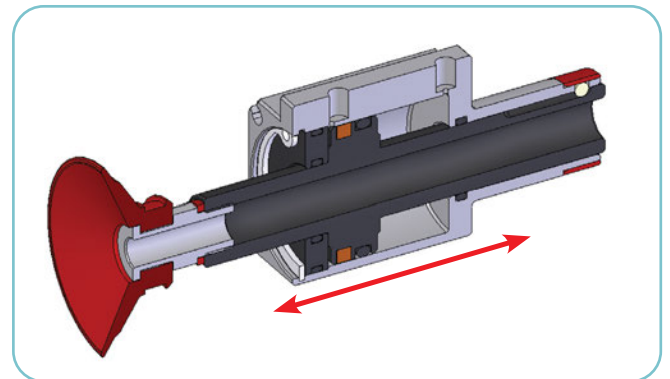
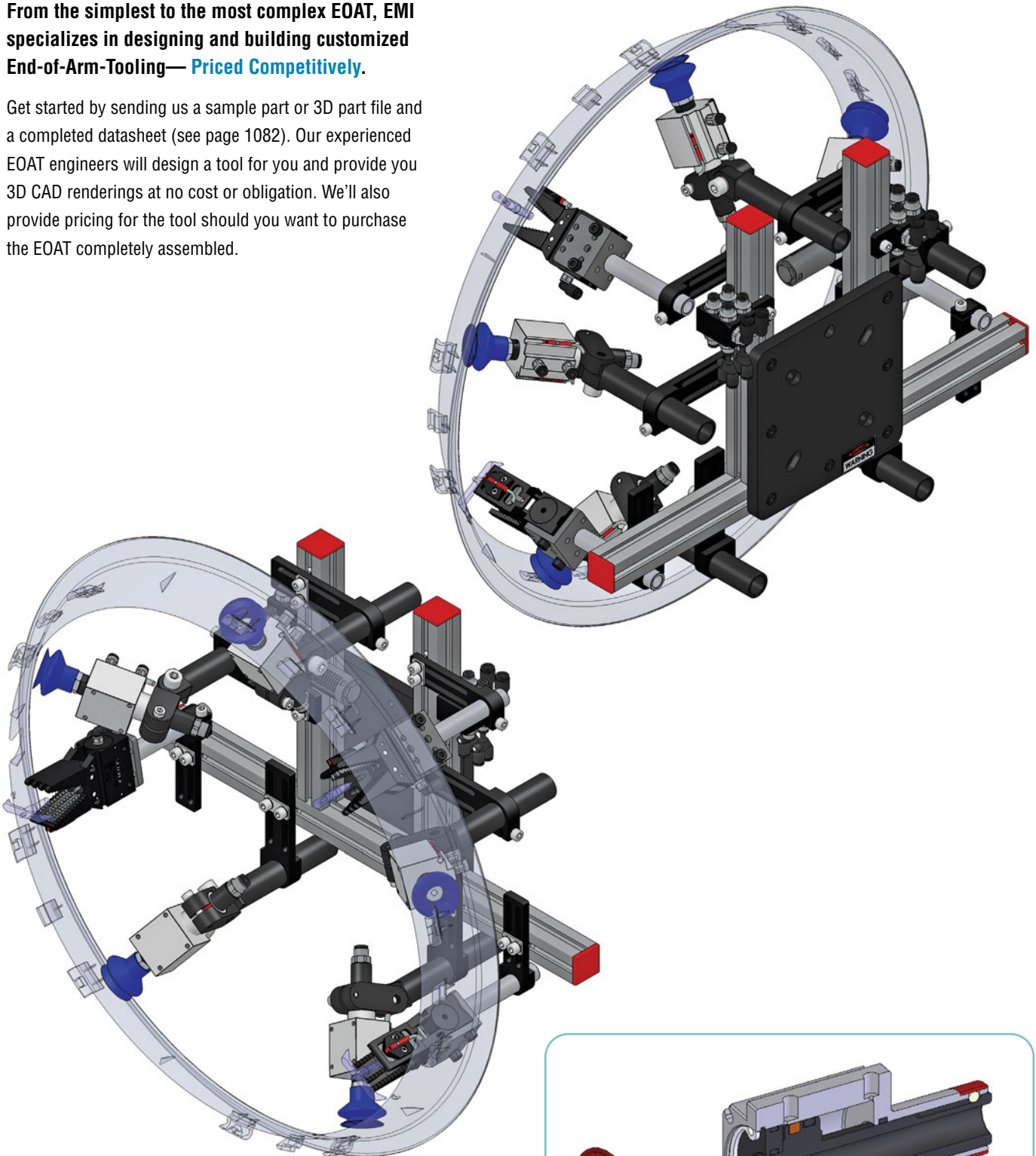


EOAT Design and Build Service

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.



Air Cylinder & Slides Overview

Vacuum Cylinder

p.738



Parallel Gripper Finger

p.742



Clampable Barrel Cylinder

p.745



Clampable Mini-Cylinder

p.746



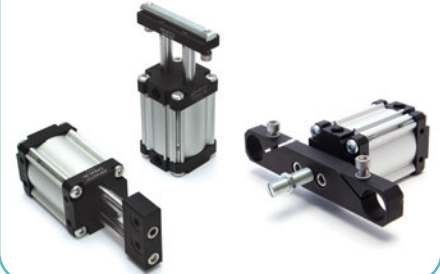
Compact Cylinder & Accessories

p.752



Short Stroke Cylinder

p.756



Cylinder with Arm

p.760



Compact Cylinder & Accessories

p.762
p.766



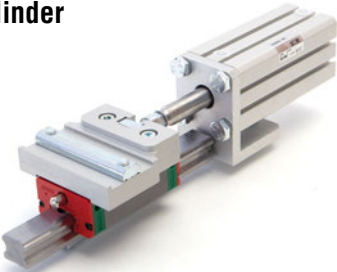
Heavy-Duty Guided Cylinder

p.770



Heavy-Duty Guided Cylinder

p.772



Heavy-Duty Gripper Slide

p.774



MXS Precision Slide

p.776



Slide for EOAT

p.786



Mini Slide

p.778



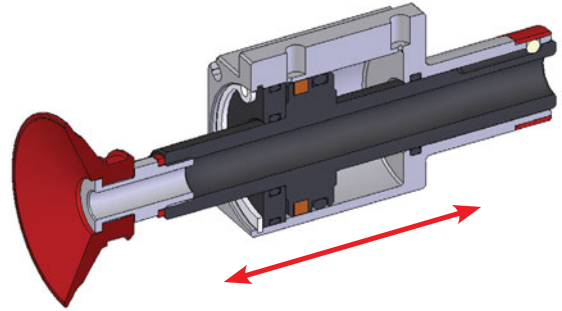
Heavy-Duty Guided Cylinder

p.794



Vacuum Cylinder – OFL

- Double acting with 20mm or 30mm piston bore.
- Large thru-hole for M5 or G1/8" vacuum cup fittings.
- Smooth, non-rotating activation for consistent positioning.
- Ø20mm clampable shaft.
- See Sensor Reference Guide on page 1007 for a full list of compatible sensors.



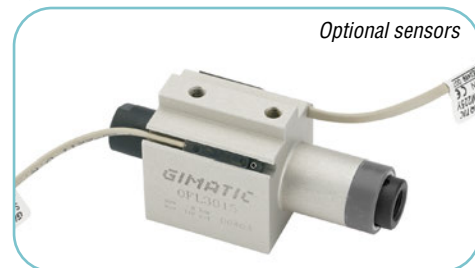
Quick#	6771	6772	7126
Part#	OFL2010	OFL3015	OFL3030
Price	\$113.00	\$123.00	\$202.00
Medium	Filtered, lubricated / non lubricated compressed air		
Pressure range	29–116 psi		
Temperature range	41°–140°F		
Extension / retraction force at 87 psi	29 lbf	67 lbf	67 lbf
Total stroke (±0.2 mm)	10mm	15mm	30mm
Weight	60g	110g	140g

Use Quick#s for easy online ordering.

Sensors

Quick#	Part#	Price	Signal	Description
1882	SS4N225G	\$27.20	PNP	3-wire SS Style with lead
1883	SS4M225G	\$27.20	NPN	3-wire SS Style with lead
1884	SS3M203G	\$31.16	NPN	3-wire SS Style with M8 connector
6282	SS3N203G	\$31.16	PNP	3-wire SS Style with M8 connector

Optional sensors



Thru-hole for vacuum feed.

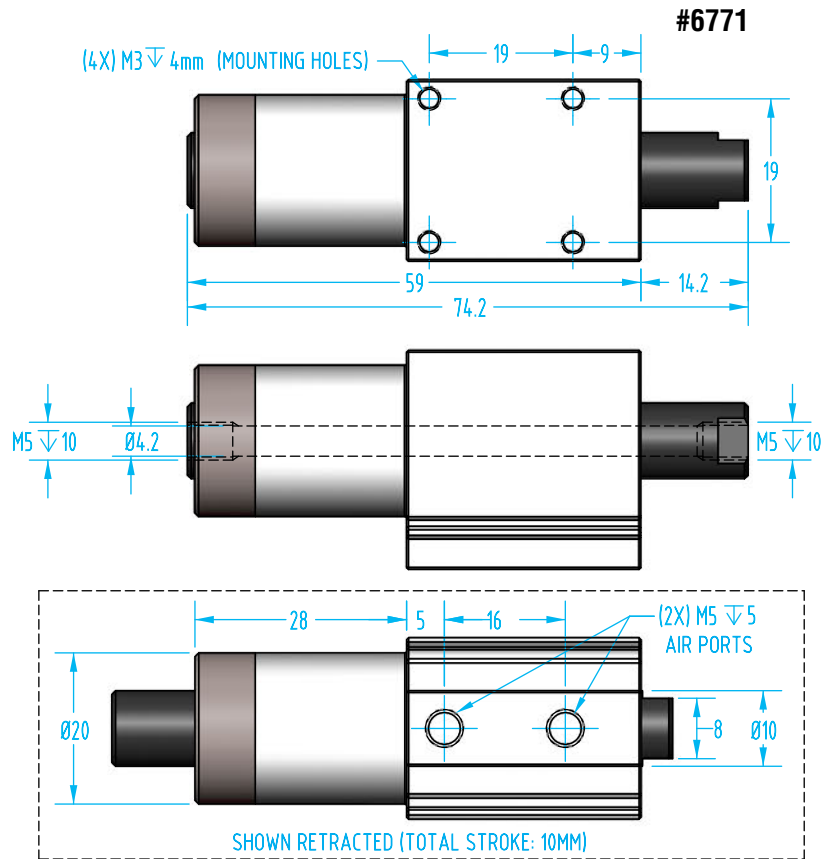
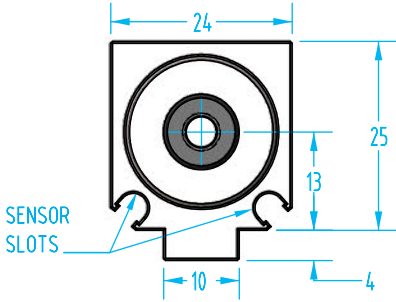
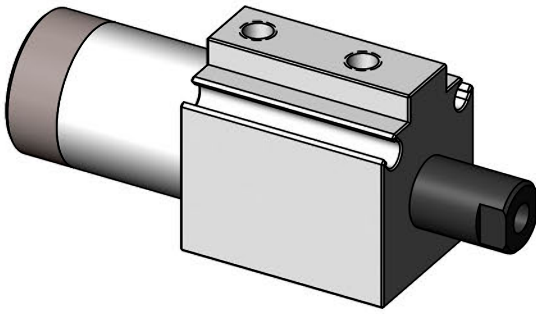


Non-rotating

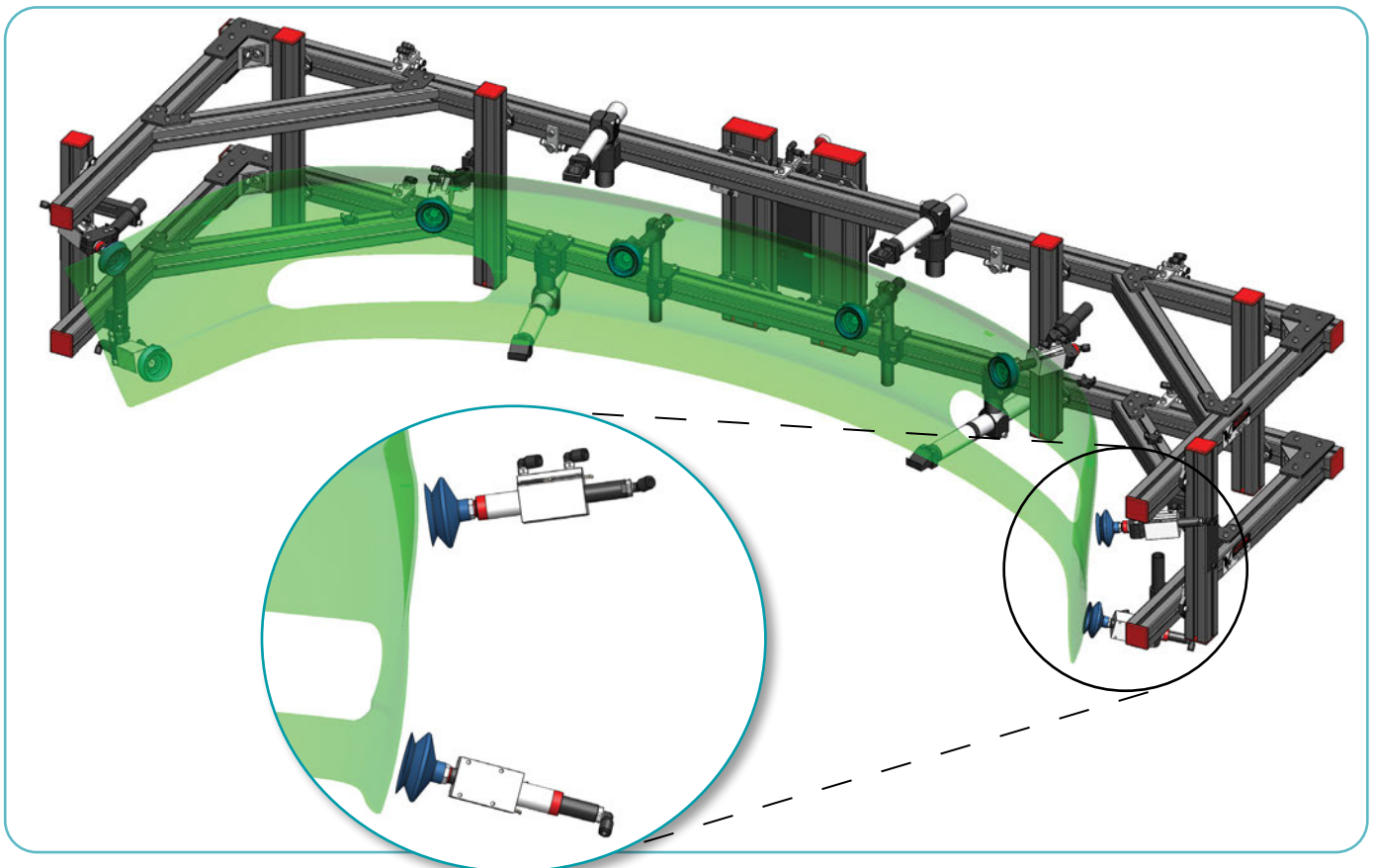


Vacuum Cylinder – OFL

(Dimensioned drawings shown full scale)



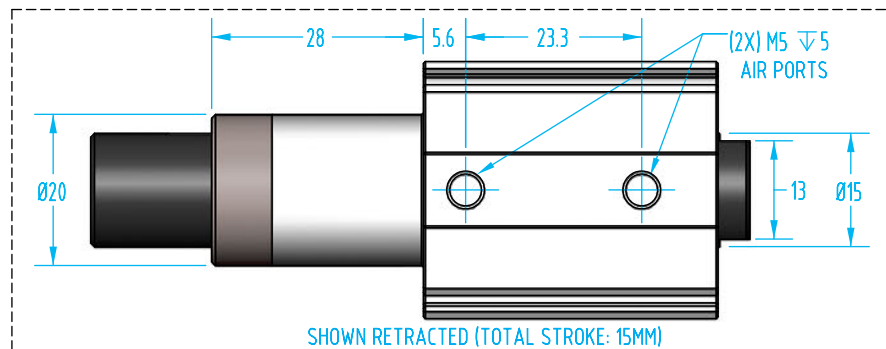
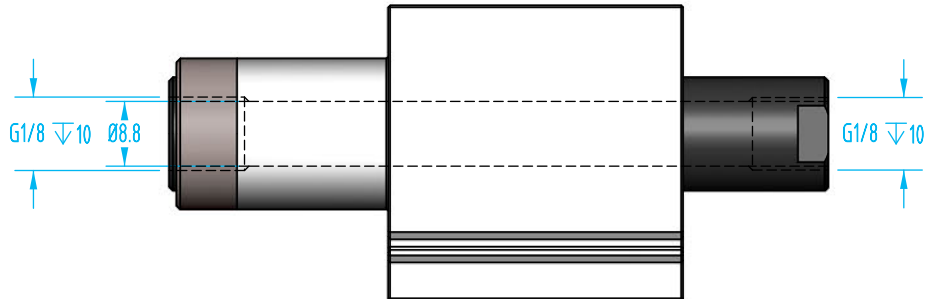
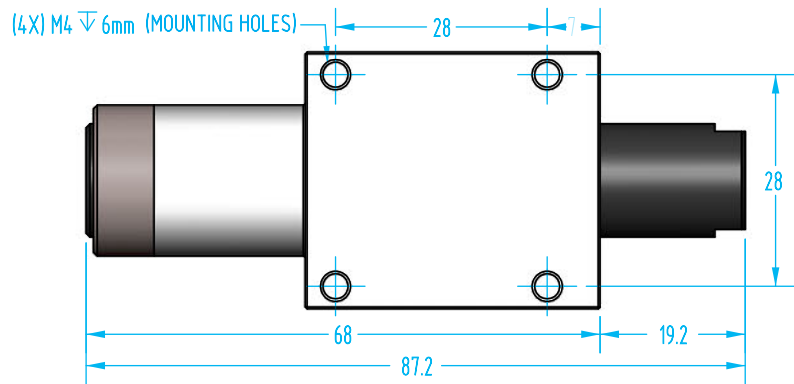
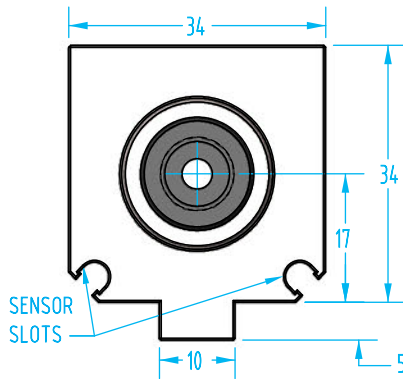
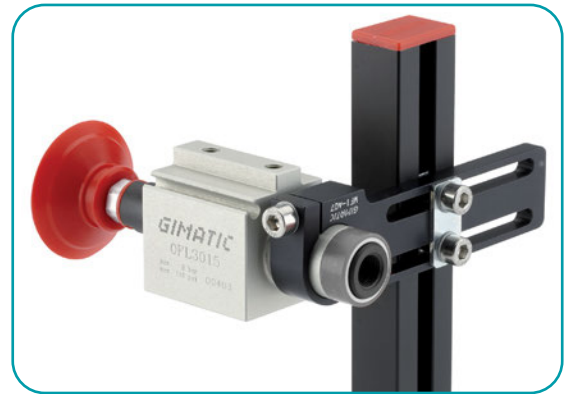
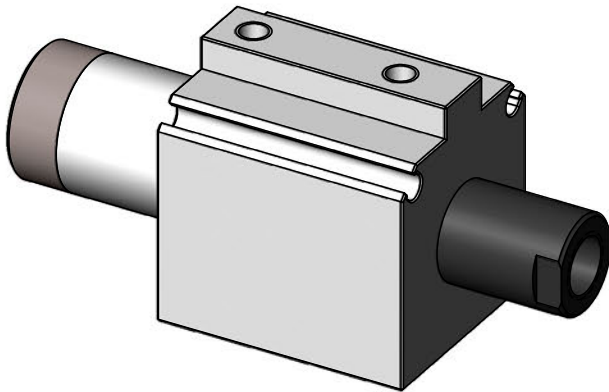
#6771



Vacuum Cylinder – OFL

#6772

(Dimensioned drawings shown full scale)



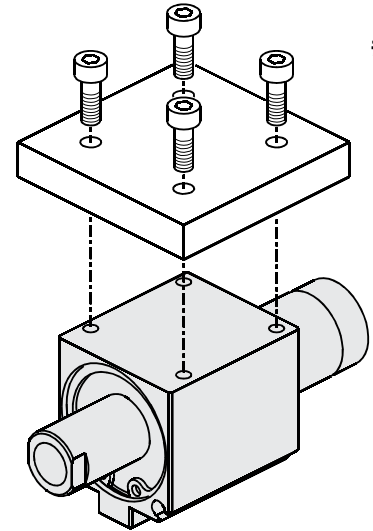
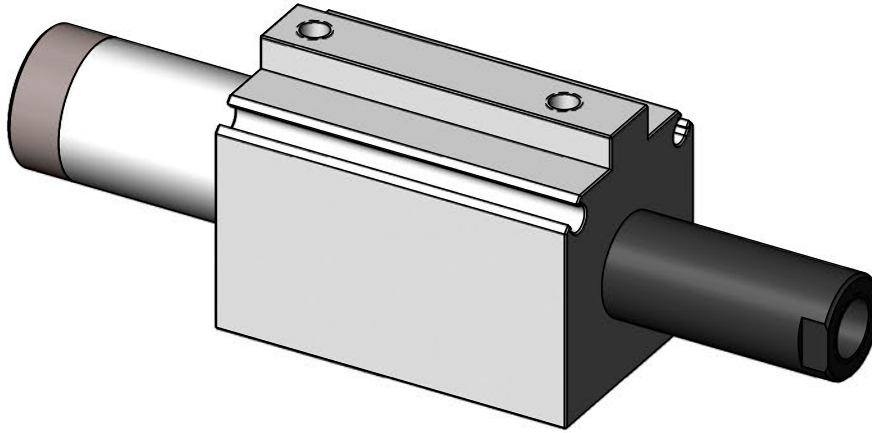
Fittings Available
on page 1043



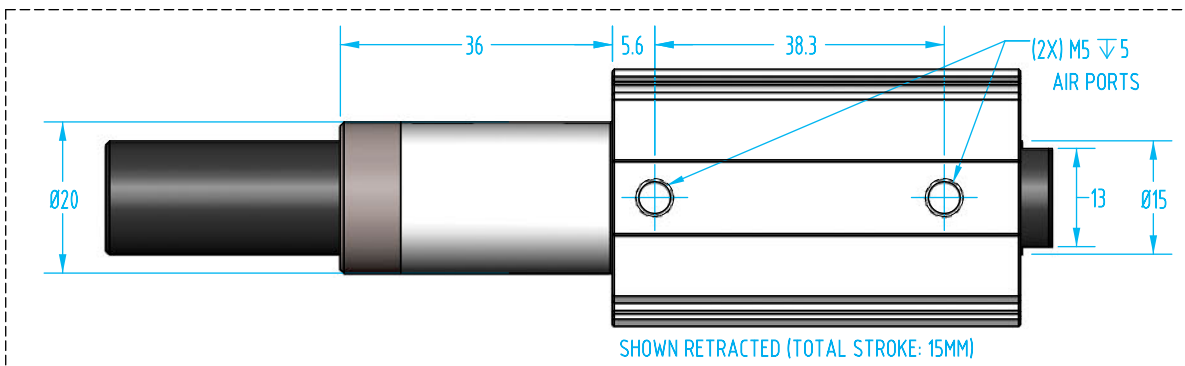
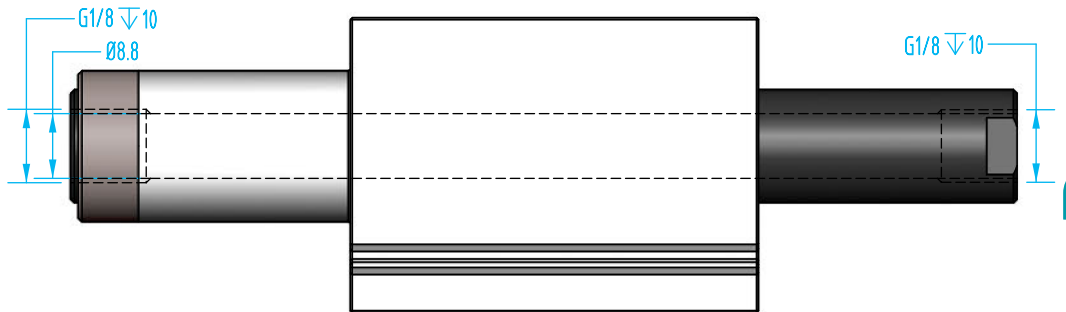
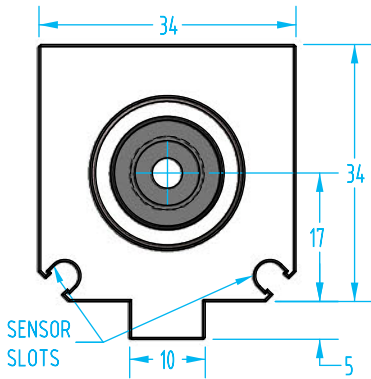
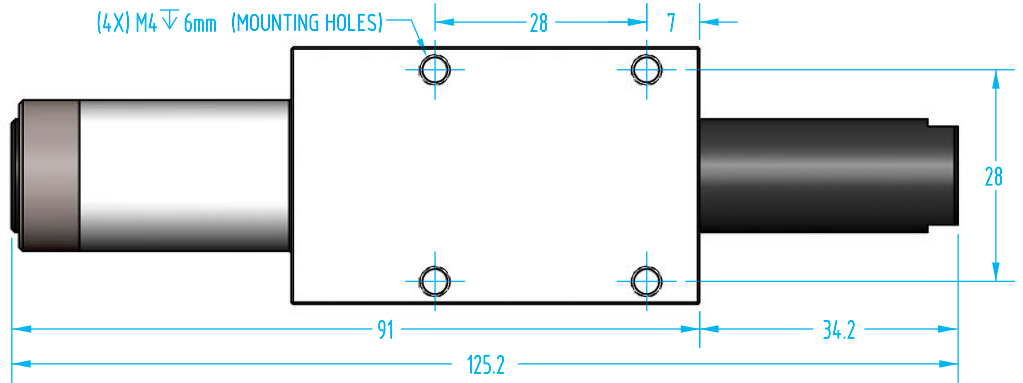
Vacuum Cylinder – OFL

#7126

(Dimensioned drawings shown full scale)



(4X) M4 ∇ 6mm (MOUNTING HOLES)



Parallel Gripper Fingers – OFX

- Actuation by a single-acting piston.
- Linear motion of the finger, perpendicular to the piston.
- Thru-hole in the finger, to provide vacuum to a cup.
- Removable HNBR pad on the finger, for soft, non-marring touch.
- See page 508 for application examples and dimensional drawings.
- See Sensor Reference Guide on page 1007 for a full list of compatible sensors.



Quick#	5840	6598	6599	5841
Part#	OFX14-06	OFX20-10	OFX30-15	OFX50-20
Price	\$172.00	\$190.00	\$242.00	\$296.00
Medium	Filtered, lubricated / non lubricated compressed air			
Pressure range	36.26–116 psi			
Opening gripping force at 87 psi	3–14 lbf	5–26 lbf	10–52 lbf	23–203 lbf
Total stroke (±0.2 mm)	6mm	10mm	15mm	20mm
Weight	30g	65g	190g	740g

HNBR Pads for OFX Parallel Gripper Fingers

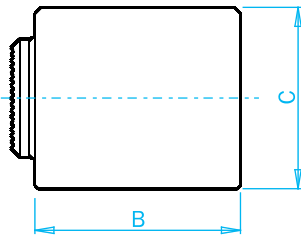
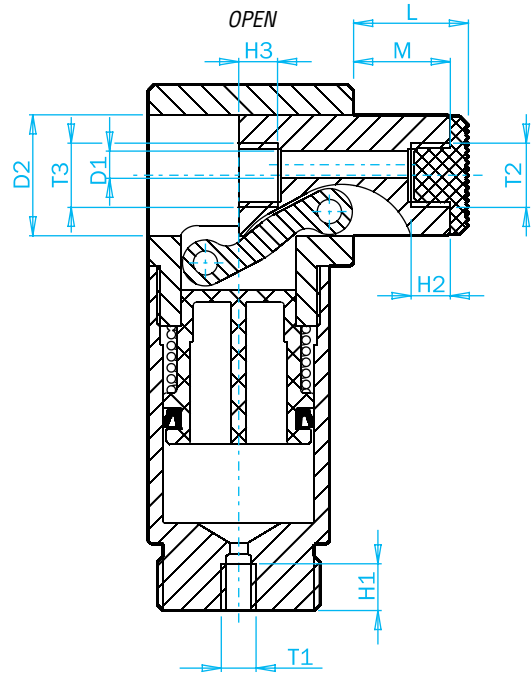
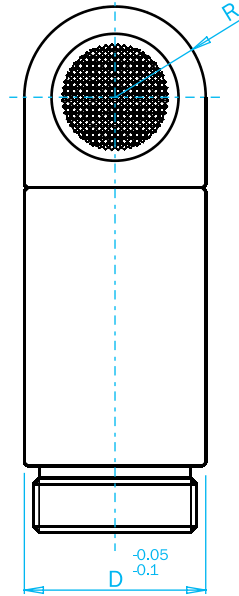
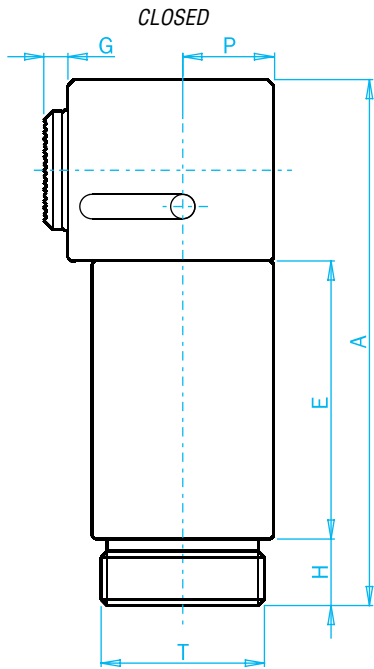
Quick#	Part#	For:	Price
7362	OFX14-06-07	OFX14	\$7.60
7363	OFX20-10-09	OFX20	\$5.60
7364	OFX30-15-09	OFX30	\$8.06
7365	OFX50-20-08	OFX50	\$12.88



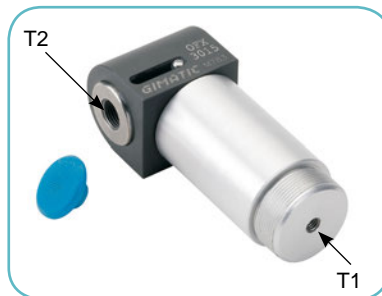
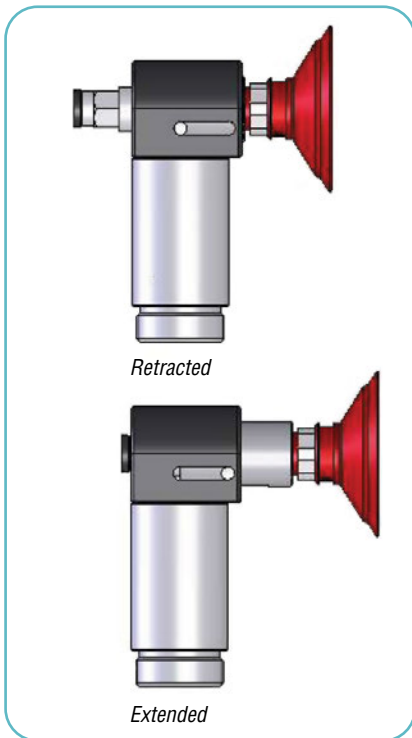
Sensor Band for OFX Parallel Gripper Fingers

Quick#	Part#	For:	Price
7307	SWP-014	OFX14	\$2.22
7308	SWP-020	OFX20	\$2.22
7309	SWP-030	OFX30	\$2.22
7310	SWP-050	OFX50	\$2.22

Parallel Gripper Fingers – OFX



	OFX14-06	OFX20-10	OFX30-15	OFX50-20
A	52	62.5	87	143
B	23	25	34	60
C	14	20	30	50
D	Ø14	Ø20	Ø30	Ø50
D1	Ø1.5	Ø2.4	Ø4.5	Ø9
D2	Ø10	Ø14	Ø20	Ø35
E	30	34.5	46	68
G	3.5	3.5	4	4
H	8	8	11	25
H1	7	7	7	10
H2	5	5	6	9
H3	5	5	6	9
L	9.5	13.5	19	24
M	7	11	16	21
P	9	10	15	25
R	R7	R10	R15	R25
T	M12x1	M17x1	M27x1	M45x1.5
T1	M5	M5	M5	G1/8"
T2	M5	M5	G1/8"	G1/4"
T3	M5	M5	G1/8"	G1/4"

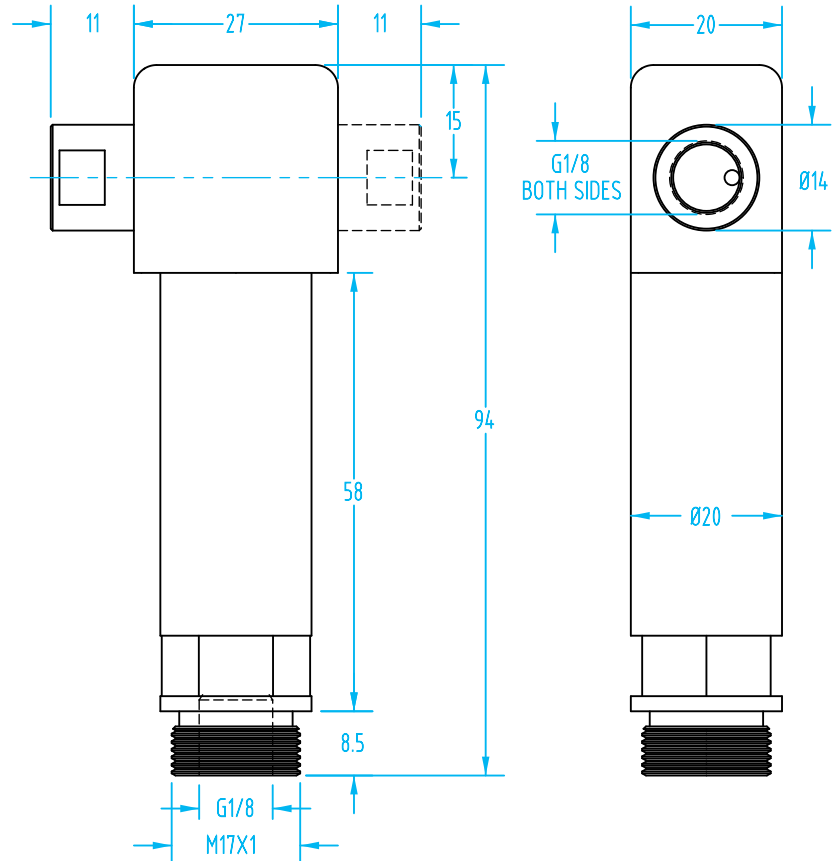


Parallel Gripper Finger – QGR

- Single acting, spring return.
- The rod-end has a G1/8 thread to accept an adapter to install a vacuum cup or pressure plate.
- To push or clamp parts, use a DPL pressure plate (Q#3440, page 769) with a G1/8" to M5 reducer (Quick# 224, page 1069).
- Sensing capable, bands and sensors sold separately.



(Dimensioned drawings shown full scale)



NEW

Quick#	Part#	>ASS< #	Stroke	Extension Force*	Ø	Price	Wt.
3892	QGR-20	1-455-20-00	10mm	17.98 lbf	20	\$192.15	102g

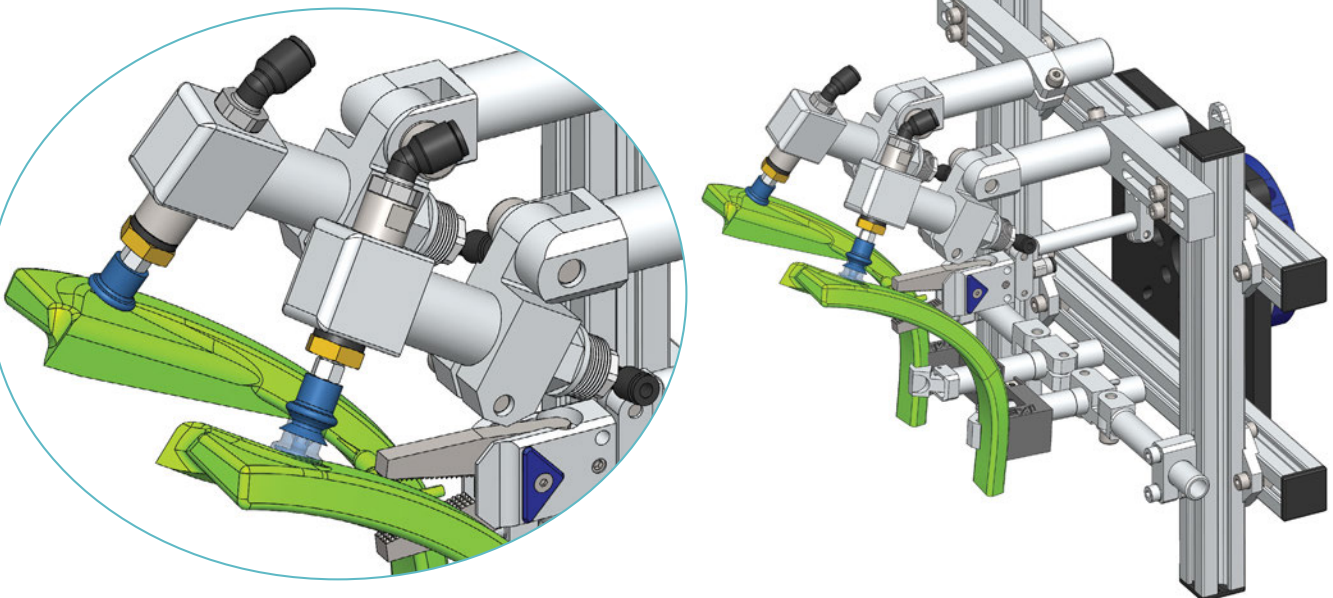
*Note: Force at 87psi (6 bar)

Sensor Band

Quick#	Part#	Ø	Price
7308	SWP-020	20mm	\$2.13

Note: Use with D-M9.. SMC sensors on page 1004 or Gimatic SS or SN series sensors on page 1002.

Application Example

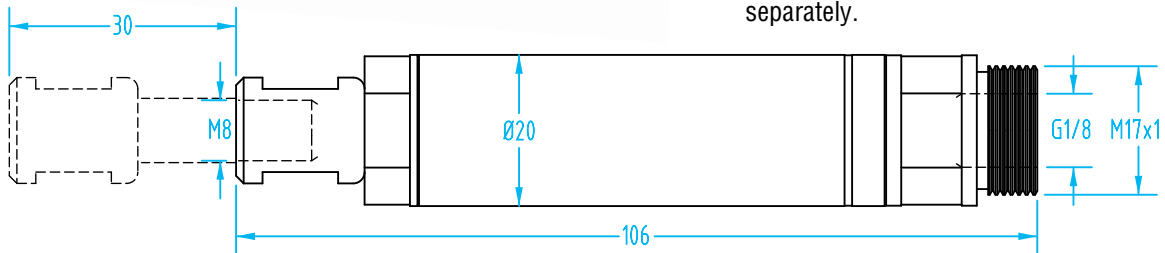


Clampable Rotating Cylinder – ZHS

(Dimensioned drawings shown full scale)



- Single acting, spring return.
- Available with rotative or non-rotative with Ø20mm clampable body.
- Apply compressed air to the G1/8" port to extend cylinder.
- The rod-end has a M8 thread to accept an adapter to install a vacuum cup or pressure plate.
- To push or clamp parts, use a DPL pressure plate (Q#3440, page 769) with adaptor (#3300, page 769), and a G1/8" to M5 reducer (Quick# 224, page 1069).
- Sensing capable, bands and sensors sold separately.



NEW

Quick#	Part#	>ASS< #	Syle	Stroke	Extension Force*	Ø	Price	Wt.
3900	ZHS-20-30	1-776-000-00	Rotative	30mm	20.23 lbf	20mm	\$185.85	62g
3375	ZHS-20-30-VG	1-776-00-00-1	Non-Rotative				\$185.85	62g

*Note: Force at 87psi (6 bar)

Sensor Band

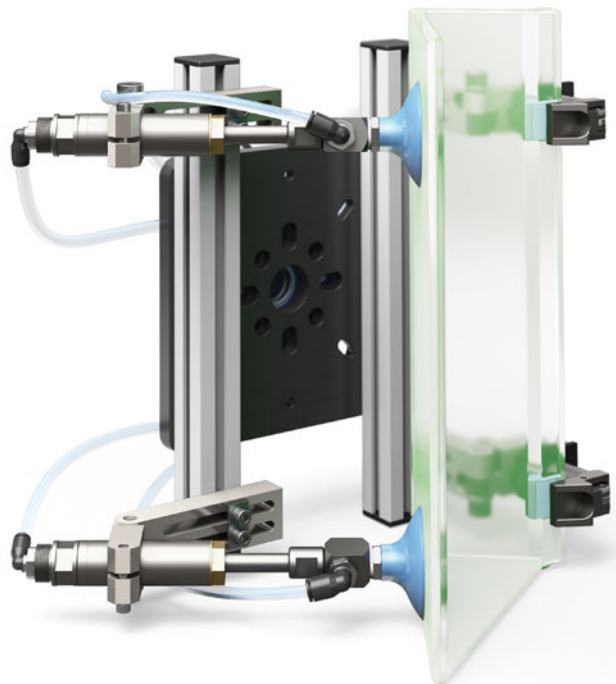
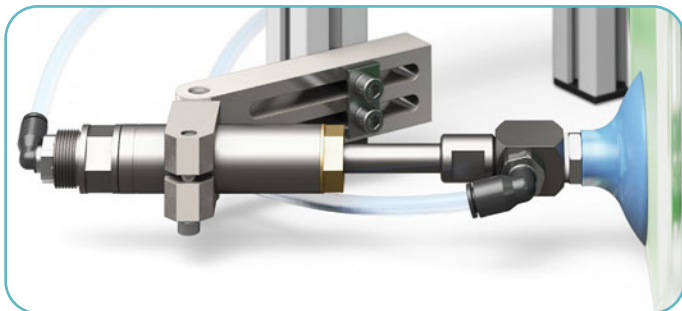
Quick#	Part#	Ø	Price
7308	SWP-020	20mm	\$2.22

Note: Use with D-M9.. SMC sensors on page 1004 or Gimatic SS or SN series sensors on page 1002.

Application Example



#3300 Manifold adaptor M3 to M5



Clampable Mini Cylinders – OFC

(Dimensioned drawings shown full scale)

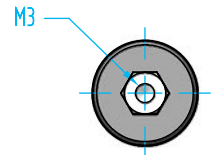
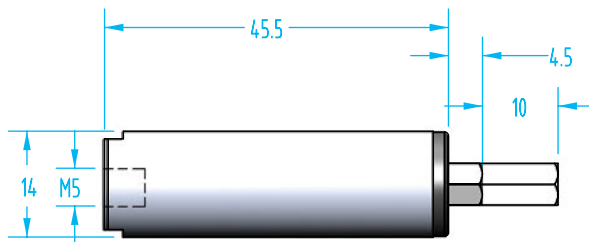
- Lightweight and compact clampable aluminum body in Ø14mm, Ø20mm, and Ø30mm diameters.
- Non-rotating M3 and M4 female threaded rod allows use of common mini-cylinder grip pads (see pages 755 & 769).
- Single-acting with spring retract.
- M3, M4 mounting adaptors available.
- New mounting bracket for DD20-16 grippers.
- New needle attachment for gripping soft materials and fabrics.



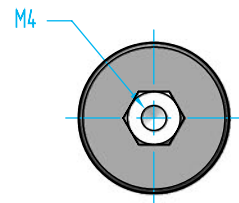
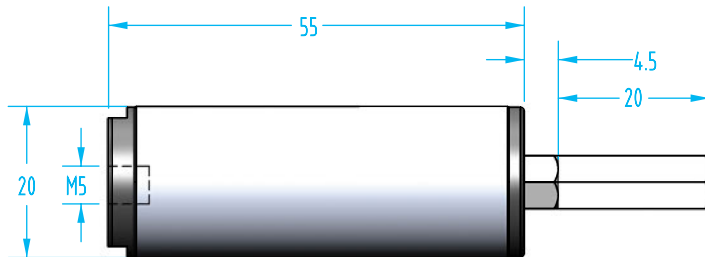
Quick#	Part#	Price	Extension force	Piston bore	Clampable body	Stroke	Wt.
7134	OFC14-10	\$20.62	10 lbf	Ø10mm	Ø14mm	10mm	20g
7133	OFC20-20	\$29.86	25 lbf	Ø16mm	Ø20mm	20mm	40g
7132	OFC30-30	\$36.31	63 lbf	Ø25mm	Ø30mm	30mm	85g

*Note: Force at 87psi (6 bar)

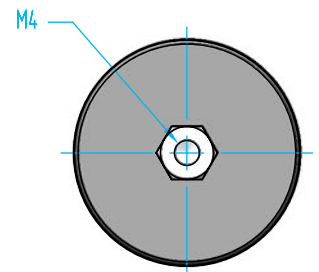
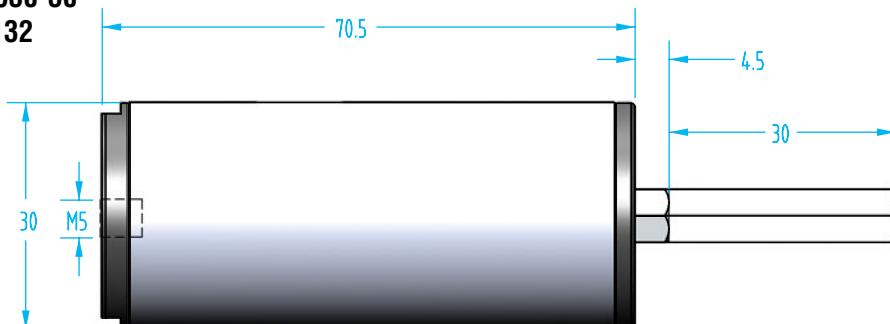
**OFC14-10
#7134**



**OFC20-20
#7133**



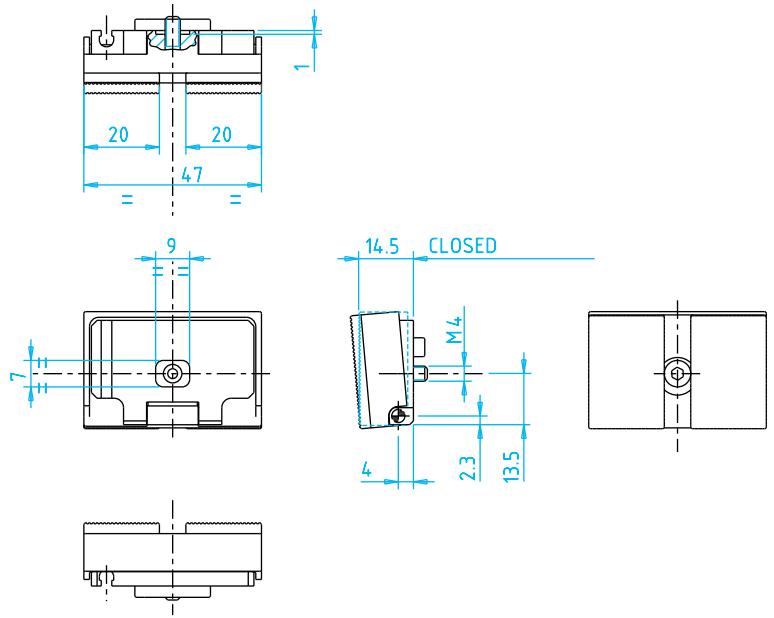
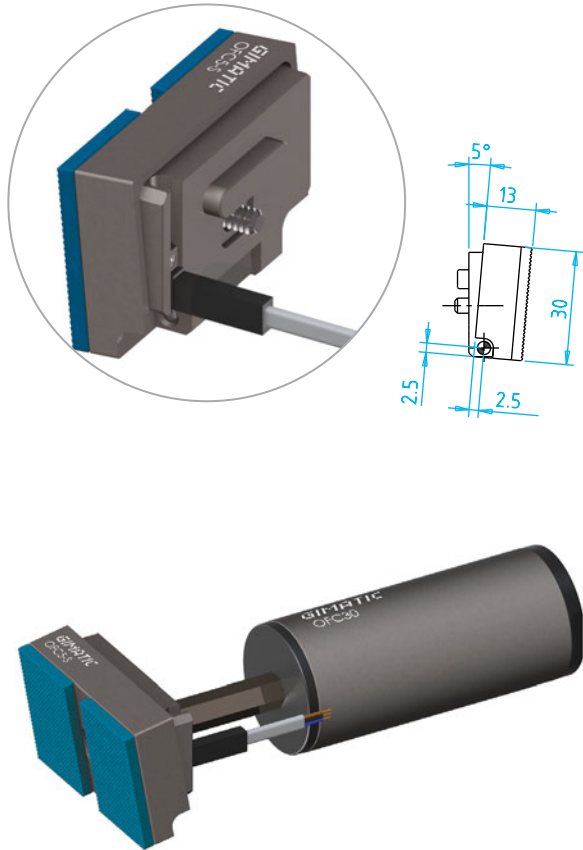
**OFC30-30
#7132**



Clampable Mini Cylinders – OFC

(Dimensioned drawings shown 1/2 scale)

Sensor Switch



Sensor Switch

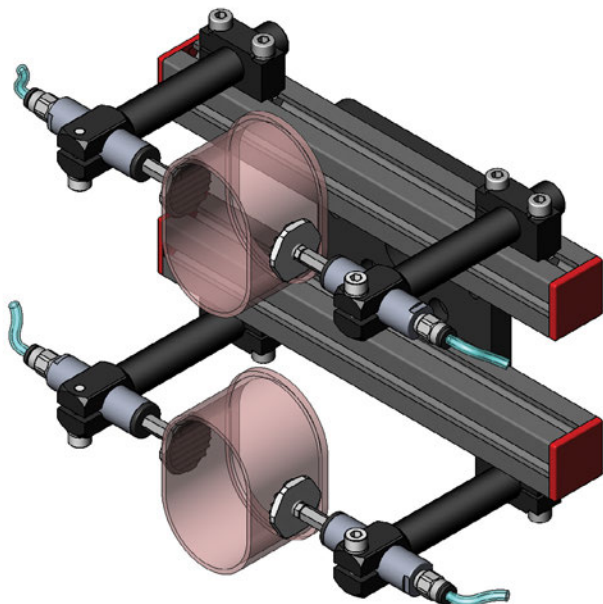
Quick#	Part#	Description	Price
7195	OFC5-S	Switch pad for SN sensor	\$58.24

Sensors

Quick#	Part#	Signal	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	M8 Connector, 0.3m long	\$31.16
6356	SN3M203G	NPN	M8 Connector, 0.3m long	\$31.16

Use Quick#s for easy online ordering.

Application Example



Optional Sensor Mounting Band

Quick#	Part#	Diameter	Price
7307	SWP-014	Ø14	\$2.22
7308	SWP-020	Ø20	\$2.22
7309	SWP-030	Ø30	\$2.22

SN or SS series sensors on page 1002.

Mounting Adaptor

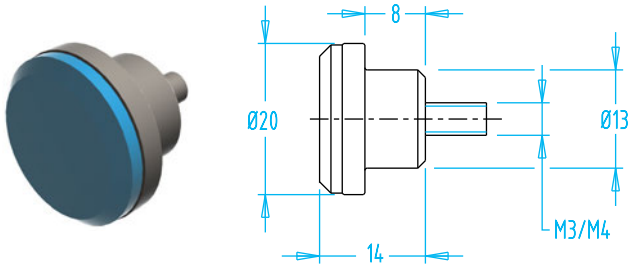
Quick#	Part#	Price	Top Thread	Side & Bottom Ports	Wt.
7390	MFI-A365	\$6.14	M3	M5	1.6g
7389	MFI-A364	\$6.14	M4	M5	1.8g

Full dimensional drawing on page 1067.

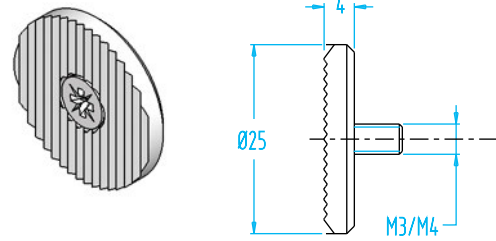


Clampable Mini Cylinder Accessories

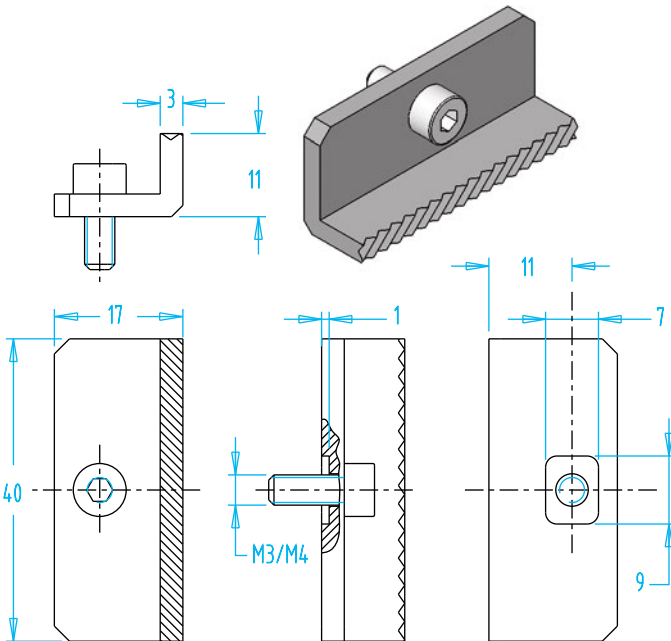
(Dimensioned drawings shown full scale)



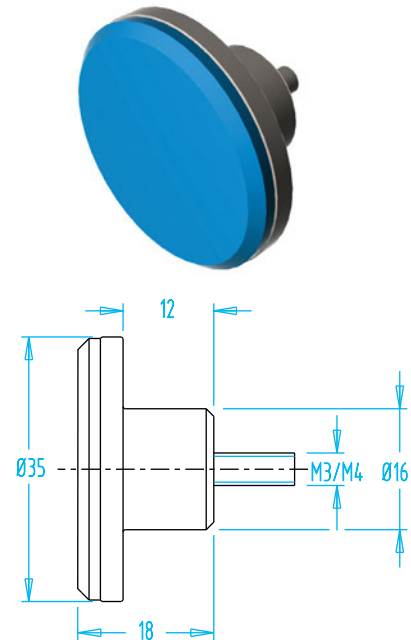
Quick#	Part#	Price	Face	Use with:	Wt.
7211	OFC-A001	\$7.96	HNBR	OFC- 14, 20, 30	15g



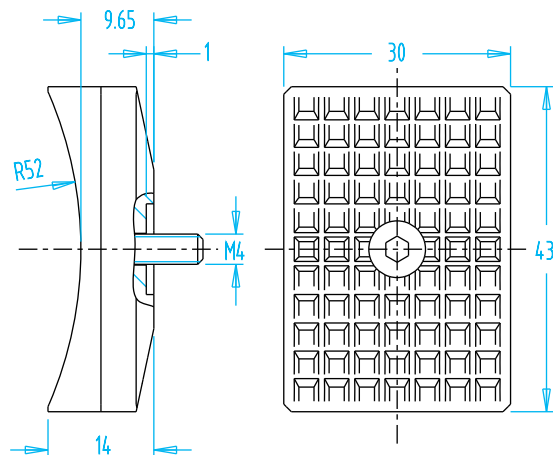
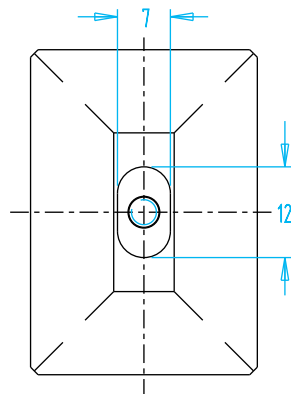
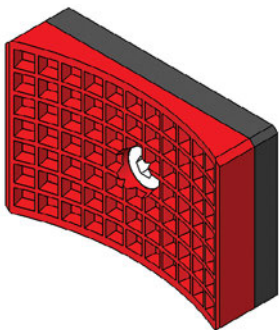
Quick#	Part#	Price	Face	Use with:	Wt.
7213	OFC-A003	\$7.80	Steel	OFC- 14, 20, 30	15g



Quick#	Part#	Price	Face	Use with:	Wt.
7212	OFC-A002	\$17.94	Steel	OFC- 14, 20, 30	23g



Quick#	Part#	Price	Face	Use with:	Wt.
7215	OFC-A005	\$9.26	HNBR	OFC- 14, 20, 30	35g

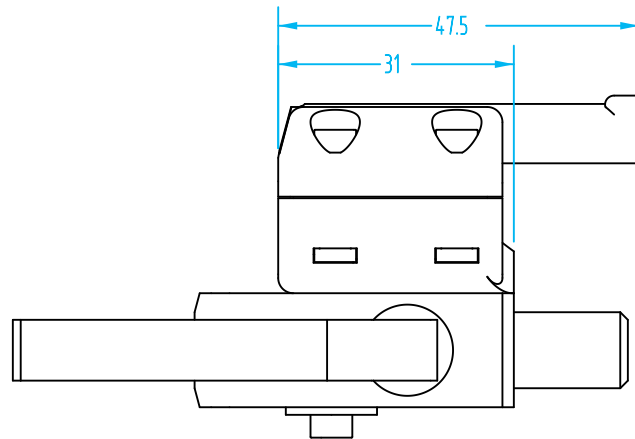
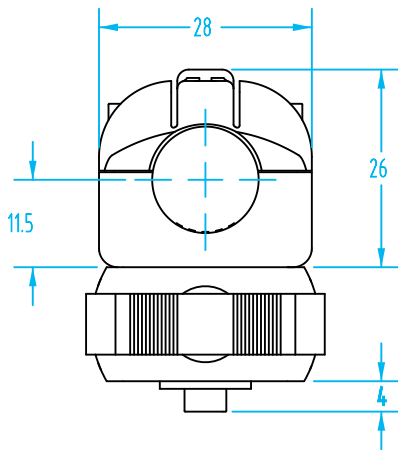


Quick#	Part#	Price	Face	Use with:	Wt.
7214	OFC-A004	\$17.94	TPU	OFC- 20, 30	24g

Clampable Mini Cylinder Accessories

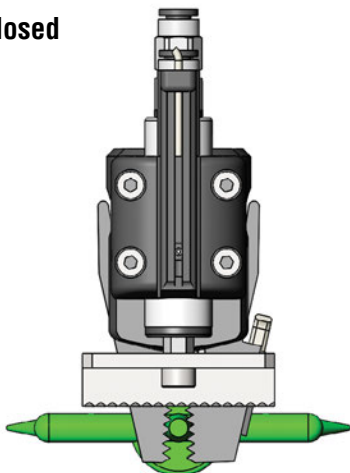
- This bracket allows a OFC-14-10 Cylinder to be mounted to Gimatic PB grippers, see page 430.
- Bracket can be equipped with optional accessories intended to eject a runner stuck to the jaw of the gripper.
- The position of an OFC-14 cylinder can be detected using SS... sensors.
- Not compatible with accessories #7214 & #7215.

Quick#	Part#	Price	Use with:	Wt.
7446	OFC-A006	\$36.18	OFC-14	19g

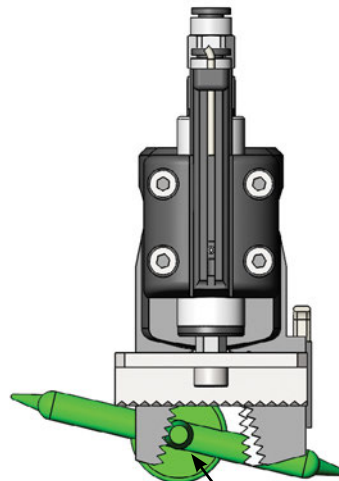


Application Example

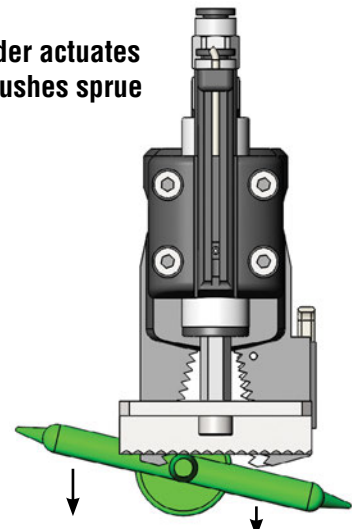
Closed



Sprue stuck to jaw



Cylinder actuates and pushes sprue



Clampable Mini Cylinder Accessories



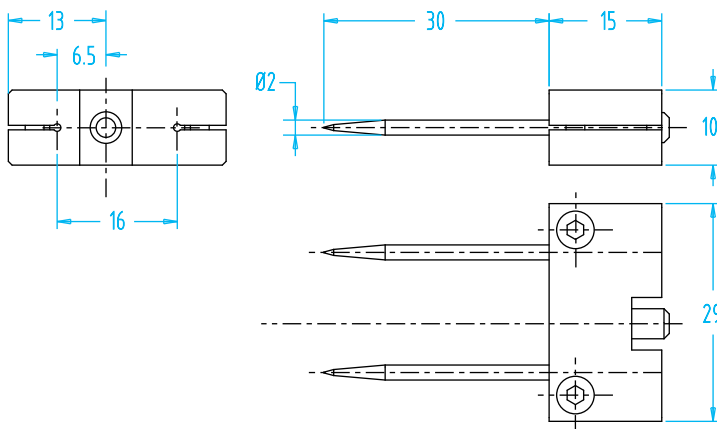
(Dimensioned drawings shown full scale)



Safety cover included, and can be stored on profile.

NEW

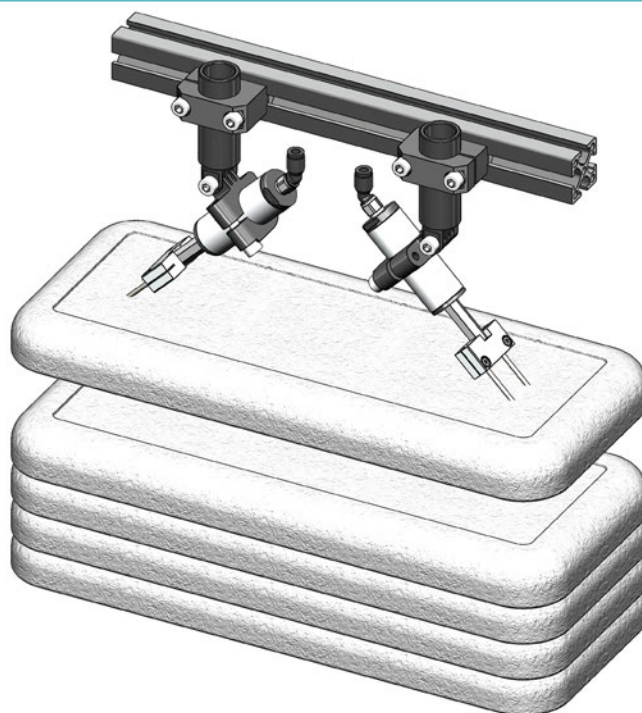
Quick#	Part#	Price	Use with:	Wt.
7579	OFC-A007	\$41.38	OFC-20, OFC-30	11g



Fittings Available
on page 1043



Application Example



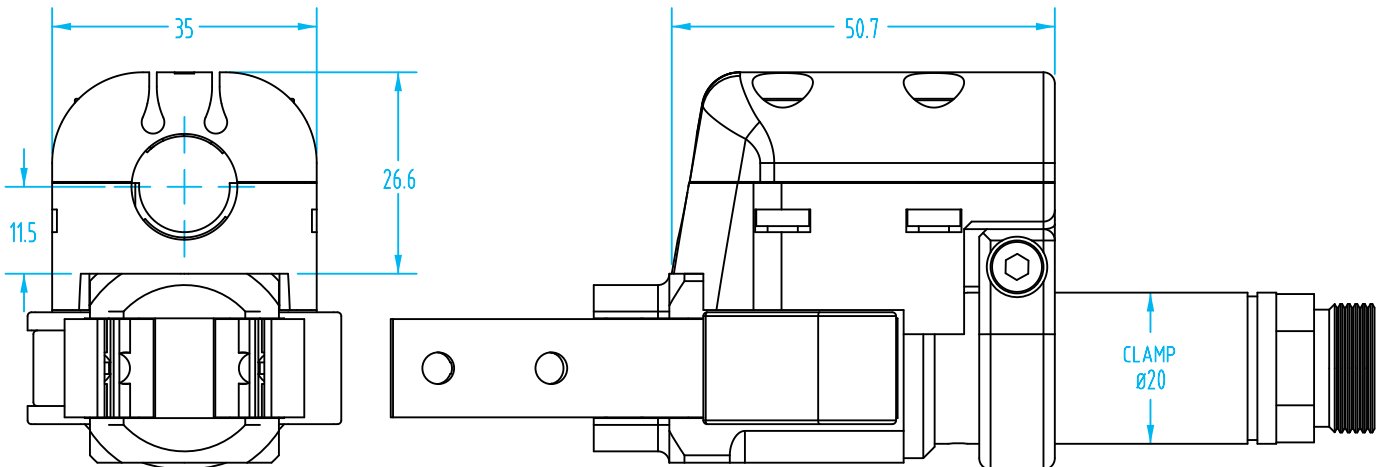
Clampable Mini Cylinder Accessories

- This bracket allows a OFC-14-10 Cylinder to be mounted to a Gimatic DD20 gripper, see page 444.
- Bracket can be equipped with optional accessories intended to eject a runner stuck to the jaw of the gripper.
- The position of an OFC-14 cylinder can be detected using SS... sensors.
- Not compatible with accessories #7214 & #7215.

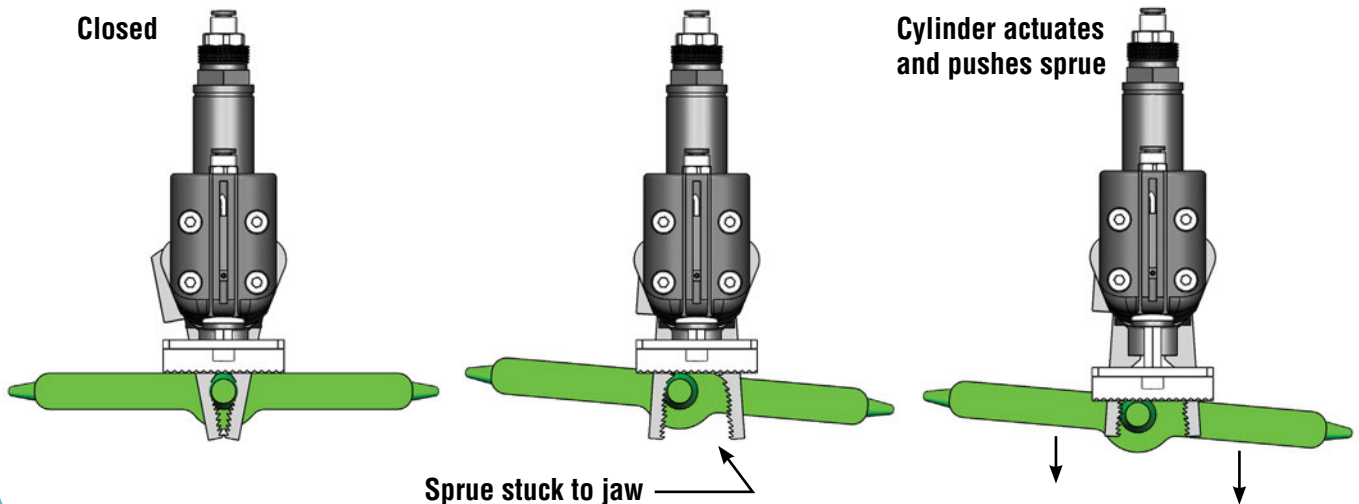


NEW

Quick#	Part#	Price	Use with:	Wt.
7623	OFC-A008	\$71.66	OFC-14	48g



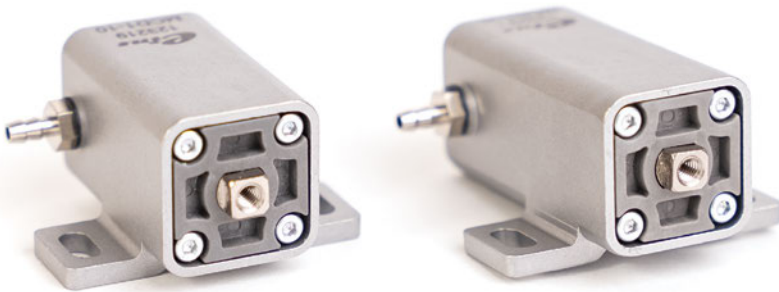
Application Example



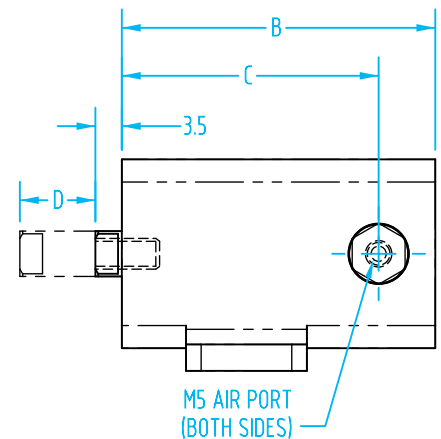
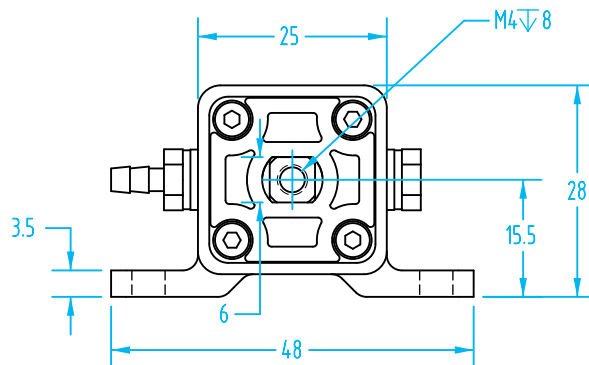
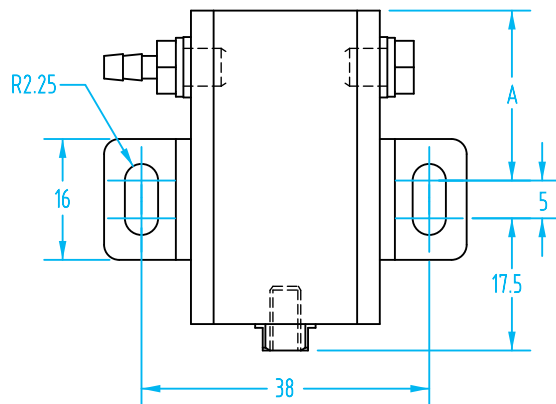
Aluminum Mini-Cylinders – MCD

(Dimensioned drawings shown full scale)

- Aluminum-bodied version.
- Lightweight and more compact than comparable cylinders.
- Non-rotating rod makes them very versatile.
- Mounting brackets, grip pads and accessories available.
- Additional mounting brackets and mounting spacers can be found online.
- Single acting with spring return.



These are great little cylinders. They are lightweight, low cost, and have good push force. They are single acting with a spring return which make them very easy to install on robot EOAT. The rod is non-rotating due to its elliptical shape which makes them even more versatile. They have a variety of complementary grip pads and accessories shown on page 753–755. These mini-cylinders have many uses: sprue grippers, wide-part grippers, vacuum pad actuators, heavy-part support actuators, and much more.



Fittings Available on page 1043



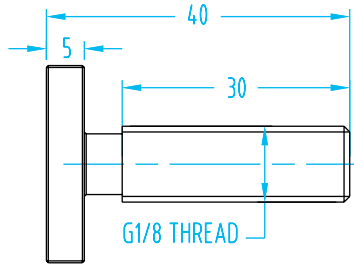
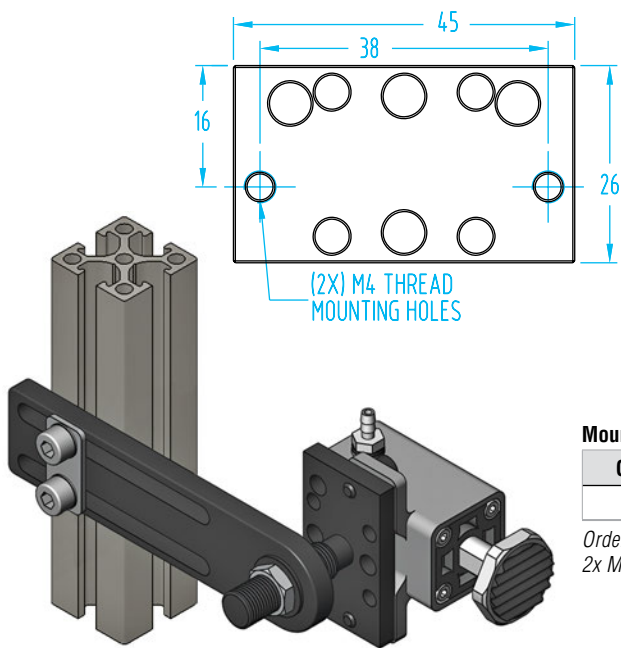
Lightweight Aluminum Cylinders

Quick#	Part#	Price	Stroke	Weight	Extension force*	A	B	C	D	Air pressure
1705	GSG-MCD-10	\$26.66	10mm	65g	22 lbf	22.8	41.5	34	10	71psi
1706	GSG-MCD-20	\$31.55	20mm	80g	22 lbf	32.8	51.5	44	20	71psi

*Note: Force at 87psi (6 bar)

Mini Cylinder Mounting Brackets

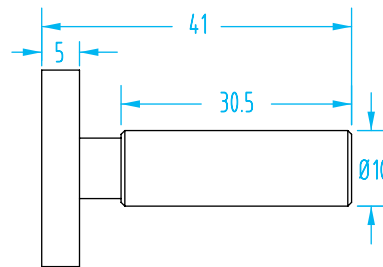
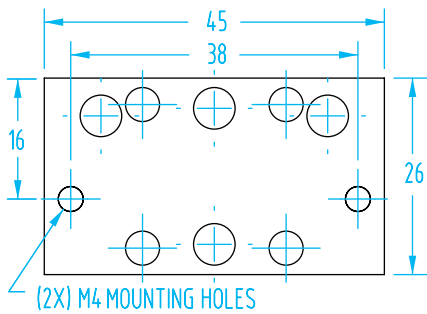
(Dimensioned drawings shown full scale)



Mounting Bracket for Mini-Cylinders: #1705, & 1706

Quick#	Part#	Weight	Price
1825	GSC-TMB-45	26	\$28.29

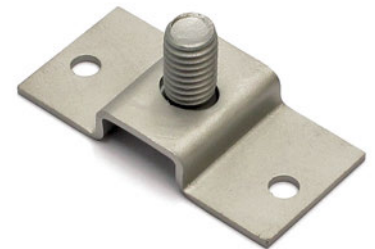
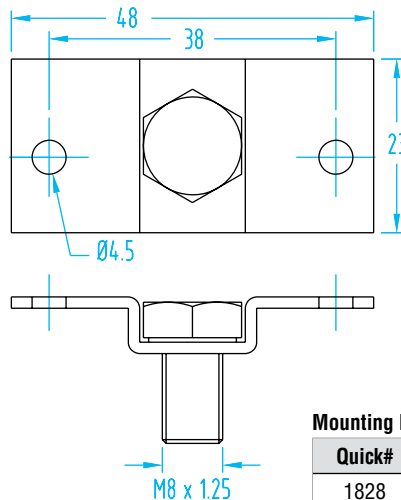
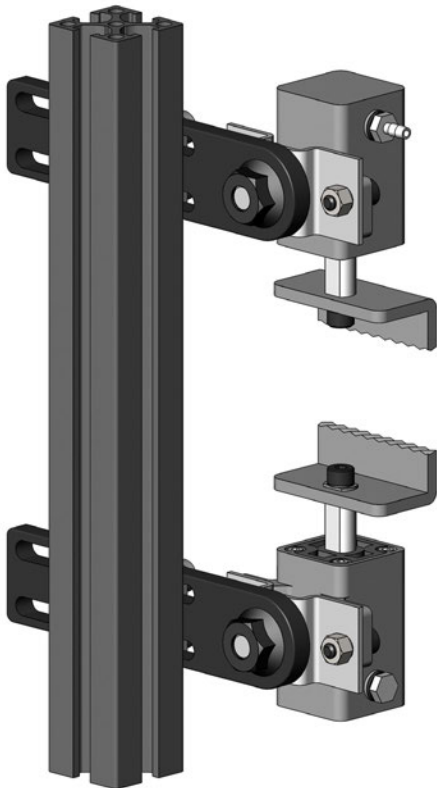
Order separately on page 1077: 2x M4x12mm screws (#835)
2x M4 nuts (#849) 2x washers (#846)



Mounting Bracket for Mini-Cylinders: #1705, & 1706

Quick#	Part#	Weight	Price
5465	GSG-SMMB-45	26g	\$28.17

Order separately on page 1077: 2x M4x12mm screws (#835)
2x M4 nuts (#849) 2x washers (#846)



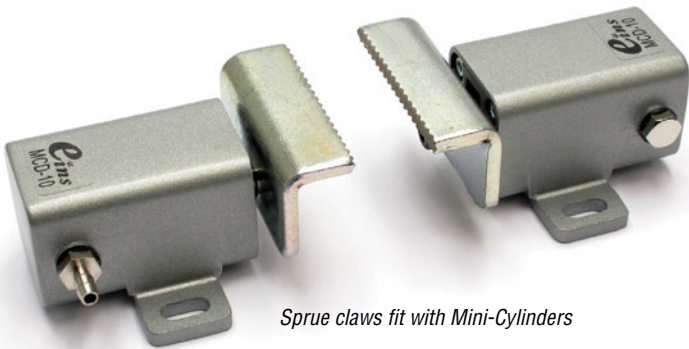
Mounting Bracket for Mini-Cylinders: #1705, & 1706

Quick#	Part#	Price	Weight
1828	GSC-VMB-MCY	\$9.75	26g

Includes M8 Hex Bolt.

Mini-Cylinder Accessories

(Dimensioned drawings shown full scale)



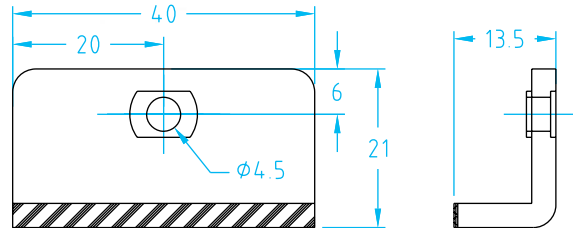
Sprue claws fit with Mini-Cylinders

Combine two #1705 lightweight cylinders with two #1730 claws and you have a lightweight (186g) sprue gripper for only \$51.52. With total grip force of 44 lbf and 20mm stroke, most any sprue can be reliably gripped.

#1733



#1730



Sprue Claws

Quick#	Part#	Wt.	Description	Price
1730	GSG-CP-014	28g	L-shaped Metal Claw	\$7.38
1733	GSG-CP-013	11g	Round, Aluminum ø25mm	\$5.02

M4 fasteners available on page 1077.

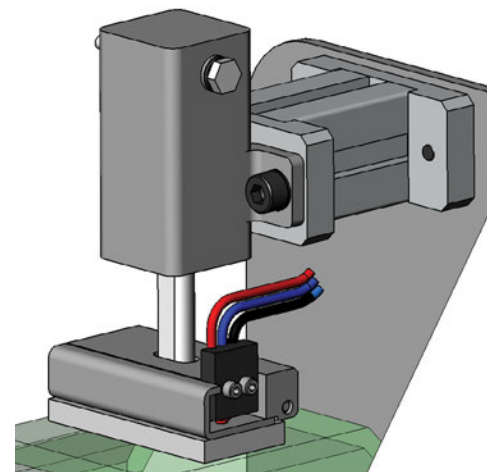
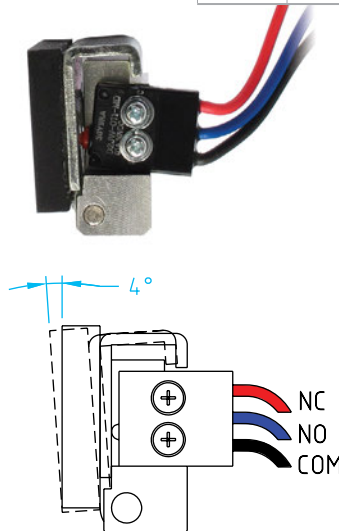
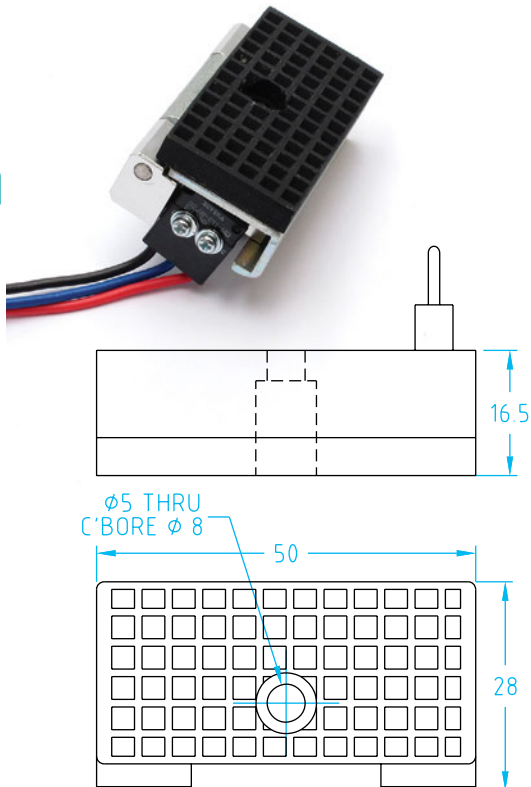
This combination relay switch and grip pad provides reliable part confirmation when used in conjunction with a mini-cylinder. The mini-cylinder extends its rod and grip pad switch to contact the part. The switch is made and closes the circuit to send confirmation to the controller.



Product Confirmation Switch

Quick#	Part#	Wt.	Description	Price
1731	GSG-KRC-5	59g	Rubber Pad w/Switch	\$76.31
5273	GSG-KRCW-5000	59g	Silicone Pad w/Switch	\$72.82
1877	GSG-KRC-5-SW	-	Replacement Switch	\$9.84

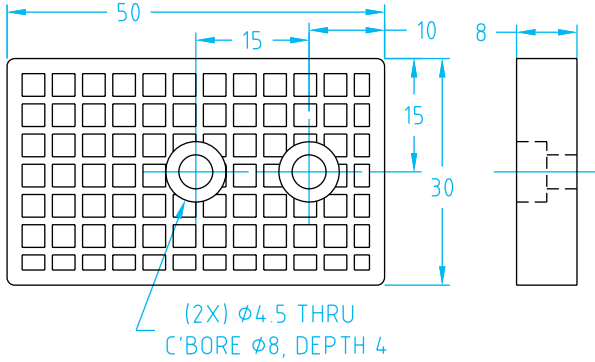
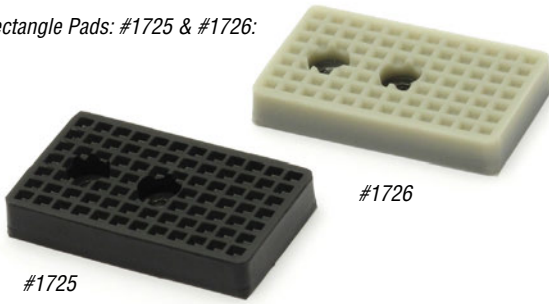
M4 fasteners available on page 1077.



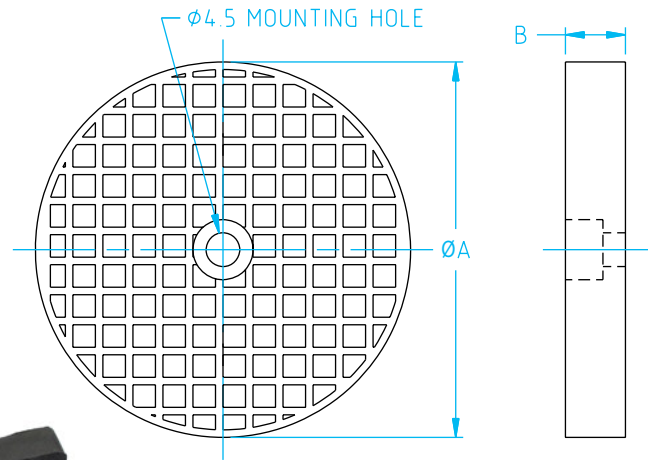
Mini-Cylinder Grip Pads

(Dimensioned drawings shown full scale)

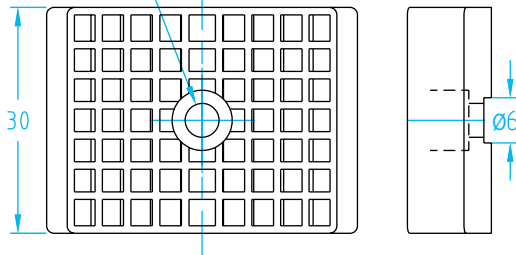
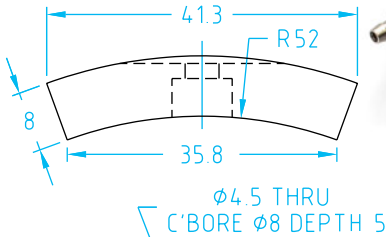
Rectangle Pads: #1725 & #1726:



Round Pads: #1728, #1732, #1729, #5272:



Curved Pads: #1727 & #5090:



- Silicone Temperature range to 356°F
- Rubber Temperature range to 158°F

Grip Pads for Mini-Cylinders

Quick#	Part#	Style	Material	A	B	Weight	Price
1725	GSG-CP-060	Rectangle	Rubber	-	-	42g	\$8.98
1726	GSG-CP-061	Rectangle	Silicone	-	-	42g	\$8.18
1727	GSG-CP-018	Curved	Rubber	-	-	46g	\$7.76
5090	GSG-CP-072	Curved	Silicone	-	-	46g	\$7.47
1728	GSG-CP-016	Round - Lg.	Rubber	50	8	54g	\$4.85
1732	GSG-CP-071	Round - Lg.	Silicone	50	8	54g	\$4.85
1729	GSG-CP-015	Round - Sm.	Rubber	25	8	14g	\$2.91
5272	GSG-CP-074	Round - Sm.	Silicone	25	8	14g	\$3.92

M4 fasteners available on page 1077.

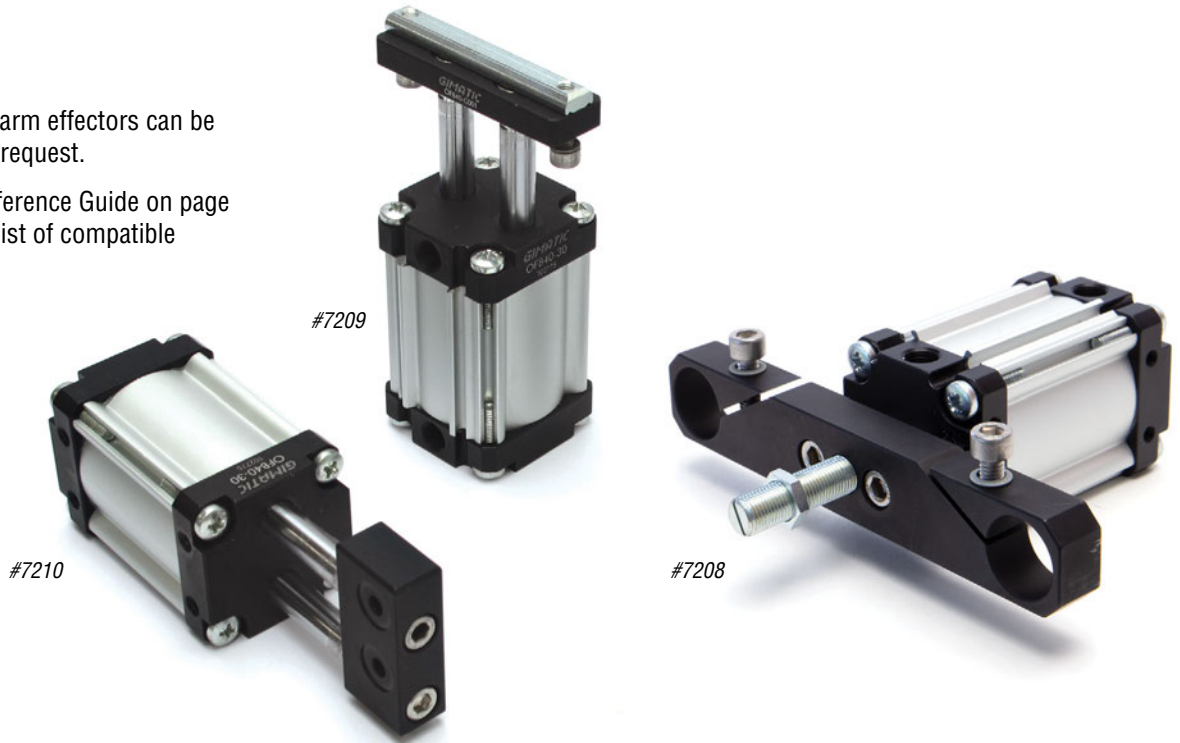


Grip Pad

Quick#	Part#	Size	Material	Mounting	Price
1734	GSG-CP-R	50x100x5	Rubber	No backing plate	\$2.68
5274	GSG-CP-SI	50x100x5	Silicone	No backing plate	\$11.26
584	GSG-GP-300	300x150x3.3mm	Elastomer	No backing plate	\$61.50
585	GSG-GP-300B	300x150x6.3mm	Elastomer	3mm Aluminum plate	\$99.50

Heavy-Duty Short Stroke Cylinder – OFB

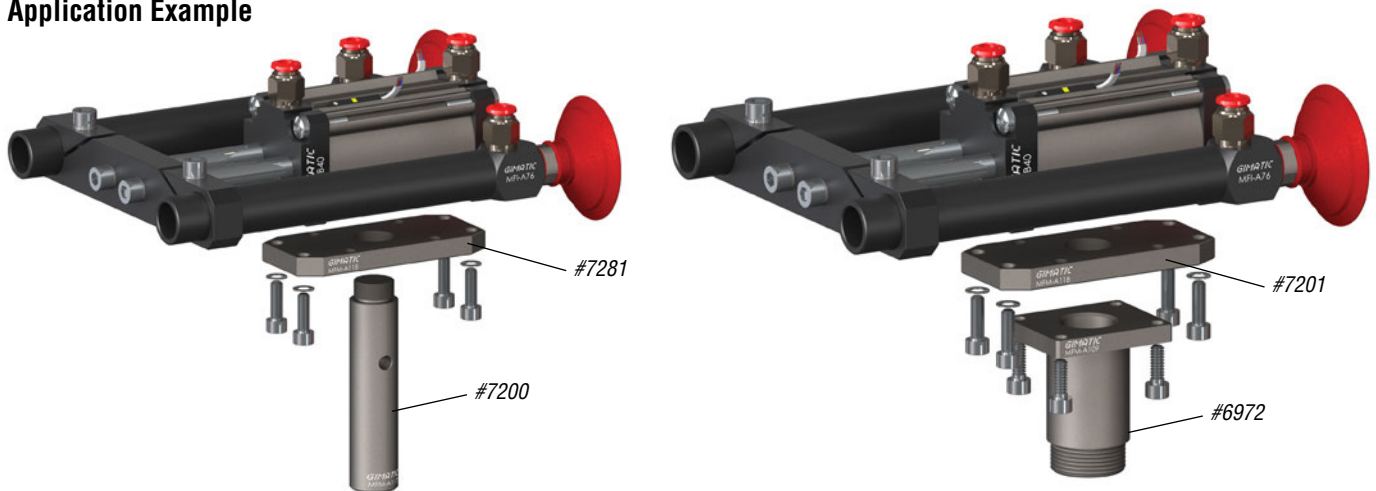
- Double acting
- Custom clamp arm effectors can be made per your request.
- See Sensor Reference Guide on page 1007 for a full list of compatible sensors.



Quick#	Part#	Price	End effector	Stroke	Extension force*	Retraction force*	Piston bore	Wt.
7208	OFB40-A30	\$186.00	Clamp for vacuum cup arms	30mm	148lbf	169lbf	40mm	475g
7209	OFB40-C30	\$186.00	Profile adaptor					397g
7210	OFB40-B30	\$186.00	Nipper clamp adaptor					406g
7196	OFB40-A50	\$187.00	Clamp for vacuum cup arms	50mm	148lbf	169lbf	40mm	523g
7197	OFB40-C50	\$187.00	Profile adaptor					445g
7198	OFB40-B50	\$187.00	Nipper clamp adaptor					454g

*Note: Force at 87psi (6 bar)

Application Example

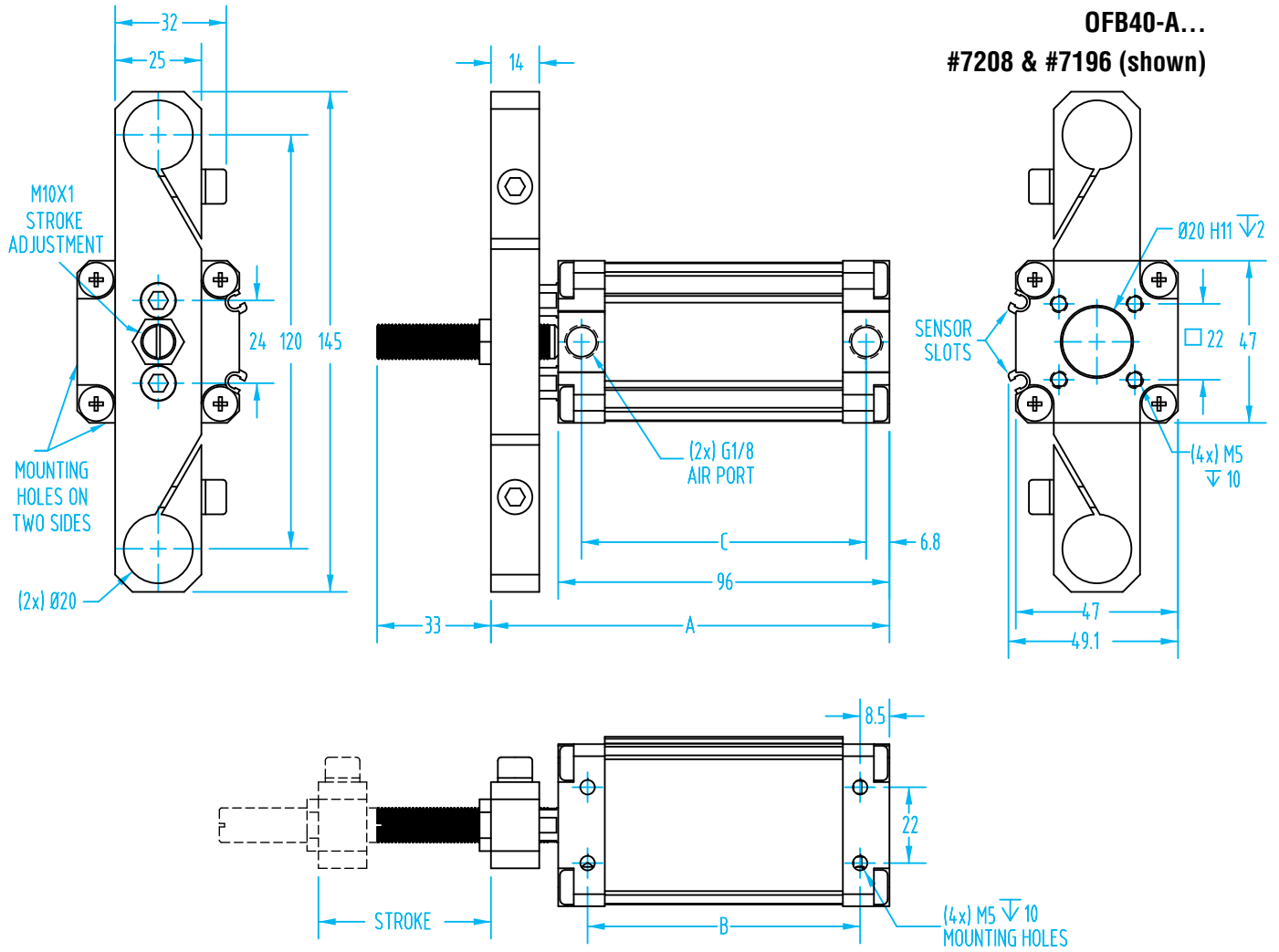


Mounting Accessories - Fasteners Included

Quick#	Part#	Price	Description	Dimensions	Thread
7281	MFM-A119	\$23.24	Interface Plate for OFB40-30	69L x 39W x 8H	M17x1
7201	MFM-A118	\$25.40	Interface Plate for OFB40-50	89L x 39W x 8H	M17x1
6972	MFM-A109	\$37.44	Ø30 stud	32mm Clampable Length	M27x1
7200	MFM-A117	\$15.00	Ø20 stud	80mm Clampable Length	M17x1

Heavy-Duty Short Stroke Cylinder – OFB

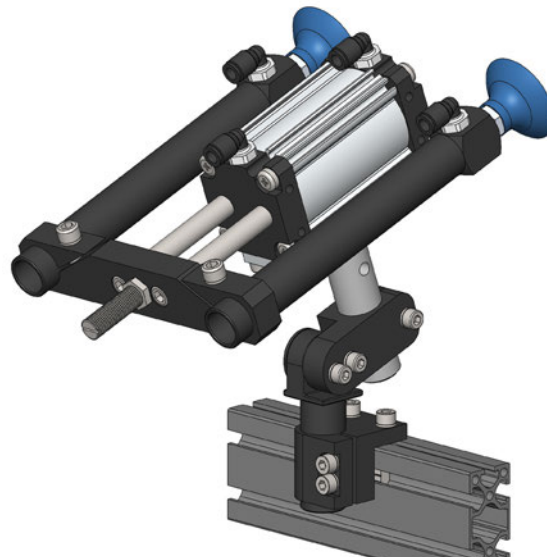
(Dimensioned drawings shown 1/2 scale)



OFB40-A...
#7208 & #7196 (shown)

Quick#	Stroke	A	B	C
7208	30mm	95.5	59	62.6
7196 (shown)	50mm	115.5	79	82.6

Application Example

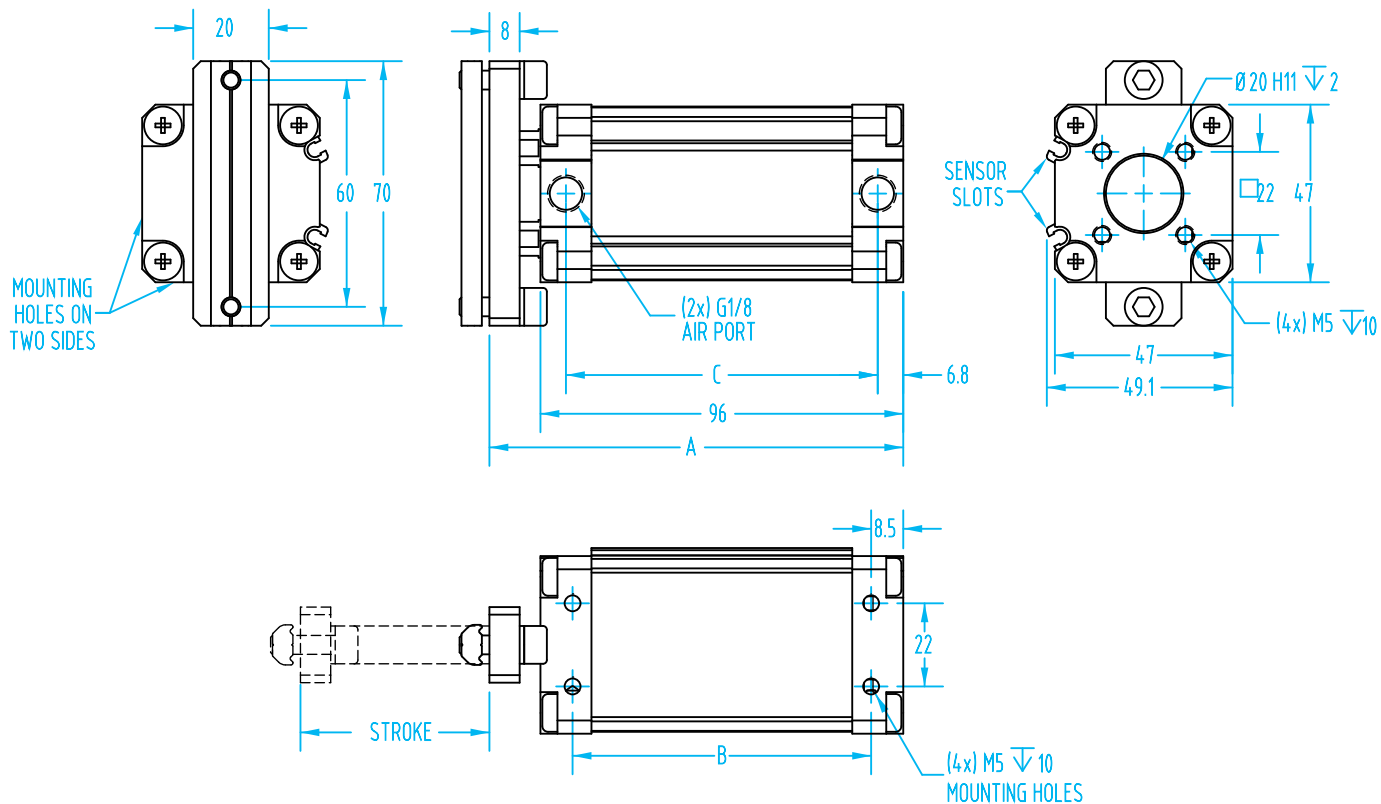


Heavy-Duty Short Stroke Cylinder – OFB

(Dimensioned drawings shown 1/2 scale)

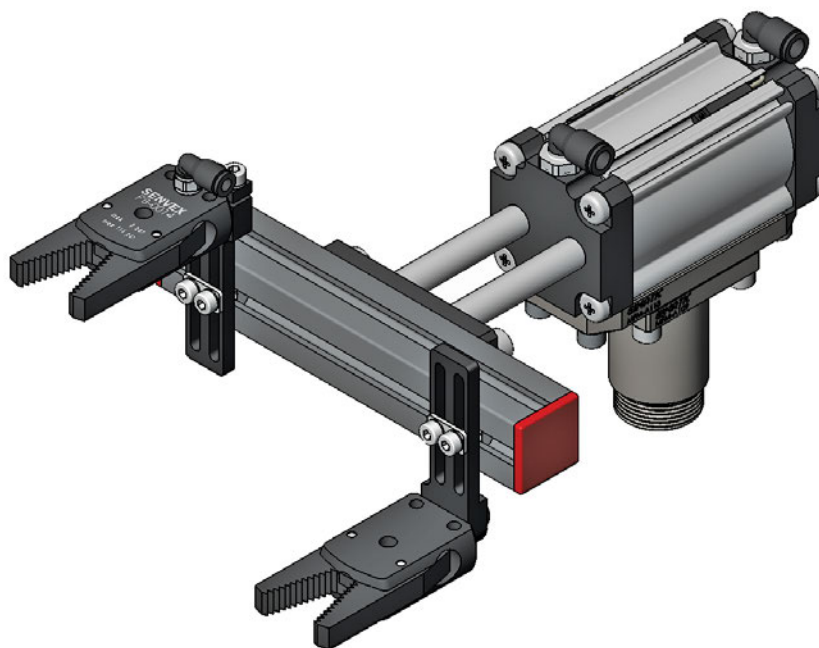
OFB40-C...

#7209 & #7197(shown)



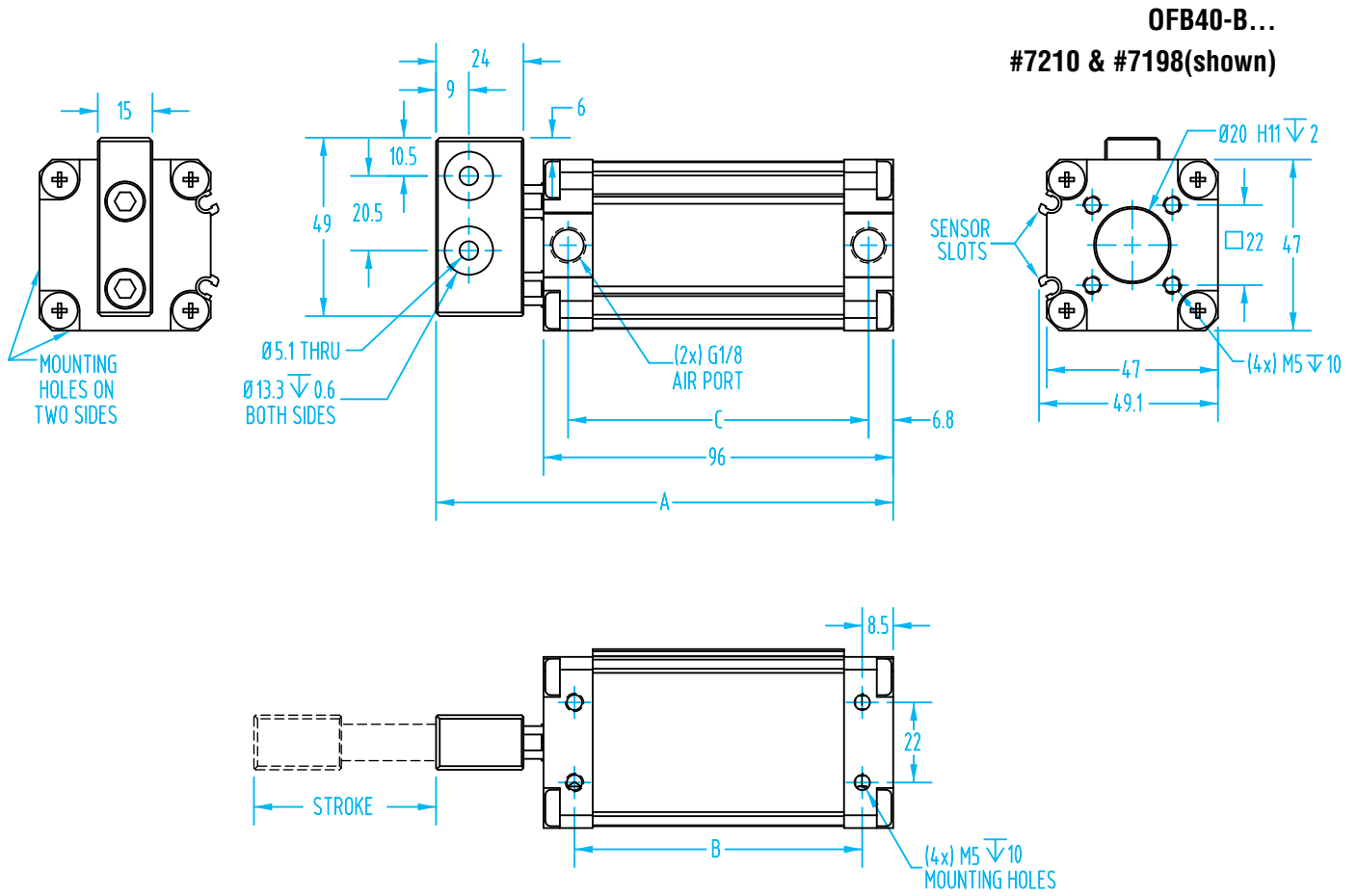
Quick#	Stroke	A	B	C
7209	30mm	89.5	59	62.6
7197 (shown)	50mm	109.5	79	82.6

Application Example



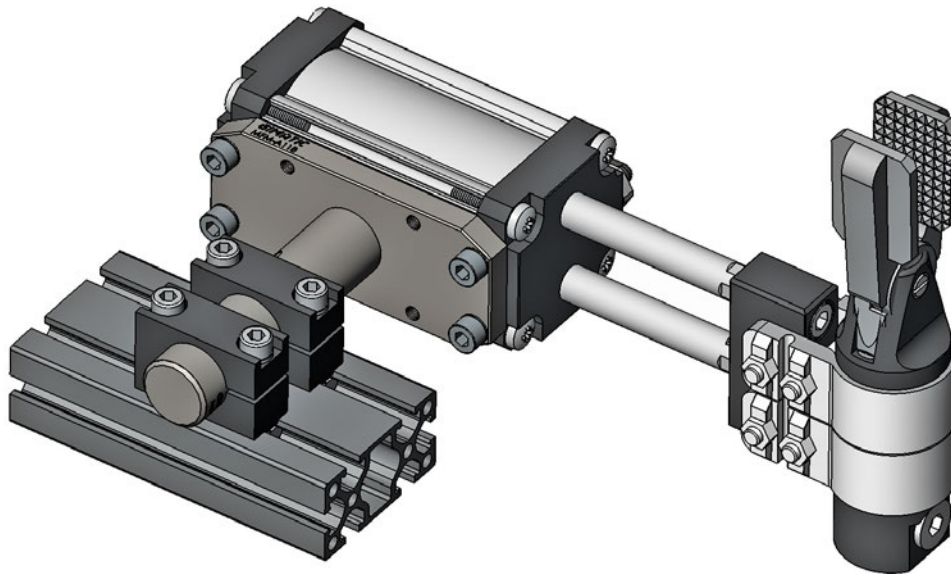
Heavy-Duty Short Stroke Cylinder – OFB

(Dimensioned drawings shown 1/2 scale)



Quick#	Stroke	A	B	C
7210	30mm	105.5	59	62.6
7198 (shown)	50mm	125.5	79	82.6

Application Example



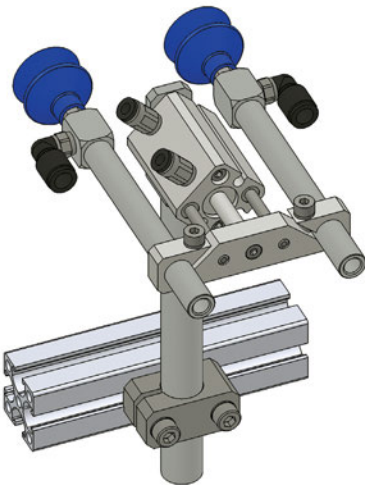
Compact Cylinders with Integrated Clamp Arm – SZD

(Dimensioned drawings shown 2/3 scale)



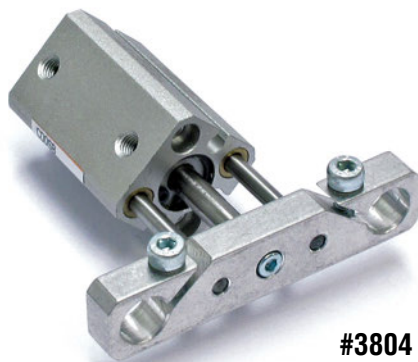
Deep-cored parts such as cups, pails, and buckets usually require gripping on the side of the part. To prevent the vacuum cups from dragging against the part, a separately actuated assembly is required. As the EOAT advances toward the part in the mold, there must be clearance between vacuum cups and the part. Once the EOAT is in position, the vacuum cups generate vacuum as they make contact with the part. Initially, the cylinder in this illustration appears to be mounted 'backwards.' But actually, this mounting configuration is preferred because it eliminates the torsional force on the air cylinder rod. When the cylinder rod is retracted into the cylinder body, it pulls the vacuum cups in contact with the part. And because the cylinder rod is not extended, there is no torsional force on it.

Mounting brackets on pages 766–767

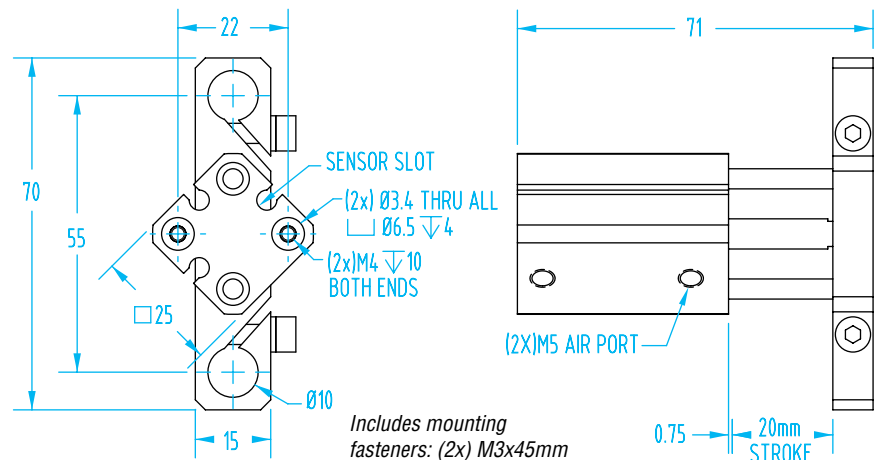


Quick#	Part#	>ASS< #	Price	Stroke	Extension force*	Retraction force*	Wt.
3804	SZD12-20A	1-715-06-00	\$156.45	20mm	15 lbf	11 lbf	98g
3814	SZD20-50A	1-715-42-00	\$169.05	50mm	42 lbf	32 lbf	334g
3824	SZD32-50A	1-715-72-00	\$189.53	50mm	108 lbf	81 lbf	567g
<i>Order 3-wire sensors separately</i>				<i>*Note: Force at 87psi (6 bar)</i>			
5430	D-M9PL	\$33.70	PNP, Straight with lead, 3m long				
2412	D-M9NL	\$33.70	NPN, Straight with lead, 3m long				
5497	D-M9P SAPC	\$42.06	PNP, Straight with M8 connector, 0.5m long				
5498	D-M9N SAPC	\$42.06	NPN, Straight with M8 connector, 0.5m long				

Note: Additional cylinder strokes from 10mm–50mm of each bore can be found online.



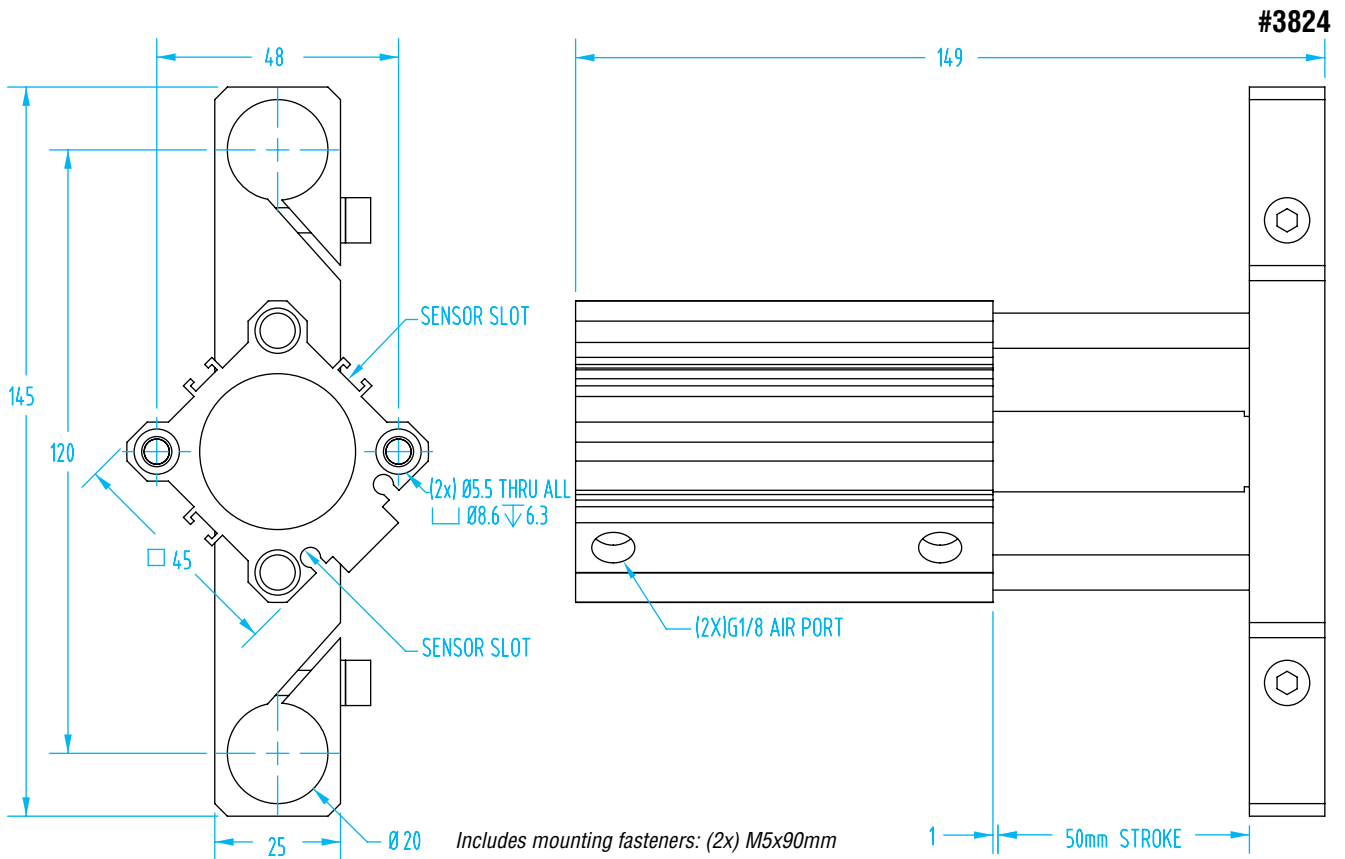
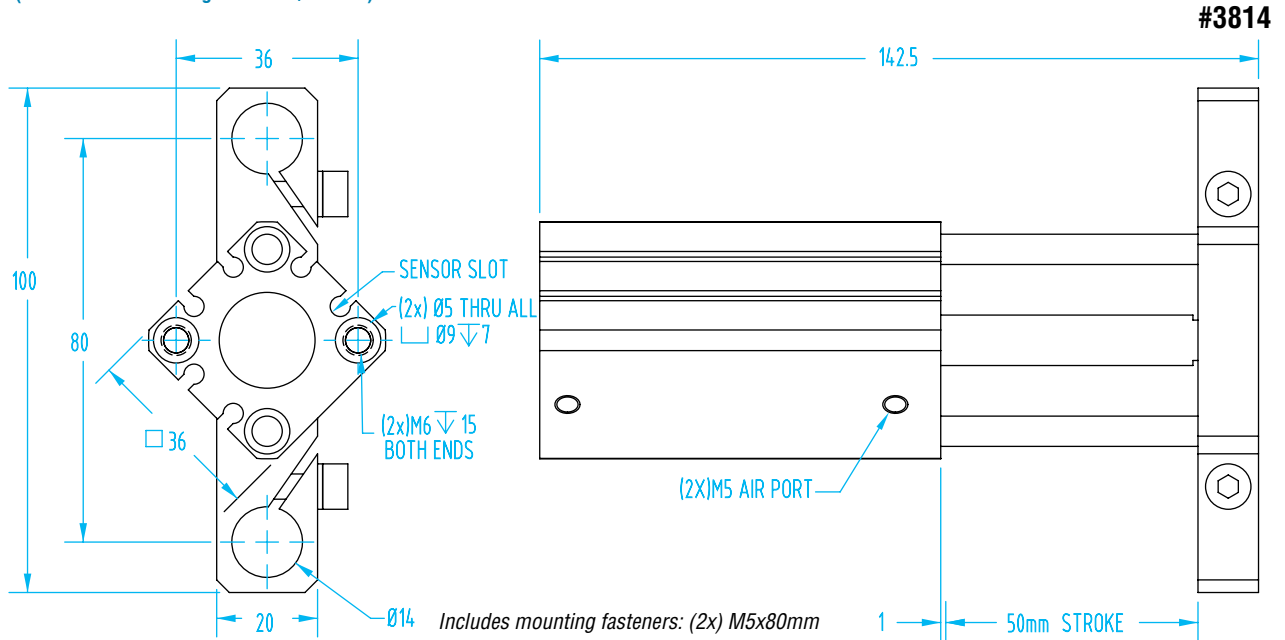
#3804



Includes mounting fasteners: (2x) M3x45mm

Compact Cylinders with Integrated Clamp Arm – SZD

(Dimensioned drawings shown 2/3 scale)



Stroke Reducers for SZD Compact Cylinders



Quick#	Part#	Price	Description	Stroke Reduction
3764	DB-5-20	\$11.55	For Cylinders with 20mm bore (#3814)	5mm
3765	DB-10-20	\$12.60		10mm
3766	DB-15-20	\$14.18		15mm
3758	DB-5-32	\$9.45	For Cylinders with 32mm bore (#3824)	5mm
3759	DB-10-32	\$10.50		10mm
3760	DB-15-32	\$15.75		15mm

SMC® Compact Cylinders with Integrated Guide Rod & Tooling Plate

- Non-rotating accuracy is ± 0.2 .
- Maximum operating pressure: 145.03 psi.
- Custom workpiece to be mounted directly to tooling plate.
- Double acting
- Standard with internal magnet for sensors.
- Standard with internal bumpers.
- Mounting hardware for GAZ, GAZ-S, & ADZ included.



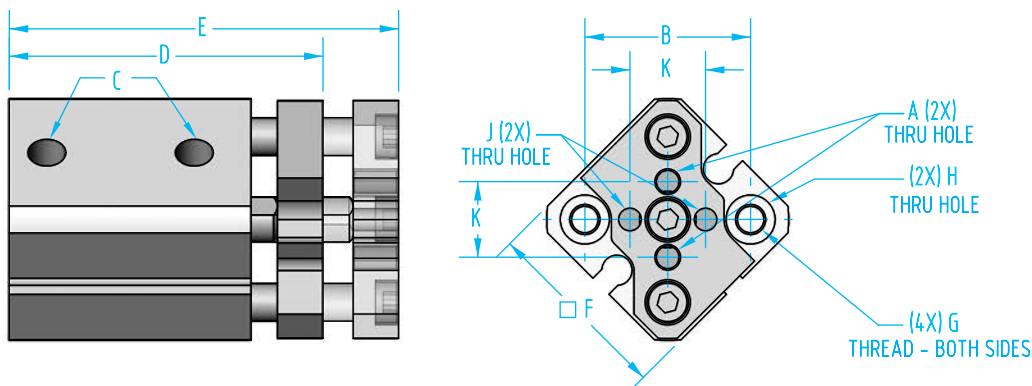
Quick#	Part#	Price	Stroke	Piston bore	Extension force*	Retraction force*	Wt.
5142	ECDQ-GR-12-10	\$45.15	10mm	12mm	17.76 lbf	13.26 lbf	59g
5143	ECDQ-GR-12-20	\$48.75	20mm				77g
5144	ECDQ-GR-12-30	\$52.35	30mm				93g
5145	ECDQ-GR-20-10	\$61.90	10mm	20mm	49.46 lbf	37.09 lbf	136g
5146	ECDQ-GR-20-20	\$65.50	20mm				168g
5147	ECDQ-GR-20-30	\$69.10	30mm				197g
5148	ECDQ-GR-20-40	\$72.70	40mm				227g
5149	ECDQ-GR-20-50	\$76.30	50mm				257g
5150	ECDQ-GR-32-10	\$88.80	10mm				32mm
5151	ECDQ-GR-32-20	\$92.60	20mm	309g			
5152	ECDQ-GR-32-30	\$96.40	30mm	356g			
5153	ECDQ-GR-32-40	\$100.20	40mm	401g			
5154	ECDQ-GR-32-50	\$104.00	50mm	448g			
5155	ECDQ-GR-32-75	\$113.50	75mm	564g			
5156	ECDQ-GR-32-100	\$123.00	100mm	680g			

Sensors

*Note: Force at 100psi (6.8 bar)

Quick#	Part#	Price	Description
5430	D-M9PL	\$33.70	PNP, Straight with lead, 3m long
2412	D-M9NL	\$33.70	NPN, Straight with lead, 3m long
5497	D-M9P SACP	\$42.06	PNP, Straight with M8 connector, 0.5m long
5498	D-M9N SACP	\$42.06	NPN, Straight with M8 connector, 0.5m long

#5142-5144

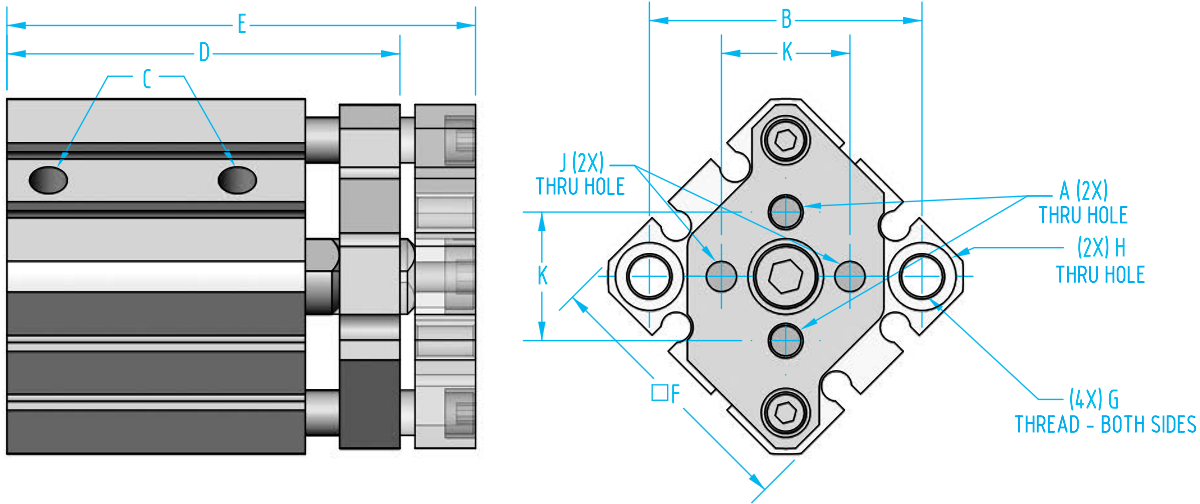


Compact Cylinders with Integrated Guide Rod & Tooling Plate - 12mm Bore

Quick#	Part#	A	B	C	D	E	F	G	H	J	K
5142	ECDQ-GR-12-10	M3 x0.5	22	M5	41.5	51.5	25	M4 ∇ 7	3.5	3 $\frac{+0.2}{0}$	10
5143	ECDQ-GR-12-20				51.5	71.5					
5144	ECDQ-GR-12-30				61.5	91.5					

SMC Compact Cylinders with Integrated Guide Rod & Tooling Plate

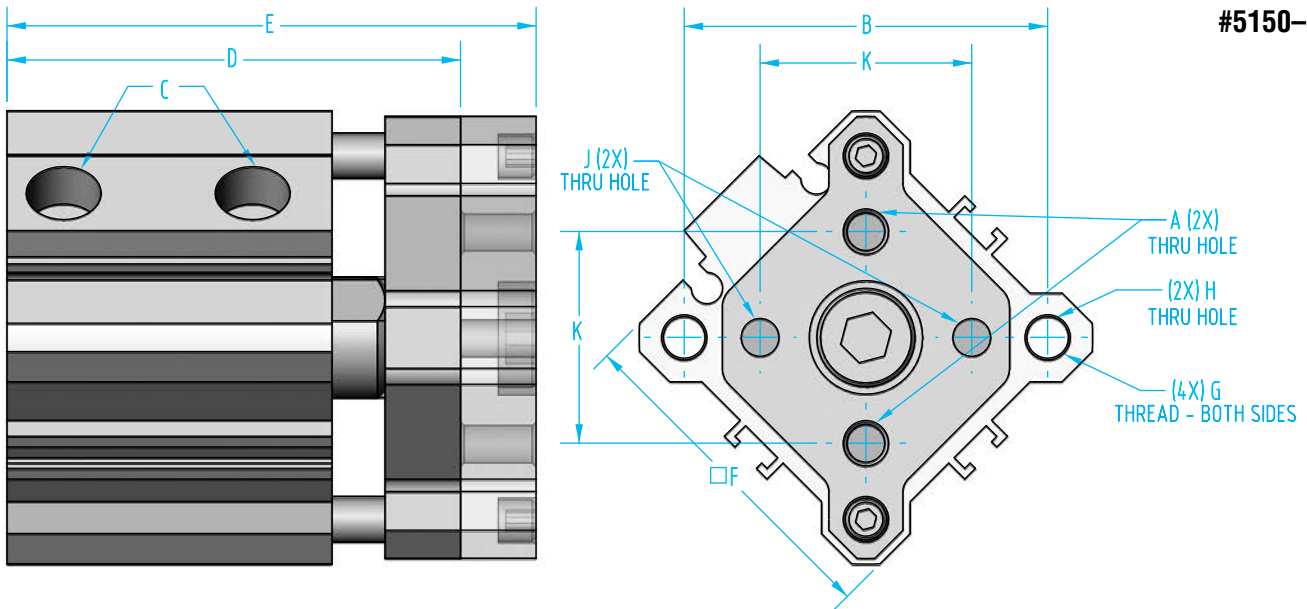
#5145-5149



Compact Cylinders with Integrated Guide Rod & Tooling Plate - 20mm Bore

Quick#	Part#	A	B	C	D	E	F	G	H	J	K
5145	ECDQ-GR-20-10	M4 x0.7	36	M5	52	62	36	M6T10	5.4	4 ^{+0.2} / ₀	17
5146	ECDQ-GR-20-20				62	82					
5147	ECDQ-GR-20-30				72	102					
5148	ECDQ-GR-20-40				82	122					
5149	ECDQ-GR-20-50				92	142					

#5150-5156

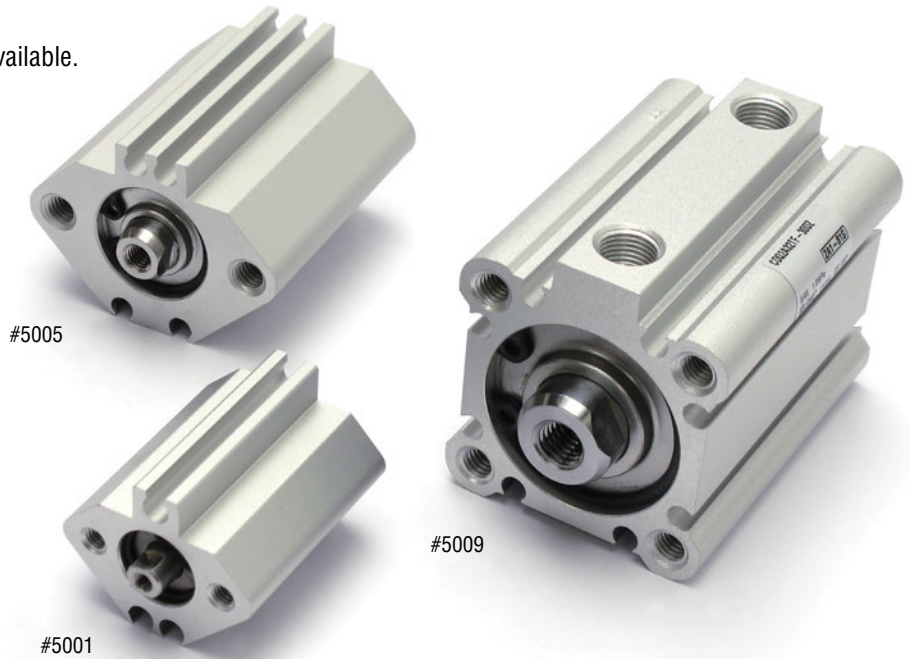


Compact Cylinders with Integrated Guide Rod & Tooling Plate - 32mm Bore

Quick#	Part#	A	B	C	D	E	F	G	H	J	K
5150	ECDQ-GR-32-10	M5 x0.8	48	G1/8"	60	70	45	M6T10	5.5	5 ^{+0.2} / ₀	28
5151	ECDQ-GR-32-20				70	90					
5152	ECDQ-GR-32-30				80	110					
5153	ECDQ-GR-32-40				90	130					
5154	ECDQ-GR-32-50				100	150					
5155	ECDQ-GR-32-75				125	200					
5156	ECDQ-GR-32-100	150	250								

SMC Compact Cylinders with Single Rod

- Compact, lightweight shape.
- Double acting, single acting also available.
- Maximum operating pressure: 145.03 psi.
- Standard with internal magnets for sensors.
- Standard with internal bumpers.
- Round, rotating shaft*
*Non-rotating, hexagon shaft version available.
- Mounting hardware for GAZ, GAZ-S, & ADZ included.



Quick#	Part#	Price	Stroke	Piston bore	Extension force*	Retraction force*	Wt.
5001	ECDQ-12-10	\$27.00	10mm	12mm	17.75 lbf	13.26 lbf	58g
5002	ECDQ-12-20	\$27.70	20mm				68g
5003	ECDQ-12-30	\$28.40	30mm				81g
5004	ECDQ-20-10	\$30.65	10mm	20mm	49.45 lbf	37.09 lbf	113g
5005	ECDQ-20-20	\$31.35	20mm				140g
5006	ECDQ-20-30	\$32.05	30mm				158g
5007	ECDQ-32-10	\$43.65	10mm	32mm	126.56 lbf	94.86 lbf	217g
5008	ECDQ-32-20	\$44.55	20mm				240g
5009	ECDQ-32-30	\$45.45	30mm				281g
5010	ECDQ-32-50	\$47.25	50mm				362g
5011	ECDQ-32-75	\$49.50	75mm				453g
5012	ECDQ-32-100	\$51.75	100mm				536g

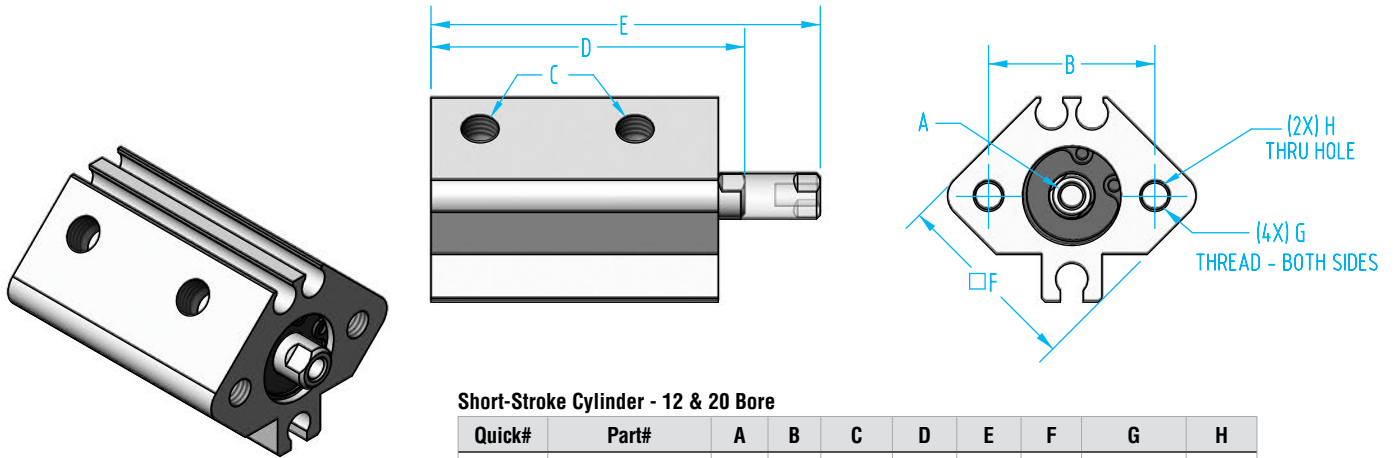
*Note: Force at 100psi (6.8 bar)

Sensors

Quick#	Part#	Price	Description
5430	D-M9PL	\$33.70	PNP, Straight with lead, 3m long
2412	D-M9NL	\$33.70	NPN, Straight with lead, 3m long
5497	D-M9P SAPC	\$42.06	PNP, Straight with M8 connector, 0.5m long
5498	D-M9N SAPC	\$42.06	NPN, Straight with M8 connector, 0.5m long

SMC Compact Cylinders with Single Rod

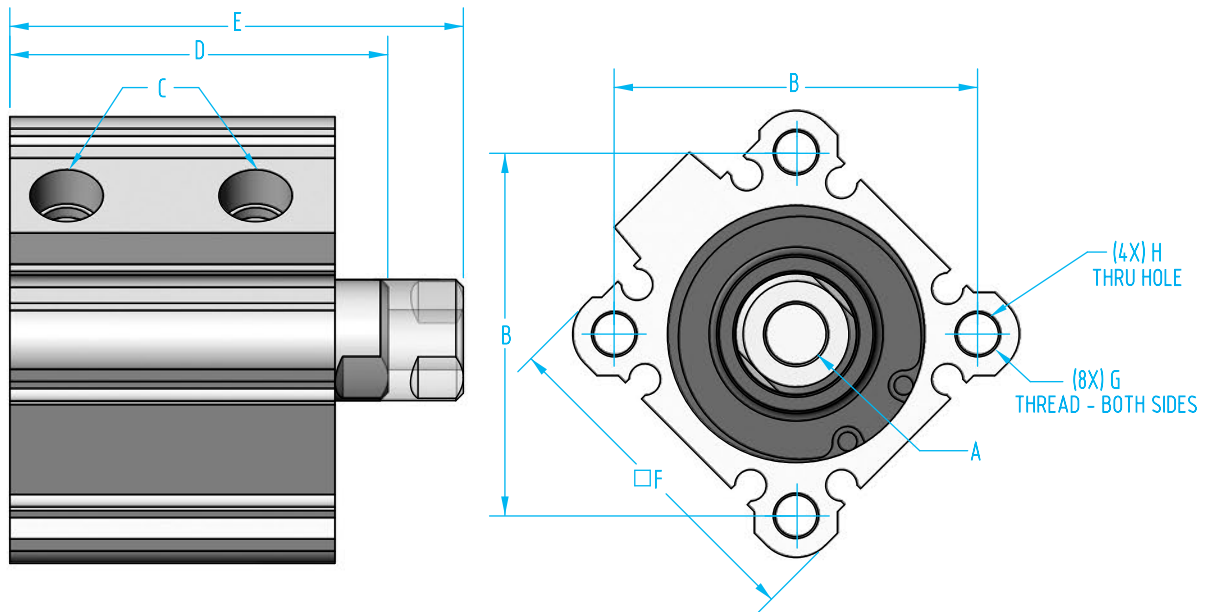
#5001-5006



Short-Stroke Cylinder - 12 & 20 Bore

Quick#	Part#	A	B	C	D	E	F	G	H
5001	ECDQ-12-10				41.5	51.5			
5002	ECDQ-12-20	M3	22	M5	51.5	71.5	25	M4 ∇ 7	3.5
5003	ECDQ-12-30				61.5	91.5			
5004	ECDQ-20-10				46	56			
5005	ECDQ-20-20	M5	36	M5	56	76	36	M6 ∇ 10	5.5
5006	ECDQ-20-30				66	96			

#5007-5012



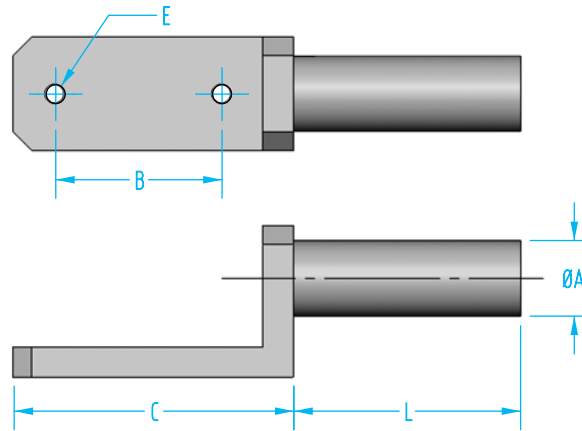
Short-Stroke Cylinder - 32 Bore

Quick#	Part#	A	B	C	D	E	F	G	H
5007	ECDQ-32-10				50	60			
5008	ECDQ-32-20				60	80			
5009	ECDQ-32-30	M8	48	G1/8"	70	100	45	M6 ∇ 10	5.5
5010	ECDQ-32-50	x1.25			90	140			
5011	ECDQ-32-75				115	190			
5012	ECDQ-32-100				140	240			

Compact Cylinder Mounting Brackets



#3431



Gripper Arm for Compact Cylinders

Quick#	Part#	>ASS< #	Price	Use with:	ØA	B	C	E	L	Wt.
3425	GAZ12-10-30	1-720-03-00	\$22.05	Compact Cylinders with 12mm bore	10	22	36	M3	30	12g
3426	GAZ12-10-60	1-720-06-00	\$23.63						60	16g
3427	GAZ12-10-90	1-720-09-00	\$24.68						90	22g
3428	GAZ12-14-40	1-720-12-00	\$23.10	Compact Cylinders with 12mm bore	14	22	36	M3	40	15g
3429	GAZ12-14-80	1-720-15-00	\$24.15						80	24g
3430	GAZ12-14-120	1-720-18-00	\$26.25						120	32g
3431	GAZ20-20-50	1-720-21-00	\$30.45	Compact Cylinders with 20mm bore	20	36	52	M5	50	35g
3432	GAZ20-20-100	1-720-24-00	\$32.55						100	58g
3433	GAZ20-20-150	1-720-27-00	\$33.60						150	79g
3434	GAZ32-20-50	1-720-30-00	\$36.23	Compact Cylinders with 32mm bore	20	48	66	M5	50	46g
3435	GAZ32-20-100	1-720-33-00	\$38.85						100	64g
3436	GAZ32-20-150	1-720-36-00	\$40.43						150	73g

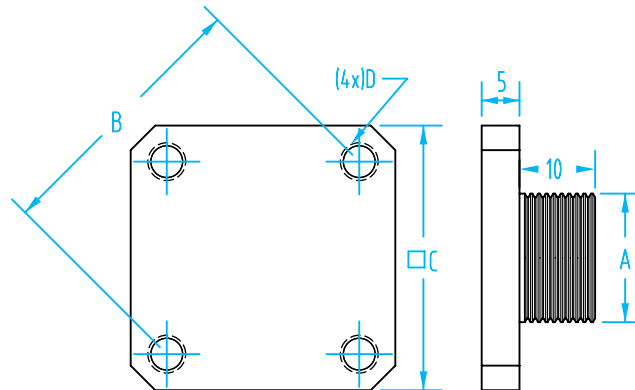
Use Quick#s for easy online ordering.



#3421



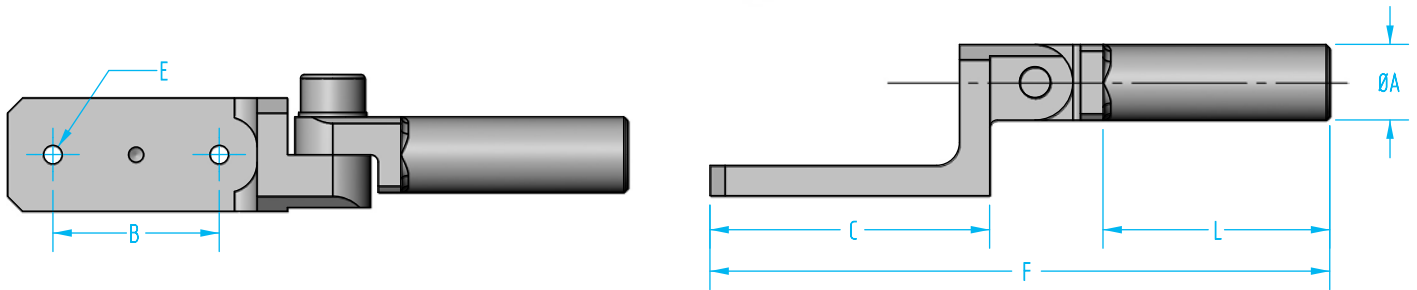
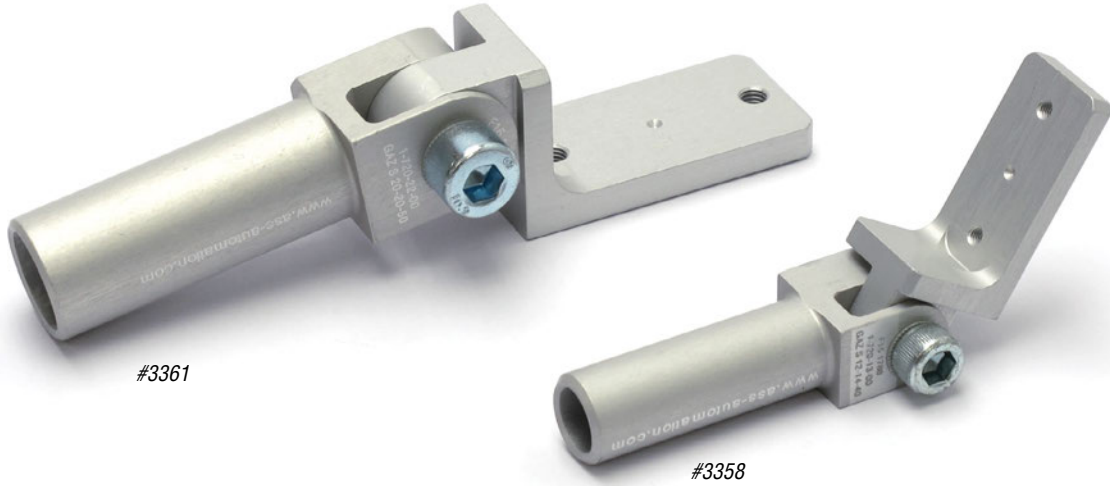
#3423



Mounting Plate for Compact Cylinders

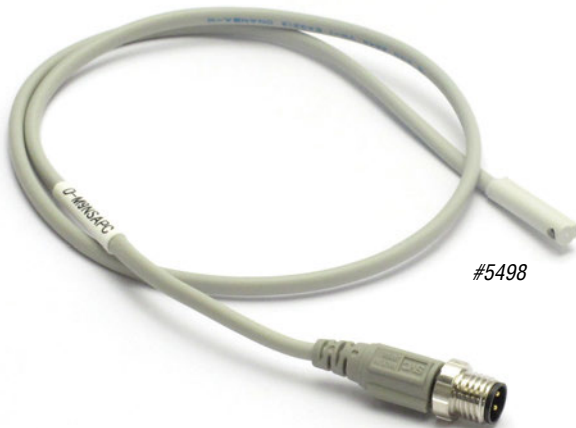
Quick#	Part#	>ASS< #	Price	Use with:	A	B	C	D	Wt.
3421	ADZ14-12	1-725-03-00	\$29.93	Compact Cylinders with 12mm bore	M12x1	22	25	M3	10g
3422	ADZ20-30	1-725-06-00	\$31.50	Compact Cylinders with 20mm bore	M17x1	36	35	M5	21g
3423	ADZ20-32	1-725-09-00	\$33.08	Compact Cylinders with 32mm bore	M17x1	48	45	M5	32g
3424	ADZ30-32	1-725-12-00	\$34.65	Compact Cylinders with 32mm bore	M27x1	48	45	M5	41g

Compact Cylinder Mounting Brackets



Swivel Gripper Arm for Compact Cylinders

Quick#	Part#	>ASS< #	Price	Use with:	ØA	B	C	E	F	L	Wt.
3355	GAZ-S-12-10-30	1-720-04-00	\$43.58	Compact Cylinders with 12mm bore	10	22	37	M3	82	30	17g
3356	GAZ-S-12-10-60	1-720-07-00	\$46.20						112	60	20g
3357	GAZ-S-12-10-90	1-720-10-00	\$48.30						142	90	24g
3358	GAZ-S-12-14-40	1-720-13-00	\$50.40	Compact Cylinders with 12mm bore	14	22	37	M3	97	40	38g
3359	GAZ-S-12-14-80	1-720-16-00	\$53.03						137	80	46g
3360	GAZ-S-12-14-120	1-720-19-00	\$55.65						177	120	55g
3361	GAZ-S-20-20-50	1-720-22-00	\$61.95	Compact Cylinders with 20mm bore	20	36	52	M5	129.5	50	80g
3362	GAZ-S-20-20-100	1-720-25-00	\$64.05						179.5	100	96g
3363	GAZ-S-20-20-150	1-720-28-00	\$65.63						229.5	150	111g
3364	GAZ-S-32-20-50	1-720-31-00	\$67.20	Compact Cylinders with 32mm bore	20	48	66	M5	143.5	50	86g
3365	GAZ-S-32-20-100	1-720-34-00	\$72.45						193.5	100	101g
3366	GAZ-S-32-20-150	1-720-37-00	\$75.60						243.5	150	117g

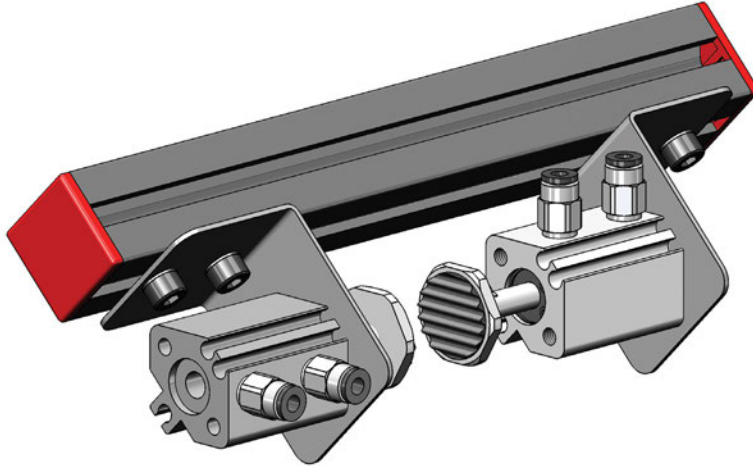


Sensors

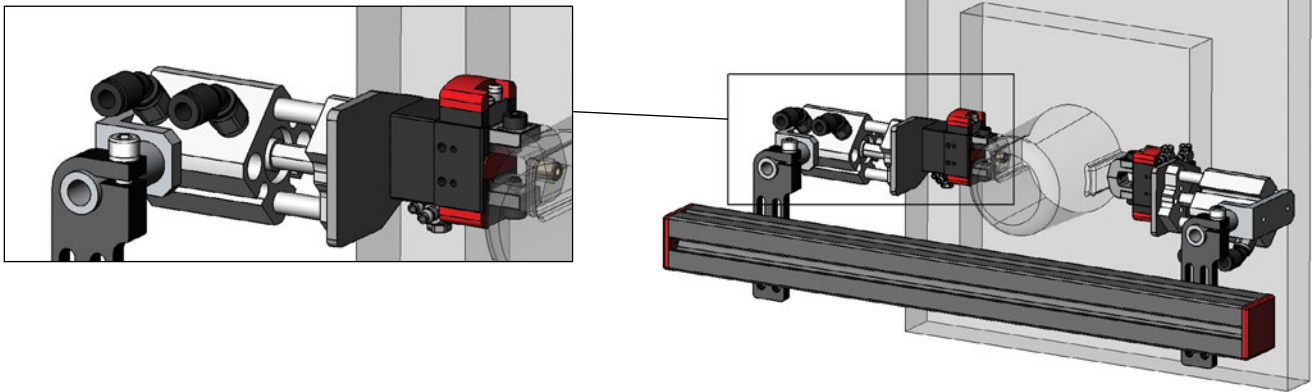
Quick#	Part#	Price	Operation
5430	D-M9PL	\$33.70	PNP, Straight with 3m lead
2412	D-M9NL	\$33.70	NPN, Straight with 3m lead
5497	D-M9P SAPC	\$42.06	PNP, Straight 0.5m long with M8 connector
5498	D-M9N SAPC	\$42.06	NPN, Straight 0.5m long with M8 connector

SMC Compact Cylinder Application Examples

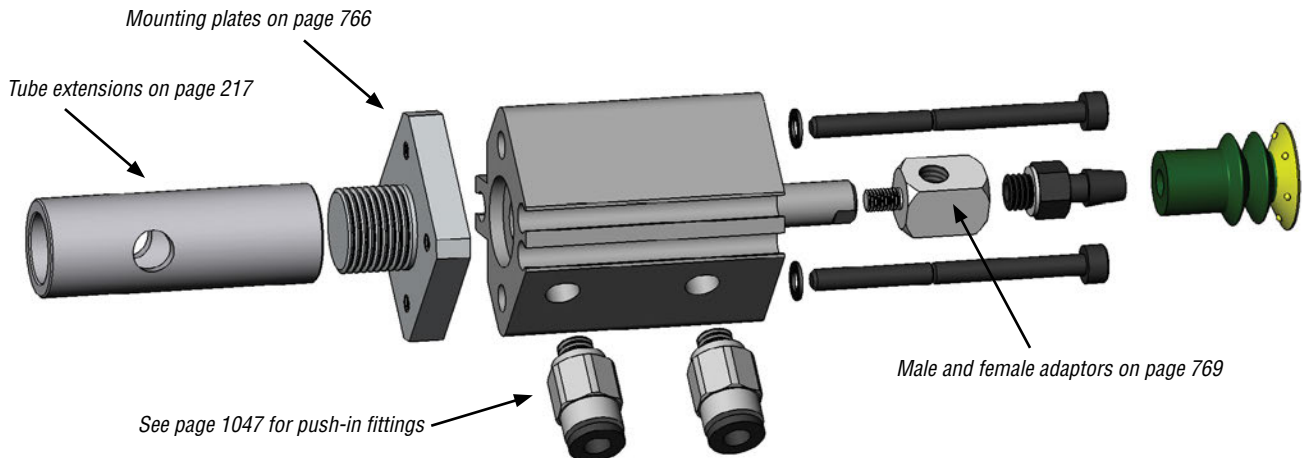
- Cylinders can be mounted directly from the front or back to plates. Necessary hardware to fasten cylinders to brackets GAZ, GAZ-S, & ADZ is included.



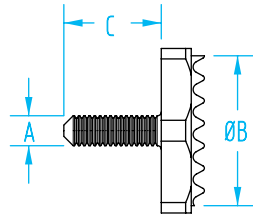
- Cylinders may be used for linear movement of lightweight inserts.



Exploded View with Accessories

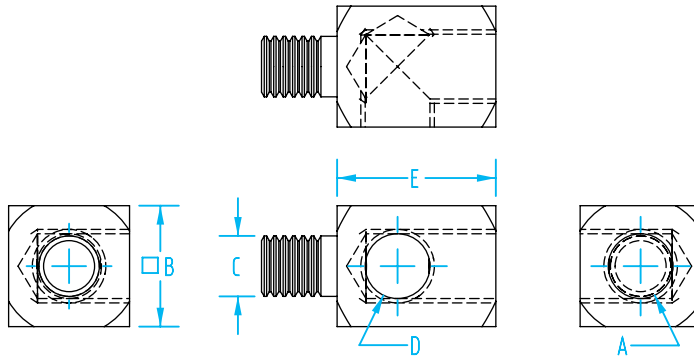


Compact Cylinder Components



Pressure Plate

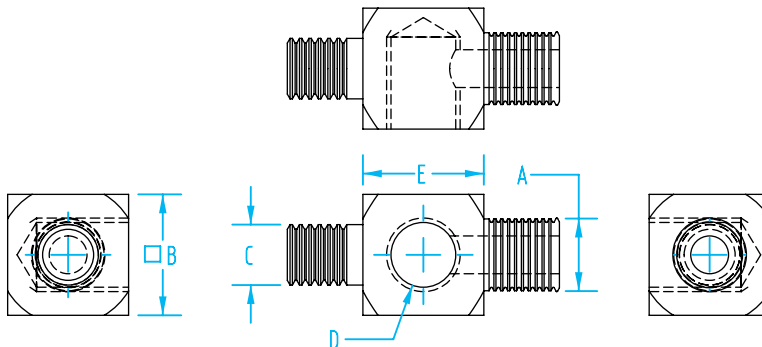
Quick#	Part#	>ASS< #	Price	Description	A	B	C	Wt.
3437	DPL12-3	1-790-03-00	\$5.25	NO RUBBER PAD	M3	12	9	2g
3438	DPL25-3	1-790-06-00	\$4.73	Includes Rubber pad	M3	22	7	7g
3439	DPL25-4	1-790-09-00	\$5.25		M4	22	13	12g
3440	DPL25-5	1-790-12-00	\$7.35		M5	22	13	12g
742	GSC-CCPP-1	-	\$16.10	Includes Elastomer pad with EPDM backing	M5	30	8	29g



#3300

Female Adaptor

Quick#	Part#	>ASS< #	Price	A	B	C	D	E	Wt.
3299	AVI5i-8-3	1-290-75-00	\$7.35	M5	8	M3	M5	12	4g
3689	AVI5i-8-5	1-290-73-00	\$7.35	M5	8	M5	M5	12	5g
3530	AVI1/8i-16-5	1-290-76-00	\$10.50	G1/8"	16	M5	G1/8"	21	32g
3300	AVI1/8i-16-8	1-290-77-00	\$10.50	G1/8"	16	M8	G1/8"	21	39g
3301	AVI1/4i-16-8	1-290-79-00	\$10.50	G1/4"	16	M8	G1/8"	26	35g



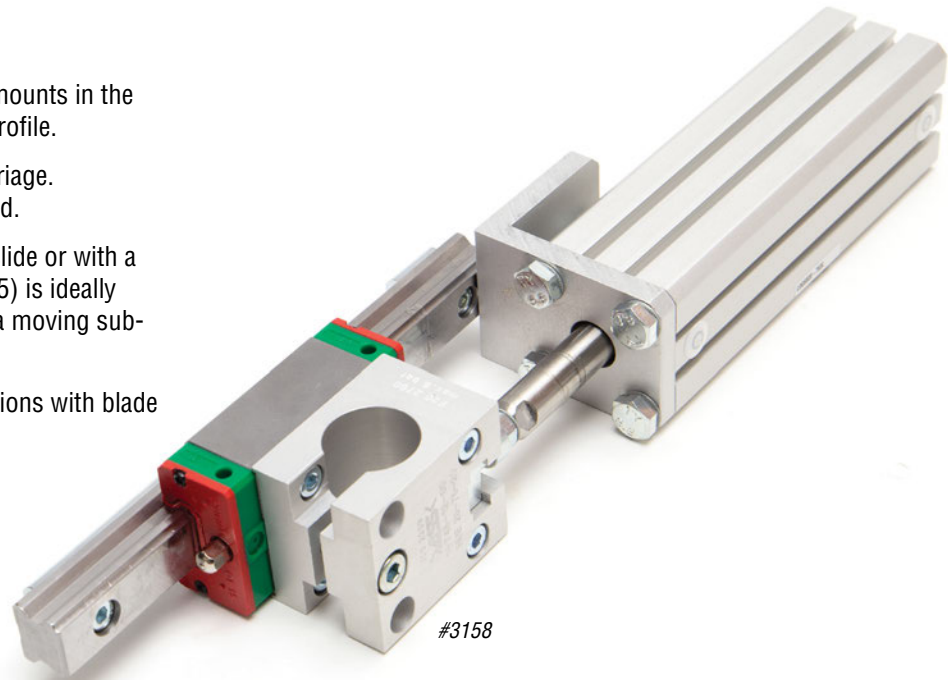
#3304

Male Adaptor

Quick#	Part#	>ASS< #	Price	A	B	C	D	E	Wt.
3302	AVA1/8a-16-6	1-290-81-00	\$10.50	G1/8"	16	M6	G1/8"	16	29g
3303	AVA1/8a-16-8	1-290-83-00	\$10.50	G1/8"	16	M8	G1/8"	16	29g
3304	AVA1/4a-16-6	1-290-85-00	\$10.50	G1/4"	16	M6	G1/8"	16	32g
3305	AVA1/4a-16-8	1-290-87-00	\$10.50	G1/4"	16	M8	G1/8"	16	32g

Heavy-Duty Guided Cylinders – HUE

- Double acting.
- Consists of a linear bearing that mounts in the channel of all >ASS< & Gimatic profile.
- A clamp assembly sits on the carriage. The pneumatic cylinder is included.
- Can be used as a precise nipper slide or with a DKS mounting post (see page 215) is ideally suited for building an EOAT with a moving sub-frame.
- Can be used for degating applications with blade holders found on page 911.
- Sensors available on page 771.

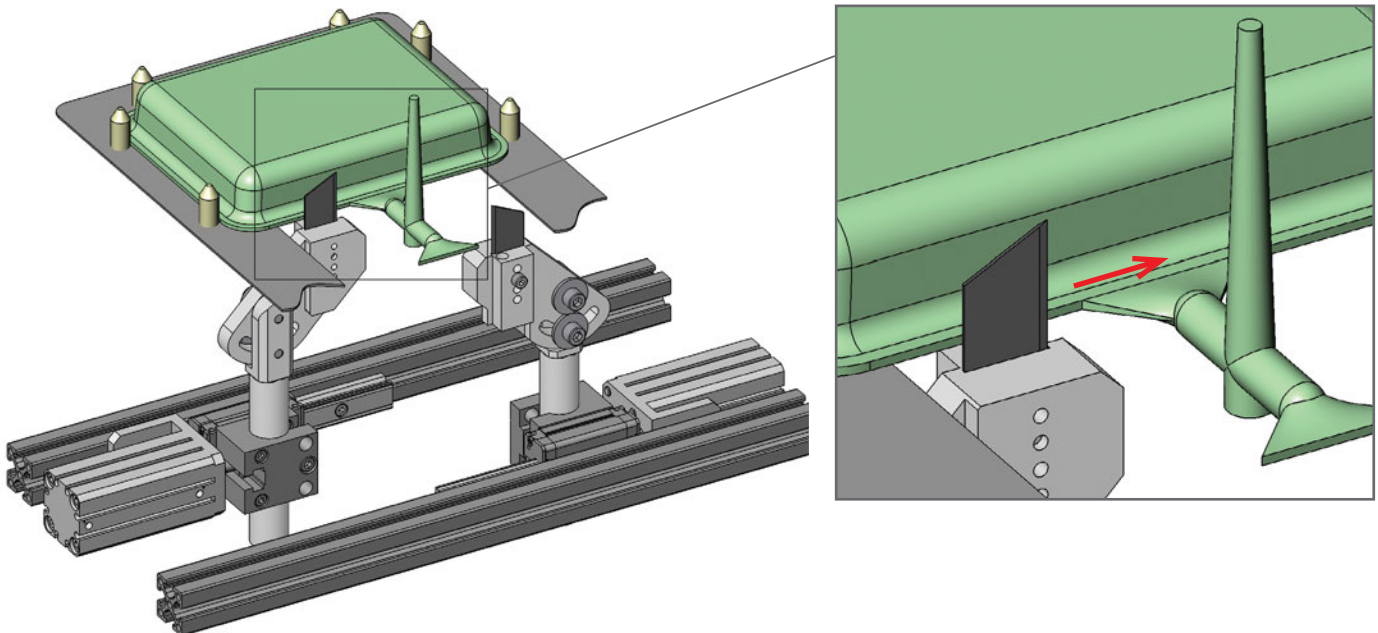


Quick#	Part#	>ASS<#	Price	Stroke	Extension force*	Retraction force*	Piston bore	Wt.
3156	HUE-20-30-20	1-745-10-00	\$293.48	30mm	42 lbf	32 lbf	20mm	588g
3157	HUE-20-50-20	1-745-11-00	\$293.48	50mm				636g
3158	HUE-20-75-20	1-745-12-00	\$313.95	75mm				747g
3159	HUE-20-100-20	1-745-13-00	\$334.43	100mm				717g
3161	HUE-20-125-20	1-745-14-00	\$352.28	125mm				849g

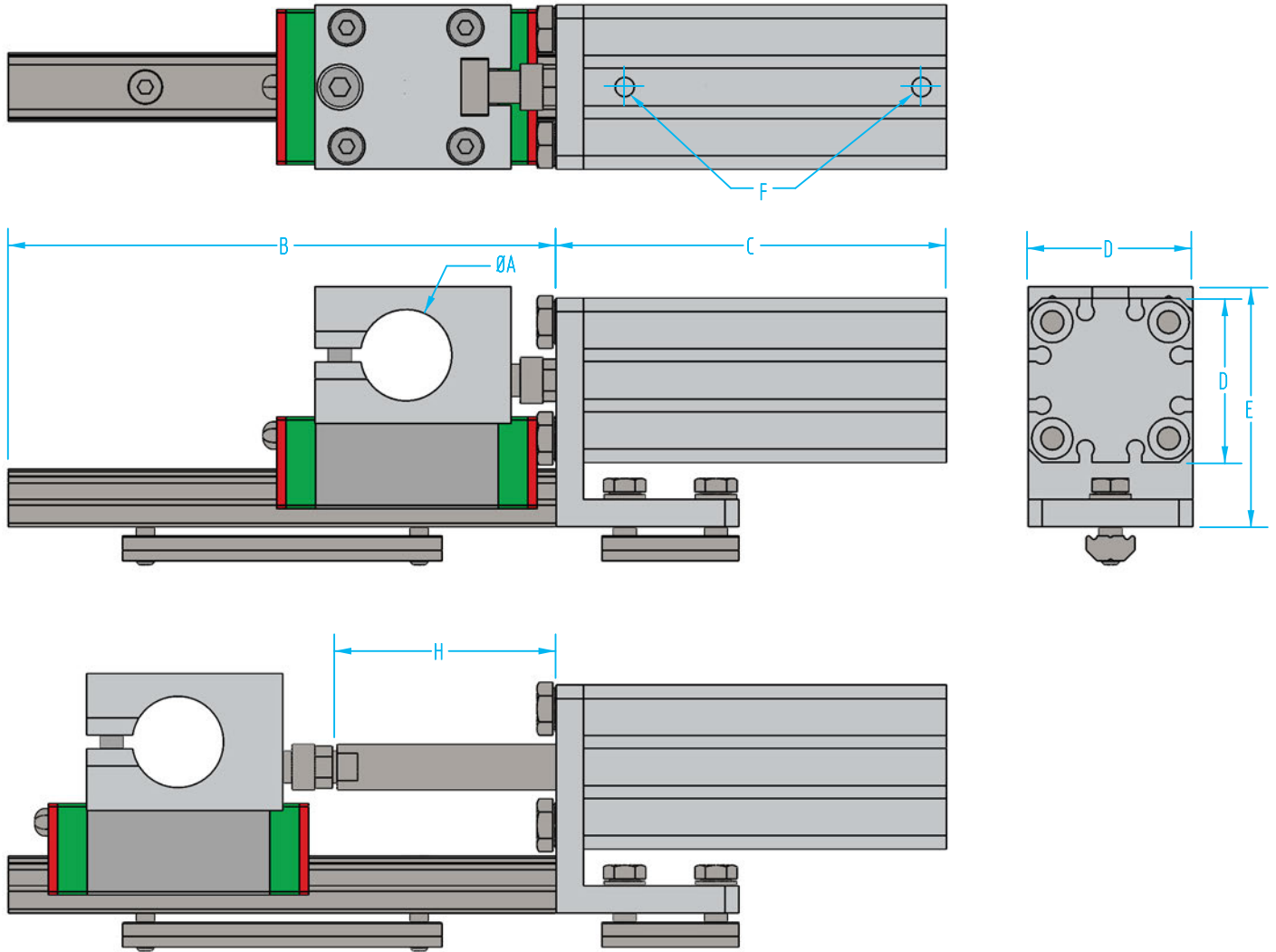
*Note: Force at 87psi (6 bar)

Use Quick#s for easy online ordering.

Application Example



Heavy-Duty Guided Cylinders – HUE



Quick#	Part#	A	B	C	D	E	F	H
3156	HUE-20-30-20	20	100	65.5	36	52.5	M5	30mm
3157	HUE-20-50-20	20	120	85.5	36	52.5	M5	50mm
3158	HUE-20-75-20	20	145	122	36	52.5	M5	75mm
3159	HUE-20-100-20	20	170	147	36	52.5	M5	100mm
3161	HUE-20-125-20	20	195	172	36	52.5	M5	125mm

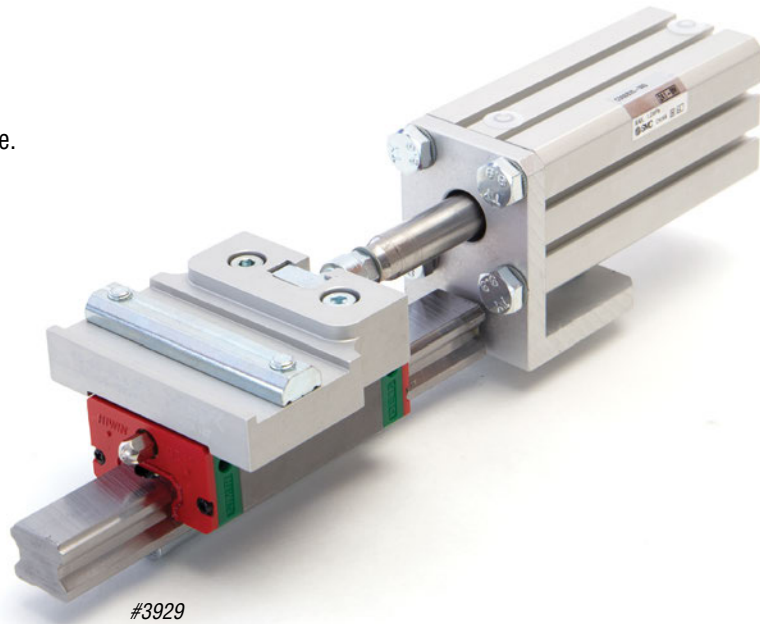


Sensors

Quick#	Part#	Price	Description
5430	D-M9PL	\$33.70	PNP, Straight with lead, 3m long
2412	D-M9NL	\$33.70	NPN, Straight with lead, 3m long
5497	D-M9P SAPC	\$42.06	PNP, Straight with M8 connector, 0.5m long
5498	D-M9N SAPC	\$42.06	NPN, Straight with M8 connector, 0.5m long

Heavy-Duty Guided Cylinders – HUE-X

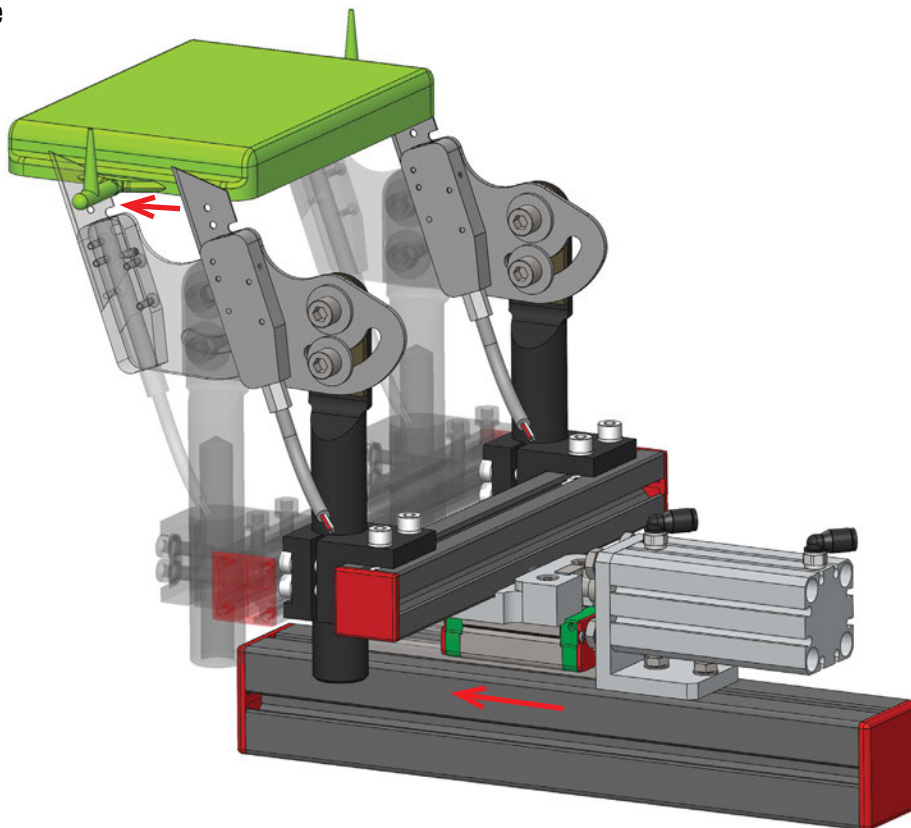
- Double acting.
- Consists of a linear bearing that mounts in the channel of all 25mm X >ASS< & Gimatic profile.
- Excellent for precise linear movements.
- Sensors available.



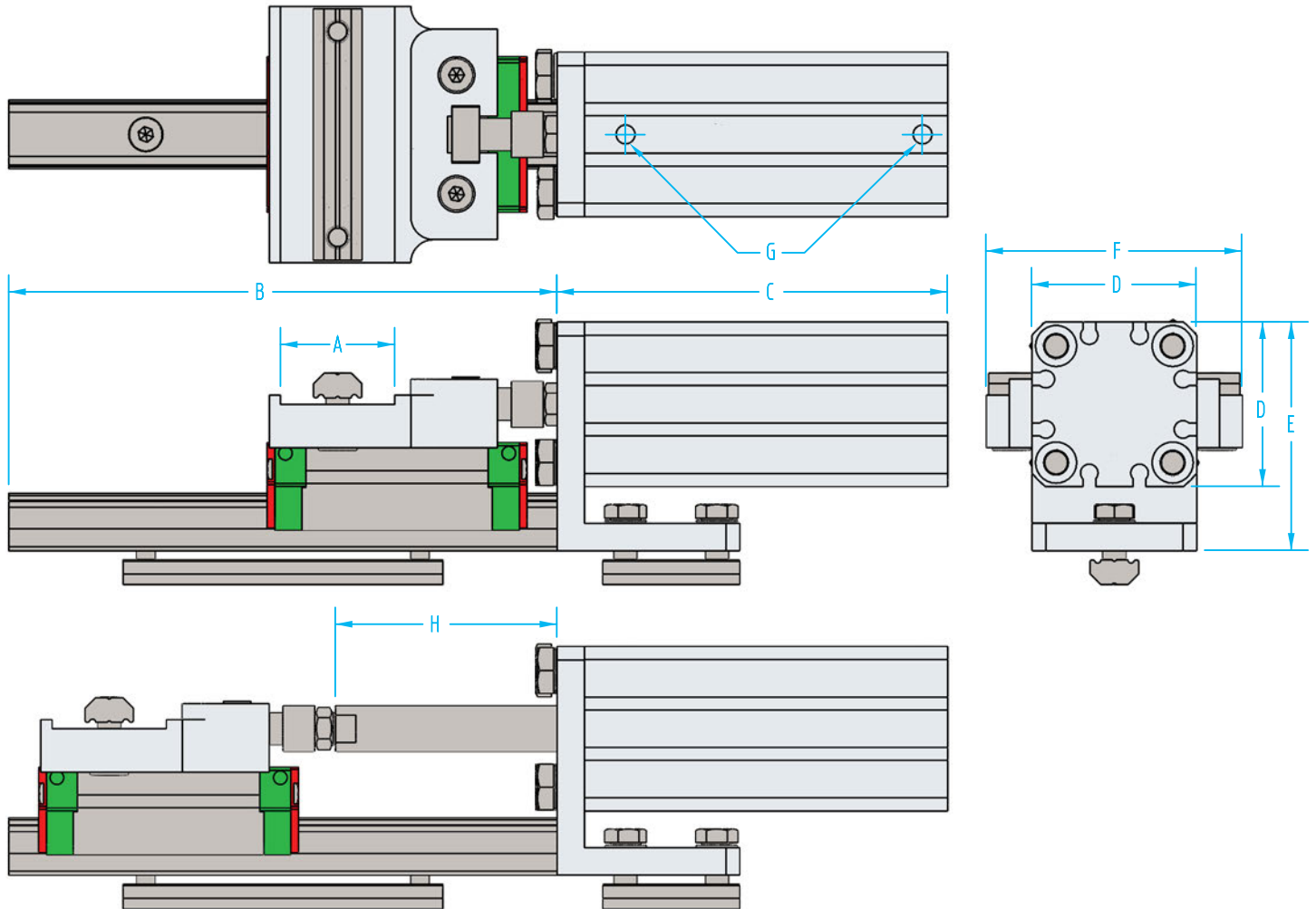
Quick#	Part#	>ASS<#	Price	Stroke	Extension force*	Retraction force*	Piston bore	Wt.
NEW	3928	HUE-X-25-30-20	\$246.75	30mm	42.3 lbf	31.9 lbf	20mm	656g
	3929	HUE-X-25-50-20	\$246.75	50mm				740g
	3930	HUE-X-25-75-20	\$266.18	75mm				869g
	3931	HUE-X-25-100-20	\$279.30	100mm				967g
	3932	HUE-X-25-125-20	\$294.00	125mm				1089g

*Note: Force at 87psi (6 bar)

Application Example



Heavy-Duty Guided Cylinders – HUE-X



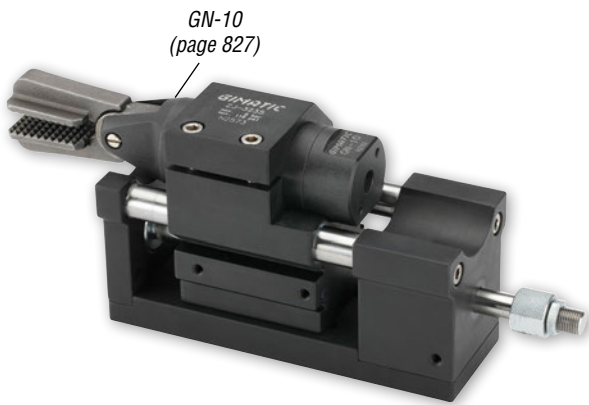
Quick#	Part#	A	B	C	D	E	F	G	H
3928	HUE-X-25-30-20	25	100	65.5	36	50	56	M5	30
3929	HUE-X-25-50-20	25	120	85.5	36	50	56	M5	50
3930	HUE-X-25-75-20	25	145	122	36	50	56	M5	75
3931	HUE-X-25-100-20	25	170	147	36	50	56	M5	100
3932	HUE-X-25-125-20	25	195	172	36	50	56	M5	125

Sensors

Quick#	Part#	Price	Description
5430	D-M9PL	\$33.70	PNP, Straight with lead, 3m long
2412	D-M9NL	\$33.70	NPN, Straight with lead, 3m long
5497	D-M9P SAPC	\$42.06	PNP, Straight with M8 connector, 0.5m long
5498	D-M9N SAPC	\$42.06	NPN, Straight with M8 connector, 0.5m long

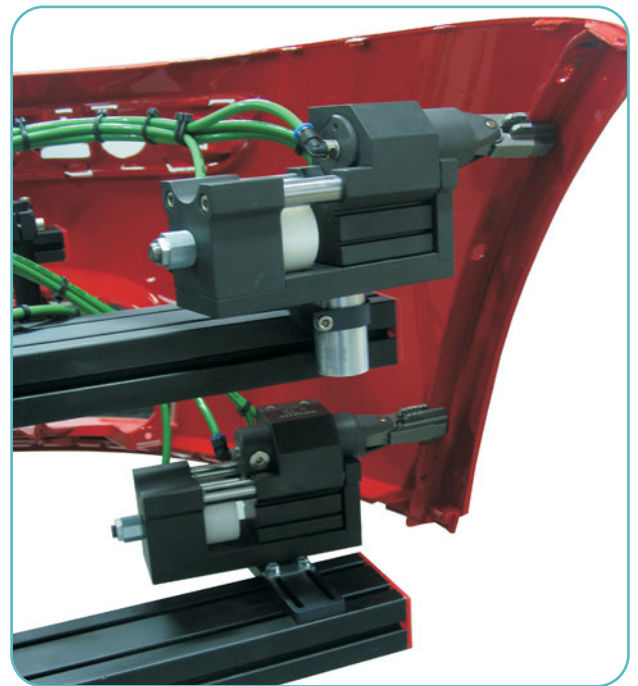
Gripper / Nipper Slide – ZJ

- Double-acting main cylinder and dual tie rods to precisely guide size 10 nippers.
- 32mm piston bore and 35mm adjustable stroke.
- Single-acting intermediate stopper.
- Ø36mm diameter clamp for GN-10 nipper body.
- See Sensor Reference Guide on page 1007 for a full list of compatible sensors.
- Optional 10mm spacer included.



Quick#	6475
Part#	ZJ-3235
Price	\$479.00
Weight	1330g
Pressure range	36–116 psi
Main stroke	35mm
Intermediate stroke	10–20mm
Main stroke with spacer	25mm
Extension force at 87psi	101 lbf

Use Quick#s for easy online ordering.



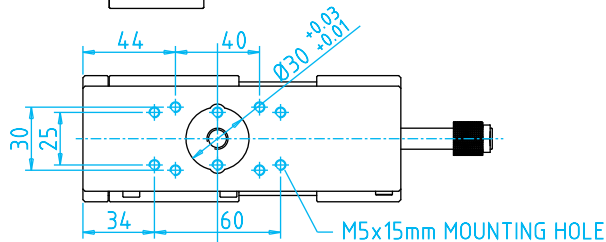
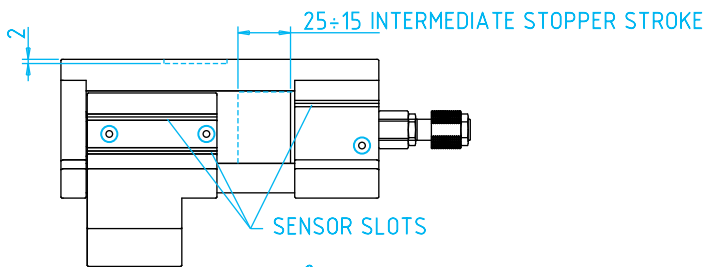
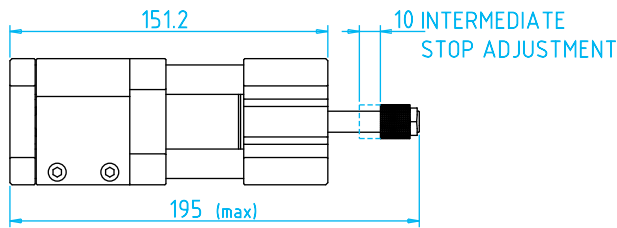
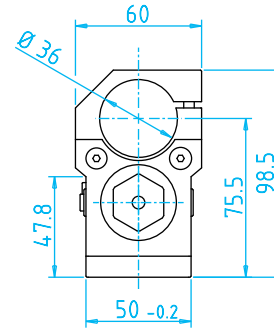
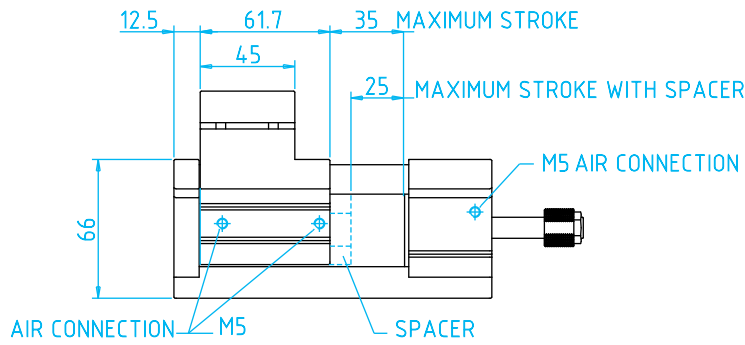
Mounting Accessories - Fasteners Included

Quick#	Part#	Price	Dimensions	Thread
7445	MFI-A360	\$48.00	Ø30 stud 79mm Clampable Length	M27x1
6972	MFM-A109	\$37.44	Ø30 stud 32mm Clampable Length	M27x1

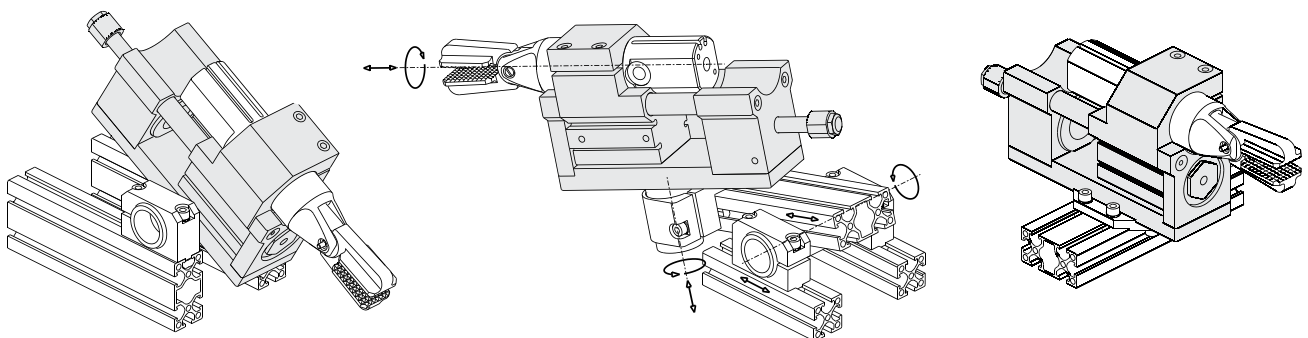
Note: Dimensional drawings at EMlcorp.com

Gripper / Nipper Slide – ZJ

(Dimensioned drawing reduced to fit)



Mounting Examples



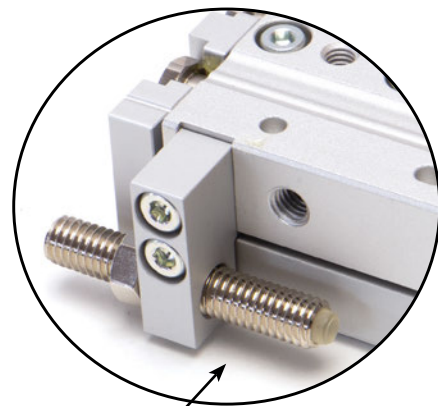
Precision Slides – MXS

- MXS Double acting slides are available in 6, 8, and 12mm bore sizes. Bore sizes 16, 20, and 25mm are available but are non-stock.
- Integrated guide rails and cross roller bearings allow for a smooth linear movement.
- MXS slides are recommended to be fitted with either rubber stoppers or shock absorbers (sold separately) in order to stop the slide table at a precise position.
- Optional sensors available.

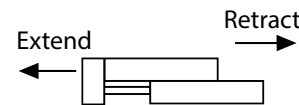


MXS Precision Slides

Quick#	Part#	Price	Piston bore	Stroke
2740	MXS6-10	\$210.45	6mm	10mm
2741	MXS6-20	\$233.75		20mm
2742	MXS6-30	\$257.10		30mm
2743	MXS6-40	\$283.10		40mm
2744	MXS6-50	\$307.75		50mm
2745	MXS8-10	\$231.85	8mm	10mm
2746	MXS8-20	\$240.55		20mm
2747	MXS8-30	\$265.15		30mm
2748	MXS8-40	\$287.65		40mm
2749	MXS8-50	\$295.30		50mm
2750	MXS8-75	\$367.50		75mm
2751	MXS12-10	\$273.45	12mm	10mm
2752	MXS12-20	\$273.45		20mm
2753	MXS12-30	\$273.45		30mm
2754	MXS12-40	\$298.00		40mm
2755	MXS12-50	\$322.55		50mm
2756	MXS12-75	\$371.45		75mm
2757	MXS12-100	\$442.95		100mm



Shown with Rubber Stopper



Theoretical Output:

Bore size	Rod size	Operating direction	Piston area	Output Force at listed supply pressure (psi)*					
				29.01	43.51	58.02	72.52	87.02	101.5
6mm	3mm	Extend	57mm ²	2.473 lbf	3.822 lbf	5.171 lbf	6.519 lbf	7.644 lbf	8.992 lbf
		Retract	42mm ²	1.798 lbf	2.923 lbf	3.822 lbf	4.721 lbf	5.62 lbf	6.519 lbf
8mm	4mm	Extend	101mm ²	4.496 lbf	6.744 lbf	8.992 lbf	11.47 lbf	13.71 lbf	15.96 lbf
		Retract	75mm ²	3.372 lbf	5.171 lbf	6.744 lbf	8.543 lbf	10.12 lbf	11.91 lbf
12mm	6mm	Extend	226mm ²	10.12 lbf	15.29 lbf	20.23 lbf	25.40 lbf	30.57 lbf	35.52 lbf
		Retract	170mm ²	7.644 lbf	11.47 lbf	15.29 lbf	9.11 lbf	22.93 lbf	26.75 lbf

*Note: Theoretical output (lbf) = Pressure (PSI) x Piston area (in²)

Additional information can be found online: www.EMICorp.com

Precision Slides – MXS

Sensors

Quick#	Part#	Price	Description
5430	D-M9PL	\$33.70	PNP, Straight with lead, 3m long
2412	D-M9NL	\$33.70	NPN, Straight with lead, 3m long
5497	D-M9P SAPC	\$42.06	PNP, Straight with M8 connector, 0.5m long
5498	D-M9N SAPC	\$42.06	NPN, Straight with M8 connector, 0.5m long

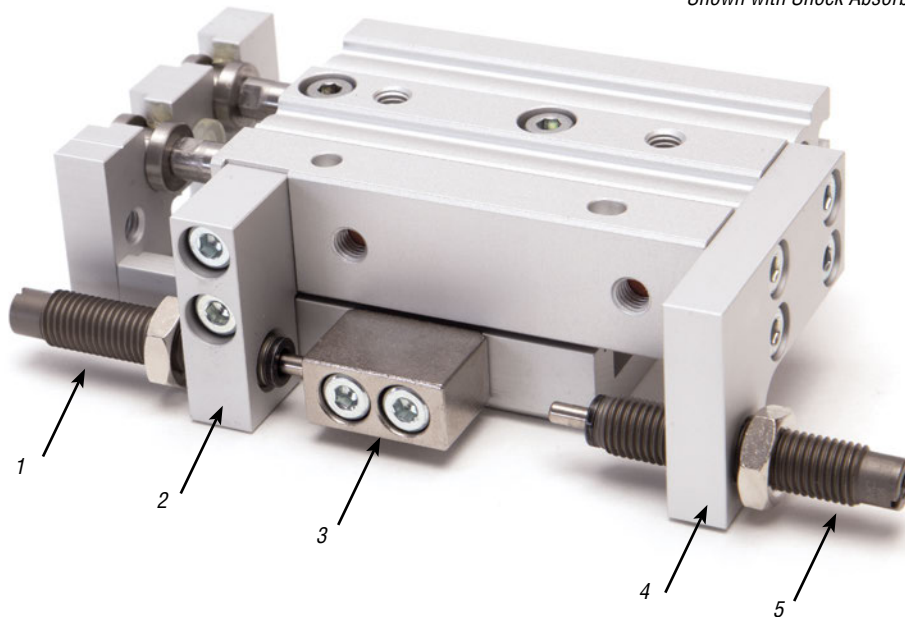
Rubber Stopper

Piston Bore	Extend				Retract			
	Includes: All hardware & parts 1–3				Includes: All hardware & parts 3–5			
	Quick#	Part#	Stroke adjustment	Price	Quick#	Part#	Stroke adjustment	Price
6mm	2758	MXS-AS6-X11	0–15mm	\$41.20	2761	MXS-AT6-X11	0–15mm	\$44.20
8mm	2759	MXS-AS8-X11	0–15mm	\$44.10	2762	MXS-AT8-X11	0–15mm	\$44.10
	or				or			
12mm	2764	MXS-AS8-X12	0–25mm	\$55.15	2766	MXS-AT8-X12	0–25mm	\$55.15
	2760	MXS-AS12-X11	0–15mm	\$44.10	2763	MXS-AT12-X11	0–15mm	\$44.10
	or				or			
	2765	MXS-AS12-X12	0–25mm	\$62.85	2767	MXS-AT12-X12	0–25mm	\$62.85

Shock Absorber

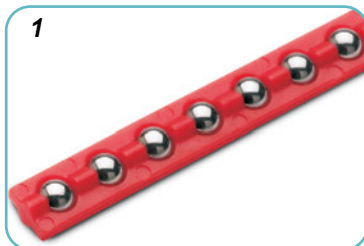
Piston Bore	Extend				Retract			
	Includes: All hardware & parts 1–3				Includes: All hardware & parts 3–5			
	Quick#	Part#	Stroke adjustment	Price	Quick#	Part#	Stroke adjustment	Price
6mm	not available				not available			
8mm	2768	MXS-BS8	0–30mm	\$60.10	2770	MXS-BT8	0–30mm	\$61.50
12mm	2769	MXS-BS12	0–30mm	\$44.10	2771	MXS-BT12	0–30mm	\$61.50

Shown with Shock Absorbers



Mini-Slides – ZE-P

- Piston bore 6mm, 10mm, or 16mm
- Stroke 10mm, 20mm, 30mm
- Several fastening options.
- Double acting.
- Internal elastic bumpers.
- Optional Gimatic C-slot sensors, see page 785.



Features:

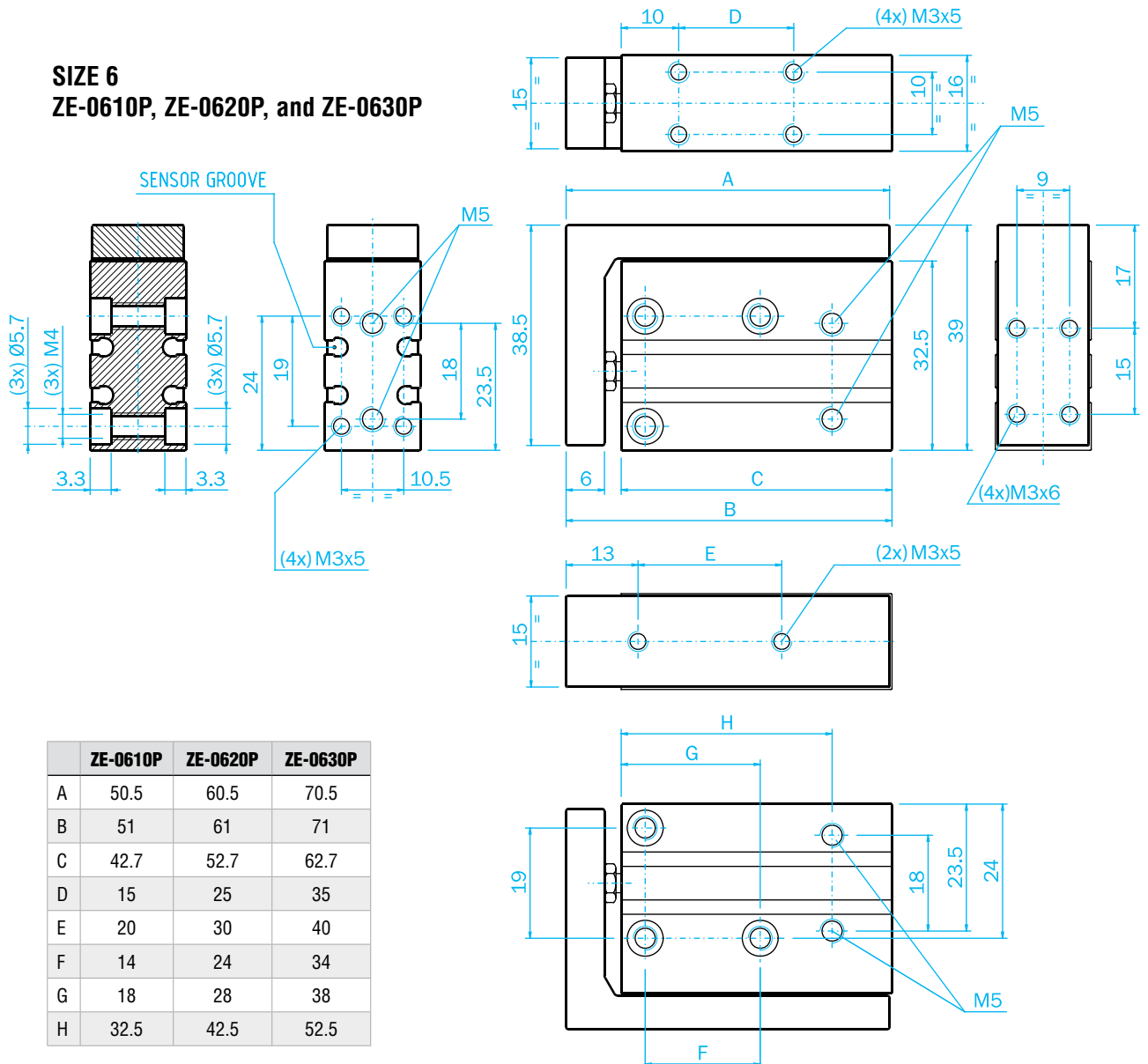
- 1- Linear ball bearings, encased in POM
- 2- Guide with built-in hardened and ground shafts
- 3- One-block carrier molded in a lightweight zinc alloy



Mini-Slides – ZE-P

(Dimensioned drawing reduced to fit)

SIZE 6
ZE-0610P, ZE-0620P, and ZE-0630P



	ZE-0610P	ZE-0620P	ZE-0630P
A	50.5	60.5	70.5
B	51	61	71
C	42.7	52.7	62.7
D	15	25	35
E	20	30	40
F	14	24	34
G	18	28	38
H	32.5	42.5	52.5

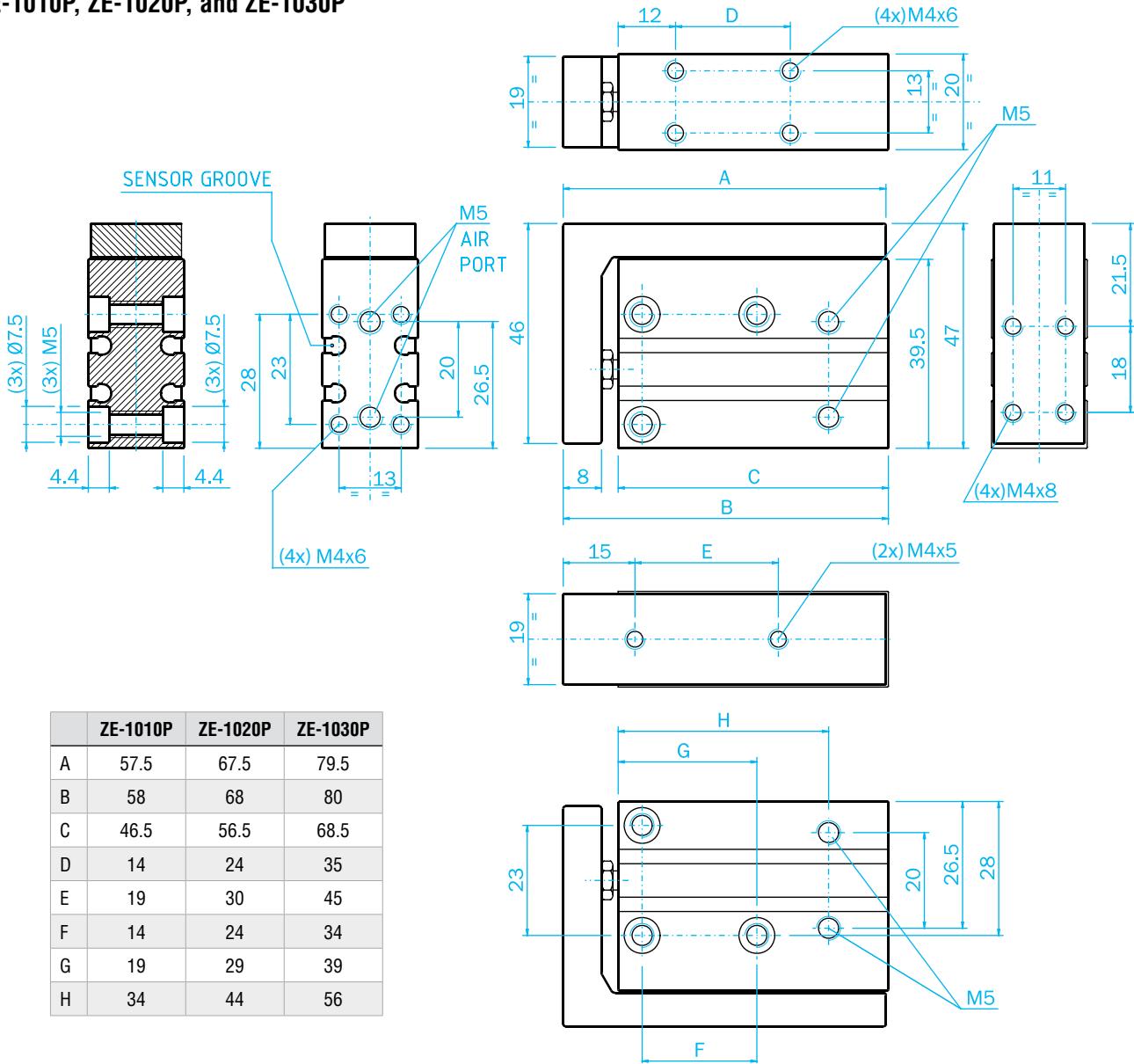
Quick#	6581	6582	6583
Part#	ZE-0610P	ZE-0620P	ZE-0630P
Price	\$160.00	\$161.00	\$163.00
Weight	90g	105g	120g
Minimum actuating time	0.015s	0.020s	0.030s
Maximum working frequency	3Hz		
Air consumption per cycle	0.7cm ³	1.3cm ³	1.9cm ³
Stroke (+ 1 mm)	10mm	20mm	30mm
Extension force at 87 psi	3 lbf		
Retraction force at 87 psi	2 lbf		
Pressure range	36–116 psi		



Mini-Slides – ZE-P

(Dimensioned drawing reduced to fit)

SIZE 10 ZE-1010P, ZE-1020P, and ZE-1030P



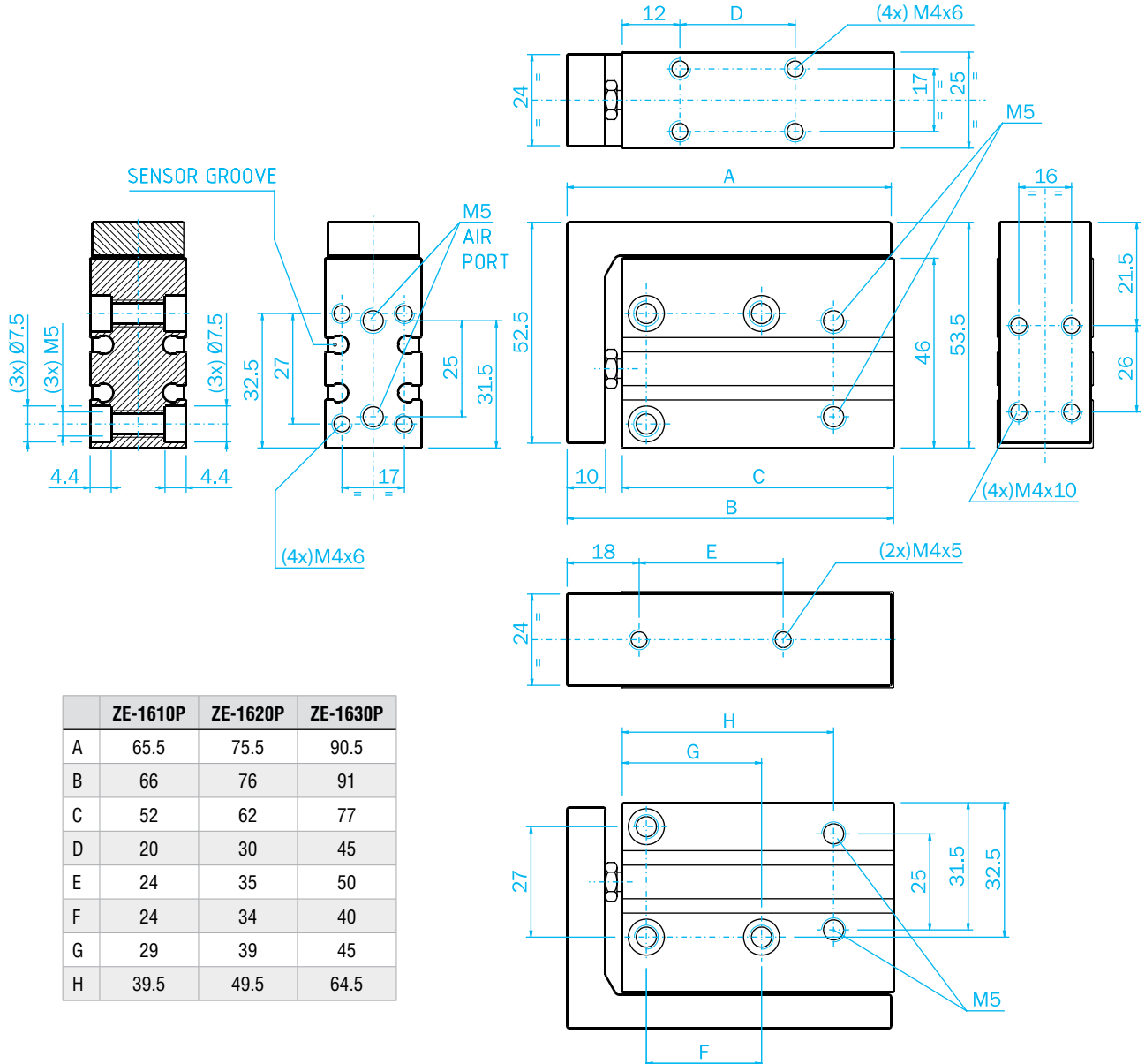
	ZE-1010P	ZE-1020P	ZE-1030P
A	57.5	67.5	79.5
B	58	68	80
C	46.5	56.5	68.5
D	14	24	35
E	19	30	45
F	14	24	34
G	19	29	39
H	34	44	56

Quick#	6584	6579	6585
Part#	ZE-1010P	ZE-1020P	ZE-1030P
Price	\$168.00	\$171.00	\$175.00
Weight	150g	175g	200g
Minimum actuating time	0.030s	0.050s	0.060s
Maximum working frequency	3Hz		
Air consumption per cycle	1.7cm ³	3.3cm ³	4.9cm ³
Stroke (+ 1 mm)	10mm	20mm	30mm
Extension force at 87 psi	9 lbf		
Retraction force at 87 psi	7 lbf		
Pressure range	36–116 psi		

Mini-Slides – ZE-P

(Dimensioned drawing reduced to fit)

SIZE 16
ZE-1610P, ZE-1620P, and ZE-1630P



	ZE-1610P	ZE-1620P	ZE-1630P
A	65.5	75.5	90.5
B	66	76	91
C	52	62	77
D	20	30	45
E	24	35	50
F	24	34	40
G	29	39	45
H	39.5	49.5	64.5

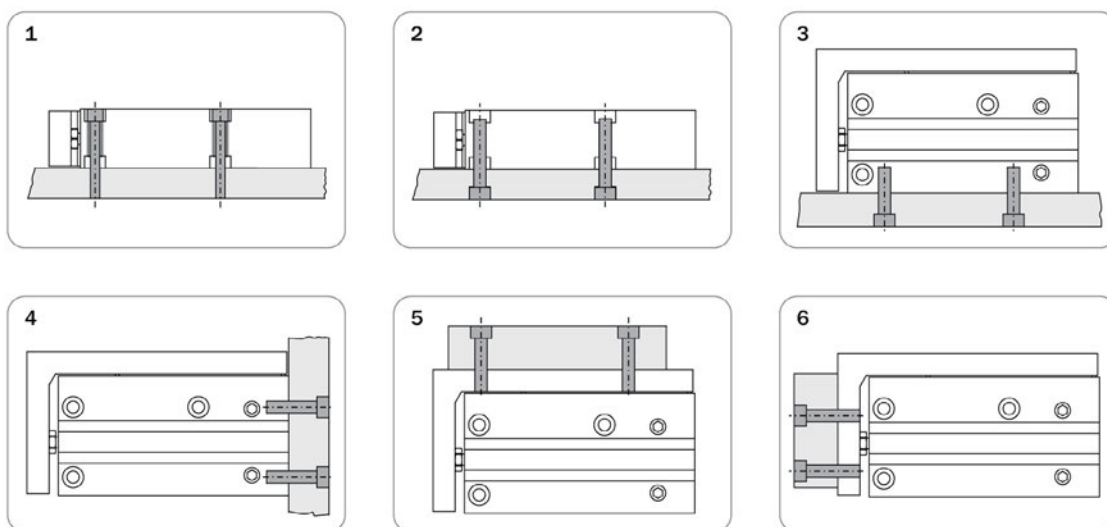
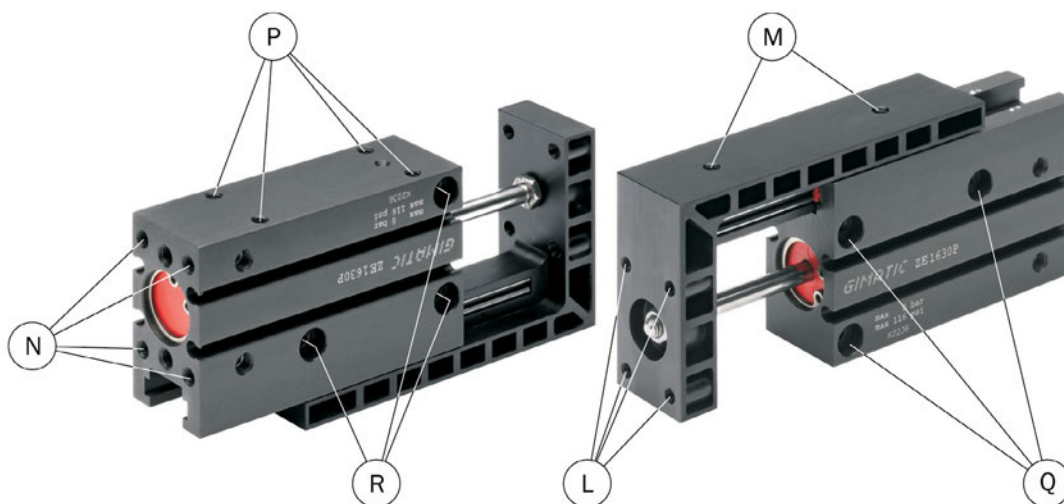
Quick#	6586	6587	6580
Part#	ZE-1610P	ZE-1620P	ZE-1630P
Price	\$194.00	\$198.00	\$203.00
Weight	265g	295g	340g
Minimum actuating time	0.050s	0.070s	0.090s
Maximum working frequency	3Hz		
Air consumption per cycle	4.4cm ³	8.3cm ³	12cm ³
Stroke (+ 1 mm)	10mm	20mm	30mm
Extension force at 87 psi	25 lbf		
Retraction force at 87 psi	22 lbf		
Pressure range	36–116 psi		

Mini-Slides – ZE-P

Fastening

The slide can be fastened to a stationary or moving part. When on a moving part, you must pay attention to the forces created by inertia over the slide and its load.

The slide housing can be fastened on four sides as shown in pictures 1–4. The load can be fastened on two sides of the carrier as shown in pictures 5 and 6.



	ZE-06...P	ZE-10...P	ZE-16...P
L	M3x6mm	M4x8mm	M4x10mm
M	M3x5mm	M4x5mm	M4x5mm
N	M3x5mm	M4x6mm	M4x6mm
P	M3x5mm	M4x6mm	M4x6mm
Q	Ø 5.7x3.3mm	Ø 7.5x4.4mm	Ø 7.5x4.4mm
R	M4	M5	M5

Mini-Slides – ZE-P

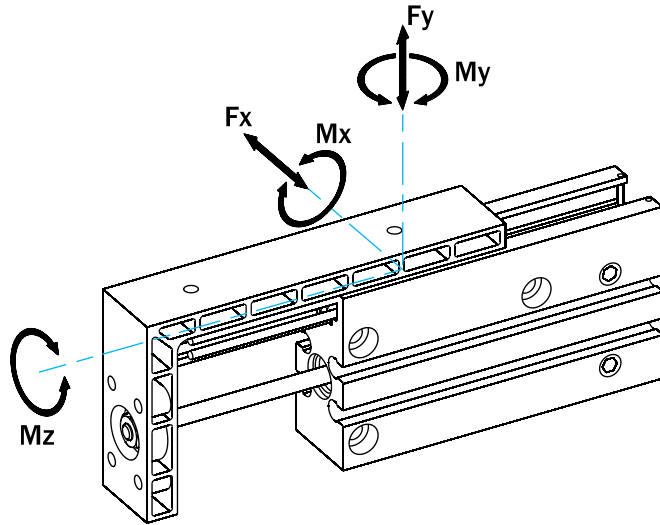
Safety loads

Check the tables below.
Excessive loads can damage the slide, cause functioning troubles, and endanger the safety of the operator.

$F_x s$, $F_y s$, $M_x s$, $M_y s$, $M_z s$ are maximum permitted static loads. $F_x d$, $F_y d$, $M_x d$, $M_y d$, $M_z d$ are maximum permitted dynamic loads.
It is also indicated the minimum actuating time 't' as a factor of the pay-load 'm'.

(*) When the actuating time and pay-load produce an excessive kinetic energy, the speed must be reduced by flow controllers (not supplied).

In any case, the pay-load 'm' is max.
100g (ZE06P), 250g (ZE10P), 500g (ZE16P).



	ZE-06...P	ZE-10...P	ZE-16...P
$F_x s$	10N	25N	50N
$F_y s$	10N	25N	50N
$M_x s$	1Nm	2Nm	3Nm
$M_y s$	1Nm	2Nm	3Nm
$M_z s$	1Nm	2Nm	3Nm
$F_x d$	1N	2.5N	5N
$F_y d$	1N	2.5N	5N
$M_x d$	0.2Nm	0.4Nm	0.6Nm
$M_y d$	0.2Nm	0.4Nm	0.6Nm
$M_z d$	0.2Nm	0.4Nm	0.6Nm
m max	100g	250g	500g

Reference:
Force: N x 0.225=lbf
Torque: Nm x 8.850=in-lbf
Torque: Ncm x 0.089=in-lbf
Pressure: bar x 14.5=psi

Minimum Actuating time as a factor of the payload

m	t ZE-0610P	t ZE-0620P	t ZE-0630P	t ZE-1010P	t ZE-1020P	t ZE-1030P	t ZE-1610P	t ZE-1620P	t ZE-1630P
10 g	15ms	28ms (*)	44ms (*)	30ms	50ms	60ms	50ms	70ms	90ms
40 g	18ms (*)	37ms (*)	57ms (*)	30ms	50ms	60ms	50ms	70ms	90ms
70 g	22ms (*)	45ms (*)	68ms (*)	30ms	50ms	61ms (*)	50ms	70ms	90ms
100 g	25ms (*)	51ms (*)	77ms (*)	30ms	50ms	68ms (*)	50ms	70ms	90ms
150 g	-	-	-	30ms	51ms (*)	78ms (*)	50ms	70ms	90ms
200 g	-	-	-	30ms	58ms (*)	87ms (*)	50ms	70ms	90ms
250 g	-	-	-	31ms (*)	63ms (*)	96ms (*)	50ms	70ms	90ms
300 g	-	-	-	-	-	-	50ms	70ms	94ms (*)
400 g	-	-	-	-	-	-	50ms	70ms	105ms (*)
500 g	-	-	-	-	-	-	50ms	76ms (*)	115ms (*)

Mini-Slides – ZE-P

Compressed air feeding

The compressed air feeding can be accomplished on the lateral or rear air ports with M5 fittings (not supplied).

Compressed air in S: extension stroke.

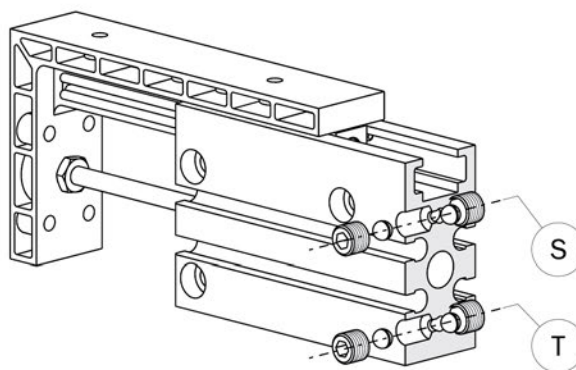
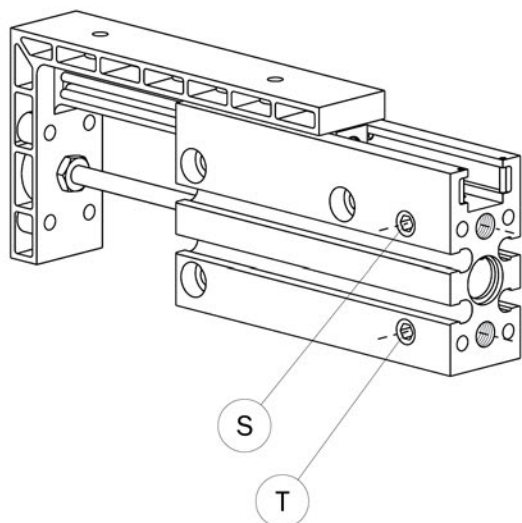
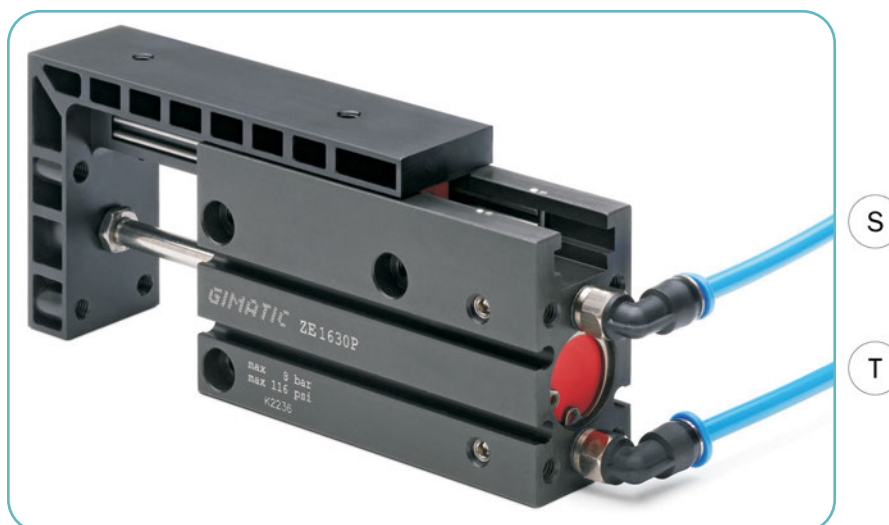
Compressed air in T: retraction stroke.

To ease application and provide mounting options, air lines can be connected in three possible locations. Two of the three sets of ports must be plugged with M5 plugs (supplied).

All Gimatic cylinders, grippers, and slides are shipped pre-lubricated, so applying lubricated air is not necessary.

A soft start is recommended to avoid uncontrolled movements.

Fittings Available
on page 1043



Mini-Slides – ZE-P

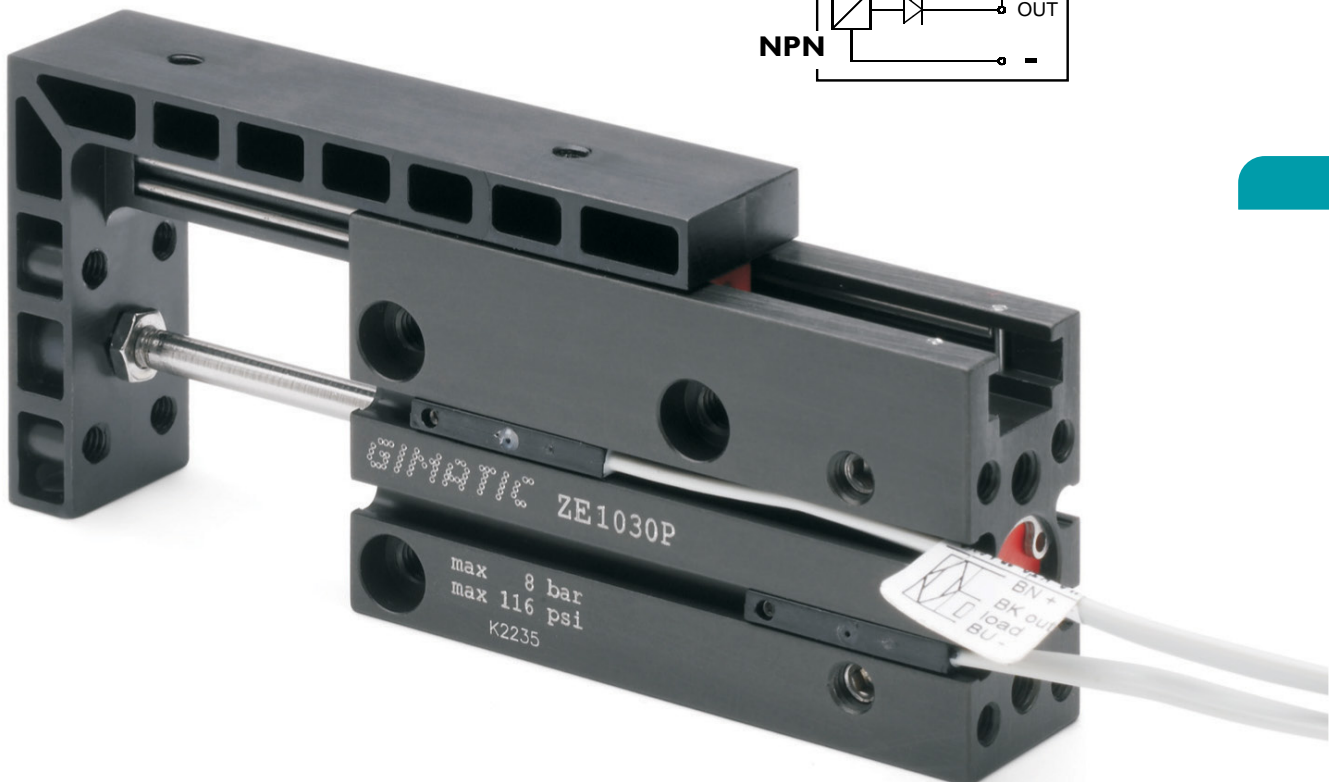
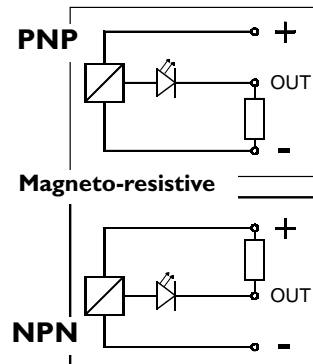
Sensors

The operating position can be checked by sensors (optional), that detect the inner magnet. Therefore, a nearby large mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.



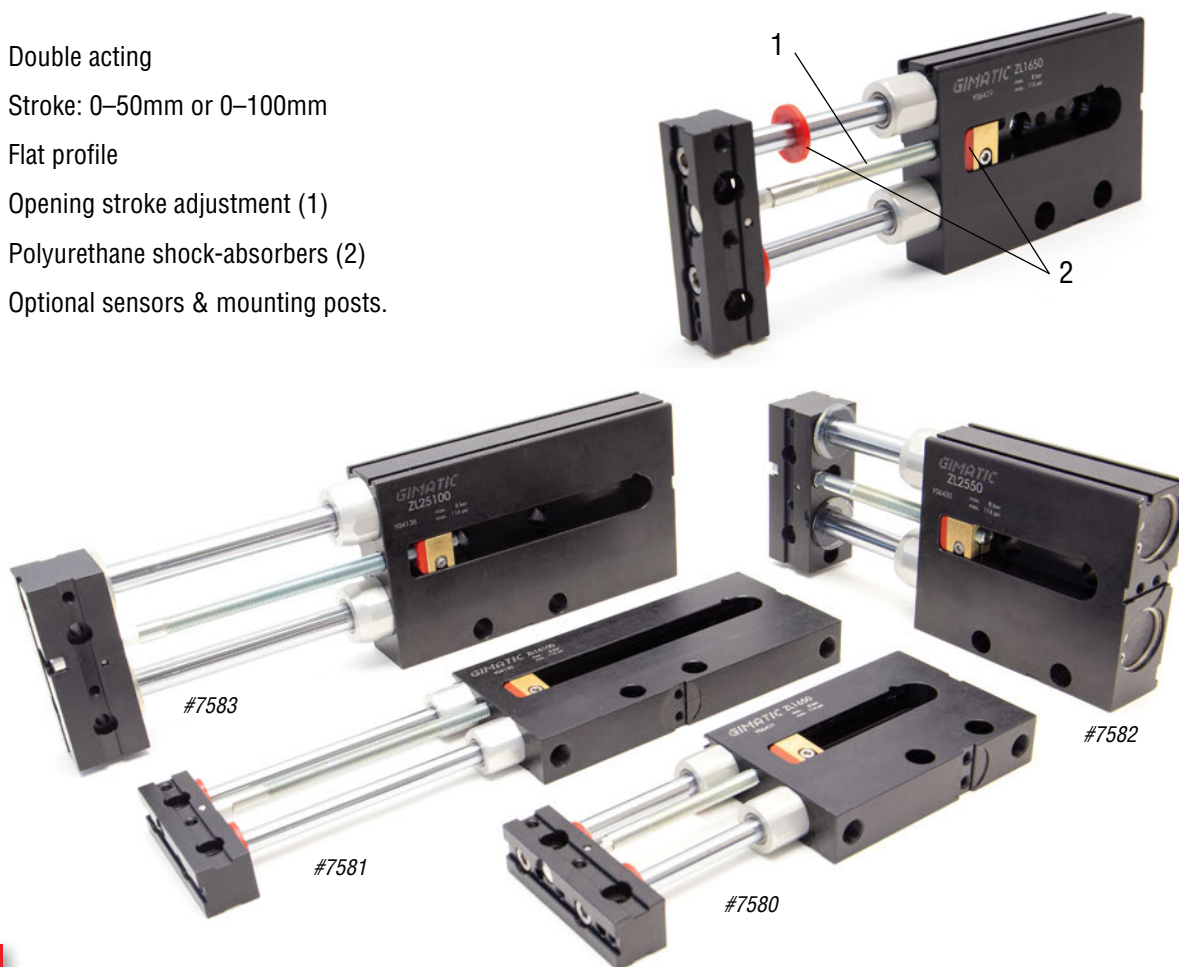
Sensor Type	Quick#	Part#	Signal	Connection	Price
90° Lead Exit SN Style Sensor	6278	SN4N225G	PNP	with lead, 2.5m long	\$27.20
	6357	SN4M225G	NPN	with lead, 2.5m long	\$27.20
	6277	SN3N203G	PNP	M8 Connector, 0.3m long	\$31.16
	6356	SN3M203G	NPN	M8 Connector, 0.3m long	\$31.16
3-wire SS Style Sensor	1882	SS4N225G	PNP	with lead, 2.5m long	\$27.20
	1883	SS4M225G	NPN	with lead, 2.5m long	\$27.20
	6282	SS3N203G	PNP	M8 Connector, 0.3m long	\$31.16
	1884	SS3M203G	NPN	M8 Connector, 0.3m long	\$31.16

See Sensor Reference Guide on page 1007 for a full list of compatible sensors.



Low-Profile Pneumatic Slides for EOAT – ZL

- Double acting
- Stroke: 0–50mm or 0–100mm
- Flat profile
- Opening stroke adjustment (1)
- Polyurethane shock-absorbers (2)
- Optional sensors & mounting posts.




NEW

Quick#	7775	7580	7581	7582	7583
Part#	ZL1030	ZL1650	ZL16100	ZL2550	ZL25100
Price	\$265.00	\$379.00	\$393.00	\$443.00	\$461.00
Medium	Filtered, lubricated / non lubricated compressed air				
Pressure range	29–116 psi				
Retraction force at 87 psi	13.4 lbf	33.7 lbf		85.4 lbf	
Extension force at 87 psi	17.9 lbf	45 lbf		112.4 lbf	
Stroke	0–30mm	0–50mm	0–100mm	0–50mm	0–100mm
Minimum actuating time	0.06s	0.18s	0.24s	0.30s	0.45s
Cycle air consumption	9 cm ³	37 cm ³	70 cm ³	90 cm ³	177 cm ³
Weight	130g	420g	580g	880g	1160g

Sensors

The operating position can be checked by sensors (optional), that detect the inner magnet. Therefore, a nearby large mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

Sensors

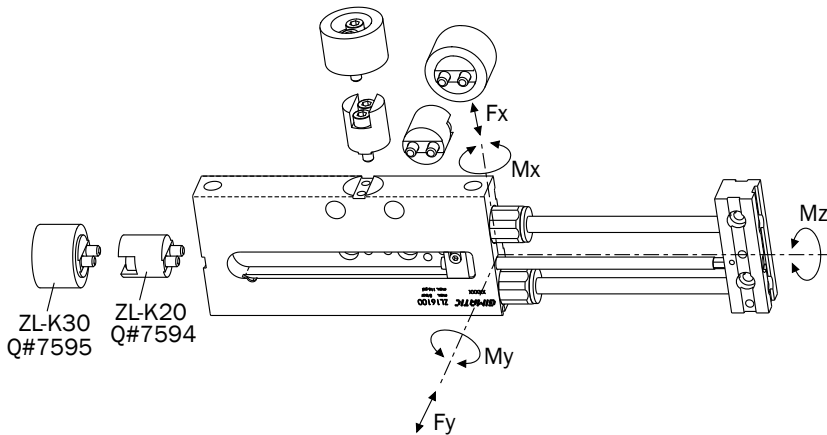


Quick#	Part#	Price	Signal	Description
1882	SS4N225G	\$27.20	PNP sensor	with lead, 2.5m long
1883	SS4M225G	\$27.20	NPN sensor	with lead, 2.5m long
1884	SS3M203G	\$31.16	NPN sensor	M8 Connector, 0.3m long
6282	SS3N203G	\$31.16	PNP sensor	M8 Connector, 0.3m long

Low-Profile Pneumatic Slides for EOAT – ZL

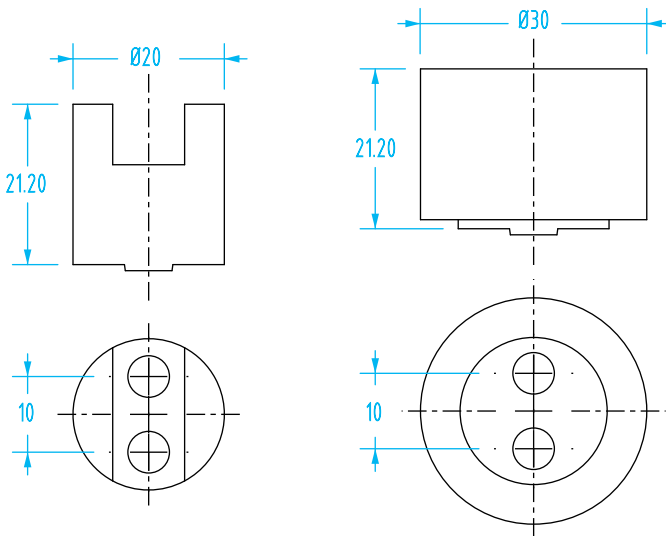
(Dimensioned drawings shown full scale)

Safety loads



	ZL1650	ZL16100	ZL2550	ZL25100
F_x s	60N	60N	120N	120N
F_y s	40N	40N	80N	80N
M_x s	6Nm	6Nm	14Nm	14Nm
M_y s	8Nm	8Nm	20Nm	20Nm
M_z s	4Nm	4Nm	10Nm	10Nm
F_x d	30N	30N	60N	60N
F_y d	20N	20N	40N	40N
M_x d	3Nm	3Nm	7Nm	7Nm
M_y d	4Nm	4Nm	10Nm	10Nm
M_z d	2Nm	2Nm	5Nm	5Nm
m max	3000g	3000g	6000g	6000g

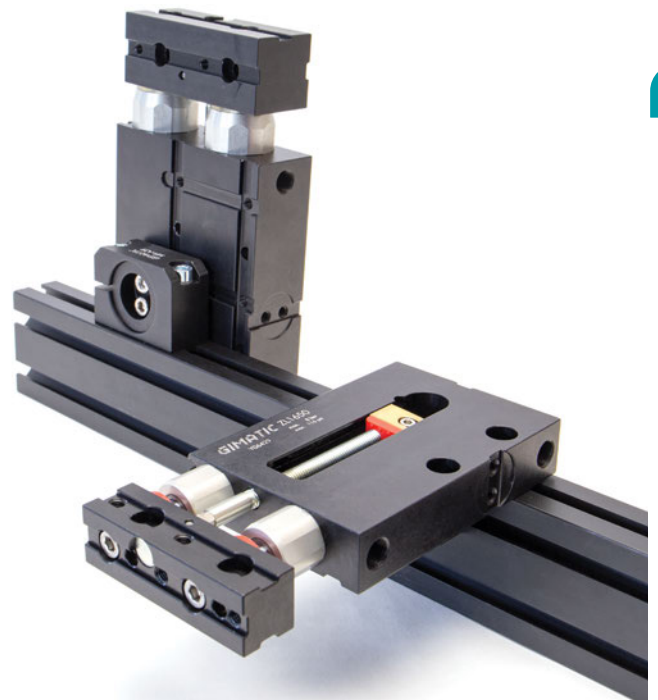
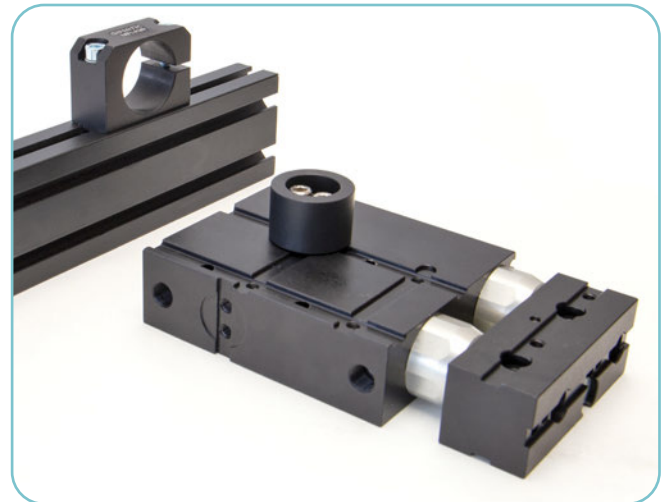
Mounting post



#7594



#7595



Cylinder Mounting Post

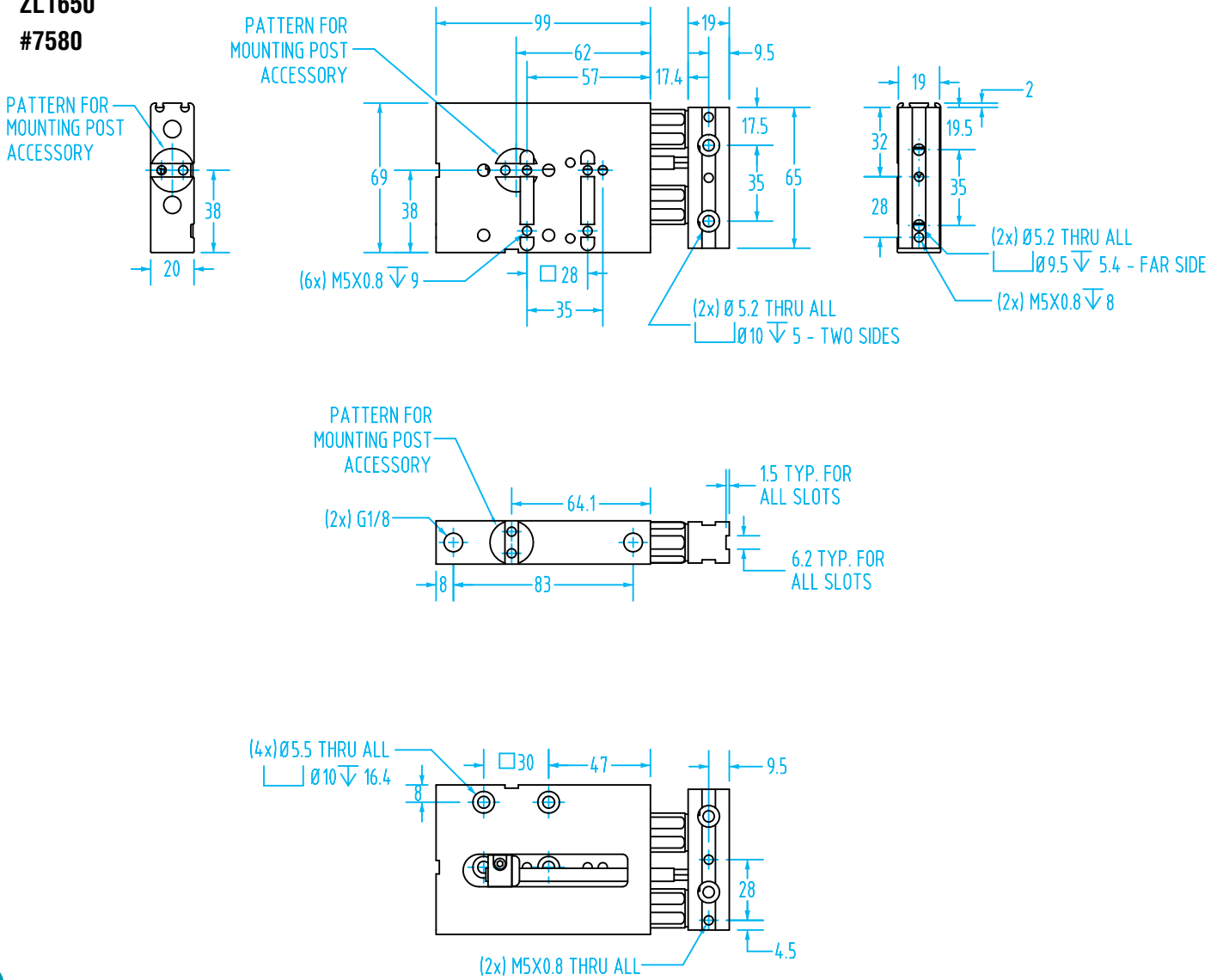
Quick#	Part#	Price	For
7799	ZL-K14	\$0.00	Q# 7775
7594	ZL-K20	\$34.96	Q# 7580-7581
7595	ZL-K30	\$37.75	Q# 7582-7583

Hardware included

Low-Profile Pneumatic Slides for EOAT – ZL

(Dimensioned drawing shown at 1/3 scale)

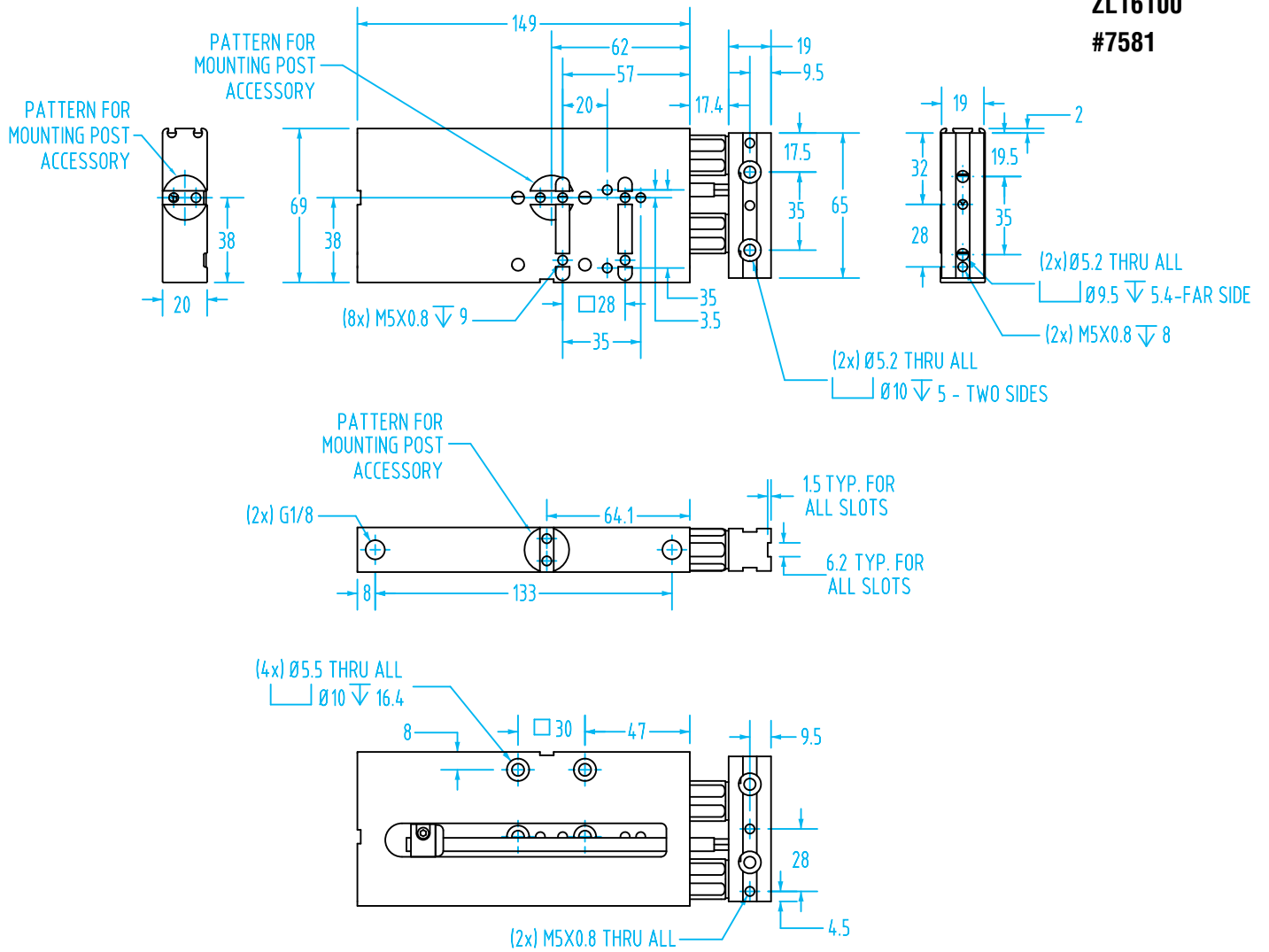
ZL1650
#7580



Low-Profile Pneumatic Slides for EOAT – ZL

(Dimensioned drawing shown at 1/3 scale)

ZL16100
#7581

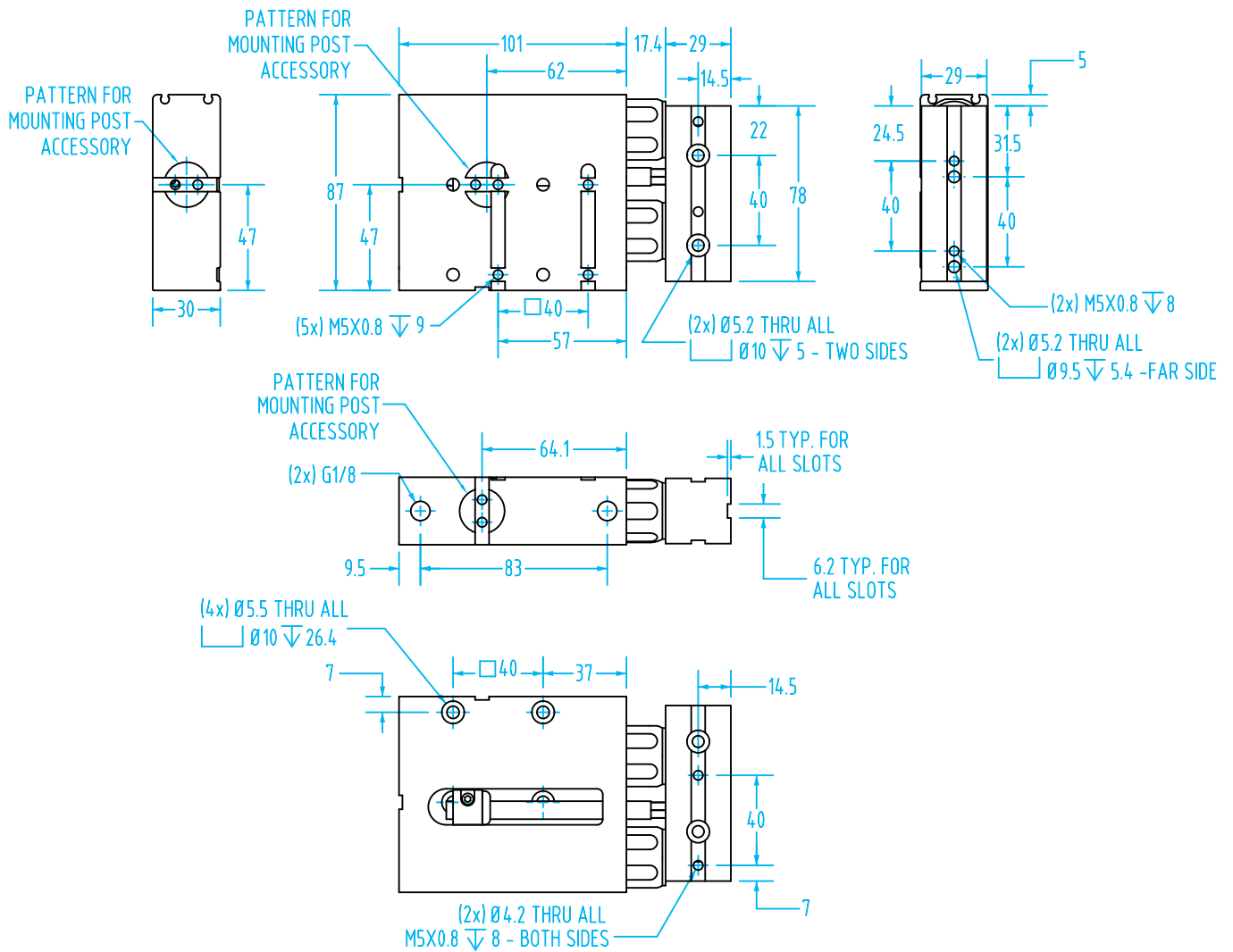


Low-Profile Pneumatic Slides for EOAT – ZL

(Dimensioned drawing shown at 1/3 scale)

ZL2550

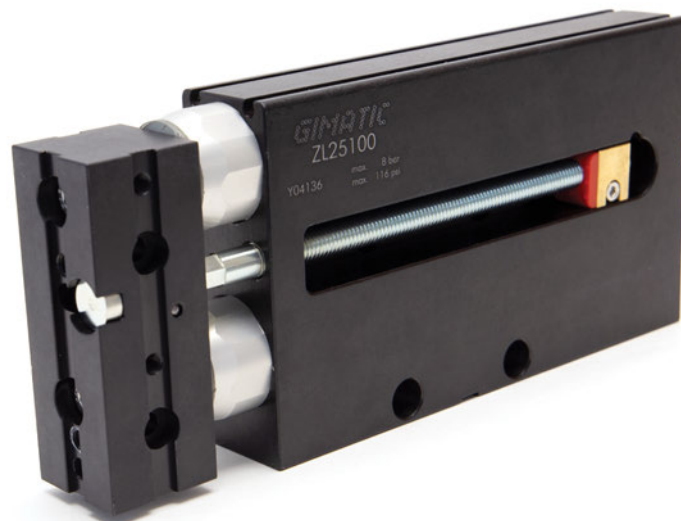
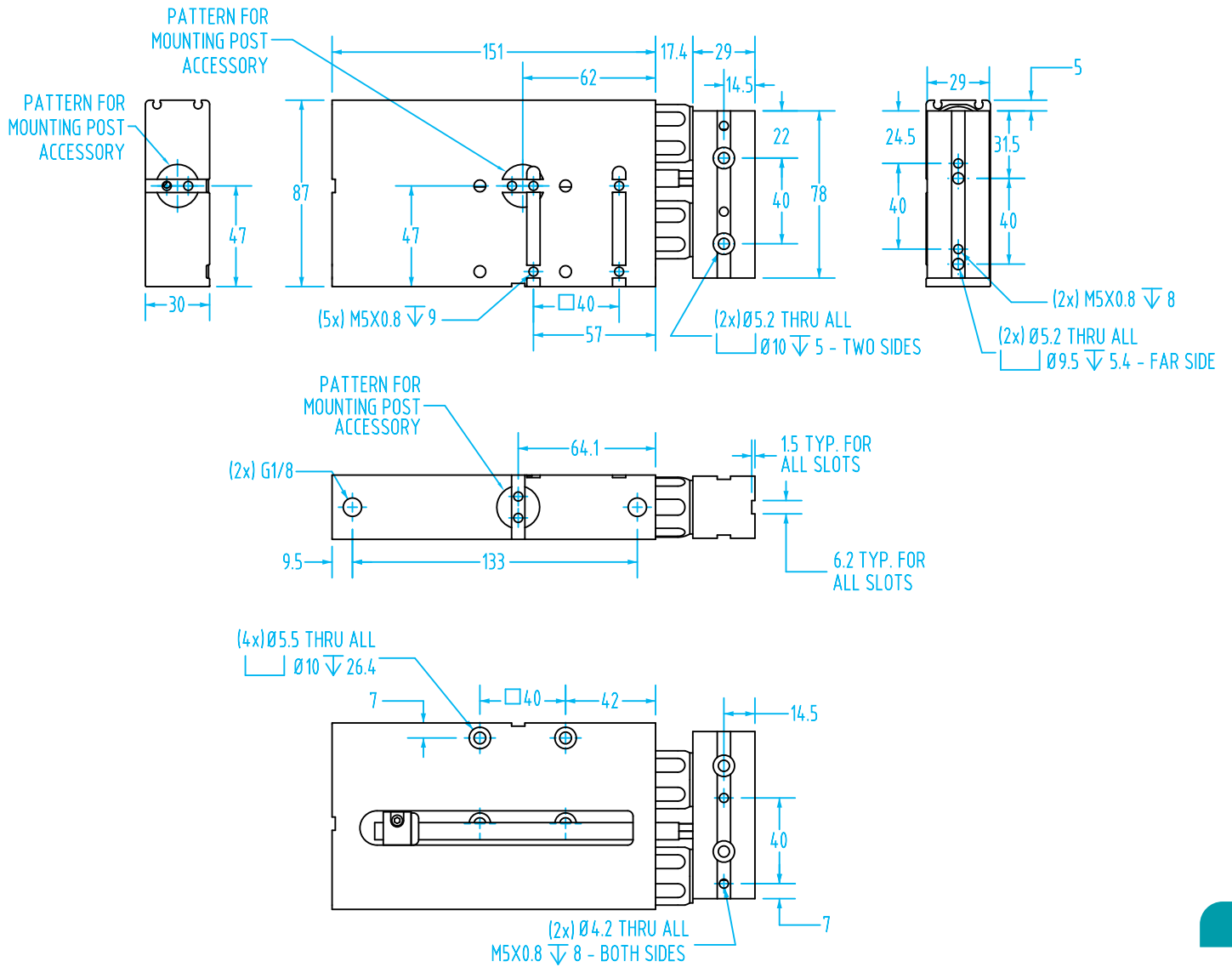
#7582



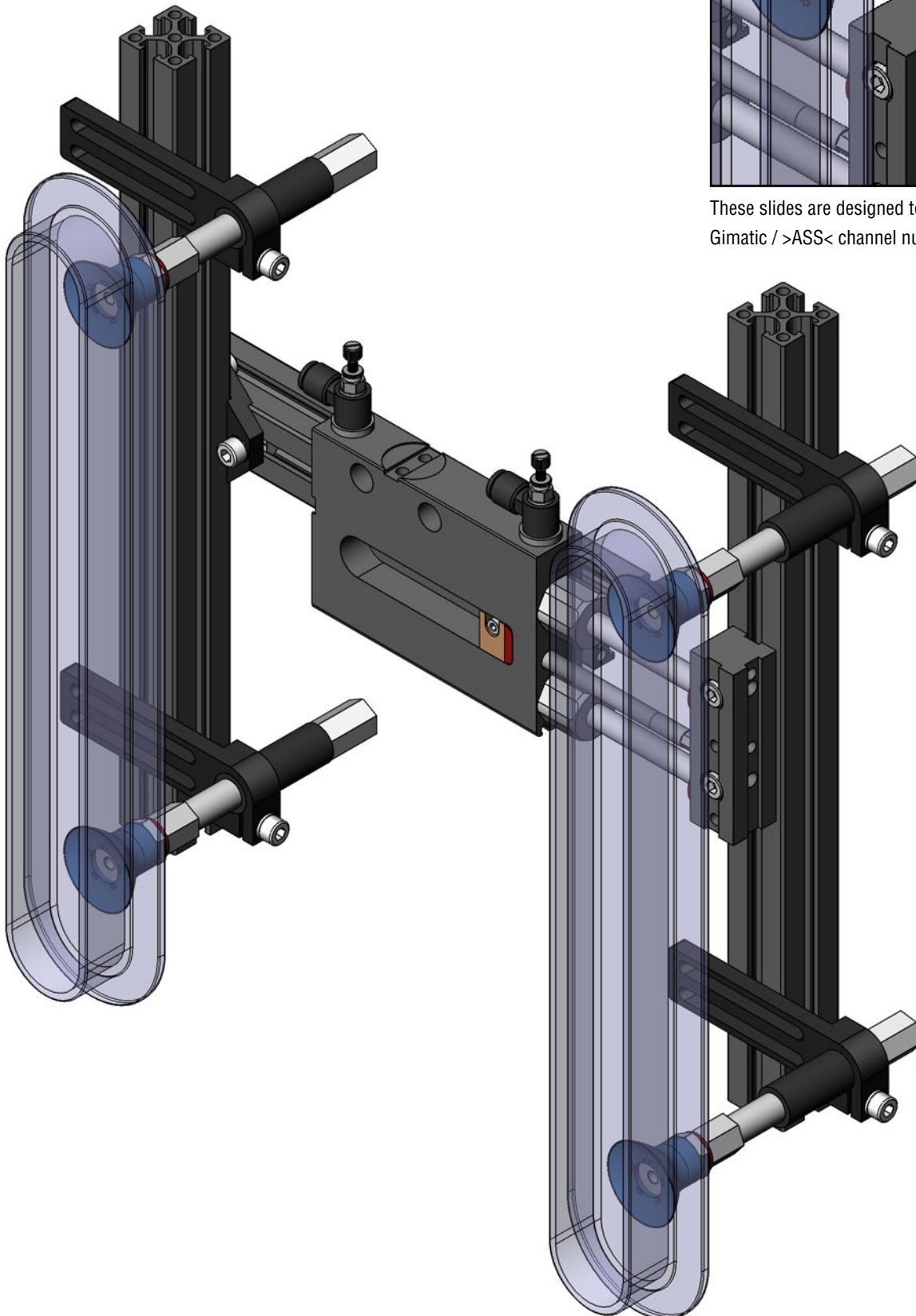
Low-Profile Pneumatic Slides for EOAT – ZL

(Dimensioned drawing shown at 1/3 scale)

ZL25100
#7583

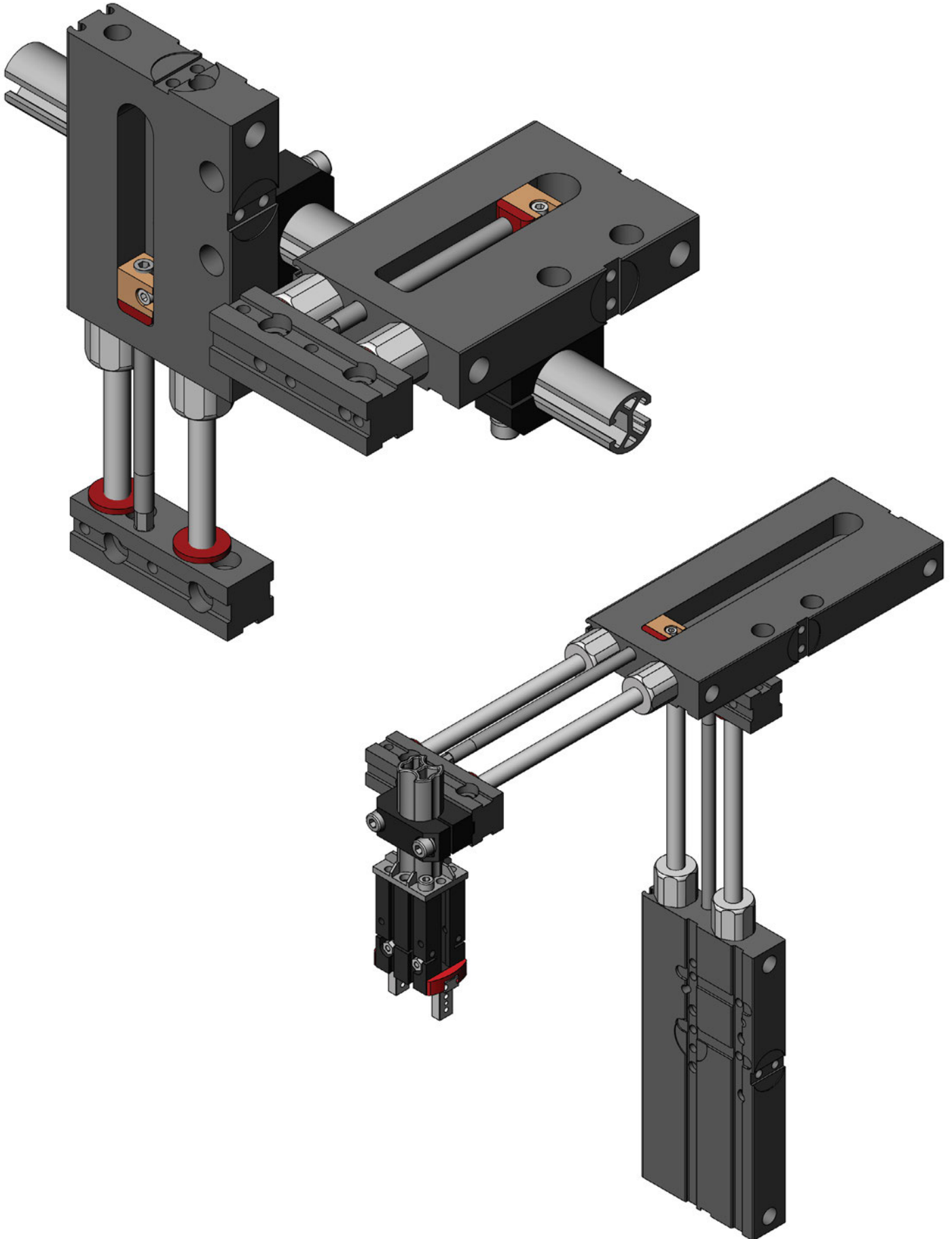


Low-Profile Pneumatic Slides for EOAT – ZL



These slides are designed to interface with Gimatic / >ASS< channel nuts.

Low-Profile Pneumatic Slides for EOAT – ZL



Z Slides – Pneumatic Slides

- Bore: 2x8mm, 2x16 or 2x20mm
- Stroke: 25mm, 50mm, 100mm, 150mm and 200mm
- With or without shock-absorbers.
- Double acting.
- Very high-performance / cost ratio.
- See Sensor Reference Guide on page 1007 for a full list of compatible sensors.



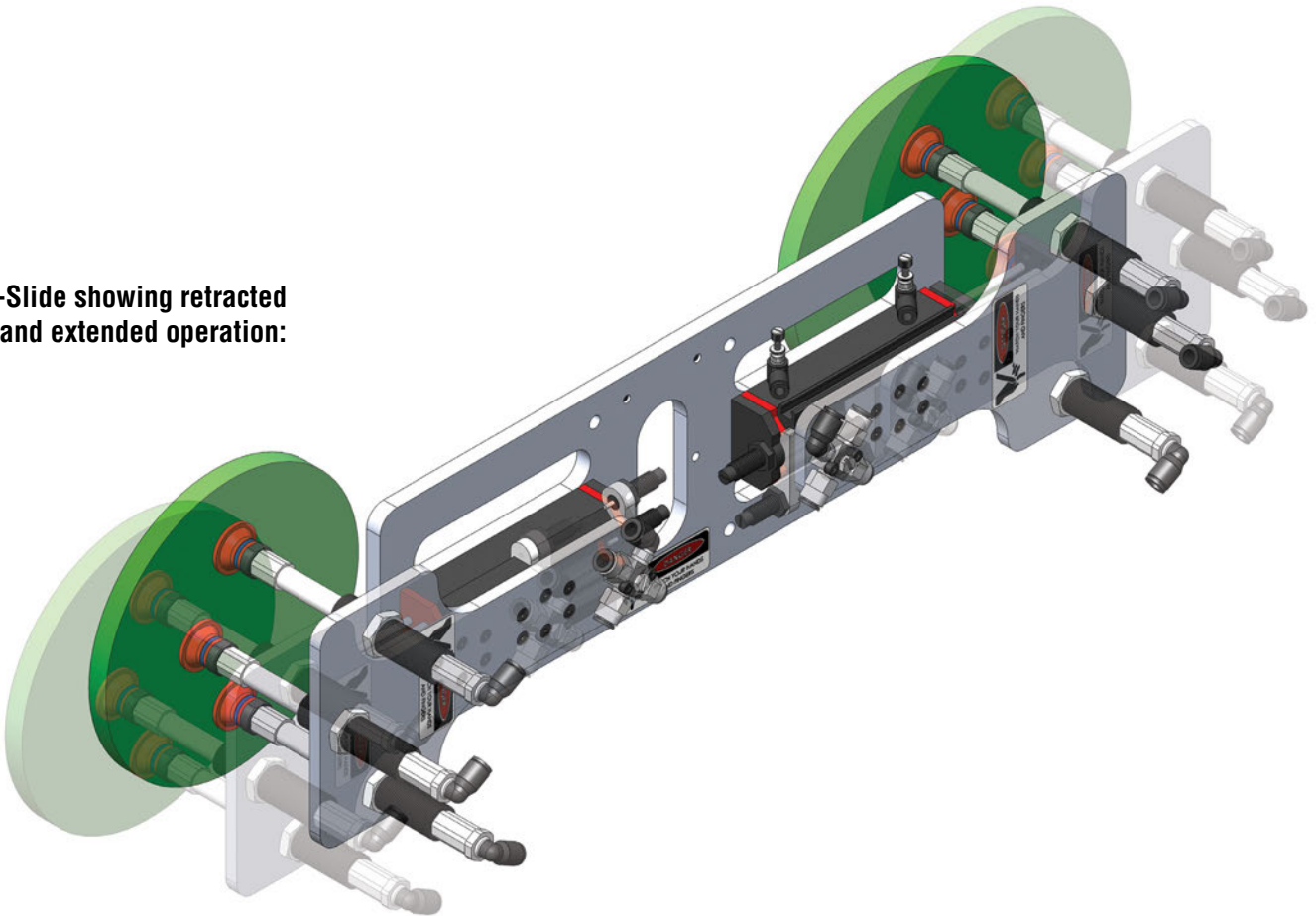
Quick#	Part#	Price	Piston bore	Stroke	Extension force*	Retraction force*	Style
6295	Z-0825	\$303.00	08mm	25mm	11.2 lbf	8.3 lbf	Includes Rubber Bumper
6296	Z-0825-D	\$508.00					Includes Shock-Absorber
6297	Z-0825-DS	\$369.00					Customer Supplied Shock-Absorber
6298	Z-0850	\$328.00	08mm	50mm	11.2 lbf	8.3 lbf	Includes Rubber Bumper
6299	Z-0850-D	\$532.00					Includes Shock-Absorber
6300	Z-0850-DS	\$393.00					Customer Supplied Shock-Absorber
6307	Z-1650	\$445.00	16mm	50mm	44.9 lbf	38.2 lbf	Includes Rubber Bumper
6308	Z-1650-D	\$679.00					Includes Shock-Absorber
6309	Z-1650-DS	\$526.00					Customer Supplied Shock-Absorber
6301	Z-16100	\$466.00	16mm	100mm	44.9 lbf	38.2 lbf	Includes Rubber Bumper
6302	Z-16100-D	\$701.00					Includes Shock-Absorber
6303	Z-16100-DS	\$548.00					Customer Supplied Shock-Absorber
6304	Z-16150	\$492.00	16mm	150mm	44.9 lbf	38.2 lbf	Includes Rubber Bumper
6305	Z-16150-D	\$726.00					Includes Shock-Absorber
6306	Z-16150-DS	\$573.00					Customer Supplied Shock-Absorber
6314	Z-2050-D	\$905.00	20mm	50mm	74.2 lbf	67.4 lbf	Includes Shock-Absorber
6315	Z-2050-DS	\$675.00					Customer Supplied Shock-Absorber
6310	Z-20100-D	\$945.00	20mm	100mm	74.2 lbf	67.4 lbf	Includes Shock-Absorber
6311	Z-20100-DS	\$716.00					Customer Supplied Shock-Absorber
6312	Z-20150-D	\$967.00	20mm	150mm	74.2 lbf	67.4 lbf	Includes Shock-Absorber
6313	Z-20150-DS	\$737.00					Customer Supplied Shock-Absorber
6476	Z-20200-D	\$1,002.00	20mm	200mm	74.2 lbf	67.4 lbf	Includes Shock-Absorber
6565	Z-20200-DS	\$636.00					Customer Supplied Shock-Absorber

*Note: Force at 87psi (6 bar)

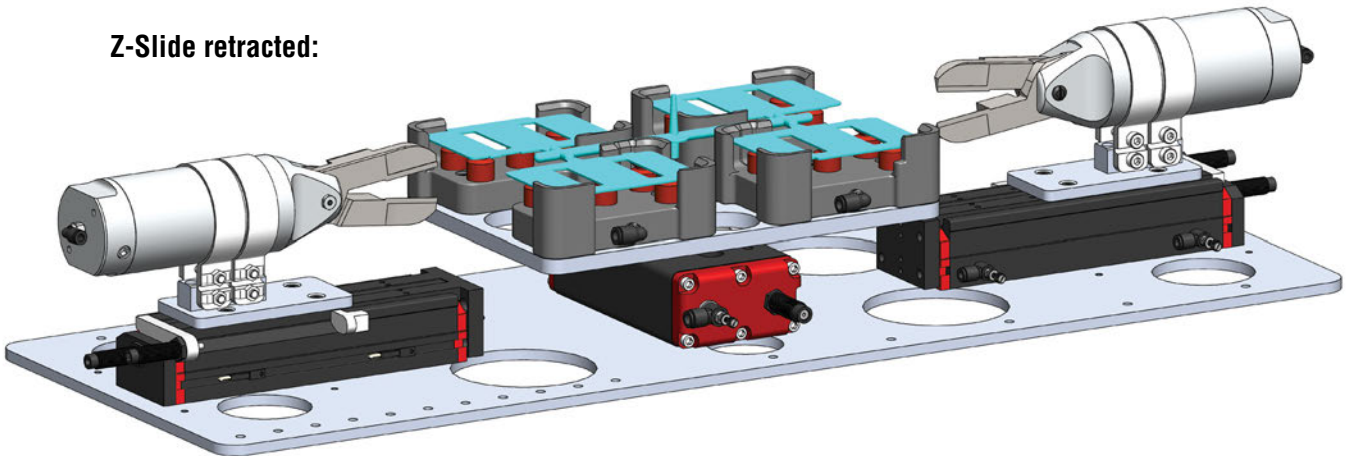
Additional information can be found online: www.EMlcorp.com

Pneumatic Slides – Z

Z-Slide showing retracted and extended operation:



Z-Slide retracted:



Z-Slide extended:

