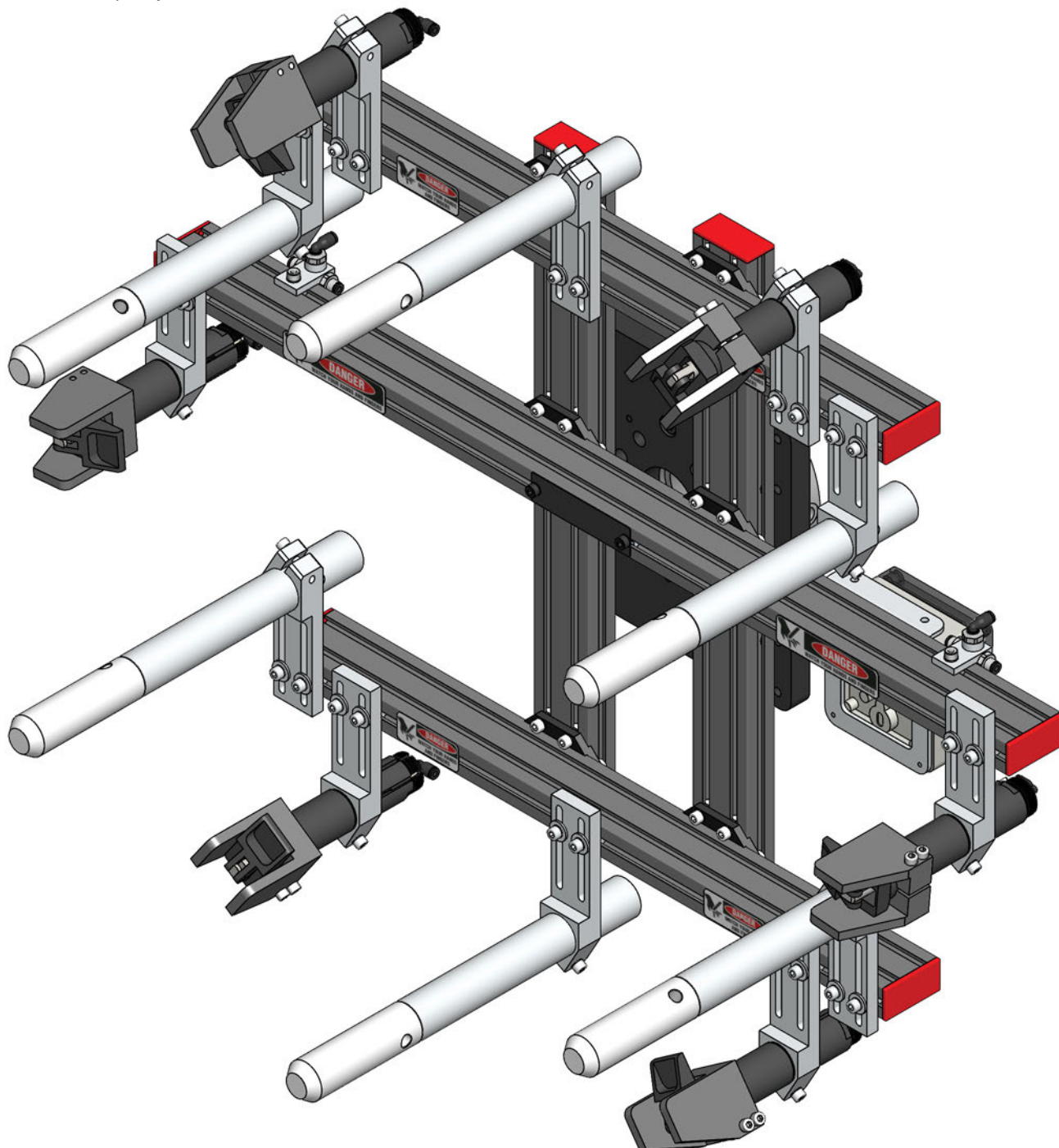


EOAT Design and Build Service

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.



Gripper Fingers Overview

Gimatic Gripper Fingers p.510



Gripper Finger Accessories p.526



Parallel Gripper Fingers p.506



>ASS< Gripper Fingers p.522



RBT Tilt Units (wrist-flip) p.542



OFN Tilt Units p.540



Hybrid Gripper Fingers p.530



Star Automation Gripper Fingers p.539



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 touch has a maximum temperature of 302°F.
- See Sensor Reference Guide on page 1006 for full list of compatible sensors.
- Replacement parts available online.



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 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

Use Quick#s for easy online ordering.

Replacement HNBR Pads for OFX Parallel Gripper Fingers

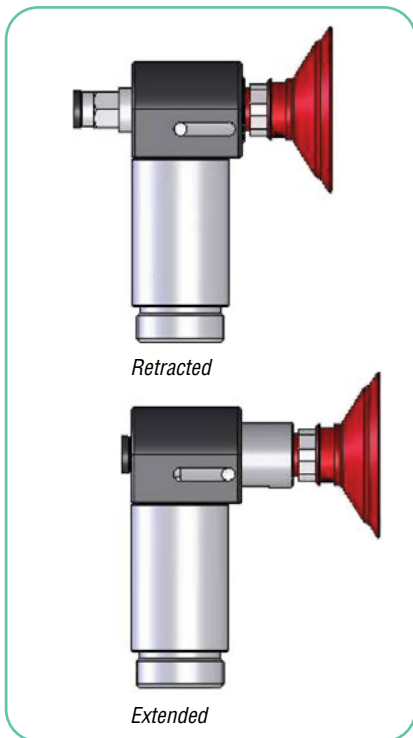
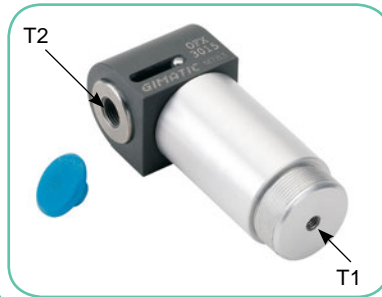
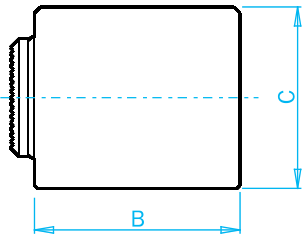
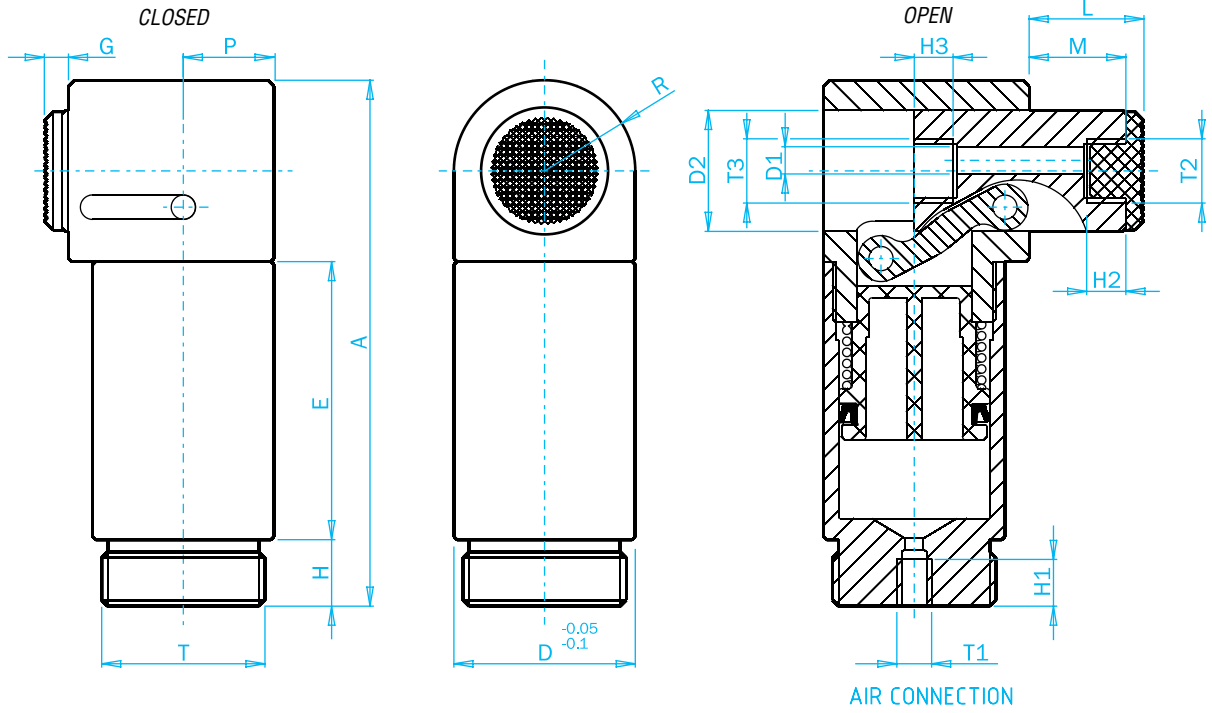
Quick#	Part#	For:	Price
7362	OFX14-06-07	OFX14	\$7.60
7363	OFX20-10-09	OFX20	\$5.60
7364	OFX30-15-09	OFX30	\$8.06
7365	OFX50-20-08	OFX50	\$12.88



Sensor Band for OFX Parallel Gripper Fingers

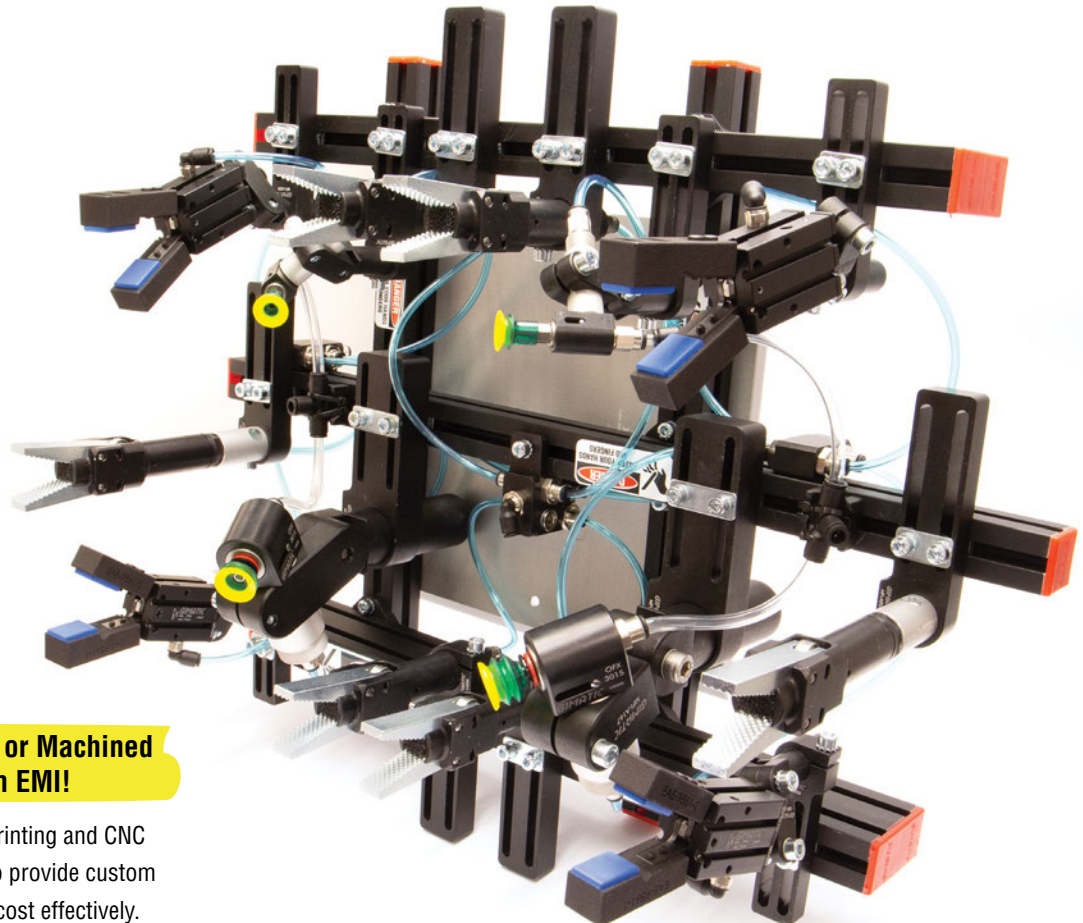
Quick#	Part#	For:	Price
7307	SWP-014	OFX14	\$2.22
7308	SWP-020	OFX20	\$2.22
7309	SWP-030	OFX30	\$2.22
7310	SWP-050	OFX50	\$2.22

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"

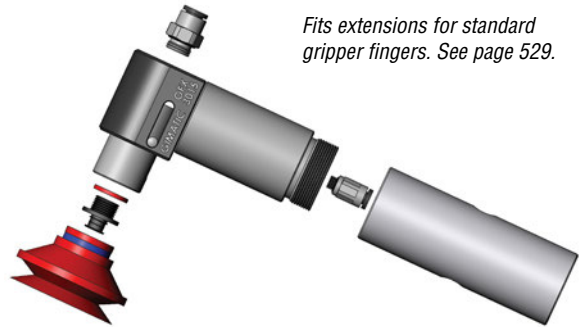
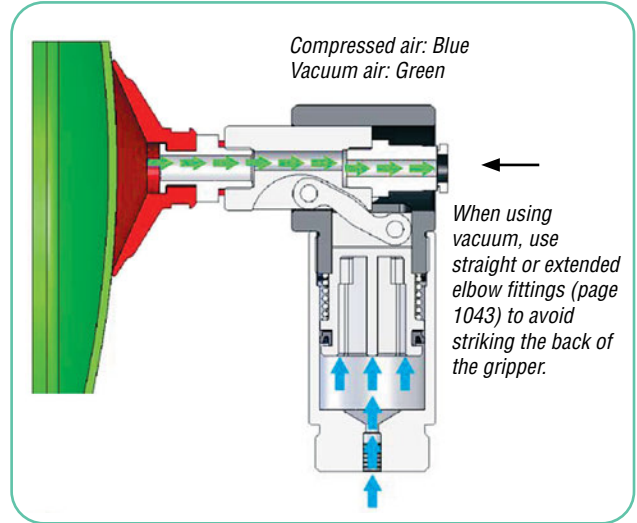
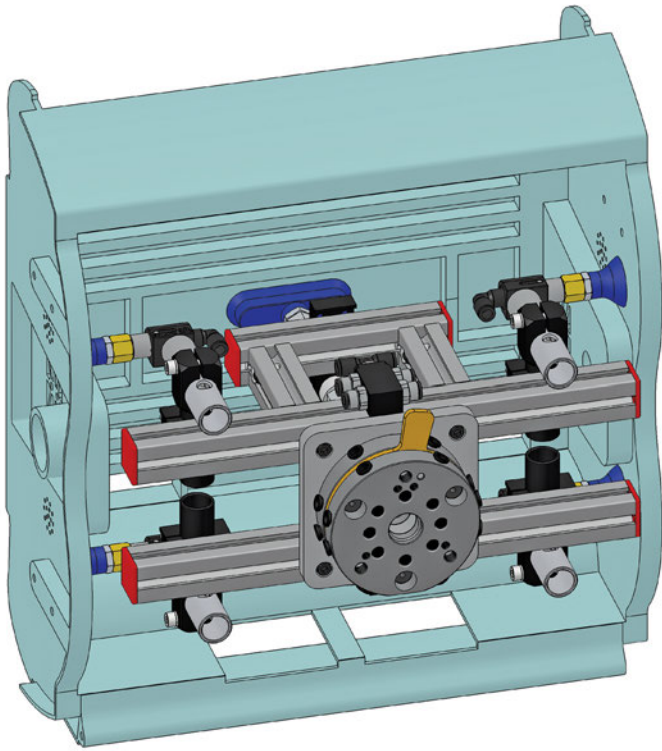
Application with Parallel Gripper Fingers



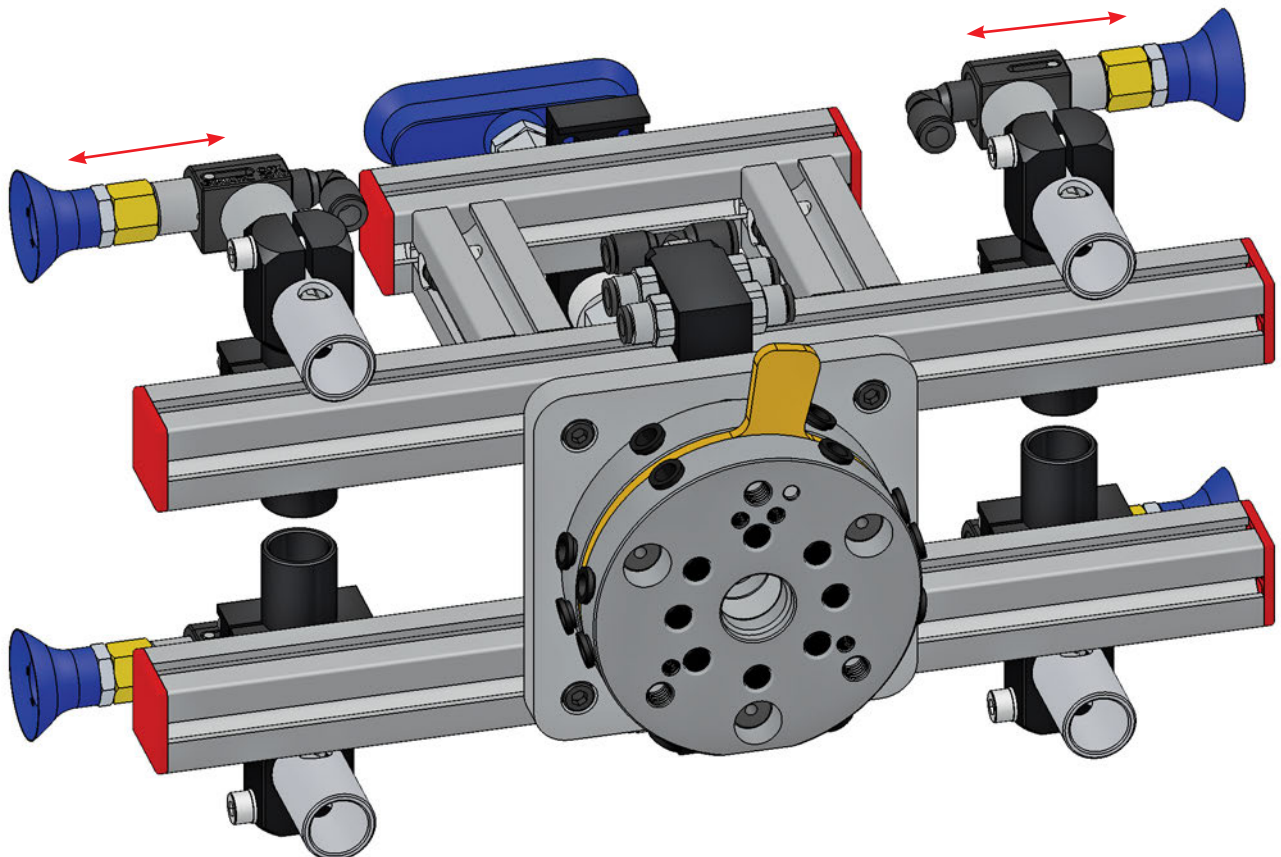
Custom 3D Printed or Machined Fingers from EMI!

EMI's in-house 3D printing and CNC equipment allow us to provide custom fingers quickly and cost effectively.

Application with Parallel Gripper Fingers



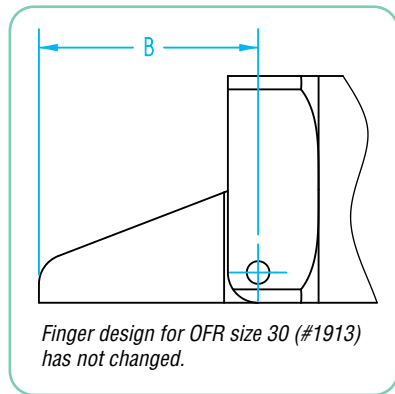
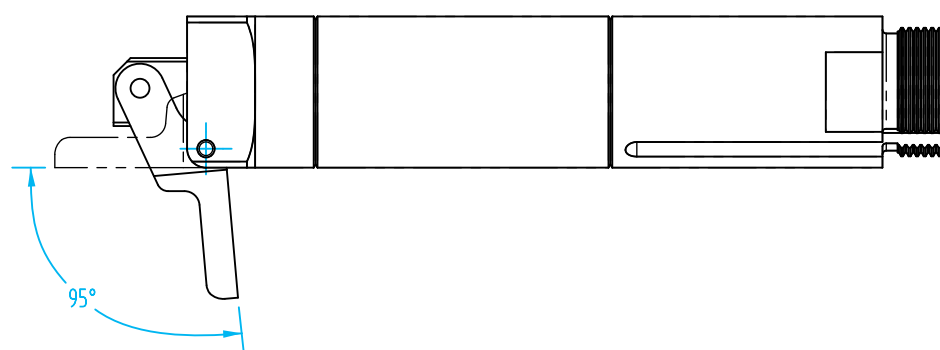
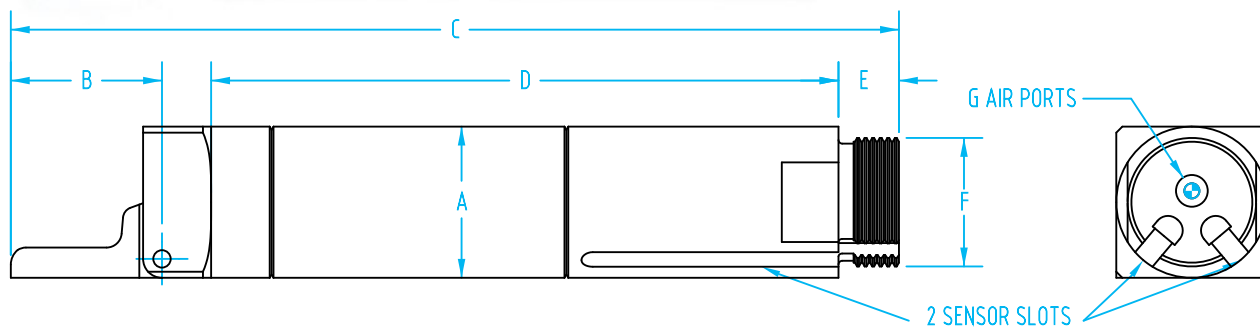
Fits extensions for standard gripper fingers. See page 529.



95° Gripper Finger (Sensor type)

- Single acting
- Longer bodies provide extended reach.
- Sensors are slightly recessed, so mounting clamps can be placed along the full length of the body.
- Provides operation with or without sensors.
- Gripper fingers work with guides and extensions, see page 526.
- Sensor Slot version features two sensor slots to provide confirmation of the finger position.

VLR Extension tubes can be used with sensors for Gimatic gripper fingers. See page 529.



OFR - 95° Gripper Finger (Sensor Slot Version)

Quick#	Part#	Price	ØA	B	C	D	E	F	G	Stroke	Closing force*	Wt.
1911	OFR-20-95S	\$229.00	20	20	117.5	83	8	M17x1	M5	95°	16 lbf	81g
1913	OFR-30-95S	\$236.00	30	29	173	125	11.1	M27x1	M5	95°	68 lbf	257g
Order sensors separately										<i>*Note: Force at 87psi (6 bar)</i>		
1882	SS4N225G	\$27.20	PNP sensor		3-wire with lead, 2.5m long						6-24v dc	
6282	SS3N203G	\$31.16	PNP sensor		3-wire with M8 male connector, 0.3m long						6-24v dc	
1883	SS4M225G	\$27.20	NPN sensor		3-wire with lead, 2.5m long						6-24v dc	
1884	SS3M203G	\$31.16	NPN sensor		3-wire with M8 male connector, 0.3m long						6-24v dc	

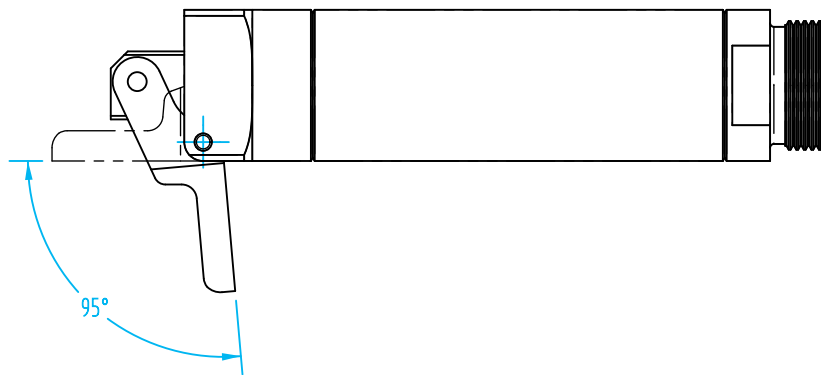
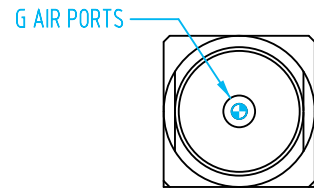
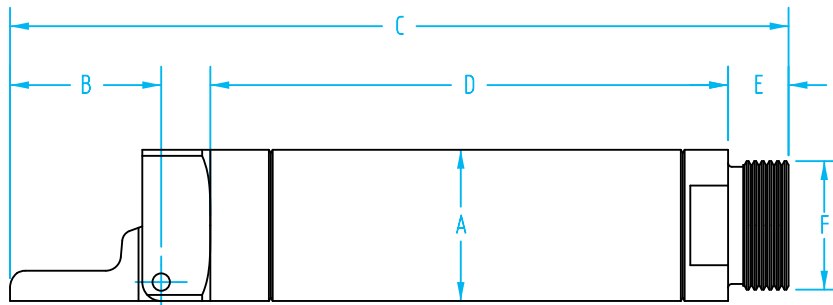
95° Gripper Finger (Standard type)

The gripper body is now all one metal piece, providing a longer service life better performance!

- Plastic molded plug on the top seals the gripper creating a reduced risk of external parts and debris entering the gripper
- New design includes a stronger, safer all metal piston
- Grooved pivot pin for improved reliability.



Optional sensor mounting bands available. See page 529.



Finger design for OFR size (#1912) has not changed.

OFR - 95° Gripper Finger (Non-Sensor Slot Version)

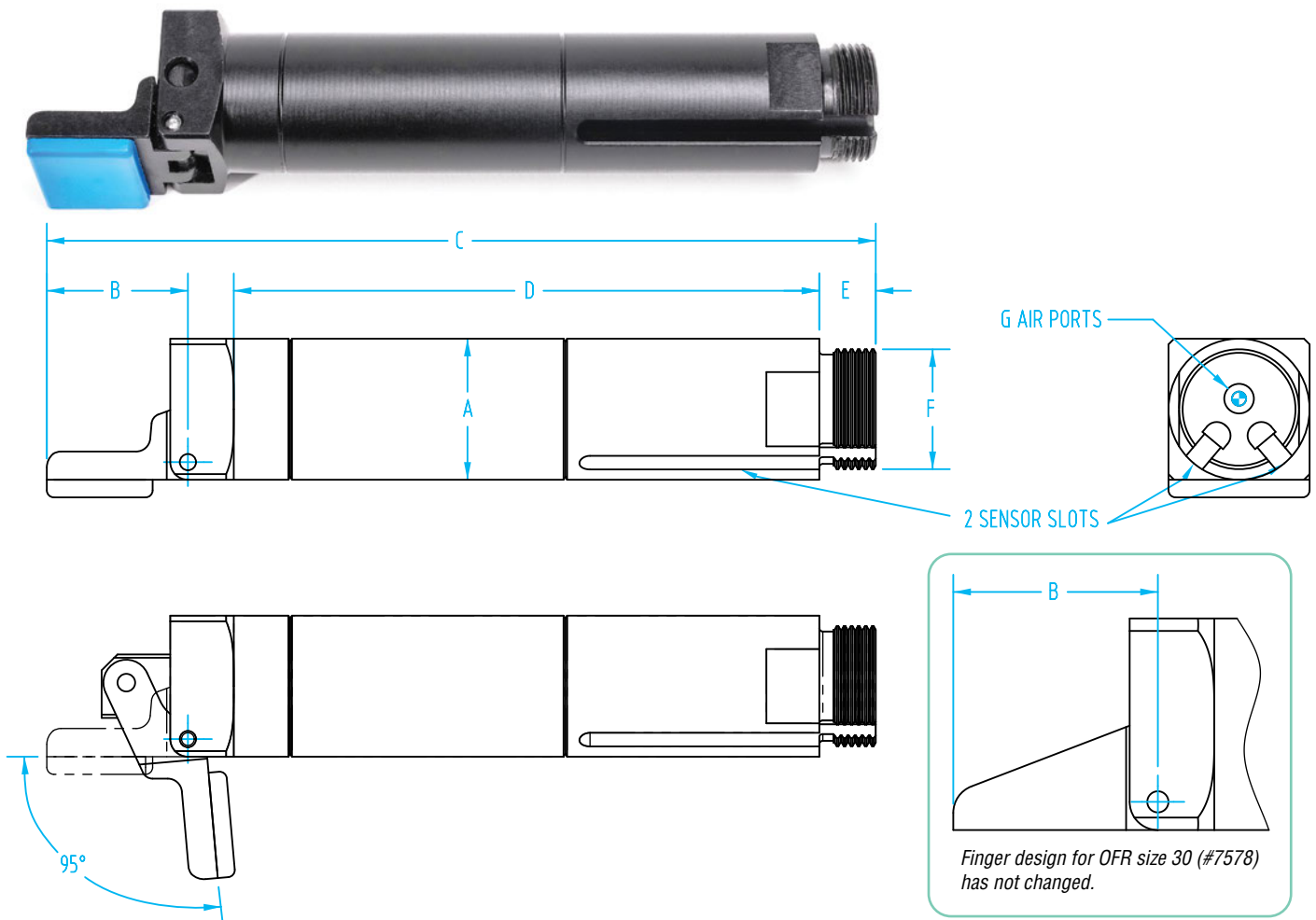
Quick#	Part#	Price	ØA	B	C	D	E	F	G	Stroke	Closing force*	Wt.
5415	OFR14-95	\$189.00	14	14	72	54.5	5.5	M12x1	M5	95°	4 lbf	25g
1910	OFR-20-95	\$197.00	20	20	103	77.5	8	M17x1	M5	95°	16 lbf	60g
1912	OFR-30-95	\$207.00	30	29	148	112	11	M27x1	M5	95°	68 lbf	193g

*Note: Force at 87psi (6 bar)

Application examples are illustrated on page 520.
See page 245–255 for mounting brackets.

95° Gripper Finger with Grip Pad (Sensor type)

- Single acting
- Longer bodies provide extended reach.
- Sensors are slightly recessed, so mounting clamps can be placed along the full length of the body.
- Provides operation with or without sensors.
- Replaceable HNBR soft touch grip, non-marring pads have a 302°F max temp.
- Gripper fingers work with guides and extensions, see page 526.
- Sensor Slot version features two sensor slots to provide confirmation of the finger position.



OFR - 95° Gripper Finger (Sensor Slot Version)

Quick#	Part#	Price	ØA	B	C	D	E	F	G	Stroke	Closing force*	Wt.
7576	OFR20-95SM	\$286.00	20	20	117.5	83	8	M17x1	M5	95°	16 lbf	81g
7578	OFR30-95SM	\$269.00	30	29	173	125	11	M27x1	M5	95°	68 lbf	257g

NEW

Order sensors separately

*Note: Force at 87psi (6 bar)

1882	SS4N225G	\$27.20	PNP sensor	3-wire with lead, 2.5m long							6-24v dc
6282	SS3N203G	\$31.16	PNP sensor	3-wire with M8 male connector, 0.3m long							6-24v dc
1883	SS4M225G	\$27.20	NPN sensor	3-wire with lead, 2.5m long							6-24v dc
1884	SS3M203G	\$31.16	NPN sensor	3-wire with M8 male connector, 0.3m long							6-24v dc

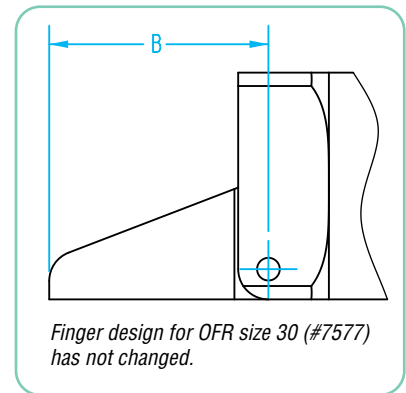
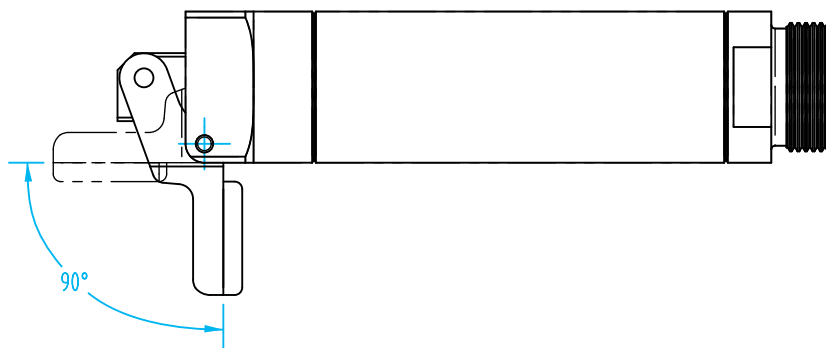
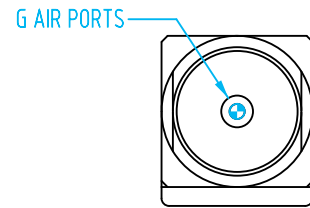
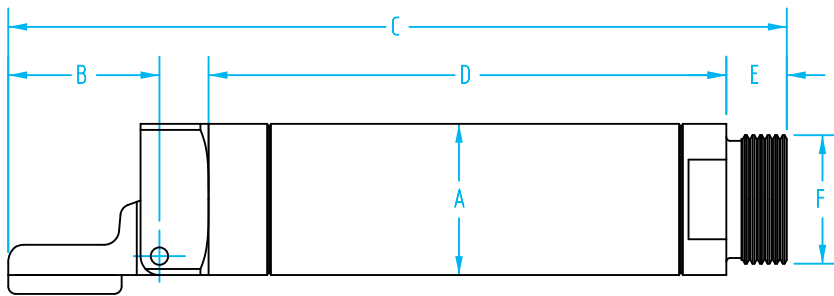
95° Gripper Finger with Grip Pad (Standard type)

The gripper body is now all one metal piece, providing a longer service life better performance!

- Plastic molded plug on the top seals the gripper creating a reduced risk of external parts and debris entering the gripper
- New design includes a stronger, safer all metal piston
- Grooved pivot pin for improved reliability.



New gripper guide with part detection by Gimatic C-slot sensors on page 528.



OFR - 95° Gripper Finger (Non-Sensor Slot Version)

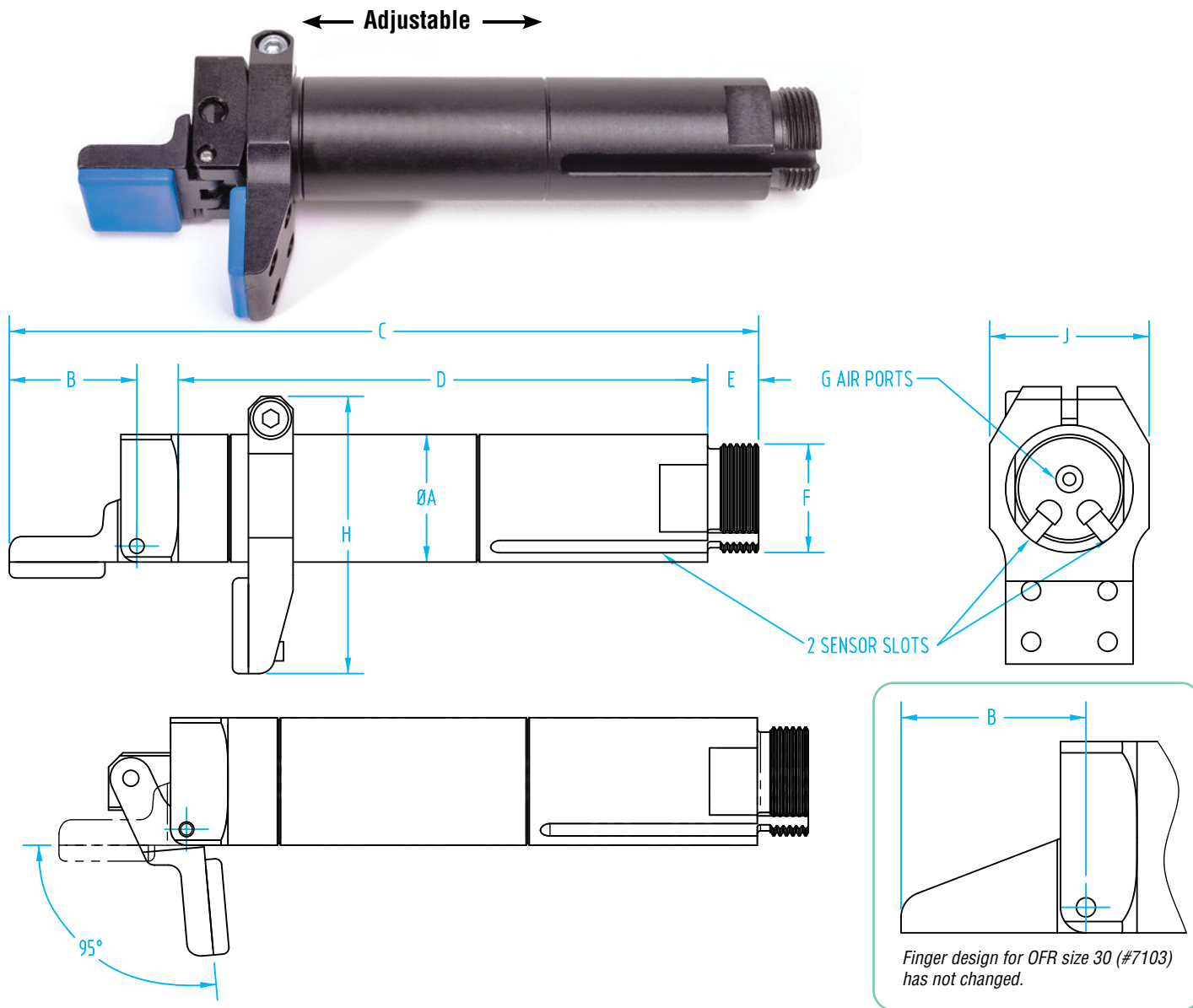
Quick#	Part#	Price	ØA	B	C	D	E	F	G	Stroke	Closing force*	Wt.
7574	OFR14-95M	\$205.00	14	14	72	45.5	5.5	M12x1	M5	95°	4 lbf	25g
7575	OFR20-95M	\$219.00	20	20	103	68.5	8	M17x1	M5	95°	16 lbf	60g
7577	OFR30-95M	\$238.00	30	29	148	100	11	M27x1	M5	95°	68 lbf	193g

NEW

*Note: Force at 87psi (6 bar)

95° Gripper Fingers with Grip Pads (Sensor type)

- Replaceable HNBR soft touch grip, non-marring pads have a 302°F max temp.
- Backstop with HNBR pad is included. One screw easily adjusts location of base grip pad.
- Optional sensor mounting bands available, see page 529.



OFR - 95° Gripper Finger with HNBR Pads (Sensor Slot Version)

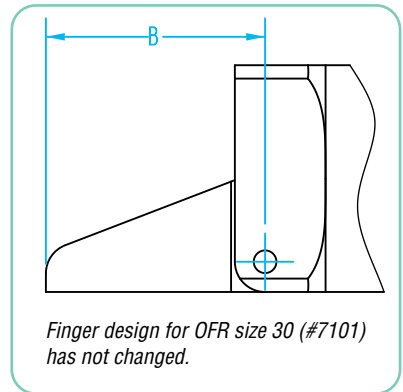
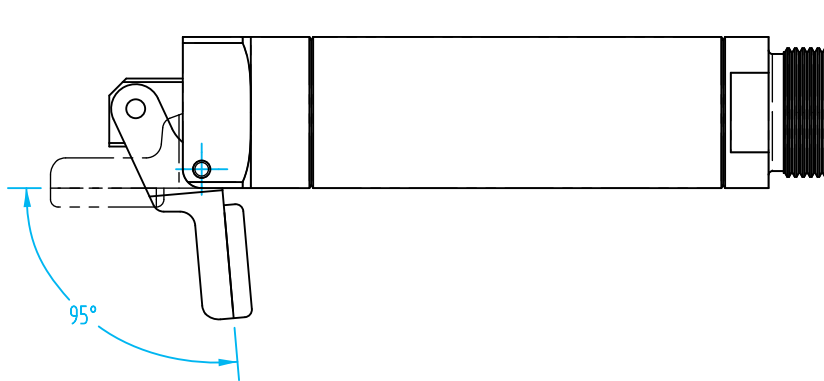
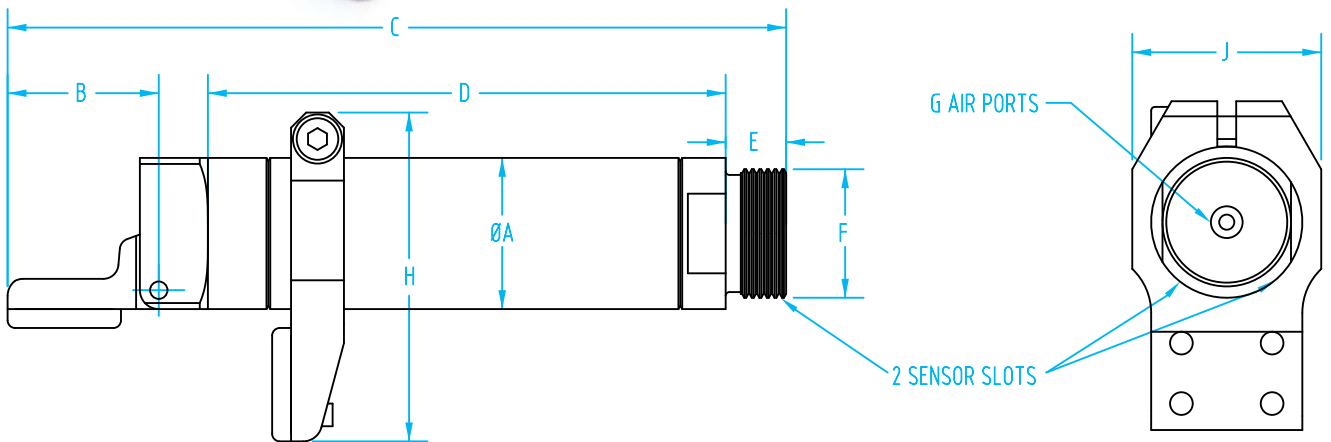
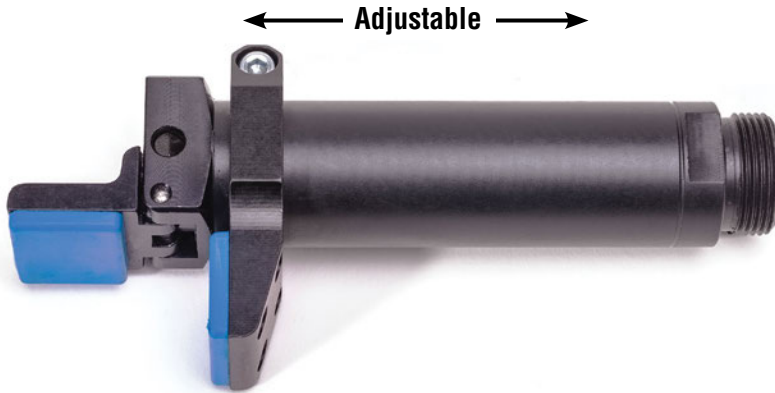
Quick#	Part#	Price	Stroke	ØA	B	C	D	E	F	G	H	J	Closing force*	Weight
7102	OFR20-95SG	\$307.00	95°	20	20	117.5	83	8	M17x1	M5	43.5	25	16 lbf	100g
7103	OFR30-95SG	\$356.00	95°	30	29	173	125	11	M27x1	M5	63	37	68 lbf	300g
Order sensors separately													<i>*Note: Force at 87psi (6 bar)</i>	
1882	SS4N225G	\$27.20	PNP sensor		3-wire with lead, 2.5m long								6-24v dc	
6282	SS3N203G	\$31.16	PNP sensor		3-wire with M8 male connector, 0.3m long								6-24v dc	
1883	SS4M225G	\$27.20	NPN sensor		3-wire with lead, 2.5m long								6-24v dc	
1884	SS3M203G	\$31.16	NPN sensor		3-wire with M8 male connector, 0.3m long								6-24v dc	

Use Quick#s for easy online ordering.

95° Gripper Fingers with Grip Pads (Standard type)

The gripper body is now all one metal piece, providing a longer service life better performance!

- Plastic molded plug on the top seals the gripper creating a reduced risk of external parts and debris entering the gripper
- New design includes a stronger, safer all metal piston
- Grooved pivot pin for improved reliability.



OFR - 95° Gripper Finger with HNBR Pads (Non-Sensor Slot Version)

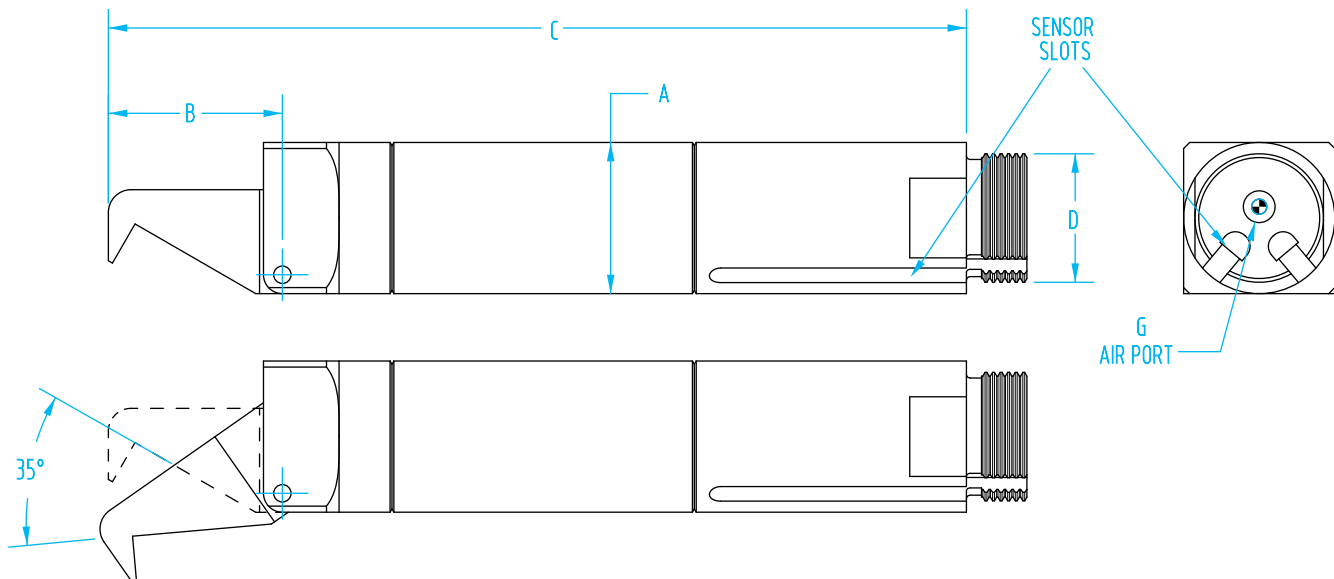
Quick#	Part#	Price	Stroke	ØA	B	C	D	E	F	G	H	J	Closing force*	Weight
7117	OFR14-95G	\$248.00	95°	14	14	72	45.5	5.5	M12x1	M5	32	19	4 lbf	30g
7100	OFR20-95G	\$253.00	95°	20	20	103	68.5	8	M17x1	M5	43.5	25	16 lbf	80g
7101	OFR30-95G	\$293.00	95°	30	29	148	100	11	M27x1	M5	63	37	68 lbf	230g

*Note: Force at 87psi (6 bar)

35° Gripper Finger (Sensor type)

- Longer bodies provide extended reach.
- Sensors are slightly recessed, so mounting clamps can be placed along the full length of the body.
- Provides operation with or without sensors.
- Gripper fingers work with guides and extensions, see page 526.
- Sensor Slot version features two sensor slots to provide confirmation of the finger position.

The sensor slots extend the overall length of the gripper finger body. This is an advantage because gripper fingers almost always require the use of extensions (page 529) for achieving sufficient reach. Strong grip strength ensures that the molded part remains firmly gripped during removal and transport. Contact our application engineering department for assistance in sizing the correct gripper finger for your application.



OFA - 35° Gripper Finger (Sensor Slot Version)

Quick#	Part#	Price	ØA	B	C	D	G	Stroke	Closing force*	Wt.
1915	OFA-20-35S	\$203.00	20	23	113.5	M17x1	M5	35°	23 lbf	86g
1917	OFA-30-35S	\$211.00	30	34	167	M27x1	M5	35°	97 lbf	272g
6597	OFA50-35S	\$309.00	50	56	256	M45x1.5	G 1/8	35°	428 lbf	1060g
Order sensors separately									<i>*Note: Force at 87psi (6 bar)</i>	
1882	SS4N225G	\$27.20	PNP sensor		3-wire with lead, 2.5m long					6-24v dc
6282	SS3N203G	\$31.16	PNP sensor		3-wire with M8 male connector, 0.3m long					6-24v dc
1883	SS4M225G	\$27.20	NPN sensor		3-wire with lead, 2.5m long					6-24v dc
1884	SS3M203G	\$31.16	NPN sensor		3-wire with M8 male connector, 0.3m long					6-24v dc

Use Quick#s for easy online ordering.

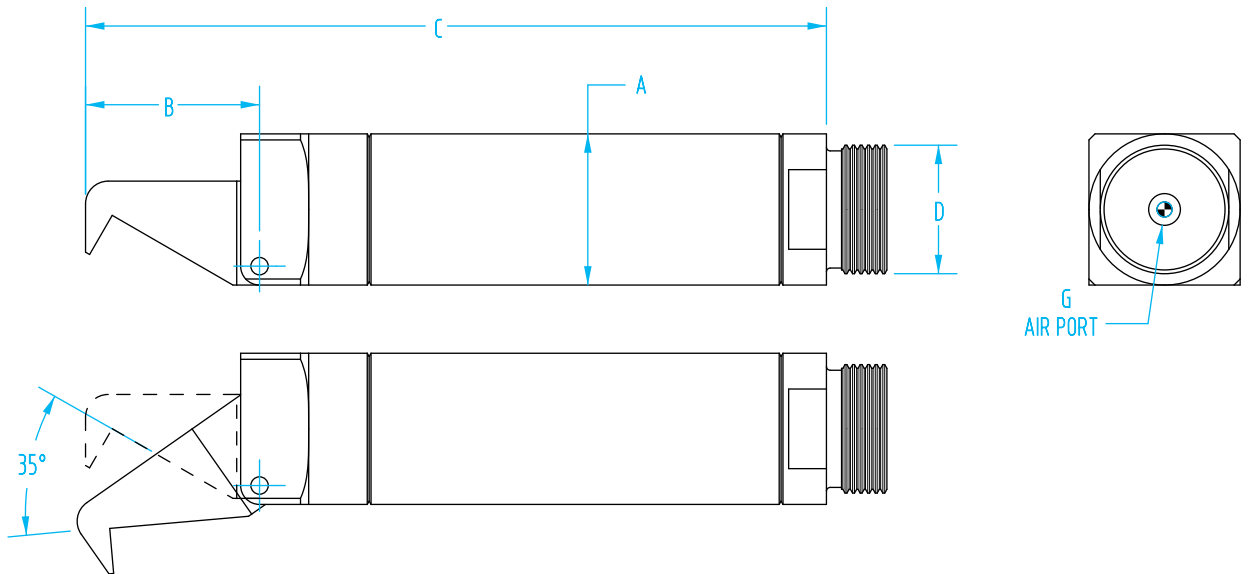
35° Gripper Finger (Standard type)

The gripper body is now all one metal piece, providing a longer service life better performance!

- Plastic molded plug on the top seals the gripper creating a reduced risk of external parts and debris entering the gripper
- New design includes a stronger, safer all metal piston
- Grooved pivot pin for improved reliability.



Optional sensor mounting bands available. See page 529.



OFA - 35° Gripper Finger (Non-Sensor Slot Version)

Quick#	Part#	Price	ØA	B	C	D	G	Stroke	Closing force*	Wt.
5414	OFA14-35	\$191.00	14	16	68.5	M12x1	M5	35°	6 lbf	25g
1914	OFA-20-35	\$196.00	20	23	98	M17x1	M5	35°	23 lbf	65g
1916	OFA-30-35	\$204.00	30	34	142	M27x1	M5	35°	97 lbf	206g
6596	OFA50-35	\$290.00	50	56	211	M45x1.5	G 1/8	35°	428 lbf	860g

*Note: Force at 87psi (6 bar)

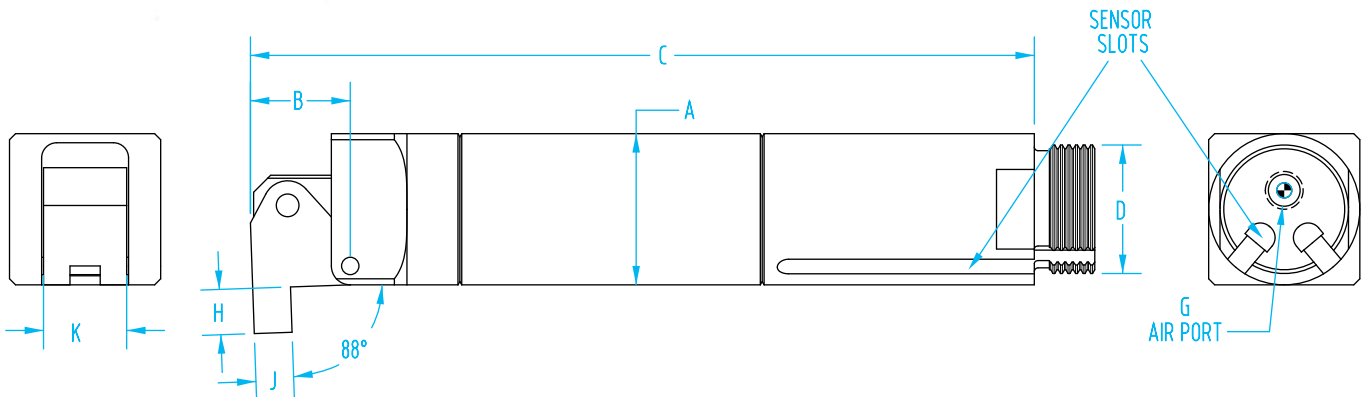
Fittings Available on page 1043



See page 245–255 for mounting brackets.

90° Gripper Finger (Sensor type)

- Longer bodies provide extended reach.
- Sensors are slightly recessed, so mounting clamps can be placed along the full length of the body.
- Provides operation with or without sensors
- Gripper fingers work with guides and extensions, see page 526.
- Sensor Slot version features two sensor slots to provide confirmation of the finger position.



OFS - 90° Gripper Finger (Sensor Slot Version)

Quick#	Part#	Price	ØA	B	C	D	G	Stroke	H	J	K	Closing force*	Wt.
6655	OFS20-90S	\$259.00	20	13.2	103.7	M17x1	M5	90°	6	5	11	16 lbf	80g
6657	OFS30-90S	\$279.00	30	20.1	153.1	M27x1	M5	90°	11	6	14	68 lbf	245g
Order sensors separately												<i>*Note: Force at 87psi (6 bar)</i>	
1882	SS4N225G	\$27.20	PNP sensor		3-wire with lead, 2.5m long				6-24v dc				
6282	SS3N203G	\$31.16	PNP sensor		3-wire with M8 male connector, 0.3m long				6-24v dc				
1883	SS4M225G	\$27.20	NPN sensor		3-wire with lead, 2.5m long				6-24v dc				
1884	SS3M203G	\$31.16	NPN sensor		3-wire with M8 male connector, 0.3m long				6-24v dc				

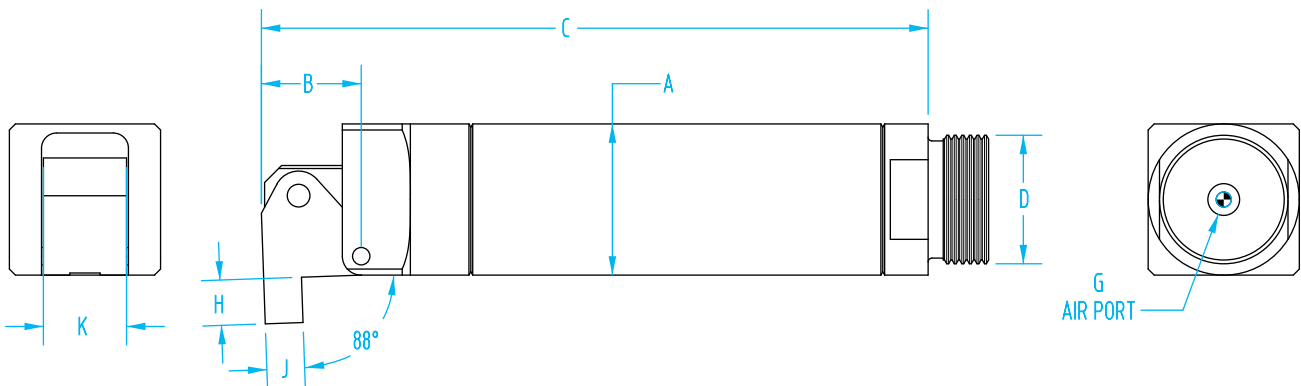
Fittings Available on page 1043



90° Gripper Finger (Standard type)

The gripper body is now all one metal piece, providing a longer service life better performance!

- Plastic molded plug on the top seals the gripper creating a reduced risk of external parts and debris entering the gripper
- New design includes a stronger, safer all metal piston
- Grooved pivot pin for improved reliability.



OFS - 90° Gripper Finger (Non-Sensor Slot Version)

Quick#	Part#	Price	ØA	B	C	D	G	Stroke	H	J	K	Closing force*	Wt.
7216	OFS14-90	\$218.00	14	9.1	61.6	M12x1	M5	90°	4	4	8	4 lbf	23g
6654	OFS20-90	\$228.00	20	13.2	88.2	M17x1	M5	90°	6	5	11	16 lbf	60g
6656	OFS30-90	\$250.00	30	20.1	128.1	M27x1	M5	90°	11	6	14	68 lbf	185g

*Note: Force at 87psi (6 bar)

See page 245–255 for mounting brackets.

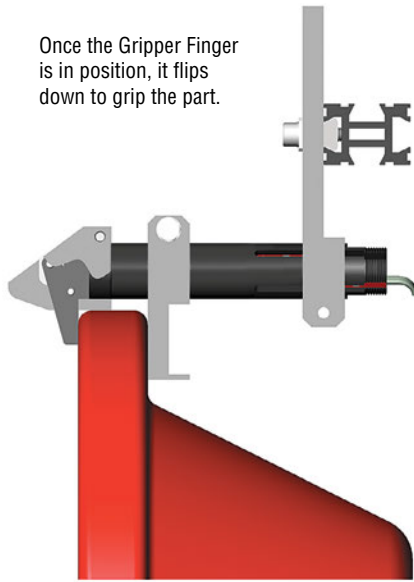
These grippers are compatible and interchangeable with other gripper fingers. They work with guides and extensions included in this catalog, and are ideal when there is little clearance between the part to be gripped and a fixed object. Contact our application engineering department for assistance in sizing the correct gripper finger for your application.

Application with 95° Gripper Fingers

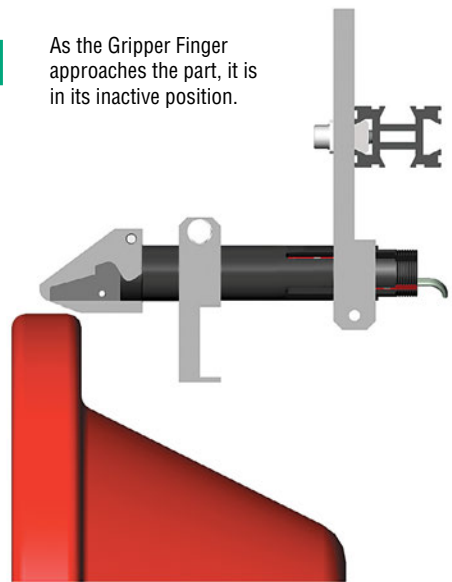


95° gripper fingers are ideal for gripping molded plastic parts that cannot be gripped using vacuum cups or standard grippers. This is typically the case with plastic parts that are cosmetically sensitive, and with parts that do not have surfaces suitable for use with vacuum cups or traditional grippers.

2 Once the Gripper Finger is in position, it flips down to grip the part.



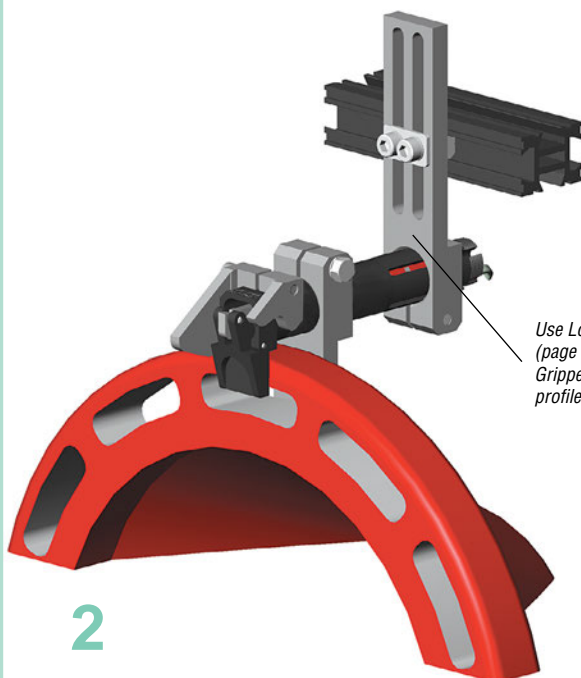
1 As the Gripper Finger approaches the part, it is in its inactive position.



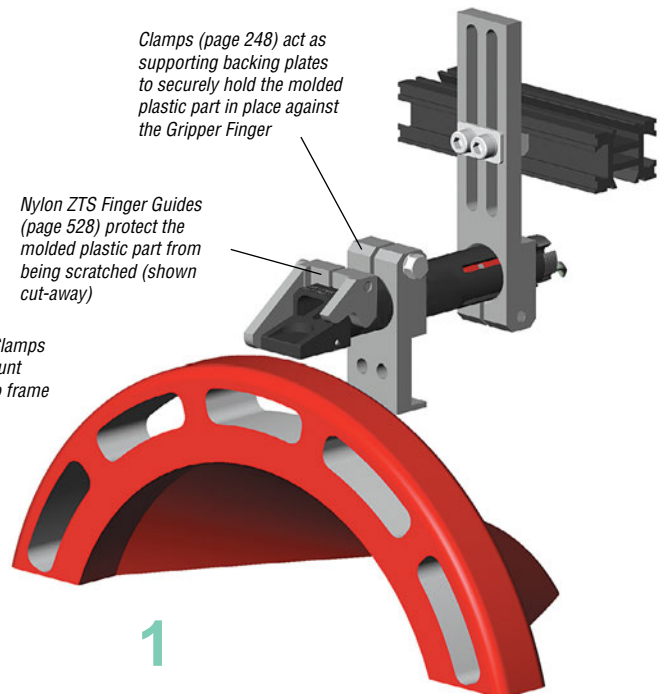
Clamps (page 248) act as supporting backing plates to securely hold the molded plastic part in place against the Gripper Finger

Nylon ZTS Finger Guides (page 528) protect the molded plastic part from being scratched (shown cut-away)

Use Long Angle Clamps (page 249) to mount Gripper Fingers to frame profiles



2



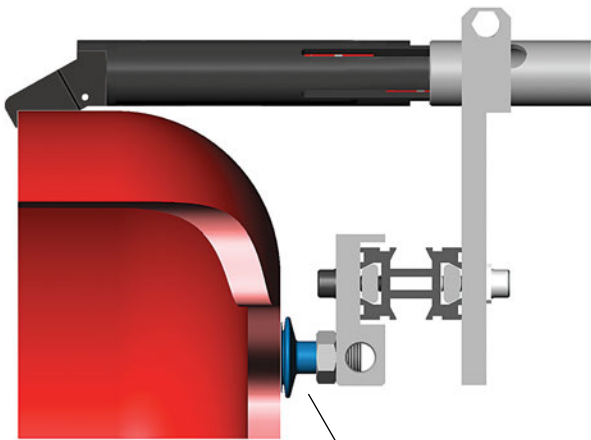
1

Application with 35° Gripper Fingers

35° gripper fingers are commonly used in two applications. They can reach behind a part and help 'snap' the part out of the mold. They are also used with vacuum cups to help stabilize large or deep core parts. This reduces shear on the vacuum cup and allows it to maintain a good seal.

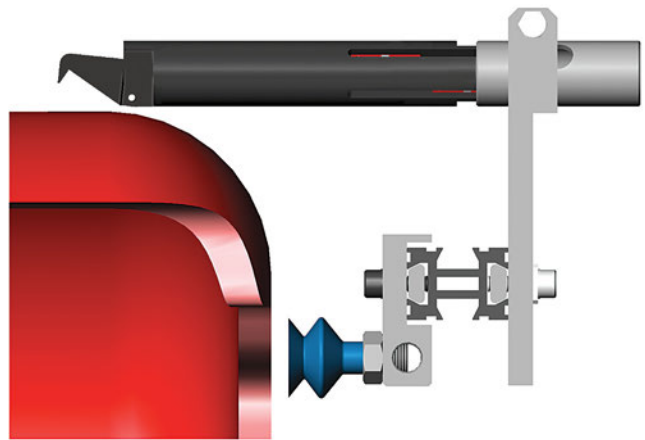


2 Once the Gripper Finger is in position, it flips down to grip the part.



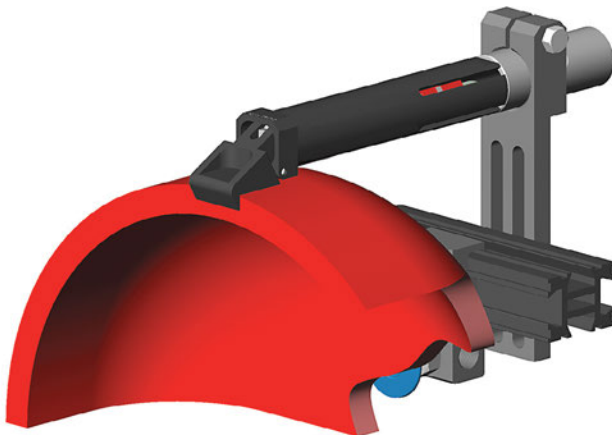
When used with Gripper Fingers, vacuum cups help stabilize deep core and large parts. Remember to allow for vacuum cup compression when using bellows vacuum cups.

1 As the Gripper Finger approaches the part, it is in its inactive position.

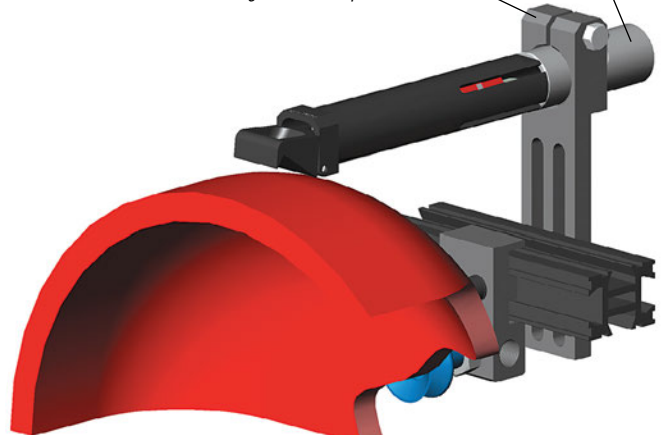


VLR Extensions (page 529) extend the reach of Gripper Fingers

Use Long Angle Clamps (page 249) to mount Gripper Fingers to frame profiles

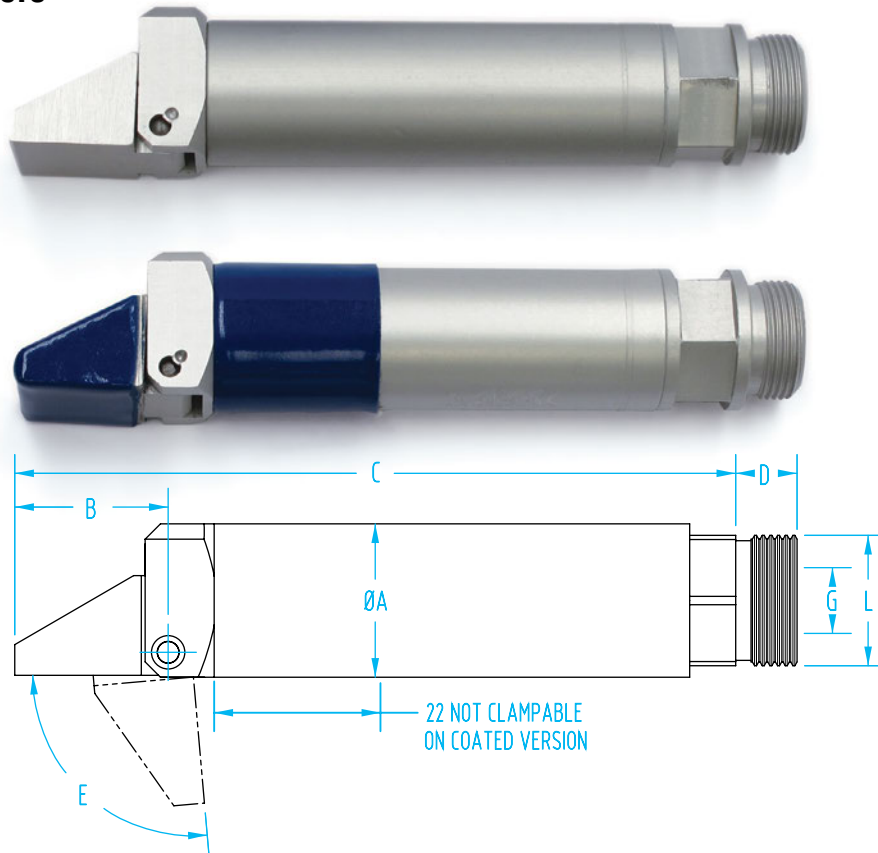


2



1

95° Gripper Fingers



95° Gripper Finger

Quick#	Part#	>ASS<#	Price	ØA	B	C	D	E	G	L	Closing force*	Wt.
3636	GRF-14-95-VA	1-451-03-00	\$240.45	14	15	64	6	95°	M5	M12x1	3 lbf	23g
3320	GRF20-95V	1-450-06-00-1	\$273.00	20	20	95	8	95°	G1/8"	M17x1	10 lbf	58g
3321	GRF30-95V	1-450-23-00-1	\$289.28	30	29	137	11	95°	G1/8"	M27x1	31 lbf	193g

*Note: Force at 87psi (6 bar)

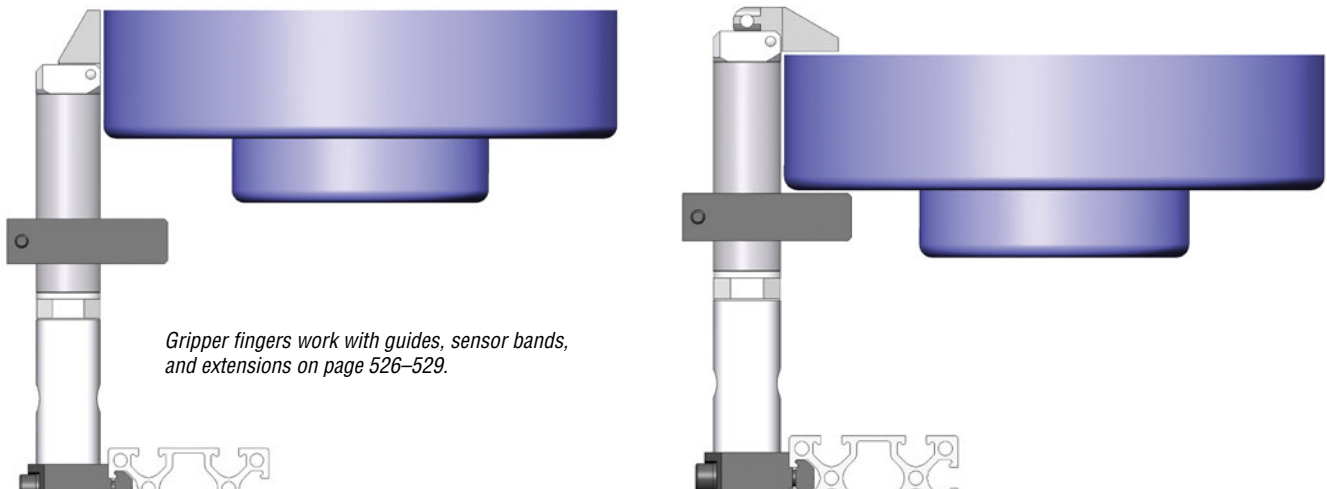
95° Gripper Finger with high strength elastomer polyurethane coated jaw

Quick#	Part#	>ASS<#	Price	ØA	B	C	D	E	G	L	Closing force*	Wt.
3732	GRF-14-95-VA-EP	1-451-04-00	\$262.50	14	15	64	6	95°	M5	M12x1	3 lbf	22g
3728	GRF20-95EP	1-450-07-00-1	\$314.48	20	20	95	8	95°	G1/8"	M17x1	10 lbf	58.1g
3731	GRF-30-95-VA-EP	1-450-22-00-1	\$393.75	30	29	137	11	95°	G1/8"	M27x1	31 lbf	202g

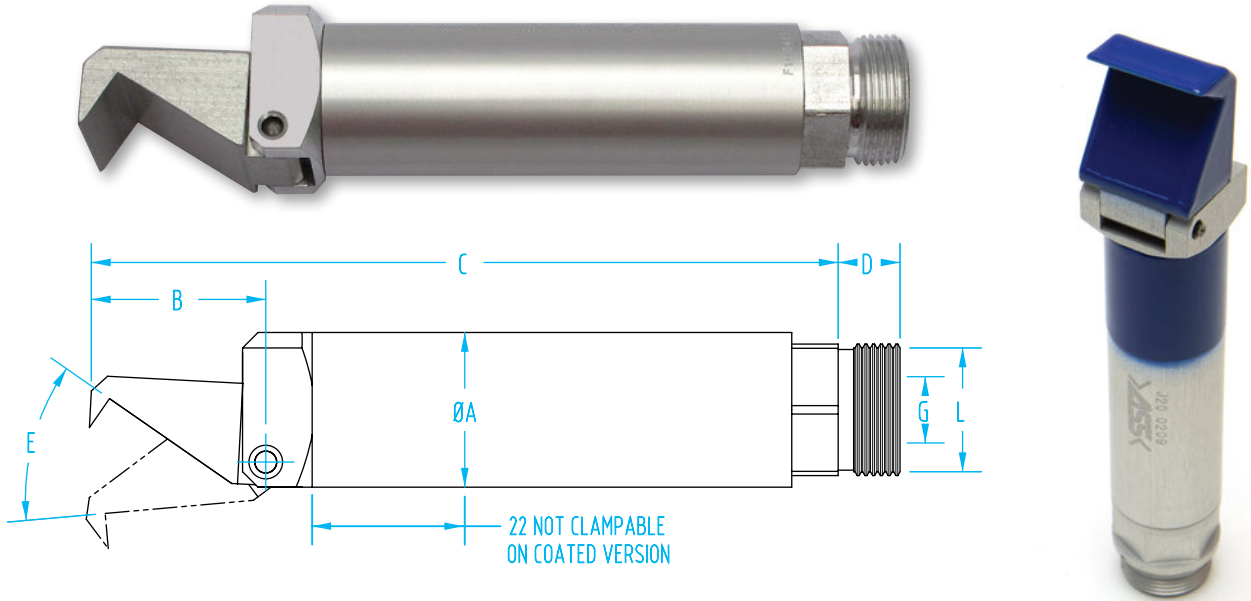
Maximum continuous temperature for these gripper fingers is 194°F with a short term max temp of 266°F.

*Force at 87 psi (6 bar)

95° Gripper Finger Application



35° Gripper Fingers



35° Gripper Finger

Quick#	Part#	>ASS<#	Price	ØA	B	C	D	E	G	L	Closing force*	Wt.
3637	GRF-14-35-VA	1-451-06-00	\$248.85	14	15	64	6	35°	M5	M12x1	10 lbf	23g
3322	GRF20-35V	1-450-03-00-1	\$282.45	20	25	99	8	35°	G1/8"	M17x1	27 lbf	60g
3323	GRF30-35V	1-450-20-00-1	\$299.78	30	34	142	11	35°	G1/8"	M27x1	54 lbf	195g

*Note: Force at 87psi (6 bar)

35° Gripper Finger with high strength elastomer polyurethane coated jaw

NEW

Quick#	Part#	>ASS<#	Price	ØA	B	C	D	E	G	L	Closing force*	Wt.
3921	GRF-20-35-VA-EP	1-450-04-00-1	\$314.48	20	25	99	8	35°	G1/8"	M17x1	27 lbf	60g

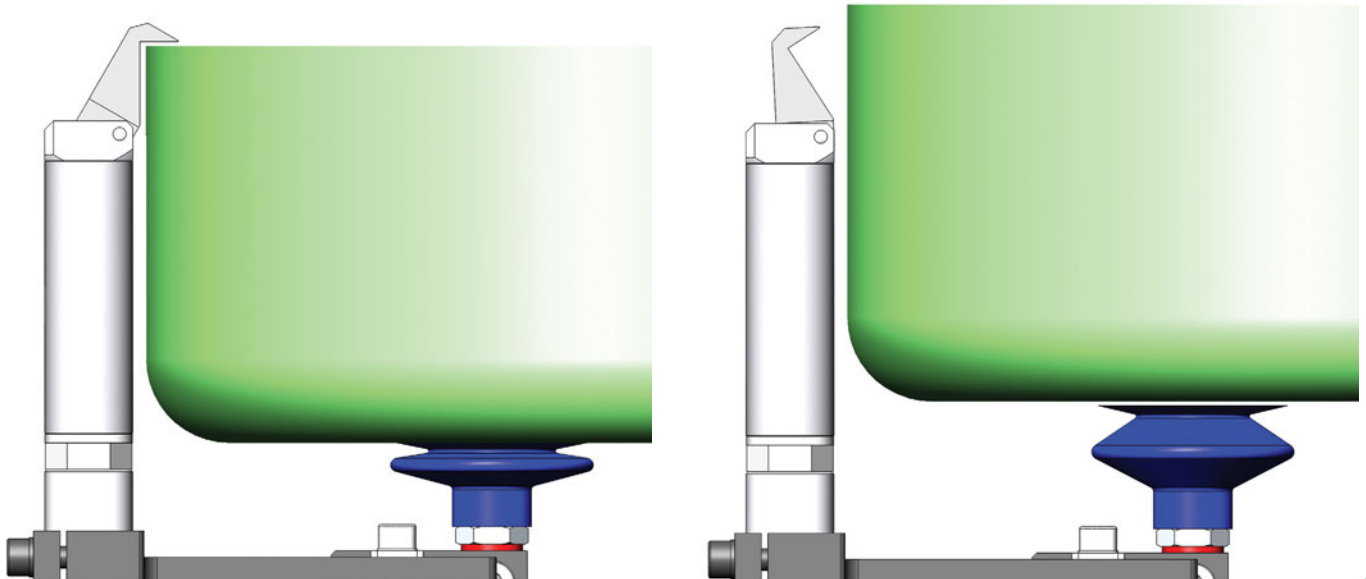
Maximum continuous temperature for these gripper fingers is 194°F with a short term max temp of 266°F.

*Force at 87 psi (6 bar)

Use Quick#s for easy online ordering.

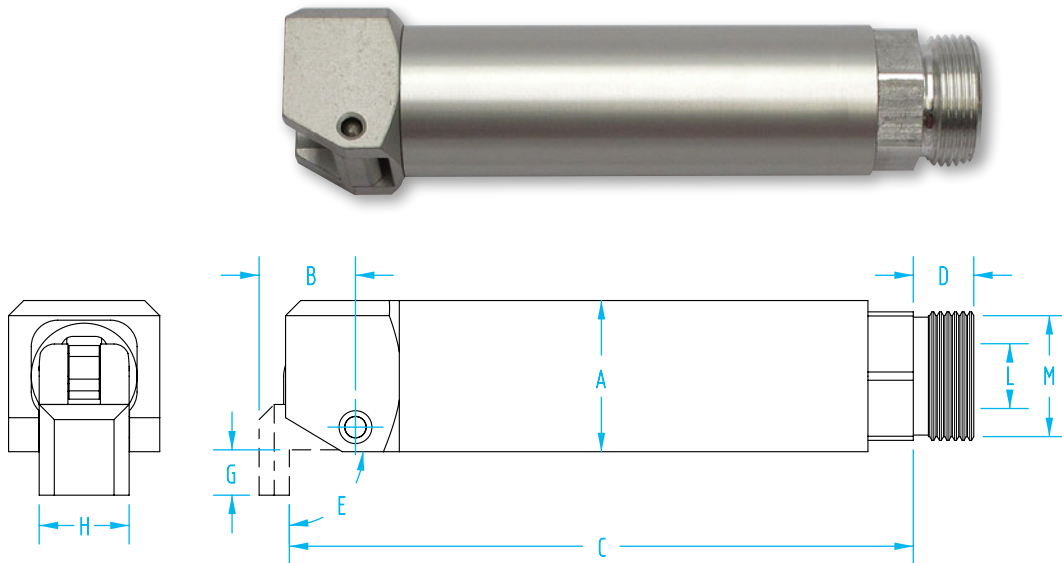
35° Gripper Finger Application

This application using the gripper finger draws the part up to the bellows vacuum cup. This reduces the shear force on the vacuum pad and allows it to maintain good vacuum seal and reduce flexing while in transport. As the gripper finger approaches the part, it is in its inactive position. Once the gripper finger is in position, it flips down to grasp the part.



90° Gripper Fingers

- Gripper fingers work with guides, sensor bands, and extensions on page 526–529.



90° Gripper Finger

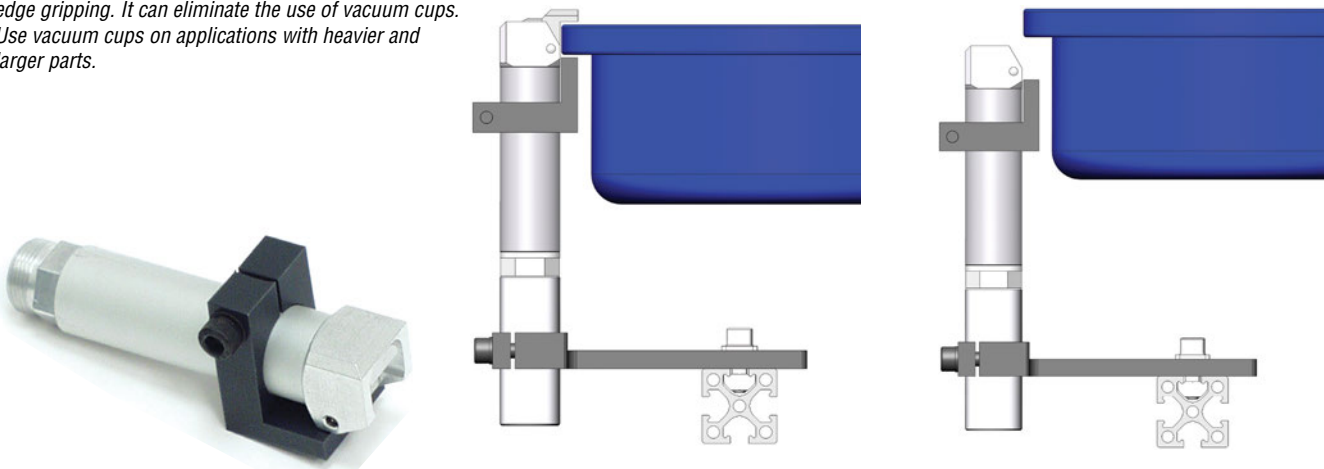
Quick#	Part#	>ASS<#	Price	ØA	B	C	D	E	G	H	L	M	Closing force*	Wt.
3638	GRF-14-90-VA	1-451-09-00	\$256.20	14	9	58	6	90°	4	10	M5	M12x1	9 lbf	22g
3324	GRF20-90V	1-450-15-00-1	\$289.80	20	12	83	8	90°	6	12	G1/8"	M17x1	22 lbf	57g
3325	GRF30-90V	1-450-29-00-1	\$311.85	30	19	124	11	90°	11	20	G1/8"	M27x1	52 lbf	194g

*Note: Force at 87psi (6 bar)

Use Quick#s for easy online ordering.

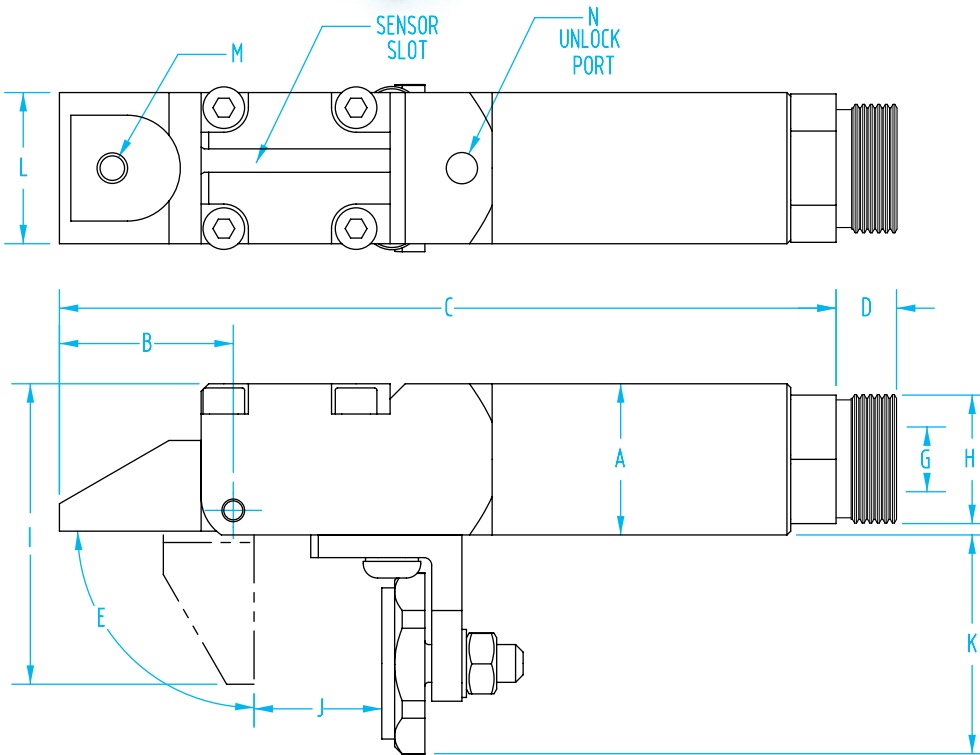
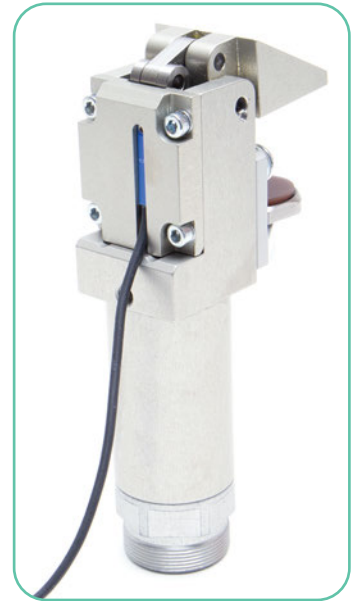
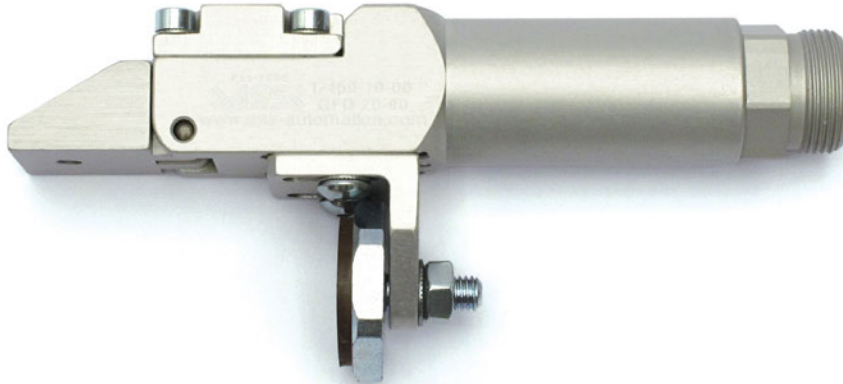
90° Gripper Finger Application

ANS gripper stop is typically used with GRF-90 gripper fingers. These applications are ideally suited for part edge gripping. It can eliminate the use of vacuum cups. Use vacuum cups on applications with heavier and larger parts.



90° Double Acting Gripper Fingers

- Find extensions on page 529.
- As a safety feature, GFD gripper fingers will lock in the closed position (90°) until the release port is supplied with air pressure.
- Programmable sensor (#3809) for detection of two positions on page 1005.



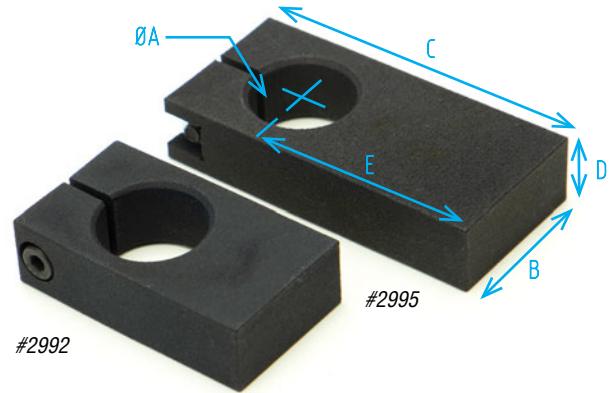
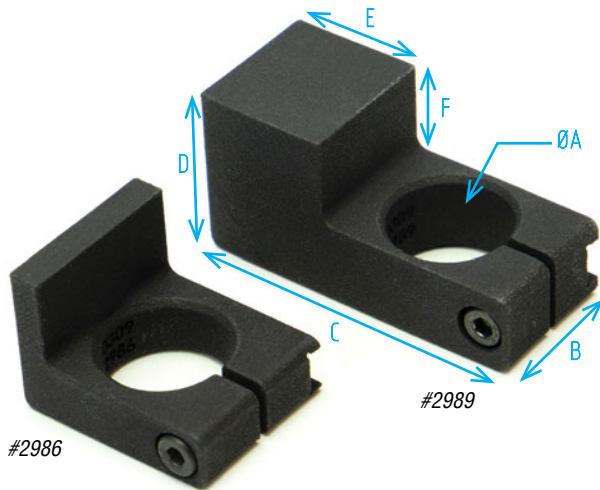
90° Double Acting Gripper Finger

Quick#	Part#	>ASS<#	Price	ØA	B	C	D	E	G	H	I	J	K	L	M	N	Closing force*	Wt.
3639	GFD20-90	1-450-10-00	\$470.40	20	23	103	8	90°	G1/8"	M17x1	40	0-34	28	20	M4	M5	24 lbf	100g
3922	GFD-20-90-EP90	1-450-11-00	\$535.50	23	23	103	8	90°	G1/8"	M17x1	40	0-34	28	20	M4	M5	24 lbf	100g
3640	GFD30-90	1-450-24-00	\$485.10	30	32	134	11	90°	G1/8"	M27x1	57	0-46	28	30	M5	M5	36 lbf	270g
3923	GFD-30-90-EP90	1-450-30-00	\$563.85	30	32	134	11	90°	G1/8"	M27x1	57	0-46	28	30	M5	M5	36 lbf	270g

Maximum continuous temperature for Rubber pad is 160°F. For EP coating is 194°F with a short term max temp of 266°F.

*Force at 87 psi (6 bar)

Gripper Finger Accessories



ANS Nylon Finger Stops

Quick#	Part#	Price	ØA	B	C	D	E	F	Wt.
2985	ANS14N	\$11.00	14	25	31	23	5.5	13	10g
2986	ANS20N	\$12.65	20	29	35	25	5.5	15	13g
2987	ANS30N	\$20.75	30	40	45	25	5.5	15	17g
2988	ANSE14N	\$21.85	14	24	44	30	18	16	21g
2989	ANSE20N	\$23.20	20	25	57	29	23	15	25g
2990	ANSE30N	\$27.50	30	38	74.5	43	30	24	48g

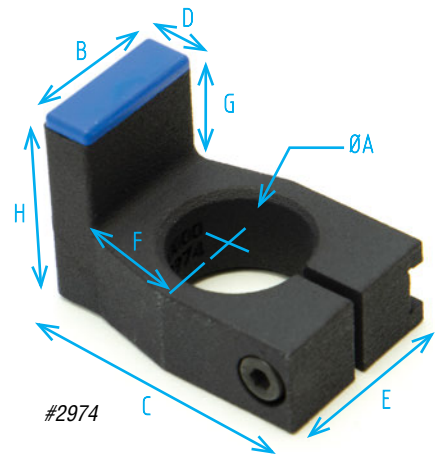
ANF Nylon Finger Stops

Quick#	Part#	Price	ØA	B	C	D	E	Wt.
2991	ANF14N	\$9.75	14	24	42	10	26	10g
2992	ANF20N	\$17.80	20	29	50	14	30	18g
2993	ANF30N	\$26.80	30	38	67	19	43	36g
2994	ANFE14N	\$13.40	14	25	55	10	39	14g
2995	ANFE20N	\$21.45	20	32	67	14	47	28g
2996	ANFE30N	\$27.35	30	42	84	19	60	56g

ANS Nylon Finger Stops with HNBR Pads

Quick#	Part#	Price	Pad Q#	ØA	B	C	D	E	F	G	H	Wt.
2973	ANS14N-P	\$16.40	7484	14	22	33	8	24	9	15	29	9g
2974	ANS20N-P	\$18.30	7484	20	22	42	8	29	14	17	31	11g
2975	ANS30N-P	\$17.90	7484	30	22	54	8	38	22	17	31	17g

Note: Guides include HNBR pads but are listed here in case they need to be replaced.

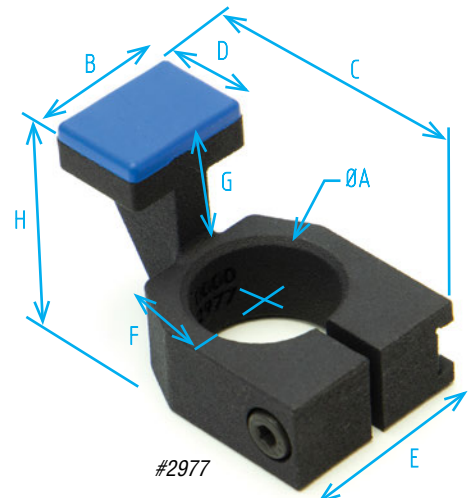


Replaceable HNBR soft-touch, non-marring pads have a 302°F maximum temperature.

ANSE Nylon Finger Stops with HNBR Pads

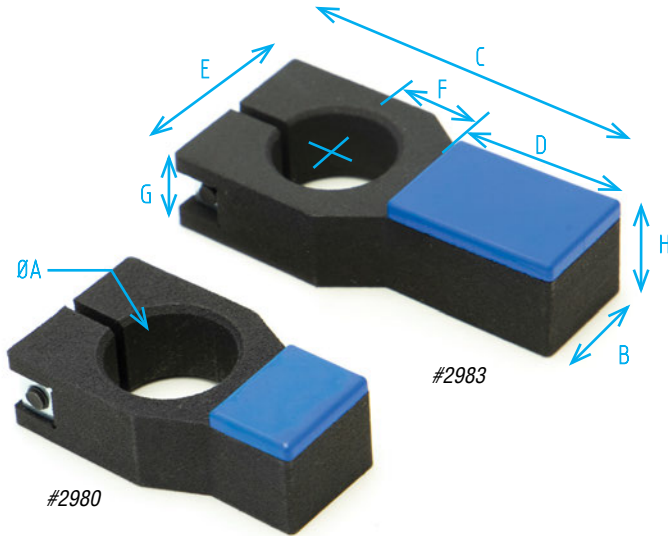
Quick#	Part#	Price	Pad Q#	ØA	B	C	D	E	F	G	H	Wt.
2976	ANSE14N-P	\$18.80	7359	14	14	36	11	24	9	16	30	13g
2977	ANSE20N-P	\$19.80	7360	20	20	47.5	15	29	12.5	18.5	32.5	13g
2978	ANSE30N-P	\$33.25	7361	30	30	64	20	38	20	27	46	31g

Note: Guides include HNBR pads but are listed here in case they need to be replaced.



If you need a custom designed finger stop, see our 3D printing section on page 102 or call EMI Engineering!

Gripper Finger Accessories



ANF Nylon Finger Stops with HNBR Pads

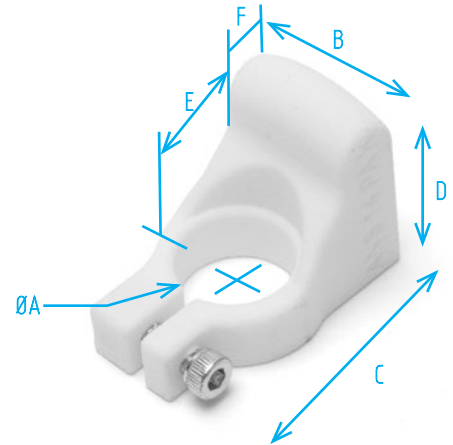
Quick#	Part#	Price	Pad Q#	ØA	B	C	D	E	F	G	H	Wt.
2979	ANF14N-P	\$18.00	7359	14	14	35	11	14	8	10	12.5	9g
2980	ANF20N-P	\$19.40	7360	20	20	47.5	15	29	12.5	14	16.5	15g
2981	ANF30N-P	\$30.40	7361	30	30	64	20	38	20	19	22	31g
2982	ANFE14N-P	\$19.85	7360	14	15	55	20	25	19	10	12.5	18g
2983	ANFE20N-P	\$28.80	7361	20	20	67	30	32	17	14	17	27g
2984	ANFE30N-P	\$34.90	7361	30	30	84	20	42	40	19	22	47g

Note: Guides include HNBR pads but are listed here in case they need to be replaced.

NEW

ANS Nylon Curved Finger Stops

Quick#	Part#	Price	ØA	B	C	D	E	F	Wt.
3924	ANS-14-PA-K	\$18.90	14	20	33	24.5	9	8.1	7g
3925	ANS-20-PA-K	\$26.25	20	30	41	35.5	11	9	17g

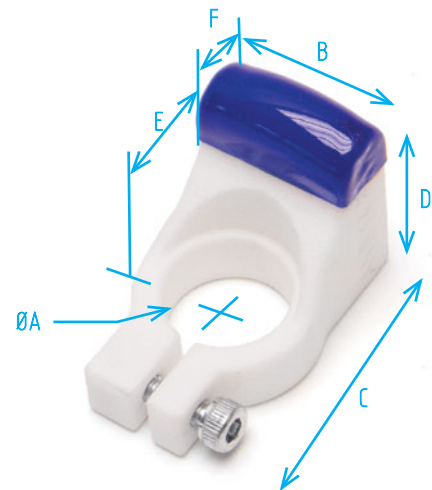


In conjunction with the EP coating this finger gripper bracket is ideally suited for handling sensitive parts. The curved versions are designed for contoured parts. Maximum continuous temperature for these gripper guides is 194°F with a short term maximum temperature of 266°F.

NEW

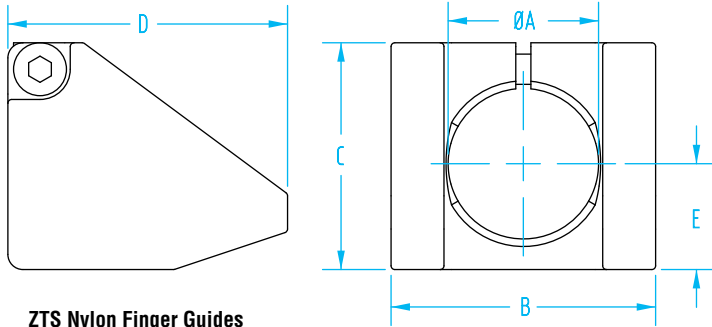
ANS Nylon Curved Finger Stops with EP Coating

Quick#	Part#	Price	ØA	B	C	D	E	F	Wt.
3926	ANS-14-PA-K-EP	\$27.83	14	20	33	24.5	9	8.5	17g
3927	ANS-20-PA-K-EP	\$35.70	20	30	41	35.5	11	9	17g



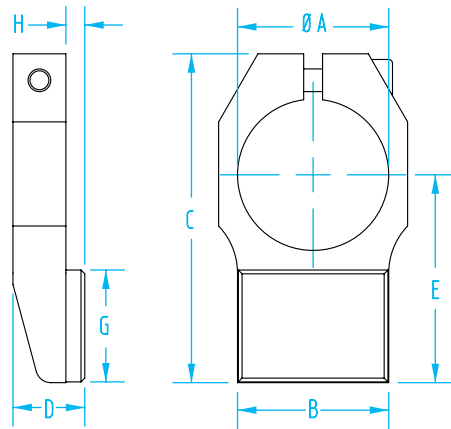
Use Quick#s for easy online ordering.

Gripper Finger Accessories



ZTS Nylon Finger Guides

Quick#	Part#	Price	ØA	B	C	D	E	Wt.
2997	ZTS14N	\$14.00	14	26	25	33	11.5	12g
2998	ZTS20N	\$14.25	20	35	30	37	14	19g
2999	ZTS30N	\$26.70	30	46	46	65.5	20	73g



Adjustable stopper clamps to gripper fingers

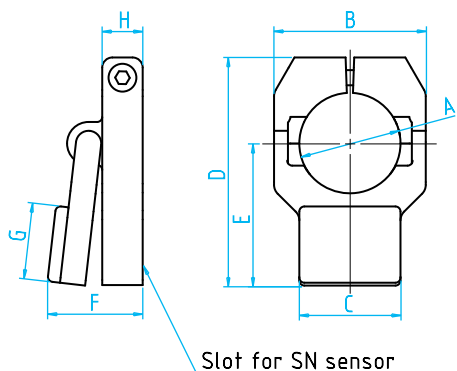
Sensor with adjustable clamp for gripper fingers

Clampable aluminum tubes for extended reach

Finger Stops with HNBR Pad

Quick#	Part#	Price	Pad Q#	ØA	B	C	D	E	G	H	Wt.
7120	OF14G	\$41.50	7359	14	14	32	10	19	10.8	2.5	6g
7121	OF20G	\$45.50	7360	20	20	43.5	9.5	27.5	14.8	2.5	12g
7122	OF30G	\$56.00	7361	30	30	63	12	40	19.8	3	30g

Note: Guides include HNBR pads but are listed here in case they need to be replaced.



NEW

Finger Stops with HNBR Pad and Sensing

Quick#	Part#	Price	Pad Q#	ØA	B	C	D	E	F	G	H	Wt.
7571	OF14H	\$14.97	7359	14	22	14	34.5	21	17.6	11	8	15g
7572	OF20H	\$23.24	7360	20	30	20	45	28	18.7	15	8	20g
7573	OF30H	\$43.12	7361	30	42	30	64	40	25.5	20	12	28g

Note: Guides include HNBR pads but are listed here in case they need to be replaced. See page 1002 for Gimatic SN.. sensors.



Gripper Finger Accessories

Replacement Gimatic Springs

Quick#	Part#	For:	Price
7663	OFR1495-07	Gimatic Size 14	\$2.15
6616	OFR20-95-09	Gimatic Size 20	\$3.91
5347	OFR-30-95-07	Gimatic Size 30	\$4.38

Replacement >ASS< Springs

Quick#	Part#	For:	Price
3895	GSG-GRF14-PSP	>ASS< Size 14	\$3.68
3896	GSG-GRF20-PSP	>ASS< Size 20	\$4.20
3852	1-450-23-08	>ASS< Size 30	\$3.36

Replacement HNBR Pads - Kits contain 2 Old Style, 2 New Style Pads

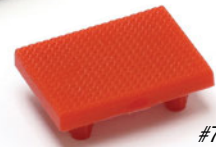
Quick#	Part#	For:	Dimensions	Price
7628	KIT3-OFR14	OFR-14	14 x 10.4mm, 2.5mm thick	\$13.06
7629	KIT3-OFR20	OFR-20	20 x 15mm, 2.5mm thick	\$11.13
7630	KIT3-OFR30	OFR-30	30 x 22.3mm, 3mm thick	\$16.87


NEW

#7629

New Style Replacement TPU Pads (176°F Max Temp)

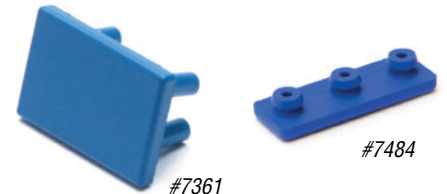
Quick#	Part#	For:	Dimensions	Price
7217	OFR14-95-14	OFR-14	14 x 10.4mm, 2.5mm thick	\$5.19
7218	OFR20-95-14	OFR-20	20 x 15mm, 2.5mm thick	\$5.92
7219	OFR30-95-15	OFR-30	30 x 22.3mm, 3mm thick	\$6.00



#7218

Replacement HNBR Pads (302°F Max Temp, Non-Marking)

Quick#	Part#	For:	Dimensions	Price
7359	OFR1495-16	OFR-14	14 x 10.4mm, 2.5mm thick, Old Style	\$4.42
7360	OFR2095-16	OFR-20 & Guides	20 x 15mm, 2.5mm thick, Old Style	\$4.42
7361	OFR3095-16	OFR-30 & Guides	30 x 22.3mm, 3mm thick, Old Style	\$6.60
7484	PB-0170-05	Gripper Guides	22 x 8mm, 2mm thick, New Style	\$5.50



#7361

#7484

Sensor Band for >ASS< & Gimatic Gripper Fingers

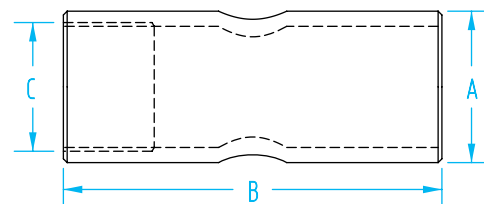
Quick#	Part#	For Body:	Price
7307	SWP-014	Ø14	\$2.22
7308	SWP-020	Ø20	\$2.22
7309	SWP-030	Ø30	\$2.22
7310	SWP-050	Ø50	\$2.22



Note: Use with C-Slot Gimatic Sensors on page 1002 or SMC sensors on page 1004.

Extension Tube

Quick#	Part#	Price	A	B	C	Wt.
3384	VLR14-40	\$8.40	14	40	M12x1	6g
3385	VLR14-80	\$10.50	14	80	M12x1	14g
3386	VLR14-120	\$10.50	14	120	M12x1	23g
3387	VLR20-50	\$10.50	20	50	M17x1	15g
3388	VLR20-100	\$10.50	20	100	M17x1	29g
3389	VLR20-150	\$11.55	20	150	M17x1	44g
3390	VLR30-80	\$13.13	30	80	M27x1	51g
3391	VLR30-140	\$13.65	30	140	M27x1	88g
3392	VLR30-200	\$14.70	30	200	M27x1	128g



Extension Tube (Not for Vacuum)

Quick#	Part#	Price	ØA	B	C	Wt.
5842	OF14L80	\$7.50	14	80	M12x1	10g
5843	OF20L100	\$9.72	20	100	M17x1	30g
5994	OF20L250	\$15.44	20	250	M17x1	75g
5844	OF30L120	\$12.59	30	120	M27x1	65g
5995	OF30L250	\$19.60	30	250	M27x1	145g

Compact Gripper Fingers / Hybrid – OFF

- Hybrid design has a plastic (Nylon) finger mounted to a clampable aluminum body.
- Narrow body design can easily be clamped and placed in tight areas.
- Integrated grip pads & rings are easily replaceable.
- These units are all single acting (spring return).
- Grippers can be equipped with optional sensors.
- Due to their lightweight design, these grippers can be considered in multi-cavity applications where payload is minimal.
- Ø14mm & Ø20mm shaft length can be extended by using a threaded extension. See page 529.



Quick#	7104	6648	6757	6756	6758
Part#	OFP14P-25	OFP21P-20	OFP21N-20	OFP21S-20	OFP21V-20
Price	\$34.95	\$34.95	\$34.95	\$34.95	\$34.95
Style	HNBR Pad	HNBR Pad	Nitrile Rings	Silicone Rings	Viton Rings
Body construction	Aluminum body - Clampable				
Medium	Filtered, lubricated / non lubricated compressed air				
Pressure range	29–116 psi				
Temperature range of gripper	41°–140°F				
Maximum temperature of rings / pads	302°F	302°F	212°F	392°F	392°F
Stroke	25°	21°			
Closing force at 87psi	9 lbf	22 lbf			
Weight	13g	33g	33g	33g	33g

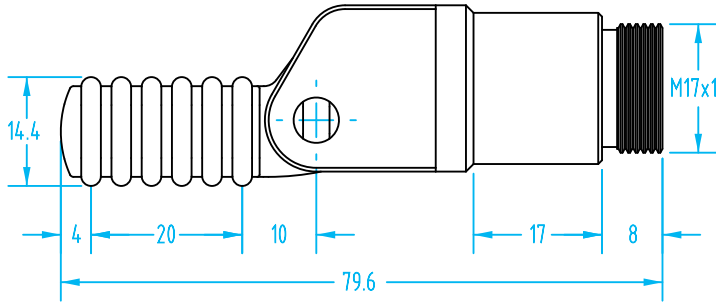
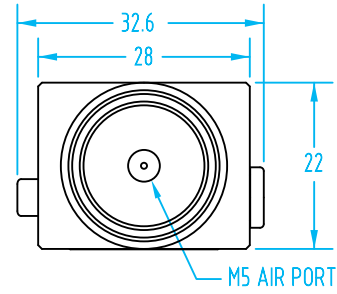
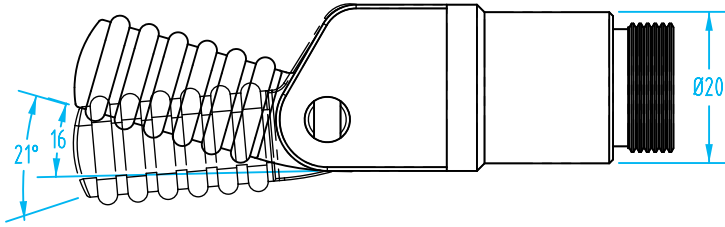
OFF - Replacement Pads & Rings

Quick#	Part#	Description	Price
7729	OFR2095 43	HNBR Pad for #7104	\$4.42
7730	OFR3095-42	HNBR Pad for #6648	\$4.68
5317	OFP20-N-20R	Nitrile Rings (set of 6)	\$7.04
5318	OFP20-S-20R	Silicone Rings (set of 6)	\$8.60
5319	OFP20-V-20R	Viton Rings (set of 6)	\$7.56

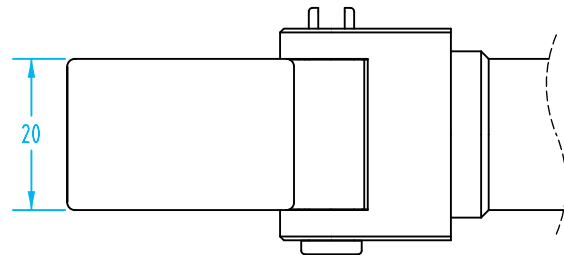
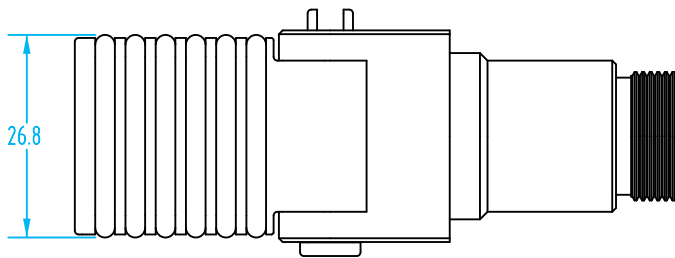
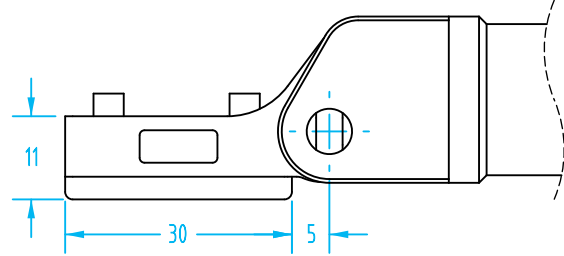
Compact Gripper Fingers / Hybrid – OFP

(Dimensioned drawings shown full scale)

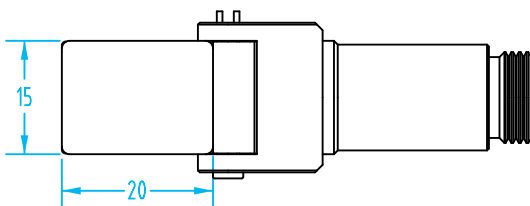
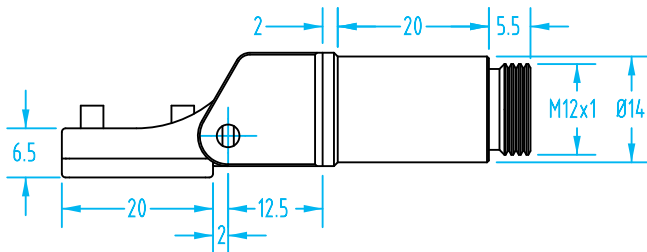
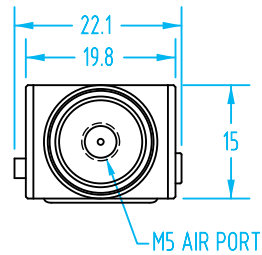
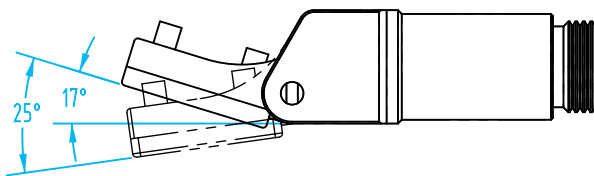
OFP-21...



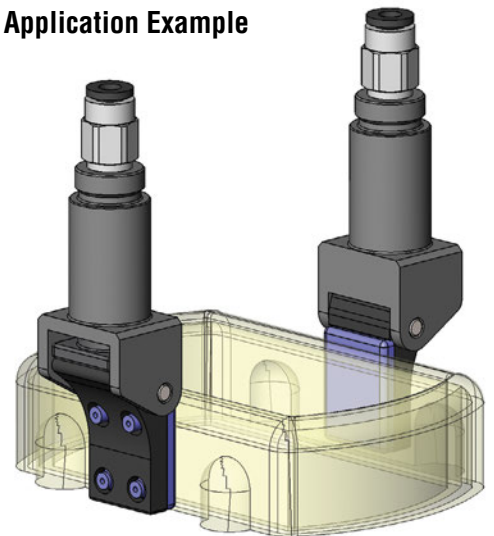
HNBR Pad:



OFP-14...



Application Example



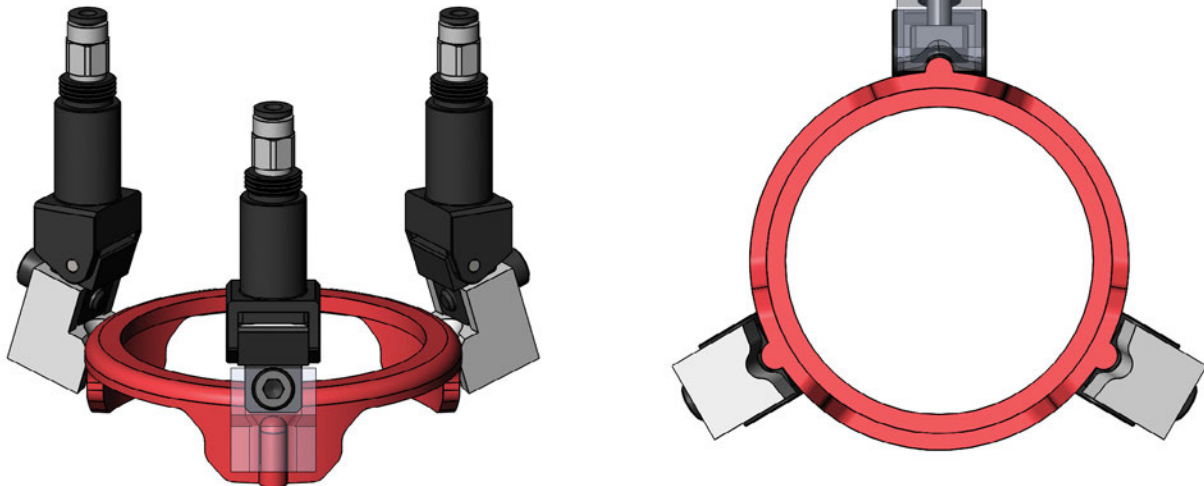
Compact Gripper with Blank Finger – OFP

- Aluminum finger blank mounted to a clampable aluminum body.
- Narrow body design can easily be clamped and placed in tight areas.
- Custom machined or 3D printed fingers can be easily mounted.
- Single acting (spring return).
- Grippers can be equipped with optional sensors.
- Due to their lightweight design, these grippers can be considered in multi-cavity applications where payload is minimal.
- Ø14mm & Ø20mm shaft length can be extended by using a threaded extension. See page 529.



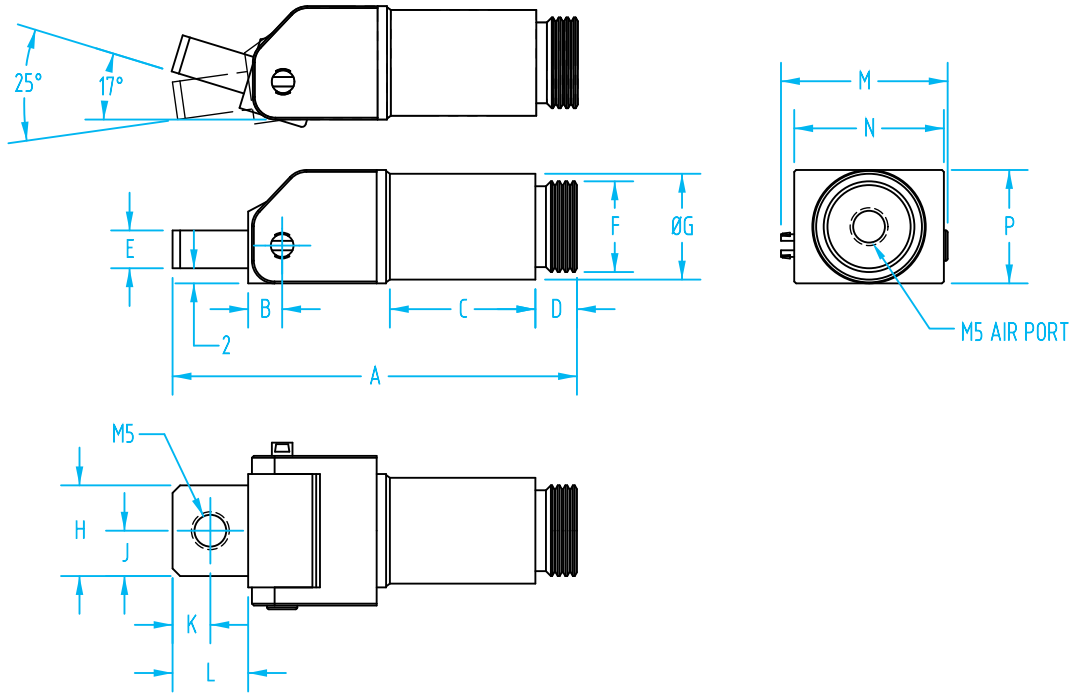
Quick#	7433	7434	7774
Part#	OFP14A-25	OFP21A-20	OFP20A-20
Price	\$79.95	\$79.95	\$79.95
Medium	Filtered, lubricated / non lubricated compressed air		
Pressure range	29–116 psi		
Temperature range of gripper	41°–140°F		
Stroke	25°	21°	21°
Closing force at 87psi	9 lbf	22 lbf	22 lbf
Weight	39g	42g	40g

Application Example



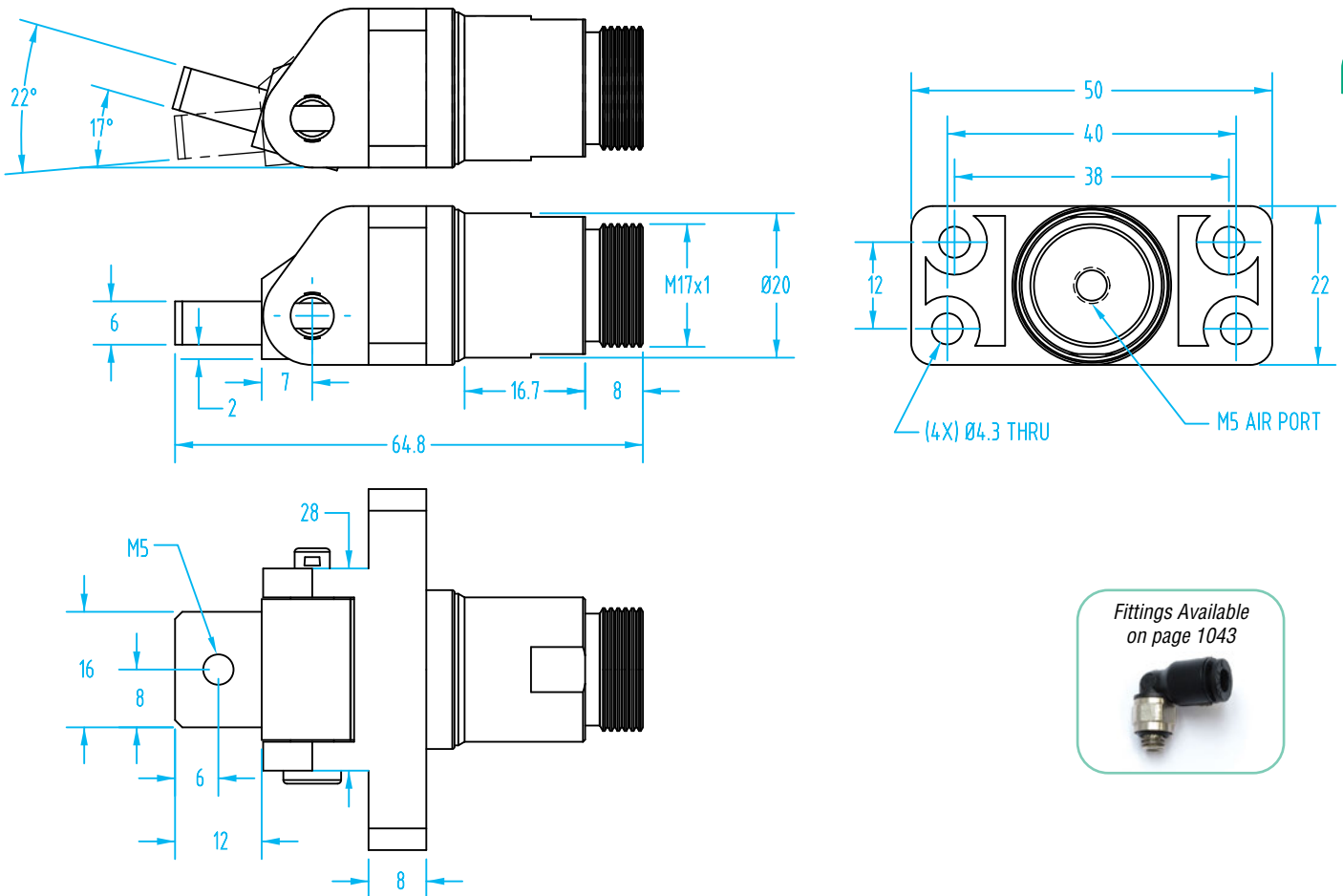
Compact Gripper with Blank Finger – OFP

#7433 & 7434



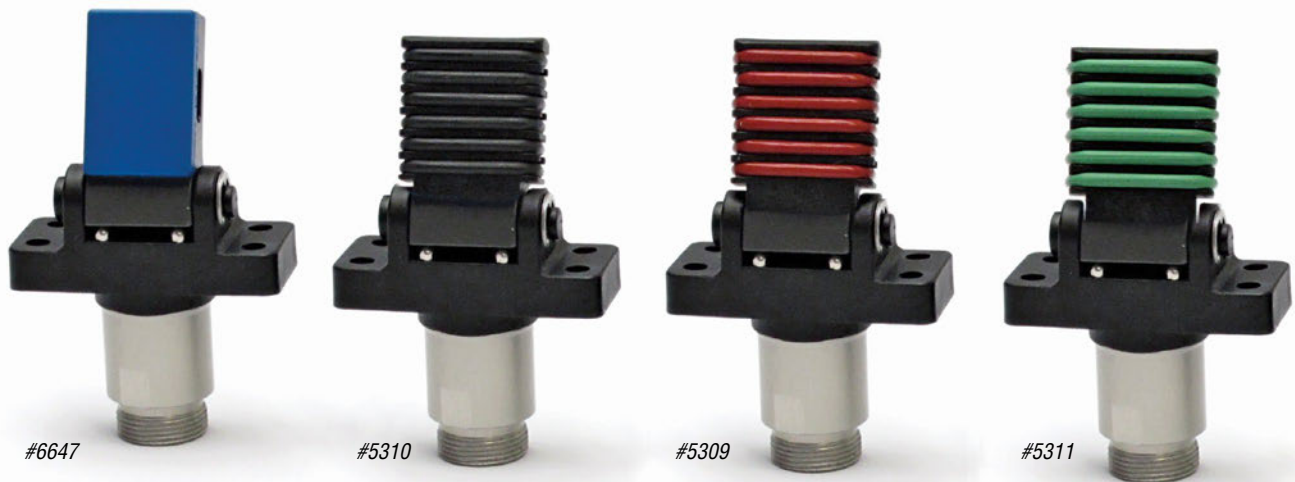
Quick#	A	B	C	D	E	F	ØG	H	J	K	L	M	N	P
7433	53.5	4.5	19	5.5	5	M12x1	14	12	6	5	10	22	19.8	15
7434	64.8	7	25	8	6	M17x1	20	16	8	6	12	32.6	28	22

#7774



Compact Gripper Fingers / Hybrid – OFF

- Hybrid design has a plastic (Nylon) finger mounted to a clampable aluminum body.
- Mounting holes in the plastic body make plate mounting easy.
- Integrated grip pads & rings are easily replaceable.
- These units are all single acting (spring return).
- Grippers can be equipped with optional sensors.
- Due to their lightweight design, these grippers can be considered in multi-cavity applications where payload is minimal.
- Ø20mm shaft length can be extended by using a threaded extension. See page 529.



Quick#	6647	5310	5309	5311
Part#	OFP20P-20	OFP20N-20	OFP20S-20	OFP20V-20
Price	\$34.95	\$34.95	\$34.95	\$34.95
Style	HNBR Pad	Nitrile Rings	Silicone Rings	Viton Rings
Body construction	Hybrid design - Clampable aluminum post			
Medium	Filtered, lubricated / non lubricated compressed air			
Pressure range	29–116psi			
Temperature range of gripper	41°–140°F			
Maximum temperature of rings / pads	302°F	212°F	392°F	392°F
Stroke	21°			
Closing force at 87psi	22 lbf			
Weight	39g	42g	42g	42g

OFF - Replacement Pads & Rings

Quick#	Part#	Description	Price
7361	OFR3095-16	HNBR Pad	\$6.60
5317	OFP20-N-20R	Nitrile Rings (set of 6)	\$7.04
5318	OFP20-S-20R	Silicone Rings (set of 6)	\$8.60
5319	OFP20-V-20R	Viton Rings (set of 6)	\$7.56

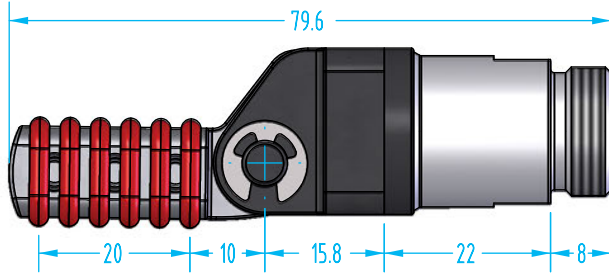
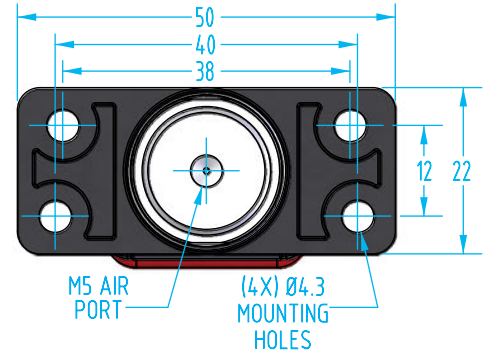
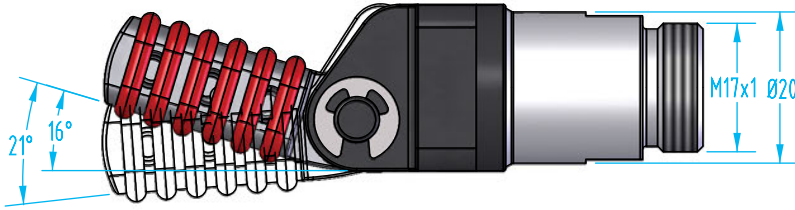
Use Quick#s for easy online ordering.



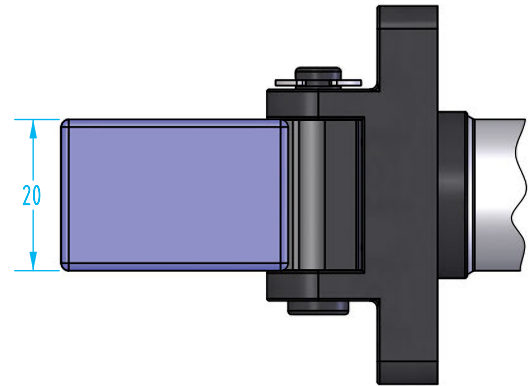
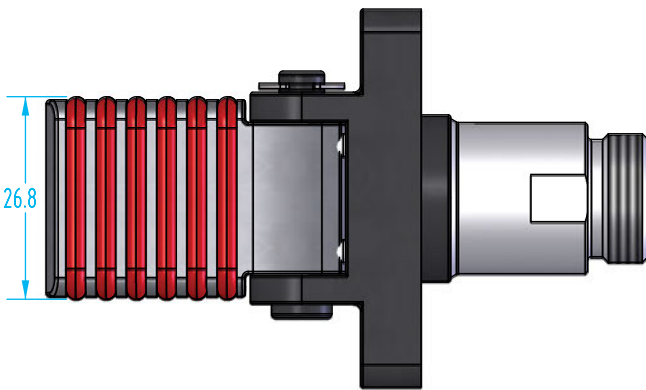
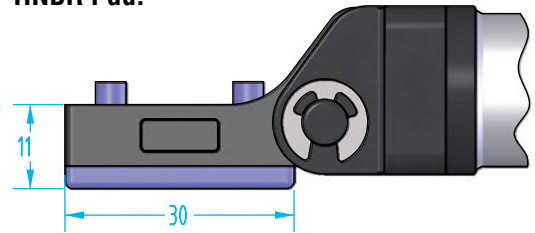
Compact Gripper Fingers / Hybrid – OFP

(Dimensioned drawings shown full scale)

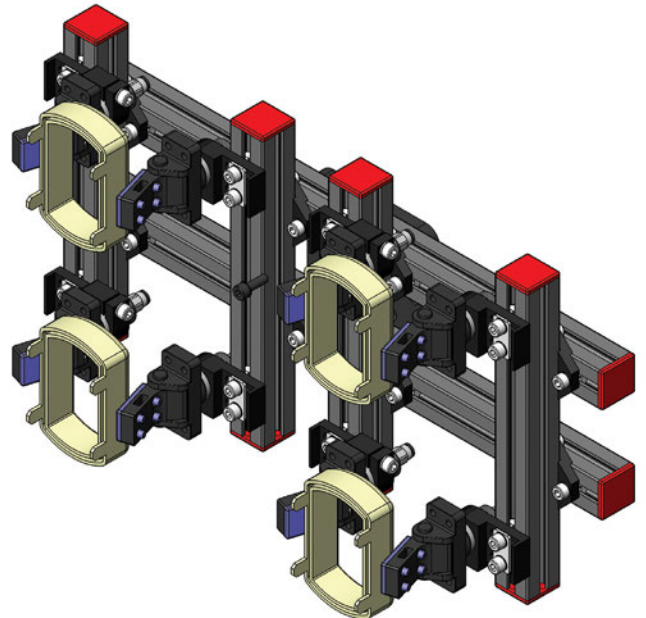
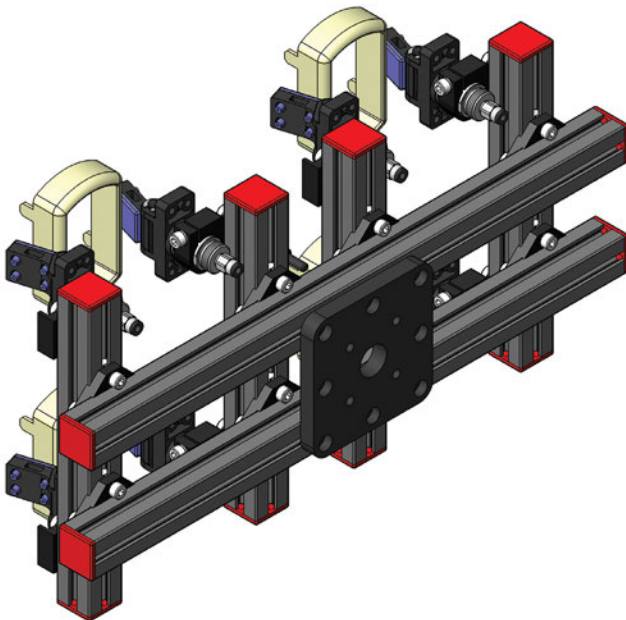
OFP-20...



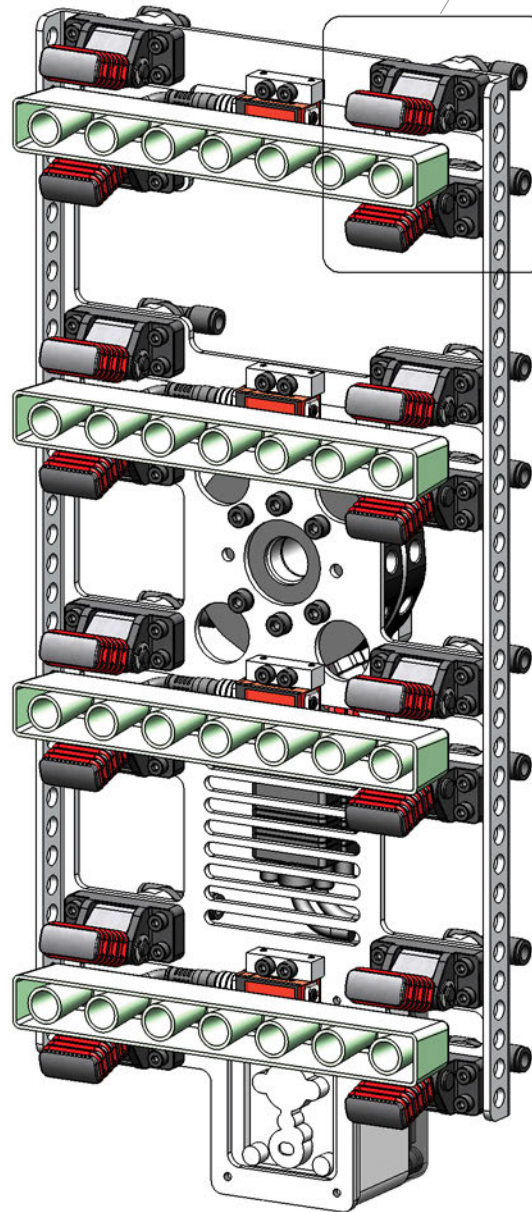
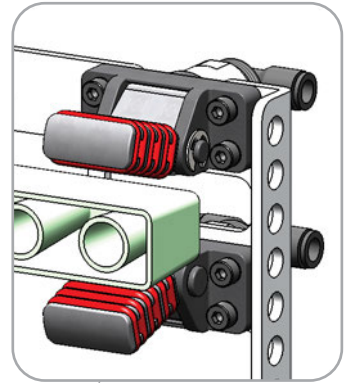
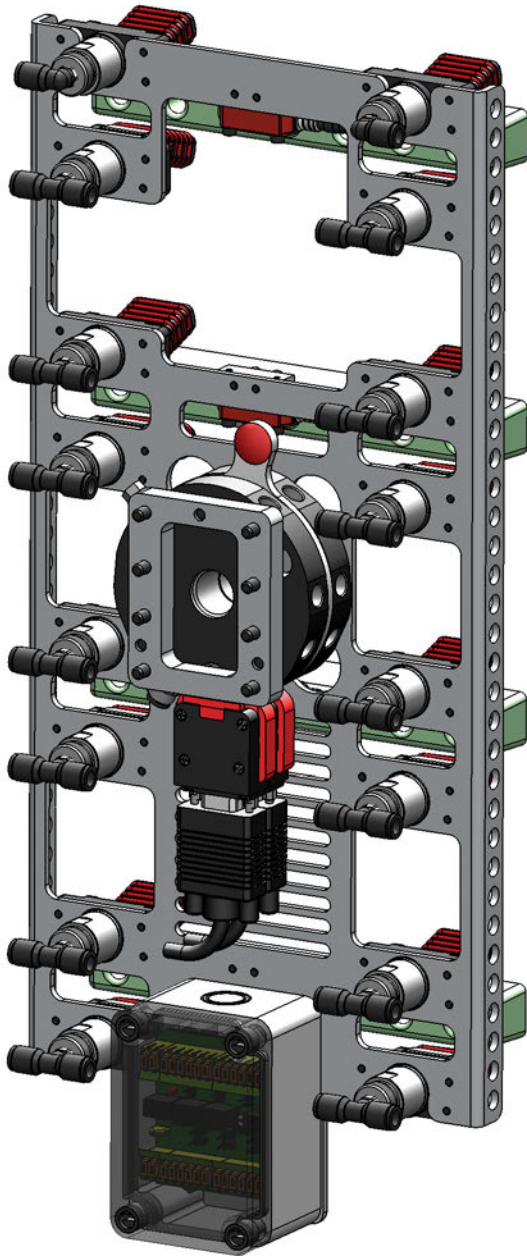
HNBR Pad:



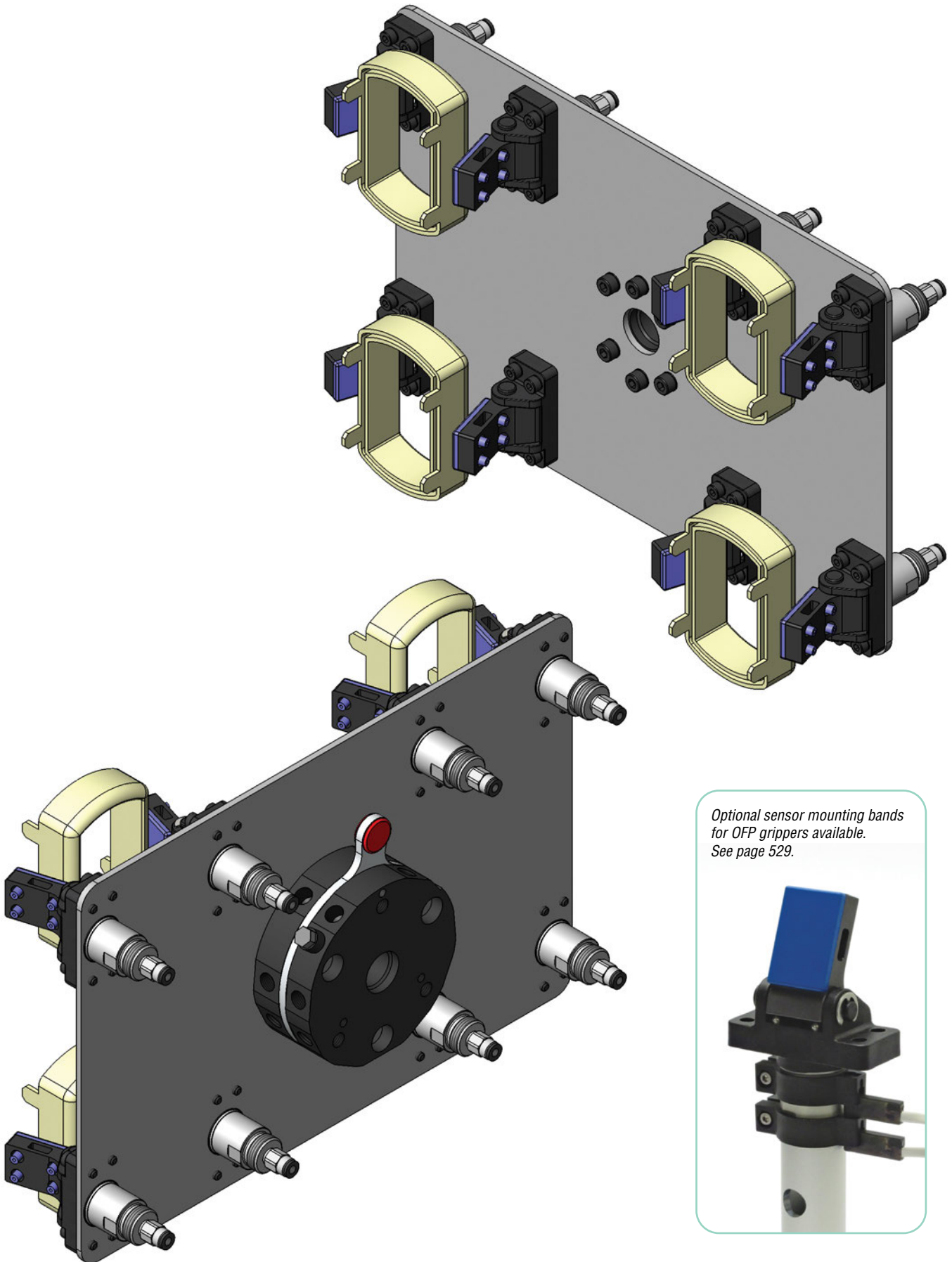
Application Example



One Finger Angular Grippers – OFP



One Finger Angular Grippers – OFP

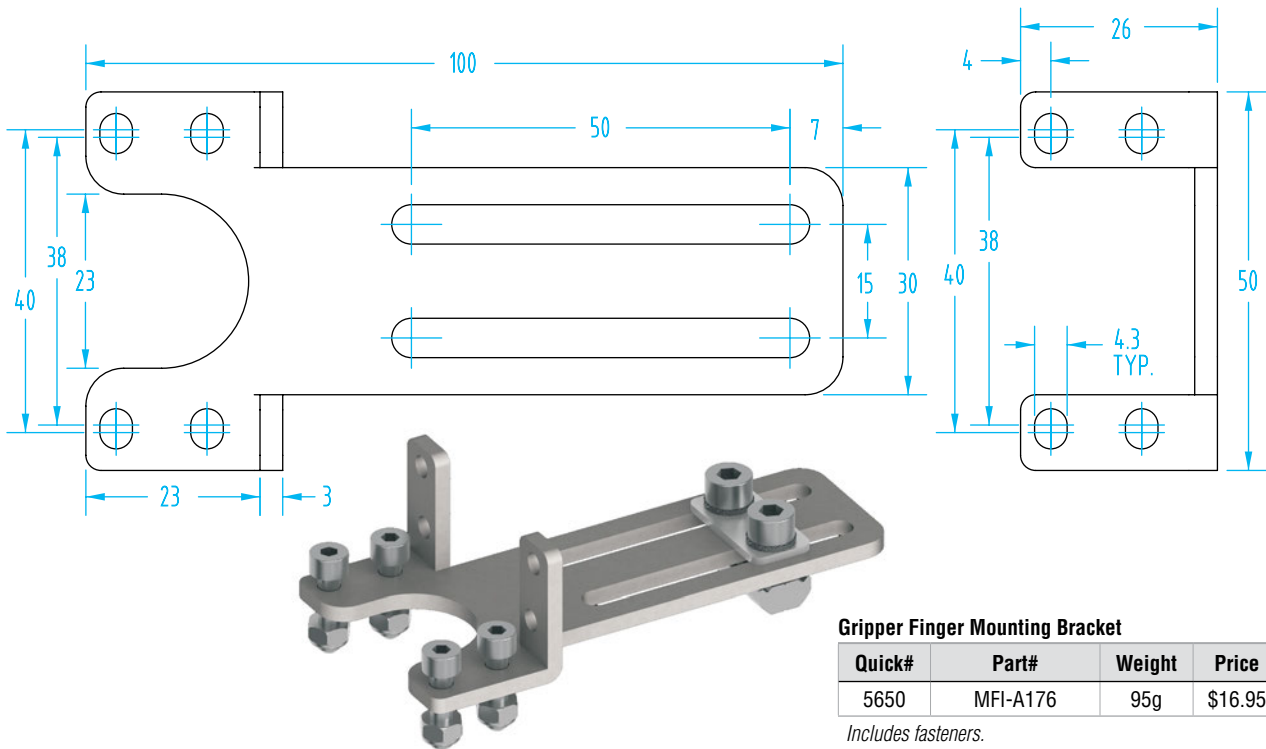


Optional sensor mounting bands for OFP grippers available. See page 529.



Gripper Finger Mounting Bracket

(Dimensioned drawing shown full scale)



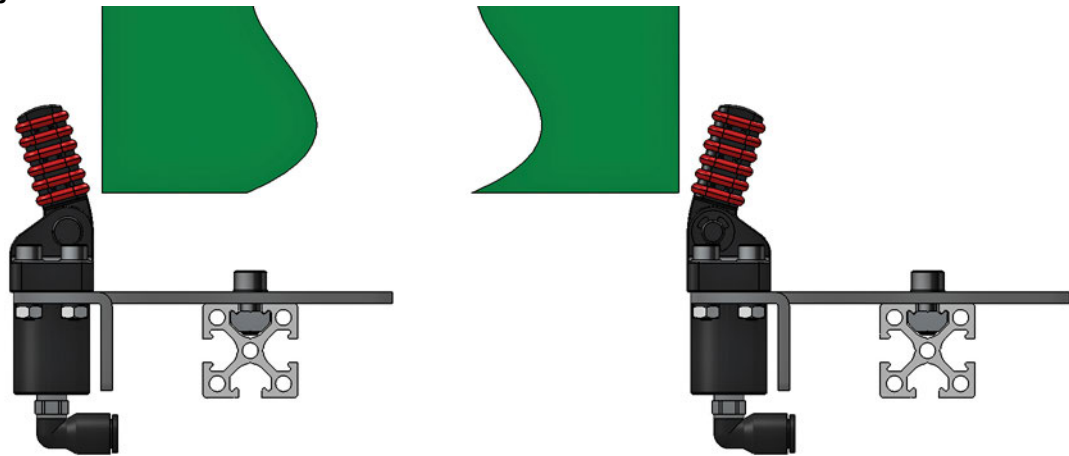
Gripper Finger Mounting Bracket

Quick#	Part#	Weight	Price
5650	MFI-A176	95g	\$16.95

Includes fasteners.

Application Example

Horizontal Mounting:

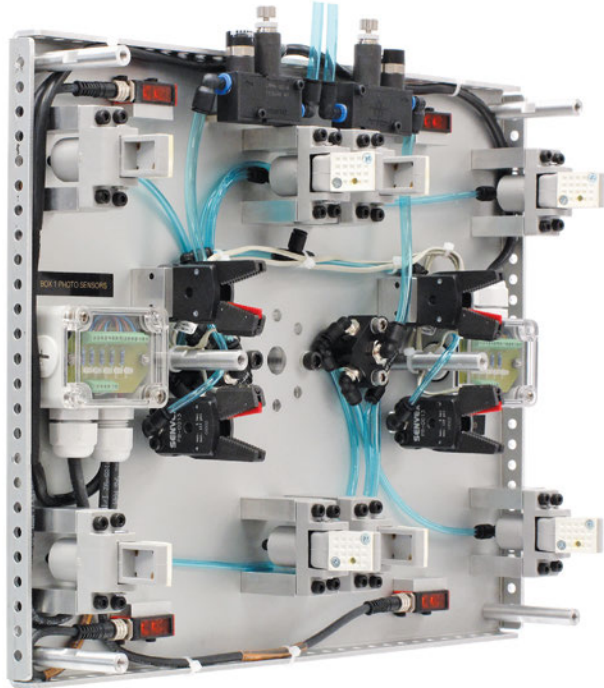


Vertical Mounting:



Plastic Gripper Fingers

(Dimensioned drawings shown full scale)

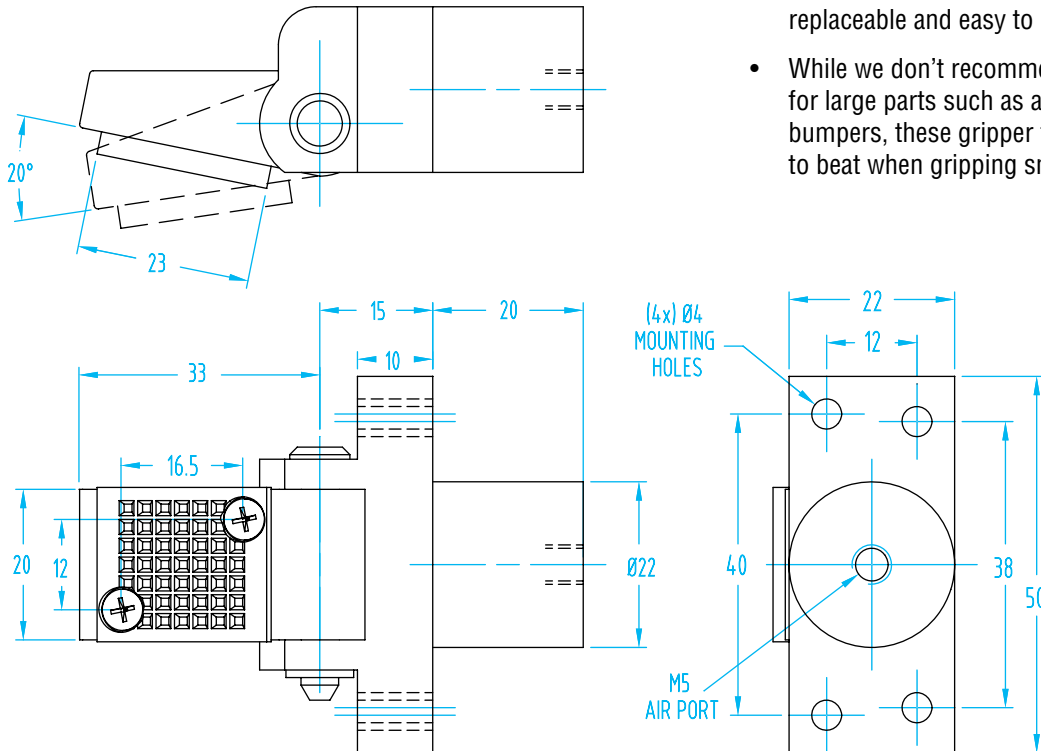


Lightweight Gripper Fingers

Quick#	Part#	Price	Weight	Push force	Air pressure
1711	GSG-MCY-HS	\$38.94	45g	18 lbf	71psi
1712	GSG-MCY-RP	\$0.84	Replacement Silicone Grip Pad		
1829	GSC-VMB-MCHS	\$11.96	MCHS Star Gripper Finger Bracket*		

*Note: see EMI website for dimensions of bracket

- These plastic bodied gripper fingers have a grip force comparable to the 20mm aluminum gripper fingers.
- Their lightweight and low-cost make them the ideal choice for multi-cavity EOATs, where multiple gripper fingers are needed. The silicone grip pads are replaceable and easy to install.
- While we don't recommend using them for large parts such as automobile bumpers, these gripper fingers are hard to beat when gripping smaller parts.



Pneumatic Tilt Unit for Small EOATs – OFN

- One-piece gripper body design.
- 90° actuation
- Single acting #7407 & 5320 & New Double acting tilt units #7451 & #7528.
- Single acting versions lift by compressed air, spring reset
- Double acting versions do not have a spring return.
- See Sensor Reference Guide on page 1006 for full list of compatible sensors.

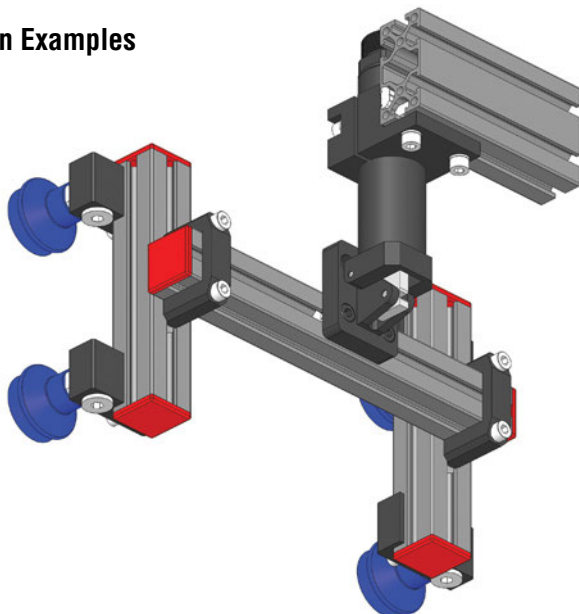


NEW

NEW

Quick#	7407	7528	5320	7451
Part#	OFN20-90	OFN20-90SD	OFN30-90	OFN30-90SD
Price	\$164.00	\$249.00	\$249.00	\$279.00
Function	Single Acting	Double Acting	Single Acting	Double Acting
Air port (thread size)	M5	M3 (see barb fitting suggestion on page 503)	M5	M5
Weight	75g	88g	210g	260g
Pressure range	36–116 psi	22–116 psi	36–116 psi	22–116 psi
Tilt angle	90°			
Lift torque at 87 psi (Mu)	6.19 in-lbf	7.08 in-lbf	26.5 in-lbf	26.5 in-lbf
Drop torque at 87 psi (Md)	1.32 in-lbf	3.54 in-lbf	2.65 in-lbf	13.3 in-lbf

Application Examples



Fittings Available on page 1043

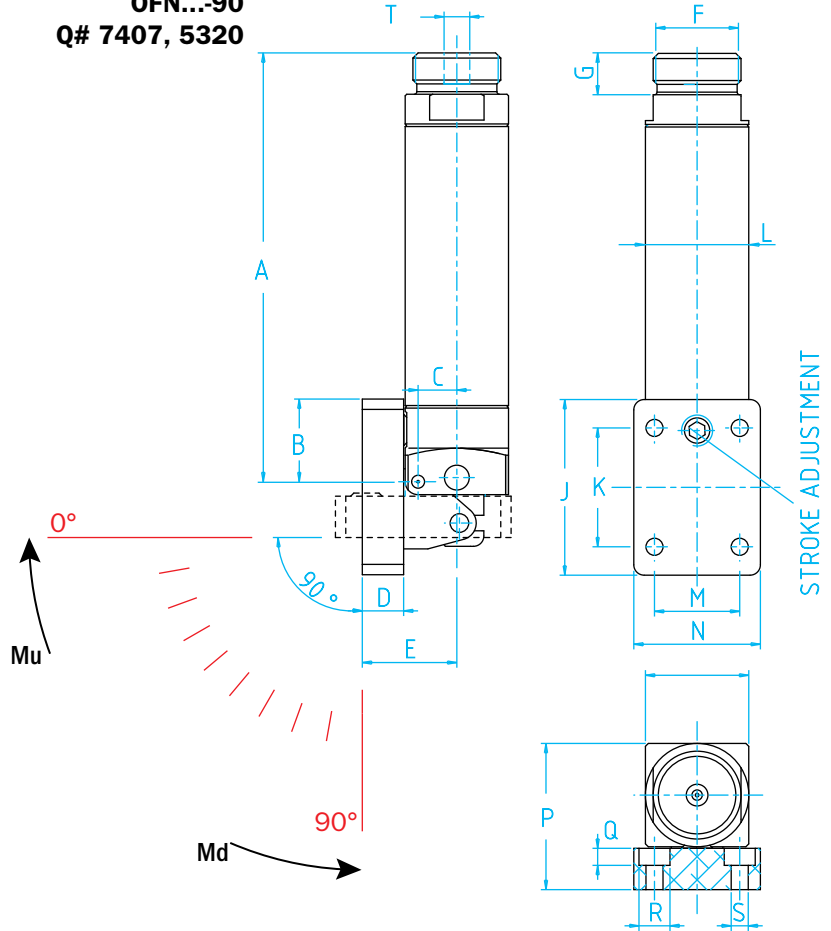


Pneumatic Tilt Unit – OFN

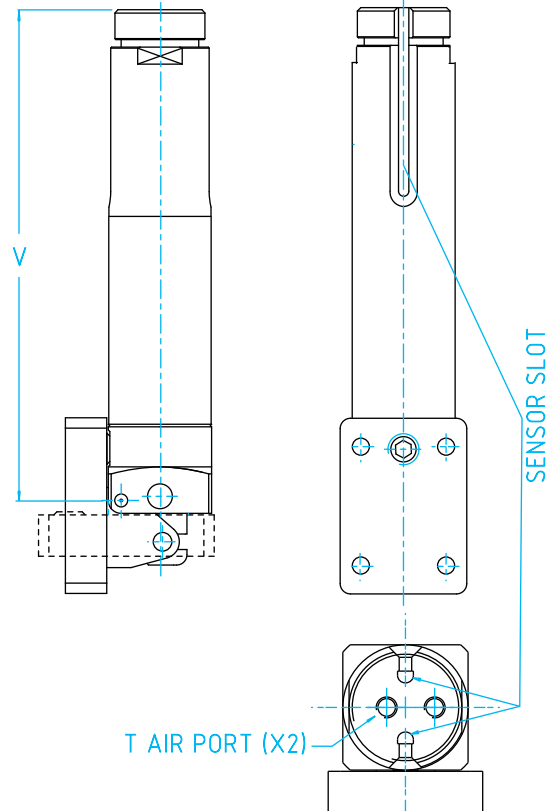


Optional sensor mounting bands for OFN grippers available. See page 529.

OFN...-90
Q# 7407, 5320



OFN...-90SD
Q# 7528, 7451

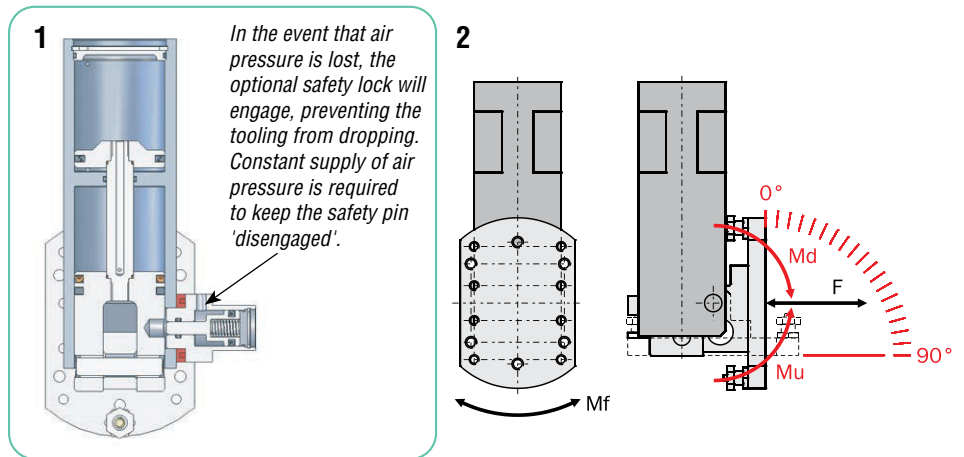


	7407	7528	5320	7451
A	83	-	119	-
B	16		18.5	
C	7.5		11	
D	8		10	
E	18.3		25.3	
F	M17x1		M27x1	
G	8		11	
J	34		46	
K	23		25	
L	20		30	
M	16.5		25	
N	24.5		37	
O	20		30	
P	28.3		40.3	
Q	3.3		5.3	
R	6		10	
S	3.3		5.3	
T	M5	M3	M5	M5
V	-	103.5	-	144

Note: The Q#7528 has two M3 air ports spaced close enough that push-to-connect fittings can not be used, use barbed fitting Quick# 256.

Pneumatic Tilt Unit – RBT

- Double acting.
- 90° actuation (2).
- Two rubber adjustable end strokes included.
- High lifting torque.
- Safety lock included with all except RBT30 (1).
- See Sensor Reference Guide on page 1006 for full list of compatible sensors.
- New flow regulator with 2 stages and buffer recommended for RBT units, available on page 1016.



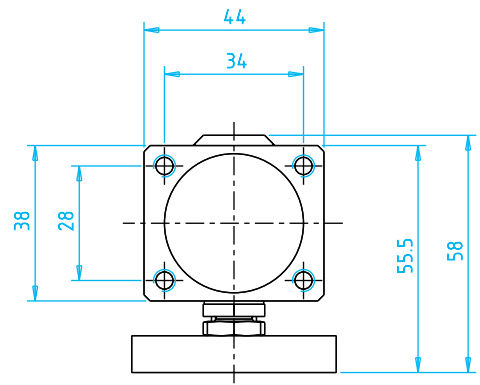
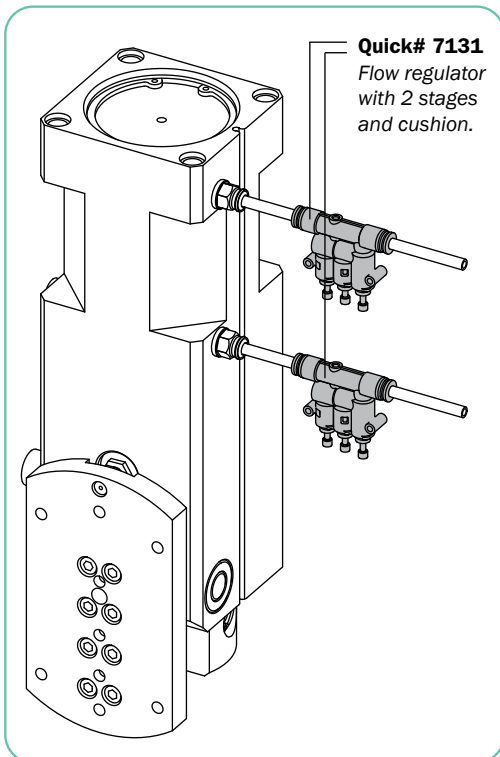
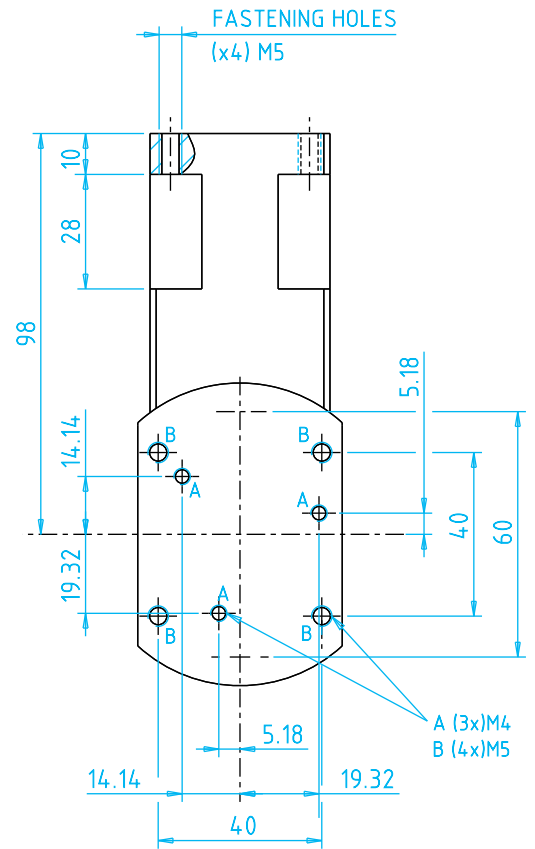
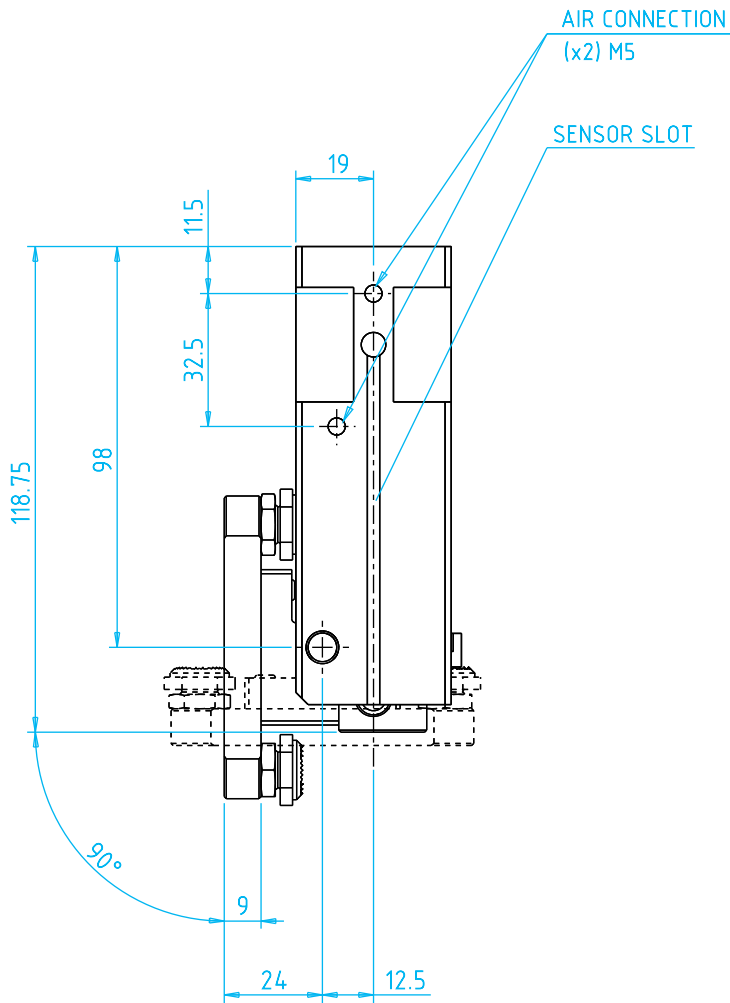
Quick#	6409	6398	6407	6408	6410
Part#	RBT30	RBT40	RBT50	RBT63	RBT80
Price	\$474.00	\$692.00	\$783.00	\$891.00	\$1,138.00
Weight	520g	1050g	1600g	2600g	6500g
Pressure range	36–116 psi				
Unlock pressure	-	> 50 psi			
Tilt angle	90°				
End stroke adjustment	±2°				
Lift torque at 87 psi (Mu)	>79 in-lbf	>212 in-lbf	>400 in-lbf	>700 in-lbf	>1540 in-lbf
Drop torque at 87 psi (Md)	>35 in-lbf	>97 in-lbf	> 194 in-lbf	> 371 in-lbf	>743 in-lbf
Allowed load (F)	11 lbf	22 lbf	45 lbf	67 lbf	134 lbf
Allowed movement (Mf)	>26 in-lbf	61 in-lbf	106 in-lbf	265 in-lbf	>442 in-lbf

Use Quick#s for easy online ordering.

Pneumatic Tilt Unit – RBT

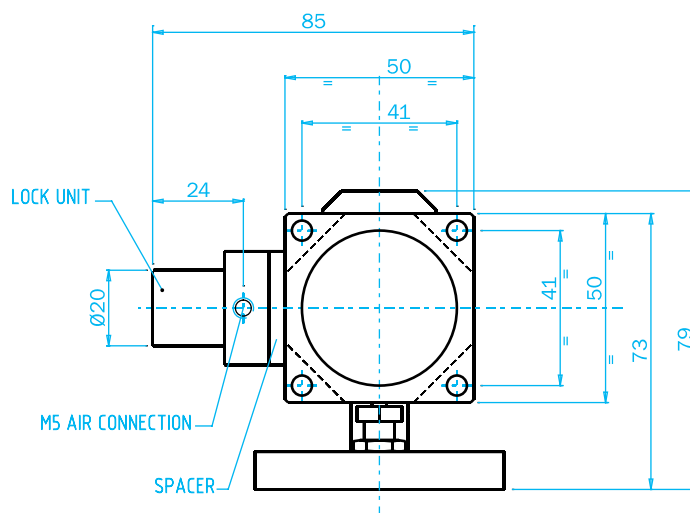
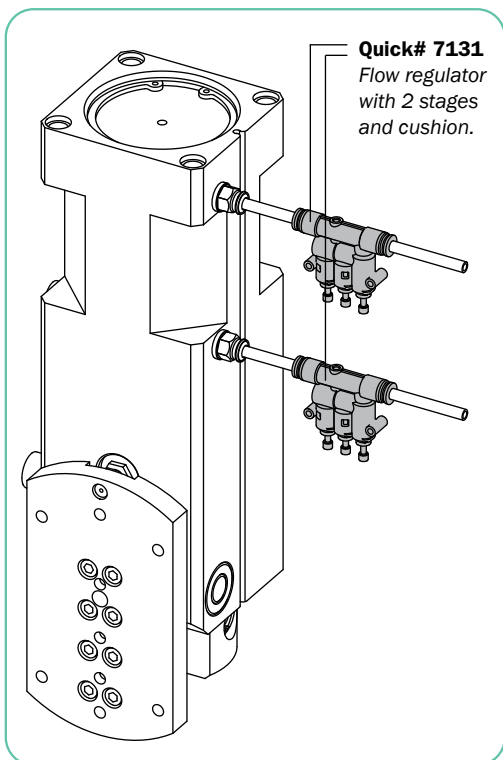
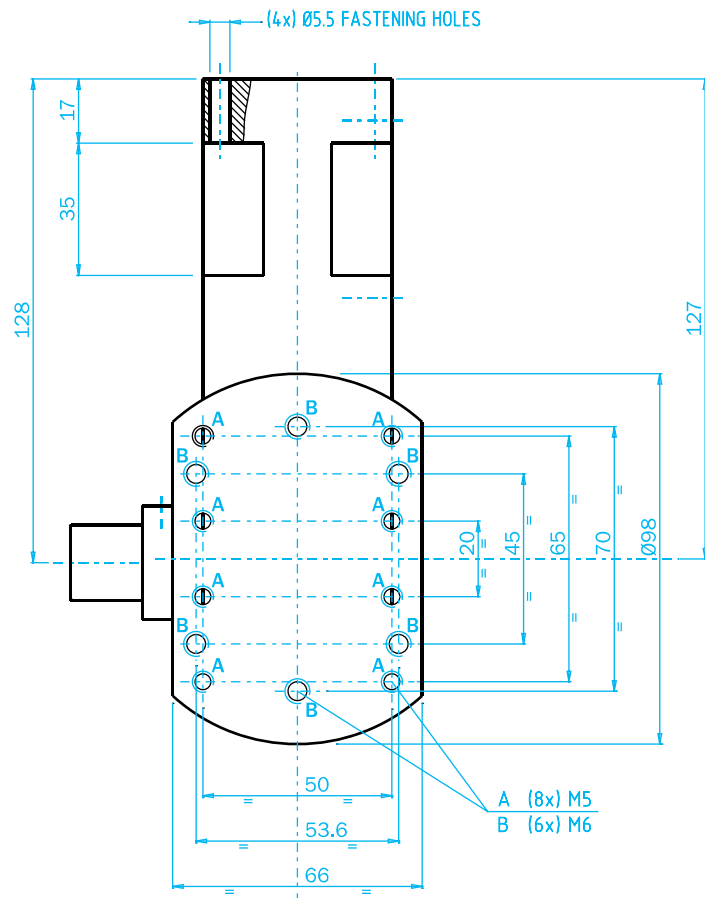
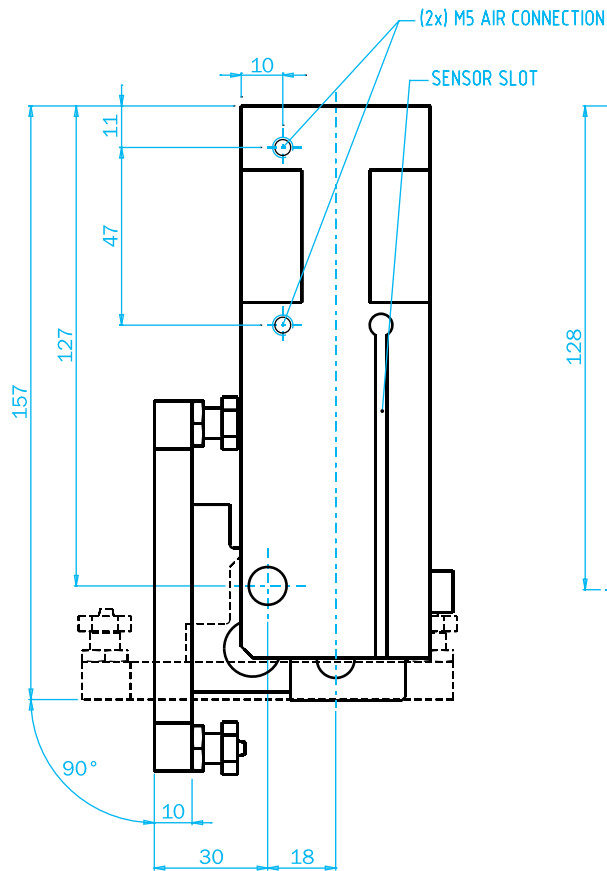
(Dimensioned drawings at 50% scale)

RBT-30, #6409



Pneumatic Tilt Unit – RBT

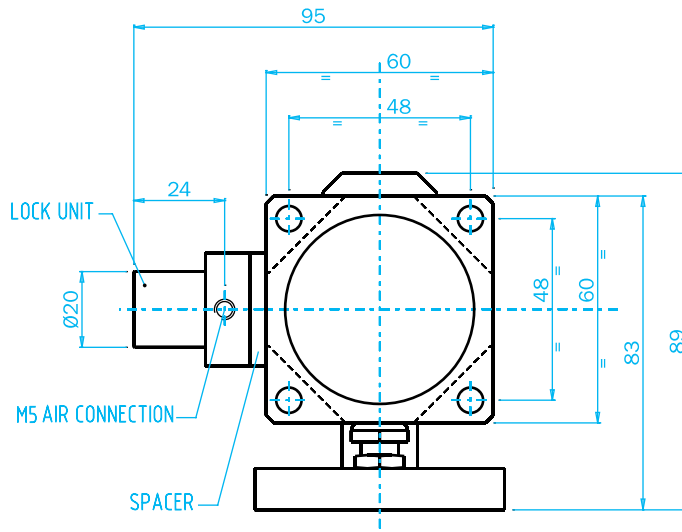
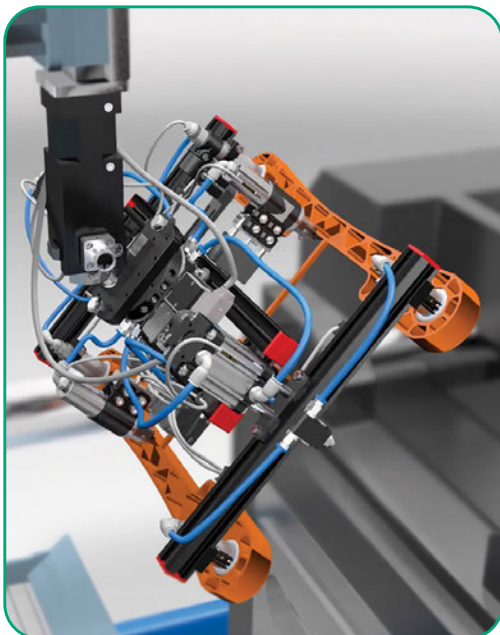
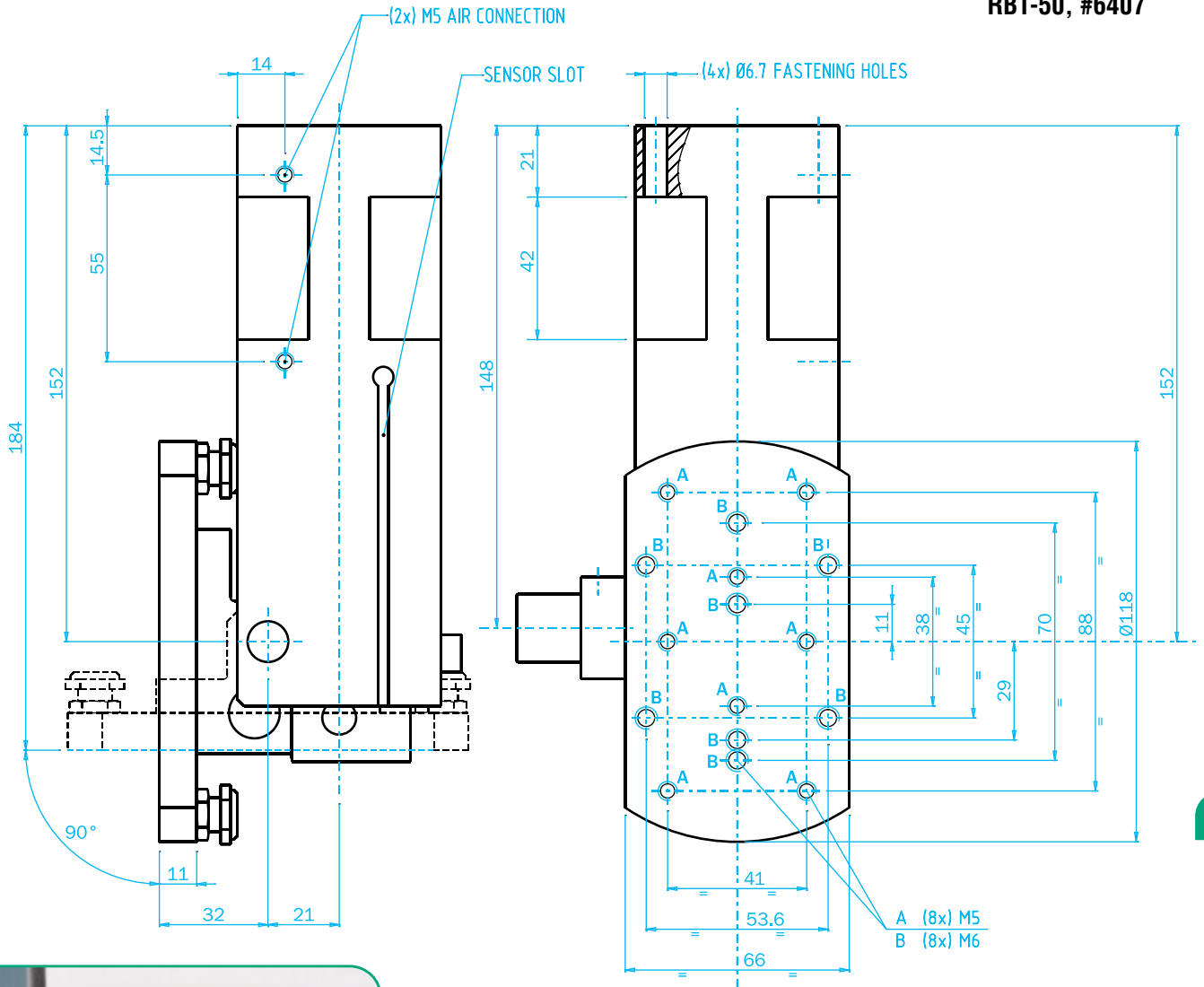
RBT-40, #6398



Pneumatic Tilt Unit – RBT

(Dimensioned drawings at 50% scale)

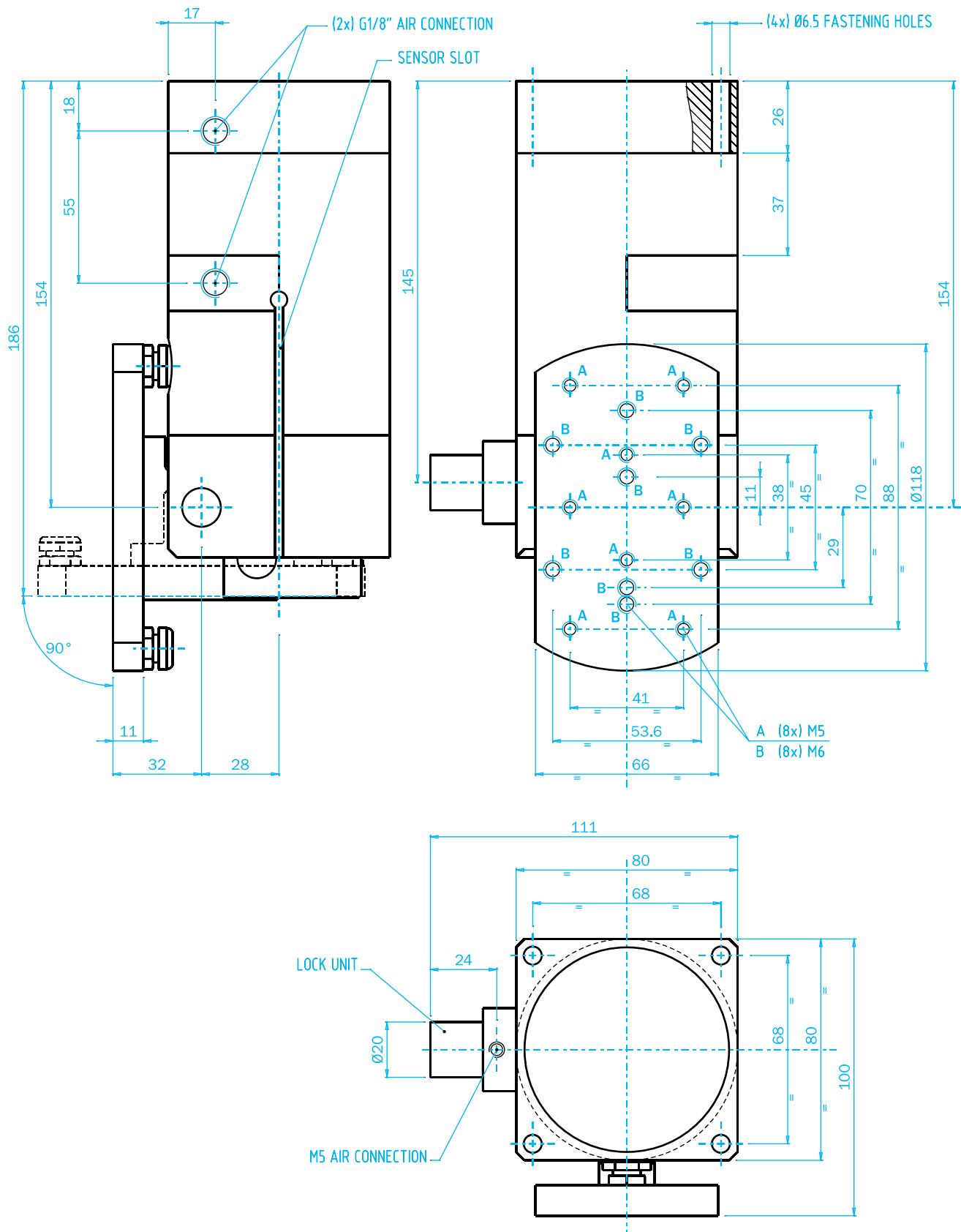
RBT-50, #6407



Pneumatic Tilt Unit – RBT

(Dimensioned drawings shown at 50%)

RBT-63, #6408



Pneumatic Tilt Unit – RBT

(Dimensioned drawings reduced to fit)

RBT-80, #6410

