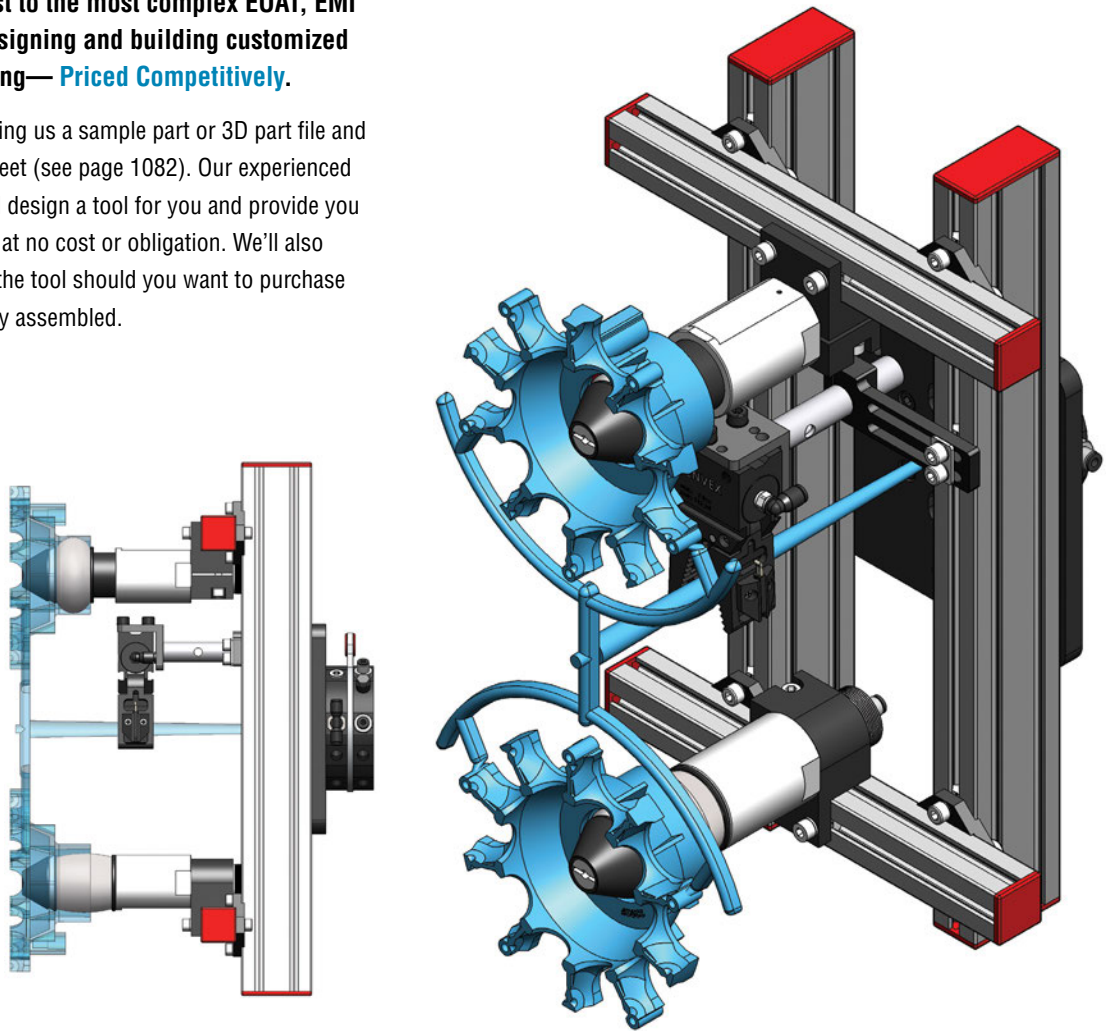


## EOAT Design and Build Service

From the simplest to the most complex EOAT, EMI specializes in designing and building customized End-of-Arm-Tooling— **Priced Competitively.**

Get started by sending us a sample part or 3D part file and a completed datasheet (see page 1082). Our experienced EOAT engineers will design a tool for you and provide you 3D CAD renderings at no cost or obligation. We'll also provide pricing for the tool should you want to purchase the EOAT completely assembled.



**Expand**  
**YOUR COBOT CAPABILITIES**  
 with **EMI**



**Specialty Gripper Overview**

**Mini Grippers** p.550



**Electric Grippers** p.596

These electric grippers are easy to set up and operate and use electricity from your PLC instead of compressed air. Both 2- and 3-jaw models use 24 volt DC and an M8x1, 3-pole standard connection.

**Mini Gripper Fingers** p.554



**Mini Gripper** p.556



**ID Micro Grippers** p.564



**ID Expansion Grippers** p.566



**ID / OD Air Hands** p.578



**ID Grippers** p.580



**Dock & Lock Grippers** p.560



**Needle Gripper for Fabric** p.584



**Mini Needle Grippers** p.586



**>ASS< Needle Grippers** p.588



**Magnetic Grippers** p.592



**Magnetic Grippers** p.590



## Mini Angular Gripper – TFA

- Single acting with spring opening.
- Self-centering.
- Finger blanks available.
- Optional suspension kit.
- Easily mounted on EOAT using standard Ø10mm, Ø14mm, or Ø20mm clamps.
- Optional sensors available, see page 553.



Quick#	6694	6695	6696	6697
Part#	TFA10-25	TFA14-25	TFA20-25	TFA20-25S
Price	\$120.00	\$125.00	\$132.00	\$176.00
Pressure range	36–116psi			
Stroke	20° to -5°			
Total closing force at 87 psi	7.5 lbf at 10mm	14.5 lbf at 15mm	38.5 lbf at 25mm	38.5 lbf at 25mm
Weight	12g	30g	95g	120g

Use Quick#s for easy online ordering.

### Suspension Mounting



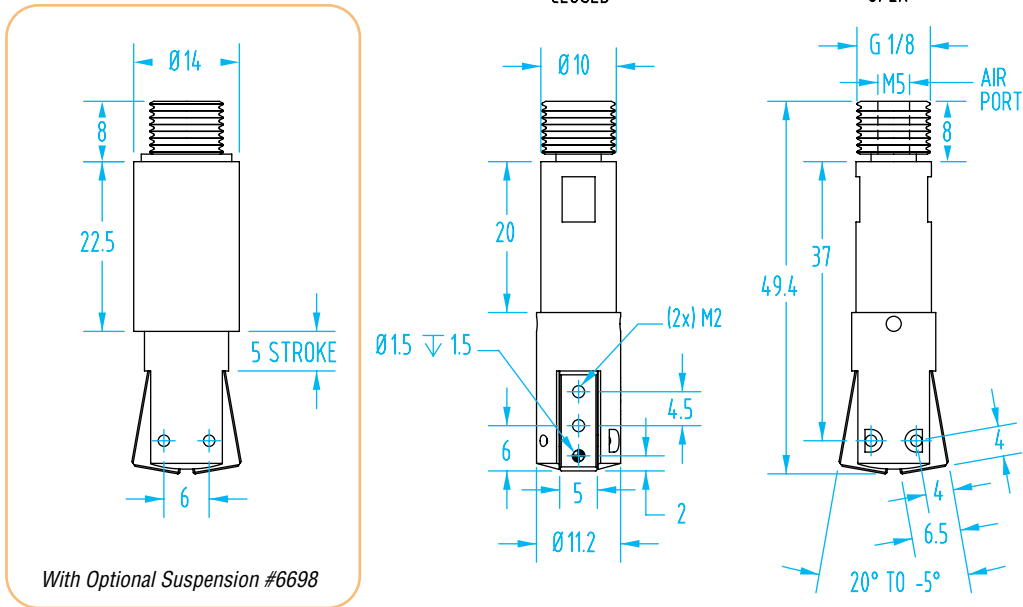
#### Suspension Kits

Quick#	Part#	For Gripper	Stroke	Price	Weight
6698	TFA10-SP05	TFA10	5mm	\$25.00	10g
6699	TFA14-SP05	TFA14	5mm	\$28.00	35g
6700	TFA20-SP10	TFA20	10mm	\$32.00	85g

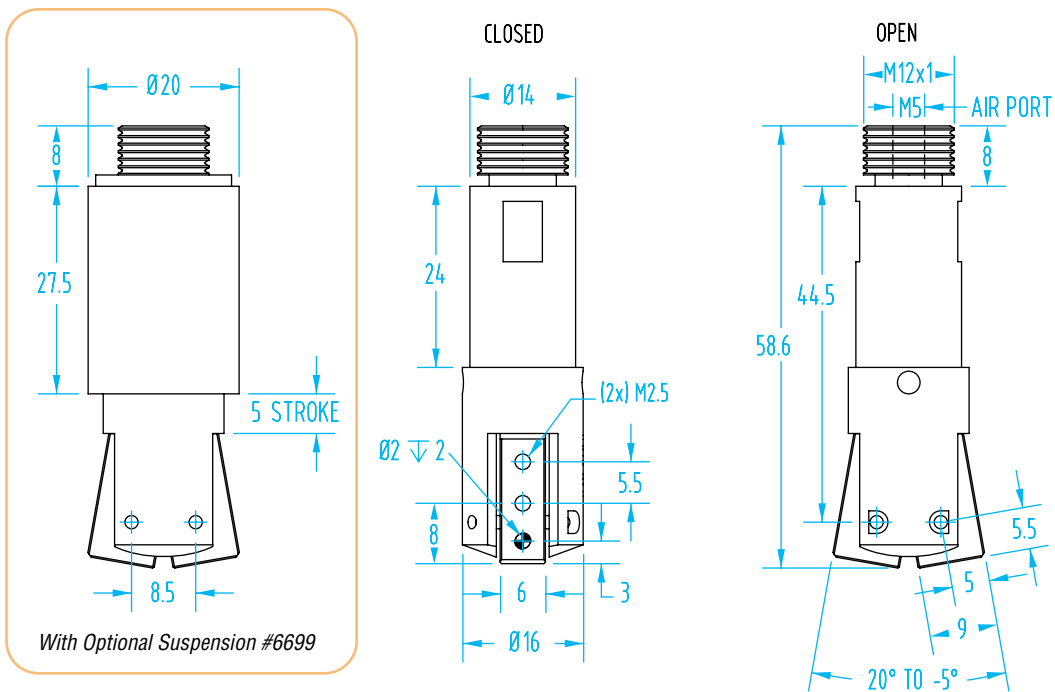
**Mini Angular Gripper – TFA**

(Dimensioned drawings shown full scale)

**TFA10-25, #6694**



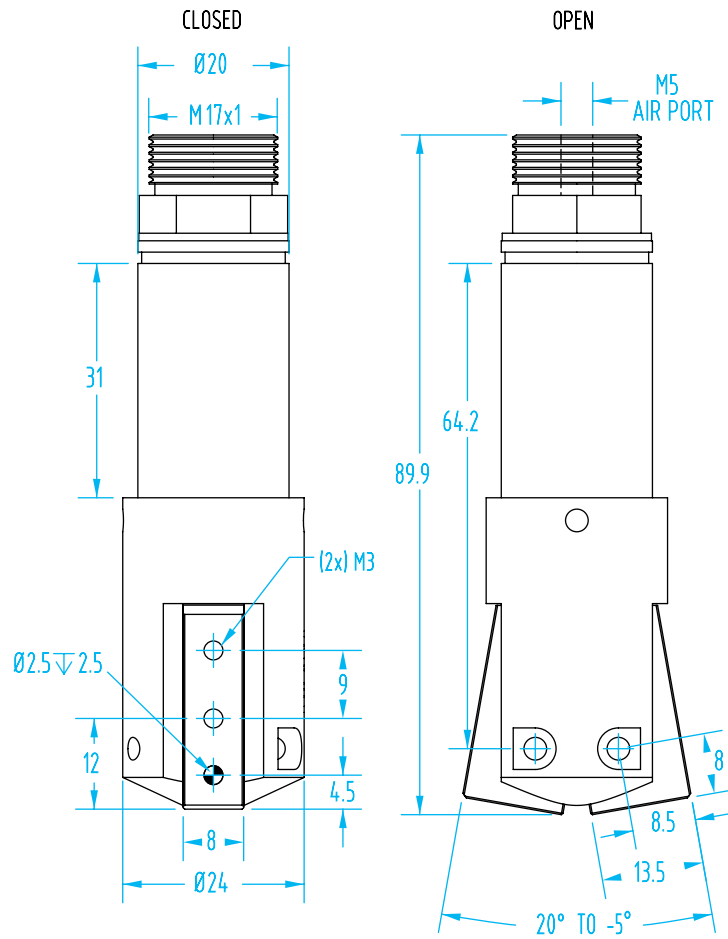
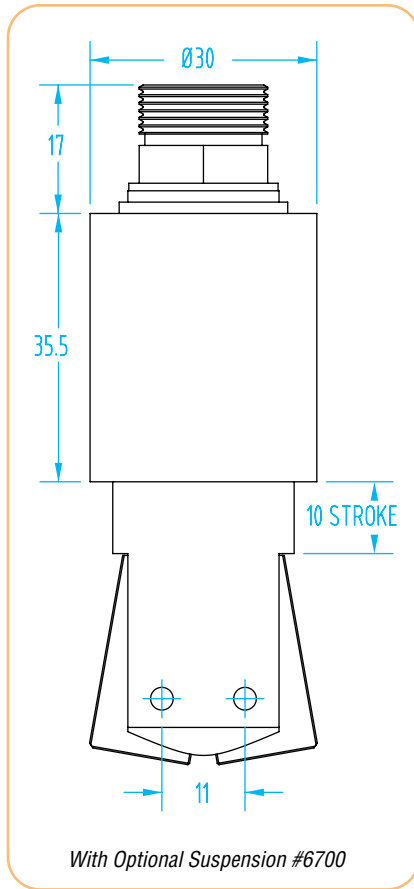
**TFA14-25, #6695**



# Mini Angular Gripper – TFA

TFA20-25, #6696

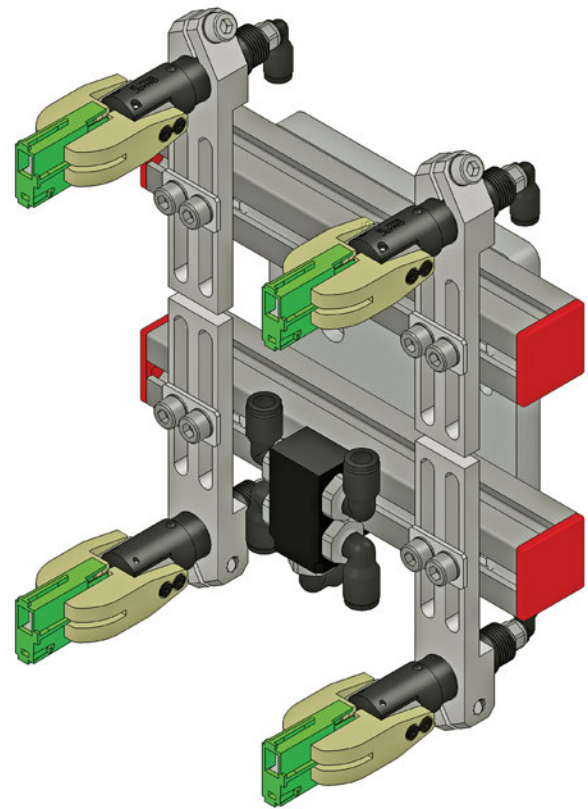
(Dimensioned drawings shown full scale)



## Application Examples



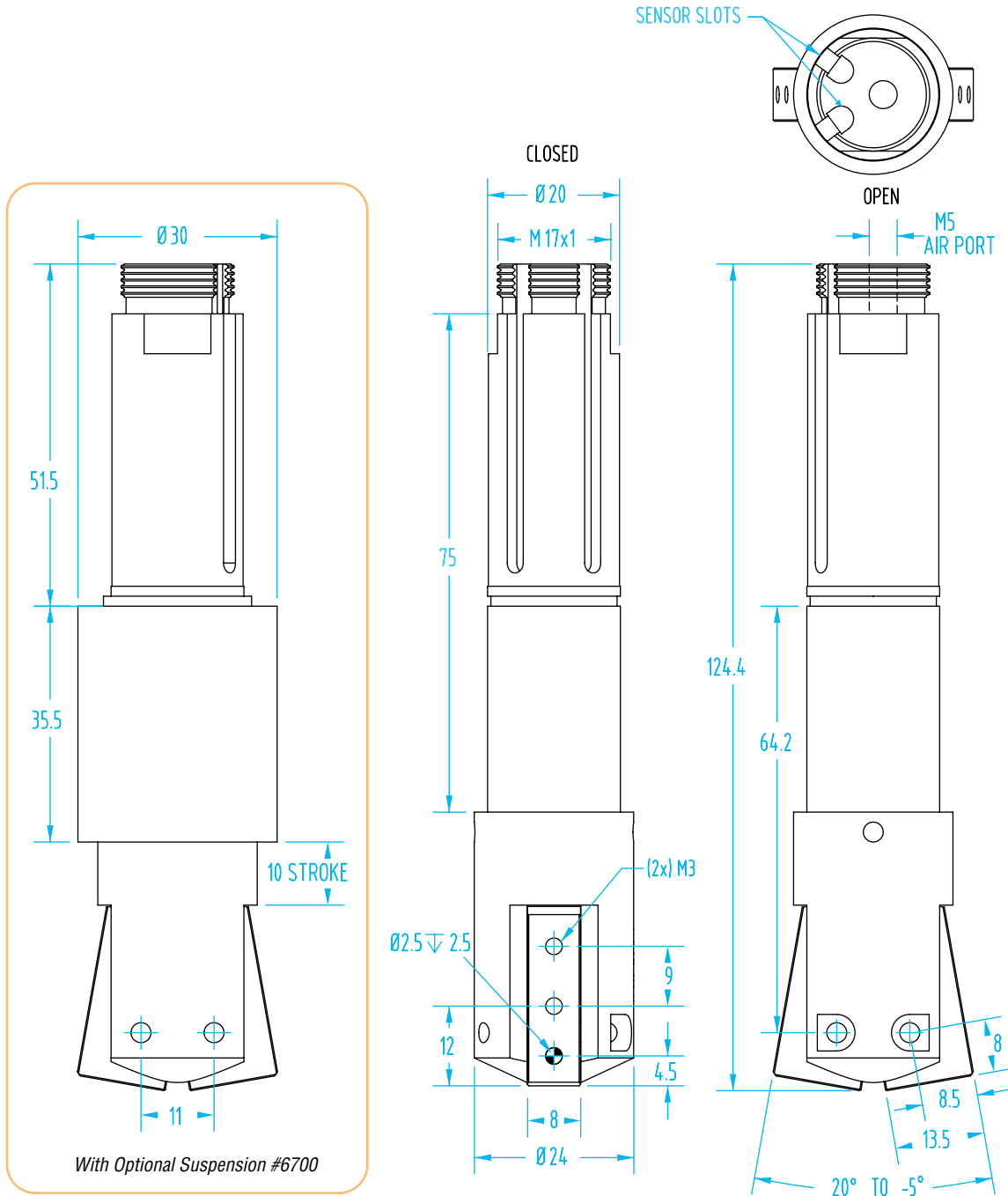
Mounts on standard Ø10mm, Ø14mm, and Ø20mm clamps



Mini Angular Gripper – TFA

(Dimensioned drawings shown full scale)

TFA20-25S, #6697



Sensors for TFA20-25S Angular Grippers (sold separately)

Quick#	Part#	Price	Signal	Connection
1882	SS4N225G	\$27.20	PNP	3-wire with lead, 2.5m long
6282	SS3N203G	\$31.16	PNP	3-wire with M8 male connector, 0.3m long
1883	SS4M225G	\$27.20	NPN	3-wire with lead, 2.5m long
1884	SS3M203G	\$31.16	NPN	3-wire with M8 male connector, 0.3m long
6278	SN4N225G	\$27.20	PNP	3-wire with lead, 2.5m long
6357	SN4M225G	\$27.20	NPN	3-wire with lead, 2.5m long
6277	SN3N203G	\$31.16	PNP	3-wire with M8 male connector, 0.3m long
6356	SN3M203G	\$31.16	NPN	3-wire with M8 male connector, 0.3m long

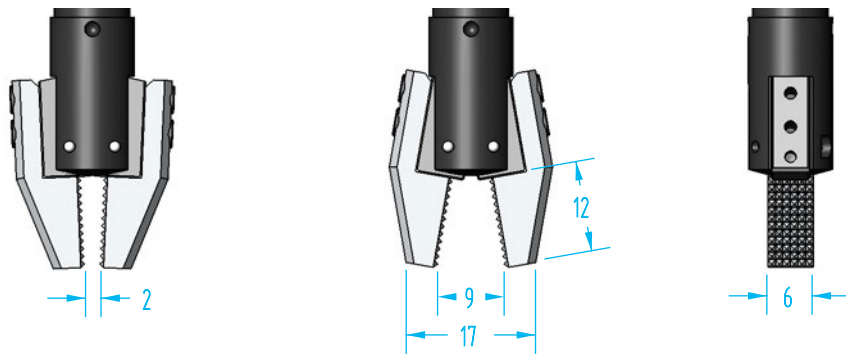
Note: M8 Extension cables Quick#'s 2582 & 2583 available on page 987.  
See Sensor Reference Guide on page 1009 for full list of compatible sensors.

# TFA Sprue Fingers

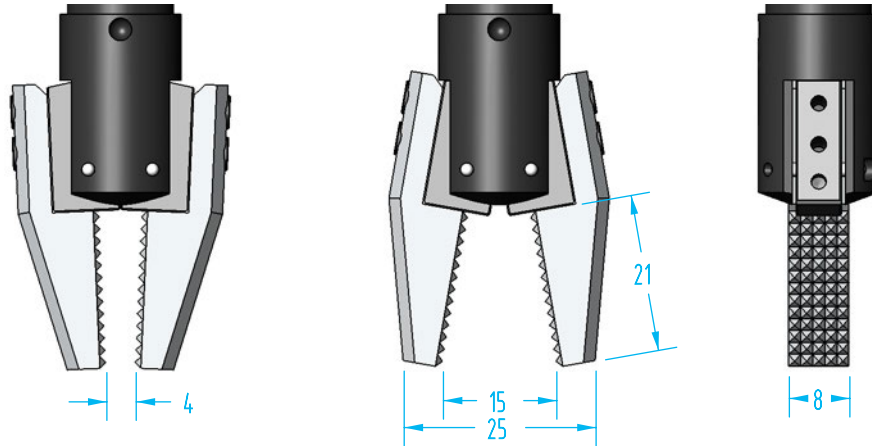
(Dimensioned drawings shown full scale)



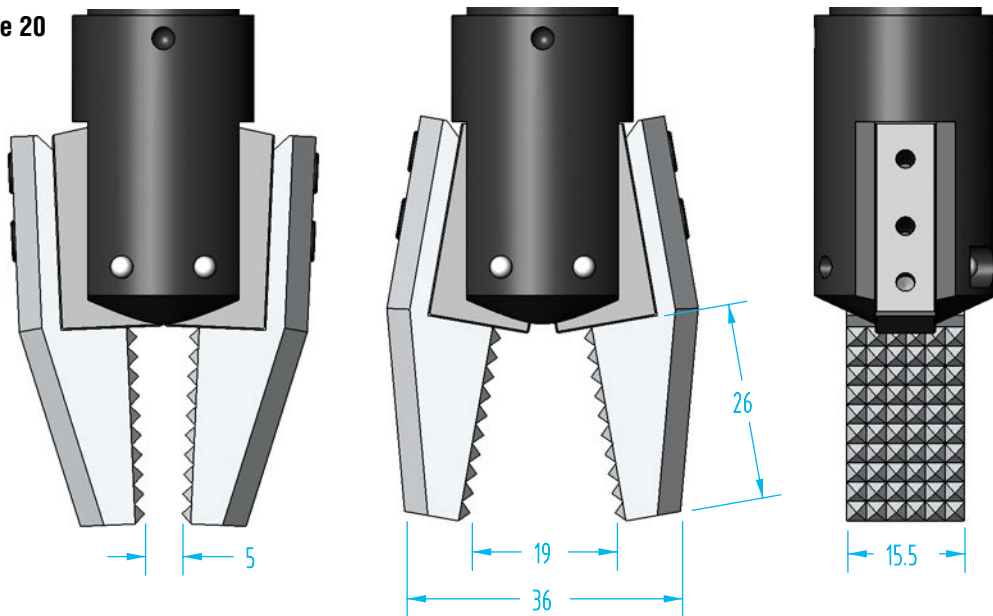
Size 10



Size 14



Size 20



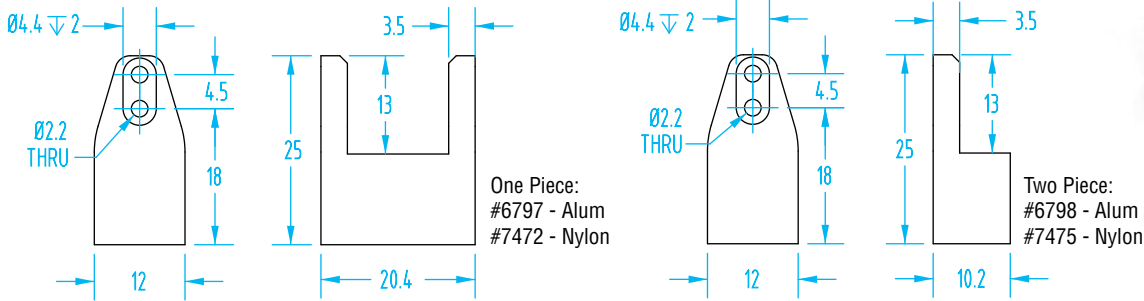
Sprue Fingers for TFA Grippers (priced per pair)

Quick#	6740	6741	6742
Part#	TFA10-SF	TFA14-SF	TFA20-SF
For Gripper:	TFA10	TFA14	TFA20
Price (per pair)	\$32.00	\$35.00	\$38.00
Applicable sprue	Ø3-6mm	Ø6-9mm	Ø7-14mm

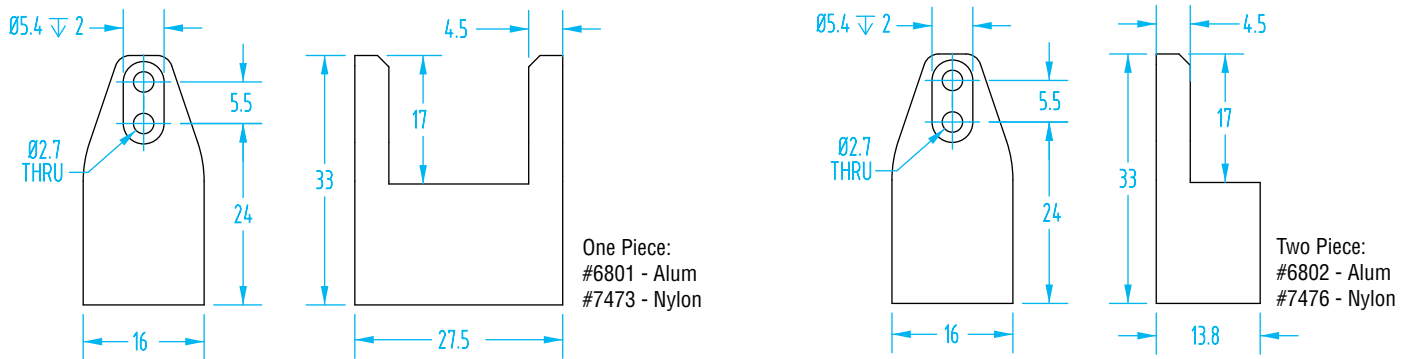
**TFA Finger Blanks**

(Dimensioned drawings shown full scale)

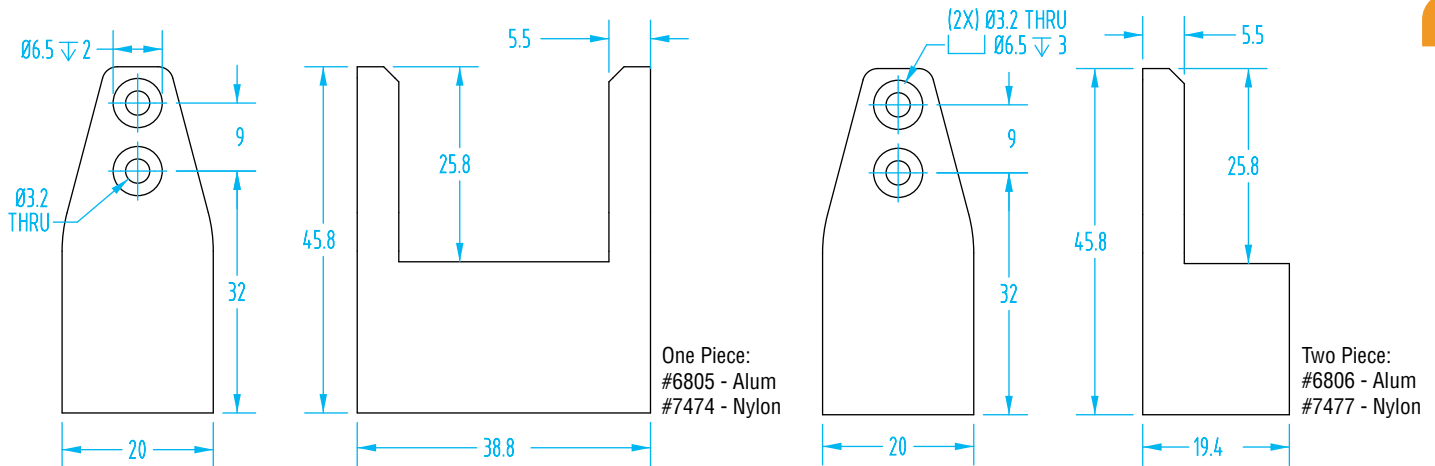
**Finger Blanks for Size 10 TFA Gripper**



**Finger Blanks for Size 14 TFA Gripper**



**Finger Blanks for Size 20 TFA Gripper**



**One-Piece Finger Blanks**

Quick#	Part#	Material	Size	Weight	Price
6797	TFA10-1A	Aluminum	12x20	10g	\$13.45
7472	TFA10-1N	Nylon	12x20	4g	\$13.45
6801	TFA14-1A	Aluminum	16x28	23g	\$15.60
7473	TFA14-1N	Nylon	16x28	8g	\$15.60
6805	TFA20-1A	Aluminum	20x39	52g	\$17.25
7474	TFA20-1N	Nylon	20x39	19g	\$17.25

All include mounting screws.

**Two-Piece Finger Blanks (priced per pair)**

Quick#	Part#	Material	Size	Weight	Price
6798	TFA10-2A	Aluminum	12x20	5g each	\$13.95
7475	TFA10-2N	Nylon	12x20	2g each	\$13.95
6802	TFA14-2A	Aluminum	16x28	12g each	\$16.10
7476	TFA14-2N	Nylon	16x28	4.5g each	\$16.10
6806	TFA20-2A	Aluminum	20x39	26g each	\$17.75
7477	TFA20-2N	Nylon	20x39	9.5 each	\$17.75

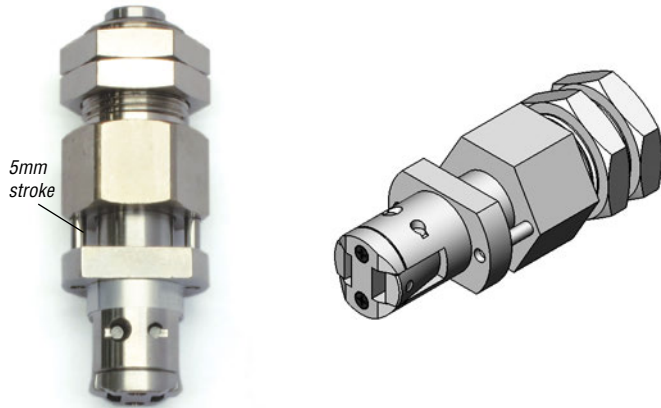
All include mounting screws.



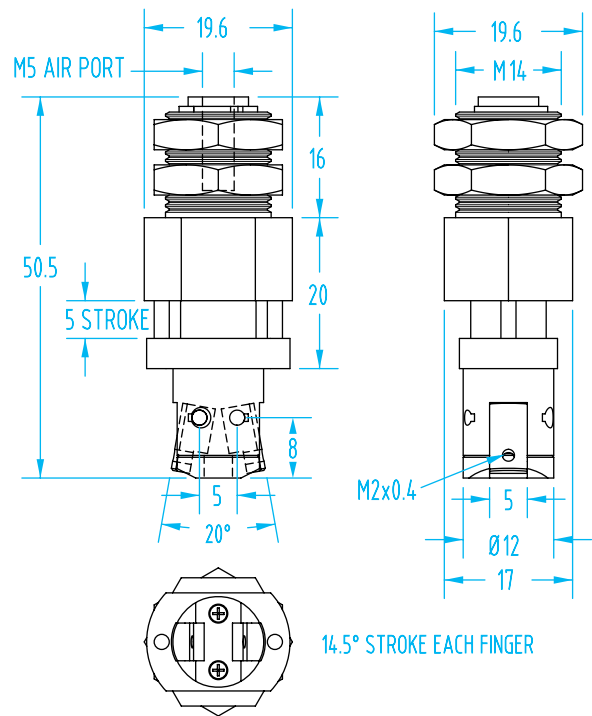
# Miniature Grippers – Size 8

- Stainless steel
- Single acting, normally open.
- Finger blanks available.
- Operating pressure range: 29–102 psi.

(Dimensioned drawings shown full scale)

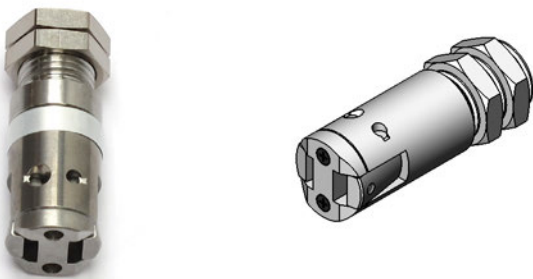


#1834  
Size: 08  
Panel Mount  
Suspension

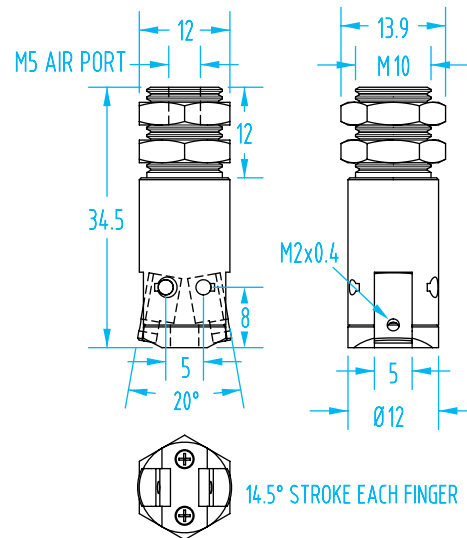


Quick#	Part#	Size	Style	Stroke	Grip Force*	Wt.	Price
1834	GSG-08A-SPMF	8	Panel Mount	5mm	0.71 lbf-in	58g	\$120.00

\* Force when compressed air is supplied at 72.5psi.



#1832  
Size: 08  
Panel Mount

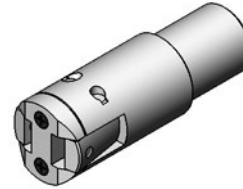
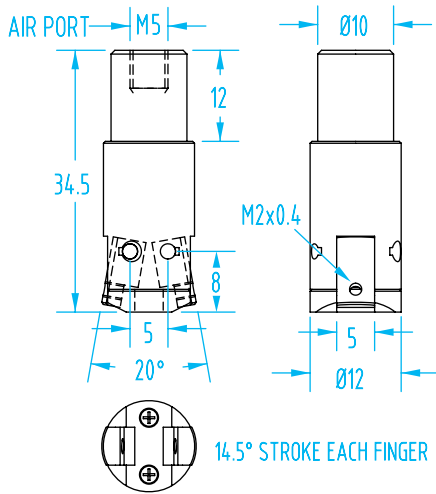


Quick#	Part#	Size	Style	Stroke	Grip Force*	Wt.	Price
1832	GSG-08A-SPM	8	Panel Mount	-	0.71 lbf-in	22g	\$87.00

\* Force when compressed air is supplied at 72.5psi.

# Miniature Grippers – Size 8

(Dimensioned drawings shown full scale)

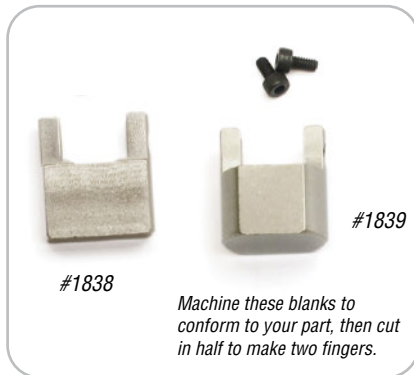


#1831  
Size: 08  
Shaft Style

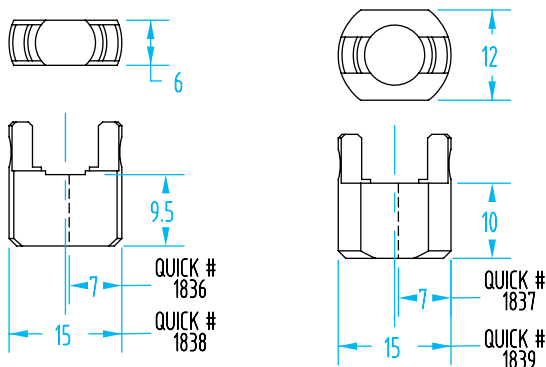
Quick#	Part#	Size	Style	Stroke	Grip Force*	Wt.	Price
1831	GSG-08A-S	8	Shaft	-	0.71 lbsf-in	20g	\$83.00

\* Force when compressed air is supplied at 72.5psi.

## Miniature Finger Blanks - Size 8



Shown with #1836 finger blanks



### Miniature Finger Blanks - Size 08 Grippers

Quick#	Part#	Style	Size	Wt.	Price
1836	GSG-08A-FB06	Split	6x15	8g	\$25.00
1837	GSG-08A-FB16	Split	12x15	14g	\$25.00
1838	GSG-08A-FS06	One-Piece	6x15	8g	\$24.00
1839	GSG-08A-FS16	One-Piece	12x15	14g	\$24.00

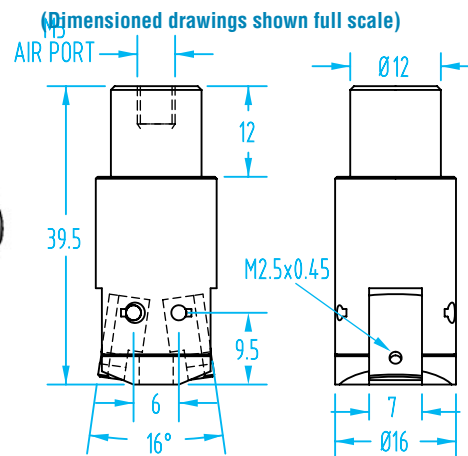
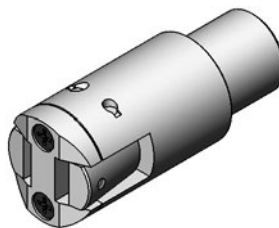
Mounting screws included.

# Miniature Grippers – Size 11

- Stainless steel
- Single acting, normally open.
- Finger blanks available.
- Operating pressure range: 29–102 psi.



#727  
Size: 11  
Shaft Style

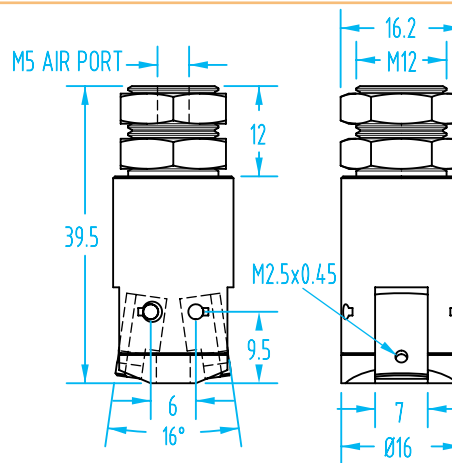
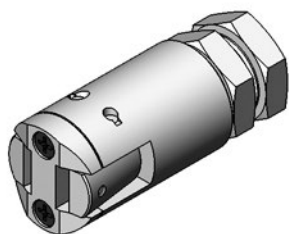


Quick#	Part#	Size	Style	Grip Force*	Wt.	Price
727	GSG-11A-S	11	Shaft	1.77 lbf-in	41g	\$97.00

\* Force when compressed air is supplied at 72.5psi.



#1833  
Size: 11  
Panel Mount

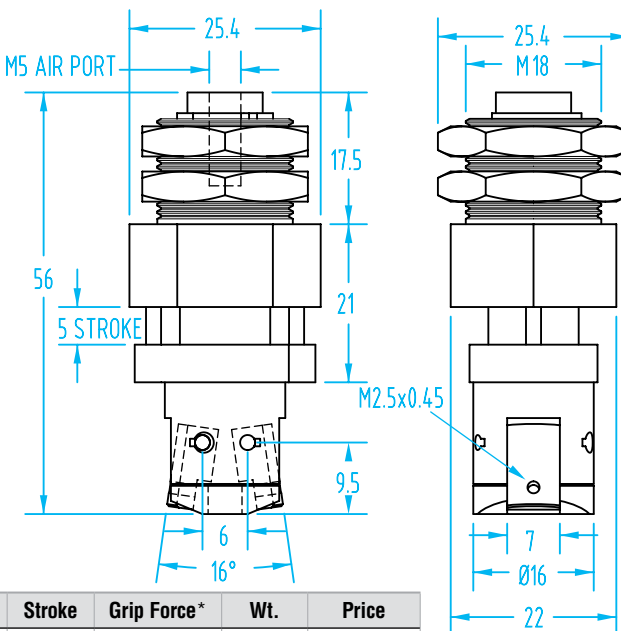
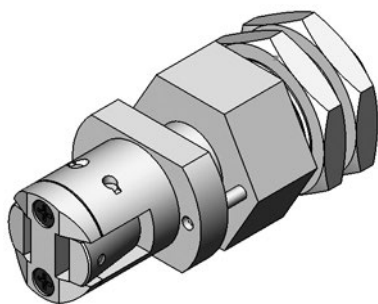


Quick#	Part#	Size	Style	Grip Force*	Wt.	Price
1833	GSG-11A-SPM	11	Panel Mount	1.77 lbf-in	46g	\$101.00

\* Force when compressed air is supplied at 72.5psi.



#1835  
Size: 11  
Panel Mount  
Suspension

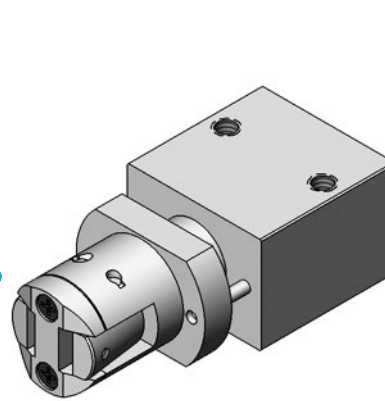
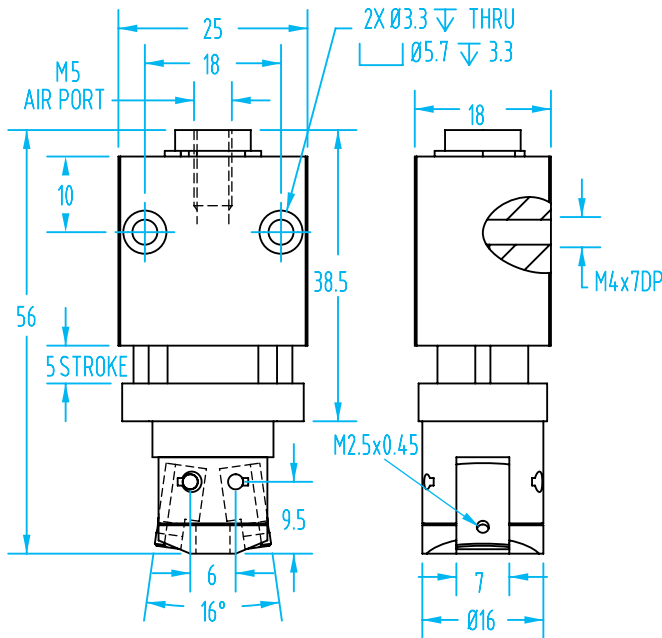


Quick#	Part#	Size	Style	Stroke	Grip Force*	Wt.	Price
1835	GSG-11A-SPMF	11	Panel Mount	5mm	1.77 lbf-in	106g	\$145.00

\* Force when compressed air is supplied at 72.5psi.

# Miniature Grippers – Size 11

(Dimensioned drawings shown full scale)



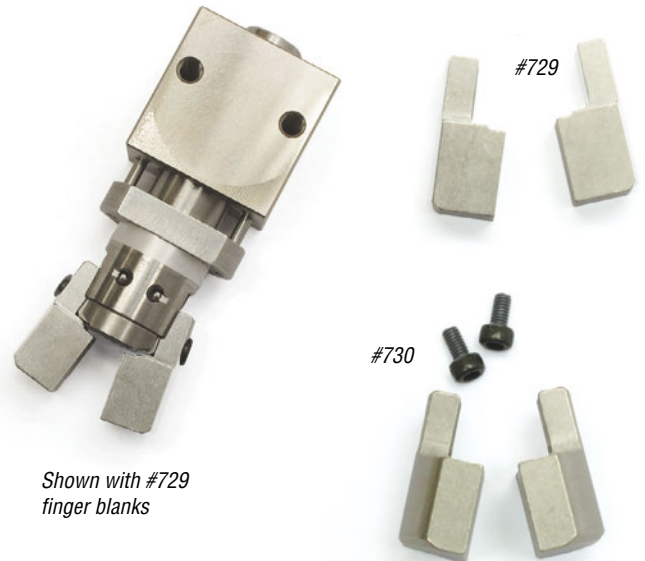
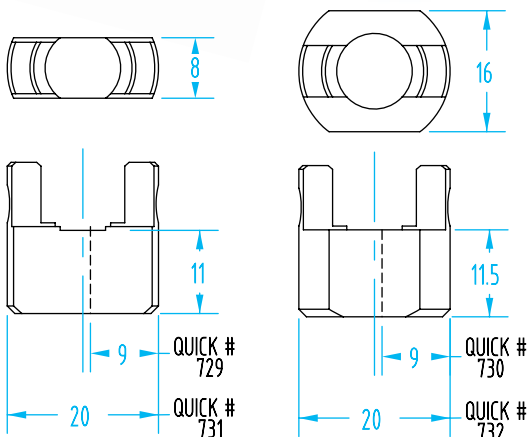
#728  
Size: 11  
Side Mount  
Suspension

Quick#	Part#	Size	Style	Stroke	Grip Force *	Wt.	Price
728	GSG-11A-SF	11	Side Mount	5mm	1.77 lbf-in	117g	\$157.00

\* Force when compressed air is supplied at 72.5psi.

## Miniature Finger Blanks – Size 11

Machine these blanks to conform to your part, then cut in half to make two fingers.



Shown with #729  
finger blanks

### Miniature Finger Blanks - Size 11 Grippers

Quick#	Part#	Style	Size	Wt.	Price
729	GSG-11A-FB08	Split	8x20	16g	\$28.00
730	GSG-11A-FB20	Split	16x20	25g	\$28.00
731	GSG-11A-FS08	One-Piece	8x20	17g	\$27.01
732	GSG-11A-FS20	One-Piece	16x20	28g	\$27.01

Mounting screws included.

## Dock & Lock Gripper – AGG

### Grippers for Engagement

The AGG30 is used to provide precise centering and clamping between the robot and the mold or the robot and a fixture. This is necessary, for example, when metal inserts must be placed in the mold before plastic injection. The gripper AGG30-B is mounted on the EOAT and the steel bushing AGG30-C on the mold or a fixture. After the robot approaches the mold, the AGG30-B is pressurized so it closes and engages the AGG30-C. AGG21-B and AGG30-B are double-acting with a safety spring to keep the gripper engaged even without compressed air (NC). AGG19-B is single-acting with reset spring (NO).

**Perfect for Insert Loading!**



Quick#	7130	7128	6689
Part#	AGG19-B	AGG21-B	AGG30-B
Price	\$290.00	\$328.00	\$375.00
Diameter	Ø20	Ø20	Ø30
Style	Single Acting	Double Acting	
Maximum axial load without compressed air before releasing	0 lbf	134 lbf	314 lbf
Maximum axial load with compressed air before breakage	449 lbf	449 lbf	1124 lbf
Pressure range	29–116 psi (NO)	35–116 psi (NC)	39–116 psi (NC)
Weight	85g	115g	390g

#### Locking Collar

Quick#	Part#	Diameter	Weight	Price
7129	AGG21-C	Ø20	25g	\$24.44
6690	AGG30-C	Ø30	75g	\$21.11

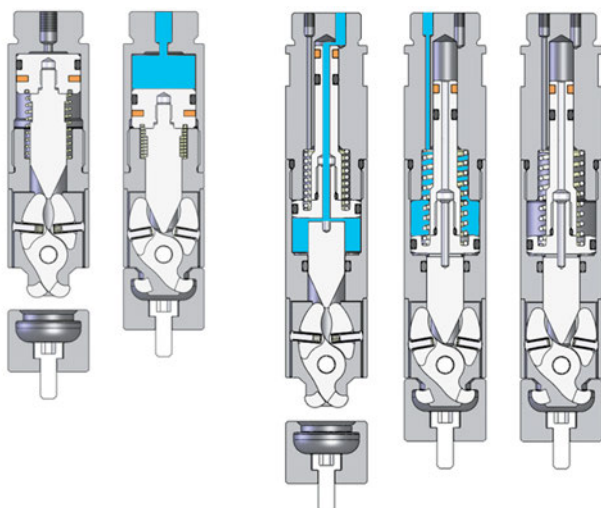
#### Optional Sensor Mounting Band

Quick#	Part#	Diameter	Price
7308	SWP-020	Ø20	\$2.22

See Sensor Reference Guide on page 1009 for full list of compatible sensors.

AGG19-B

AGG21-B / AGG30-B



### Dock & Lock Fitting Compatibility Guide

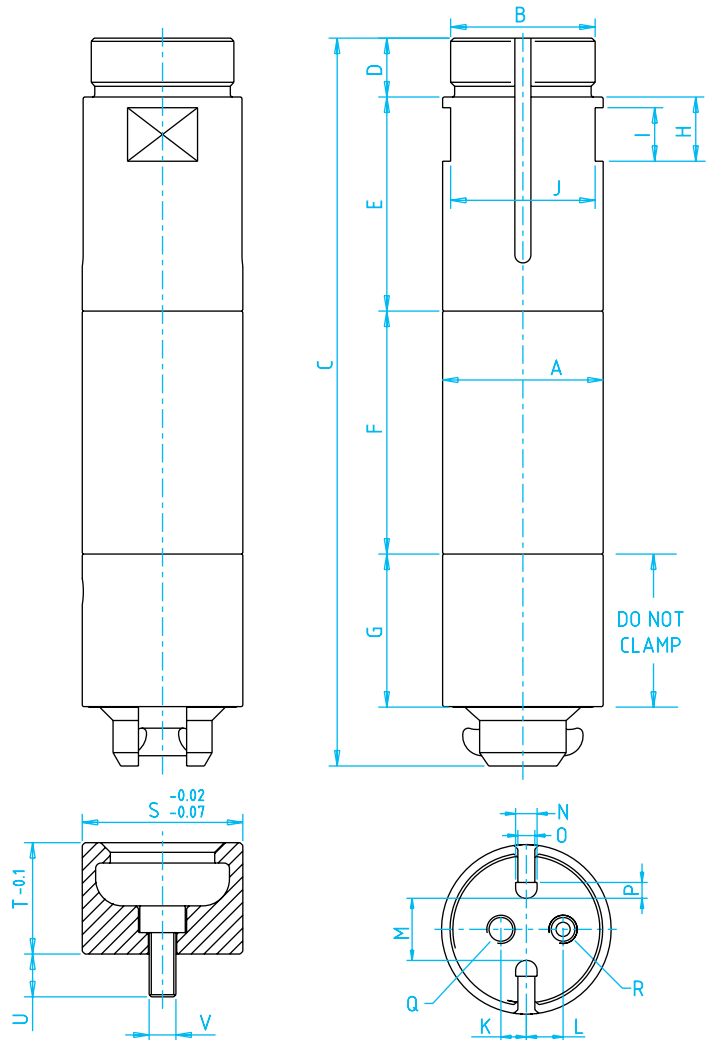
Quick#'s 7128 & 6689 have two closely spaced air ports that don't allow all fittings to work properly.

Fittings	Q# 7130	Q# 7128	Q# 6689	
	4mm OD Tubing	Yes	No	Yes
	6mm OD Tubing	Yes	No	No
	4mm OD Tubing	Yes	Yes, see Q#256	Yes
	6mm OD Tubing	Yes	N/A	Yes

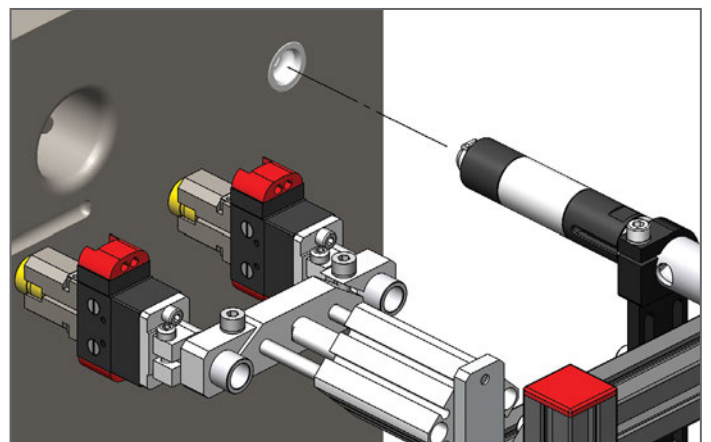
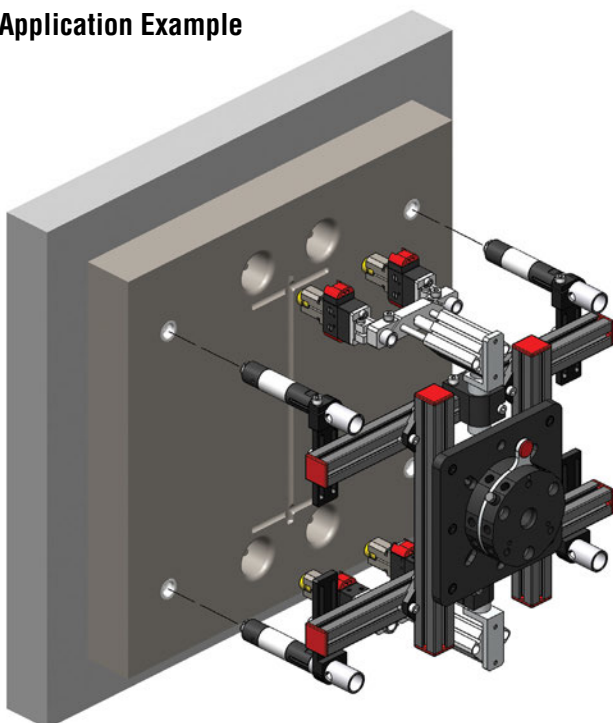
**Dock & Lock Gripper – AGG**

	AGG19 B	AGG21 B	AGG30 B
Quick#	7130	7128	6689
A	Ø20	Ø20	Ø30
B	M17x1	M17x1	M27x1
C	70.5	96.5	136
D	8	8	11
E	32	28	40
F	4	34	45.4
G	19.5	19.5	28.6
H	10	10	12
I	8	8	10
J	18	18	27
K	0	4.2	4.5
L	-	3.5	6.5
M	-	8	11
N	-	3.8	3.8
O	-	3	3
P	-	2.8	2.8
Q	M5	M3	M5
R	-	M3	M5

	AGG21 C	AGG30 C
Quick#	7129	6690
S	Ø20	Ø30
T	15.3	20.8
U	6.7	8
V	M4	M5



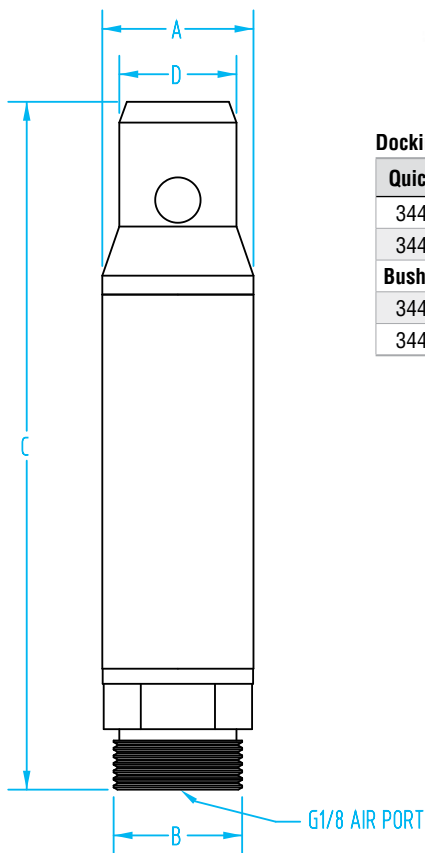
**Application Example**



## Dock & Lock Gripper – ZTE

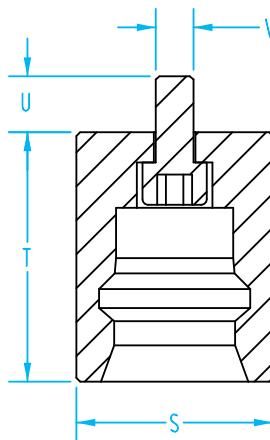
- Used to limit force being applied to the robot arm.
- Use in applications when excessive force is necessary to extract part(s) from the mold. Or, when excessive force is necessary to place insert(s) in the mold.
- Pressurized steel balls lock into the ZBU bushings.
- Magnetic piston for sensing lock or unlock positions.

Perfect for Insert Loading!



### Docking Finger

Quick#	Part#	>ASS< #	Price	Closing Force at 87psi	Wt.
3441	ZTE-20-V	1-747-20-00	\$451.50	78.68 lbf	430g
3442	ZTE-30-V	1-747-30-00	\$550.20	337.2 lbf	524g
Bushing					
3443	ZBU-20-V	1-747-21-00	\$69.30		66g
3444	ZBU-30-V	1-747-31-00	\$84.00		80g



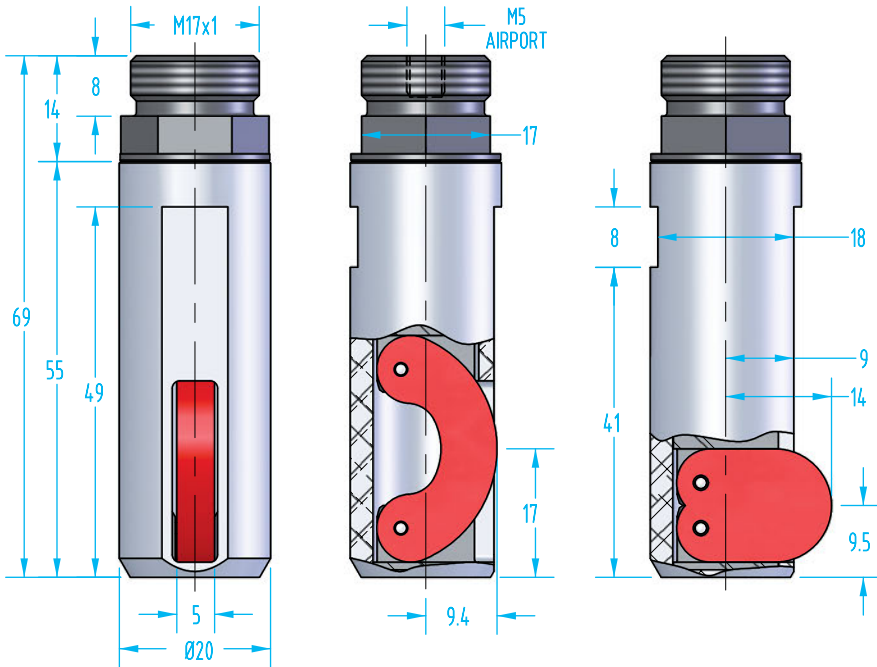
	A	B	C	D
3441	20	M17x1	91	15.5
3442	30	M27x1	133.5	25.5

	S	T	U	V
3443	26h7	33	7.5	M5
3444	40h7	43.5	10	M6

## Expansion Finger – OFD

(Dimensioned drawings shown full scale)

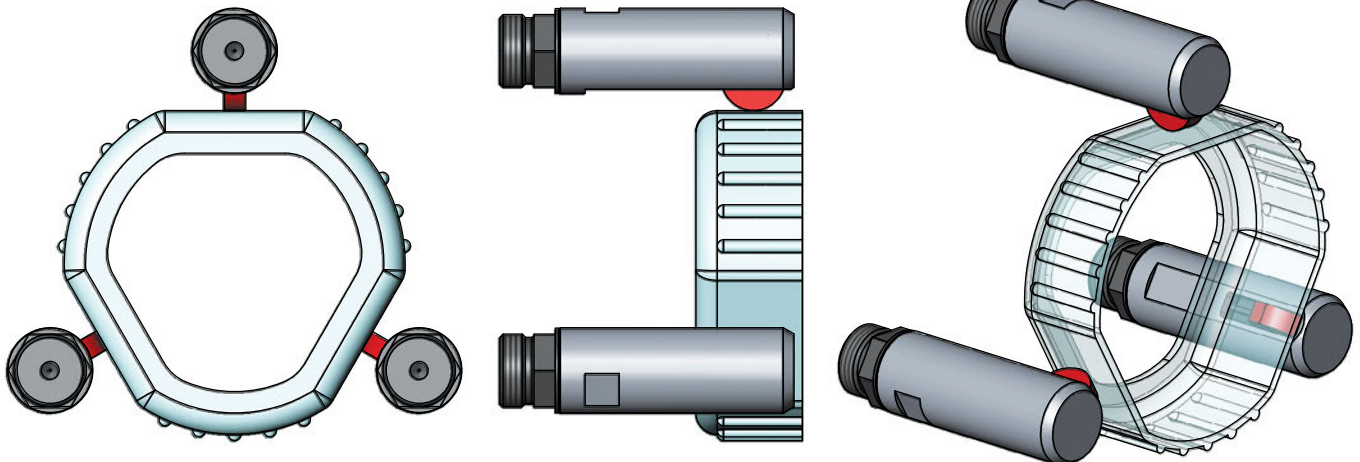
- Single acting with spring reset.
- Clampable Ø20mm body.
- Several mounting options.
- Temperature range: 41–140°F.
- Pressure range: 44–116 psi.
- Elastic TPU expander has a 70° durometer.



### Expansion Finger

Quick#	Part#	Price	Closing Force at 87psi	Wt.
7251	OFD20	\$82.00	32.6lbf	40g
Replacement Elastic TPU Expander				
7366	IR01	\$1.56		

### Application Example

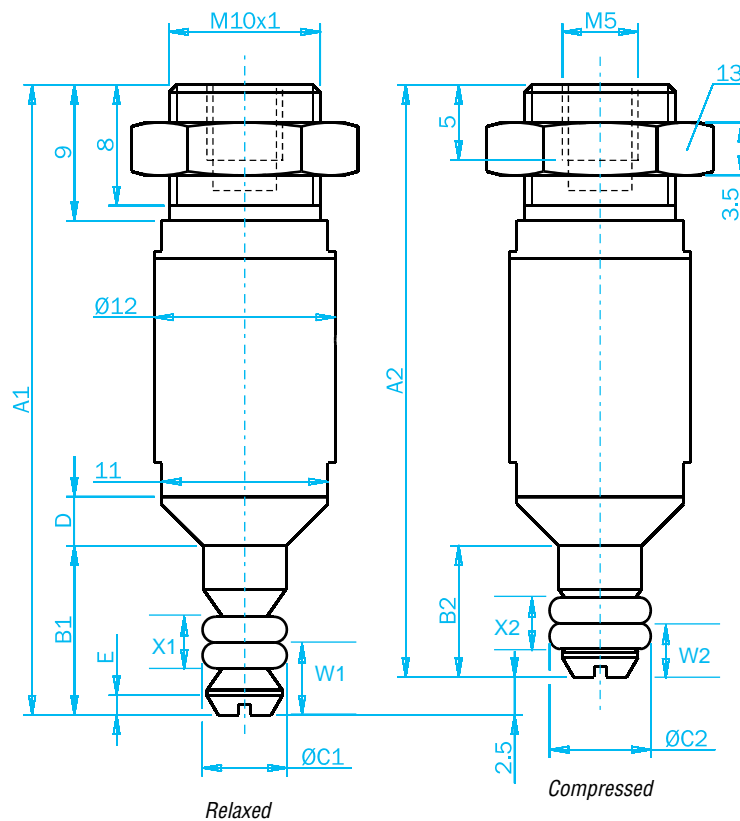




## Expansion Micro Grippers

(Dimensioned drawings scaled 2:1)

- Upward movement
- Grip diameter from Ø4.5 to Ø8.7mm.
- Silicone expander has a max. temperature of 392°F.
- NBR expander has a max. temperature of 212°F.
- Maximum operating pressure: 87psi.
- Replacement expanders available.
- Patented



### Expansion Micro Grippers

Quick#	Part#	Material	Price	Wt.	A1	A2	B1	B2	C1 MIN	C2 MAX	X1	X2	W1	W2	D	E
6637	IFU04S01RT	Silicone	\$117.00	7g	40.9	38.4	9.9	7.4	Ø4.5	Ø5.4	3	2.7	4	2.7	3.75x45°	1x60°
6636	IFU04N03RT	NBR	\$117.00													
6639	IFU05S01RT	Silicone	\$117.00	7g	41.7	39.2	11.2	8.7	Ø5.6	Ø6.7	3.4	3.4	4.8	3.6	3.25x45°	1.3x60°
6638	IFU05N03RT	NBR	\$117.00													
6641	IFU06S01RT	Silicone	\$117.00	8g	42	39.5	11.5	9	Ø6.6	Ø7.6	3.6	3.4	5.1	3.8	2.75x45°	1.4x60°
6640	IFU06N03RT	NBR	\$117.00													
6643	IFU07S01RT	Silicone	\$117.00	9g	42	39.5	11.5	9	Ø7.6	Ø8.7	3.6	3.4	5.1	3.9	2.4x45°	1.5x60°
6642	IFU07N03RT	NBR	\$117.00													

## Expansion Micro Grippers

Replacement Rings (priced per pair)

Quick#	Part#	For:	Material	Price
6943	IF04S01	IFU04S01RT	Silicone	\$4.68
6944	IF04N03	IFU04N03RT	NBR	\$4.68
6945	IF05S01	IFU05S01RT	Silicone	\$4.68
6946	IF05N03	IFU05N03RT	NBR	\$4.68
6947	IF06S01	IFU06S01RT	Silicone	\$4.68
6948	IF06N03	IFU06N03RT	NBR	\$4.68
6949	IF07S01	IFU07S01RT	Silicone	\$4.68
6950	IF07N03	IFU07N03RT	NBR	\$4.68



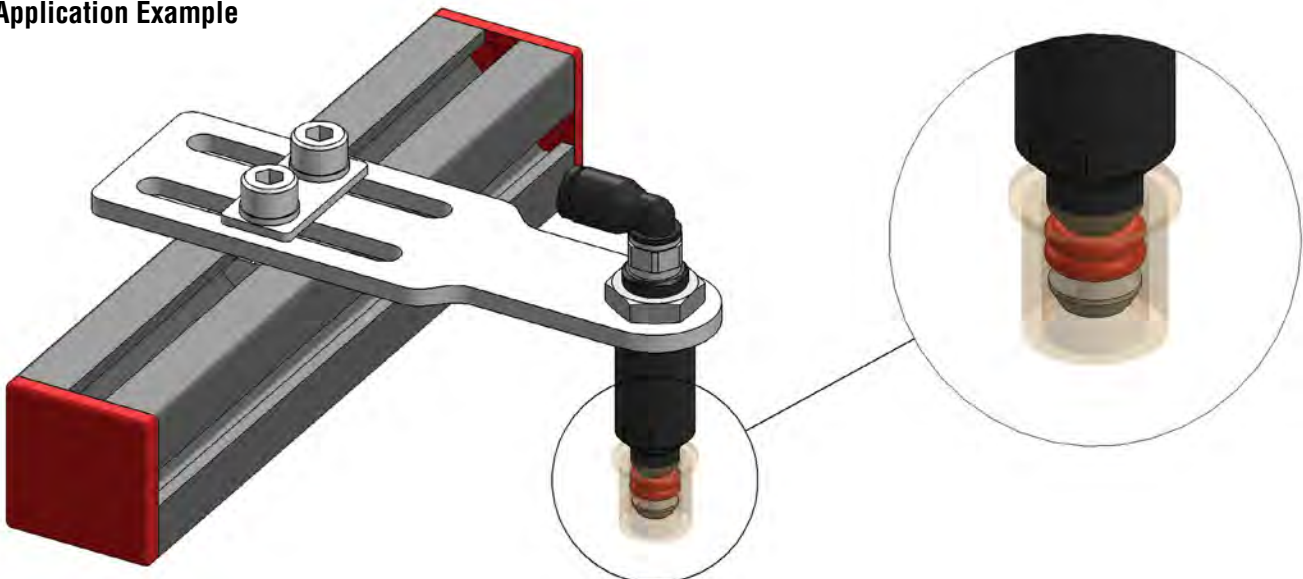
### How-To install replacement ring:

While securing the bottom screw with a screw driver, remove the screw. Install the replacement rings and top screw.

[Click here for How-To Video.](#)



### Application Example



# Expansion Grippers

(Dimensioned drawings shown full scale)

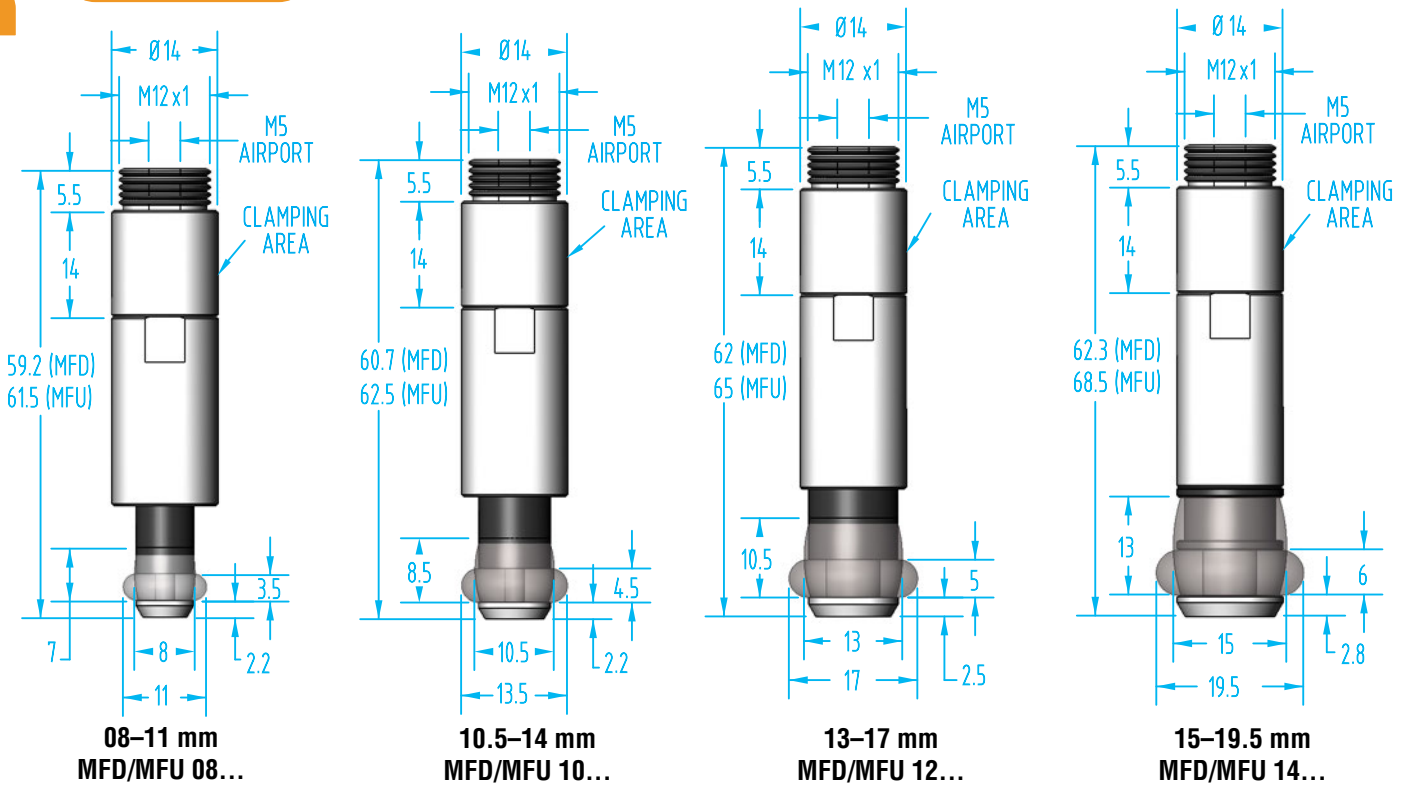
Gimatic's Expansion Grippers rely on compressing an elastic expander rather than inflating a bladder. Gimatic's patented Expansion Grippers have better durability and uptime because leaks and blow outs are eliminated.

- The elastic part can be in Silicone or EPDM.
- Grip diameters from 8 to 85mm.
- Optional nose cones for centering.
- Optional Gimatic SN.. sensors.
- Use standard Ø14, 20, 30mm clamps for mounting.
- Optional mounting adaptors for thread mounting on page 577.



**MFD** – The MFD has a **downward** motion that compresses the expander. The OAL is unchanged.

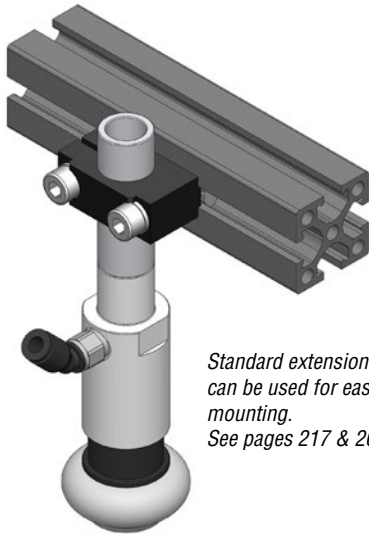
**MFU** – The MFU has an **upward** motion that compresses the expander. The OAL is reduced.



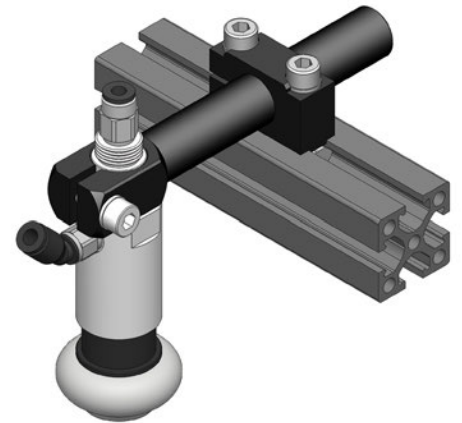
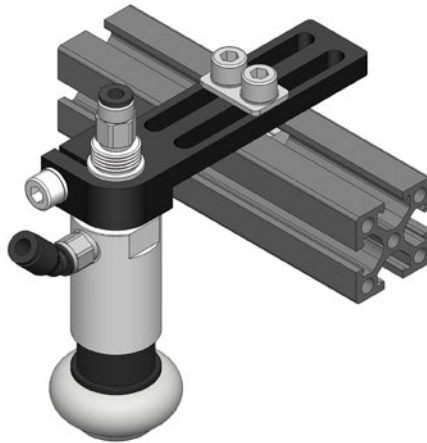
**Expansion Grippers**

(Dimensioned drawings shown full scale)

**Mounting Examples**

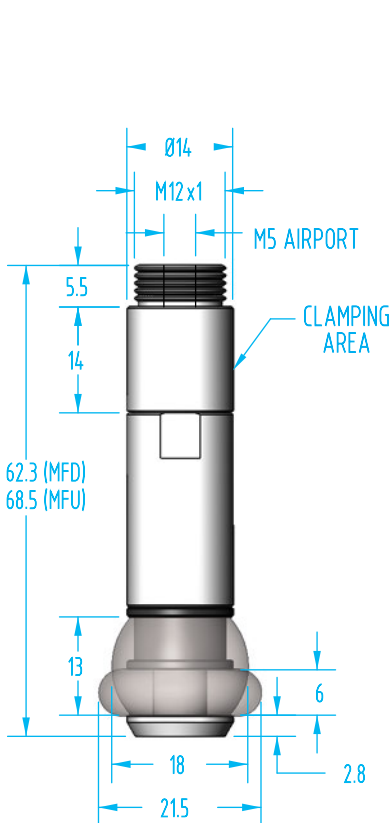


Standard extensions can be used for easy mounting. See pages 217 & 262.

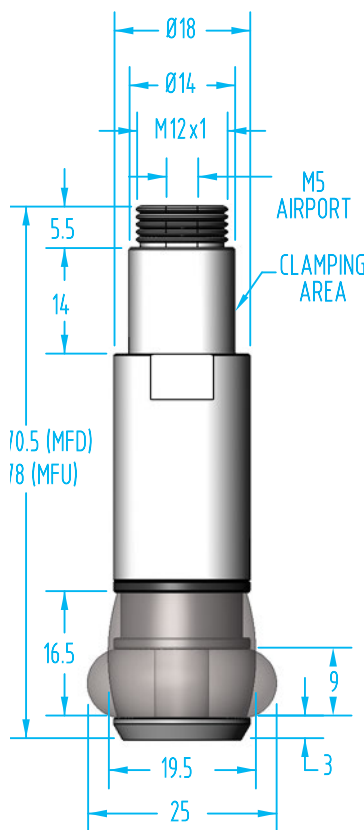


Standard Ø14mm, 20mm, and 30mm clamps can be used for easy mounting. See clamps starting on page 246.

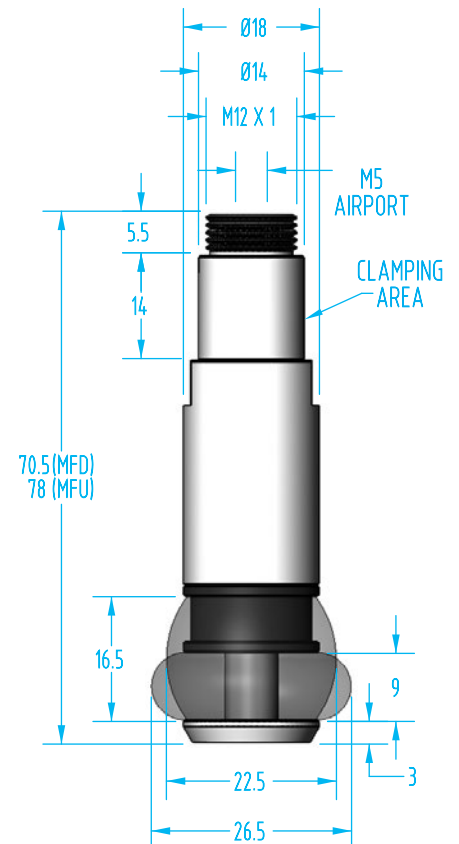
See page 572 for pricing.



**18-21.5 mm  
MFD/MFU 16...**



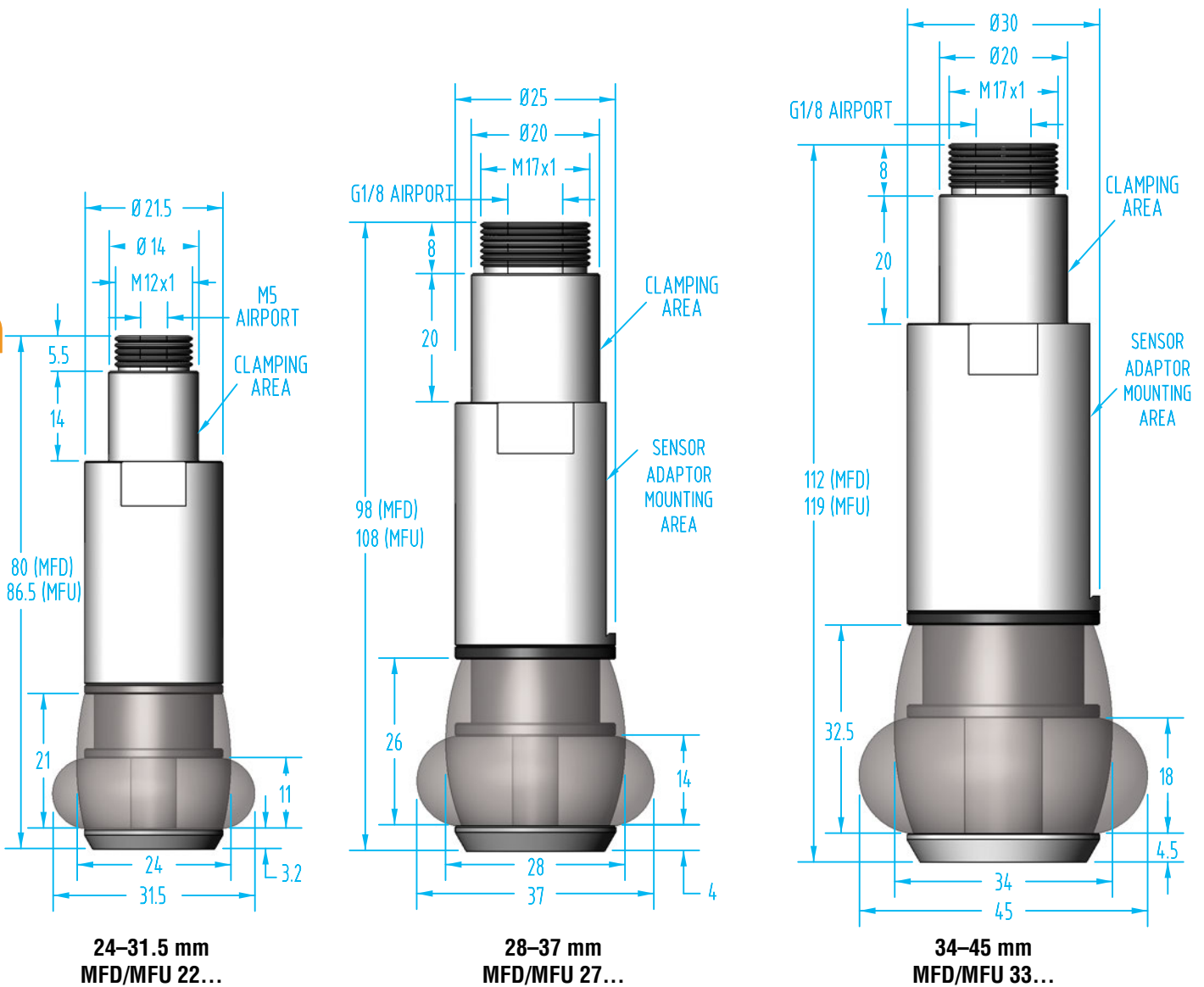
**19.5-24.5 mm  
MFD/MFU 18...**



**22.5-26.5 mm  
MFD/MFU 20...**

# Expansion Grippers

(Dimensioned drawings shown full scale)



**Expansion Grippers**

(Dimensioned drawings shown full scale)

**Silicone or EPDM?**



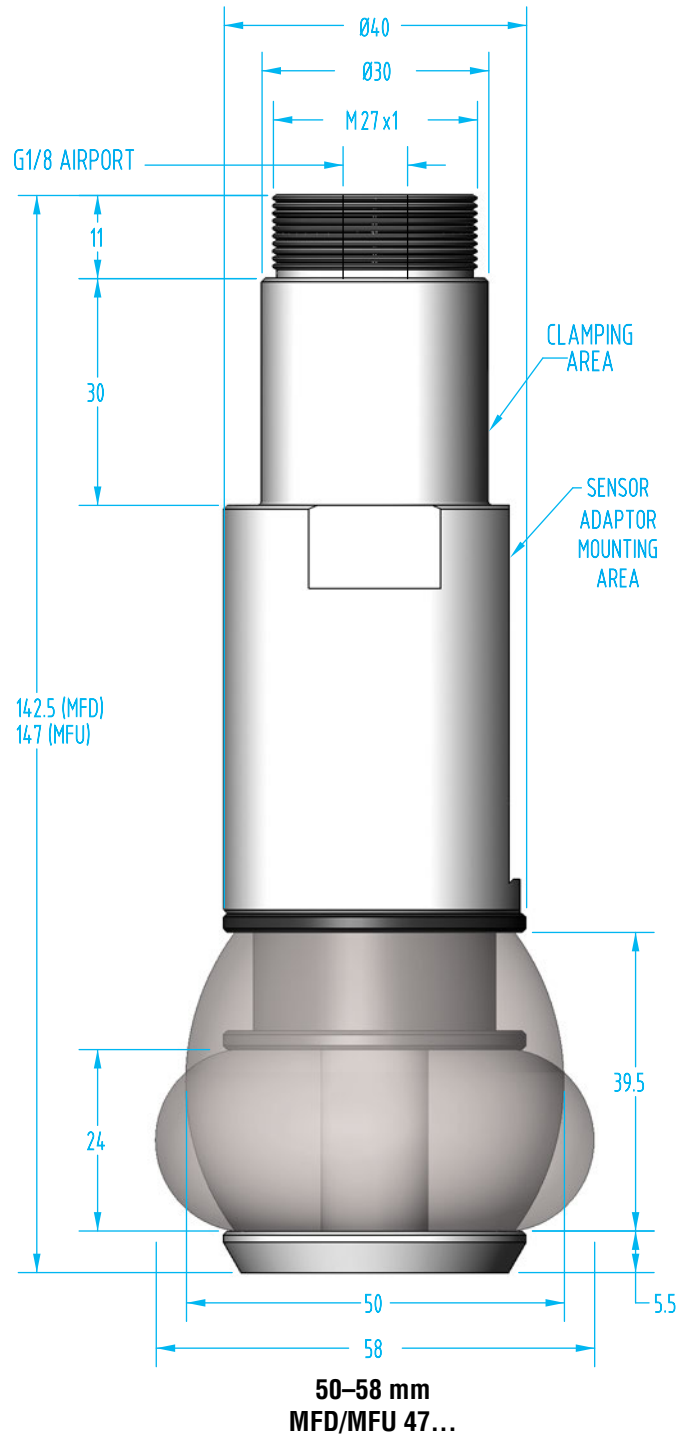
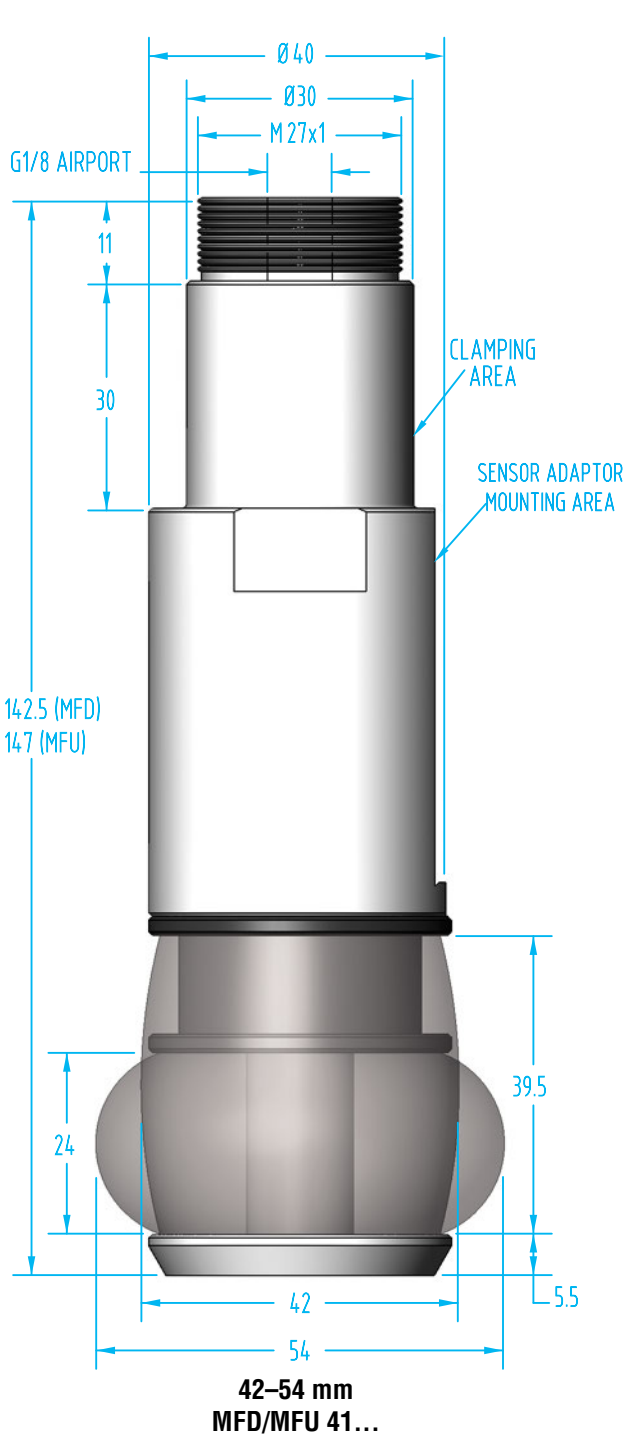
Silicone is non-marking, has a wider temperature range, and longer life span. Max. temperature is 392° F. Silicone is not suitable in some industries, because it makes it difficult to paint or to coat the parts that are touched.

The expected medium life time of the elastic part in Silicone is about 1 million cycles.

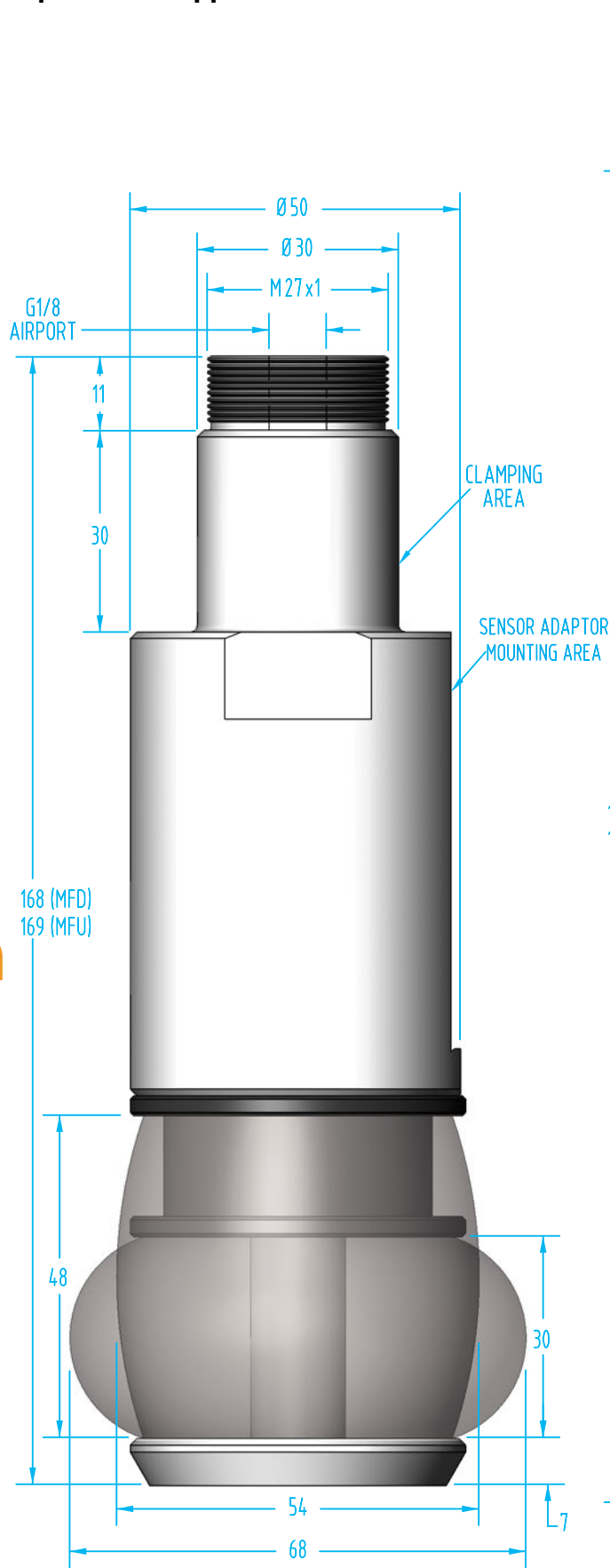


EPDM is non-marking and provides more friction for a stronger grip. Maximum temperature is 284° F.

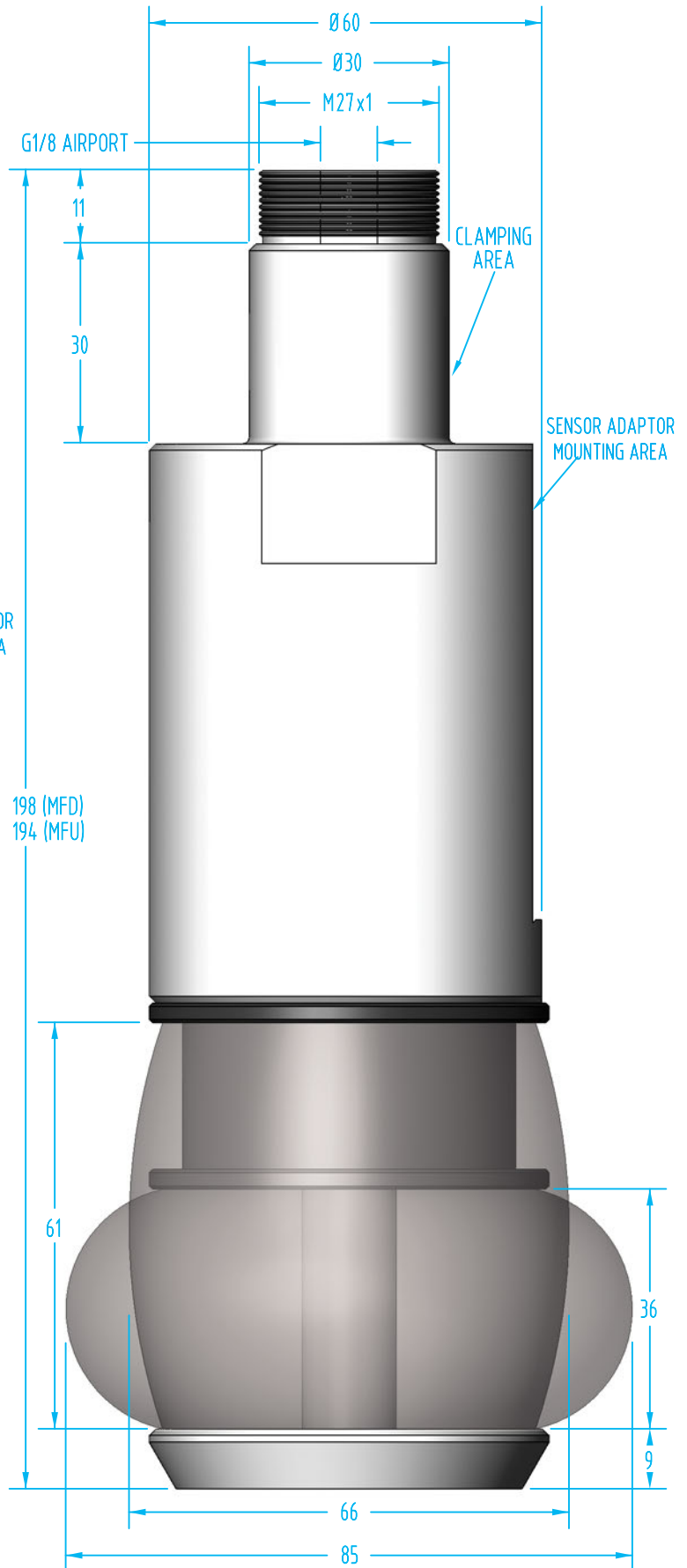
The expected medium life time of the elastic part in EPDM is about 0.5 million cycles.



# Expansion Grippers



**54-68 mm  
MFD/MFU 51...**



**66-85 mm  
MFD/MFU 63...**

# Expansion Grippers

## Gripping Force

The force output of an MF gripper depends on several variables—the diameter of the picked object, the surface finishing, friction, and air pressure.

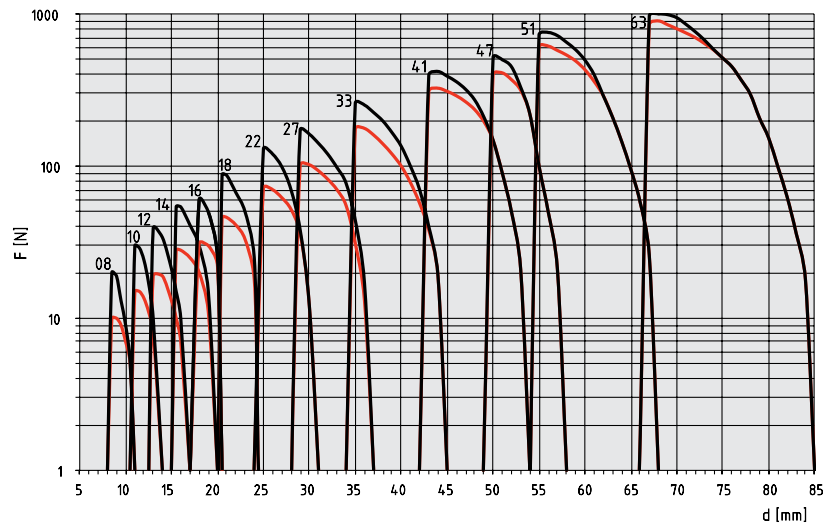
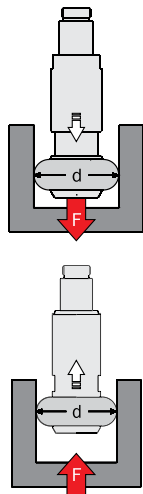
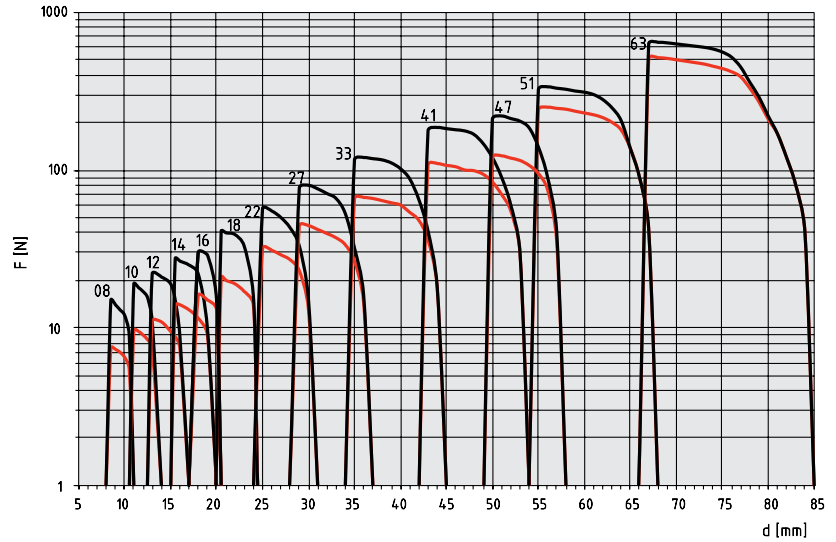
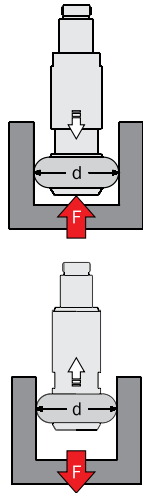
The graphs show the extraction force (F) on the gripped object as a function of its diameter (d).

Aluminum rings, with roughness Ra=0.8, have been used

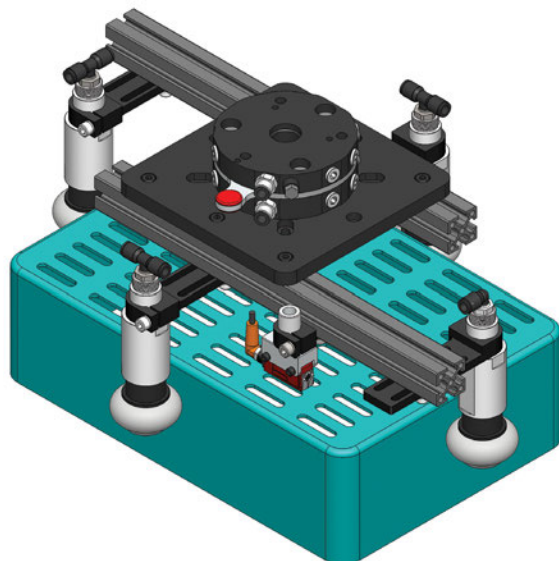
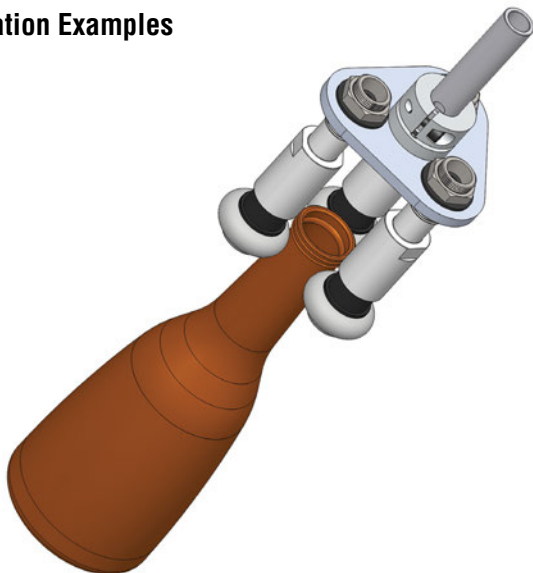
for the measurements and the grippers supplied with 87 psi compressed air.

EPDM —————  
Silicone —————

**Reference:**  
Force: N x 0.225 = lbf  
Pressure: bar x 14.5 = psi



## Application Examples





## MFD / MFU Standard Models

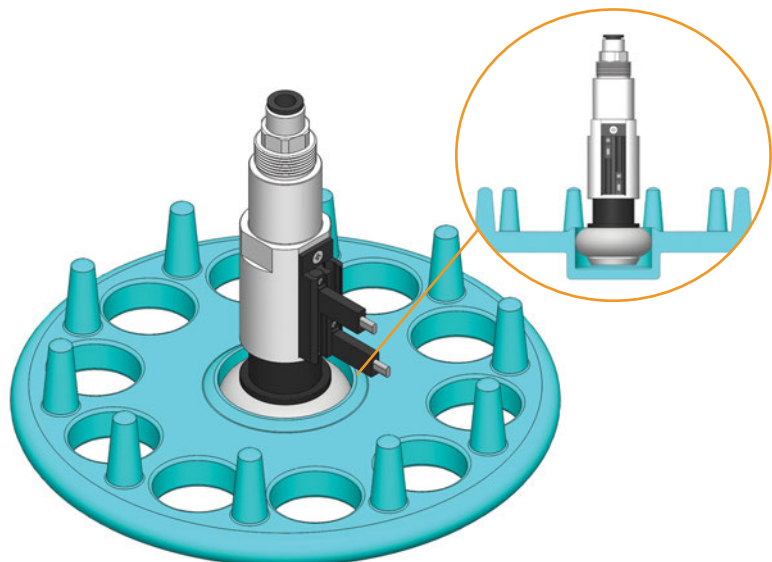
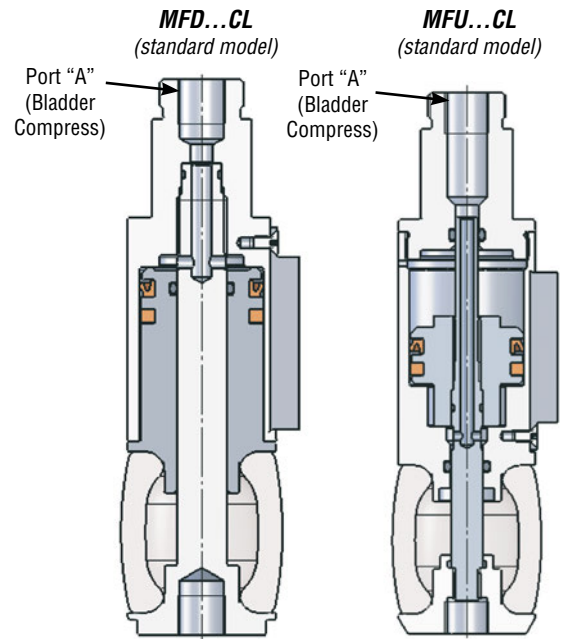
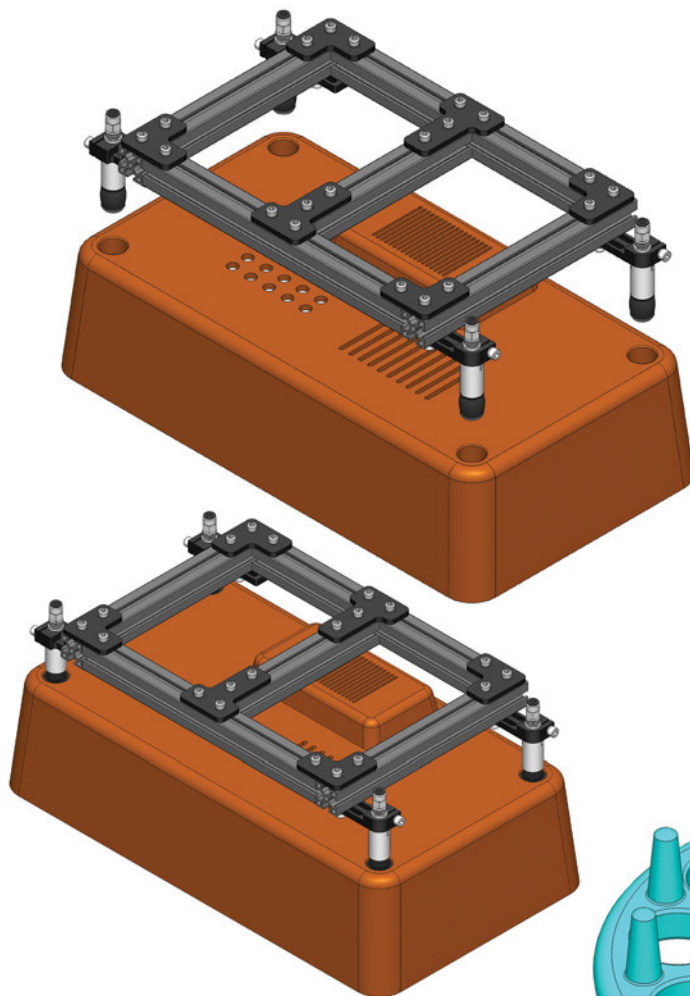
Part#	Quick#	Price	Material	Max Temp	Port "A"	Action	Min. Ø	Max. Ø	Weight	PSI Range
MFD08E02CL	6875	\$105.00	EPDM	284°F	M5	Down	8mm	11mm	15g	58-116psi
MFD08S01CL	6876	\$107.00	Silicone	392°F		Up			16g	
MFU08E02CL	6831	\$174.00	EPDM	284°F					Down	
MFU08S01CL	6832	\$175.00	Silicone	392°F		17g				
MFD10E02CL	6879	\$105.00	EPDM	284°F	M5	Down	10.5mm	13.5mm	16g	58-116psi
MFD10S01CL	6880	\$107.00	Silicone	392°F		Up			17g	
MFU10E02CL	6835	\$174.00	EPDM	284°F					Down	
MFU10S01CL	6836	\$175.00	Silicone	392°F		18g				
MFD12E02CL	6883	\$99.00	EPDM	284°F	M5	Down	13mm	17mm	17g	58-116psi
MFD12S01CL	6884	\$100.00	Silicone	392°F		Up			18g	
MFU12E02CL	6839	\$170.00	EPDM	284°F					Down	
MFU12S01CL	6840	\$171.00	Silicone	392°F		17g				
MFD14E02CL	6887	\$99.00	EPDM	284°F	M5	Down	15mm	19.5mm	17g	58-116psi
MFD14S01CL	6888	\$100.00	Silicone	392°F		Up			18g	
MFU14E02CL	6843	\$171.00	EPDM	284°F					Down	
MFU14S01CL	6844	\$172.00	Silicone	392°F		17g				
MFD16E02CL	7221	\$126.00	EPDM	284°F	M5	Down	18mm	21.5mm	17g	58-116psi
MFD16S01CL	7222	\$127.00	Silicone	392°F		Up			20g	
MFU16E02CL	7229	\$177.00	EPDM	284°F					Down	
MFU16S01CL	7230	\$178.00	Silicone	392°F		28g				
MFD18E02CL	6891	\$128.00	EPDM	284°F	M5	Down	19.5mm	24.5mm	28g	58-116psi
MFD18S01CL	6892	\$129.00	Silicone	392°F		Up			35g	
MFU18E02CL	6847	\$181.00	EPDM	284°F					Down	
MFU18S01CL	6848	\$182.00	Silicone	392°F		29g				
MFD20E02CL	7409	\$124.00	EPDM	284°F	M5	Down	22.5	26.5	29g	58-116psi
MFD20S01CL	7410	\$125.00	Silicone	392°F		Up			35g	
MFU20E02CL	7413	\$175.00	EPDM	284°F					Down	
MFU20S01CL	7414	\$176.00	Silicone	392°F		43g				
MFD22E02CL	6895	\$130.00	EPDM	284°F	M5	Down	24mm	31.5mm	43g	58-116psi
MFD22S01CL	6896	\$132.00	Silicone	392°F		Up			50g	
MFU22E02CL	6851	\$197.00	EPDM	284°F					Down	
MFU22S01CL	6852	\$198.00	Silicone	392°F		79g				
MFD27E02CL	6899	\$134.00	EPDM	284°F	G1/8"	Down	28mm	37mm	79g	58-116psi
MFD27S01CL	6900	\$135.00	Silicone	392°F		Up			100g	
MFU27E02CL	6855	\$217.00	EPDM	284°F					Down	
MFU27S01CL	6856	\$219.00	Silicone	392°F		118g				
MFD33E02CL	6903	\$154.00	EPDM	284°F	G1/8"	Down	34mm	45mm	118g	58-116psi
MFD33S01CL	6904	\$155.00	Silicone	392°F		Up			130g	
MFU33E02CL	6859	\$228.00	EPDM	284°F					Down	
MFU33S01CL	6860	\$231.00	Silicone	392°F		280g				
MFD41E02CL	6907	\$184.00	EPDM	284°F	G1/8"	Down	42mm	54mm	280g	58-116psi
MFD41S01CL	6908	\$189.00	Silicone	392°F		Up			300g	
MFU41E02CL	6863	\$252.00	EPDM	284°F					Down	
MFU41S01CL	6864	\$256.00	Silicone	392°F		300g				

Use Quick#s for easy online ordering.

**MFD / MFU Standard Models**

Part#	Quick#	Price	Material	Max Temp	Port "A"	Action	Min. Ø	Max. Ø	Weight	PSI Range		
MFD47E02CL	7225	\$210.00	EPDM	284°F	G1/8"	Down	50mm	58mm	280g	58-116psi		
MFD47S01CL	7226	\$216.00	Silicone	392°F					Up		300g	
MFU47E02CL	7233	\$262.00	EPDM	284°F		Down					54mm	68mm
MFU47S01CL	7234	\$265.00	Silicone	392°F					Up			
MFD51E02CL	6911	\$231.00	EPDM	284°F	G1/8"	Down	66mm	85mm		800g		
MFD51S01CL	6912	\$240.00	Silicone	392°F					Up	785g		
MFU51E02CL	6867	\$274.00	EPDM	284°F		Down				66mm	85mm	800g
MFU51S01CL	6868	\$283.00	Silicone	392°F					Up			785g
MFD63E02CL	6915	\$308.00	EPDM	284°F	G1/8"	Down	66mm	85mm				800g
MFD63S01CL	6916	\$293.00	Silicone	392°F					Up			785g
MFU63E02CL	6871	\$314.00	EPDM	284°F		Down				66mm	85mm	800g
MFU63S01CL	6872	\$324.00	Silicone	392°F					Up			785g

**Application Examples: (Standard, Top-Ported MFD...CL's)**



## MFD / MFU Leak Test Models

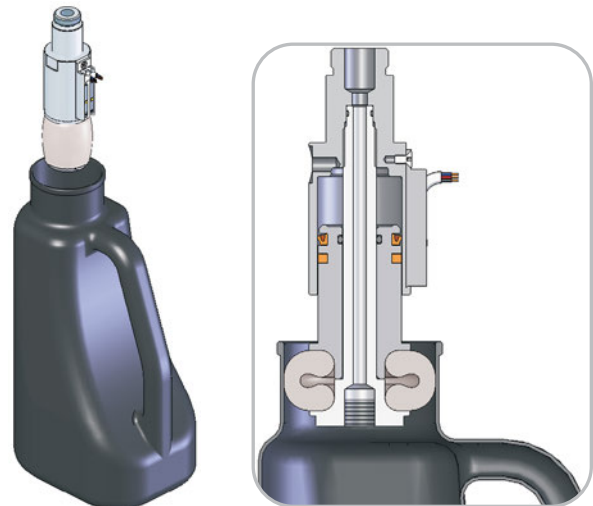
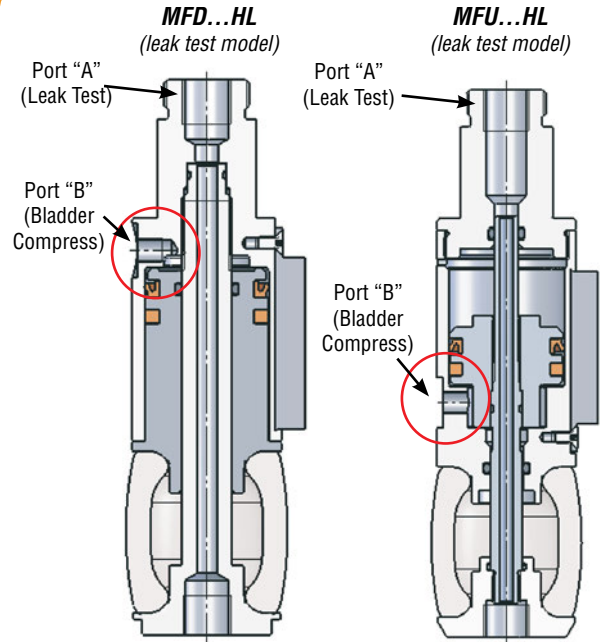
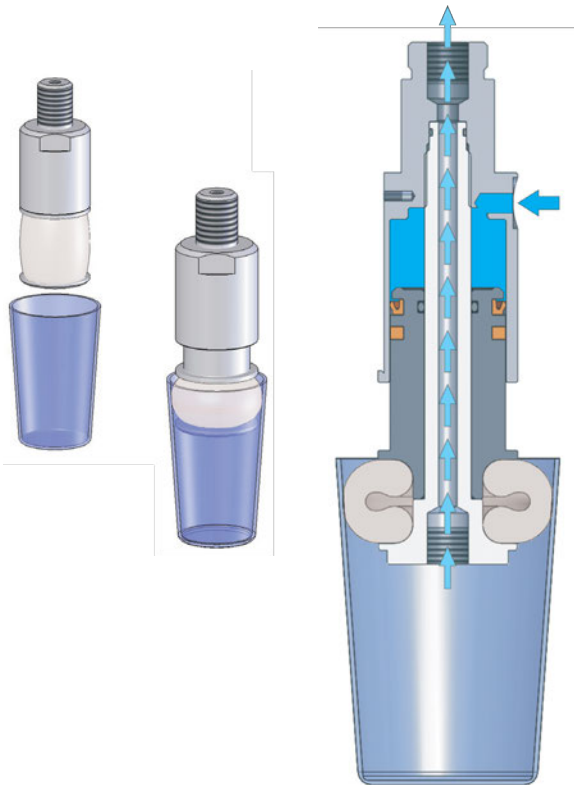
Part#	Quick#	Price	Material	Max. Temp.	Port "A"	Port "B"	Action	Min. Ø	Max. Ø	Wt	PSI Range				
MFD08E02HL	6877	\$119.00	EPDM	284°F	M5	M3	Down	8mm	11mm	15g	58-116psi				
MFD08S01HL	6878	\$125.00	Silicone	392°F			Up			16g					
MFU08E02HL	6833	\$180.00	EPDM	284°F			M5			M3		Down	10.5mm	13.5mm	16g
MFU08S01HL	6834	\$181.00	Silicone	392°F								Up			17g
MFD10E02HL	6881	\$125.00	EPDM	284°F	M5	M3	Down	13mm	17mm	17g	58-116psi				
MFD10S01HL	6882	\$125.00	Silicone	392°F			Up			18g					
MFU10E02HL	6837	\$180.00	EPDM	284°F			M5			M3		Down	15mm	19.5mm	17g
MFU10S01HL	6838	\$181.00	Silicone	392°F								Up			20g
MFD12E02HL	6885	\$125.00	EPDM	284°F	M5	M3	Down	18mm	21.5mm	17g	58-116psi				
MFD12S01HL	6886	\$119.00	Silicone	392°F			Up			20g					
MFU12E02HL	6841	\$172.00	EPDM	284°F			M5			M3		Down	19.5mm	24.5mm	28g
MFU12S01HL	6842	\$174.00	Silicone	392°F								Up			35g
MFD14E02HL	6889	\$119.00	EPDM	284°F	M5	M3	Down	22.5	26.5	17g	58-116psi				
MFD14S01HL	6890	\$120.00	Silicone	392°F			Up			20g					
MFU14E02HL	6845	\$175.00	EPDM	284°F			M5			M3		Down	24mm	31.5mm	28g
MFU14S01HL	6846	\$176.00	Silicone	392°F								Up			35g
MFD16E02HL	7223	\$131.00	EPDM	284°F	M5	M3	Down	28mm	37mm	17g	58-116psi				
MFD16S01HL	7224	\$133.00	Silicone	392°F			Up			20g					
MFU16E02HL	7231	\$179.00	EPDM	284°F			M5			M3		Down	34mm	45mm	28g
MFU16S01HL	7232	\$180.00	Silicone	392°F								Up			35g
MFD18E02HL	6893	\$122.00	EPDM	284°F	M5	M5	Down	42mm	54mm	28g	58-116psi				
MFD18S01HL	6894	\$133.00	Silicone	392°F			Up			35g					
MFU18E02HL	6849	\$185.00	EPDM	284°F			M5			M5		Down	22.5	26.5	28g
MFU18S01HL	6850	\$186.00	Silicone	392°F								Up			35g
MFD20E02HL	7411	\$128.00	EPDM	284°F	M5	M5	Down	24mm	31.5mm	28g	58-116psi				
MFD20S01HL	7412	\$130.00	Silicone	392°F			Up			35g					
MFU20E02HL	7415	\$179.00	EPDM	284°F			M5			M5		Down	28mm	37mm	43g
MFU20S01HL	7416	\$180.00	Silicone	392°F								Up			50g
MFD22E02HL	6897	\$134.00	EPDM	284°F	M5	M5	Down	34mm	45mm	43g	58-116psi				
MFD22S01HL	6898	\$135.00	Silicone	392°F			Up			50g					
MFU22E02HL	6853	\$208.00	EPDM	284°F			M5			M5		Down	28mm	37mm	79g
MFU22S01HL	6854	\$210.00	Silicone	392°F								Up			100g
MFD27E02HL	6901	\$137.00	EPDM	284°F	G1/8"	M5	Down	42mm	54mm	79g	58-116psi				
MFD27S01HL	6902	\$139.00	Silicone	392°F			Up			100g					
MFU27E02HL	6857	\$219.00	EPDM	284°F			G1/8"			M5		Down	34mm	45mm	118g
MFU27S01HL	6858	\$219.00	Silicone	392°F								Up			130g
MFD33E02HL	6905	\$140.00	EPDM	284°F	G1/8"	M5	Down	42mm	54mm	118g	58-116psi				
MFD33S01HL	6906	\$156.00	Silicone	392°F			Up			130g					
MFU33E02HL	6861	\$239.00	EPDM	284°F			G1/8"			M5		Down	28mm	37mm	280g
MFU33S01HL	6862	\$235.00	Silicone	392°F								Up			300g
MFD41E02HL	6909	\$158.00	EPDM	284°F	G1/8"	M5	Down	42mm	54mm	280g	58-116psi				
MFD41S01HL	6910	\$200.00	Silicone	392°F			Up			300g					
MFU41E02HL	6865	\$256.00	EPDM	284°F			G1/8"			M5		Down	42mm	54mm	280g
MFU41S01HL	6866	\$259.00	Silicone	392°F								Up			300g

**MFD / MFU Leak Test Models**

Part#	Quick#	Price	Material	Max. Temp.	Port "A"	Port "B"	Action	Min. Ø	Max. Ø	Wt	PSI Range
MFD47E02HL	7227	\$223.00	EPDM	284°F	G1/8"	M5	Down	50mm	58mm	280g	58-116psi
MFD47S01HL	7228	\$229.00	Silicone	392°F							
MFU47E02HL	7235	\$268.00	EPDM	284°F			Up				
MFU47S01HL	7236	\$271.00	Silicone	392°F							
MFD51E02HL	6913	\$205.00	EPDM	284°F	G1/8"	G1/8"	Down	54mm	68mm	480g	58-116psi
MFD51S01HL	6914	\$242.00	Silicone	392°F							
MFU51E02HL	6869	\$282.00	EPDM	284°F			Up				
MFU51S01HL	6870	\$289.00	Silicone	392°F							
MFD63E02HL	6917	\$252.00	EPDM	284°F	G1/8"	G1/8"	Down	66mm	85mm	800g	58-116psi
MFD63S01HL	6918	\$285.00	Silicone	392°F							
MFU63E02HL	6873	\$318.00	EPDM	284°F			Up				
MFU63S01HL	6874	\$329.00	Silicone	392°F							

**Application Examples: HL Model with Through hole**

The ...HL models have a central thru-hole. It can be used to blow compressed air, or provide vacuum, with the purpose to cool a part, or check the sealing.



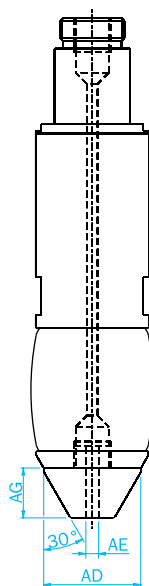
## Expansion Gripper Nose Cones & Sensors

### Centering Cones

Centering cones in nylon with a stainless screw are available as an option. For sizes larger than 33, they are also provided with a thru-hole.

#### Nose Cone Dimensions

Quick#	Part#	Wt.	ØAD	ØAE	AG	MFD MFU	Price
6929	MFC10	0.5g	7.8	-	2.9	Ø10	\$2.61
6930	MFC12	1g	10	-	3.5	Ø12	\$2.61
6931	MFC14	1g	11.8	-	4.5	Ø14 / Ø16	\$2.61
6932	MFC18	1.5g	15.5	-	6.5	Ø18/ Ø20	\$2.61
6933	MFC22	2g	18.8	-	8	Ø22	\$3.26
6934	MFC27	5g	21.3	-	9.5	Ø27	\$3.26
6935	MFC33	7g	28	4	12	Ø33	\$3.91
6936	MFC41	12g	37	4	19	Ø41 / Ø47	\$4.57
6937	MFC51	21g	47	4	26	Ø51	\$5.21
6938	MFC63	30g	56	4	30	Ø63	\$5.21



### Sensors for Expansion Grippers

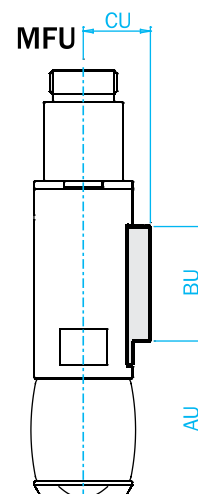
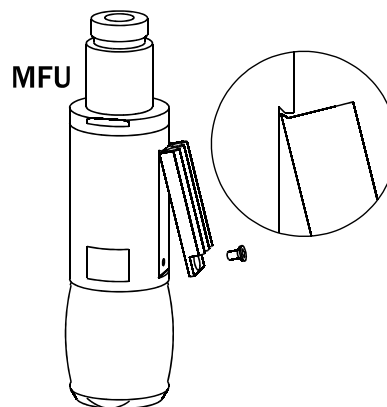
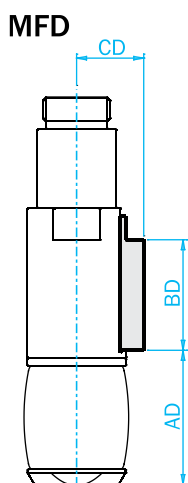
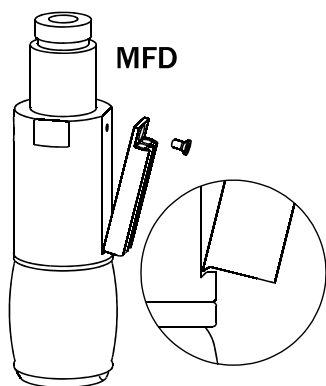
Expansion Grippers size 27 and larger may be equipped with sensors in order to detect position of magnet which is integrated into the piston. Expansion Grippers size 22 and smaller may not be equipped with sensors because the pistons do not have integrated magnets. An optional housing for SN series sensors is available. One or two sensors can be fitted on a gripper.

Quick#	Part#	Type	Connection	Price
6278	SN4N225G	PNP	with lead, 2.5m long	\$27.20
6357	SN4M225G	NPN	with lead, 2.5m long	\$27.20
6277	SN3N203G	PNP	with M8 Connector, 0.3m long	\$31.16
6356	SN3M203G	NPN	with M8 Connector, 0.3m long	\$31.16

See Sensor Reference Guide on page 1009 for full list of compatible sensors.



### Sensor Brackets



Quick#	Part#	Wt.	AD	BD	CD	MFD	Price
6919	MFD27K	4g	34	28	17	Ø27	\$16.94
6920	MFD33K	5g	41.5	34.5	19.7	Ø33	\$18.24
6921	MFD41K	5g	52	40.5	23.8	Ø41 / Ø47	\$15.64
6922	MFD51K	6g	65	49	28.5	Ø51	\$15.64
6923	MFD63K	7g	85.5	54.5	33.5	Ø63	\$16.94

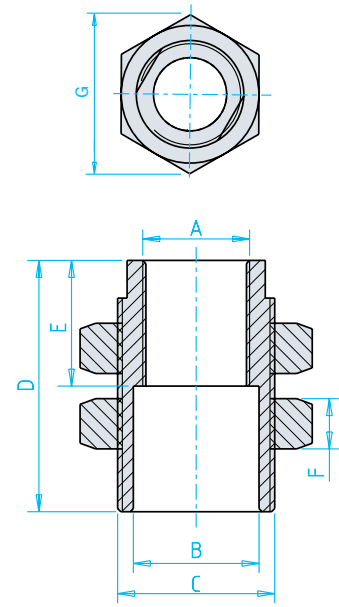
Quick#	Part#	Wt.	AU	BU	CU	MFU	Price
6924	MFU27K	4g	39.5	29	17	Ø27	\$15.64
6925	MFU33K	5g	46.5	33	19.7	Ø33	\$15.64
6926	MFU41K	5g	55.5	36.5	23.8	Ø41 / Ø47	\$15.64
6927	MFU51K	6g	71.5	39	28.5	Ø51	\$15.64
6928	MFU63K	7g	87.5	45	33.5	Ø63	\$15.64

## Replacement Expander

### Maintenance

No periodic maintenance is necessary. The expander can be replaced when worn. The expected medium life time of the EPDM expander is about 500,000 cycles while silicone is about 1 million cycles.

The expander can be cut (direction showed in the photo) to remove it from the gripper body. It is not necessary to dismantle the gripper to mount the new expander. It must not be glued nor greased.



Quick #	Part #	Size	Material	Price
5377	IF08E02	8mm	EPDM	\$6.55
5378	IF08S01	8mm	Silicone	\$7.80
5379	IF10E02	10mm	EPDM	\$6.55
5380	IF10S01	10mm	Silicone	\$7.80
5381	IF12E02	12mm	EPDM	\$9.15
5382	IF12S01	12mm	Silicone	\$10.40
5383	IF14E02	14mm	EPDM	\$9.15
5384	IF14S01	14mm	Silicone	\$10.40
7304	IF16E02	16mm	EPDM	\$13.00
7305	IF16S01	16mm	Silicone	\$13.00
5385	IF18E02	18mm	EPDM	\$11.75
5386	IF18S01	18mm	Silicone	\$13.00
7438	IF20E02	20mm	EPDM	\$12.07
7439	IF20S01	20mm	Silicone	\$13.29
5387	IF22E02	22mm	EPDM	\$13.00
5388	IF22S01	22mm	Silicone	\$14.35
5389	IF27E02	27mm	EPDM	\$14.35
5390	IF27S01	27mm	Silicone	\$15.60
5391	IF33E02	33mm	EPDM	\$15.60
5392	IF33S01	33mm	Silicone	\$16.95
5393	IF41E02	41mm	EPDM	\$19.55
5394	IF41S01	41mm	Silicone	\$22.15
7347	IF47E02	47mm	EPDM	\$21.39
7348	IF47S01	47mm	Silicone	\$23.29
5395	IF51E02	51mm	EPDM	\$24.75
5396	IF51S01	51mm	Silicone	\$26.10
5397	IF63E02	63mm	EPDM	\$29.95
5398	IF63S01	63mm	Silicone	\$31.30

### Mounting Adaptors

	AF12F16M	AF17F25M	AF27F33M
<b>Quick#</b>	<b>6983</b>	<b>6984</b>	<b>6985</b>
<b>A</b>	M12x1	M17x1	M27x1
<b>B</b>	Ø14	Ø20	Ø30
<b>C</b>	M16x1	M25x1.5	M33x1.5
<b>D</b>	25	40	45
<b>E</b>	11	20	15
<b>F</b>	5	8	6.4
<b>G</b>	21	37	47
<b>Weight</b>	25g	130g	140g
<b>Price</b>	\$20.05	\$28.82	\$53.88
<b>Fits Grippers</b>	MFD/MFU08... - MFD/MFU22...	MFD/MFU27... - MFD/MFU33...	MFD/MFU41... - MFD/MFU63...

# ID Gripping Air Hands



## ID Gripping Air Hands

Quick#	Part#	Price	Material	Part Range ØID	ØA (Deflated)	Maximum Restricted Pressure	Maximum Unrestricted Pressure	Wt.
1300	GSG-IAH-10N	\$422.00	Neoprene (up to 165°F)	8.5-10	8	55psi	25psi	8g
1301	GSG-IAH-12N	\$398.00		10-12	9.5			12g
1302	GSG-IAH-17N	\$384.00		12-17	11			17g
1303	GSG-IAH-21N	\$149.00		16-21	14			28g
1304	GSG-IAH-27N	\$198.00		21-27	19	70psi	35psi	60g
1305	GSG-IAH-32N	\$213.00		24-32	22			85g
1306	GSG-IAH-36N	\$220.00		28-36	25			105g
1307	GSG-IAH-44N	\$240.00		30-44	27			160g
1308	GSG-IAH-52N	\$272.00		32-52	29			245g
1309	GSG-IAH-65N	\$542.00		45-65	41			180g
1310	GSG-IAH-85N	\$610.00		58-85	51			370g
1311	GSG-IAH-105N	\$813.00	70-105	63	610g			
1312	GSG-IAH-25S†	\$276.00	Silicone (up to 320°F)	21-27†	19	25psi	15psi	60g
1313	GSG-IAH-30S	\$294.00		24-32	22			85g
1314	GSG-IAH-35S	\$369.00		28-36	25			105g
1315	GSG-IAH-40S	\$363.00		30-44	27			160g
1316	GSG-IAH-42S	\$1,271.00		32-52	29			245g
1318	GSG-IAH-58S	\$978.00		45-65	41			180g

Use Quick#s for easy online ordering.

- Smaller Air Hands are lightweight and can be used effectively in multi-cavity molds.
- Larger Air Hands, when used in multi-cavity molds, can significantly affect the overall EOAT weight.
- The amount of inflation and grip force can be adjusted as needed with the use of a pressure regulator (see page 1014).
- Choose silicone when high-temperature and non-marking is most important, Neoprene when part temperature is lower and long-life is most important.
- Dimensional drawings online.

### Neoprene Protection Sleeves for ID Grippers

Quick#	Part#	Price	Use with:
1923	GSG-IAH-27NS†	\$48.50	#1304 IAH-27N
1924	GSG-IAH-32NS	\$49.00	#1305 IAH-32N
1925	GSG-IAH-36NS	\$49.00	#1306 IAH-36N
1926	GSG-IAH-44NS	\$49.25	#1307 IAH-44N
1927	GSG-IAH-52NS	\$69.50	#1308 IAH-52N
1928	GSG-IAH-65NS	\$86.00	#1309 IAH-65N
1929	GSG-IAH-85NS	\$121.00	#1310 IAH-85N
1930	GSG-IAH-105NS	\$158.00	#1311 IAH-105N

### Nose Cones for ID Grippers

Quick#	Part#	Price	Use with:
5261	GSG-IAH-P010NC	\$41.50	#1303 IAH-21N
5262	GSG-IAH-P014NC	\$50.50	#1304, #1312 IAH-27N, IAH-25S
5263	GSG-IAH-P017NC	\$55.50	#1305, #1313 IAH-32N, IAH-30S
5264	GSG-IAH-P019NC	\$64.50	#1306, #1314 IAH-36N, IAH-35S
5265	GSG-IAH-P022NC	\$33.02	#1307, #1315 IAH-44N, IAH-40S
5267	GSG-IAH-P035NC	\$29.56	#1309, #1318 IAH-65N, IAH-58S
5268	GSG-IAH-P045NC	\$35.88	#1310 IAH-85N
5269	GSG-IAH-P055NC	\$34.44	#1311 IAH-105N

Shown with Sleeve + Nose Cone



Shown with Nose Cone only



## OD Gripping Air Hands

- The amount of inflation and grip force can be adjusted as needed with the use of a pressure regulator (see page 1014).
- Choose silicone when high-temperature and non-marking is most important, Neoprene when part temperature is lower and long-life is most important.
- Dimensional drawings online.



### OD Gripping Air Hands

Quick#	Part#	Price	Material	Part Range Ø ID	ØA (Deflated)	Maximum Restricted Pressure	Maximum Unrestricted Pressure	Wt.
1319	GSG-OAH-15N	\$552.00	Neoprene (up to 165°F)	5-15	19	20psi	10psi	60g
1320	GSG-OAH-25N	\$629.00		10-25	27			145g
1321	GSG-OAH-35N	\$783.00		15-35	37			210g
1322	GSG-OAH-45N	\$878.00		20-45	48			285g
1323	GSG-OAH-15S	\$848.00	Silicone (up to 320°F)	5-15	19	15psi	7.5psi	60g
1324	GSG-OAH-25S	\$926.00		10-25	27			145g
1325	GSG-OAH-35S	\$1,004.00		15-35	37			210g
1326	GSG-OAH-45S	\$1,330.00		20-45	48			285g

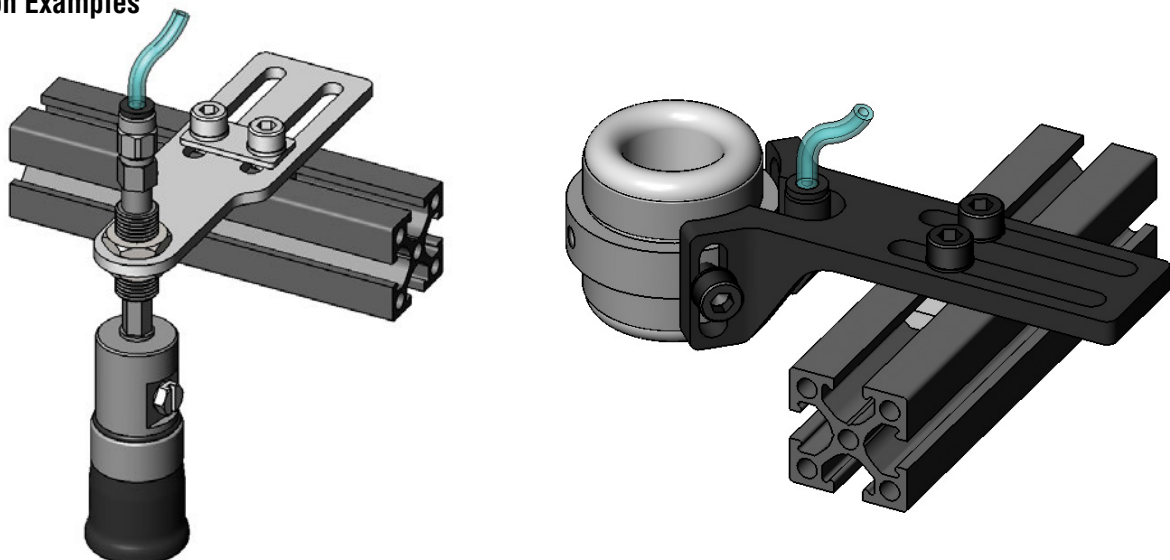
### Mounting Brackets for OD Air Hands

Quick#	Part#	Price	Use with	Wt.
1739*	GSC-OAH-15MB	\$39.45	OAH-15	31g
1740*	GSC-OAH-25MB	\$39.45	OAH-25	46g
1741	GSC-OAH-35MB	\$39.87	OAH-35	57g
1742	GSC-OAH-45MB	\$44.75	OAH-45	69g



Order profile mounting fasteners separately  
(2x) M5x10, slotted nut & washer, see page 1077.  
\*Use M5 slotted nut (Q#4951) to fasten brackets #1739 & #1740 to Gimatic & ASS profile on page 1078.

### Application Examples





## Lightweight ID Gripper – IGP-14

- IGP Grippers with EP Soft Touch Coating, slip resistant and silicone free. Working temp is 194°F with short term temp. resistance of 266°F.
- Twelve models available, all having a Ø14mm clampable stud.
- Extremely lightweight, and normally closed.
- Made utilizing selective laser sintering technology.
- Use D-M9.. sensors to detect closed position only. (D-M9.. sensors properly fasten to detect closed position only.)
- Use programmable sensor Q# 3809 for detection of 2 positions.
- ID grip diameter from 8 to 27mm. EP coated grip diameter from 10 to 29mm.
- Low cost alternative to air hands, tested to last 2 million cycles.
- Maximum operating temperature 176°F.
- Positive / negative pressure filter is recommended, see page 1015.
- Maximum pressure 87psi (6bar).



### Lightweight ID Gripper

Quick#	Part#	Price	ID Grip Ø	Wt.	Payload
3630	IGP-14-8-12	\$60.90	8–12mm	14g	100g
3631	IGP-14-11-15	\$60.90	11–15mm	14g	100g
3632	IGP-14-14-18	\$60.90	14–18mm	15g	100g
3633	IGP-14-17-21	\$60.90	17–21mm	16g	100g
3634	IGP-14-20-24	\$60.90	20–24mm	16g	100g
3635	IGP-14-23-27	\$60.90	23–27mm	17g	100g

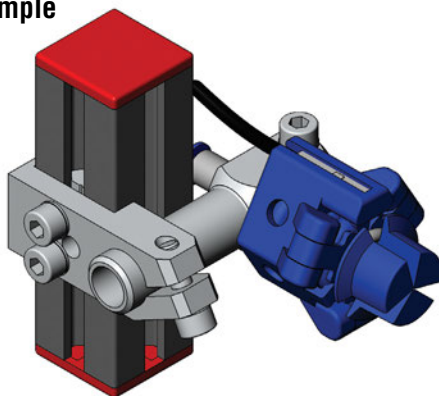
### Lightweight ID Gripper with Soft Touch Coating

Quick#	Part#	Price	ID Grip Ø	Wt.	Payload
3745	IGP-14-10-14-EP	\$145.95	10–14mm	14g	100g
3746	IGP-14-13-17-EP	\$145.95	13–17mm	14g	100g
3747	IGP-14-16-20-EP	\$145.95	16–20mm	15g	100g
3748	IGP-14-19-23-EP	\$145.95	19–23mm	16g	100g
3749	IGP-14-22-26-EP	\$145.95	22–26mm	16g	100g
3750	IGP-14-25-29-EP	\$145.95	25–29mm	17g	100g

### Replacement Spring (sold individually)

Quick#	Part#	Price	For
3826	MFZ-RZ-024BI	\$4.73	Size 14 IGP grippers

### Application Example



### Sensors Sold Separately - 3-Wire Sensors Detect Gripper Closed

Quick#	Part#	Price	ID Grip Ø	Wt.	Payload
5497	D-M9P-SAPC	\$42.06	PNP 0.5m long with M8 Connector		
5498	D-M9N-SAPC	\$42.06	NPN 0.5m long with M8 Connector		
5430	D-M9PL	\$33.70	PNP with lead, 3m long		
2412	D-M9NL	\$33.70	NPN with lead, 3m long		

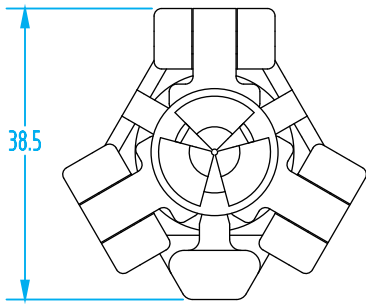
### 4-Wire Programmable Sensor for Detection of Two Positions

3809	MFS-T2-3-7	\$75.21	PNP, 0.5m long with M8 Connector		
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Use Quick#s for easy online ordering.

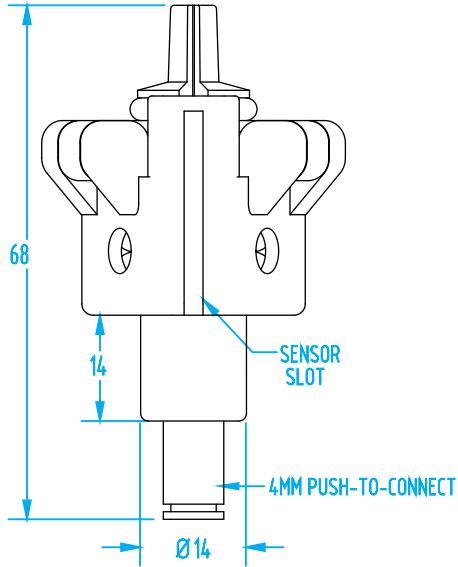
**Lightweight ID Gripper – IGP-14**

(Dimensioned drawings shown full scale)

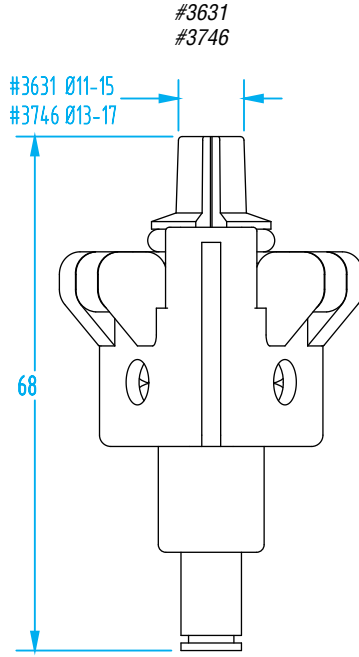


#3630  
#3745

#3630 Ø 8-12  
#3745 Ø 10-14

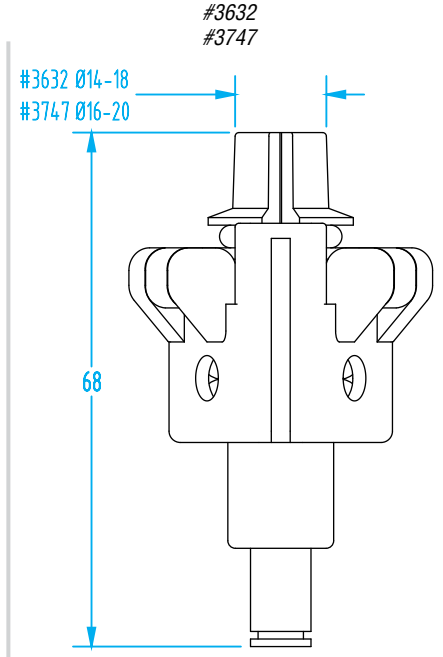


Use these dimensions for each of the Size 14 ID Grippers



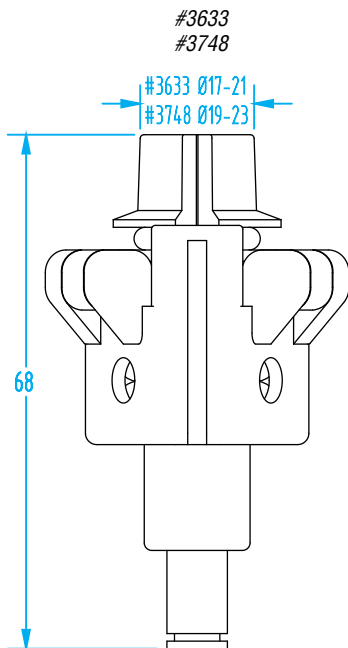
#3631  
#3746

#3631 Ø11-15  
#3746 Ø13-17



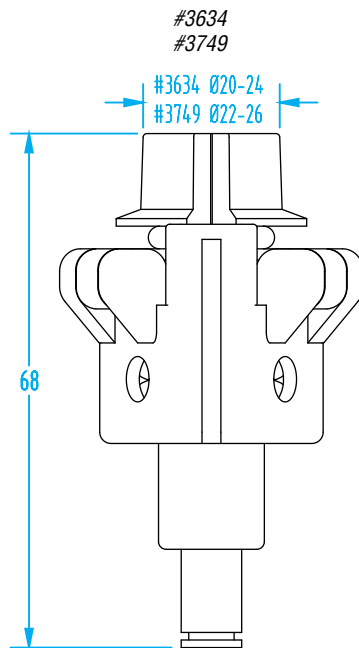
#3632  
#3747

#3632 Ø14-18  
#3747 Ø16-20



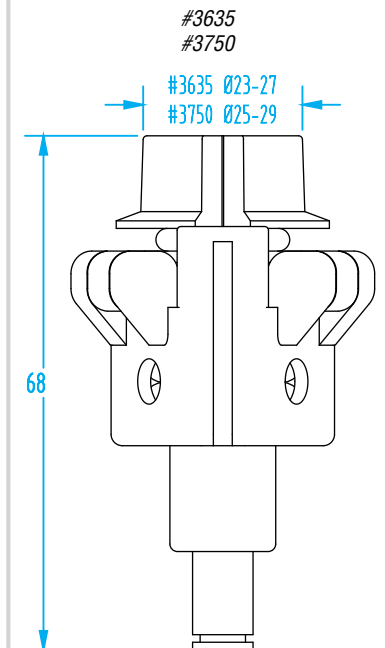
#3633  
#3748

#3633 Ø17-21  
#3748 Ø19-23



#3634  
#3749

#3634 Ø20-24  
#3749 Ø22-26



#3635  
#3750

#3635 Ø23-27  
#3750 Ø25-29

## Lightweight ID Gripper – IGP-20

- IGP Grippers with EP Soft Touch Coating, slip resistant and silicone free. Working temp is 194°F with short term temp. resistance of 266°F.
- Fourteen models available, all having a Ø20mm clampable stud.
- Extremely lightweight, and normally closed.
- Made utilizing selective laser sintering technology.
- Use D-M9.. sensors to detect closed position only. (D-M9.. sensors properly fasten to detect closed position only.)
- Use programmable sensor Q# 3809 for detection of 2 positions.
- ID grip diameter from 26 to 49mm. EP coated grip diameter from 28 to 50mm.
- Low cost alternative to air hands, tested to last 2 million cycles.
- Maximum operating temperature 176°F.
- Positive / negative pressure filter is recommended, see page 1015.
- Maximum pressure 87psi (6bar).



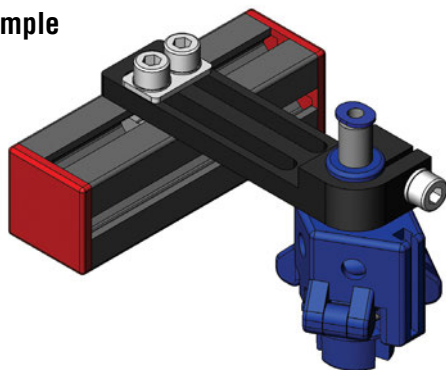
### Lightweight ID Gripper

Quick#	Part#	Price	ID Grip Ø	Wt.	Payload
3703	IGP-20-26-30	\$165.90	26–30mm	42g	100g
3704	IGP-20-29-33	\$165.90	29–33mm	43g	100g
3705	IGP-20-32-36	\$165.90	32–36mm	44g	100g
3706	IGP-20-35-39	\$165.90	35–39mm	46g	100g
3707	IGP-20-38-42	\$165.90	38–42mm	46g	100g
3708	IGP-20-41-45	\$165.90	41–45mm	50g	100g
3709	IGP-20-44-49	\$165.90	44–49mm	52g	100g

### Replacement Spring (sold individually)

Quick#	Part#	Price	For
3827	MFZ-RZ-042LI	\$5.00	Size 20 IGP grippers

### Application Example



### Lightweight ID Gripper with Soft Touch Coating

Quick#	Part#	Price	ID Grip Ø	Wt.	Payload
3751	IGP-20-28-32-EP	\$213.15	28–32mm	42g	100g
3752	IGP-20-31-35-EP	\$213.15	31–35mm	43g	100g
3753	IGP-20-34-38-EP	\$213.15	34–38mm	44g	100g
3754	IGP-20-37-41-EP	\$213.15	37–41mm	46g	100g
3755	IGP-20-40-44-EP	\$213.15	40–44mm	46g	100g
3756	IGP-20-43-47-EP	\$213.15	43–47mm	50g	100g
3757	IGP-20-46-50-EP	\$213.15	46–50mm	52g	100g

### Sensors Sold Separately - 3-Wire Sensors Detect Gripper Closed

Quick#	Part#	Price	ID Grip Ø	Wt.	Payload
5497	D-M9P-SAPC	\$42.06	PNP 0.5m long with M8 Connector		
5498	D-M9N-SAPC	\$42.06	NPN 0.5m long with M8 Connector		
5430	D-M9PL	\$33.70	PNP with lead, 3m long		
2412	D-M9NL	\$33.70	NPN with lead, 3m long		

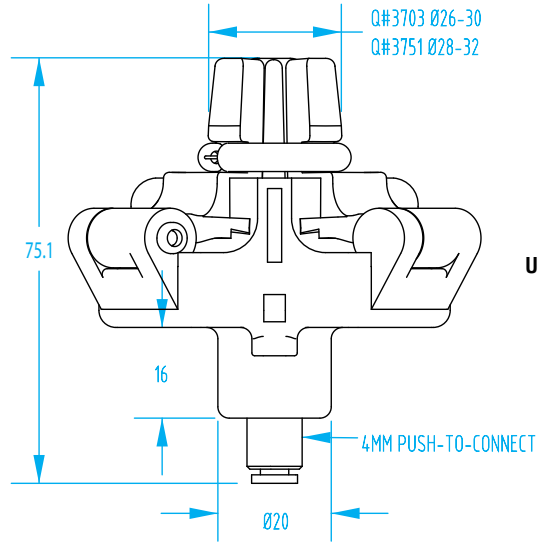
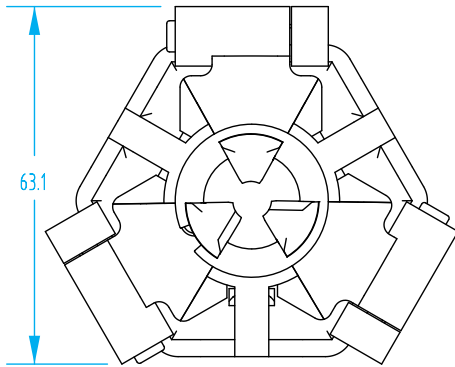
### 4-Wire Programmable Sensor for Detection of Two Positions

3809	MFS-T2-3-7	\$75.21	PNP, 0.5m long with M8 Connector		
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**Lightweight ID Gripper – IGP-20**

(Dimensioned drawings shown at 75% scale)

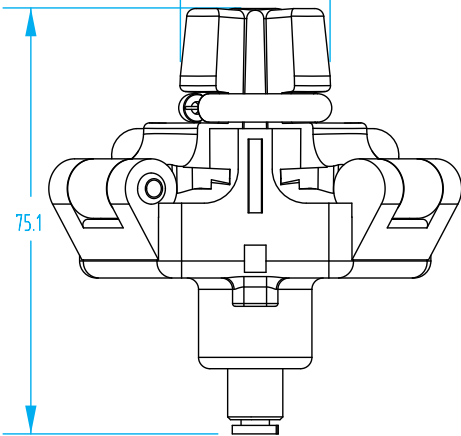
#3703  
#3751



Use these dimensions for each of the size 20 ID Grippers

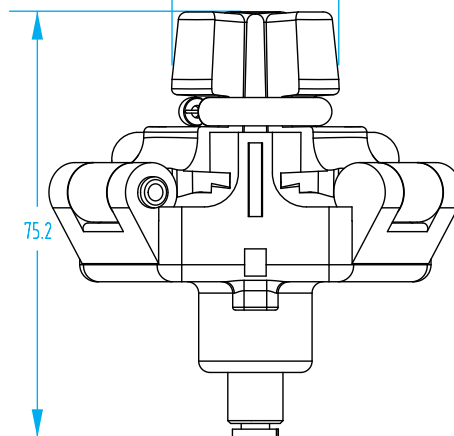
#3704  
#3752

Q#3704 Ø29-33  
Q#3752 Ø31-35



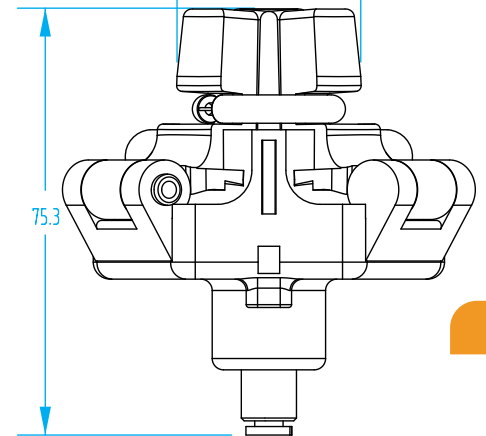
#3705  
#3753

Q#3705 Ø32-36  
Q#3753 Ø34-38



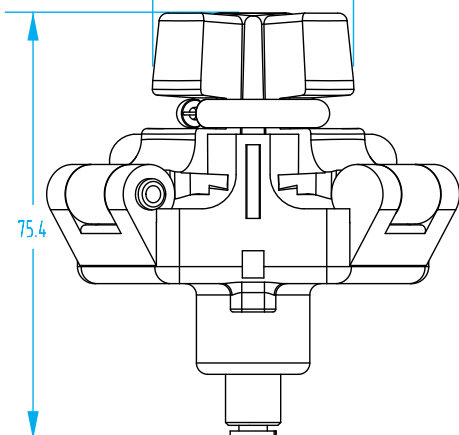
#3706  
#3754

Q#3706 Ø35-39  
Q#3754 Ø37-41



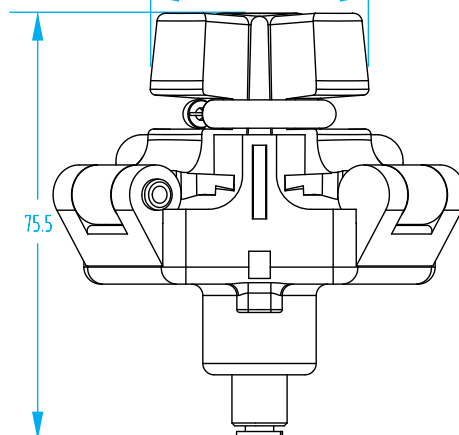
#3707  
#3755

Q#3707 Ø38-42  
Q#3755 Ø40-44



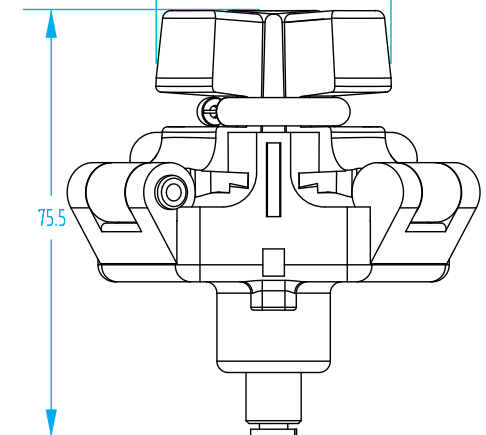
#3708  
#3756

Q#3708 Ø41-45  
Q#3756 Ø43-47



#3709  
#3757

Q#3709 Ø44-49  
Q#3757 Ø46-50



## Pneumatic Needle Gripper – PT

- Suitable for textile and food industry.
- Double acting & self centering.
- Simultaneous stroke adjustment.
- Several mounting accessories.
- #6759: Large through hole.
- #7370: Blow-off port for cleaning and releasing.
- #7370: PTFE pad for hot surface contact.
- #7370: Optional Gimatic C-slot sensors on page 1002.

*PAAT Vacuum Cups on page 420 are an alternative to needle grippers for handling carbon fiber sheet and molded parts. PAAT Vacuum Cups do not damage the structure of composites.*



#6759



#7370



Quick#	6759	7370
Part#	PT25	PT28
Price	\$385.00	\$519.00
Medium	Filtered, lubricated/non-lubricated compressed air	
Pressure range	43.5–116 psi	
Total opening force at 87 psi	20.2 lbf	
Needle stroke	1–7mm	
Number of needles	4	8
Needle depth	0–2.5mm	
Weight	165g	182g

Use Quick#s for easy online ordering.

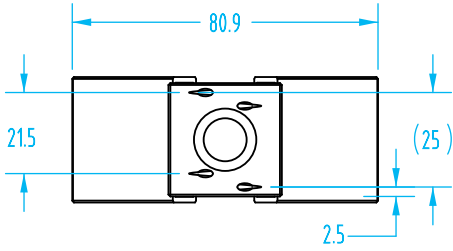
Replacement Needles - sold separately

Quick#	Part#	Price
7199	PT-25-05	\$3.64

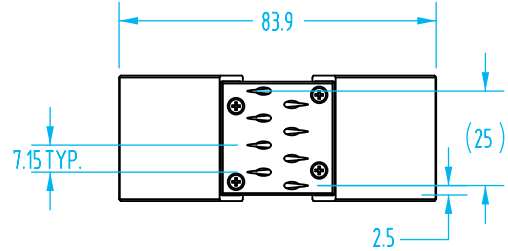
**Pneumatic Needle Gripper – PT**

(Dimensioned drawings shown 1/2 scale)

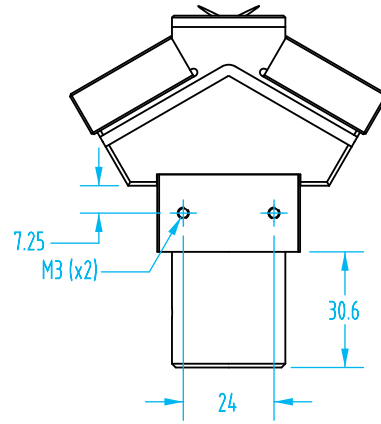
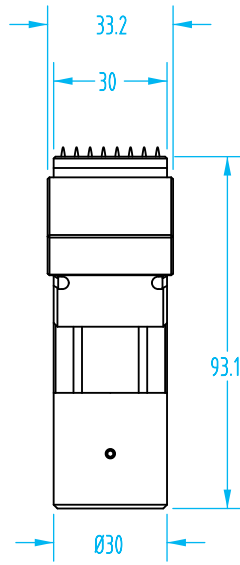
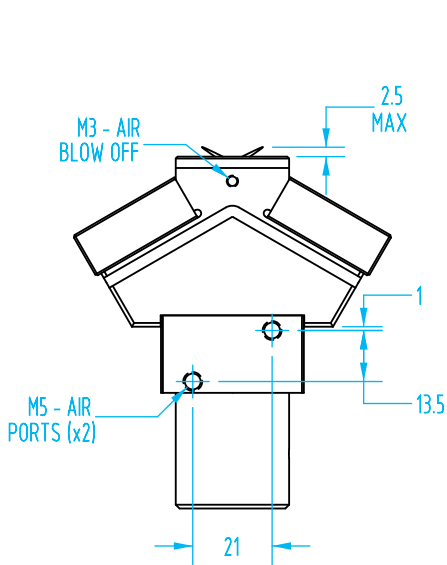
PT25, #6759



PT28, #7370



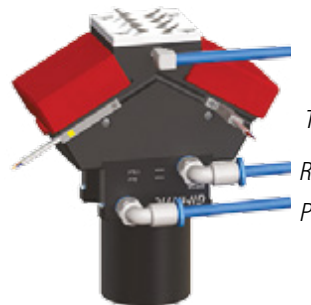
PT28 shown (PT25 has same body dimensions)



Simultaneous stroke adjustment of all 4 or 8 needles.



PT Needle gripper shown with VMK actuator found on page 312.



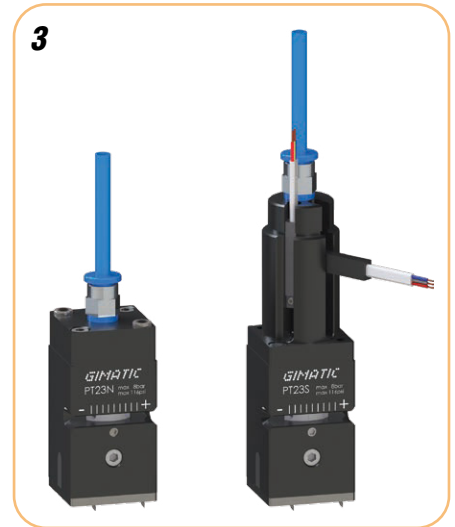
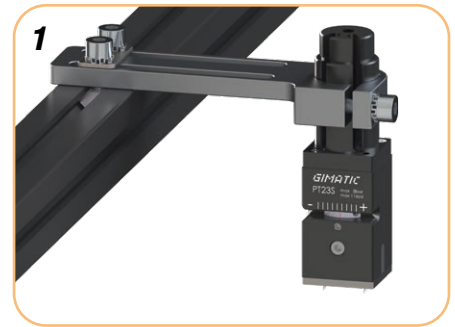
**PT-28**  
T: Blow-off port  
R: Needles out  
P Needles in



**PT-25** Large thru-hole

## Self-centering Needle Mini-Gripper – PT

- Four (4) Needle Grippers
- Suitable for plastics, textile and food industry.
- Single acting (normally retracted) & Self centering.
- Needle simultaneous stroke adjustment.
- #7385 & 7520: Clamp mounting [1].
- #7384, #7478: Plate mounting [2].
- Air line and sensor installation [3].
- #7385 & 7520: Optional Gimatic C-slot sensors on page 1002.



Quick#	7384	7478	7385	7520
Part#	PT23N	PT30N	PT23S	PT30S
Price	\$351.00	\$411.00	\$399.00	\$458.00
Medium	Filtered, lubricated/non-lubricated compressed air			
Pressure range	43.5–116 psi			
Total opening force at 87 psi	9 lbf	11.25 lbf	9 lbf	11.25 lbf
Needle stroke	0–4mm	0–7mm	0–4mm	0–7mm
Needle depth	0–2mm max	0–4mm max	0–2mm max	0–4mm max
Weight	74g	115g	92g	145g

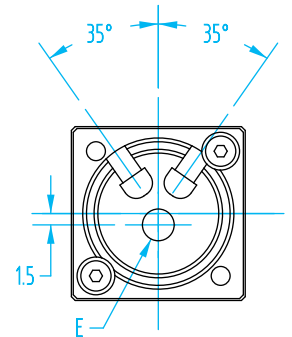
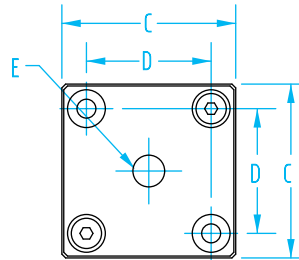
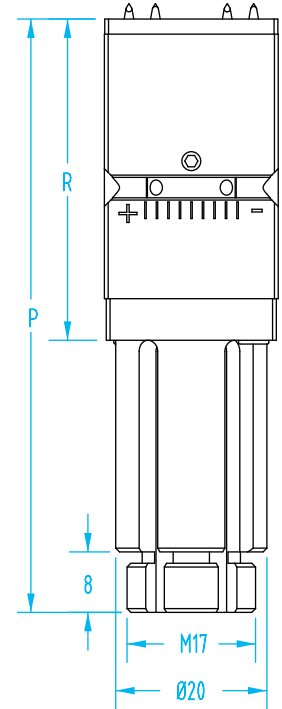
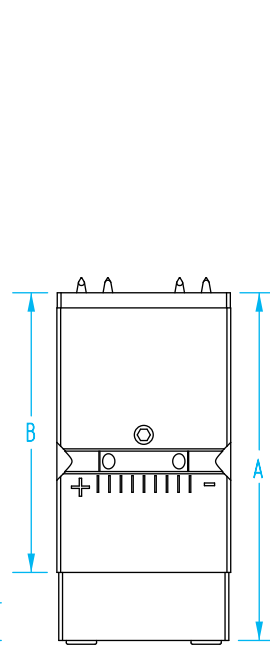
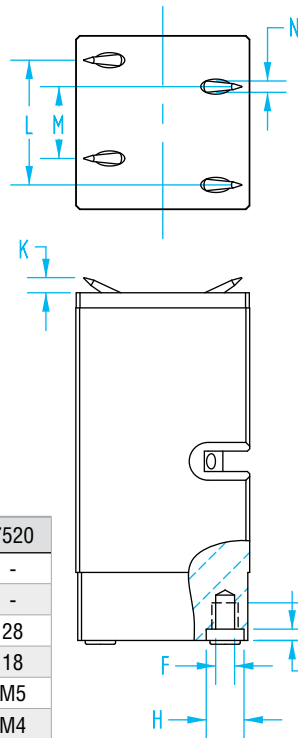
Replacement Needles - sold in a set of 4 needles

Quick#	Part#	For:	Price
7386	PT23-K4	PT23: 7384, 7385	\$92.00
7479	PT30-K4	PT30: 7478, 7520	\$60.00

# Self-centering Needle Mini-Gripper – PT

PT23N, PT30N; #7384, #7478

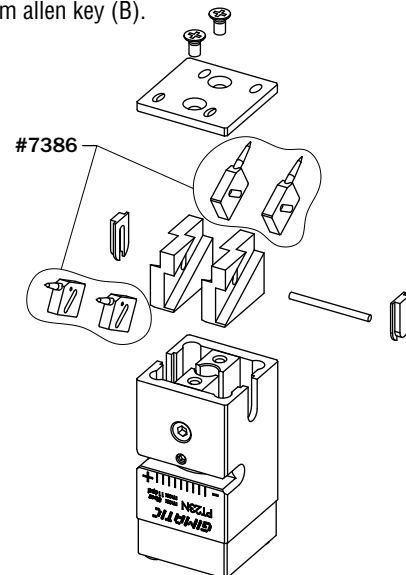
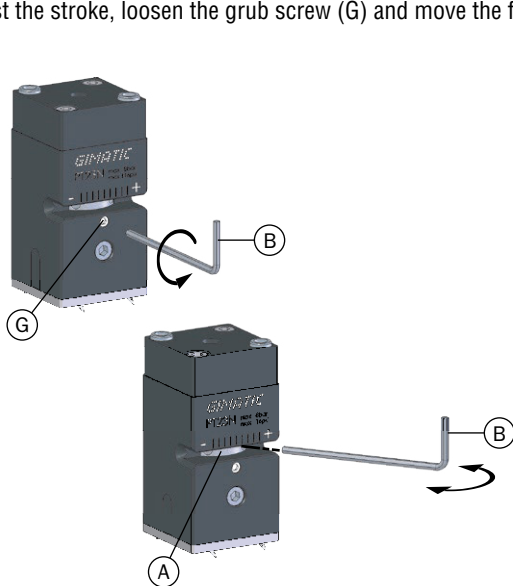
PT23S, PT30S; #7385, #7520



	7384	7478	7385	7520
<b>A</b>	46.5	54	-	-
<b>B</b>	37	45	-	-
<b>C</b>	23	28	23	28
<b>D</b>	16.5	18	16.5	18
<b>E</b>	M5	M5	M5	M5
<b>F</b>	M3	M4	M3	M4
<b>G</b>	6	6	6	6
<b>H</b>	Ø5 h8	Ø7 h8	-	-
<b>J</b>	1.5	1.5	-	-
<b>K</b>	2	4	2	4
<b>L</b>	16.5	18	16.5	18
<b>M</b>	9.5	9	9.5	9
<b>N</b>	1.5	1.5	1.5	1.5
<b>P</b>	-	-	78.5	87.5
<b>R</b>	-	-	42.5	51.5

## Stroke Adjustment

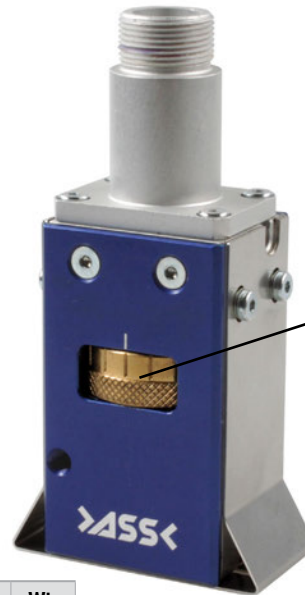
The gripper is self-centering. Therefore the piston end-stroke determines the stroke of all needles. To adjust the stroke, loosen the grub screw (G) and move the ferrule (A) by a 1.5mm allen key (B).





## >ASS< Needle Grippers

- Features 18 needles.
- Needle depth is adjustable between 0–2mm in 0.025mm increments.
- Single acting
- Air blow-off port
- Optional sensor for needle position.
- The NGR-16-18EZ has thinner needles (0.7mm) and includes a cover for thin and limp materials.



Needle depth is adjustable between 0–2mm in 0.025mm increments.

NGR-16-18EZ shown with cover.

### Adjustable Needle Gripper

Quick#	Part#	>ASS< #	Price	Needle Depth	Air Connection	Wt.
3767	NGR-16-18EZ	1-460-19-00	\$542.85	(18x) 0–1.75mm*	M5	255g
<b>Replacement Needles for 18 pin</b> - Sold with 2 locators, each with 9 needles						
3825	NEEDLE-NGR-16	1-460-18-20	\$194.78			
<b>Optional Sensor</b>						
3809	MFS-T2-3-7	1-808-30-00	\$75.21	C-Slot with 3m Lead & M8 Connection		

\*Note: Measurement with additional cover attached.

- Suitable for textile, cloth, carpet or any other material that can be penetrated.
- Through hole allows placement of cloth onto locating pins.
- New lightweight selective laser sintering version 30% lighter than aluminum body.
- Independent needle positioning and tandem stroke adjustment for fine tuning.
- Each cylinder is double acting.



### Through Hole Needle Gripper

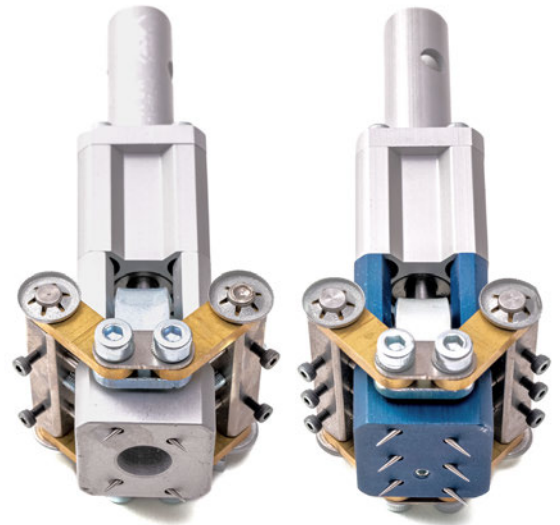
Quick#	Part#	>ASS< #	Price	Body Style	Needle Depth	Air Connection	Wt.
3542	NGR-12-D	1-460-09-00	\$430.50	Aluminum	0–2.5mm	M5	249.2g
3540	NGR-12-DL	1-460-12-00	\$601.13	Laser Sintered	0–2.5mm	M5	160g
<b>50mm Replacement Needles</b> - (1 piece)							
3445	NEEDLE-50	1-460-03-06	\$5.25				

Visit [www.EMlcorp.com](http://www.EMlcorp.com) for dimensional drawings

**>ASS< Needle Grippers**

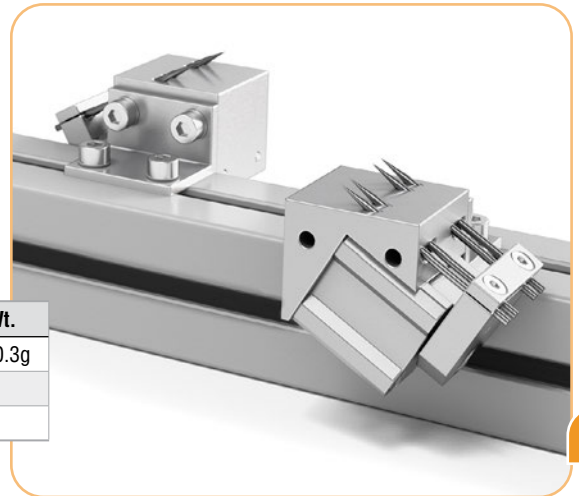
- #3485 features 4 needles while the #3484 has 6 needles for a secure grip of fabrics.
- Needles penetrate over cross and stretch the fabric for a more secure grip.
- Independent needle positioning and stroke adjustment.
- Double acting

Quick#	Part#	>ASS< #	Price	Needle Depth	Air Connection	Wt.
3485	NGR12	1-460-06-00	\$420.00	0-4mm	M5	185g
3484	NGR-12-6	1-460-08-00	\$582.75	0-4mm	M5	190g
<b>37mm Replacement Needles - (1 piece)</b>						
3408	NEEDLE-37	1-460-06-09	\$5.25			



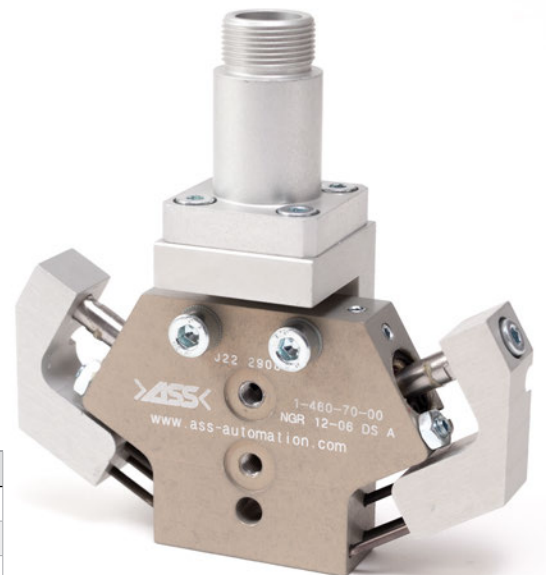
- Features 4 needles, suitable for textile, cloth, carpet or any other material that can be penetrated.
- Designed for installation on X-Profile.
- When used in pairs, the grippers should be facing opposite directions.
- Mounting bracket included.
- Double acting (each unit)

Quick#	Part#	>ASS< #	Price	Needle Depth	Air Connection	Wt.
3535	NGR-X-16-10	1-460-03-00	\$225.75	0-5mm	M5	150.3g
<b>50mm Replacement Needles - (1 piece)</b>						
3445	NEEDLE-50	1-460-03-06	\$5.25			



- Suitable for textile, cloth, carpet or any other material that can be penetrated.
- Able to combine many units into a series.
- 6 PTFE coated needles are stepless adjustable and working position can be monitored with optional sensors.
- Double acting
- Clampable mounting bracket included, remove for direct plate mount.

Quick#	Part#	>ASS< #	Price	Needle Depth	Air Connection	Wt.
3768	NGR-12-6-DS-A	1-460-70-00	\$582.23	0-5mm	M5	241g
<b>Optional Sensor</b>						
3809	MFS-T2-3-7	1-808-30-00	\$75.21	C-Slot with 3m Lead & M8 Connection		



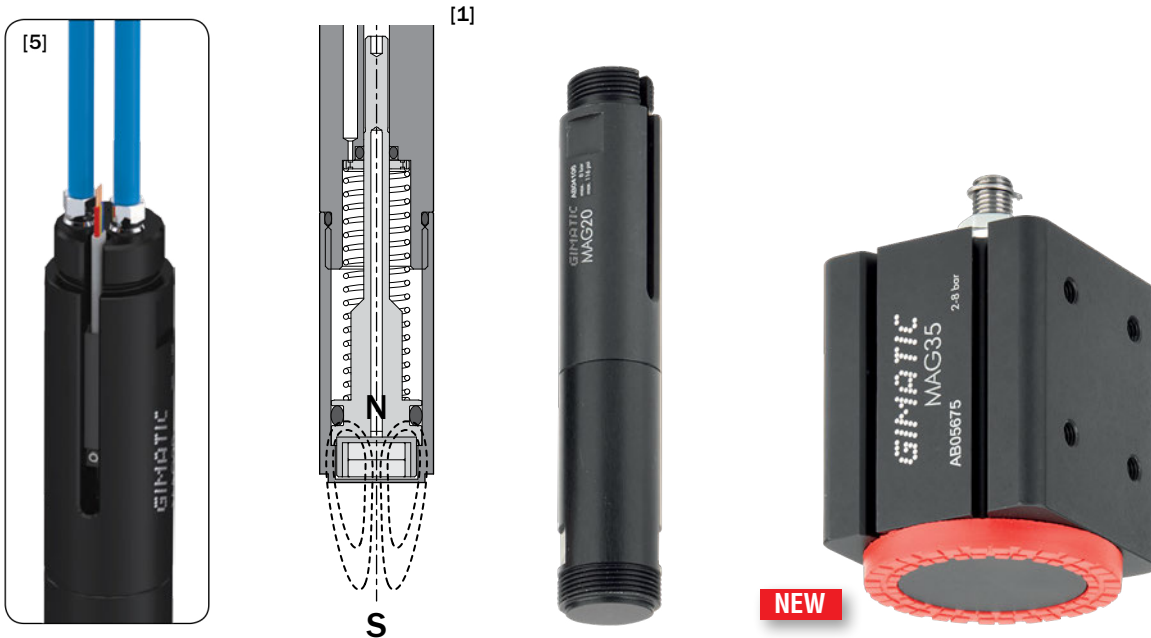
Visit [www.EMICorp.com](http://www.EMICorp.com) for dimensional drawings

# Magnetic Gripper – MAG

- Double-acting pneumatic piston, 16mm bore, with reset spring in holding position [1].
- Many mounting options on the clampable diameter.
- Suitable for handling magnets & small parts.
- Holding point polarity: south.
- Magnetic field concentrated at the holding point [1].
- Easy centering of the handled part.
- Optional C-slot sensors [5] on page 1002.



Because of air port placement, we recommend you use two M3 Barbed fittings Quick#256 found on page 1070, especially when using an extension tube.



Quick#	7383	7776
Part#	MAG20	MAG35
Price	\$399.00	\$399.00
Medium	Filtered, lubricated/non-lubricated compressed air	
Pressure range	30–116 psi	30–87 psi
Stroke	23mm	15mm
Piston Bore	Ø16mm	Ø35mm
Magnetic Strength	7 N	120 N
Max. Working Frequency	1.5 Hz	1 Hz
Cycle air consumption	11.2 cm <sup>3</sup>	40 cm <sup>3</sup>
Weight	72g	400g

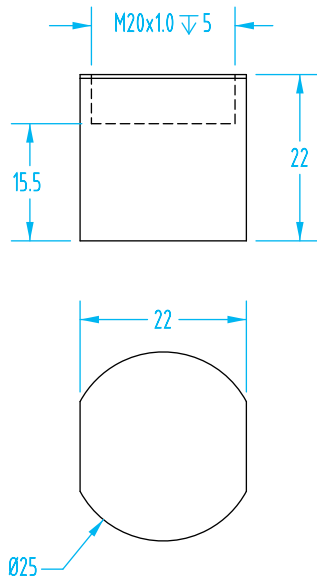
**MAG20 Gripper Accessories - sold separately**

Quick#	Part#	Description	Price
7452	MAG20-BA	Blank Bushing (machine to your part)	\$11.78
7486	MAG20-IF	Nest Bushing (secures insert)	\$9.60

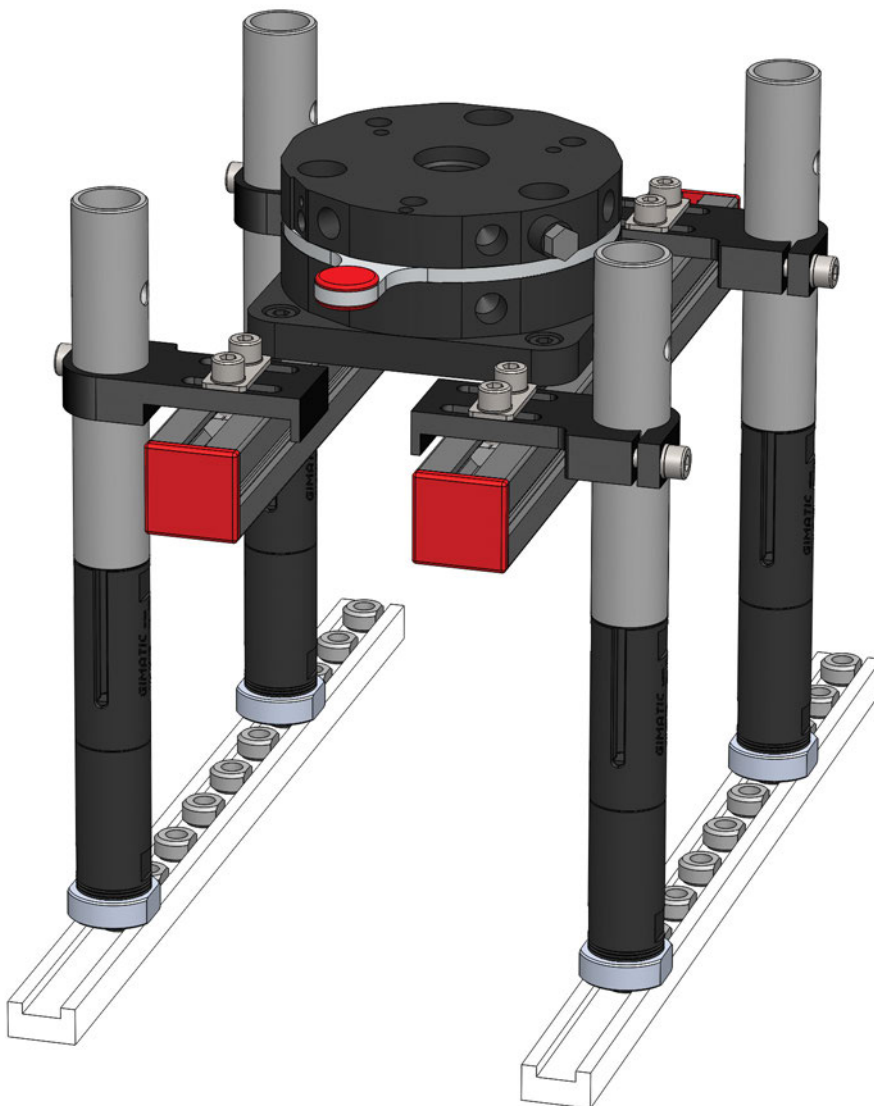
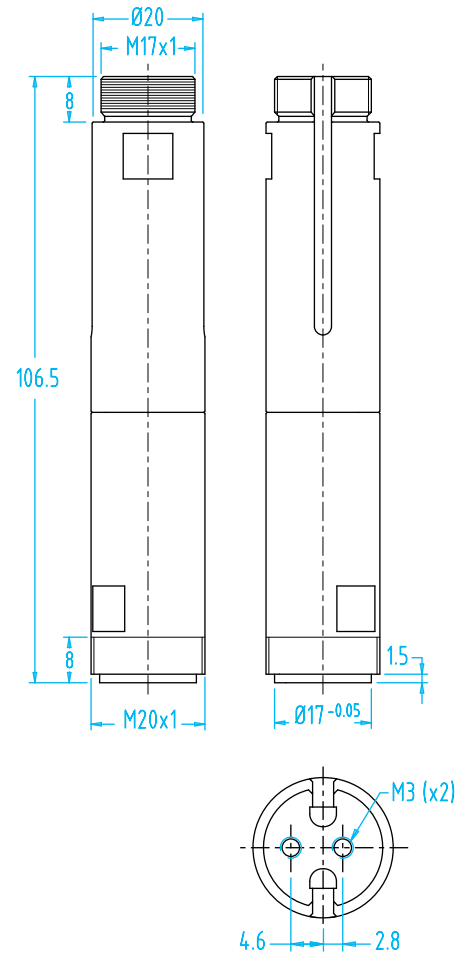
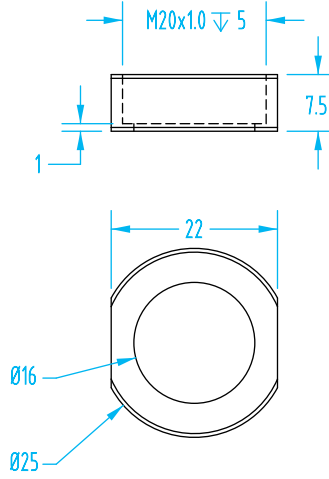
# Magnetic Gripper – MAG

(Dimensioned drawings shown full scale)

#7452 (Blank Bushing)



#7486 (Nest Bushing)



## Magnetic Gripper – SGM

- Handling of ferromagnetic work-pieces only.
- Compact, heavy-duty aluminum housing with permanent magnet.
- Clip-on, easy to replace friction ring.
- Bistable design: the magnet settings “grip” and “release” are maintained in event of power loss. No electric power required.
- High shear forces can be achieved.
- Flexible mounting options.
- Double acting.



### Magnetic Grippers

Quick#	Part#	Price	Holding Force*	Remaining Force	Operating Pressure	Operating Temp.	Wt.
1993	SGM-30-G18-IG	\$381.45	7.8 lbf	0.06 lbf	50.7–87 psi	41°–158°F	130g
1994	SGM-40-G14-IG	\$474.92	22.4 lbf				240g
1995	SGM-50-G14-IG	\$539.57	40.4 lbf				440g

\*Note: The value given is a static value with no safety factor; based on a plate with a thickness of 2mm, with friction ring. For system configurations with magnetic grippers, a safety factor of S = 3 must be applied.

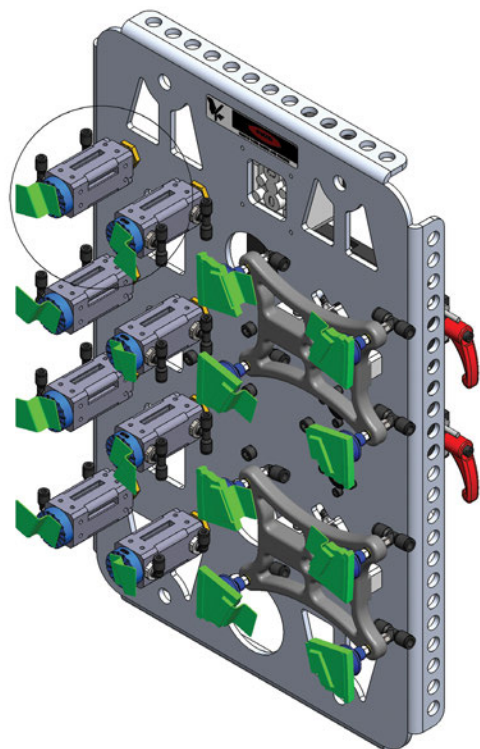
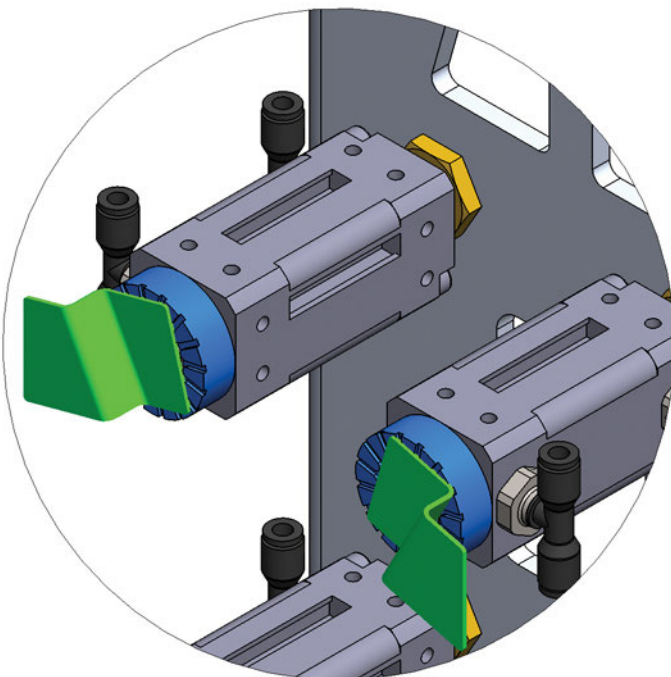
### Replacement Friction Rings

Quick#	Part#	For:	Price
1996	SGM-30-RR	SGM-30	\$44.16
1997	SGM-40-RR	SGM-40	\$53.96
1998	SGM-50-RR	SGM-50	\$67.95

### Mounting Extensions (see page 1065 for more information)

Quick#	Part#	Price	Thread	Tube Diameter	Length	Wt.
5750	MFI-A150	\$10.93	G1/8"	Ø14	45	15g
5751	MFI-A151	\$12.20	G1/8"	Ø14	90	25g
5752	MFI-A152	\$12.44	G1/4"	Ø20	45	30g
5753	MFI-A153	\$13.33	G1/4"	Ø20	90	55g

## Application Examples

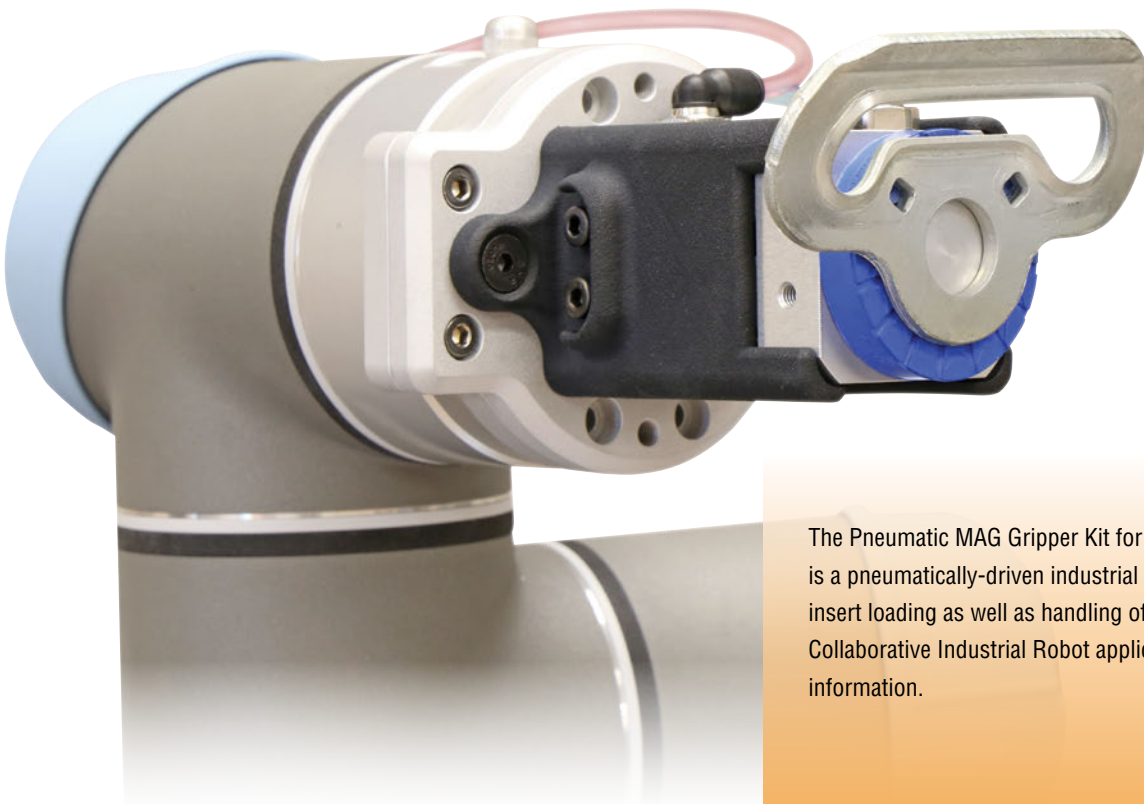
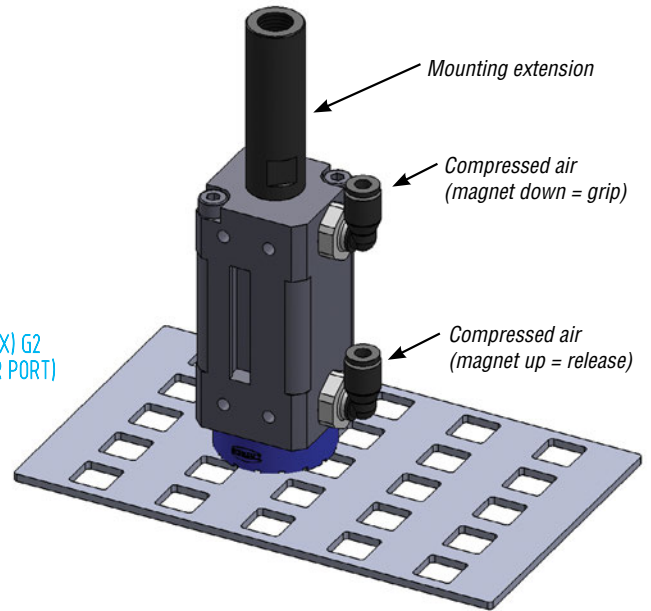
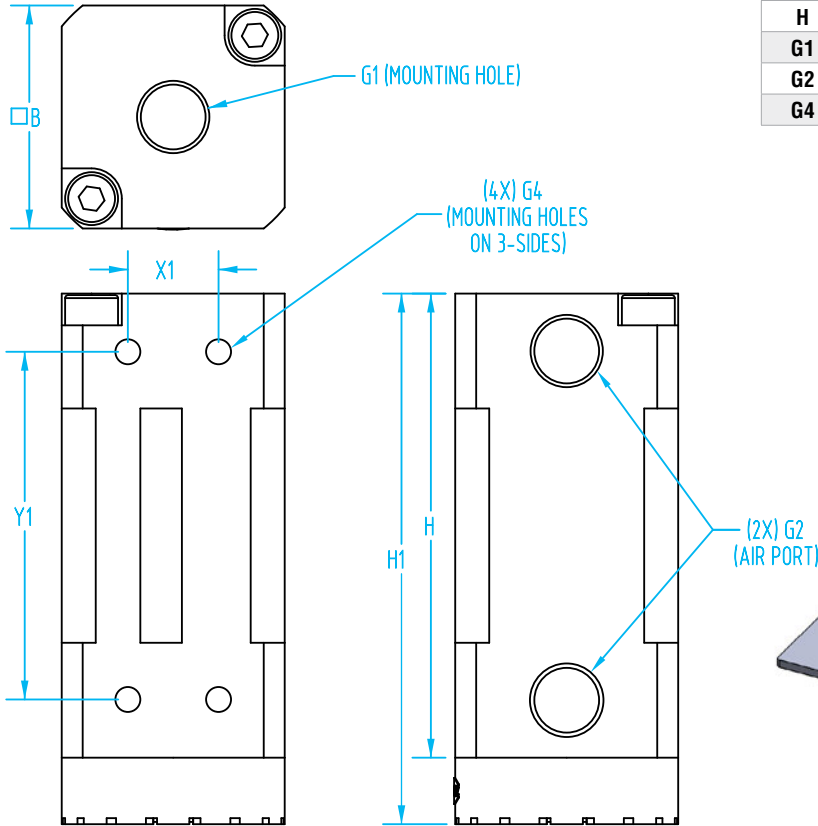


**Magnetic Grippers – SGM**

(SGM-30 Shown to Scale)

**Ferromagnetic materials:** Iron, Iron Alloys, Steel, Cobalt, Nickel  
**Non Ferromagnetic materials:** Aluminum, Brass, Stainless Steel, Titanium, Copper

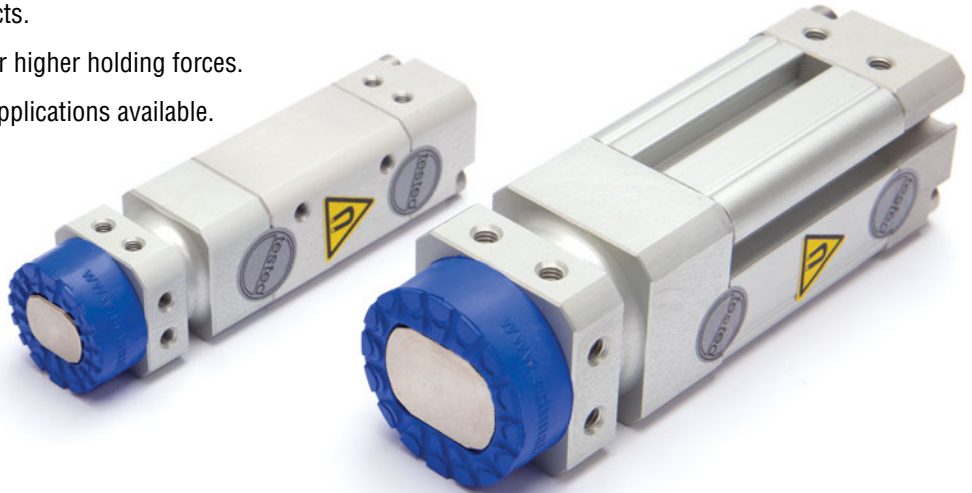
	SGM-30	SGM-40
<b>B</b>	30	40.6
<b>X1</b>	12	12
<b>Y1</b>	46	46
<b>H1</b>	70.2	70.2
<b>H</b>	61.4	61.4
<b>G1</b>	G1/8"	G1/4"
<b>G2</b>	G1/8"	G1/8"
<b>G4</b>	M4	M4



The Pneumatic MAG Gripper Kit for Industrial Cobots by EMI is a pneumatically-driven industrial magnetic gripper ideal for insert loading as well as handling of ferromagnetic work-pieces in Collaborative Industrial Robot applications. See page 177 for more information.

## High Performance Magnetic Grippers – SGM

- Handling of ferromagnetic work-pieces only.
- Efficient new magnet gripper with very high holding forces for handling perforated plates, work-pieces with complex laser-cut patterns, and similar objects.
- Can be used without friction ring for higher holding forces.
- HT versions for high-temperature applications available.
- Other sizes available, contact EMI.



### Magnetic Grippers

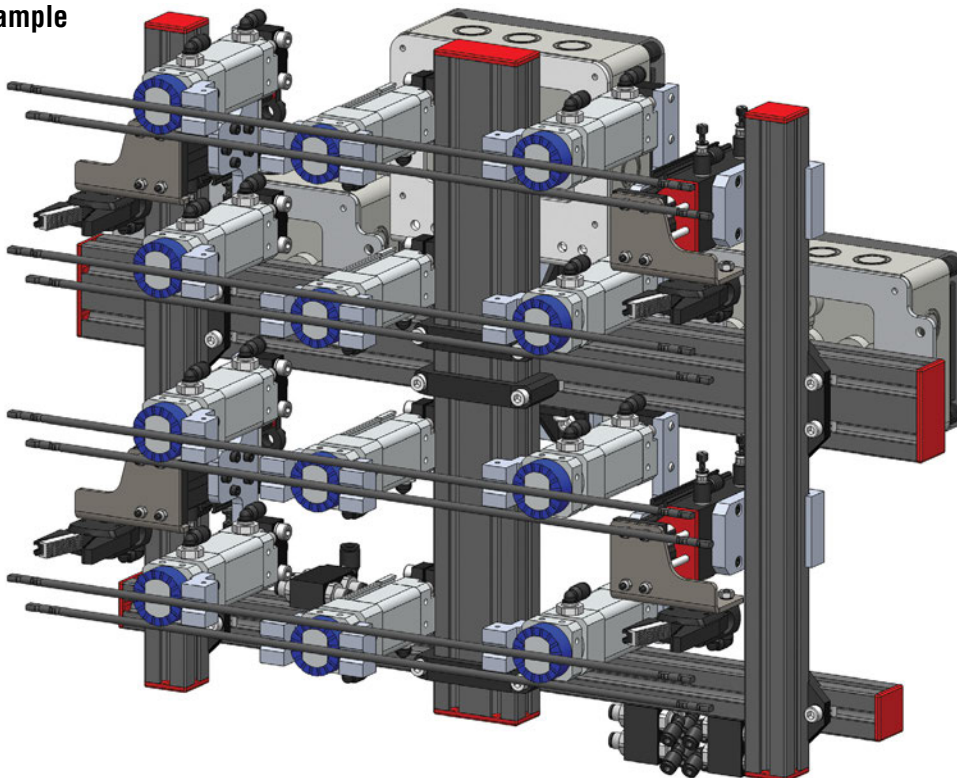
Quick#	Part#	Price	Holding Force*	Remaining Force	Operating Pressure	Operating Temp.	Wt.
1989	SGM-HP-20-G18-IG	\$446.19	4.2 lbf	0.06 lbf	50.7–87 psi	41°–158°F	81g
1990	SGM-HP-30-G18-IG	\$583.61	20.2 lbf				215g

**\*Note: The value given is a static value with no safety factor; based on a plate with a thickness of 2mm, with friction ring. For system configurations with magnetic grippers, a safety factor of S = 3 must be applied.**

### Replacement Friction Rings

Quick#	Part#	For:	Price
1991	SGM-HP20-RR	SGM-HP-20	\$39.97
1992	SGM-HP30-RR	SGM-HP-30	\$43.55

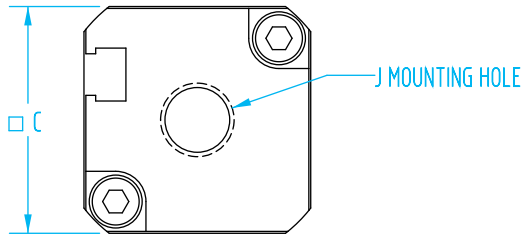
### Application Example



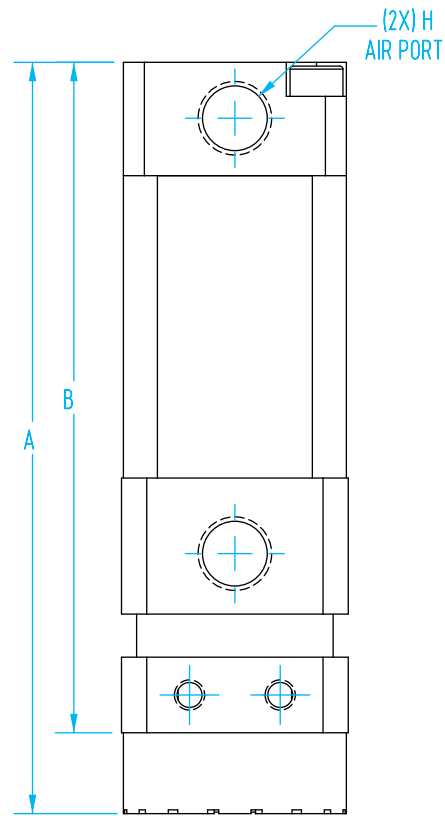
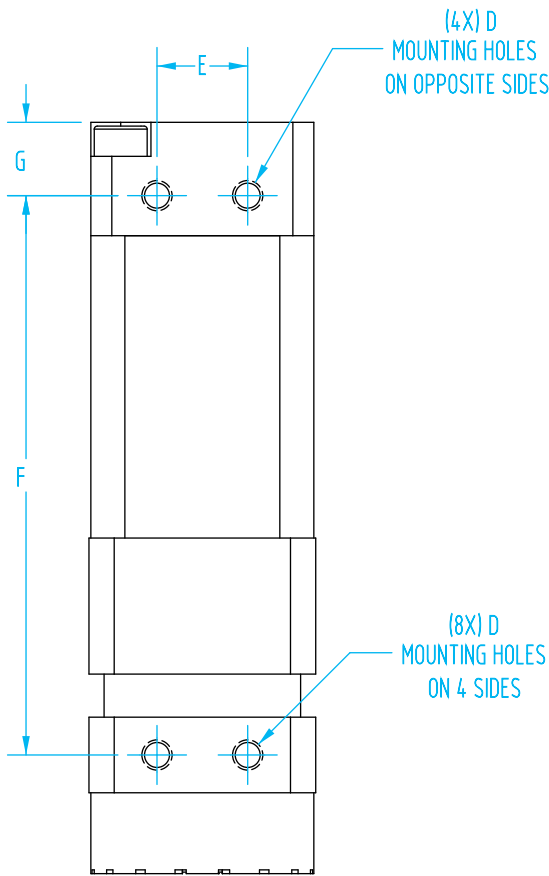
# High Performance Magnetic Grippers – SGM

**Ferromagnetic materials:** Iron, Iron Alloys, Steel, Cobalt, Nickel

**Non Ferromagnetic materials:** Aluminum, Brass, Stainless Steel, Titanium, Copper



	#1989	#1990
<b>A</b>	78.2	99.4
<b>B</b>	69	88.7
<b>C</b>	20	30
<b>D</b>	M3	M4
<b>E</b>	6.5	12
<b>F</b>	55	74
<b>G</b>	10	9.7
<b>H</b>	M5	G1/8
<b>J</b>	G1/8	G1/8



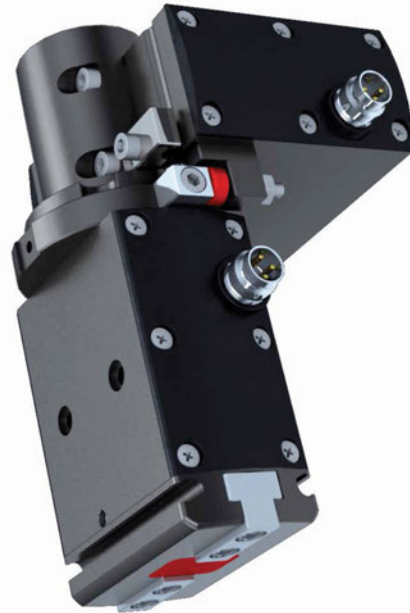


## Electric Gripper Basics

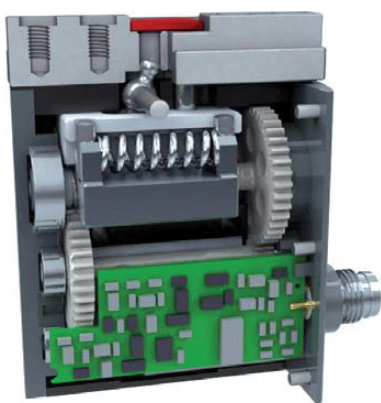
### Mechatronics

Mechatronics is the combination of mechanical engineering, electronic engineering, and information technology in order to design and manufacture useful, more reliable and innovative products.

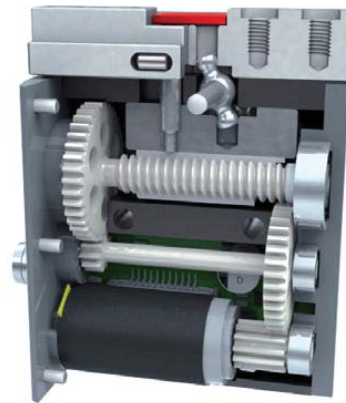
**Gimatic's electric grippers are designed to be used in place of traditional pneumatic components where compressed air circuits could be a liability. They operate in an on/off manner receiving their signal directly from a control panel. There is no programming needed or intermediary control device. An added benefit is the energy savings realized because the motor is only used to actuate the device. The actuator position is maintained by mechanical means when an object is gripped and motor cut off.**



- No electricity is used when gripper is engaged.
- Gripper retention guaranteed in power loss.
- Long-life brushless DC motor.
- Built in motor driver.
- Operates on 24 volt DC and uses a simple ON/OFF signal from your PLC.
- M8x1, 3 poles standard connection.
- Self-centering jaw system (patented) on many grippers.
- Fiber-carbon gear reduction.
- Maintenance-free for 10 million cycles.
- Optimal force, weight, and dimensions ratio.
- Operating temperature range: 41°–140°F.
- Can be mounted to a rotary actuator without a special mounting plate.
- Optional sensors, see page 1006.
- NPN versions available upon request.



A microprocessor and all electronics are integrated into the gripper so that no other external controller is necessary. The microprocessor operates the motor and turns it off with no programming required.

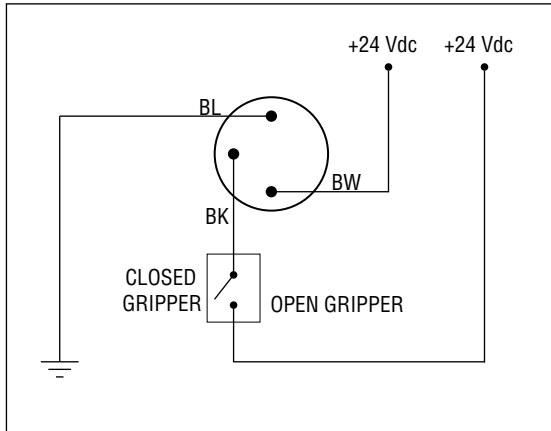


The carrier with the springs is driven by a 2-stage reducer and a worm. The carrier drives two jaws with a patented self-centering mechanism--already tested in other Gimatic grippers.

# Electric Gripper Basics

## Electrical Connection

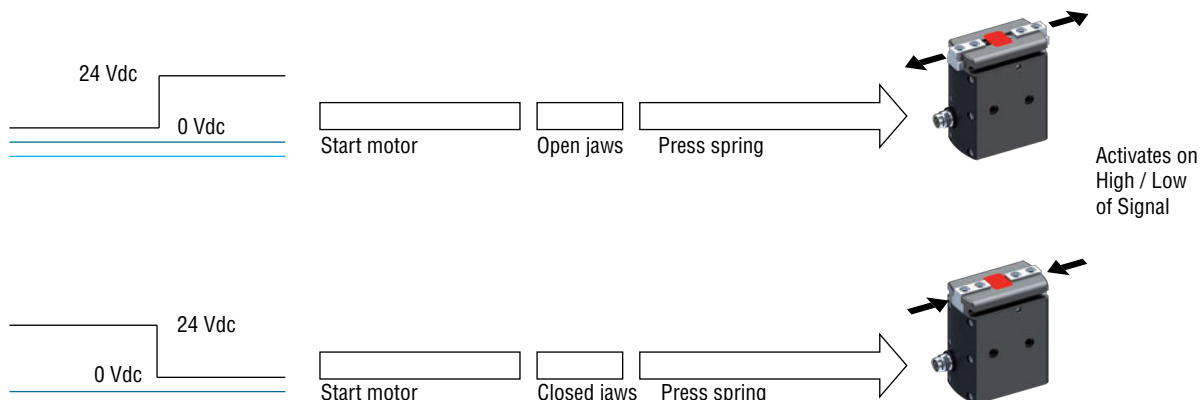
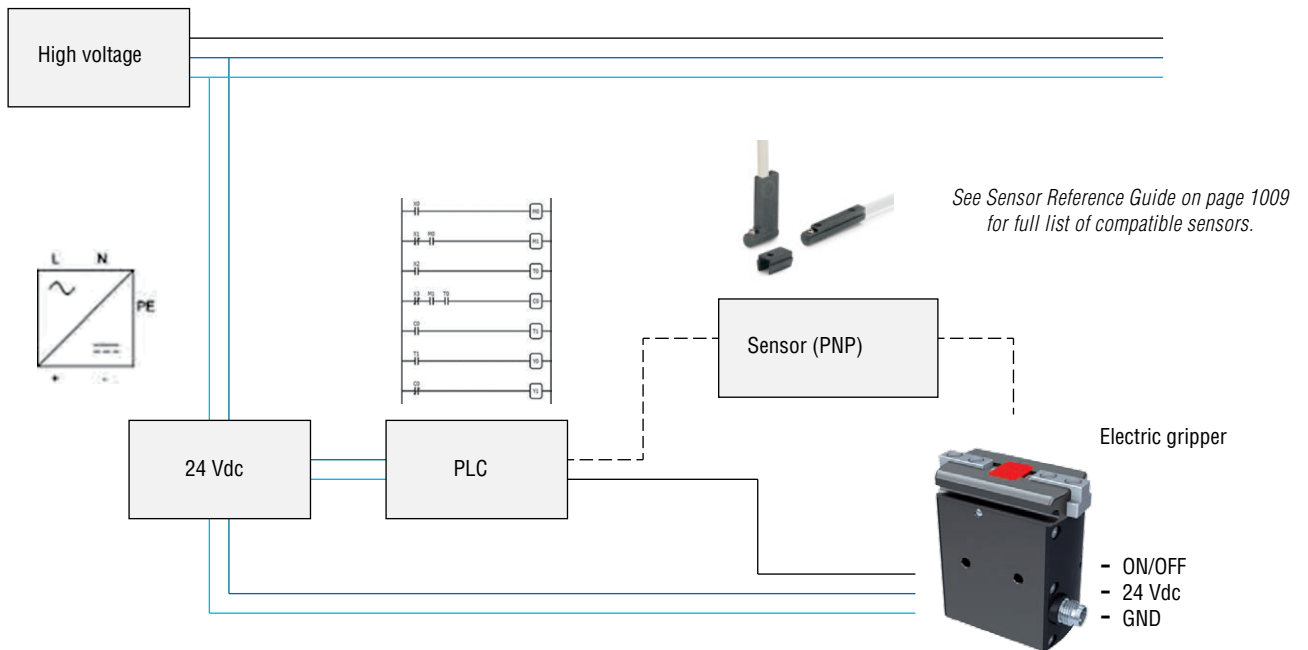
Gimatic mechatronic devices have a 3-pin M8 connection that is used to receive both the 24VDC power and on/off signal.



### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

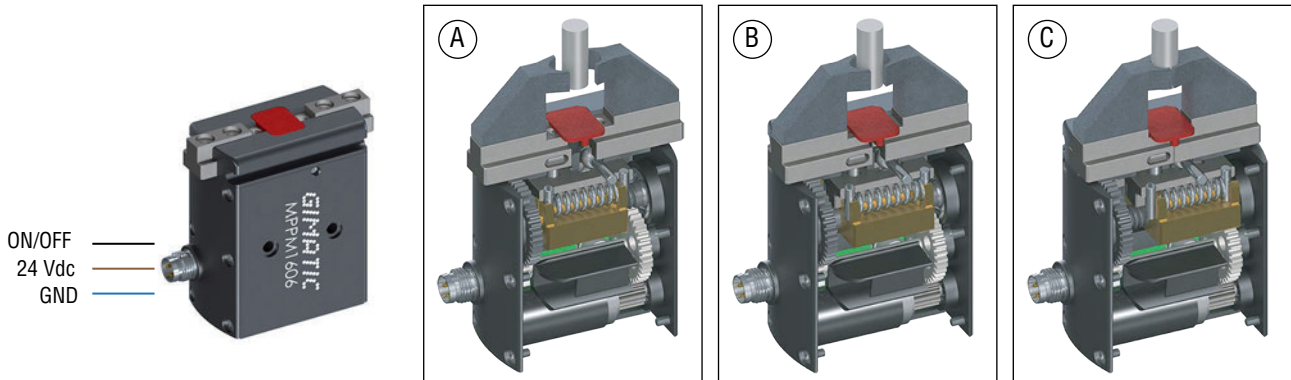
- Additional cables and connectors on pages 181 & 984.
- Sensor diagrams and other specifications can be found on our online product pages at : [www.EMlcorp.com](http://www.EMlcorp.com)
- Contact us with any questions: [Sales@EMlcorp.com](mailto:Sales@EMlcorp.com)



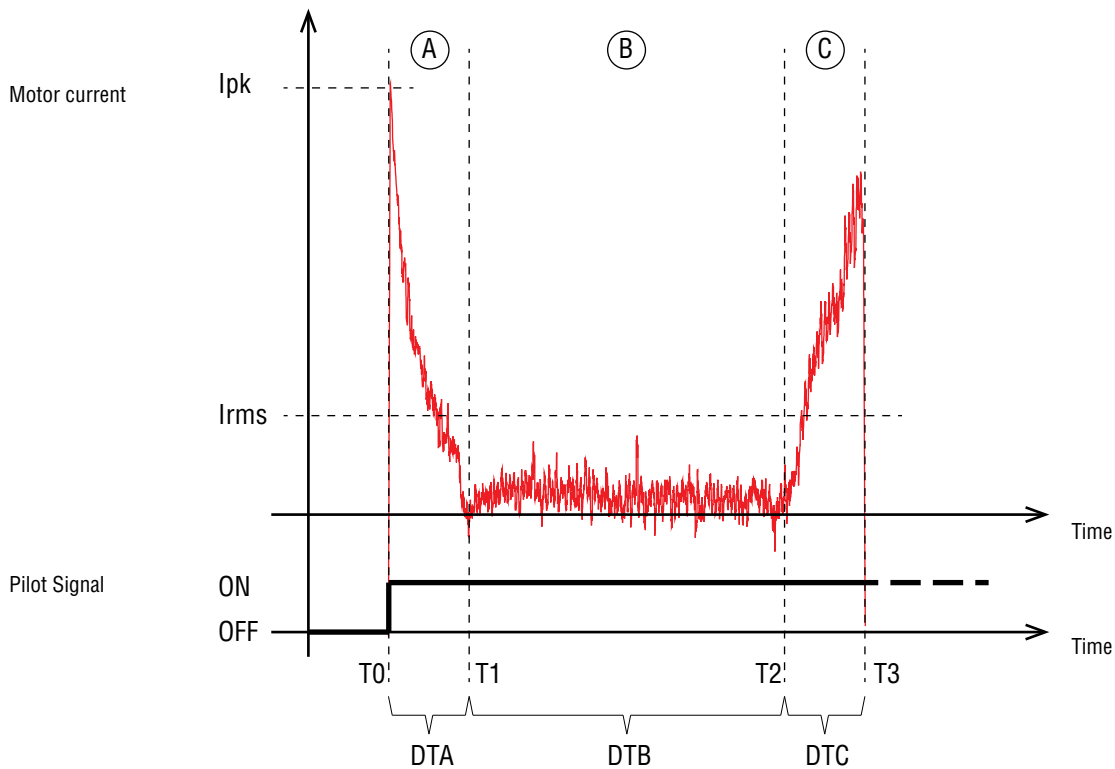
# Electric Gripper Basics

## Gripping force

These illustrations below show the operating state sequence of the drive system shared by the grippers, the actuators and the electric indexing tables.



These states can also be identified in the motor's power absorption profile.



## Operation description

At time T0, the pilot signal switches from OFF to ON status, closing the jaws.

During the DTA time, the motor starts to run; during phase A this causes the extension of the spring, which was initially compressed. In phase B, the spring has reached its free length and the jaws move at constant speed until they come into contact with the work-piece at time T2.

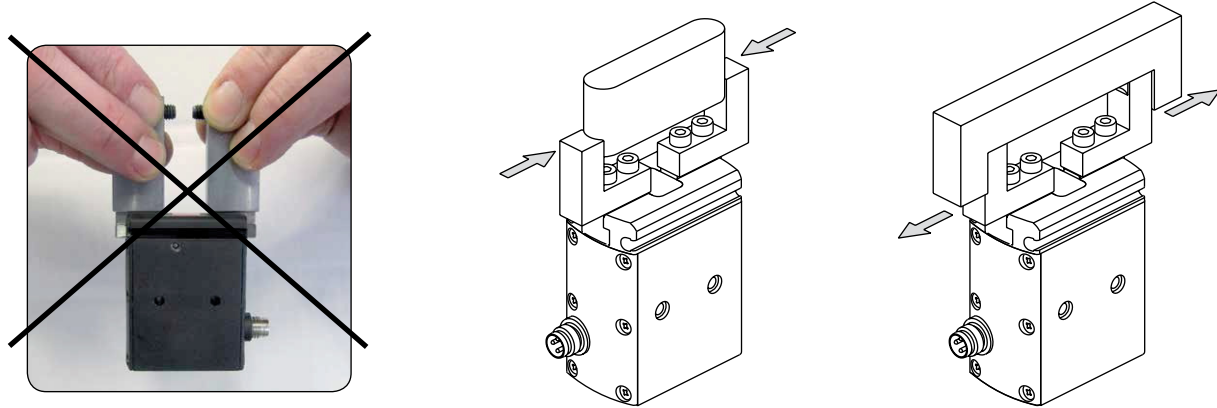
During phase 3, the jaws are in contact with the work-piece, and compression of the spring starts.

At time T3, the motor stops running and the irreversible transmission system maintains the grip even when not powered up, until the next jaw opening command is given (OFF status).

# Electric Gripper Basics

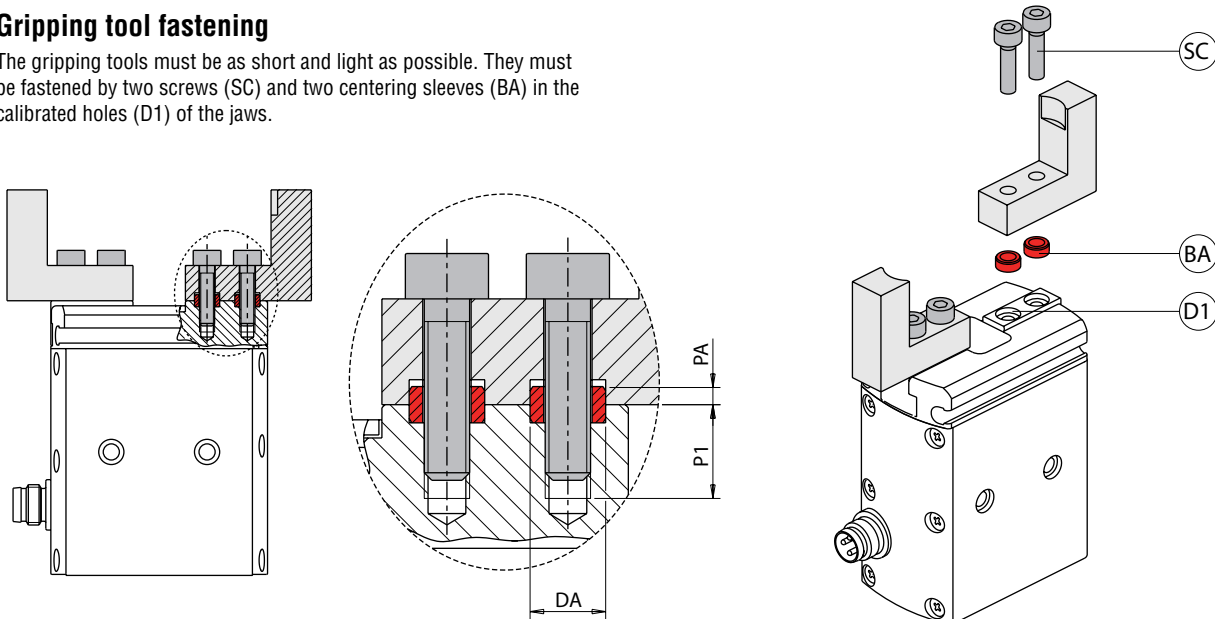
## Gripping force

This electric gripper can be used for either external or internal gripping applications. The part will be gripped in any position within the jaw stroke. After the part is gripped, the spring force will hold the part. The gripper mechanism is irreversible, even without a power supply, so do not attempt to open or close the gripper manually.



## Gripping tool fastening

The gripping tools must be as short and light as possible. They must be fastened by two screws (SC) and two centering sleeves (BA) in the calibrated holes (D1) of the jaws.

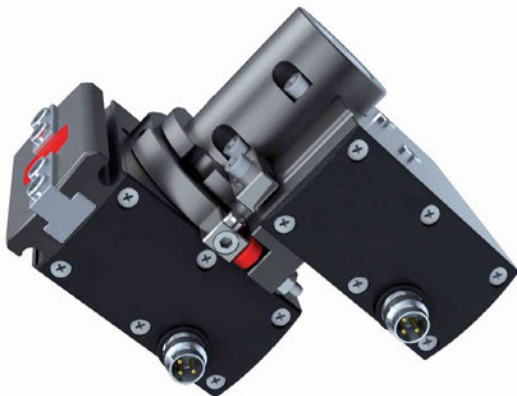


## Series compatibility

MPTM grippers are perfectly compatible with MRE rotary actuators without using a special plate.

See page 612 for electric sprue grippers

See pages 616 & 618 for electric rotaries



## Mounting Plates

Cost effective interface mounting plates for electric grippers can be found on page 127.



## Two-Jaw Electric Grippers – MPPM

- Self-centering jaw system (patented).
- Parallel jaw movement.
- 6–10mm stroke.
- T-slot style jaws for heavy loads.
- Optional Gimatic C-slot sensors on page 1002.
- Cables for direct connection to cobots on page 181.



MPPM gripper series is perfectly compatible with MRE rotary series actuators without any special plate.



Quick#	6989	6990	6991
Part#	MPPM1606	MPPM2508	MPPM3210
Price	\$925.00	\$992.00	\$1059.00
Total gripping force	15 lbf	28 lbf	55 lbf
Stroke	2x3mm	2x4mm	2x5mm
Max frequency	1Hz	0.91Hz	0.91Hz
Jaw closing time	0.08s	0.121s	0.15s
Working gripper time	0.21s	0.3s	0.27s
Duty cycle	43%	55%	50%
Peak current	0.9 A	1.2 A	3.8 A
Brushless motor power	6W	11W	23W
Open/closed input signal	PNP open connector		
Noise level	<70dB		
Weight (motor included)	145g	330g	525g
IPA Clean Room Certification	ISO04	TBA	TBA
CE Certification	CE; EMC		
Environmental Degree	IP54		

Use Quick#s for easy online ordering.

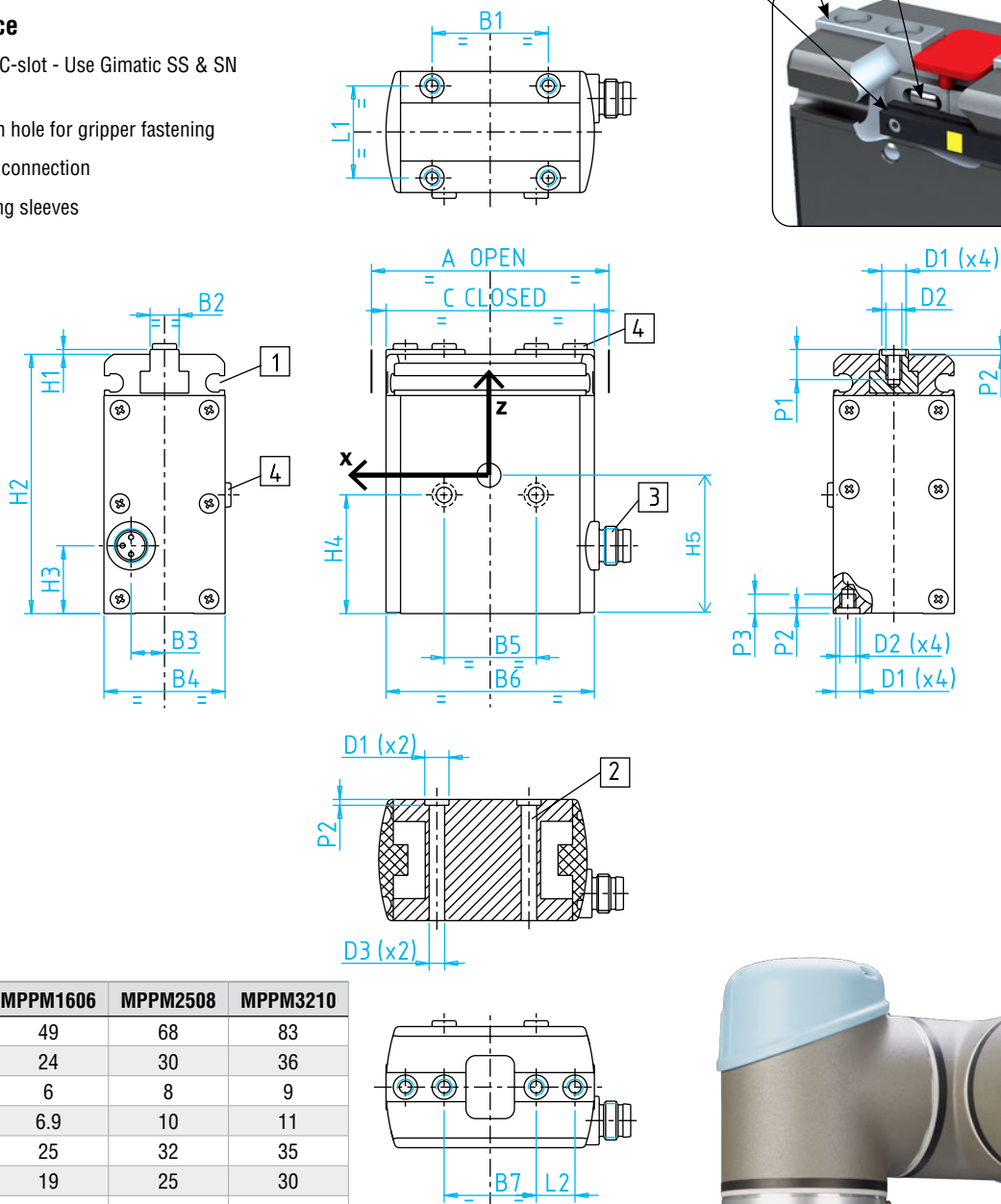
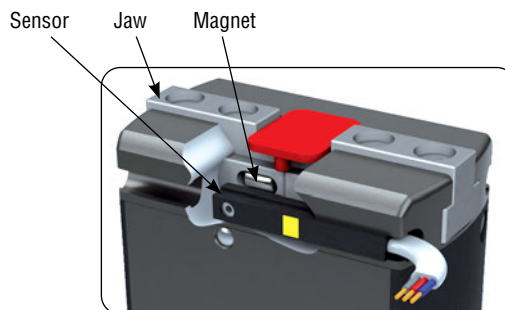
### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

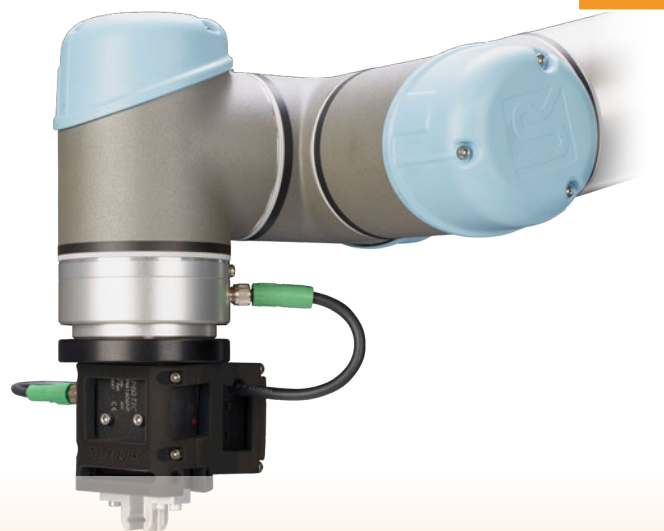
## Two-Jaw Electric Grippers – MPPM

### Reference

1. Sensor C-slot - Use Gimatic SS & SN sensors
2. Through hole for gripper fastening
3. Electric connection
4. Centering sleeves



		MPPM1606	MPPM2508	MPPM3210
<b>A</b>		49	68	83
<b>B1</b>	±0.02	24	30	36
<b>B2</b>		6	8	9
<b>B3</b>		6.9	10	11
<b>B4</b>		25	32	35
<b>B5</b>	±0.02	19	25	30
<b>B6</b>		45	60	73
<b>B7</b>		19	26	32
<b>C</b>		43	60	73
<b>D1</b>		Ø5 H8	Ø7 H8	Ø7 H8
<b>D2</b>		M3	M4	M5
<b>D3</b>		Ø3.2	Ø4.2	Ø5.2
<b>H1</b>		1	1	1
<b>H2</b>		53.5	70	80
<b>H3</b>		14	17	19
<b>H4</b>	±0.02	24.5	32	38
<b>H5</b>		32.5	42.6	48.4
<b>L1</b>	±0.02	19	24	26
<b>L2</b>	±0.02	8	12	14
<b>P1</b>		6.2	8	8.5
<b>P2</b>	+0.1	1.2	1.5	1.5
<b>P3</b>		4	6	8



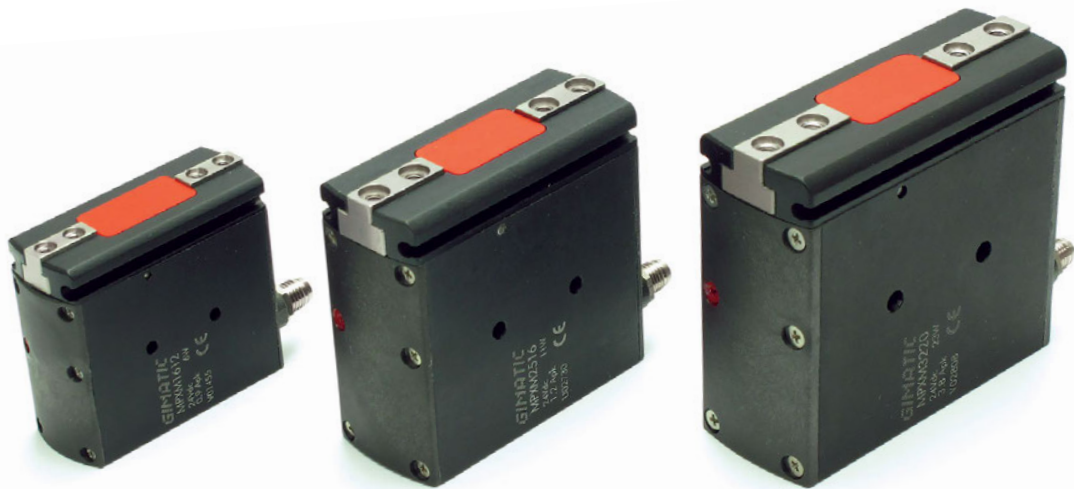
KIT-UR-G is an industrial electric gripper that mounts directly to any robot with an ISO-9409-1-50-4-M6 tool flange. Equipped with machined fingers that can be replaced by custom fingers right for your application. See page 152 for more information!

## Two-Jaw Electric Grippers – MPXM

- Self-centering jaw system (patented).
- Parallel jaw movement.
- Self-adapting jaws part.
- 12–20mm stroke.
- T-slot style jaws for heavy loads.
- Optional Gimatic C-slot sensors on page 1002.
- Cables for direct connection to cobots on page 181.



Get the custom jaws you need for any gripper from EMI!

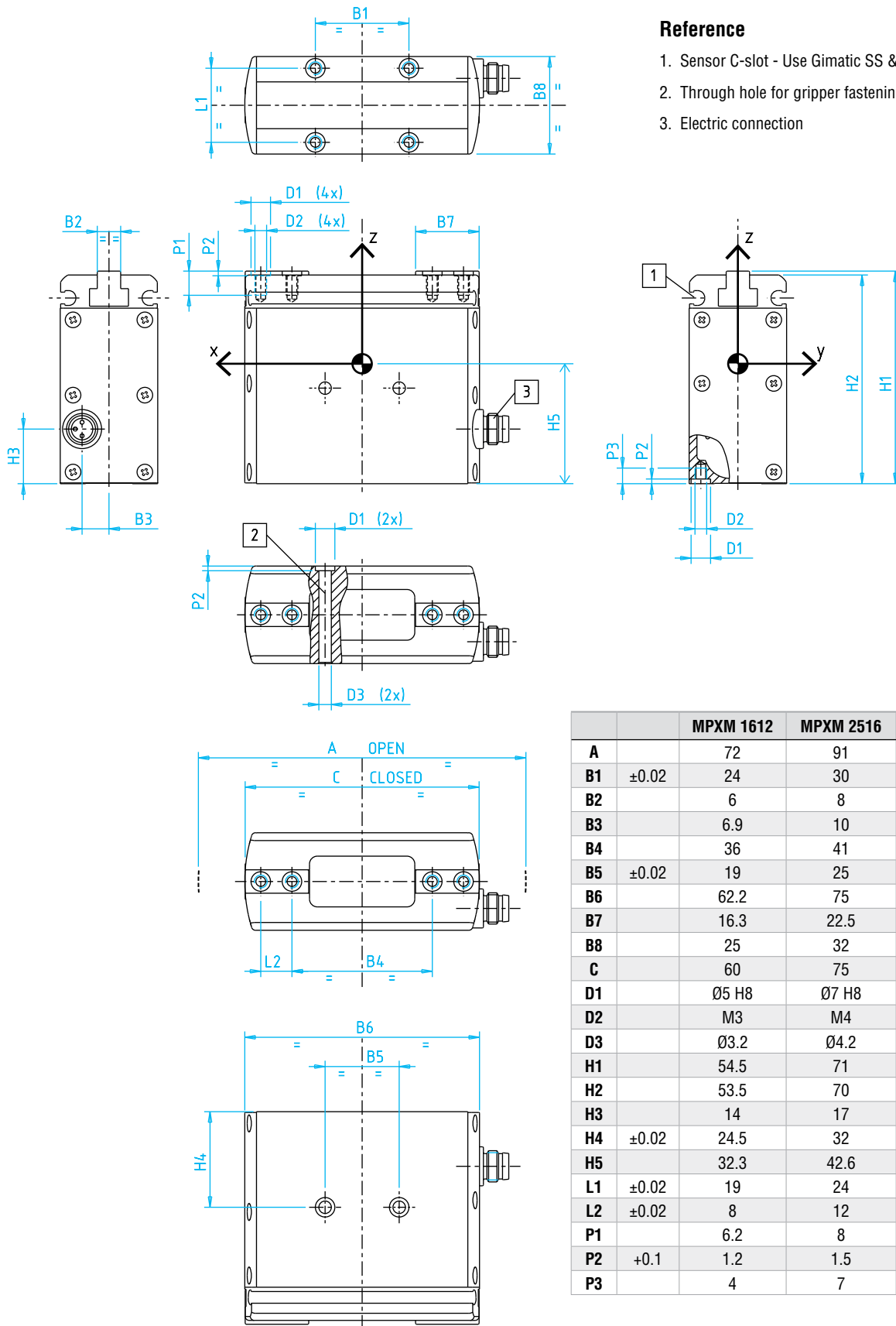


Quick#	7266	7267	7268
Part#	MPXM1612	MPXM2516	MPXM3220
Price	\$1,059.00	\$1,126.00	\$1,193.00
Total gripping force	15.29 lbf	21.36 lbf	48.33 lbf
Stroke	2x6mm	2x8mm	2x10mm
Max frequency	0.75Hz	1.2Hz	0.85Hz
Jaw closing time	0.21s	0.19s	0.23s
Working gripper time	0.3s	0.28s	0.3s
Duty cycle	45%	68%	51%
Peak current	0.9 A	1.2 A	3.8 A
Brushless motor power	6W	11W	23W
Open/closed input signal	PNP open connector		
Repetition accuracy	0.02mm		
Noise level	<70dB		
Weight (motor included)	184g	390g	604g
Environmental Degree	IP54		

### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

# Two-Jaw Electric Grippers – MPXM

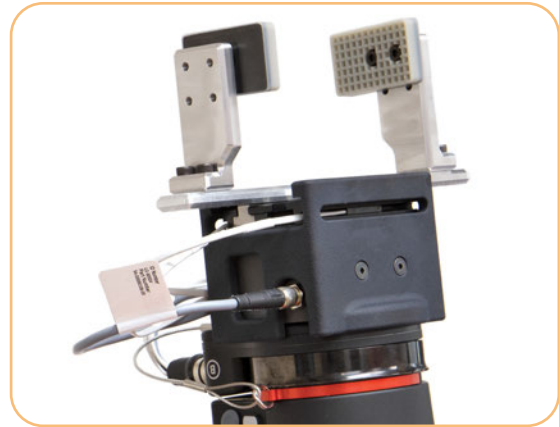


		MPXM 1612	MPXM 2516	MPXM 3220
<b>A</b>		72	91	109
<b>B1</b>	±0.02	24	30	36
<b>B2</b>		6	8	9
<b>B3</b>		6.9	10	11
<b>B4</b>		36	41	48
<b>B5</b>	±0.02	19	25	30
<b>B6</b>		62.2	75	89
<b>B7</b>		16.3	22.5	28
<b>B8</b>		25	32	35
<b>C</b>		60	75	89
<b>D1</b>		Ø5 H8	Ø7 H8	Ø7 H8
<b>D2</b>		M3	M4	M5
<b>D3</b>		Ø3.2	Ø4.2	Ø5.2
<b>H1</b>		54.5	71	81
<b>H2</b>		53.5	70	80
<b>H3</b>		14	17	19
<b>H4</b>	±0.02	24.5	32	38
<b>H5</b>		32.3	42.6	48.4
<b>L1</b>	±0.02	19	24	26
<b>L2</b>	±0.02	8	12	14
<b>P1</b>		6.2	8	8.5
<b>P2</b>	+0.1	1.2	1.5	1.5
<b>P3</b>		4	7	8



## Two-Jaw Electric Grippers with Long Stroke – MPLM

- Self-centering jaw system (patented).
- Parallel jaw movement.
- 30–40mm stroke.
- Self-adapting jaws part.
- T-slot style jaws for heavy loads.
- Optional Gimatic C-slot sensors on page 1002.
- Cables for direct connection to cobots on page 181.



Contact [Cobots@EMlcorp.com](mailto:Cobots@EMlcorp.com) for more information about how to use electric grippers with your cobot application.

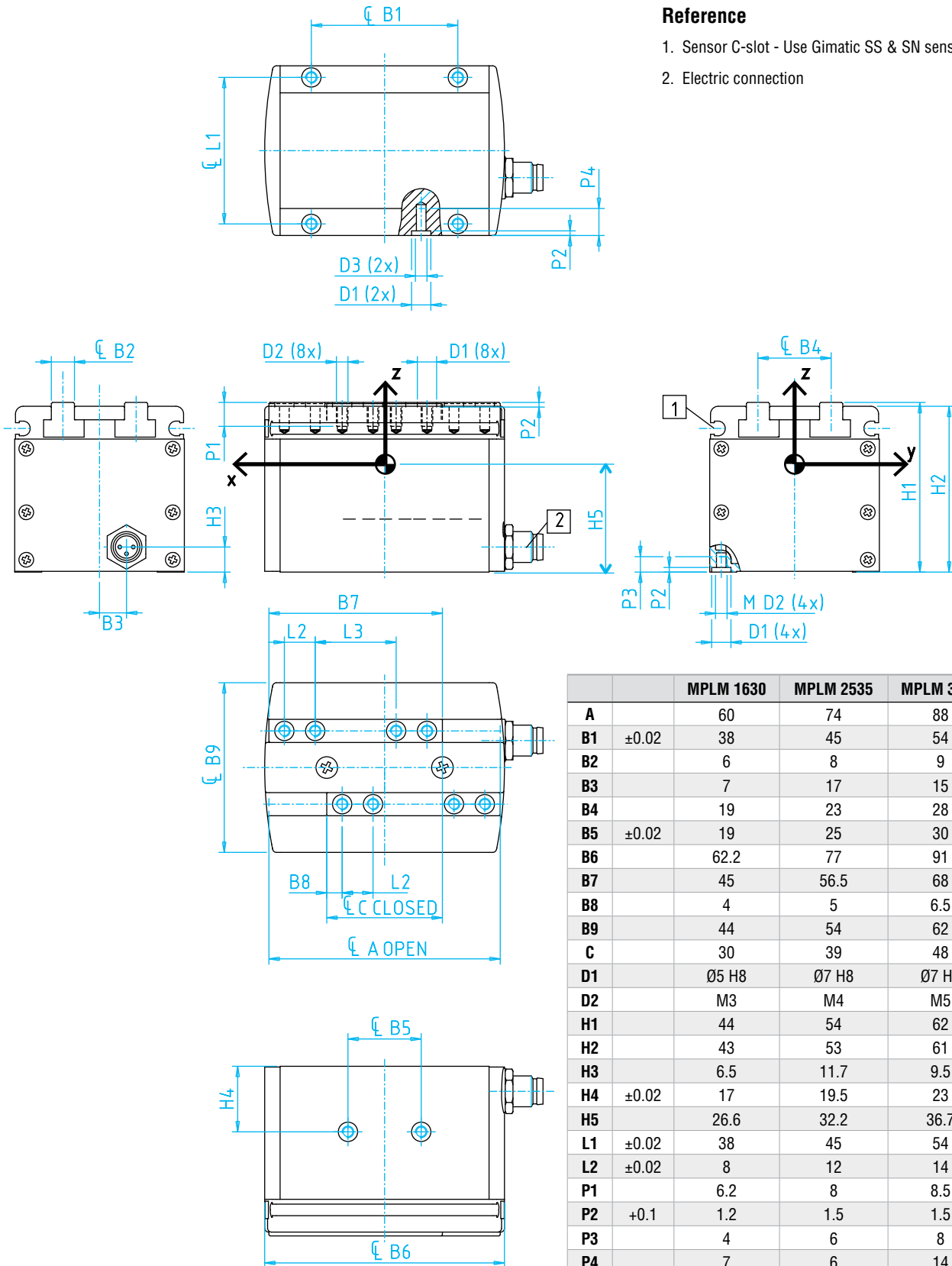


Quick#	7269	7270	7271
Part#	MPLM1630	MPLM2535	MPLM3240
Price	\$1,193.00	\$1,259.00	\$1,327.00
Total gripping force	14.16 lbf	22 lbf	47.2 lbf
Stroke	2x15mm	2x17.5mm	2x20mm
Max frequency	0.51Hz	0.93Hz	0.70Hz
Jaw closing time	0.37s	0.42s	0.50s
Working gripper time	0.52s	0.53s	0.53s
Duty cycle	54%	100%	74%
Peak current	0.9 A	1.2 A	3.8 A
Brushless motor power	6W	11W	23W
Open/closed input signal		PNP open collector	
Environmental Degree		IP54	
Noise level		<70dB	
Weight (motor included)	263g	500g	844g

### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

# Two-Jaw Electric Grippers with Long Stroke – MPLM



## Two-Jaw Electric Angular Grippers – MPBM

- Self-centering jaw system (patented).
- Angular jaw movement.
- Self-adapting jaws part.
- Jaws contained within gripper profile.
- Optional Gimatic C-slot sensors on page 1002.
- Cables for direct connection to cobots on page 181.



MPBM gripper series is perfectly compatible with MRE rotary series actuators without any special plate.



#7260



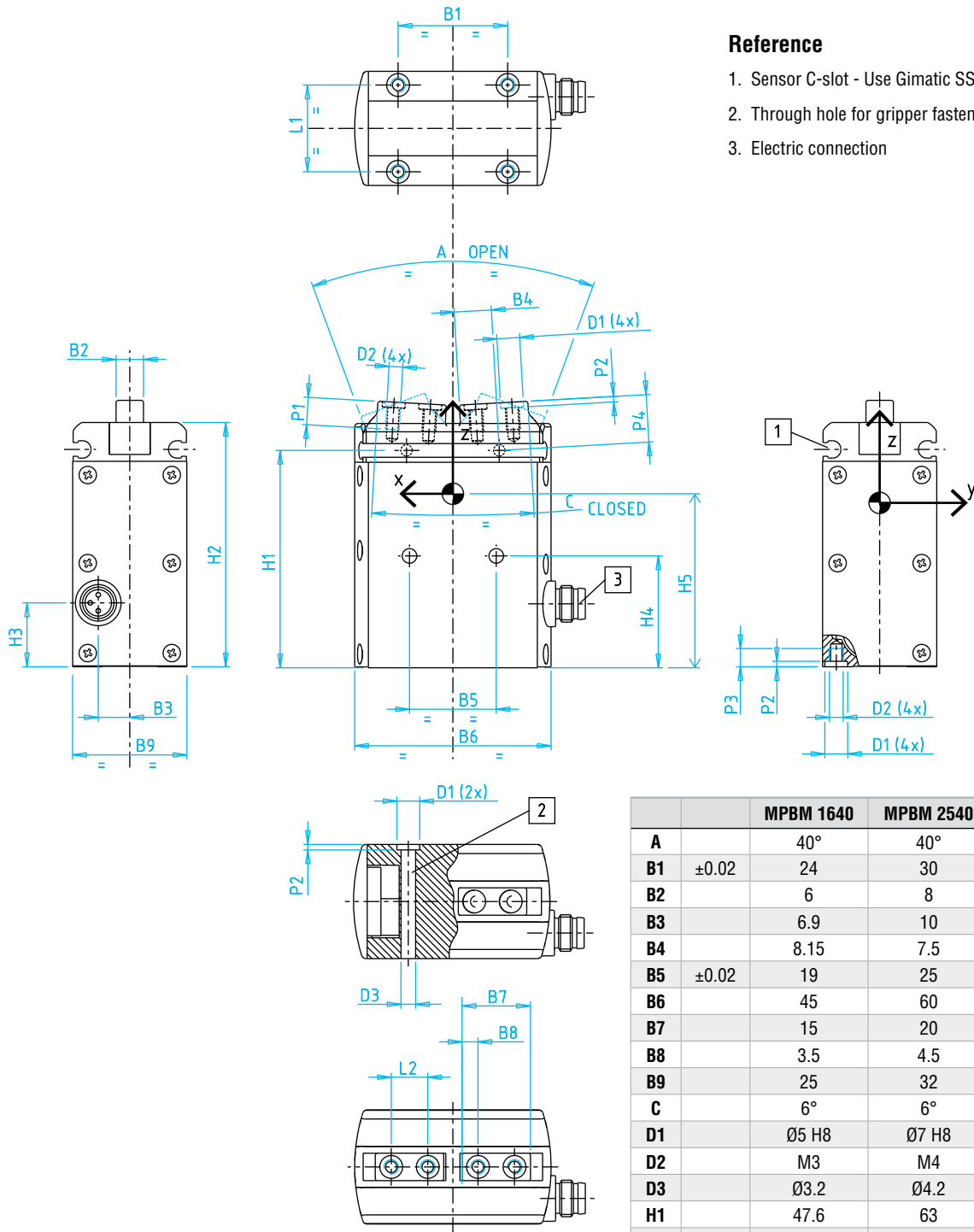
#7262

Quick#	7260	7261	7262
Part#	MPBM1640	MPBM2540	MPBM3240
Price	\$925.00	\$992.00	\$1,059.00
Total gripping force	6 in-lbf	13.4 in-lbf	24.5 in-lbf
Stroke	2x23°	2x23°	2x23°
Max frequency	0.93Hz	0.85Hz	0.81Hz
Jaw closing time	0.09s	0.13s	0.14s
Working gripper time	0.18s	0.31s	0.25s
Duty cycle	34%	53%	41%
Peak current	0.9 A	1.2 A	3.8 A
Brushless motor power	6W	11W	23W
Open/closed input signal	PNP open connector		
Repetition accuracy	0.02mm		
Environmental Degree	IP54		
Noise level	<70dB		
Weight (motor included)	140g	315g	510g

### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

# Two-Jaw Electric Angular Grippers – MPBM



**Reference**

1. Sensor C-slot - Use Gimatic SS & SN sensors
2. Through hole for gripper fastening
3. Electric connection

		MPBM 1640	MPBM 2540	MPBM 3240
<b>A</b>		40°	40°	40°
<b>B1</b>	±0.02	24	30	36
<b>B2</b>		6	8	9
<b>B3</b>		6.9	10	11
<b>B4</b>		8.15	7.5	12.25
<b>B5</b>	±0.02	19	25	30
<b>B6</b>		45	60	73
<b>B7</b>		15	20	24
<b>B8</b>		3.5	4.5	5
<b>B9</b>		25	32	35
<b>C</b>		6°	6°	6°
<b>D1</b>		Ø5 H8	Ø7 H8	Ø7 H8
<b>D2</b>		M3	M4	M5
<b>D3</b>		Ø3.2	Ø4.2	Ø5.2
<b>H1</b>		47.6	63	72
<b>H2</b>		53.5	70	80
<b>H3</b>		14	17	19
<b>H4</b>	±0.02	24.5	32	38
<b>H5</b>		32.3	42.5	48.5
<b>L1</b>	±0.02	19	24	26
<b>L2</b>	±0.02	8	11	14
<b>P1</b>		6	8	10
<b>P2</b>	+0.1	1.2	1.5	1.5
<b>P3</b>		4	6	8
<b>P4</b>		10.4	14	16

## Two-Jaw Radial Self-Centering Electric Gripper – MPRM

- Self-centering jaw system (patented).
- Radial jaw movement.
- Optional Ø4mm inductive sensors on page 1004.
- Cables for direct connection to cobots on page 181.



MPRM gripper series is perfectly compatible with MRE rotary series actuators without any special plate.



#7263



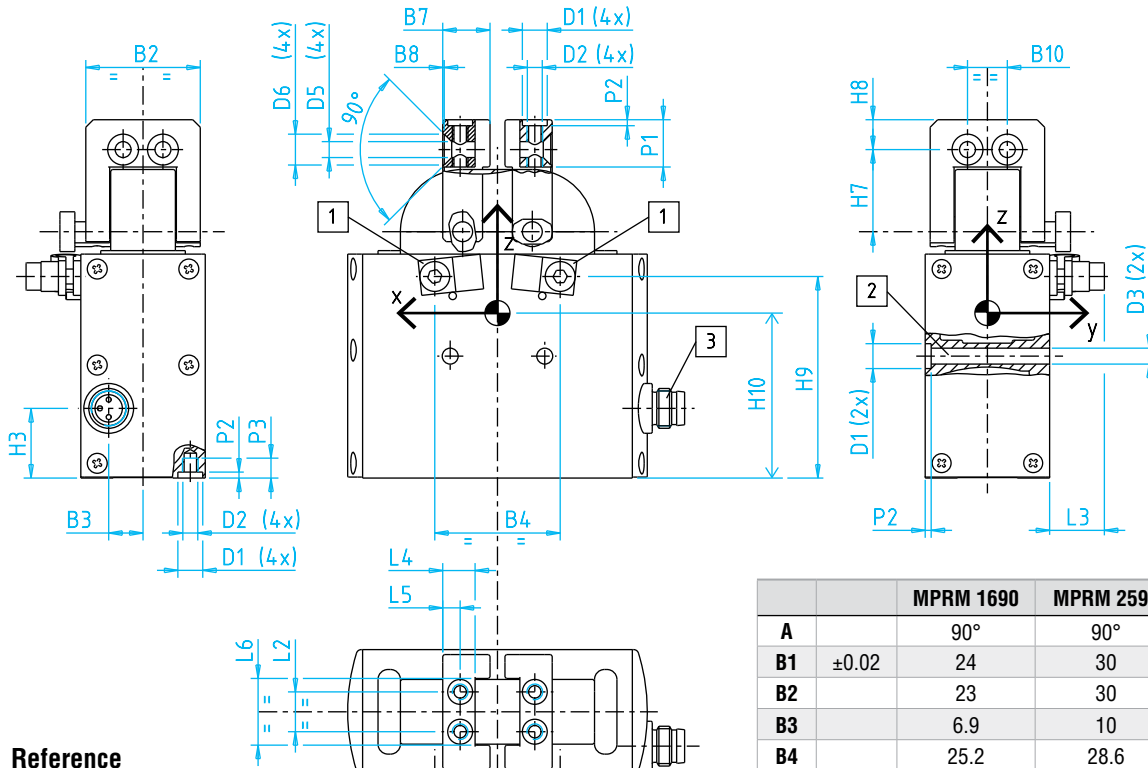
#7265

Quick#	7263	7264	7265
Part#	MPRM1690	MPRM2590	MPRM3290
Price	\$1,193.00	\$1,259.00	\$1,327.00
Total gripping torque	4.6 lbf	8 lbf	22.66 lbf
Stroke	2 x 93°		
Max frequency	0.85Hz	1.2Hz	0.9Hz
Jaw closing time	0.24s	0.31s	0.39s
Working gripper time	0.43s	0.42s	0.45s
Duty cycle	73%	100%	83%
Peak current	0.9 Apk	1.2 Apk	3.8 Apk
Brushless motor power	6W	11W	23W
Open/closed input signal	PNP open connector		
Repetition accuracy	0.02mm		
Environmental Degree	IP54		
Noise level	<70dB		
Weight (motor included)	210g	445g	730g

### Continuous Flex Cables

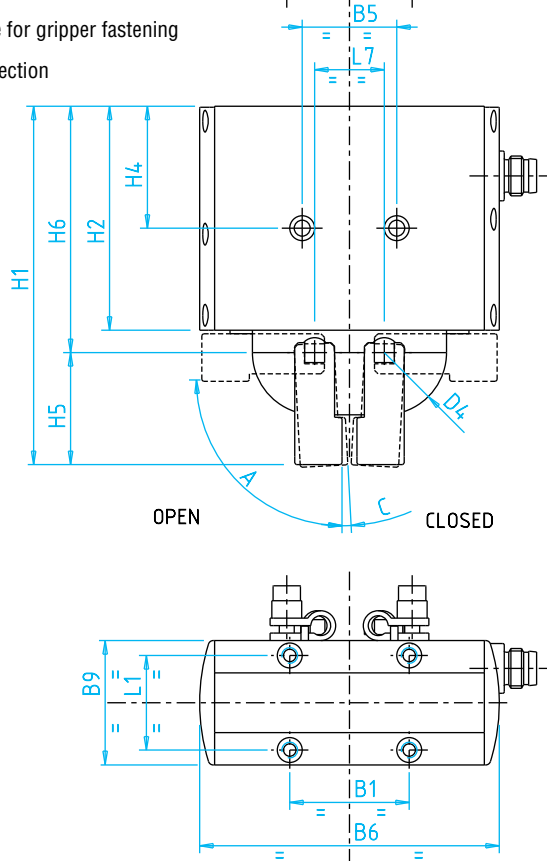
Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

# Two-Jaw Radial Self-Centering Electric Gripper – MPRM



**Reference**

- 1. Sensor slot -  
Use Ø4mm Inductive sensors
- 2. Through hole for gripper fastening
- 3. Electric connection



	MPRM 1690	MPRM 2590	MPRM 3290
<b>A</b>	90°	90°	90°
<b>B1</b>	±0.02 24	30	36
<b>B2</b>	23	30	34
<b>B3</b>	6.9	10	11
<b>B4</b>	25.2	28.6	33
<b>B5</b>	±0.02 19	25	30
<b>B6</b>	62.2	75	89
<b>B7</b>	9.5	13	16
<b>B8</b>	0.3	0.3	0.3
<b>B9</b>	25	32	35
<b>B10</b>	±0.05 8	10	12
<b>C</b>	3°	3°	3°
<b>D1</b>	Ø5 H8	Ø7 H8	Ø7 H8
<b>D2</b>	M3	M4	M5
<b>D3</b>	Ø3.2	Ø4.2	Ø5.2
<b>D4</b>	R12.5	R15.375	R18
<b>D5</b>	Ø3.2	Ø4.2	Ø5.2
<b>D6</b>	Ø6.2	Ø8.6	Ø10
<b>H1</b>	72	95	111
<b>H2</b>	45	59.5	68.5
<b>H3</b>	14	17	19
<b>H4</b>	±0.05 24.5	32	38
<b>H5</b>	22.5	29	34
<b>H6</b>	49.5	66	77
<b>H7</b>	±0.02 16.5	21	24.5
<b>H8</b>	±0.05 6	8	9.5
<b>H9</b>	40.5	55	64
<b>H10</b>	37	50	58.6
<b>L1</b>	±0.02 19	24	26
<b>L2</b>	±0.02 8	10	12
<b>L3</b>	11	11	11
<b>L4</b>	6.5	9	11
<b>L5</b>	±0.02 3.5	5	5
<b>L6</b>	13.4	18.4	20.4
<b>L7</b>	14	17.5	22
<b>P1</b>	9.5	12.5	15
<b>P2</b>	±0.1 1.2	1.5	1.5
<b>P3</b>	4	6	8

## Two-Jaw Parallel Self-Centering Electric Gripper – MPRJ

- Self-adapting jaws part for internal or external applications.
- Exclusive self-centering system.
- Fingers can be mounted on both sides of the jaws.
- Optional Ø4mm inductive sensors on page 1004.
- 10 million cycle maintenance free.
- Well protected against dusty environments.
- Cables for direct connection to cobots on page 181.



MPRJ gripper series is perfectly compatible with MRE rotary series actuators without any special plate.



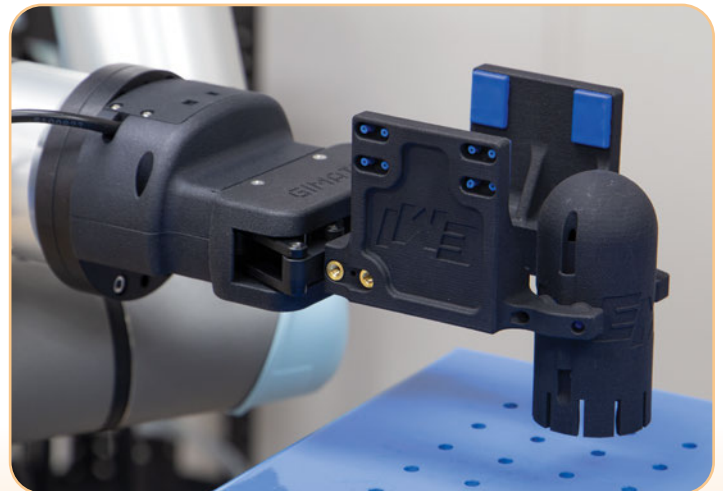
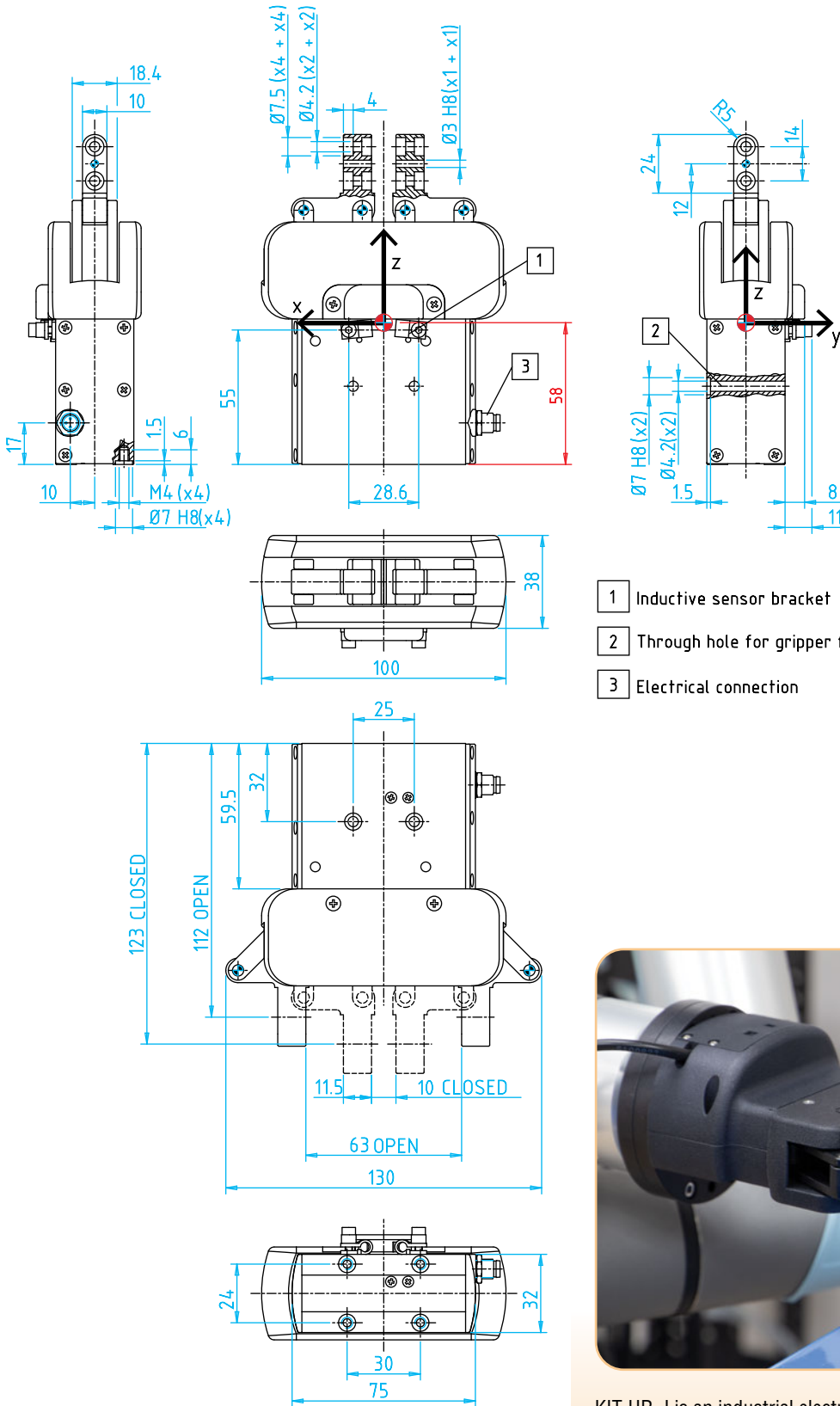
Kit-UR-J shown with 3D Printed Jaws & HNBR pads.

<b>Quick#</b>	<b>7408</b>
<b>Part#</b>	<b>MPRJ2553</b>
<b>Price</b>	<b>\$2,033.00</b>
<b>Total gripping force</b>	5.4 lbf
<b>Stroke</b>	50mm (2 x 26.5mm)
<b>Max frequency</b>	1.6 Hz
<b>Jaw closing time</b>	0.15s
<b>Working gripper time</b>	0.24s
<b>Duty cycle</b>	76%
<b>Peak current</b>	1.2 Apk
<b>Brushless motor power</b>	11W
<b>Open/closed input signal</b>	PNP open collector
<b>Repetition accuracy</b>	0.02mm
<b>Environmental Degree</b>	IP54
<b>Noise level</b>	< 70 dB
<b>Weight (motor included)</b>	480g

### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

## Two-Jaw Parallel Self-Centering Electric Gripper – MPRJ



KIT-UR-J is an industrial electric gripper with a long stroke that plugs straight to your Universal Robot's wrist connector. Equipped with machined jaws that can be fitted with custom jaws specific to your application. See page 153 for more information!



## Two-Jaw Angular Self-Centering Electric Sprue Gripper – MPBS

- Self-centering jaw system (patented).
- Angular jaw movement.
- S version with gripping sensor on the jaw.
- Cables for direct connection to cobots on page 181.



MPBS Mounting Bracket with M12x1 thread

Quick#	Part#	Price	Wt.
7372	MFI-A354	\$41.75	25g

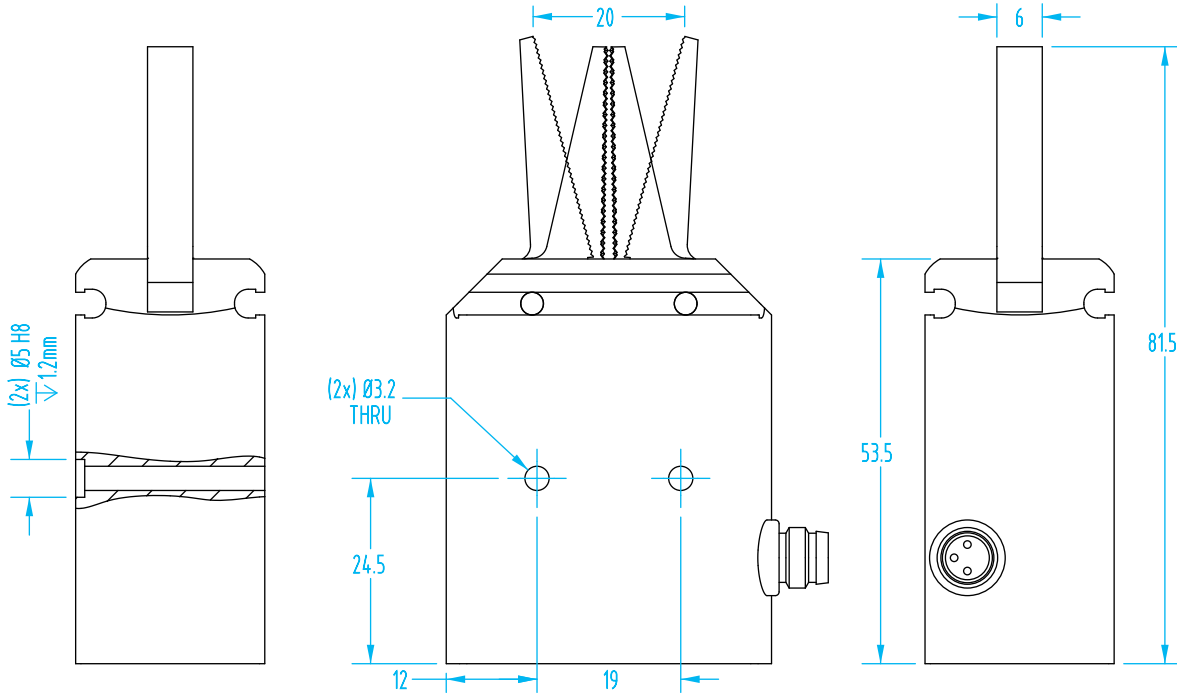
Quick#	7349	7350
Part#	MPBS1630	MPBS1630S*
Price	\$925.00	\$965.00
Total gripping force		6.2 in-lbf
Stroke		2x16mm
Max frequency		1.2Hz
Jaws closing time		0.06s
Working gripper time		0.18s
Duty cycle		41%
Peak current		0.9 Apk
Brushless motor power		6W
Open/closed input signal	PNP open collector	PNP open collector
Repetition accuracy		0.04°
Noise level		<70dB
Environmental Degree		IP54
Weight (motor included)	145g	150g
*Note: Sensing available on finger		

### Continuous Flex Cables

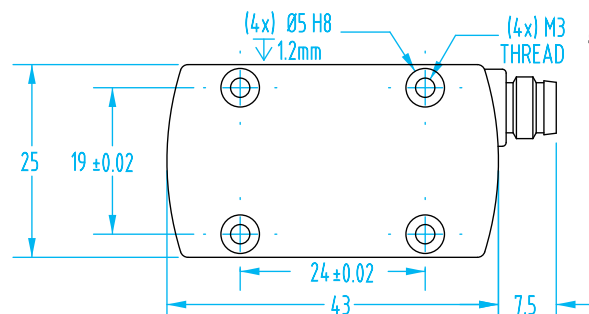
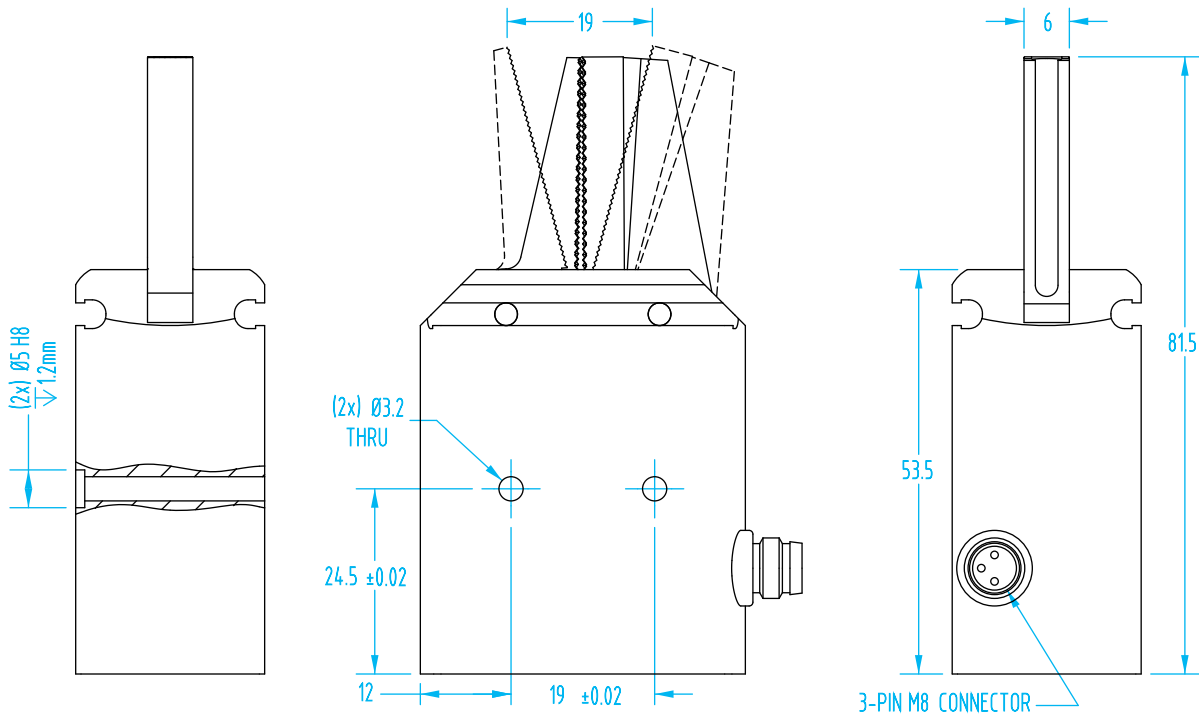
Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

**Two-Jaw Angular Self-Centering Electric Sprue Gripper – MPBS**

#7349



#7350



#7349 & #7350  
bottom view

## Three-Jaw Electric Grippers – MPTM

- Self-centering jaw system (patented).
- 3-jaw parallel jaw movement.
- T-slot style jaws for heavy loads.
- Optional Gimatic C-slot sensors on page 1002.
- Cables for direct connection to cobots on page 181.



Quick#	6992	6993	6994
Part#	MPTM1606	MPTM2508	MPTM3210
Price	\$1,059.00	\$1,126.00	\$1,193.00
Total gripping force	11 lbf	22 lbf	54 lbf
Stroke	3x3mm	3x4mm	3x5mm
Max frequency	0.95 Hz	0.83 Hz	0.85 Hz
Jaw closing time	0.08s	0.12s	0.16s
Working gripper time	0.19s	0.31s	0.26s
Duty cycle	36%	52%	44%
Peak current	0.9 A	1.2 A	3.8 A
Brushless motor power	6W	11W	23W
Noise level		<70dB	
Weight (motor included)	183g	430g	693g
Environmental Degree		IP54	

Use Quick#s for easy online ordering.

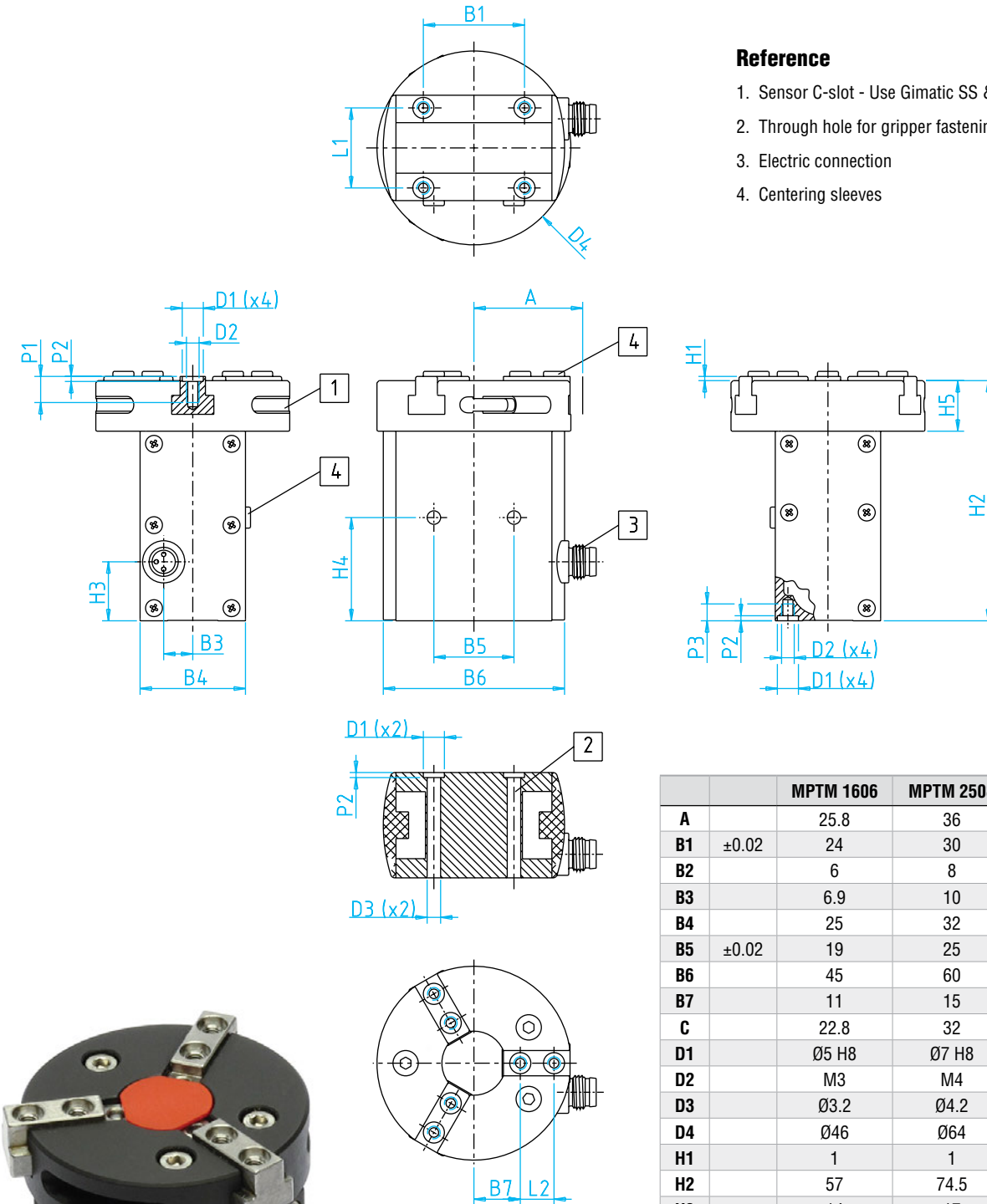
### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

# Three-Jaw Electric Grippers – MPTM

### Reference

1. Sensor C-slot - Use Gimatic SS & SN sensors
2. Through hole for gripper fastening
3. Electric connection
4. Centering sleeves



	MPTM 1606	MPTM 2508	MPTM 3210
A	25.8	36	44
B1	±0.02 24	30	36
B2	6	8	9
B3	6.9	10	11
B4	25	32	35
B5	±0.02 19	25	30
B6	45	60	73
B7	11	15	18.5
C	22.8	32	39
D1	Ø5 H8	Ø7 H8	Ø7 H8
D2	M3	M4	M5
D3	Ø3.2	Ø4.2	Ø5.2
D4	Ø46	Ø64	Ø78
H1	1	1	1
H2	57	74.5	85.5
H3	14	17	19
H4	±0.02 24.5	32	38
H5	12	15	17
L1	±0.02 19	24	26
L2	±0.02 8	12	14
P1	6.2	8	8.5
P2	+0.1 1.2	1.5	1.5
P3	4	6	8

## Electric Rotary Actuators – MRE

- Capable of 90° or 180° rotation (angle mechanically set).
- Can be fitted to a gripper without a special mounting plate.
- Optional Ø4mm inductive sensors on page 1004.



All electric grippers are perfectly compatible with MRE rotary series actuators without any special plate.



Quick#	6995		6996		6997	
Part#	MRE16180		MRE25180		MRE32180	
Price	<b>\$1,059.00</b>		<b>\$1,126.00</b>		<b>\$1,193.00</b>	
Swivelling torque	4.0 in-lbf		7.1 in-lbf		12.2 in-lbf	
Swivelling angle	90°	180°	90°	180°	90°	180°
Max frequency	0.61 Hz	0.60 Hz	1.46 Hz	0.91 Hz	0.83 Hz	0.62 Hz
Swivelling time without load	0.12s	0.35s	0.22s	0.44s	0.15s	0.35s
Working actuator time	0.35s	0.57s	0.33s	0.55s	0.36s	0.57s
Duty cycle	46%	66%	99%	100%	39%	79%
Power supply	24 Vdc ± 10%					
Peak current	0.9 A		1.2 A		3.8 A	
Brushless motor power	6W		11W		23W	
Connection	M8 - 3 pole					
Open/closed input signal	PNP open connector					
Noise level	<70dB					
Weight (motor included)	195g		400g		738g	
IPA Clean Room Certification	ISO04		TBA		TBA	
Environmental Degree	IP54					

### Continuous Flex Cables

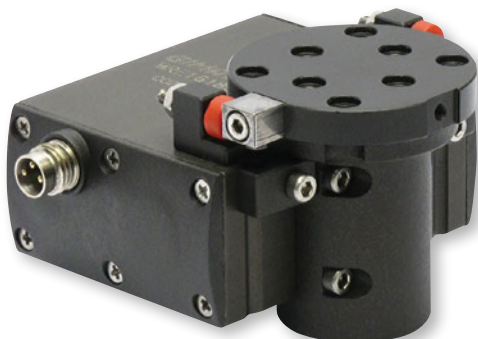
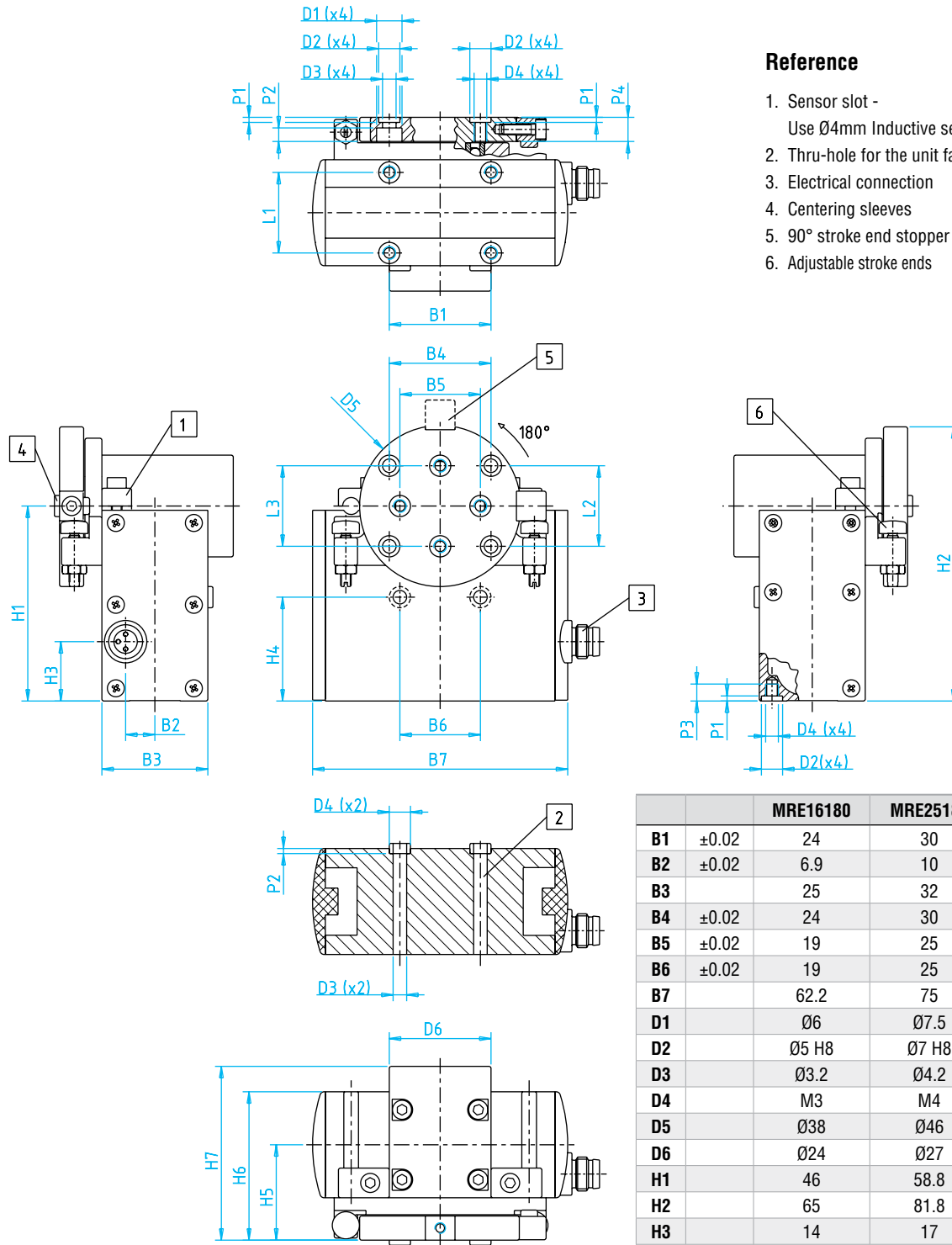
Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

For more information visit: [www.EMlcorp.com](http://www.EMlcorp.com)

# Electric Rotary Actuators – MRE

## Reference

1. Sensor slot -  
Use Ø4mm Inductive sensors
2. Thru-hole for the unit fastening
3. Electrical connection
4. Centering sleeves
5. 90° stroke end stopper
6. Adjustable stroke ends



		MRE16180	MRE25180	MRE32180
B1	±0.02	24	30	36
B2	±0.02	6.9	10	11
B3		25	32	35
B4	±0.02	24	30	36
B5	±0.02	19	25	30
B6	±0.02	19	25	30
B7		62.2	75	89
D1		Ø6	Ø7.5	Ø9
D2		Ø5 H8	Ø7 H8	Ø7 H8
D3		Ø3.2	Ø4.2	Ø5.2
D4		M3	M4	M5
D5		Ø38	Ø46	Ø55
D6		Ø24	Ø27	Ø31
H1		46	58.8	67.5
H2		65	81.8	95
H3		14	17	19
H4	±0.02	24.5	32	38
H5		22.5	28.5	33
H6		35	43.5	50.5
H7		41	52	60
L1	±0.02	19	24	26
L2	±0.02	19	22	26
L3	±0.02	19	25	30
P1		1.2	1.5	1.5
P2	+0.1	3.2	4.1	5
P3		4	6	8
P4		5.7	7.2	8.7

## Electric Indexing Table – MTRE

- Available with 4, 6, 8 or 12 positions.
- Clockwise rotation.
- High torque.
- Suitable for heavy loads.
- Mechanical indexing reset in the case of accidental block.
- Optional Gimatic C-slot sensors on page 1002.

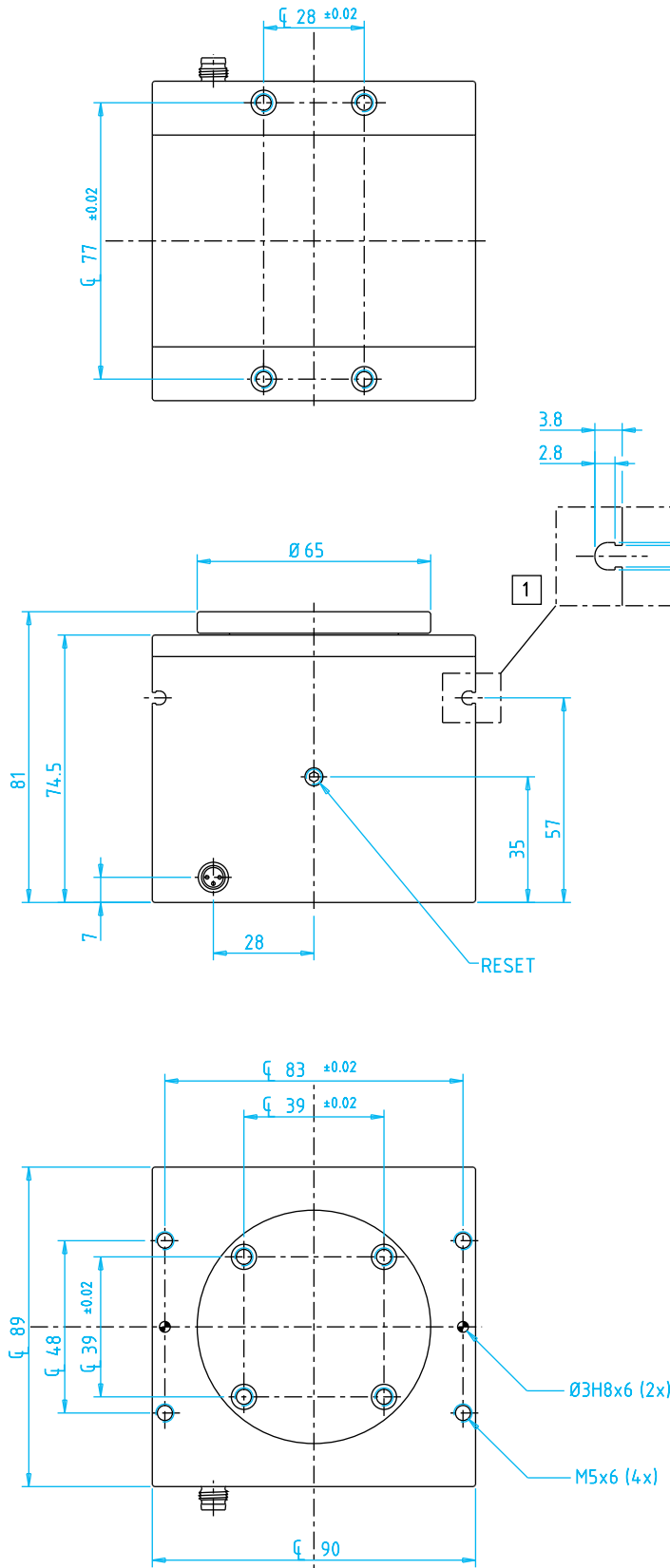


Quick#	7331	7332	7333	7334
Part#	MTRE3204C	MTRE3206C	MTRE3208C	MTRE3212C
Price	\$1,327.00	\$1,327.00	\$1,327.00	\$1,327.00
Swivelling torque	196 Ncm			
Swivelling angle	4x90°	6x60°	8x45°	12x30°
Max frequency	0.95 Hz	0.9 Hz	0.85 Hz	0.8 Hz
Swivelling time without load	0.47s	0.36s	0.29s	0.19s
Working actuator time	0.53s	0.43s	0.47s	0.29s
Duty cycle	100%	80%	60%	50%
Power supply	24 Vdc ± 10%			
Peak current	3.8 Apk			
Brushless motor power	23W			
Connection	M8 - 3 pole			
Open/closed input signal	PNP open connector			
Noise level	<70dB			
Weight (motor included)	1800g			
Environmental Degree	IP54			

### Continuous Flex Cables

Quick#	Part#	Description	Price
7160	CFG800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFG890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

# Electric Indexing Table – MTRE



## Reference

1. Sensor C-slot - Use Gimatic SS & SN sensors
2. Electrical connection

