5-2.0 mm
Ⓔ	BLKR1050DS2-30	30° pad for material thickness 2.01-3.5 mm
Ⓔ	BLKR1050DS3-30	30° pad for material thickness 3.51-5.0 mm

45° angle

Ⓔ	BLKR1050DS1-45	45° pad for material thickness 0.5-2.0 mm
Ⓔ	BLKR1050DS2-45	45° pad for material thickness 2.01-3.5 mm
Ⓔ	BLKR1050DS3-45	45° pad for material thickness 3.51-5.0 mm



BLKR1050DS1-15
BLKR1050DS2-15
BLKR1050DS3-15
BLKR1050DS1-30
BLKR1050DS2-30
BLKR1050DS3-30
BLKR1050DS1-45
BLKR1050DS2-45
BLKR1050DS3-45

Angled Mid Pads 1.0" (25.4 mm) Wide

15° angle

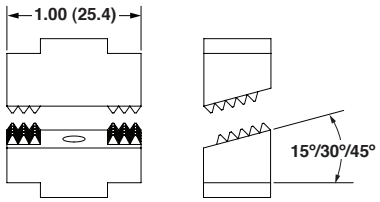
ID#	Part number	Description
Ⓕ	BLKR1050MS1-15	15° pad for material thickness 0.5-2.0 mm
Ⓕ	BLKR1050MS2-15	15° pad for material thickness 2.01-3.5 mm
Ⓕ	BLKR1050MS3-15	15° pad for material thickness 3.51-5.0 mm

30° angle

Ⓕ	BLKR1050MS1-30	30° pad for material thickness 0.5-2.0 mm
Ⓕ	BLKR1050MS2-30	30° pad for material thickness 2.01-3.5 mm
Ⓕ	BLKR1050MS3-30	30° pad for material thickness 3.51-5.0 mm

45° angle

Ⓕ	BLKR1050MS1-45	45° pad for material thickness 0.5-2.0 mm
Ⓕ	BLKR1050MS2-45	45° pad for material thickness 2.01-3.5 mm
Ⓕ	BLKR1050MS3-45	45° pad for material thickness 3.51-5.0 mm



BLKR1050MS1-15
BLKR1050MS2-15
BLKR1050MS3-15
BLKR1050MS1-30
BLKR1050MS2-30
BLKR1050MS3-30
BLKR1050MS1-45
BLKR1050MS2-45
BLKR1050MS3-45

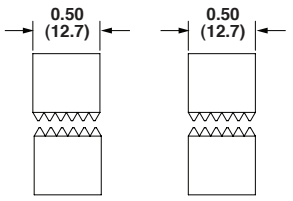
NOTE: 1. Angled pads cannot be used with chisel or shovel jaw grippers.

Dimensions in inches (mm) are for reference only

Regular and Flange Jaw Pad Kits

Non-Angled Single Pads 0.5" (12.7 mm) Wide

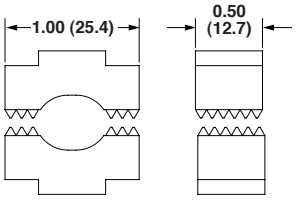
ID#	Part number	Description
Ⓗ	BLKR1050SS1	Material thickness 0.5-2.0 mm
Ⓗ	BLKR1050SS2	Material thickness 2.01-3.5 mm
Ⓗ	BLKR1050SS3	Material thickness 3.51-5.0 mm



BLKR1050SS1
BLKR1050SS2
BLKR1050SS3

Non-angled Mid Pads 1.0" (25.4 mm) Wide

ID#	Part number	Description
Ⓙ	BLKR1050MS1	Material thickness 0.5-2.0 mm
Ⓙ	BLKR1050MS2	Material thickness 2.01-3.5 mm
Ⓙ	BLKR1050MS3	Material thickness 3.51-5.0 mm

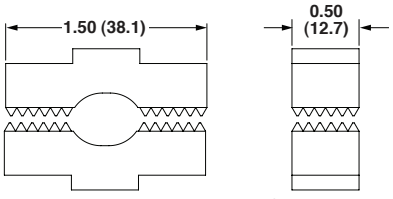


BLKR1050MS1
BLKR1050MS2
BLKR1050MS3

Non-Angled Double Pads 1.5" (38.1 mm) Wide

ID#	Part number	Description
Ⓚ	BLKR1050DS1	Material thickness 0.5-2.0 mm
Ⓚ	BLKR1050DS2	Material thickness 2.01-3.5 mm
Ⓚ	BLKR1050DS3	Material thickness 3.51-5.0 mm

NOTES: 1. Angled pads cannot be used with chisel or shovel jaw grippers.



BLKR1050DS1
BLKR1050DS2
BLKR1050DS3

Angled Single Pads 0.5" (12.7 mm) Wide

15° angle

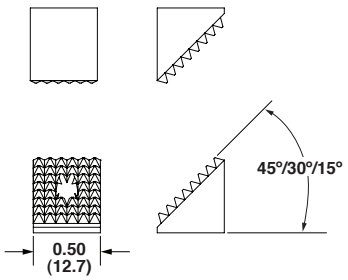
ID#	Part number	Description
Ⓖ	BLKR1050SS1-15	15° pad for material thickness 0.5-2.0 mm
Ⓖ	BLKR1050SS2-15	15° pad for material thickness 2.01-3.5 mm
Ⓖ	BLKR1050SS3-15	15° pad for material thickness 3.51-5.0 mm

30° angle

Ⓖ	BLKR1050SS1-30	30° pad for material thickness 0.5-2.0 mm
Ⓖ	BLKR1050SS2-30	30° pad for material thickness 2.01-3.5 mm
Ⓖ	BLKR1050SS3-30	30° pad for material thickness 3.51-5.0 mm

45° angle

Ⓖ	BLKR1050SS1-45	45° pad for material thickness 0.5-2.0 mm
Ⓖ	BLKR1050SS2-45	45° pad for material thickness 2.01-3.5 mm
Ⓖ	BLKR1050SS3-45	45° pad for material thickness 3.51-5.0 mm



BLKR1050SS1-15
BLKR1050SS2-15
BLKR1050SS3-15
BLKR1050SS1-30
BLKR1050SS2-30
BLKR1050SS3-30
BLKR1050SS1-45
BLKR1050SS2-45
BLKR1050SS3-45

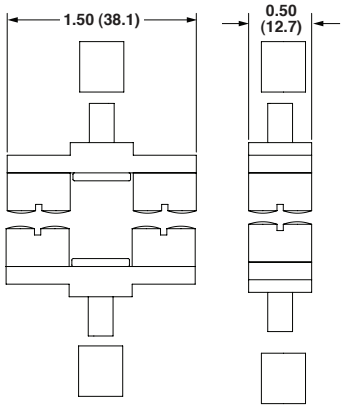
Dimensions in inches (mm) are for reference only

Regular and Flange Jaw Pad Kits

Rubber Pads 1.5" (38.1 mm) Wide

ID#	Part number	Description
L	BLKR1050DR0	Material thickness 0.5-2.0 mm

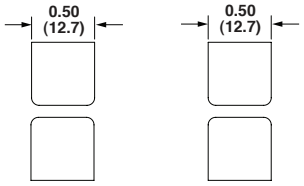
NOTES: In-pad sensor kits include the adequate gripper pad for each kit.



BLKR1050DR0

Smooth Pads 0.5" (12.7 mm) Widths

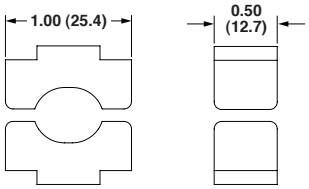
ID#	Part number	Description
Q	BLKR10501SS	Material thickness 0.5-2.0 mm
Q	BLKR10503SS	Material thickness 2.01-3.5 mm
Q	BLKR10504SS	Material thickness 3.51-5.0 mm



BLKR10501SS
BLKR10503SS
BLKR10504SS

Smooth Pads 1.0" (25.4 mm) Widths

ID#	Part number	Description
Q	BLKR10501MS	Material thickness 0.5-2.0 mm
Q	BLKR10503MS	Material thickness 2.01-3.5 mm
Q	BLKR10504MS	Material thickness 3.51-5.0 mm

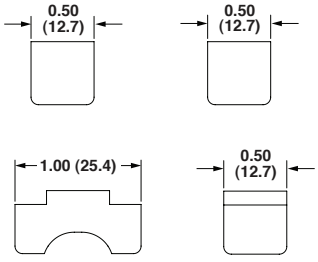


BLKR10501MS
BLKR10503MS
BLKR10504MS

Smooth Pads 0.5" (12.7 mm) & 1.0" (25.4 mm) Widths

ID#	Part number	Description
Q	BLKR10681MS	Material thickness 0.5-2.0 mm, 3.51-5.0 mm, 6.51-8.0 mm
Q	BLKR10682MS	Material thickness 2.01-3.5 mm, 5.01-6.5 mm, 8.01-9.5 mm

Dimensions in inches (mm) are for reference only

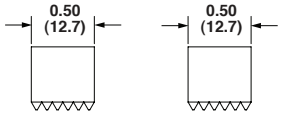


BLKR10681MS
BLKR10682MS

Chisel and Shovel Jaw Pad Kits

Chisel or Shovel Jaw Pads 0.5" (12.7 mm) Wide

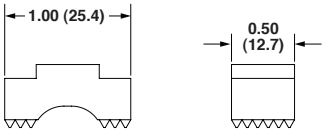
ID#	Part number	Material thickness when used with specified jaw Kit description	Black jaw	Silver jaw	Gold jaw
H	BLKR1068SS1	1 Black pad with shim	0.50 - 2.0 mm	3.51 - 5.0 mm	6.51 - 8.0 mm
H	BLKR1068SS2	1 Silver pad	2.01 - 3.5 mm	5.01 -6.5 mm	8.01 - 9.5 mm



BLKR1068SS1
BLKR1068SS2

Chisel or Shovel Jaw Pads 1.0" (25.4 mm) Wide

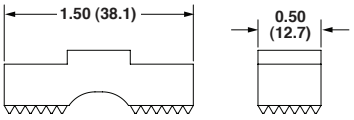
ID#	Part number	Material thickness when used with specified jaw Kit description	Black jaw	Silver jaw	Gold jaw
J	BLKR1068MS1	1 Black pad with shim	0.50 - 2.0 mm	3.51 - 5.0 mm	6.51 - 8.0 mm
J	BLKR1068MS2	1 Silver pad	2.01 - 3.5 mm	5.01 -6.5 mm	8.01 - 9.5 mm



BLKR1068MS1
BLKR1068MS2

Chisel or Shovel Jaw Pads 1.5" (38.1 mm) Wide

ID#	Part number	Material thickness when used with specified jaw Kit description	Black jaw	Silver jaw	Gold jaw
K	BLKR1068DS1	1 Black pad with shim	0.50 - 2.0 mm	3.51 - 5.0 mm	6.51 - 8.0 mm
K	BLKR1068DS2	1 Silver pad	2.01 - 3.5 mm	5.01 -6.5 mm	8.01 - 9.5 mm

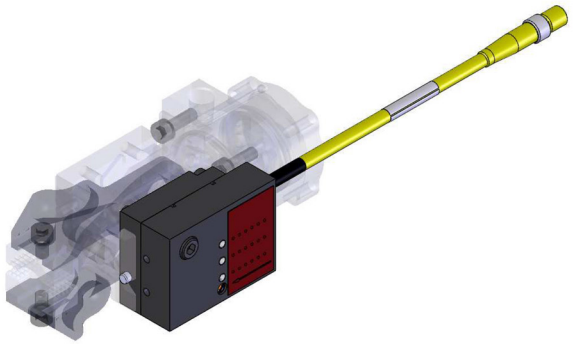


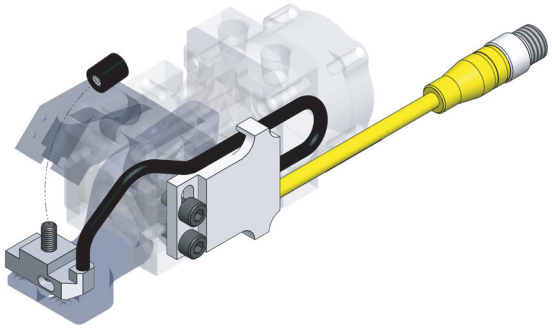
BLKR1068DS1
BLKR1068DS2

NOTES: 1. Chisel and shovel jaw grippers only have upper jaw pads.
2. Angled pads cannot be used with chisel or shovel jaw grippers.

Sensors

Bimba offers extremely durable sensors that are designed for the BPGS gripper system in press room conditions. Indirect sensors can be used for either part present and/or double blank sensing. Our sensors are quick and easy push button calibration with in-pad sensors detecting steel or aluminum. We offer a wide material thickness range, with part present or double blank detection capacity up to 9.55mm blank thickness.





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83 – Ordering Information

84 In-Pad Part Present Sensor, M8 3 Pin 0° Standard Pad, NPN/PNP Outlet
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86 – Ordering Information

87 In-Pad Part Present Sensor, M8 3 Pin 0° Standard Pad, Two Wire Output
87 – Technical Data
87 – Ordering Information

88 Accessories

Part Present / Double Blank Sensor with MICRO Connector

- Easy calibration
- Abrasion and impact resistant
- Impervious to contamination from coolants and oils
- LED's for visual feedback
- Interface directly to programmable controllers

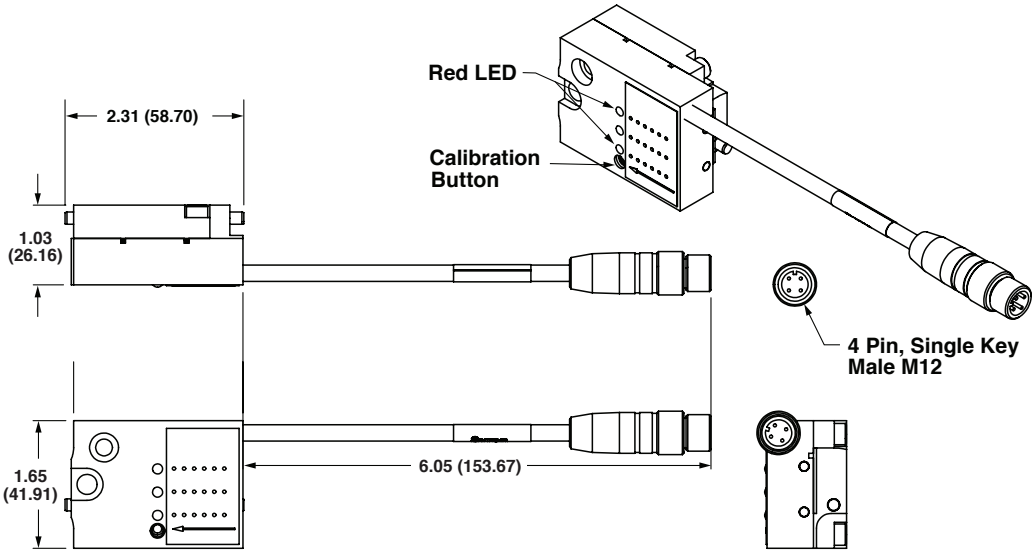


Technical Data

Power/sensor connector:
4-Pin 12 mm (micro type) molded connector
Supply voltage range:
10 VDC to 30 VDC
Maximum continuous load current:
100mA

Operating temperature range:
0°C to +60°C
Response time:
50ms max.
Part present indicator lights:
Red
Double blank indicator lights:
Red - Blinking

Short circuit protection:
Yes
Overload protection:
Yes
Weight:
0.31 lbs (140 g)



Ordering Information

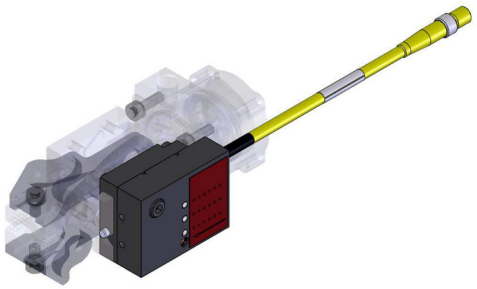
Part number	Sensor type	Switch type
BSGS40040-K	Double blank	NPN (Current sinking)
BSGS40041-K	Double blank	PNP (Current sourcing)
BSGS40042-K	Part present	NPN (Current sinking)
BSGS40043-K	Part present	PNP (Current sourcing)
BSGS40042F-K	Part present flange	NPN (Current sinking)
BSGS40043F-K	Part present flange	PNP (Current sourcing)

Dimensions in inches (mm) are for reference only

How to Accessorize

Part Present / Double Blank Sensor with PICO Connector

- Easy calibration
- Abrasion and impact resistant
- Impervious to contamination from coolants and oil
- LED's for visual feedback
- Interface directly to programmable controllers



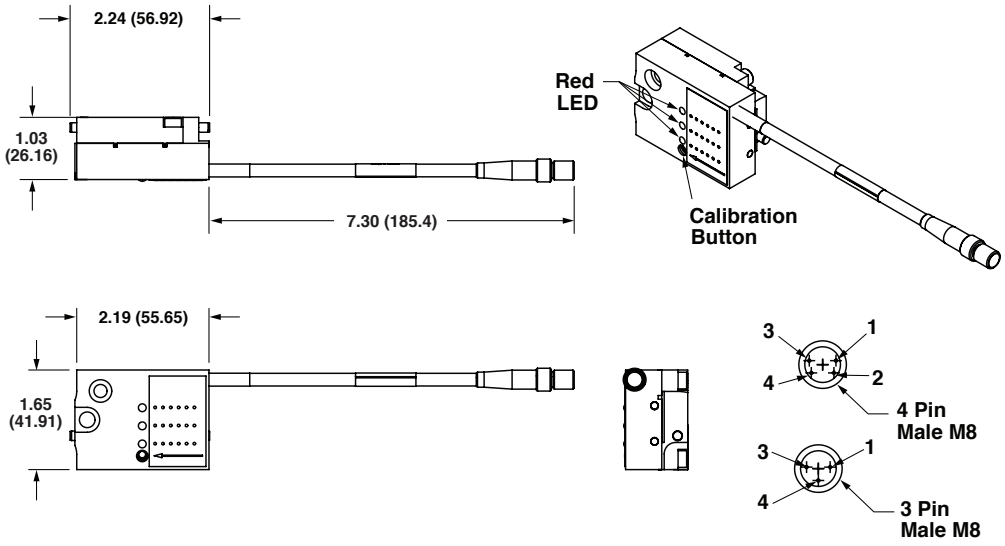
Technical Data

Power/sensor connector:
4-Pin 8 mm (Pico type) molded connector
Supply voltage range:
10 VDC to 30 VDC
Maximum continuous load current:
100mA

Operating temperature range:
0°C to +60°C
Response time:
50ms max.
Part present indicator lights:
Red
Double blank indicator lights:
Red-Blinking

Short circuit protection:
Yes
Overload protection:
Current limits at 325mA typ.
Reverse polarity protection:
Up to 36 VDC

Weight:
0.31 lbs (140 g)



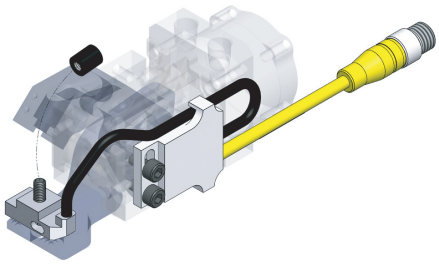
Ordering Information

Part number	# of Pins	Sensor Type	Switch Type
BSGS40040FP4	4 pins	Double Blank Flange	NPN (Current Sinking)
BSGS40041FP4	4 pins	Double Blank Flange	PNP (Current Sourcing)
BSGS40040P4-K	4 pins	Double Blank	NPN (Current Sinking)
BSGS40041P4-K	4 pins	Double Blank	PNP (Current Sourcing)
BSGS40042P-K	3 pins	Part Present	NPN (Current Sinking)
BSGS40043P-K	3 pins	Part Present	PNP (Current Sourcing)
BSGS40042FP-K	3 pins	Part Present Flange	NPN (Current Sinking)
BSGS40043FP-K	3 pins	Part Present Flange	PNP (Current Sourcing)

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, MICRO 4 PIN/1 Key M12 0° Standard Pad, NPN/PNP Outlet

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- LED for part present status of sensor
- Interface directly to PLC
- Impervious to coolants and oils



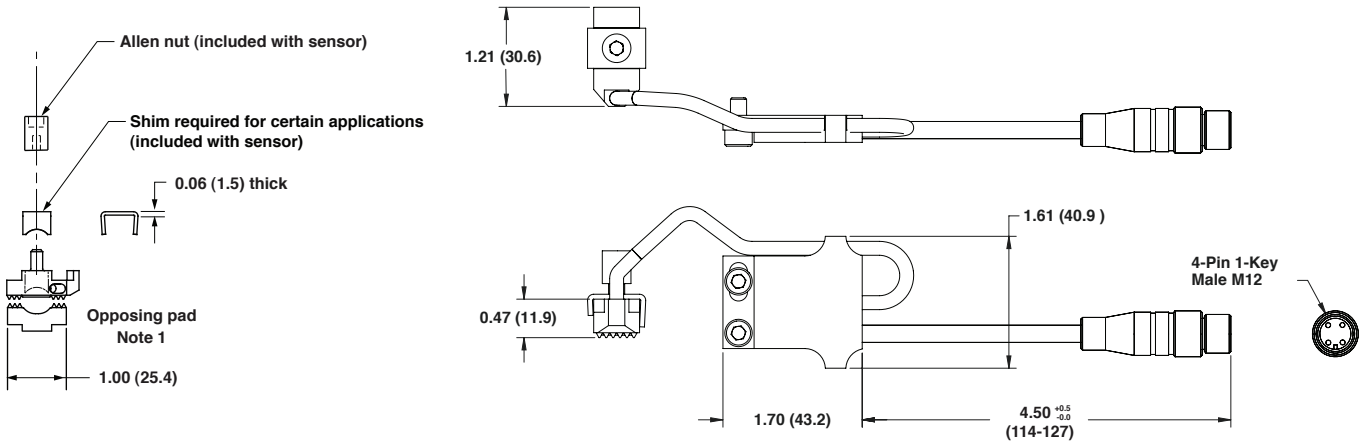
Technical Data

Supply voltage range:
10 VDC (min) to 30 VDC (max)
Maximum continuous load current:
200 mA
Operating temperature range:
0°C (min) to 60°C (max)
Sensing range:
1.2 mm above gripper pad

Response time:
25ms turn-on time, 60ms turn-off time
Target material:
Steel and aluminum
Indicator light:
RED: On when target is detected; 360° visibility

Short circuit protection:
Automatically resets when short is removed
Overload protection:
Current limits at 325 mA typ.
Reverse polarity protection:
Up to 36 volts DC

Weight:
0.15 lbs (68 g)



Ordering Information

Part number (note 1)	Description	Sensor type	Material thickness (note 2)
BSGS40014	Sensor	NPN	Various
BSGS40014KS	Sensor with opposing pad (Kit)	NPN	0.50-3.50 mm
BSGS40014KG	Sensor with opposing pad (Kit)	NPN	2.01-5.00 mm
BSGS40015	Sensor	PNP	Various
BSGS40015KS	Sensor with opposing pad (Kit)	PNP	0.50-3.50 mm
BSGS40015KG	Sensor with opposing pad (Kit)	PNP	2.01-5.00 mm

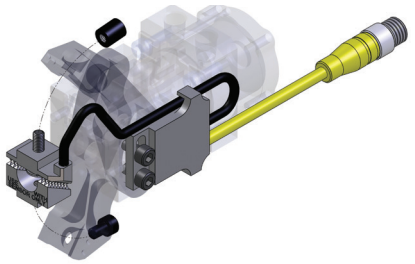
Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, MICRO 4 Pin/1 Key M12 30° Standard Pad, NPN/PNP Outlet

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- Interface directly to PLC
- Impervious to coolants and oils



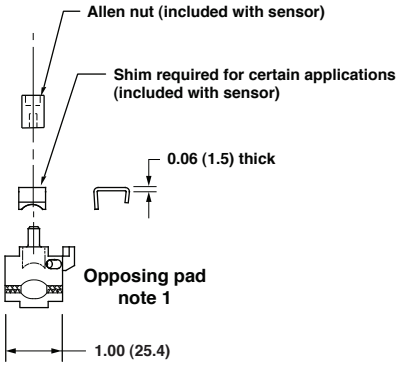
Technical Data

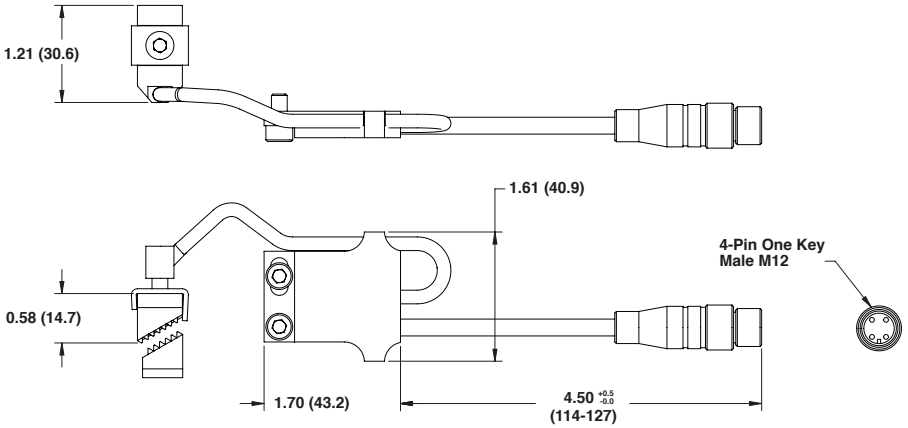
Supply voltage range:
10 VDC (min) to 30 VDC (max)
Maximum continuous load current:
200 mA
Operating temperature range:
0°C (min) to 60°C (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25 ms turn-on time, 60 ms turn-off time
Target material:
Steel and aluminum

Short circuit protection:
Automatically resets when short is removed
Overload protection:
Current limits at 325 mA typ.
Reverse polarity protection:
Up to 36 volts DC

Weight:
0.15 lbs (68 g)





Ordering Information

Part number (note 1)	Description	NPN/PNP	Material thickness (note 2)
BSGS40014-30	Sensor	NPN	Various
BSGS40014KS-30	Sensor with opposing pad (Kit)	NPN	0.50-3.50 mm
BSGS40014KG-30	Sensor with opposing pad (Kit)	NPN	2.01-5.00 mm
BSGS40015-30	Sensor	PNP	Various
BSGS40015KS-30	Sensor with opposing pad (Kit)	PNP	0.50-3.50 mm
BSGS40015KG-30	Sensor with opposing pad (Kit)	PNP	2.01-5.00 mm

Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.

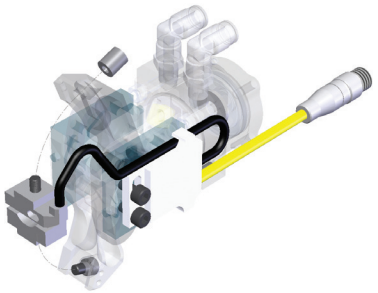
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, MICRO 4 Pin/1 Key M12 0° Dual Point Pad, NPN/PNP Outlet

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- Ideal for coated panels
- LED for part present status of sensor
- Interface directly to PLC
- Impervious to coolants and oils
- May be used with regular jaw grippers, PGS10R and PGS10R



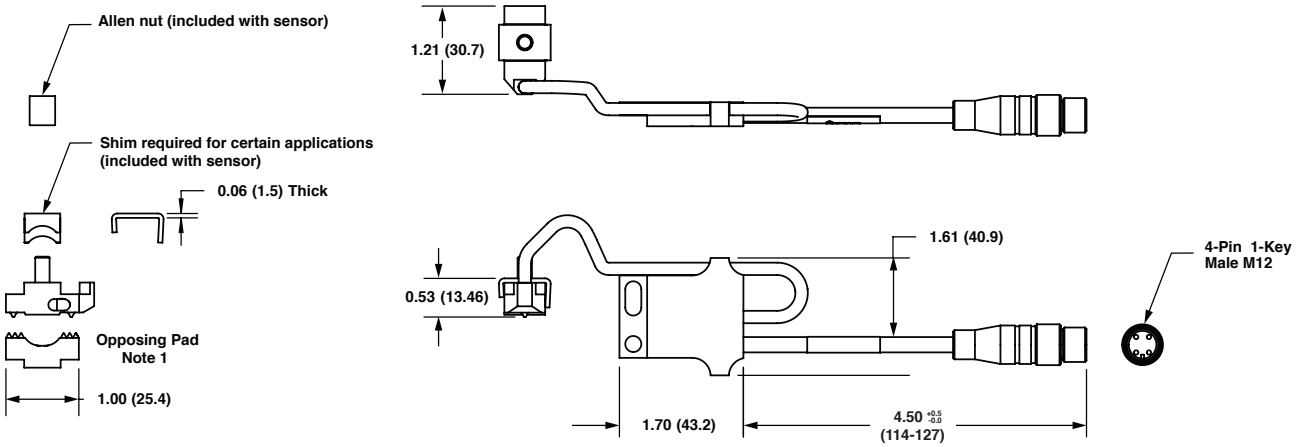
Technical Data

Supply voltage range:
10 VDC (min) to 30 VDC (max)
Maximum continuous load current:
200 mA
Operating temperature range:
0°C (min) to 60°C (max)
Sensing range:
1.2 mm above gripper pad

Response time:
25 ms turn-on time, 60 ms turn-off time
Target material:
Steel and Aluminum
Indicator light:
RED: On when target is detected: 360° visibility

Short circuit protection:
Automatically resets when short is removed
Overload protection:
Current limits at 325 mA typ.
Reverse polarity protection:
Up to 36 volts DC

Weight:
0.15 lbs (68 g)



Ordering Information

Part number (note 1)	Description	NPN/PNP	Material thickness (Note 2)
BSGS40014-DP	Sensor	NPN	Various
BSGS40014-DPKS	Sensor with opposing pad (silver)	NPN	0.50-3.50 mm
BSGS40014-DPKG	Sensor with opposing pad (gold)	NPN	2.01-5.00 mm
BSGS40015-DP	Sensor	PNP	Various
BSGS40015-DPKS	Sensor with opposing pad (silver)	PNP	0.50-3.50 mm
BSGS40015-DPKG	Sensor with opposing pad (gold)	PNP	2.01-5.00 mm

Note 1 - Order sensor part number shown above if sensor is being used with a chisel or flange jaw gripper or is a replacement sensor for a regular jaw gripper already fitted with an in-pad sensor. For new installation in regular jaw gripper, add KS or KG at the end of the part number for a kit containing the opposing pad.

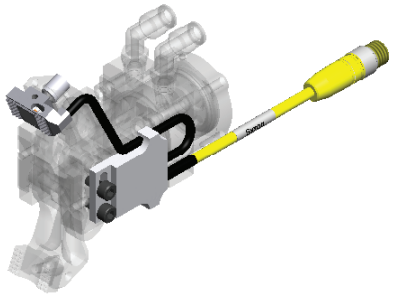
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to insure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, MICRO 4 Pin/1 M12 Key 0° Standard Pad, Two Wire Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- Interface directly to PLC
- Impervious to coolants and oils



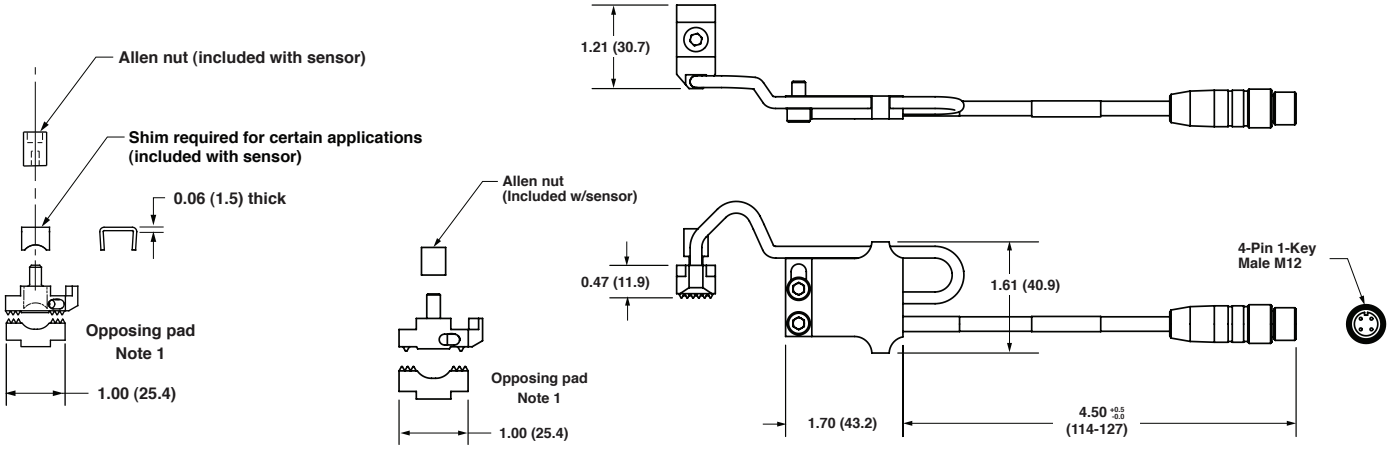
Technical Data

Power/sensor connector:
3-pin 8 mm (pico type) male connector
Supply voltage range:
24 VDC
Maximum off-state leakage current:
1.3mA @ 24 VDC
Maximum continuous load current:
40mA
Operating temperature range:
0°C (min) to 60°C (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25ms turn-on time, 60ms turn-off time
Target material:
Steel and aluminum

Indicator light:
RED: On when target is detected; 360° visibility
Short circuit protection:
Yes: Automatically resets when short is removed
Overload protection:
Yes

On-state voltage drop:
8.5 V
Weight:
0.15 lbs (68 g)



Ordering Information

Part number (note 1)	Description	Material thickness (note 2)
BSGS40034	Sensor	Various
BSGS40034KC	Sensor with opposing pad (copper)	0.40 - 2.00 mm
BSGS40034KS	Sensor with opposing pad (silver)	2.01 - 3.50 mm
BSGS40034KG	Sensor with opposing pad (gold)	3.51 - 5.00 mm
BSGS40034KO	Sensor with opposing pad (olive)	5.01 - 6.50 mm

Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.

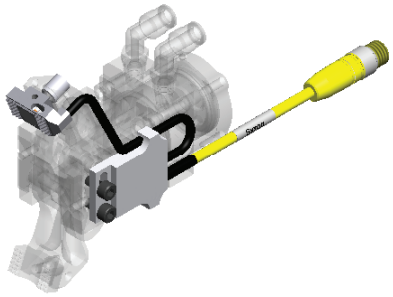
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, MICRO 3 Pin/2 Key 1/2-20 0° Standard Pad, Two Wire Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- Interface directly to PLC
- Impervious to coolants and oils



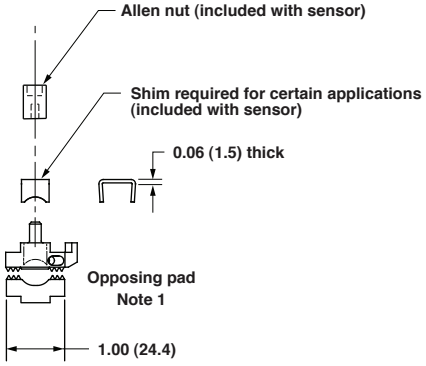
Technical Data

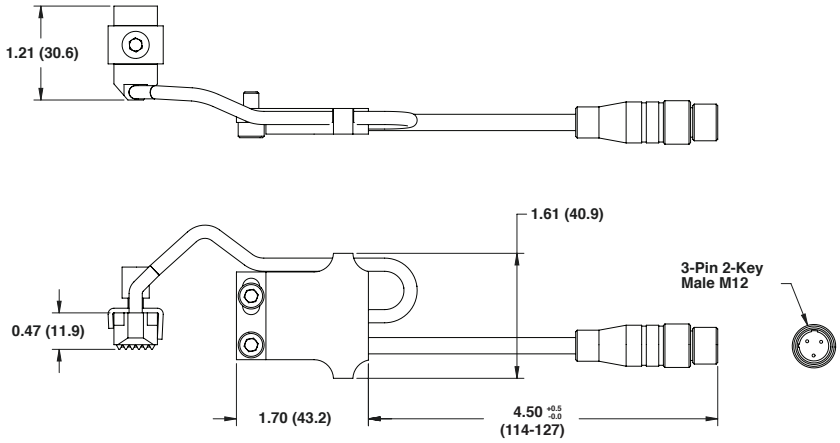
Power/sensor connector:
3-pin 1/2-20unf (micro type), two key male connector
Supply voltage range:
24 V AC/DC to 140 V AC/DC
Maximum off-state leakage current:
1.3mA @ 120V
Maximum continuous load current:
40mA
Operating temperature range:
0°C (min) to 60°C (max)

Sensing range:
1.2mm above gripper pad
Response time:
25ms turn-on time, 25ms turn-off time.
Target material:
Steel and aluminum

Indicator light:
RED: On when target is detected; 360° visibility
Short circuit protection:
Yes: Automatically resets when short is removed
Overload protection:
Yes

On-state voltage drop:
8.5 V
Weight:
0.15 lbs (68 g)





Ordering Information

Part number (note 1)	Description	Material thickness (note 2)
BSGS40020	Sensor	Various
BSGS40020KS	Sensor with opposing pad	0.50-3.50 mm
BSGS40020KG	Sensor with opposing pad	2.01-5.00 mm

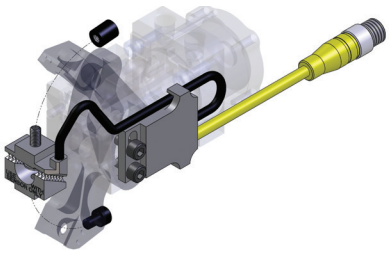
Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, MICRO 3 Pin/2 Key 1/2-20 30° Standard Pad, Two Wire Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- LED for on/off status of sensor
- Interface directly to PLC
- Impervious to coolants and oils



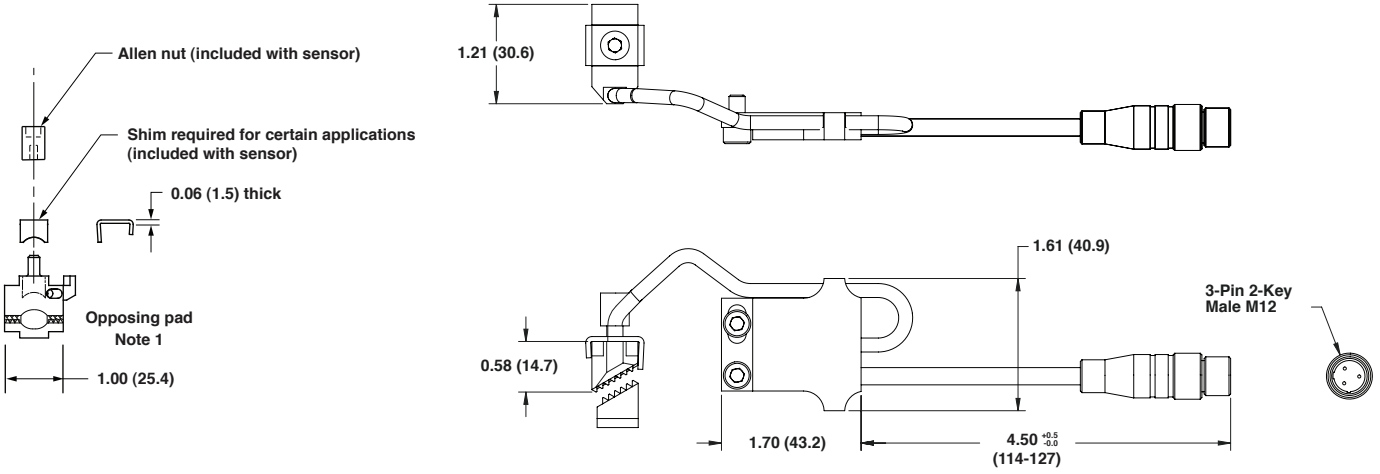
Technical Data

Power/sensor connector:
3-pin 1/2-20unf (micro type), two key male connector
Supply voltage range:
24 V AC/DC to 140 V AC/DC
Maximum off-state leakage current:
1.3mA @ 120V
Maximum continuous load current:
40mA
Operating temperature range:
0ºC (min) to 60ºC (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25ms turn-on time, 25ms turn-off time
Target material:
Steel and aluminum

Indicator light:
RED: On when target is detected; 360º visibility
Short circuit protection:
Yes: Automatically resets when short is removed
Overload protection:
Yes

On-state voltage drop:
8.5 V
Weight:
0.15 lbs (70 g)



Ordering Information

Part number (note 1)	Description	Material thickness (note 2)
BSGS40020-30	Sensor	Various
BSGS40020KS-30	Sensor with opposing pad	0.50-3.50 mm
BSGS40020KG-30	Sensor with opposing pad	2.01-5.00 mm

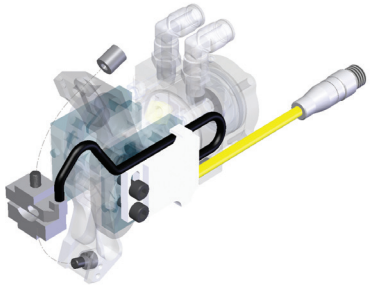
Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, MICRO 3 Pin/2 Key 1/2-20 0° Dual Point Pad, Two Wire Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- For use with coated panels
- LED for on/off status of sensor
- Interface directly to PLC
- Impervious to coolants and oils
- May be used with regular jaw grippers, PGS10R and PGS10R



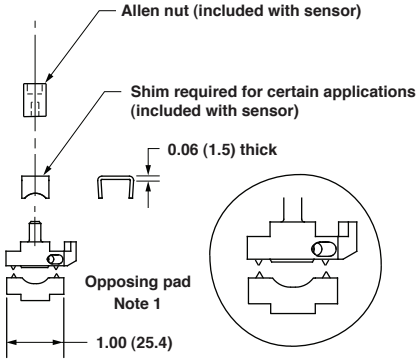
Technical Data

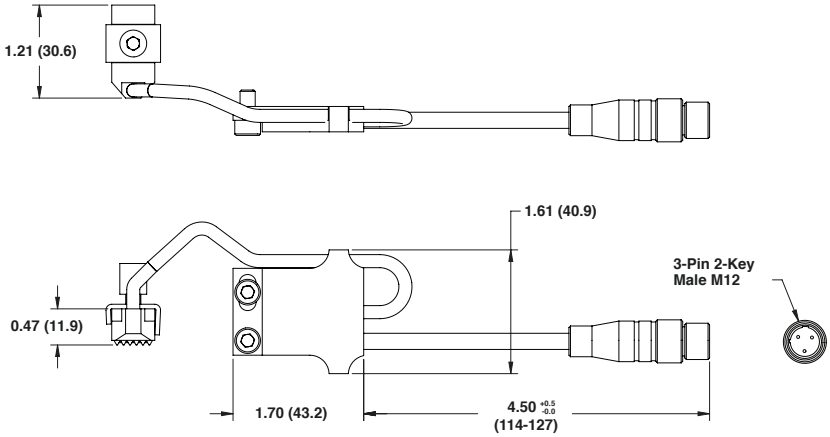
Power/sensor connector:
3-pin 1/2-20unf (micro type), two key male connector
Supply voltage range:
24 V AC/DC to 140 V AC/DC
Maximum off-state leakage current:
1.3mA @ 120 V
Maximum continuous load current:
40mA
Operating temperature range:
0°C (min) to 60°C (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25ms turn-on time, 25ms turn-off time.
Target material:
Steel and aluminum

Indicator light:
RED: On when target is detected; 360° visibility
Short circuit protection:
Yes: Automatically resets when short is removed
Overload protection:
Yes

On-state voltage drop:
8.5 V
Weight:
0.15 lbs (70 g)





Ordering Information

Part number (note 1)	Description	Material thickness (note 2)
BSGS40021	Sensor	Various
BSGS40021KS	Sensor with opposing pad (Kit)	0.50-3.50 mm
BSGS40021KG	Sensor with opposing pad (Kit)	2.01-5.00 mm

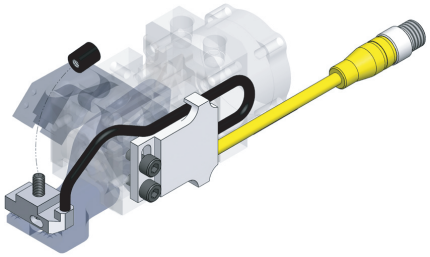
Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, PICO 3 Pin/M8 0° Standard Pad, NPN/PNP Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- Interface directly to PLC
- Impervious to coolants and oils



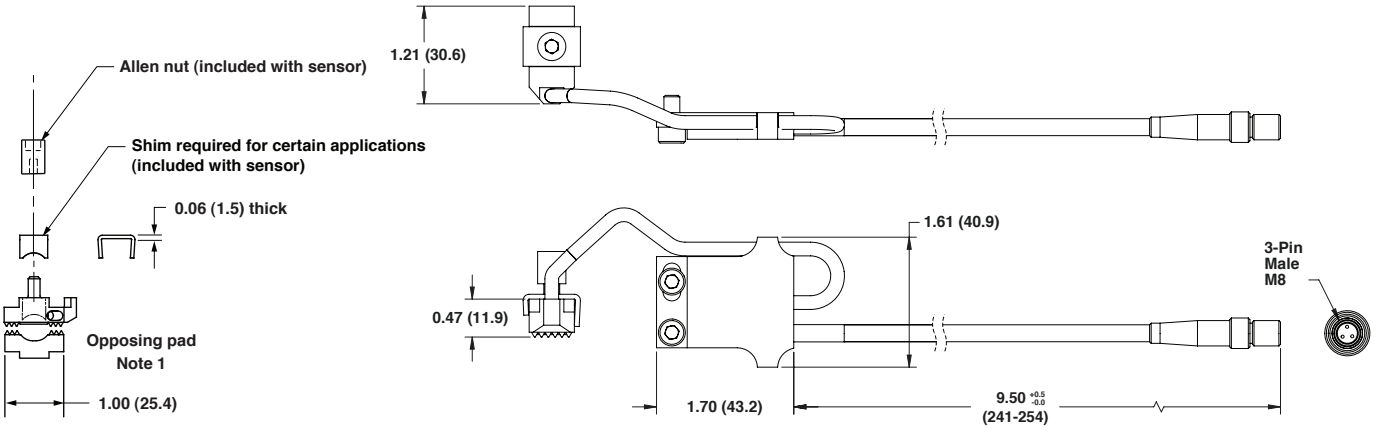
Technical Data

Supply voltage range:
10 VDC (min) to 30 VDC (max)
Maximum continuous load current:
200 mA
Operating temperature range:
0°C (min) to 60°C (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25 ms turn-on time, 60 ms turn-off time
Target material:
Steel and aluminum

Short circuit protection:
Automatically resets when short is removed
Overload protection:
Current limits at 325 mA typ.
Reverse polarity protection:
Up to 36 volts DC

Weight:
0.15 lbs (68 g)



Ordering Information

Part number (note 1)	Description	NPN/PNP	Material thickness (note 2)
BSGS40014P	Sensor	NPN	Various
BSGS40014PKS	Sensor with opposing pad (Kit)	NPN	0.50-3.50 mm
BSGS40014PKG	Sensor with opposing pad (Kit)	NPN	2.01-5.00 mm
BSGS40015P	Sensor	PNP	Various
BSGS40015PKS	Sensor with opposing pad (Kit)	PNP	0.50-3.50 mm
BSGS40015PKG	Sensor with opposing pad (Kit)	PNP	2.01-5.00 mm

Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.

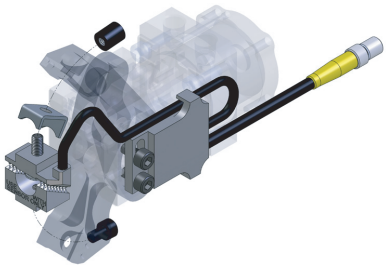
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, PICO 3 Pin/M8 30° Standard Pad, NPN/PNP Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- Interface directly to PLC
- Impervious to coolants and oils



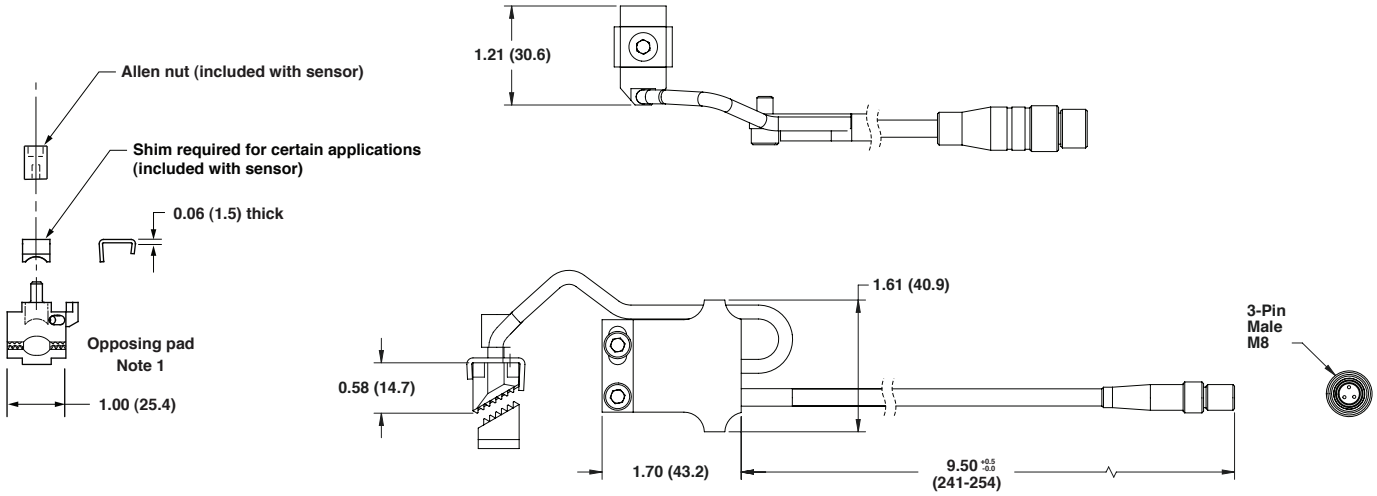
Technical Data

Supply voltage range:
10 VDC (min) to 30 VDC (max)
Maximum continuous load current:
200 mA
Operating temperature range:
0°C (min) to 60°C (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25 ms turn-on time, 60 ms turn-off time
Target material:
Steel and aluminum

Short circuit protection:
Automatically resets when short is removed
Overload protection:
Current limits at 325 mA typ.
Reverse polarity protection:
Up to 36 volts DC

Weight:
0.15 lbs (68 g)



Ordering Information

Part number (note 1)	Description	NPN/PNP	Material thickness (Note 2)
BSGS40014P-30	Sensor	NPN	Various
BSGS40014PKS-30	Sensor with opposing pad	NPN	0.50-3.50 mm
BSGS40014PKG-30	Sensor with opposing pad	NPN	2.01-5.00 mm
BSGS40015P-30	Sensor	PNP	Various
BSGS40015PKS-30	Sensor with opposing pad	PNP	0.50-3.50 mm
BSGS40015PKG-30	Sensor with opposing pad	PNP	2.01-5.00 mm

Note 1 - Order sensor part number shown above if the sensor is a replacement sensor for a regular jaw gripper already fitted with an angled in-pad sensor. For new installation in regular jaw gripper, add KS or KG at the end of the part number for a kit containing the opposing pad. Angle of opposing pad must match angle of sensor.

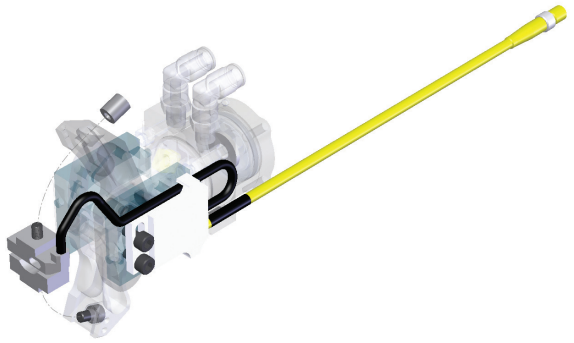
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to insure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, PICO 3 Pin/M8 0° Dual Point Pad, NPN/PNP Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- For use with coated panels
- LED for on/off status of sensor
- Interface directly to PLC
- Impervious to coolants and oils
- May be used with regular jaw grippers, PGS10R and PGS10R



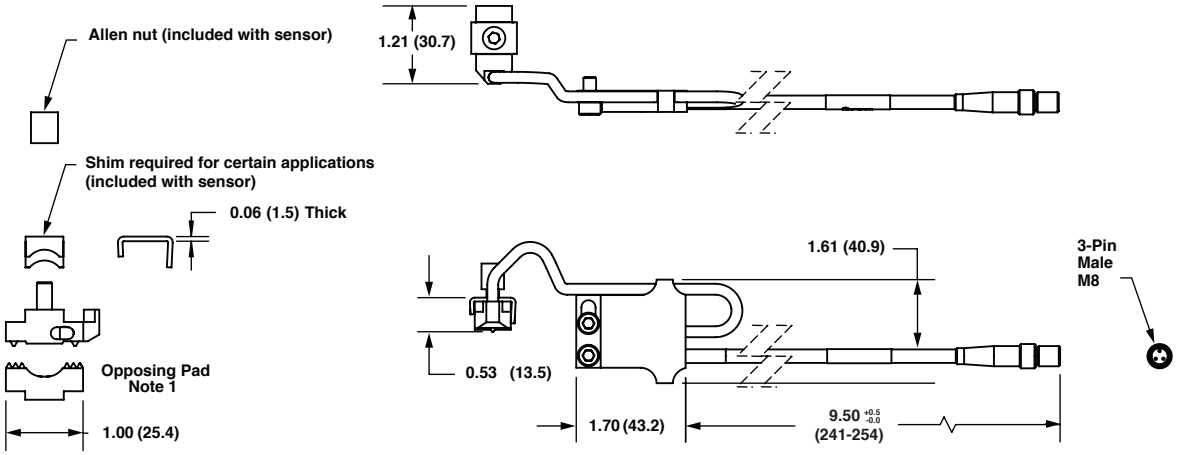
Technical Data

Supply voltage range:
10 VDC (min) to 30 VDC (max)
Maximum continuous load current:
200 mA
Operating temperature range:
0°C (min) to 60°C (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25 ms turn-on time, 60 ms turn-off time
Target material:
Steel and aluminum

Short circuit protection:
Automatically resets when short is removed
Overload protection:
Current limits at 325 mA typ.

Reverse polarity protection:
Up to 36 volts DC
Weight:
0.15 lbs (68 g)



Ordering Information

Part number (note 1)	Description	NPN/PNP	Material thickness (Note 2)
BSGS40014-DP	Sensor	NPN	Various
BSGS40014-DPKS	Sensor with opposing pad (silver)	NPN	0.50-3.50 mm
BSGS40014-DPKG	Sensor with opposing pad (gold)	NPN	2.01-5.00 mm
BSGS40015-DP	Sensor	PNP	Various
BSGS40015-DPKS	Sensor with opposing pad (silver)	PNP	0.50-3.50 mm
BSGS40015-DPKG	Sensor with opposing pad (gold)	PNP	2.01-5.00 mm

Note 1 - Order sensor part number shown above if sensor is being used with a chisel or flange jaw gripper or is a replacement sensor for a regular jaw gripper already fitted with an in-pad sensor. For new installation in regular jaw gripper, add KS or KG at the end of the part number for a kit containing the opposing pad.

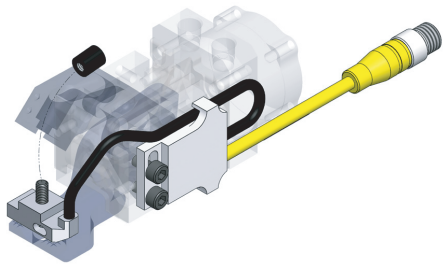
Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to insure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

In-Pad Part Present Sensor, PICO 3 Pin/M8 0° Standard Pad, Two Wire Output

- Abrasion and impact resistant
- Eliminates sensor position adjustments
- Interface directly to PLC
- Impervious to coolants and oils



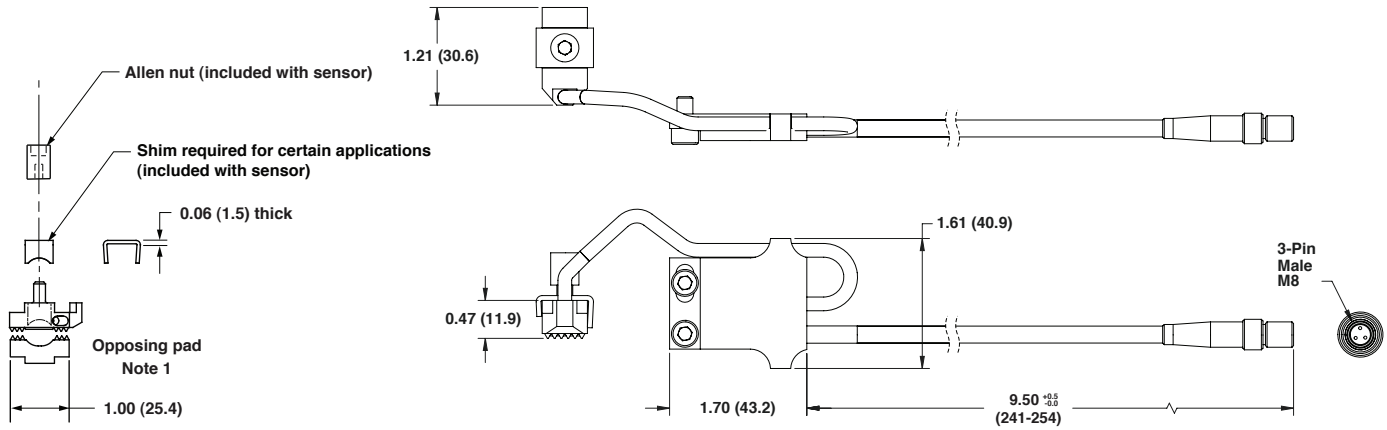
Technical Data

Power/sensor connector:
3-pin 8 mm (pico type) male connector
Supply voltage range:
24 VDC
Maximum off-state leakage current:
1.3mA @ 24 VDC
Maximum continuous load current:
40mA
Operating temperature range:
0ºC (min) to 60ºC (max)

Sensing range:
1.2 mm above gripper pad
Response time:
25ms turn-on time, 60ms turn-off time
Target material:
Steel and aluminum

Indicator light:
RED: On when target is detected; 360º visibility
Short circuit protection:
Yes: Automatically resets when short is removed
Overload protection:
Yes

On-state voltage drop:
8.5 V
Weight:
0.15 lbs (68 g)



Ordering Information

Part number (note 1)	Description	Material thickness (note 2)
BSGS40020P	Sensor	Various
BSGS40020PKS	Sensor with opposing pad (Kit)	0.50-3.50 mm
BSGS40020PKG	Sensor with opposing pad (Kit)	2.01-5.00 mm

Note 1 - The standard sensor part number (without a KS or KG suffix) can be used with a chisel jaw or flange jaw gripper, or with a regular jaw gripper already fitted with an in-pad sensor. For new installation of an in-pad sensor on a regular jaw gripper, select the part numbers with a KS or KG suffix to include the opposing pad in your kit.

Note 2 - Sensor must be ordered based on thickness of the material being handled. Pad thickness changes to ensure full jaw movement and cam lock action of gripper actuator.

Spare parts
B07750 - allen nut
B07769 - shim

Dimensions in inches (mm) are for reference only

How to Accessorize

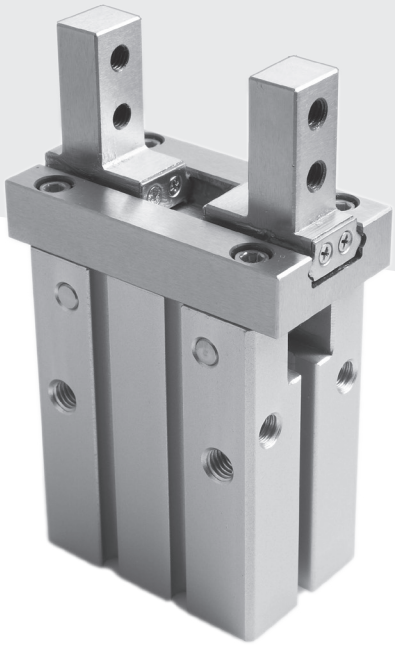
Accessories

3 Pin M8 Extension Cables
C4-S (2000mm)
C4-SX (5000mm)

4 Pin M8 Extension Cables
BSCE13032PL0200 (200 mm)
BSCE13032PL0400 (400 mm)
BSCE13032PL0600 (600 mm)

4 Pin M12 Extension Cables
CBL-M12-FLY-04-S-02 (2000mm)
CBL-M12-FLY-04-S-06 (6000mm)

Parallel Grippers



Bimba's parallel grippers are robust and available as double acting or single acting. A linear guide provides high precision with a repeatability of +/- 0.01 for 6-25mm bores and +/- 0.02 on 32-40mm bores. To help with installation, most grippers can be mounted from three different sides.

Contents

89 Parallel Grippers
91 – Technical Data
92 – Product Information
94 – How to Order

Technical Data

Engineering Specifications



Bore Size (mm)			6	10	16	20	25	32	40
Fluid			Air (Clean/Dry)						
Pressure Range	Double Acting	6mm, 10mm	28 to 100 PSI (0.2 to 0.7 MPa)						
		16mm to 40mm	22 to 100 PSI (0.15 to 0.7 MPa)						
	Single Acting	6mm, 10mm	50 to 100 PSI (0.35 to 0.7 MPa)						
		16mm to 40mm	36 to 100 PSI (0.25 to 0.7 MPa)						
Temperature Range			-4 ° F to 160 ° F (-20 ° C to 70 ° C)						
Lubrication			Not Required						
Repeatability			±0.01mm					±0.02mm	
Maximum Frequency			180 Cycles/Min					60 Cycles/Min	
Port Size			M3x0.5	M5x0.8					
Sensor Switch Compatibility	Reed Switch		MCS1-H	MCS1-G, MCS1-H					
	Solid State Switch		MDS1-H	MDS1-G, MDS1-H					
Includes			Magnet						

Gripping Force and Stroke

1 MPa = 145.04 PSI
1 N = 0.225 lbf
1 lbf = 453.6 g

Model		Double Acting (MHFK)						
Bore Size (mm)		6	10	16	20	25	32	40
Gripping Force[2], Fg (N)	Closing[3]	3.3	11	34	45	69	160	255
	Opening[3]	6.1	17	45	68	102	195	320
Closing/Opening Stroke (mm)		4	4	6	10	14	22	30
Weight (g)	Standard	25	56	124	236	428	729	1268
	Bottom	24	56	124	236	418	750	1340

Model		Single Acting Normally Open (MHFTK)						
Bore Size (mm)		6	10	16	20	25	32	40
Gripping Force[2], Fg (N)	Closing[3]	1.9	7	27	35	55	133	220
	Opening[3]	-	-	-	-	-	-	-
Closing/Opening Stroke (mm)		4	4	6	10	14	22	30
Weight (g)	Standard	26	57	125	238	430	778	1365
	Bottom	25	57	125	238	420	799	1437

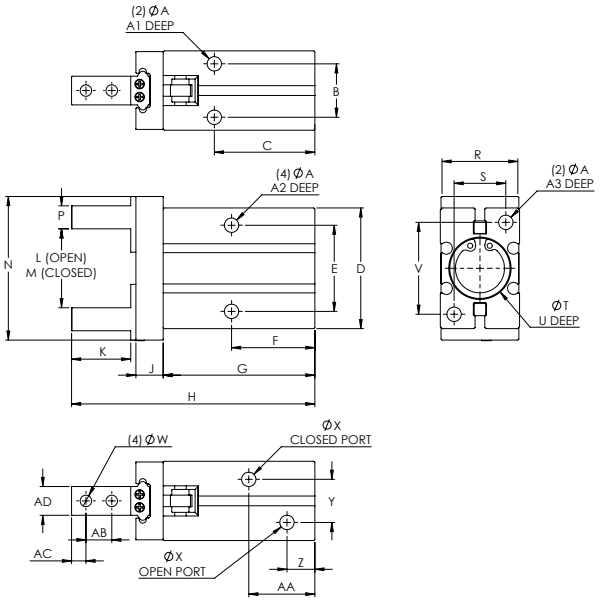
Model		Single Acting Normally Closed (MHFSK)						
Bore Size (mm)		6	10	16	20	25	32	40
Gripping Force[2], Fg (N)	Closing[3]	-	-	-	-	-	-	-
	Opening[3]	3.7	13	38	59	87	163	270
Closing/Opening Stroke (mm)		4	4	6	10	14	22	30
Weight (g)	Standard	26	57	125	238	430	778	1365
	Bottom	25	57	125	238	420	799	1437

[2] Gripping force, F, measured with an operating pressure of 0.5MPa (72.5 PSI) at a gripping point of 20mm. See figure 1 on page 93.
[3] See figure 2 on page 93.

Product Information

Dimensions (mm)

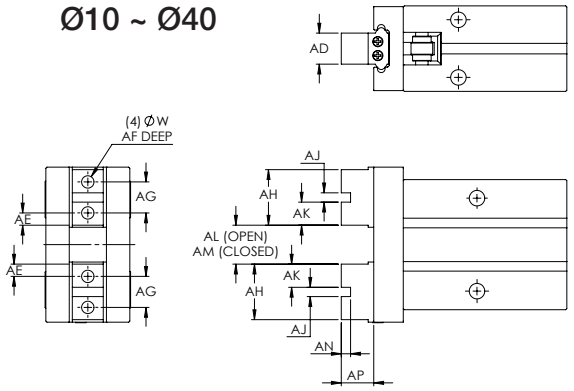
Standard Mounting Style



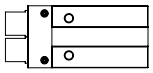
Bottom Mounting Style

Dimensionally same as Standard except as shown

Ø10 ~ Ø40



Ø6



Bore Size (mm)	A	A1	A2	A3	B	C	D	E	F	G	H	J	K	L	M
6	M3 X 0.5	-	-	-	-	-	20	12	25.5	31	53	7.9	11	11 +2/-0	8 +0/-1
10	M3 X 0.5	6	5.5	6	11.5	27	23	16	23	37.5	57	6	12	15.5 +2/-0	11.5 +0/-1
16	M4 X 0.7	4.5	8	8	16	30	30.5	24	24.5	42.5	67.5	7.5	15	21 +2/-0	15 +0/-1
20	M5 X 0.8	8	10	10	18.5	35	42	30	29	53	84.5	9.5	20	26.5 +2/-0	16.5 +0/-1
25	M6 X 1.0	10	12	12	22	36.5	52	36	30	63.6	102.5	11	25	33.5 +2/-0	19.5 +0/-1
32	M6 X 1.0	10	13	13	26	48*/57**	60	46	40*/49**	67*/76**	113*/122**	12	29	48 +2.5/-0	26 +0/-1
40	M8 X 1.25	13	16	17	32	58*/71**	72	56	49*/62**	83*/96**	139*/152**	15	36	60 +2.5/-0	30 +0/-1

Bore Size (mm)	N	P	R	S	T	U	V	W	X	Y	Z	AA	AB
6	21	4 +0/-0.05	10 +/-0.05	-	7 +0.05/-0	1.5	-	M2 X 0.4	M3 X 0.5	1.6	5.5	19	5
10	30	4 +0/-0.05	16.4	12	11 +0.05/-0	2	18	M2.5 X 0.45	M3 X 0.5	10	7.5	19	5.7
16	39	5 +0/-0.05	23.6	15	17 +0.05/-0	2	22	M3 X 0.5	M5 X 0.8	13	7.5	19	7
20	53	8 +0/-0.05	27.6	18	21 +0.05/-0	3	32	M4 X 0.7	M5 X 0.8	15	9.5	23	9
25	71	10 +0/-0.05	33.6	22	26 +0.05/-0	3.5	40	M5 X 0.8	M5 X 0.8	20	10	24	12
32	106	12 +0/-0.05	40	26	34 +0.05/-0	4	46	M6 X 1.0	M5 X 0.8	24	11	31*/40**	14
40	132	14 +0/-0.05	48	32	42 +0.05/-0	4	56	M8 X 1.25	M5 X 0.8	28	12	38*/50**	17

Bore Size (mm)	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP
6	2.5	4 +0/-0.05	2	3	3.5	7.5	-	-	4 +1.5/-0	1.5 +0/-0.5	-	7
10	3	5 +0/-0.05	2.45	4	6	11	2 +0.025/-0	4.5	5.5 +2/-0	1.5 +0/-0.5	2	5
16	4	8 +0/-0.05	3.05	6	8	14	2.5 +0.025/-0	5.8	7.5 +2/-0	1.5 +0/-0.5	2.5	8
20	5	10 +0/-0.05	3.95	8	10	18	3 +0.025/-0	7.5	11.5 +2/-0	1.5 +0/-0.5	3	10.5
25	6	12 +0/-0.05	4.9	10	12	22	4 +0.030/-0	9	16 +2.5/-0	2 +0/-0.5	4	13
32	7	15 +0/-0.05	7.3	12	20	34.5	5 +0.030/-0	14.8	25 +2.5/-0	3 +0/-0.5	5	18
40	9	18 +0/-0.05	8.7	16	24	41.5	6 +0.030/-0	17.7	33 +3/-0	3 +0/-0.5	6	22

* Double Acting / ** Single Acting

Product Information

Figure 1

Parallel Grippers
Gripping Force & Point

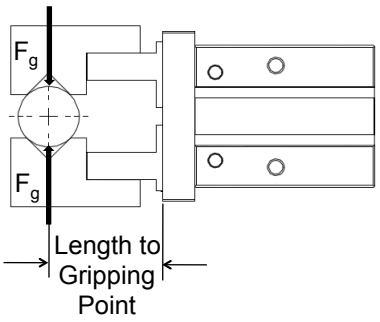
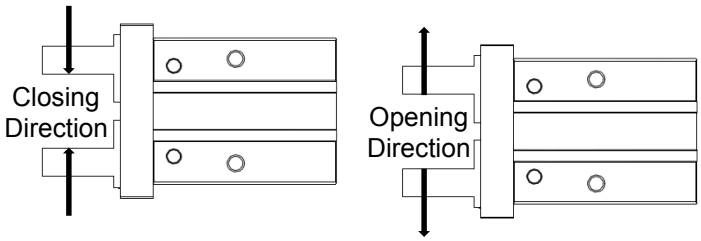


Figure 2

Parallel Grippers
Gripping Direction



How To Order

MHFK 20-F

Model

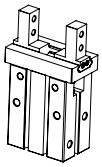
MHFK = Double Acting
MHFSK = Single Acting, Normally Closed
MHFTK = Single Acting, Normally Open

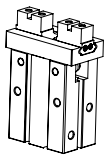
Bore Size

06 = 6mm	25 = 25mm
10 = 10mm	32 = 32mm
16 = 16mm	40 = 40mm
20 = 20mm	

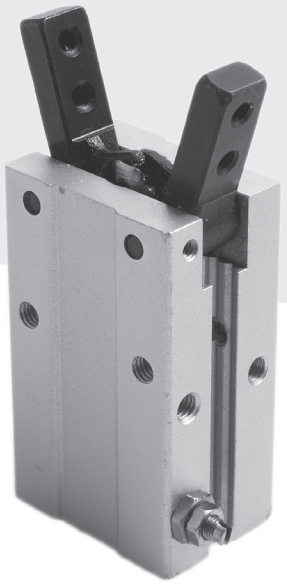
Finger Style

Blank = Standard	F = Bottom





Angular Grippers



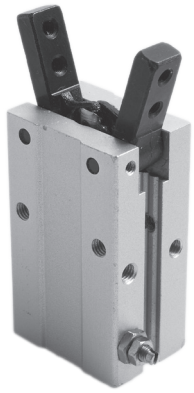
Bimba's angular grippers are robust, double acting or single acting grippers with an integrated variable flow valve that allows for easy convenience to adjust the speed of opening and closing the gripping jaw. To help with installation, most of the angular grippers can be mounted from three different sides.

Contents

95 Angular Grippers
97 – Technical Data
98 – Product Information
100 – How to Order

Technical Data

Engineering Specifications



Bore Size (mm)			6	10	16	20	25	32
Fluid			Air (Clean/Dry)					
Pressure Range	Double Acting	6mm	28 to 100 PSI (0.15 to 0.7 MPa)					
		10mm to 32mm	22 to 100 PSI (0.1 to 0.7 MPa)					
	Single Acting	6mm	50 to 100 PSI (0.3 to 0.7 MPa)					
		10mm to 32mm	36 to 100 PSI (0.25 to 0.7 MPa)					
Temperature Range			-4 ºF to 160 ºF (-20 ºC to 70 ºC)					
Lubrication			Cylinder: Not Required Jaws: Grease Regularly					
Cushion Type			Bumper					
Integrated Flow Control			Not Available	Standard - Flow Control in Closing Direction				
Maximum Frequency			180 cycles per minute					
Port Size			M3x0.5	M5x0.8				
Sensor Switch Compatibility		Reed Switch	MCS1-H	MCS1-G				
		Solid State Switch	MDS1-H	MDS1-G				
Includes			Magnet					

Gripping Force and Stroke

1 MPa = 145.04 PSI
1 N-cm = 0.089 lb-in

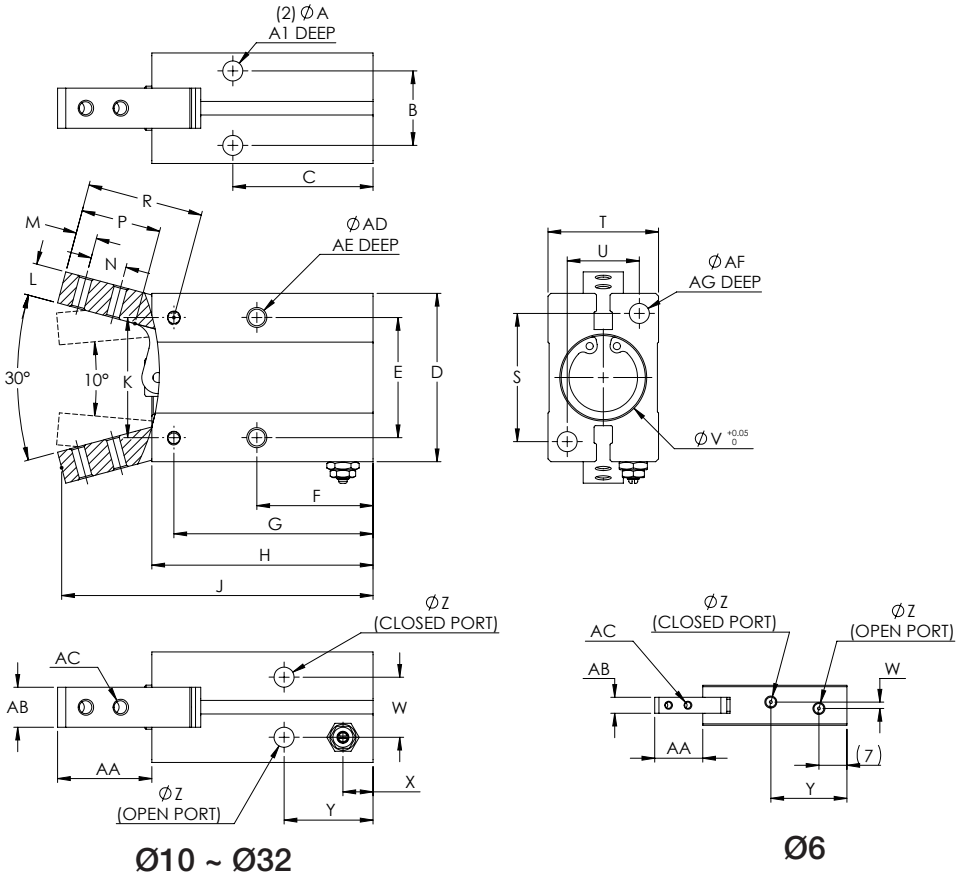
Model		Double Acting (MHFY)					
Bore Size (mm)		**6**	**10**	**16**	**20**	**25**	**32**
Gripping Moment[2], M_g (N-cm)	Closing[3]	7.4 x P	17.6 x P	90 x P	152 x P	304 x P	637 x P
	Opening[3]	10.6 x P	29.4 x P	129 x P	252 x P	473 x P	904 x P
Maximum Recommended Length to Gripping Point[4] (mm)		30	30	40	60	70	85
Opening Angle[3]		30° +3/-0					
Closing Angle[3]		10° +0/-3					

Model		Single Acting Normally Open (MHFTY)					
Bore Size (mm)		**6**	**10**	**16**	**20**	**25**	**32**
Gripping Moment[2], M_g (N-cm)	Closing[3]	5.7 x P	11.8 x P	71.2 x P	122.4 x P	252 x P	589 x P
	Opening[3]	-	-	-	-	-	-
Maximum Recommended Length to Gripping Point[4] (mm)		30	30	40	60	70	85
Opening Angle[3]		30° +3/-0					
Closing Angle[3]		10° +0/-3					

Note: P = Operating Pressure (MPa)
[2] See figure 1 on page 99.
[3] See figure 2 on page 99.
[4] See figure 3 on page 99.

Product Information

Dimensions (mm)



Bore Size (mm)	A	A1	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
6	-	-	-	-	20	12	26	32	36	47.5	14	4	2.5	5	11	16	-
10	M3 X 0.5	6	11.5	27	23	16	23	35.8	38.5	52.5	14	4	3	5.7	12	17.2	18
16	M4 X 0.7	8	16	30	30.5	24	24.5	39.7	44.5	62.5	24	7	4	7	16	23.6	22
20	M5 X 0.8	10	18.5	35	42	30	29	49.7	55	78	30	8	5	9	20	29	32
25	M6 X 1.0	10	22	36.5	52	36	30	54.8	60.5	92	36	10	8	12	27	38.5	40
32	M6 X 1.0	10	26	30	60	44	37.5	58	68	96.5	42	10	6	14	27	40	46

Bore Size (mm)	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
6	10.5	-	7	1.5	-	19	M3 X 0.5	12	4	M2 X 0.4	M3 X 0.5	-	-	-
10	16.5	12	11	10	6.5	19	M3 X 0.5	14.5	6.4	M2.5 X 0.45	M3 X 0.5	5	M3 X 0.5	6
16	23.5	15	17	13	7	18.5	M5 X 0.8	19	8	M3 X 0.5	M4 X 0.7	8	M4 X 0.7	8
20	27.5	18	21	15	7.5	22	M5 X 0.8	23.5	10	M4 X 0.7	M5 X 0.8	10	M5 X 0.8	10
25	33.5	22	26	20	7.7	23.5	M5 X 0.8	32.5	12	M5 X 0.8	M6 X 1.0	12	M6 X 1.0	12
32	40	26	34	24	9.2	31	M5 X 0.8	29.5	18	M6 X 1.0	M6 X 1.0	16	M6 X 1.0	12

Technical Data

Figure 1

Angular Grippers
Gripping Moment

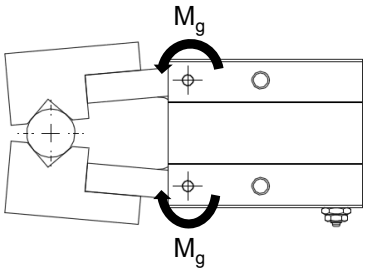


Figure 2

Angular Grippers
Opening and Closing Angles

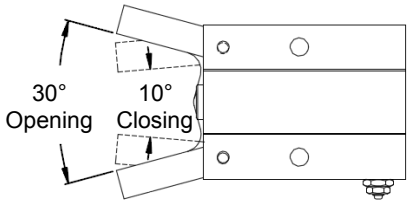
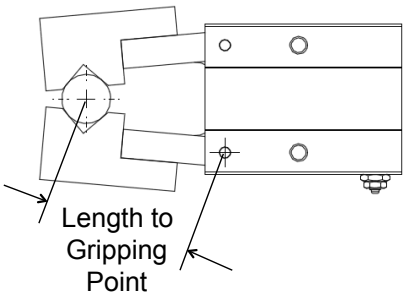


Figure 3

Angular Grippers
Gripping Point



How To Order

MHFY 20

Model
MHFY = Double Acting
MHFTY = Single Acting, Normally Open

Bore Size
06 = 6mm
10 = 10mm
16 = 16mm
20 = 20mm
25 = 25mm
32 = 32mm

Parallel Multi-Finger Grippers

Bimba's parallel multi-finger grippers (MHFC) series provides the ultimate flexibility and precision for repeatability to provide the consistency of dismounting and positioning. With 7 different bore sizes to choose from and 2, 3, or 4 finger options, these grippers provide the flexibility and mounting options needed for various applications. These grippers are ideal for end-of-arm tooling solutions.



Contents

101 Parallel Multi-Finger Grippers
103 – Technical Data
104 – Product Information
110 – How to Order

Technical Data

Engineering Specifications

Bore Size (mm)	16	20	25	32	40	50	63
Acting Type	Double Acting						
Fluid	Air (to be filtered by 40µm filter element)						
Operating Pressure	28 to 100 PSI (0.2 to 0.7MPa)			22 to 100 PSI (0.15 to 0.7MPa)			
Temperature	14°F to 140°F (-10°C to 60°C)						
Lubrication	Not Required						
Repeatability	±0.01mm						
Max. frequency	120 cycles per minute			60 cycles per minute			
Port Size	M3x0.5			M3x0.8			

Gripping Force and Stroke

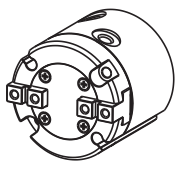
1 MPa = 145.04 PSI
1 N-cm = 0.089 lb-in

Model			Double Acting (MHFC)						
Bore Size (mm)			16	20	25	32	40	50	63
2 Gripper Fingers	Gripping Force per finger Effective valve (N)	Internal	23	42	71	123	195	306	537
		External	21	37	63	111	177	280	502
	Opening/Closing stroke (both sides) (mm)		4	4	6	8	8	12	16
3 Gripper Fingers	Gripping Force per finger Effective valve (N)	Internal	16	28	47	82	130	204	359
		External	14	25	42	74	118	187	335
	Opening/Closing stroke (both sides) (mm)		4	4	6	8	8	12	16
4 Gripper Fingers	Gripping Force per finger Effective valve (N)	Internal	12	21	35	61	97	153	268
		External	10	19	31	55	88	140	251
	Opening/Closing stroke (both sides) (mm)		4	4	6	8	8	12	16

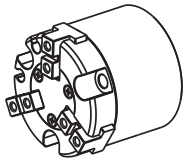
Note: The gripping force in the above table is in the working pressure of 75 PSI and with a gripping point of L=20mm (bore sizes 16mm to 25mm) or L=30mm (bore sizes 32mm to 63mm). Please reference dimensional drawings pages 106-108 for definition of "L".

Finger Styles

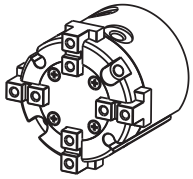
2 Finger Style



3 Finger Style

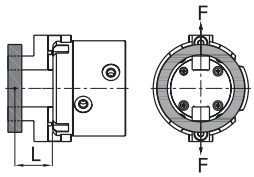


4 Finger Style

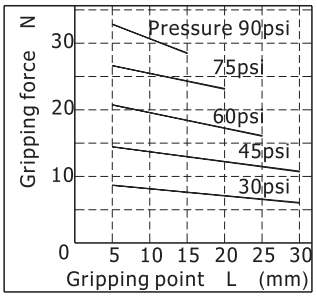


How To Specify

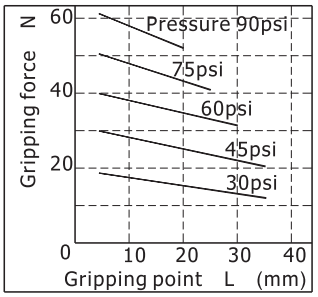
Opened Gripping Force (Two Finger)



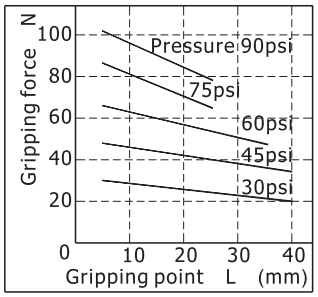
MHFC-2-16



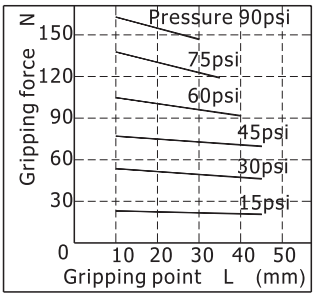
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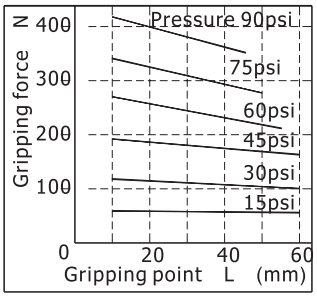
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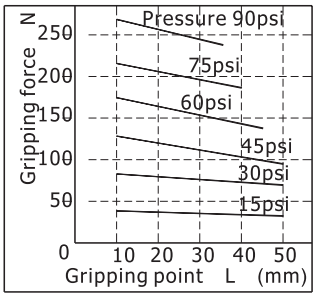
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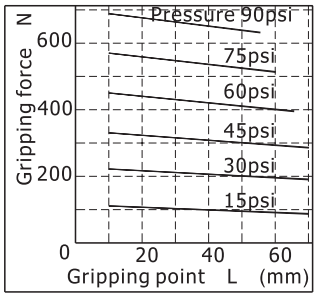
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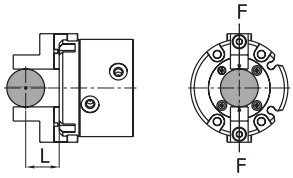
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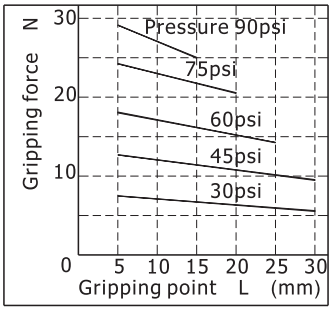
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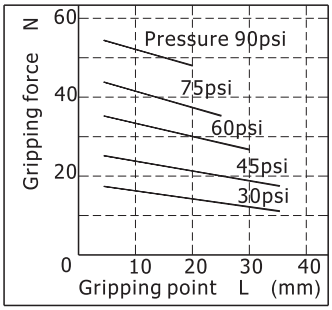
Closed Gripping Force (Two Finger)



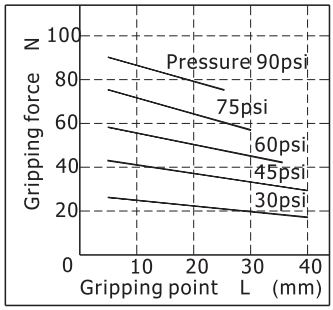
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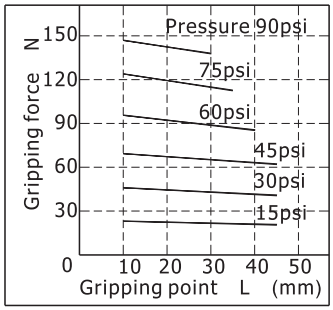
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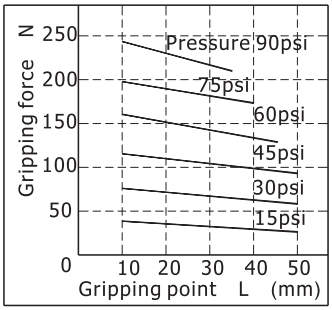
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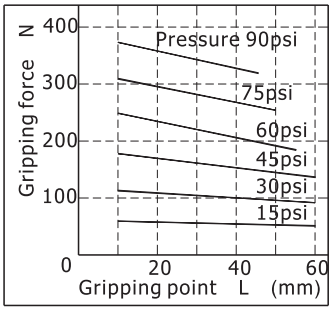
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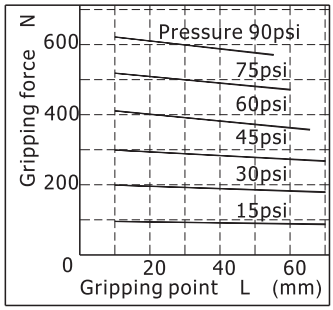
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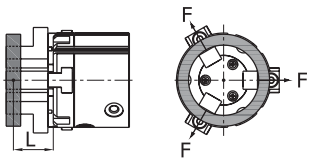
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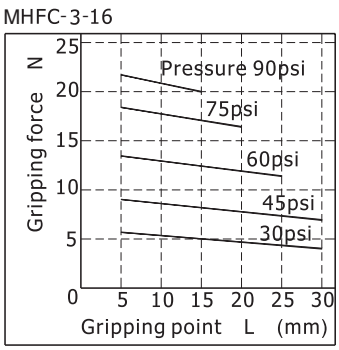


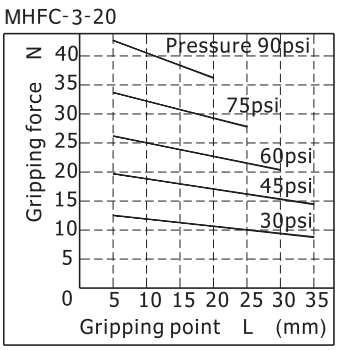
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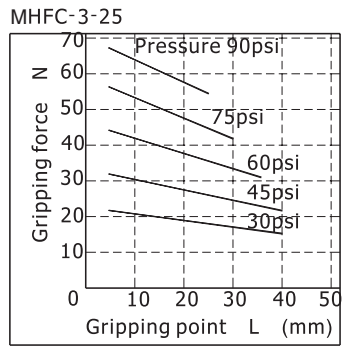


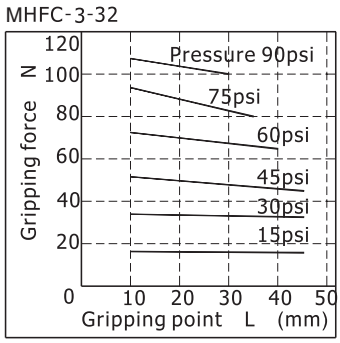
Opened Gripping Force (Three Finger)

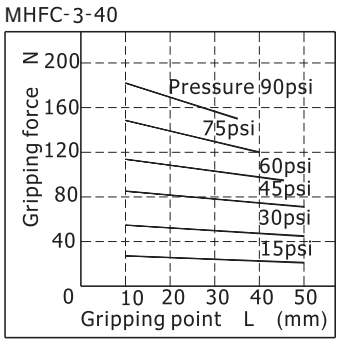


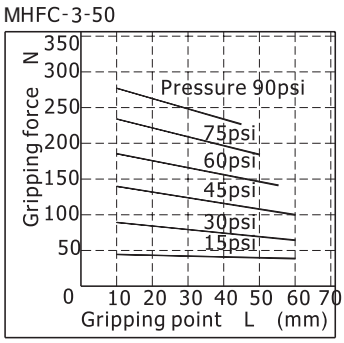


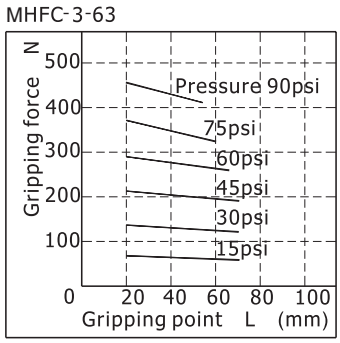




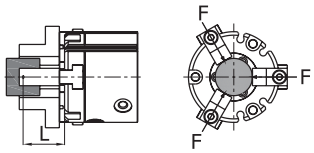


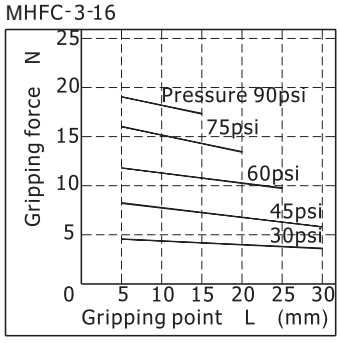


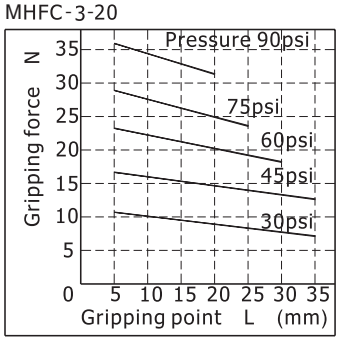


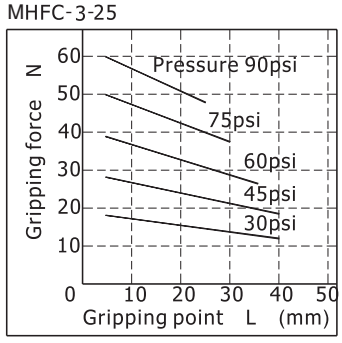


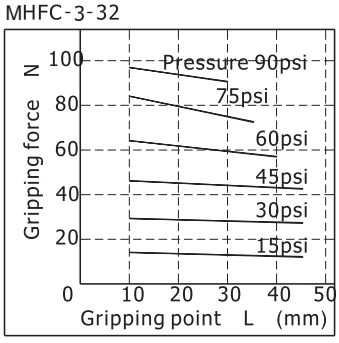
Closed Gripping Force (Three Finger)

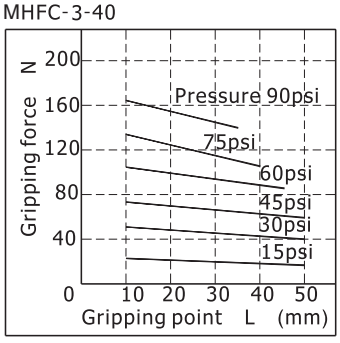


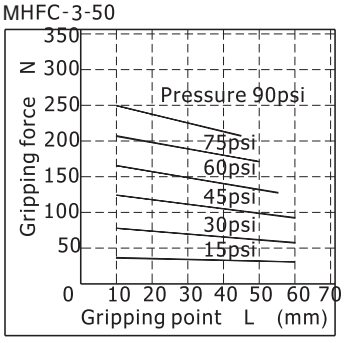


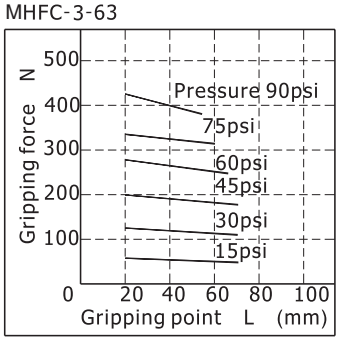






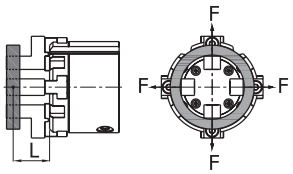




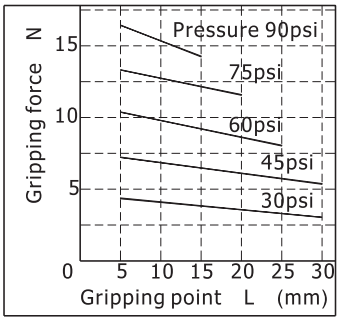


How To Specify

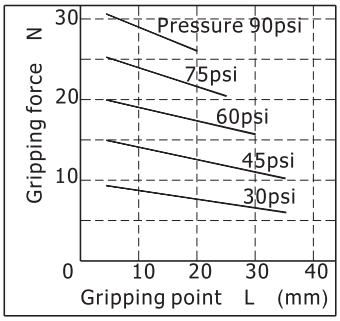
Opened Gripping Force (Four Finger)



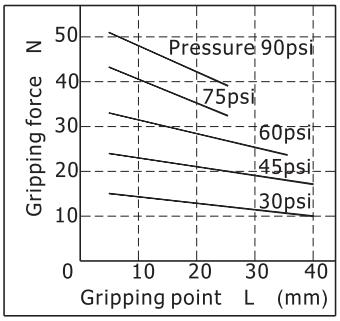
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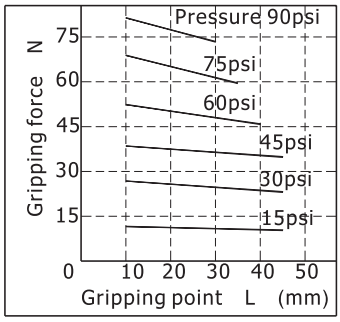
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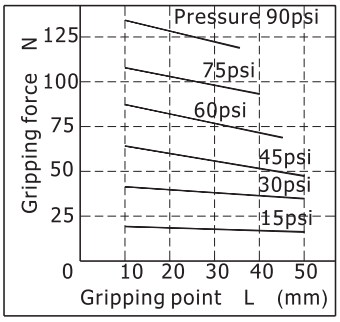
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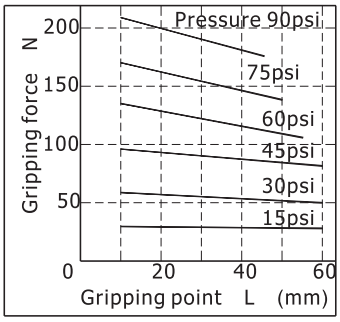
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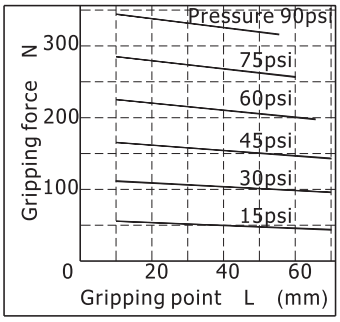
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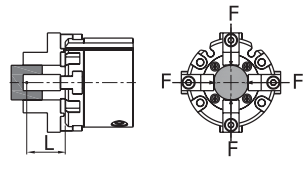
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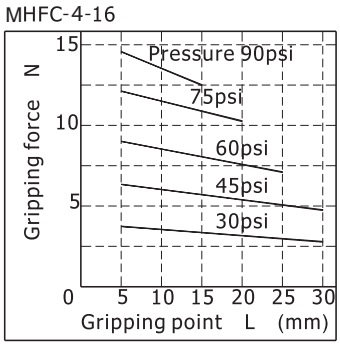
MHFC-4-63



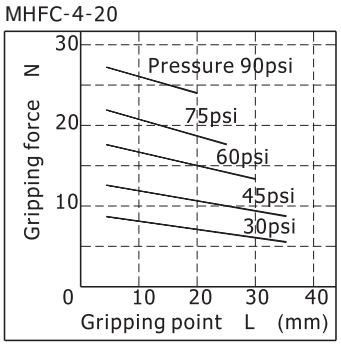
Closed Gripping Force (Four Finger)



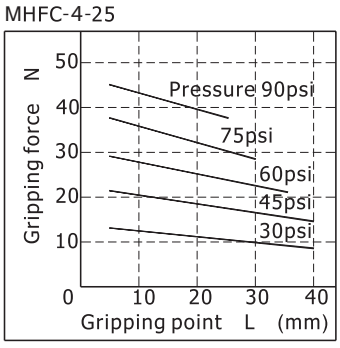
MHFC-4-16



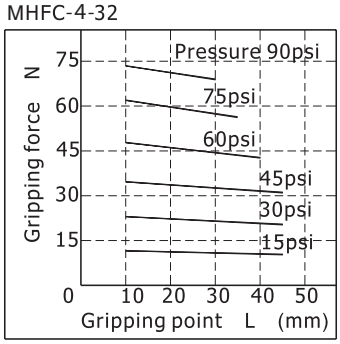
MHFC-4-20



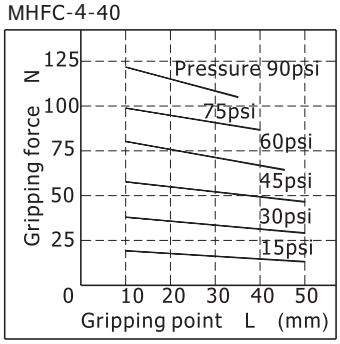
MHFC-4-25



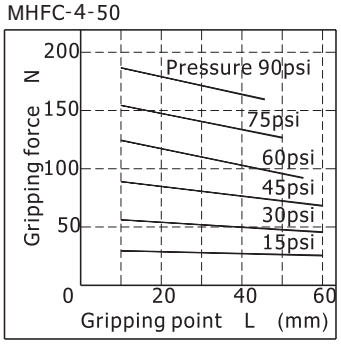
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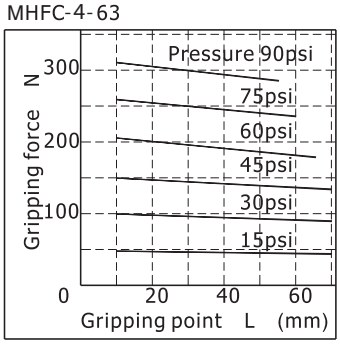
MHFC-4-40



MHFC-4-50

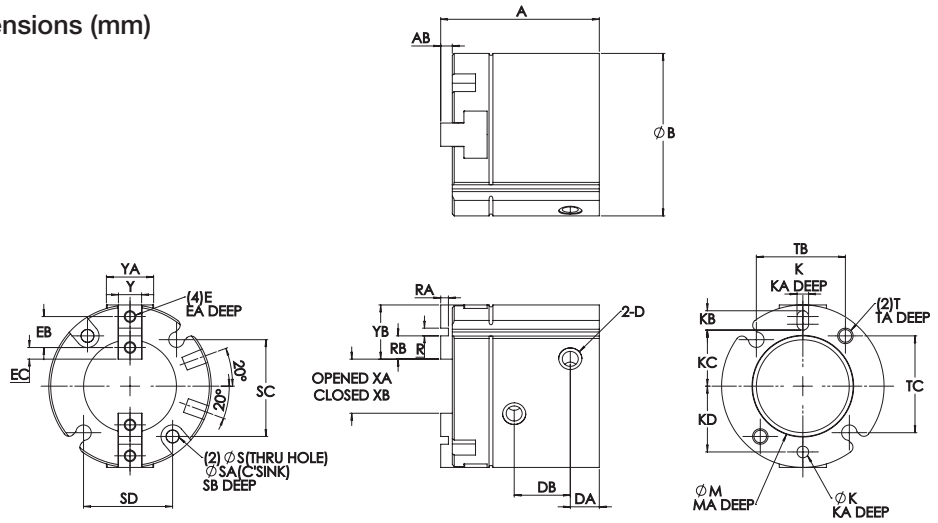


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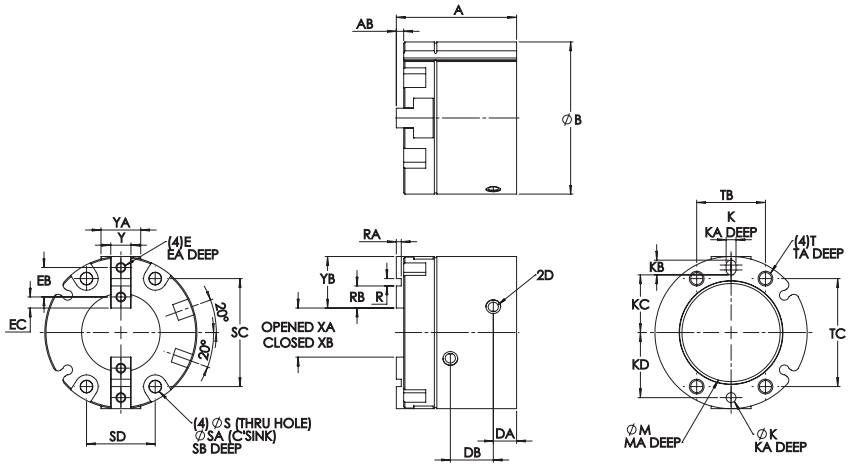
Product Information

Two Gripper Dimensions (mm)



Bore Size (mm)	A	AB	B	D	DA	DB	E	EA	EB	EC	K	KA	KB	KC	KD	M	MA	R
16	35	3	30	M3x0.5	7	10	M3x0.5	5	6	2	2	2	3	11	12.5	17 DIA	1.5	2
20	39	3	36	M5x0.8	7	13	M3x0.5	5	7	2.5	2	2	3	13	14.5	21 DIA	1.5	2
25	41	3	42	M5x0.8	7.5	14.5	M3x0.5	5	8	3	3	3	5	14.5	17	26 DIA	1.5	2

Bore Size (mm)	RA	RB	S	SA	SB	SC	SD	T	TA	TB	TC	XA	XB	Y	YA	YB
16	2	4	3.4	6	6	18	16	M4x0.7	8	18	16	14	10	5	8	10
20	2	5	3.4	6	6	24	18	M4x0.7	8	24	18	16	12	6	10	12
25	2	6	3.4	6	6	26	22	M4x0.7	8	26	22	20	14	6	12	14

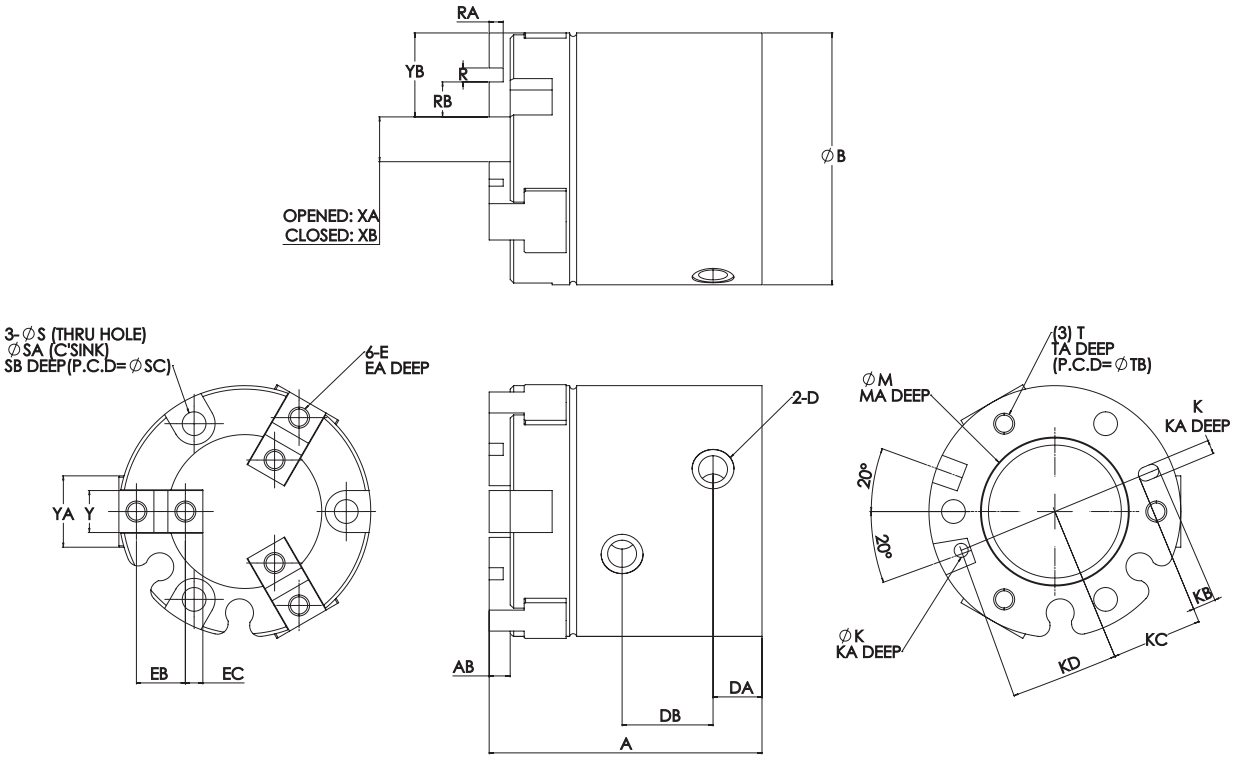


Bore Size (mm)	A	AB	B	D	DA	DB	E	EA	EB	EC	K	KA	KB	KC	KD	M	MA	R
32	45	3	55	M5x0.8	8.5	16	M4x0.7	8	11	4.5	3	3	5	20.5	23	34 DIA	2	2
40	49	3	62	M5x0.8	9.5	17.5	M4x0.7	8	12	4.5	4	4	6	23.5	26.5	42 DIA	2	3
50	57	3	70	M5x0.8	9.5	21	M5x0.8	9	14	5	4	4	6	28	31	52 DIA	2	4
63	68	4	86	M5x0.8	12	24	M5x0.8	9	17	5.5	5	5	7	34.5	38	65 DIA	2.5	6

Bore Size (mm)	RA	RB	S	SA	SB	SC	SD	T	TA	TB	TC	XA	XB	Y	YA	YB
32	2	9	4.2	8	9	38	25	M5x0.8	10	38	25	24	16	8	14	20
40	2	9	5.2	9.5	9	44	28	M6x1.0	12	44	28	28	20	8	16	21
50	2	10	5.2	9.5	9	52	34	M6x1.0	12	52	34	34	22	10	18	24
63	3	11	5.2	9.5	9	66	38	M6x1.0	12	66	38	46	30	12	24	28

Product Information

Three Gripper Dimensions (mm)

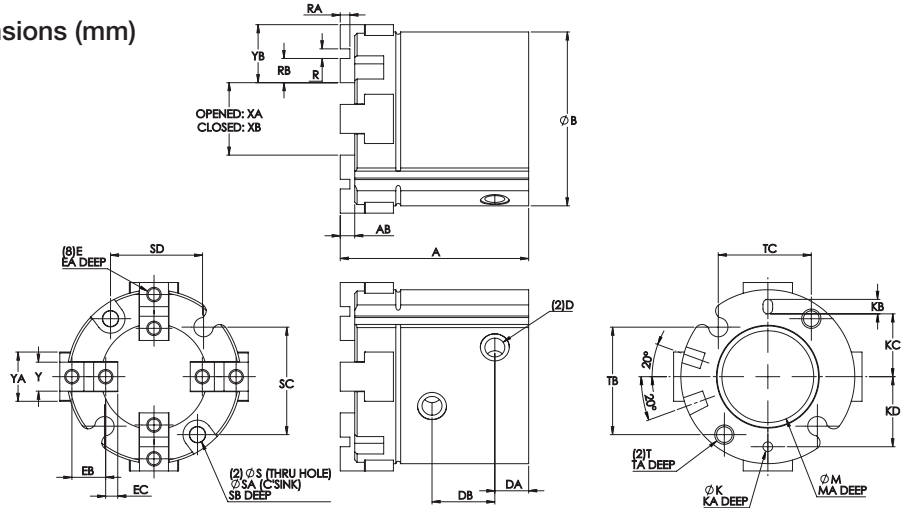


Bore Size (mm)	A	AB	B	D	DA	DB	E	EA	EB	EC	K	KA	KB	KC	KD
16	35	3	30	M3x0.5	7	10	M3x0.5	5	6	2	2	2	3	11	12.5
20	39	3	36	M5x0.8	7	13	M3x0.5	5	7	2.5	2	2	3	13	14.5
25	41	3	42	M5x0.8	7.5	14.5	M3x0.5	5	8	3	3	3	5	14.5	17
32	45	3	52	M5x0.8	8.5	16	M4x0.7	8	11	4.5	3	3	5	19.5	22
40	49	3	62	M5x0.8	9.5	17.5	M4x0.7	8	12	4.5	4	4	6	23.5	26.5
50	57	3	70	M5x0.8	9.5	21	M5x0.8	9	14	5	4	4	6	28	31
63	68	4	86	M5x0.8	12	24	M5x0.8	9	17	5.5	5	5	7	34.5	38

Bore Size (mm)	M	MA	R	RA	RB	S	SA	SB	SC	T	TA	TB	XA	XB	Y	YA	YB
16	17 DIA	1.5	2	2	4	3.4	6	6	25	M3x0.5	6	25	7	5	5	8	10
20	21 DIA	1.5	2	2	5	3.4	6	6	29	M3x0.5	6	29	8	6	6	10	12
25	26 DIA	1.5	2	2	6	4.5	8	9	34	M4x0.7	8	34	10	7	6	12	14
32	34 DIA	2	2	2	9	4.5	8	9	44	M4x0.7	8	44	12	8	8	14	20
40	42 DIA	2	3	2	9	5.5	9.5	9	53	M5x0.8	10	53	14	10	8	16	21
50	52 DIA	2	4	2	10	5.5	9.5	12	62	M5x0.8	10	62	17	11	10	18	24
63	65 DIA	2.5	6	3	11	6.6	11	14	76	M6x1.0	12	76	23	15	12	24	28

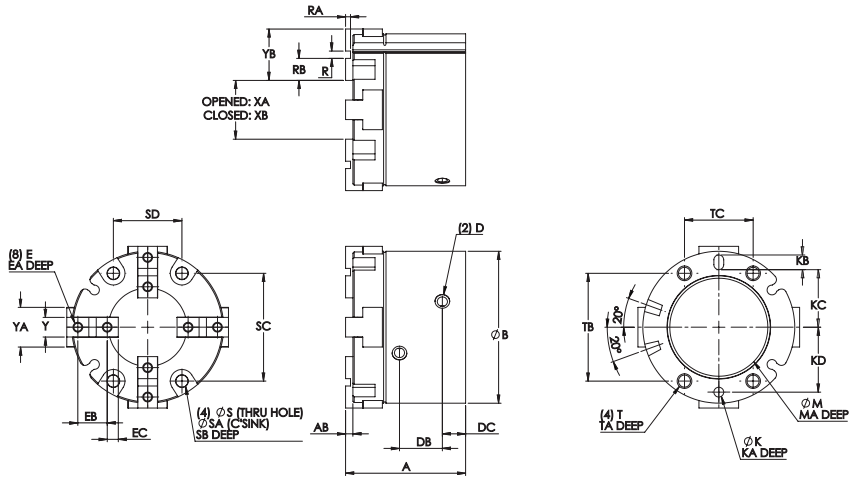
Product Information

Four Gripper Dimensions (mm)



Bore Size (mm)	A	AB	B	D	DA	DB	E	EA	EB	EC	K	KA	KB	KC	KD	M	MA	R	RA
16	35	3	30	M3x0.5	7	10	M3x0.5	5	6	2	2	2	3	11	12.5	17 DIA	1.5	2	2
20	39	3	36	M5x0.8	7	13	M3x0.5	5	7	2.5	2	2	3	13	14.5	21 DIA	1.5	2	2
25	41	3	42	M5x0.8	7.5	14.5	M3x0.5	5	8	3	3	3	5	14.5	17	26 DIA	1.5	2	2

Bore Size (mm)	RB	S	SA	SB	SC	SD	T	TA	XA	XB
16	4	3.4	6	6	18	16	M4x0.7	8	17	13
20	5	3.4	6	6	24	18	M4x0.7	8	19	15
25	6	3.4	6	6	26	22	M4x0.7	8	26	20



Bore Size (mm)	A	AB	B	D	DA	DB	E	EA	EB	EC	K	KA	KB	KC	KD	M	MA	R	RA
32	45	3	55	M5x0.8	8.5	16	M4x0.7	8	11	4.5	3	3	5	20.5	23	34 DIA	2	2	2
40	49	3	62	M5x0.8	9.5	17.5	M4x0.7	8	12	4.5	4	4	6	26.5	26.5	42 DIA	2	3	2
50	57	3	70	M5x0.8	9.5	21	M5x0.8	9	14	5	4	4	6	31	31	52 DIA	2	4	2
63	68	4	86	M5x0.8	12	24	M5x0.8	9	17	5.5	5	5	7	38	38	65 DIA	2.5	6	3

Bore Size (mm)	RB	S	SA	SB	SC	SD	T	TA	XA	XB
32	9	4.2	8	9	38	25	M5x0.8	10	28	20
40	9	5.2	9.5	9	44	28	M6x1.0	12	32	24
50	10	5.2	9.5	12	52	34	M6x1.0	12	38	26
63	11	5.2	9.5	14	66	38	M6x1.0	12	51	35

How To Order

MHFC-2-16

Model	Number of Fingers	Bore Size	
MHFC Series	2	16	16mm
	3	20	20mm
	4	25	25mm
		32	32mm
		40	40mm
		50	50mm
		63	63mm

180° Grippers

Bimba's 180° grippers (MHFR Series) are an open/close type of gripper and are available in multiple bore sizes. A sheet metal is installed between the finger and body to reduce abrasion and extend the service life. These grippers provide the ultimate parallel opening and closing gripper solution.



Contents

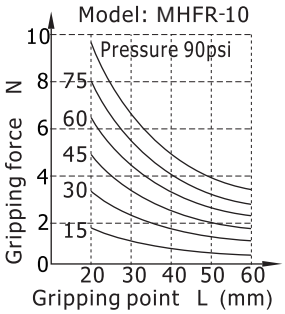
111 180° Grippers
113 – Technical Data
114 – Product Information
115 – How to Order

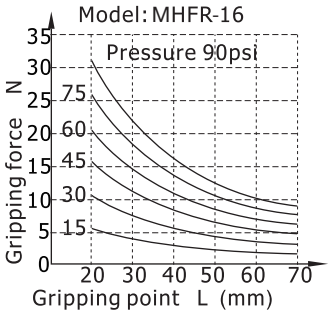
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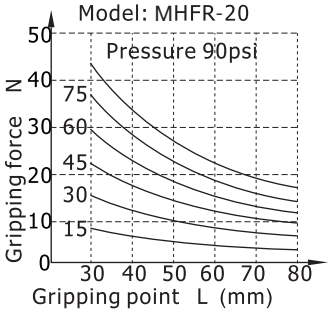
Engineering Specifications

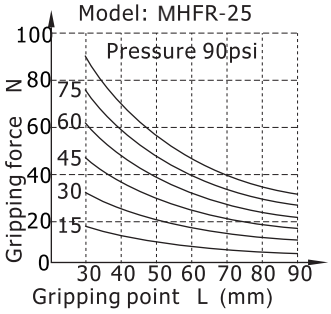
Bore Size (mm)	10	16	20	25	32
Acting Type	Double Acting				
Fluid	Air (to be filtered by 40µm filter element)				
Operating Pressure	21 to 100 PSI (0.15 to 0.7MPa)				
Temperature	-4°C to 158°F (-20°C to 70°C)				
Lubrication	cylinder: not required; gripper jaws: lubricate grease				
Repeatability (mm)	±0.02mm				
Max. frequency	60 cycles per minute				
Port Size	M5x0.8				

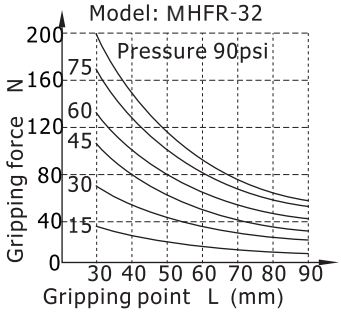
Connection Between Gripping Force and Gripping Point Distance

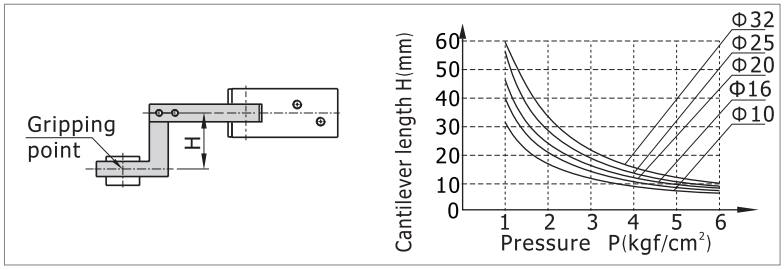






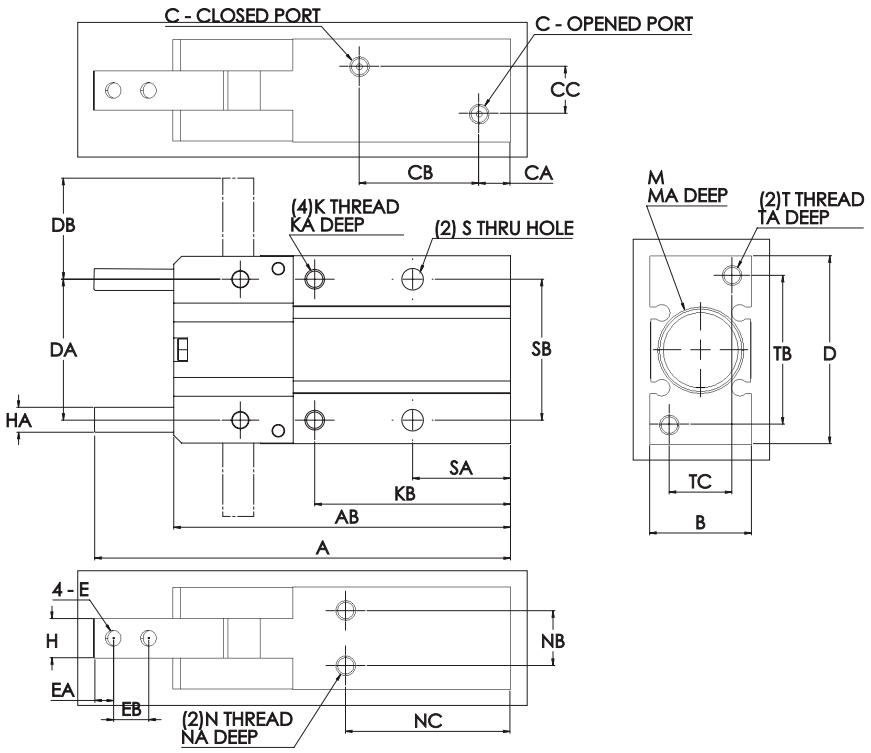






Product Information

Dimensions (mm)



Bore Size (mm)	A	AB	B	C	CA	CB	CC	D	DA	E	EA	EB	H	HA	K	KA	KB
10	71	58	15	M5x0.8	7	28.5	3	30	22	M3x0.5	3	6	6	4	M3x0.5	6	35
16	84	69	20	M5x0.8	7	30.5	8	38	28	M3x0.5	4	7	8	5	M4x0.7	8	41
20	106	86	26	M5x0.8	8	38.5	12	48	36	M4x0.7	5	9	10	8	M5x0.8	10	50
25	131	107	30	M5x0.8	8	48	14	58	45	M5x0.8	6	12	12	10	M6x1.0	12	60
32	158.5	122	40	M5x0.8	9	56	18	72	55	M6x1.0	9	16	14	12	M6x1.0	14	64

Bore Size (mm)	M	MA	N	NA	NB	NC	S	SA	SB	T	TA	TB	TC
10	11 DIA	1.5	M3x0.5	4	9	30	3.3 DIA	18	24	M3x0.5	6	24	9
16	17 DIA	1.5	M4x0.7	5	12	33	4.5 DIA	20	30	M4x0.7	8	30	12
20	21 DIA	1.5	M5x0.8	8	14	42	5.5 DIA	25	36	M5x0.8	10	38	16
25	26 DIA	1.5	M6x1.0	10	16	50	6.5 DIA	30	42	M6x1.0	12	46	18
32	34 DIA	2	M6x1.0	12	26	59	6.5 DIA	35	46	M6x1.0	14	46	26

How To Order

MHFR-16

Model
MHFR Series

Bore Size	
10	10mm
16	16mm
20	20mm
25	25mm
32	32mm

Switches

Bimba offers solid state switches that are available to use with Bimba's parallel and angular grippers. These switches simply fit into the side grooves of the gripper.



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118 – MW Series Solid State Switches
118 – Engineering Specifications
118 – Dimensions
119 – Wiring Diagrams
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121 – How to Order

MW Series Solid State Switch Technical Data

Engineering Specifications

Item/Type	MWF	MWC	MWK
Switch Logic	Solid State Transistor, Normally Open		
Sensor Type	2-Wire Solid State Switch	NPN	PNP
Operating Voltage (V)	10-28V DC	5-30V DC	
Max. Switching Current (mA)	50	100	
Max. Switching Power (W)	1.4	3	
Voltage Drop	2.65V Max @ 50mA DC	0.5V Max. @ 100mA DC	
Cable	Ø2.8, 2C, PVC	Ø2.8, 3C, PVC	
Indicator	Red	Green	Red
Sensitivity (Gauss)	40-800		
Max. Frequency (Hz)	200		
Temperature Range	14°F to 158°F (-10°C to 70°C)		
Enclosure Classification	IP68		



G-Body

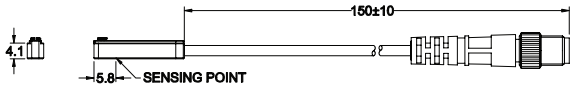


H-Body

Dimensions (mm)

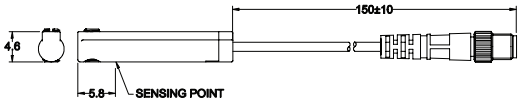
G-Body

Wire Style: C08

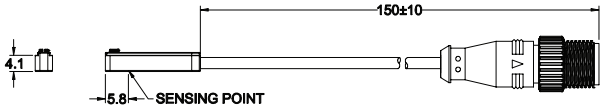


H-Body

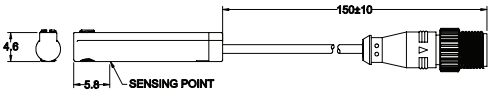
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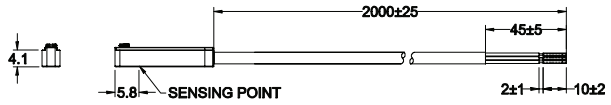
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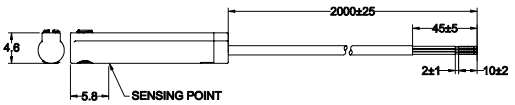
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Wire Style: 020



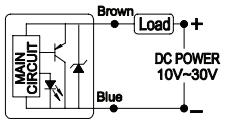
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Wiring Diagrams

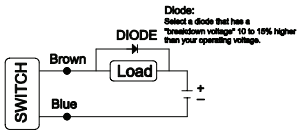
MWF

CIRCUIT & CONNECTION DIAGRAM

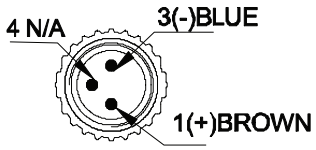


The brown wire series load to the positive (+)
and the blue to the negative (-) of power source.

EXTERNAL PROTECTION CIRCUIT

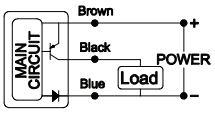


Applicable to
DC Conductive Load

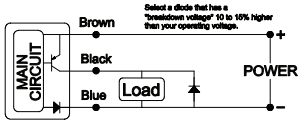


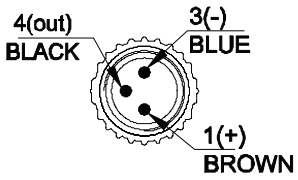
MWC

CIRCUIT & CONNECTION DIAGRAM



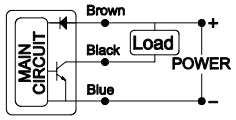
EXTERNAL PROTECTION CIRCUIT





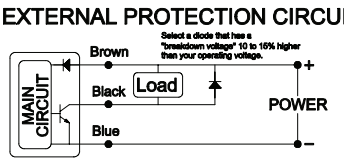
MWK

CIRCUIT & CONNECTION DIAGRAM

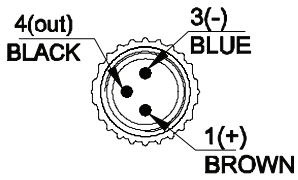


The brown wire to the positive (+) and the
blue to the negative (-) from DC power.
The black wire have to connect to the load.

EXTERNAL PROTECTION CIRCUIT



Applicable to Conductive Load
Attach an extenal diode between Brown(-) and Black(out)



How To Specify

Product Information

			MW Solid State Switch	
			G Body	H Body
MHFK Parallel Grippers		6mm Bore		X
		10mm Bore	X	
		16-40mm Bore	X	X
MHFY Angular Grippers		6mm Bore		X
		10-32mm Bore	X	
MHFC Parallel Multi-Finger Grippers		16-63mm Bore		X
MHFR 180° Grippers		10-32mm Bore		X

How To Order

MWF - H - C08

Model
MW Series

Output	
F	2 Wire (Solid State)
K	3 Wire, NPN (Sinking)
C	3 Wire, PNP (Sourcing)

Body Type	
H	Round
G	Square

Wire Style	
020	Flying Leads, 2 Meter Wire Length
C08	M8 Male Quick Connect, 150mm Wire Length
C12	M12 Male Quick Connect, 150mm Wire Length

IMI Precision Engineering operates four global centres of technical excellence and a sales and service network in 75 countries, as well as manufacturing capability in the USA, Germany, China, UK, Switzerland, Czech Republic, Mexico and Brazil.

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Bimba
25150 S. Governors Hwy
University Park, IL 60484

Tel: +1 708 534 8544
Fax: +1 708 235 2014

For further information, scan this QR code or visit **www.bimba.com**

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