

CATALOG
CR22

EMI[®]

EOAT FOR COBOTS

IN-STOCK & CUSTOM END OF ARM TOOLING

Quick Changers

Vacuum

Soft Grippers

Grippers

Machine Tending

Accessories

Custom Applications

Cobot Stands

Cobot Conveyors

EMIcorp.com

Pricing effective: 5/1/2022



Industrial End Effectors for Cobots

EMI's years of experience in automation applications prove that we can provide the perfect solution for a wide variety of industrial end effector and custom cobot gripper kit needs. Our engineers have outfitted a number of our industry-proven pneumatic and electric grippers to easily adapt to, and maximize the high repeatability of Cobots from Universal Robots, Doosan, Sawyer, Kuka, Fanuc, and other Industrial Robots.

Understanding the need for automation beyond the injection molding machine, EMI now offers a complete lineup of plug-and-play and custom Cobot solutions. Our engineers are continuously working with customers to improve their operations and researching new products that are applicable to your processes.

Many of the Gripper Kits require fingers or jaws that EMI engineers can help design based on years of expertise solving customer applications from simple to complex, machined, or 3D printed.

Need assistance with an industrial end effector or custom cobot gripper kit?

Email Cobots@EMICorp.com or call 216-535-4848 to get in touch with an experienced engineer.

Visit and subscribe to EMI's YouTube channel to watch the latest videos on our EOAT products!



www.youtube.com/EMICorpVideo

Quick Changers & Interface

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Vacuum Grippers for Cobots

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Soft & Specialty Grippers for Cobots

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Machine Tending

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Handling Grippers for Cobots

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Accessories for Cobots

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**Cobot Stands
Cobot Conveyors**

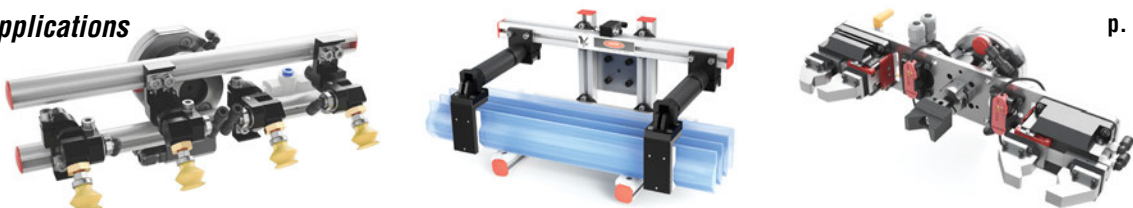
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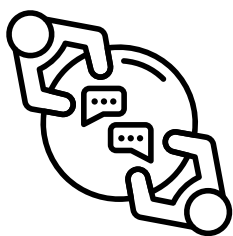
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Custom Applications

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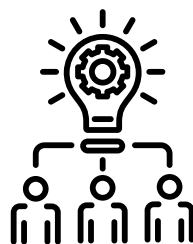




Customer-Focused Engineering

Lets talk EOAT!

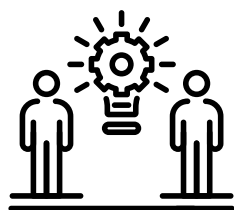
EOAT Engineers are available via phone, email, chat or video call. They will work with you on a degating test, vacuum cup recommendation, cobot kit demo, 3D printed fingers or your next multi-EOAT project set.



EOAT Experts

EMI does EOAT in a big way!

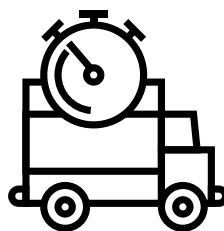
EMI's in-house Engineering department of 20 EOAT engineers is dedicated to supporting all your needs. No question is too small and no project has been too large.



Skilled Technicians

Professionally built EOAT!

You can choose to build the tooling yourself, or you can take advantage of EMI's EOAT Build Service. Get the benefit of a reliable, professionally built EOAT when you have EMI's experienced technicians assemble your tool.



Broad Range of EOAT

In-stock components ship same-day!

With a large in-stock EOAT inventory, you can purchase the pieces parts and use our CAD models to build it in-house. EMI Engineers will support you through the process. This is a great option for simple tools or tight deadlines.

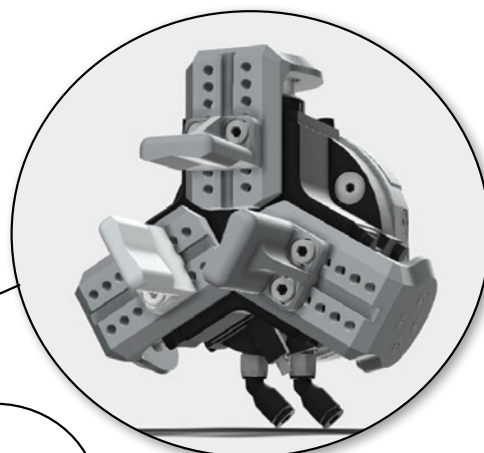
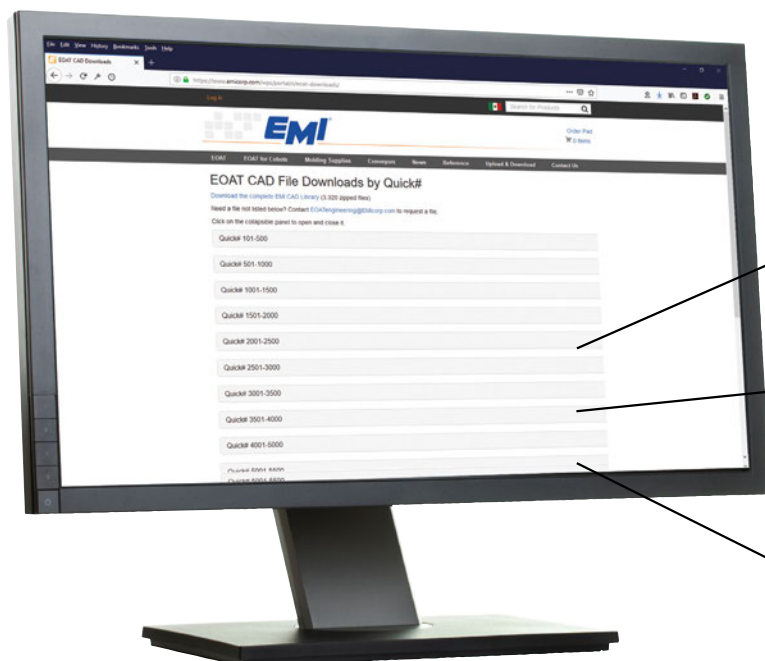
CAD File Downloads & 360° Views!

Building your own EOAT? Download the 3D CAD files you need to ensure an accurate design.

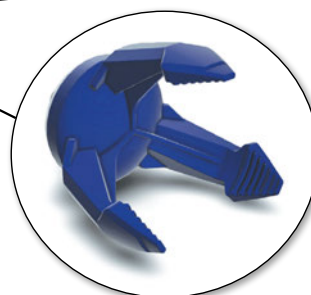
Our EOAT CAD Library has over 3,700 components and is updated daily. Download all or individual files, or preview them by Quick# with EMI's 360° Autodesk Viewer before downloading with no need to sign in.



Click here!



+3700!
Components



Need help with your EOAT Design? Contact Cobots@emicorp.com and one of our engineers will gladly help.

Scan QR Code and Add to Cart!

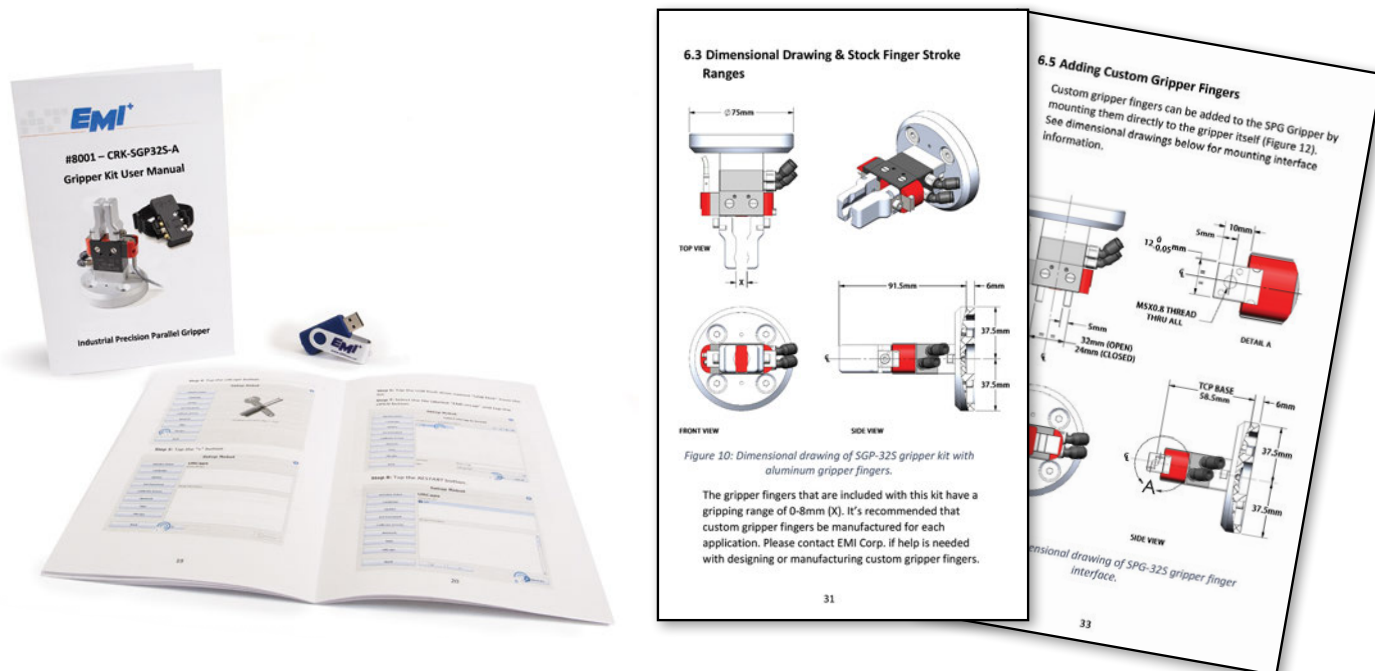
EMI's product packaging has QR codes for easy reordering or to check product information. Reference our Quick#s for easy online ordering.



EMI Gripper Kits

All EMI kits include a User Manual and the EMI Robot Plugin.

Information including diagrams, dimensions, installation instructions, a BOM, and other technical specifications are found in the User Manual supplied with each kit.



Our Gripper and Vacuum kits include everything you need!

Easy installation and programming! A USB Flash Drive includes our robot plugin, EMI Catalogs, and manuals. Our gripper kits were designed for ISO-9409-1-50-4-M6 mount pattern but EMI can supply a kit complete with interface plates, and quick changers for your Fanuc CRX, Sawyer, Doosan, Techman, or other robots.



Packaging of EMI Gripper Kits (Q#8001 shown above)

Easy Online Ordering!

Product Detail

8204 OnRobot 2FG7 Parallel Gripper for Cobots

OnRobot's 2FG7 is a complete, low-cost, off-the-shelf electric parallel gripper that can be deployed within minutes and requires no custom engineering for installation, programming, or maintenance. This strong parallel gripper is easy to deploy in tight spaces and handles demanding payload requirements.

Item #: OR 106376
\$4,201.00 Each

Quantity:

Add to Cart

Available: In Stock
 CAD File Download
 Datasheet
 360 Degree View
 Application Video

2FG7 Specifications:

Technical data	Min	Typical	Max
Payload force fit	-	-	7kg / 15.5lbs
Payload form fit	-	-	11kg / 24.3lbs
Total stroke (adjustable)	-	38mm / 1.49in	-
OD Grip Range with stock fingers	1mm	-	73mm
ID Grip Range with stock fingers	11mm	-	63mm
Repetition accuracy	-	0.1mm / 0.004in	-
Gripping force*	20N	-	140N
Gripping force tolerance	-	-	+/- 5% N
Gripping speed**	16mm/second	-	450mm/second
Gripping time (including brake activation)***	-	200ms	-
Storage temperature	0°C / 32°F	-	60°C / 140°F

*The required current is 2000 mA, less current will result in less gripping force. See the Force vs Current Graph.
 **Relatively from the gripping object (both arms).
 ***At 4 mm stroke and 80 N. The typical value is 300 ms at 40 mm and 80 N.

Operating Conditions

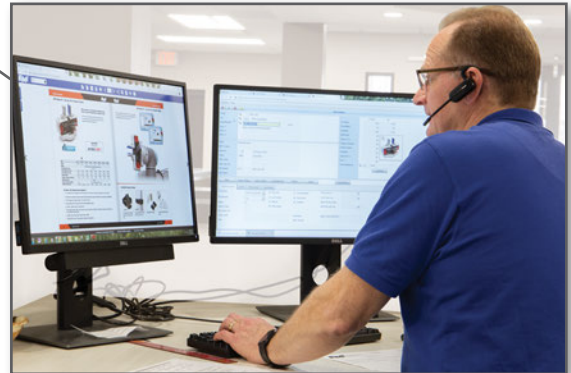
	Min	Typical	Max
Power supply	20V	24V	25V
Current consumption	-	-	2000mA*
Operating temperature	5°C / 41°F	-	50°C / 122°F
Calculated MTBF (operating life)	30,000 hours	-	-

* Automatically adapts to the current requirements when UR CB3 tool connector is used (600mA).

Related Items

- 8297 OnRobot 2-Finger Parallel Gripper 2FG7 S-Bellow Kit Set of 2 Bellsows
Item #: OR 106576
\$72.00 Each
Qty:
Add to Cart
- 8295 OnRobot 2-Finger Parallel Gripper 2FG7 Spare Finger Kit Includes Hardware
Item #: OR 106553
\$186.00 Each
Qty:
Add to Cart
- 8294 OnRobot 2-Finger Parallel Gripper 2FG7 Spare Finger Sleeve Kit Set of 4 Sleeves
Item #: OR 106559
\$72.00 Each
Qty:
Add to Cart
- 8222 OnRobot Dual Quick Changer for Cobots
Item #: OR 101788
\$2,523.00 Each
Qty:
Add to Cart

Questions? Try Our Live Chat!



Application Examples



Related Items / Replacement Parts

Product Detail

8295 OnRobot 2-Finger Parallel Gripper 2FG7 Spare Finger Kit Includes Hardware

Item #: OR 106553
\$186.00 Each

Quantity:

Add to Cart

Available: In Stock

Related Items

- 8204 OnRobot 2FG7 Parallel Gripper for Cobots
Item #: OR 106376
\$4,201.00 Each
Qty:
Add to Cart
- 8296 OnRobot 2-Finger Parallel Gripper 2FG7 Spare Finger Sleeve Kit Set of 4 Sleeves
Item #: OR 106559
\$72.00 Each
Qty:
Add to Cart

Easy online ordering!

- Track Orders
- Create Supply Lists
- Order from History
- Export Purchase Orders



Quick Changers and Interfaces for Cobots Overview

Quick Changer Advantages

- **Precision** Quick changers assure that the EOAT will be perfectly positioned each time it is mounted to the cobot. In addition to helping to prevent damage to the mold or the EOAT, this can also greatly reduce the amount of fine-tuning needed upon set up.
- **Efficiency** Quick Changers quickly and automatically make all pneumatic and electrical connections when both halves are locked into place. This can be especially time saving when an EOAT has multiple air, vacuum, or electrical connections and also ensures a repeatable installation.
- **Standardization** Uniform dedication of air and vacuum ports on all quick change applications throughout the plant allow EOAT to be mounted quickly wherever it is needed.

**Manual Quick Changer
QC75**

p.8



**Automatic Quick Changer
EQC05**

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**Automatic Quick Changer
EQC20**

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OnRobot Quick Changer

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**OnRobot Dual Quick
Changer**

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**OnRobot Hex-E Quick
Changer, Force/Torque Sensor**

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Wingman Quick Changer

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Interface Plate

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**Quick Changer Interface
Plate**

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**Gimatic Electric Gripper
Interface Plate**

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Mono Clamp

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90° Angle Offset Bracket

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Manual Quick Changer for Collaborative Robots – QC75



#8094
EOAT-Side



#8093
Robot-Side

- **Suggested payload: 22 lb (10 kg)**
- Handles both pneumatic and electrical end effectors.
- Four integrated G1/8" pneumatic pass-through ports for streamlined pneumatic routing.
- Locked position sensing available.
- Optional electrical connector provides 16 screw terminals for streamlined wiring. See page 170 for equipment to assist in wiring.
- Cobot industry standard ISO-9409-1-50-4-M6 mounting pattern.

*The Quick Changer standard
for collaborative robots!*

TMPlug&Play
CERTIFIED

Quick#	Part#	Description	Weight	Price
8093	QC75-A	Robot-Side - For Cobots (75mm)	300g	\$402.00
8094	QC75-B	EOAT-Side - For Cobots (75mm)	260g	\$256.00
8095	CMAQC	Robot-Side Electrical Connector	18g	\$36.87
8096	CMBQC	EOAT-Side Electrical Connector	18.5g	\$86.89
8097	CSAQC	Robot-Side Locked Position Sensor Only	15g	\$30.77

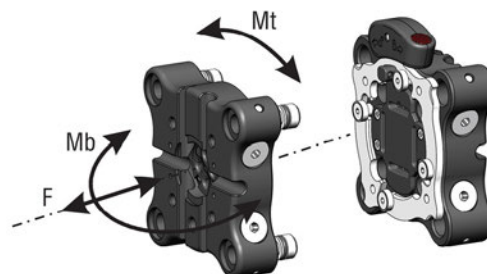
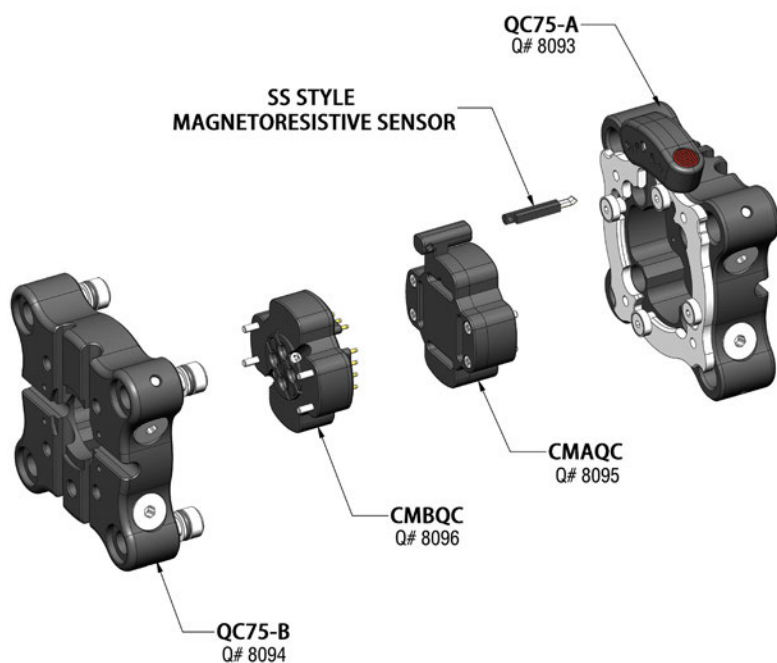


Designed for collaborative robots, the QC75 is a manual quick changer that allows for pneumatic and electrical connections to be easily coupled between jobs. Standardize up to 16 electrical contacts and 4 pneumatic lines to have your cobot up and running with minimal downtime.



With the same mounting pattern as the tool flange of your cobot (ISO-9409-1-50-4-M6), you can mount any "Plug & Play" end effector to the QC75-B for a quick and repeatable installation for every job. End effectors can be hard-wired to the QC75-B, or plugged to the wrist connector of your Cobot for even faster setup times.

Manual Quick Changer for Collaborative Robots – QC75

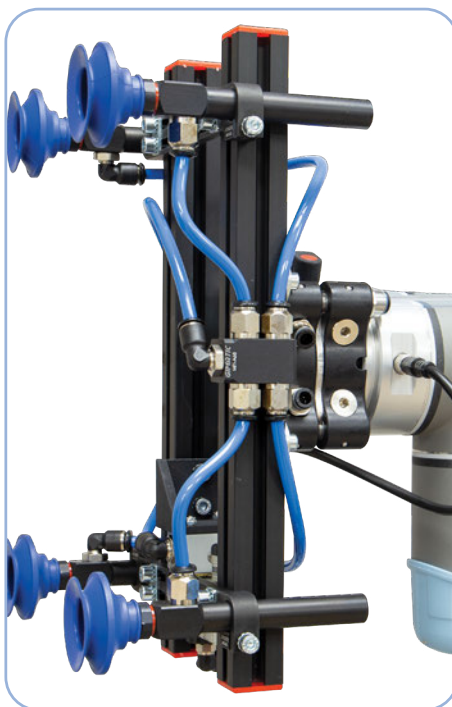


Specifications for Quick Changer QC75		
Weight	Robot-Side	300g
	EOAT-Side	260g
Max. Suggested Payload		22 lb (10 kg)
Maximum Air Pressure		6 bar (87psi)
Air Ports		(4X) G1/8"
Electrical Connector		Optional
Safety Loads:		
F 224 lbs.	Mt 73 ft-lbs.	Mb 36 ft-lbs.

F= Axial Load Limit Mt= Torque Moment Limit
Mb= Bending Moment Limit

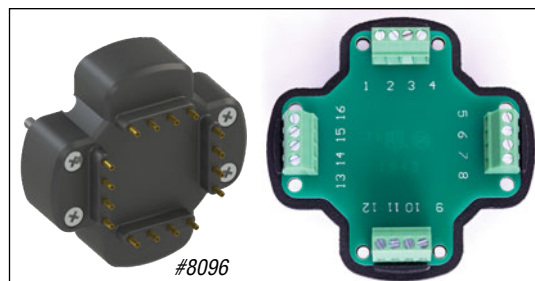
QC75 is a Manual Quick Changer, Ideal for Plug & Play or Custom EOAT

The QC75 was designed for collaborative robots, incorporating configurable electrical connections, innovative pneumatic pass-through ports and locked position confirmation.

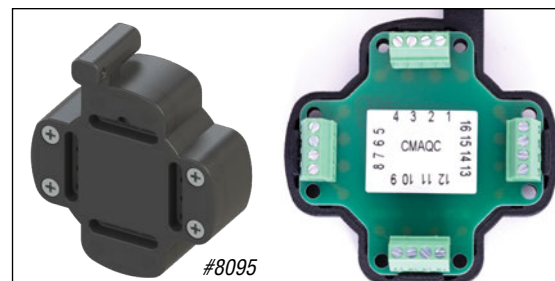


Manual Quick Changer for Collaborative Robots – QC75

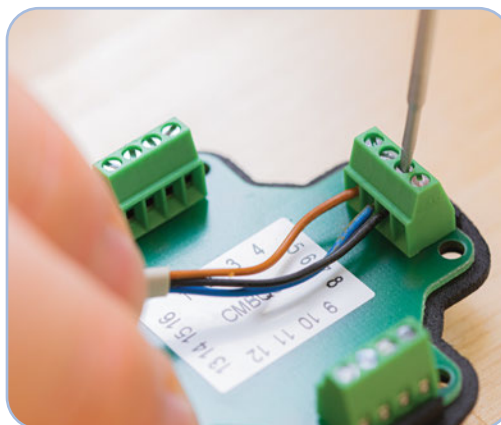
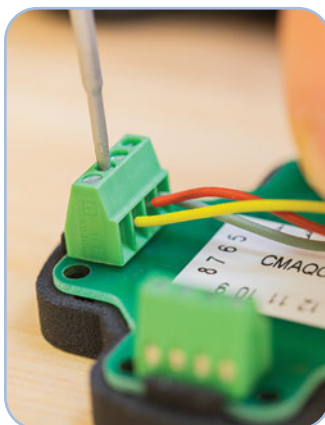
EOAT-Side:



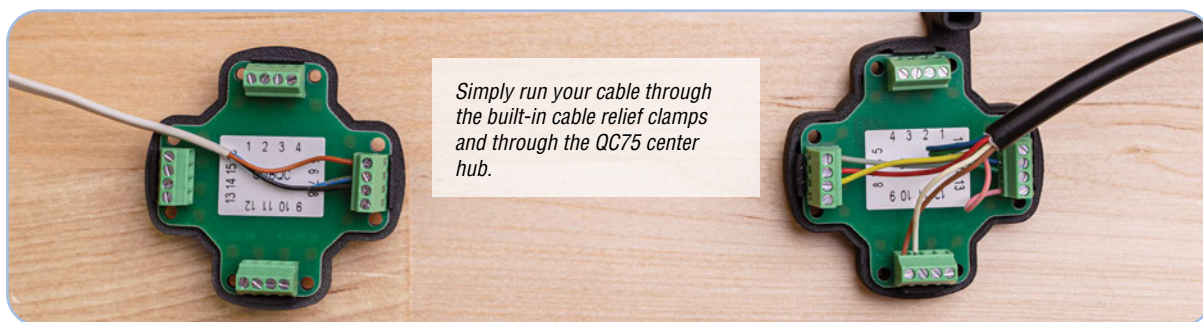
Robot-Side:



QC75 Electrical Connectors make for easy custom wiring of your tool to either your robot wrist I/O or to the controller.



(16x) Screw terminals allow you to standardize on tools with a single sensor or various electric grippers or valves.



Simply run your cable through the built-in cable relief clamps and through the QC75 center hub.

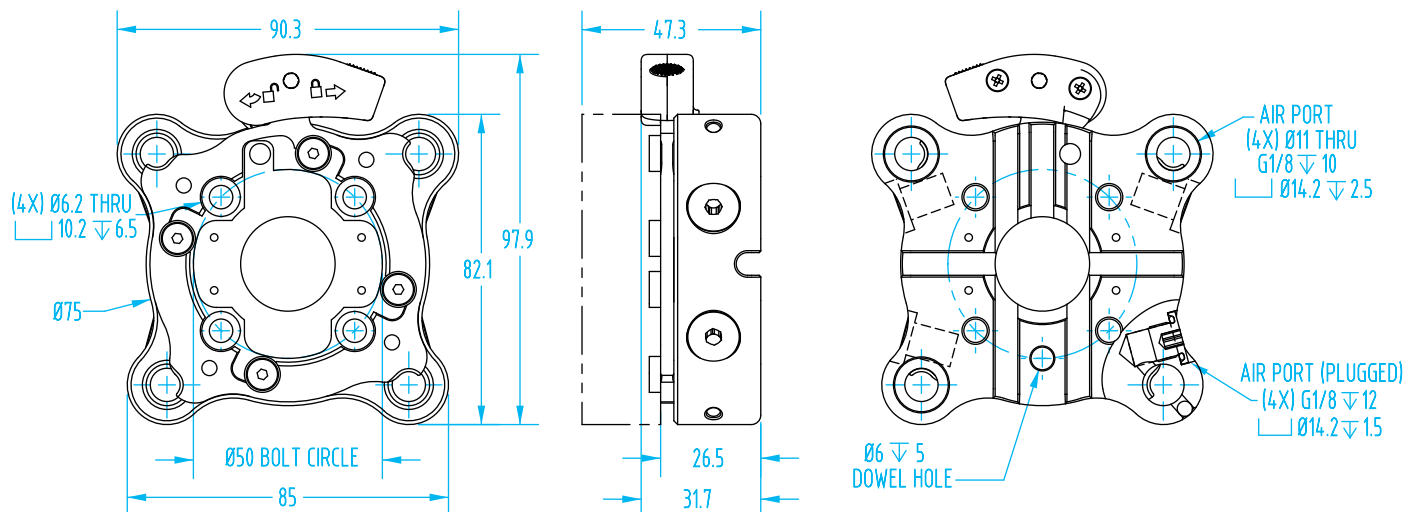


Replace the Electrical Connector back into the QC75 and fasten with same hardware. Note that cables are meant to run down the backside grooves of the QC75 to avoid any cables from pinching.

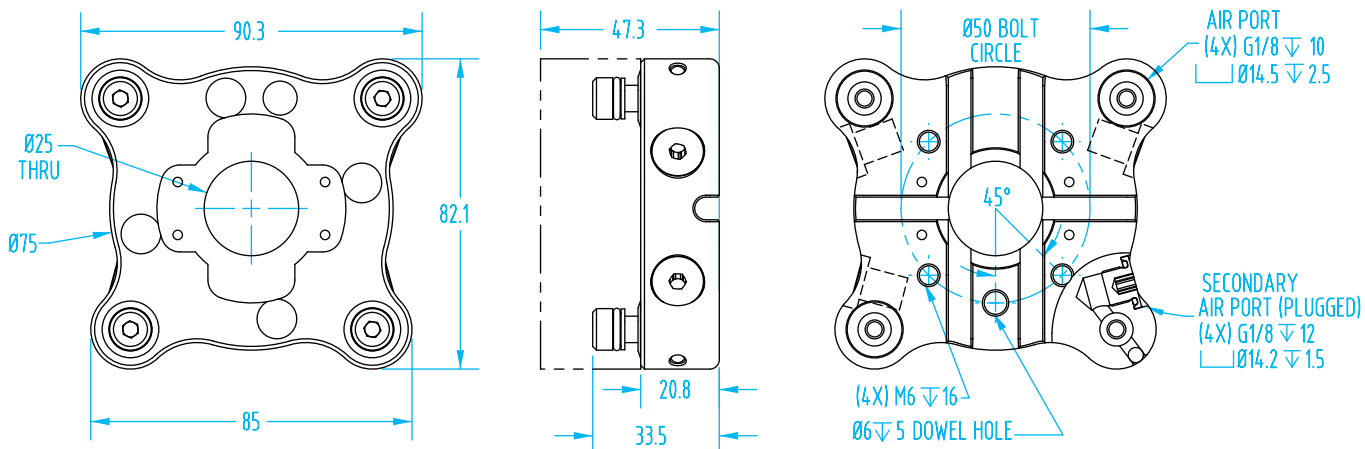
Manual Quick Changer for Collaborative Robots – QC75

(Dimensioned drawings shown half scale)

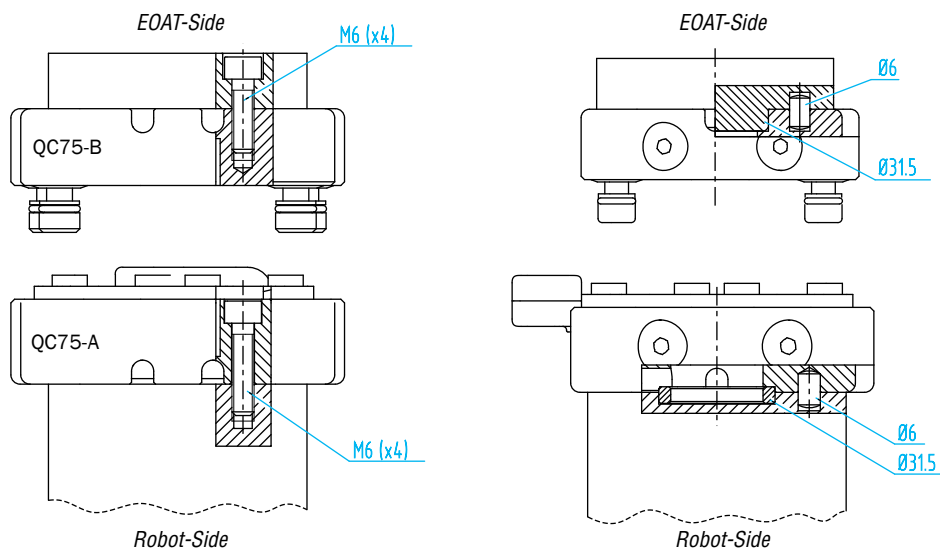
Robot-Side



EOAT-Side



Mounting:



Industry-Standard Manual Quick Changers



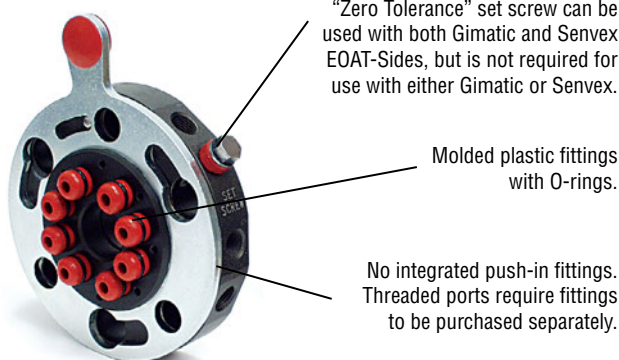
Shop Quick Changers!



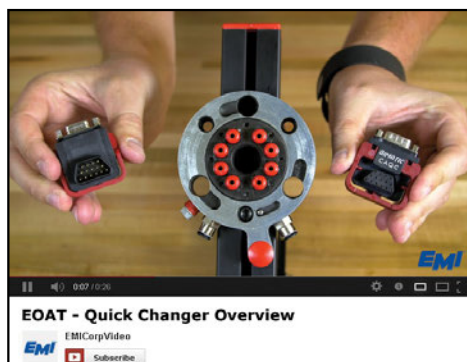
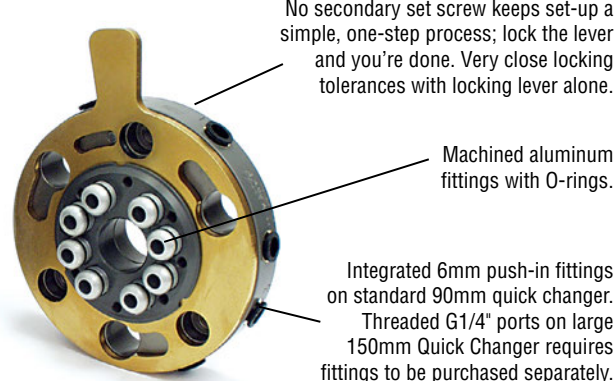
Quick changers shown are available in multiple sizes. Refer to our EOAT catalog for compatibility.

The Senvex/WGS, Gimatic, and >ASS< Manual Quick Changers are industry proven for use on robots tending to injection molding machines. From 50 – 3500 tons, EMI has the right sized QC to suit the size range of EOATs anticipated for use with your machines.

Gimatic Robot-Side

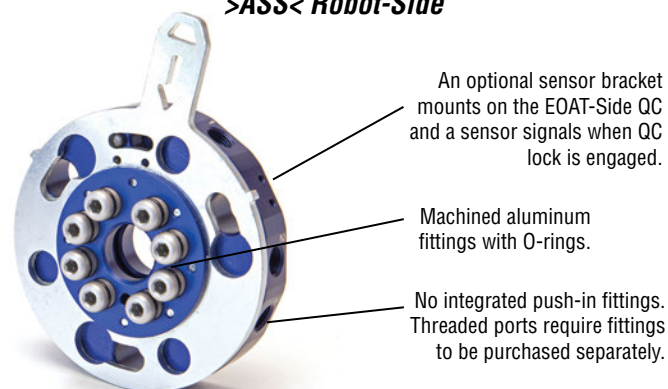


Senvex/WGS Robot-Side



View our Quick Changer Overview!
www.youtube.com/emiacorpvideo

>ASS< Robot-Side



Quick Changer for Collaborative Robots



The Gimatic QC50 is the smallest quick changer available. Shown here with a SX2520 Gripper (left) and a dual-MGX Gripper EOAT (right). Both were adapted to mount to a Fanuc Collaborative Robot. All kits can be outfitted with a quick changer upon request!



EQC is an Electrically-Powered Automatic Quick Changer, Compatible with a Wide Range of Grippers

The first of its kind to offer a quick disconnect solution that's electrically-actuated and lightweight, this is the best tool changer for quick, hands- and hassle-free changing of tools on your cobot. Built-in pneumatic pass-through ports and optional electrical connectors provide the flexibility required for your EOAT applications.



Automatic Quick Changer for Cobots – EQC20

The EQC20 is designed to provide a hands- and hassle-free quick-change tool system, automated using resources readily available from your collaborative robot.

Numerous model configurations allow for convenient control through the robot wrist I/O or controller, while various available interface plates make for simplified mechanical mounting to the robot flange. Pneumatic pass-through ports are built-in and optional electrical connectors can be positioned in the central thru-hole for a collaborative compliant execution.

- **Suggested payload: 44 lbs (20kg)**
- Six Integrated Ø6mm pneumatic pass-through ports.
- Position confirmation sensing.
- Optional electrical connectors to be positioned in the central through hole. See page 170 for equipment to assist in wiring.
- Separate adapter plates available for ISO 9409-1-50-4-M6 and 9409-1-63-4-M6 interfaces, see page 18.
- Optional docking pins for storage, see page 21.



#8098 – Robot-Side Electric Quick Changer with Female M8 8-pin Connector (configured for UR & CRX)

Try It Risk Free!

*Contact us for details

TMPlug&Play
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#8151 – EOAT-Side Electric Quick Changer

Quick#	Part#	Description	Weight	Price
8098	EQC20U-A	Robot-Side, Female M8 8-Pin Connector - For UR & Fanuc CRX	810g	\$1,552.00
8150	EQC20-A	Robot-Side, Male M8 8-Pin Connector, PNP	810g	\$1,481.00
8156	EQC20N-A	Robot-Side, Male M8 8-Pin Connector, NPN	810g	\$1,661.00
8155	EQC20TM-A	Robot-Side, Male M8 8-Pin Connector - For TM Robots	810g	\$1,661.00
8151	EQC20-B	EOAT-Side	210g	\$215.00

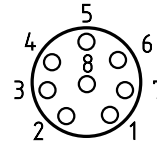
Use Quick#s for easy online ordering.



Automatic Quick Changer for Cobots – EQC20

Electrical Operation Cable

The electrical quick changer is equipped with an M8 8-pin connector for interfacing directly with your power supply and digital controller. This powers the mechanism, provides input control for locking/unlocking the mechanism, and feedback outputs for monitoring position of the mechanism. No additional external electronic control system is required. Various pin-out and plug configurations are available to fit your specific robot, please see our website for more details or contact EMI.



- 1 - White: N/C
- 2 - Brown: N/C
- 3 - Green: Out Closed (PNP)
- 4 - Yellow: Out Opened (PNP)
- 5 - Grey: 24V DC
- 6 - Pink: Open / Close (PNP)
- 7 - Blue: N/C
- 8 - Red: GND

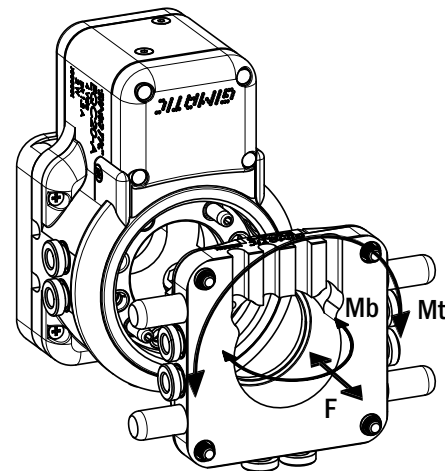
**Note: Q#8150 Pinout shown. Varies by model.*

Safety loads

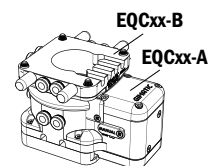
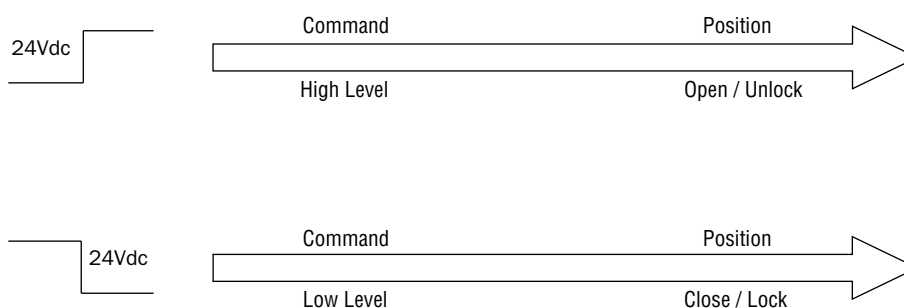
Check the table for the maximum loads allowed. Excessive forces or torques can damage the system, cause operation problems and endanger the safety of the operator.

Specifications for Quick Changer EQC20		
Weight	Robot-Side	810g
	EOAT-Side	210g
Suggested Max. Payload		44 lbs (20 kg)
Maximum Air Pressure		6 bar (87psi)
Air Ports		(6x) Ø6mm
Electrical Connector		Optional
Safety Loads:		
F 449 lbs.	Mt 110 ft-lbs.	Mb 73 ft-lbs.

F= Axial Load Limit Mt= Torque Moment Limit
Mb= Bending Moment Limit



Technical Specifications



	EQC20
Electrical connection	M8, 8-pole
Power supply	24 Vdc $\pm 10\%$ 0.5 Arms, 1.2 Apk
PNP digital inputs	Low: coupling command High: uncoupling command
Output initialization delay	200 ms

Automatic Quick Changer for Cobots – EQC20

**Electrically Controlled,
Cobot Ready!**

Electrical Connectors

Quick#	Part#	Description	Weight	Price
7600	RMAQC	Robot-Side Electrical Connector with free leads, 32 Connections	70g	\$134.00
7601	RMBQC	EOAT-Side Electrical Connector with free leads, 32 Connections	70g	\$220.00
7703	RMAQC-UR	8-Pin Robot-Side Electrical Connector for direct connection to UR	46g	\$134.00
7711	RMBQC-UR	8-Pin EOAT-Side Electrical Connector for direct connection to UR	51g	\$220.00
7732	RMAQC-TM	8-Pin Robot-Side Electrical Connector for direct connection to TM	46g	\$134.00
7733	RMBQC-TM	8-Pin EOAT-Side Electrical Connector for direct connection to TM	51g	\$220.00
7602	RRAQCN	Robot-Side Electrical Connector, 16 Connections + RFID, NPN	75g	\$442.00
7603	RRAQC	Robot-Side Electrical Connector, 16 Connections + RFID, PNP	75g	\$442.00
7604	RRBQC	EOAT-Side Electrical Connector, 16 Connections + RFID	45g	\$159.00

**Dimensional drawings and more info online.*



Watch EMI's EQC Electrical Connector Video!

Field Wireable M12 Connectors with Screw Terminals

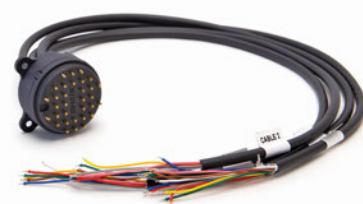
Quick#	Part#	Connection	Description	Price
7684	CFGM1200800	Straight	8-Pin Female M12 Connector	\$19.76
7685	CMGM1200800	Straight	8-Pin Male M12 Connector	\$19.76
7686	CMGM1290800	90°	8-Pin Male M12 Connector	\$32.00

- Use these field wireable M12, 8-Pin connectors to extend cables from a quick changer and build custom wire harnesses.
- See pages 170 and 171 for pin diagrams and more information.

Interface Cables

Quick#	Part#	Connection	Description	Price
2581	GSE-RCS-8FS-5000	Straight	8-Pin Female M8 Connector, 5m long	\$26.75
2580	GSE-RCS-8MS-5000	Straight	8-Pin Male M8 Connector, 5m long	\$40.35
7683	CFGM1200850P	Straight	8-Pin Female M12 Connector, 5m long	\$40.56

- See pages 170 and 171 for pin diagrams and more information.



#7601



#7600



#7711



#7703



#7684

#7686



#2581

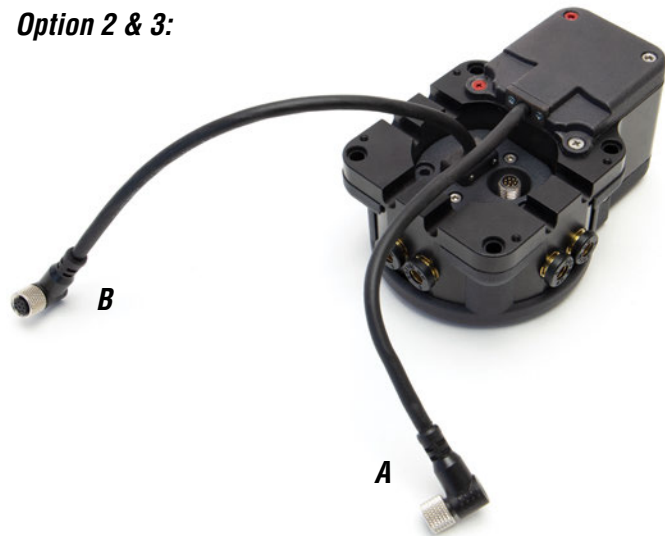
Automatic Quick Changer for Cobots – EQC20

Instructions for wiring to UR using Q#7703 & #7711

Option 1:



Option 2 & 3:



Option 1: Single connection to the wrist

This solution is based on a single cable connected to the wrist that powers both the quick changer and the tool.

Connect the EQC20U-A M8 female connector to the M8 male connector of the RMAQC-UR. Connect the RMAQC-UR M8 female connector to the M8 male connector on the robot flange.

UR Wrist	EQC20U-A	RMBQC-UR
AI2	/	AI2 (White wire - pin 1)
AI3	/	AI3 (Brown wire - pin 2)
DI0	Out closed PNP	/
DI1	Out open PNP	/
PWR	+24Vdc	PWR (Grey wire - pin 5)
D01	EQC command NPN	/
D08	/	D08 (Blue wire - pin 7)
GND	GND	GND (Red wire - pin 8)

Option 2: EQC connector (A) to electric panel, RMA connector (B) to the wrist

This solution connects all the 8 pins of the wrist directly to the B-side of the quick changer, allowing the tools to have access to all wrist connections.

Connect the RMAQC-UR M8 female connector to the M8 male connector on the robot flange. Connect the EQC20U-A M8 female connector to the Controller Box I/O in the robot cabinet, taking into account the pinout to the right:

M8 female	EQC20U-A
White wire - pin 1	/
Brown wire - pin 2	/
Green wire - pin 3	Out closed PNP
Yellow wire - pin 4	Out open PNP
Grey wire - pin 5	+24Vdc
Pink wire - pin 6	EQC command NPN
Blue wire - pin 7	/
Red wire - pin 8	GND

UR Wrist	RMBQC-UR
AI2	AI2 (White wire - pin 1)
AI3	AI3 (Brown wire - pin 2)
DI0	DI0 (Green wire - pin 3)
DI1	DI1 (Yellow wire - pin 4)
PWR	PWR (Grey wire - pin 5)
D01	D01 (Pink wire - pin 6)
D08	D08 (Blue wire - pin 7)
GND	GND (Red wire - pin 8)

Option 3: RMA connector (B) to electric panel, EQC connector (A) to the wrist

This solution allows the quick changer to be powered from the robot wrist and the tool to be connected to the I/O of the cabinet.

Connect the EQC20U-A M8 female connector to the M8 male connector on the robot flange. Connect the RMAQC-UR M8 female connector to the Controller Box I/O in the robot cabinet, taking into account the pinout to the right:

UR Wrist	EQC20U-A
AI2	/
AI3	/
DI0	Out closed PNP
DI1	Out open PNP
PWR	+24Vdc
D01	EQC command NPN
D08	/
GND	GND

RMAQC-UR M8	RMBQC-UR M8
White wire - pin 1	White wire - pin 1
Brown wire - pin 2	Brown wire - pin 2
Green wire - pin 3	Green wire - pin 3
Yellow wire - pin 4	Yellow wire - pin 4
Grey wire - pin 5	Grey wire - pin 5
Pink wire - pin 6	Pink wire - pin 6
Blue wire - pin 7	Blue wire - pin 7
Red wire - pin 8	Red wire - pin 8

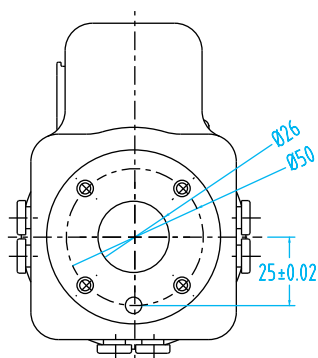
Automatic Quick Changer for Cobots – EQC20

Robot-Side Interface Plates

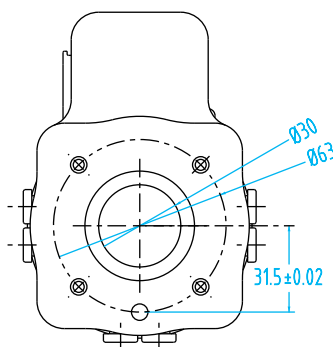
(Dimensioned drawings reduced to fit)



Q#8153 EQC20-K50
ISO 9409-1-50-4-M6

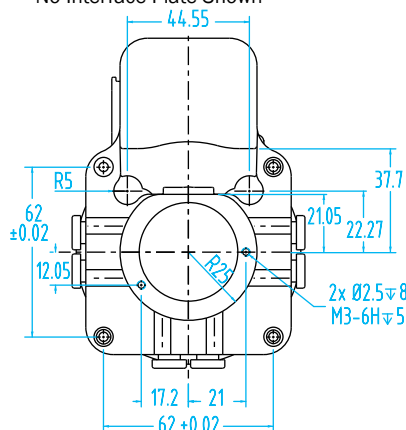


Q#8154 EQC20-K63
ISO 9409-1-63-4-M6



Robot Side EQC20

No Interface Plate Shown



Robot-Side Interface Plates

Quick#	Part#	Description	Weight	Price
8153	EQC20-K50	with ISO 9409-1-50-4-M6 interface	120g	\$80.42
8154	EQC20-K63	with ISO 9409-1-63-4-M6 interface	120g	\$73.73

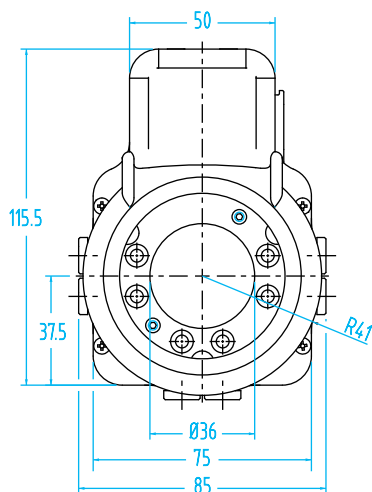
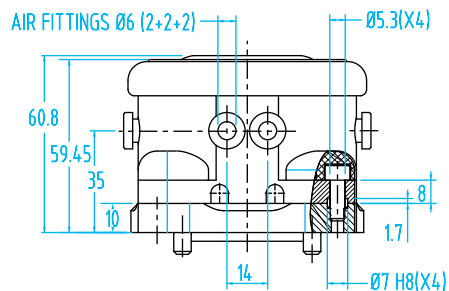


Watch EMI's EQC Quick Changer Video!

Automatic Quick Changer for Cobots – EQC20

(Dimensioned drawings reduced to fit)

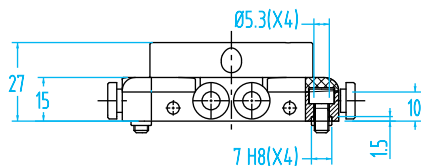
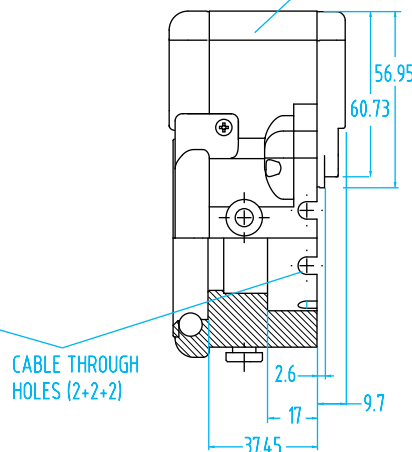
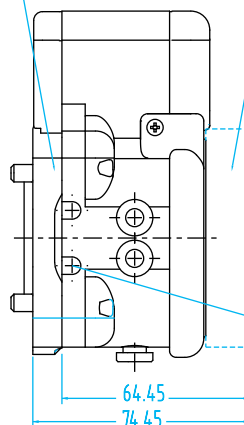
Robot-Sides, #8098, #8150, #8155, #8156



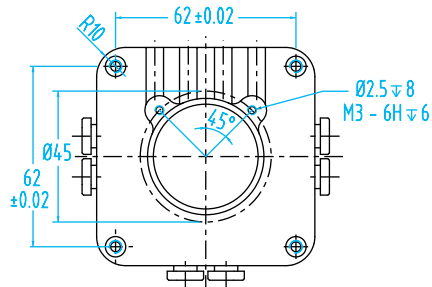
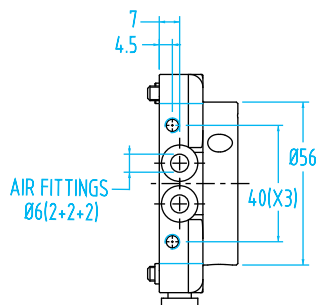
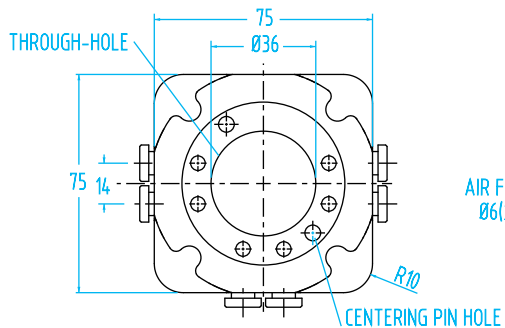
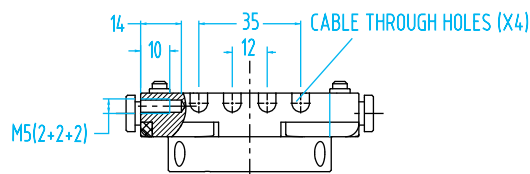
Q#8154, EQC20-K63

Q#8151, EQC20-B

Without interface plate



EOAT Side, #8151



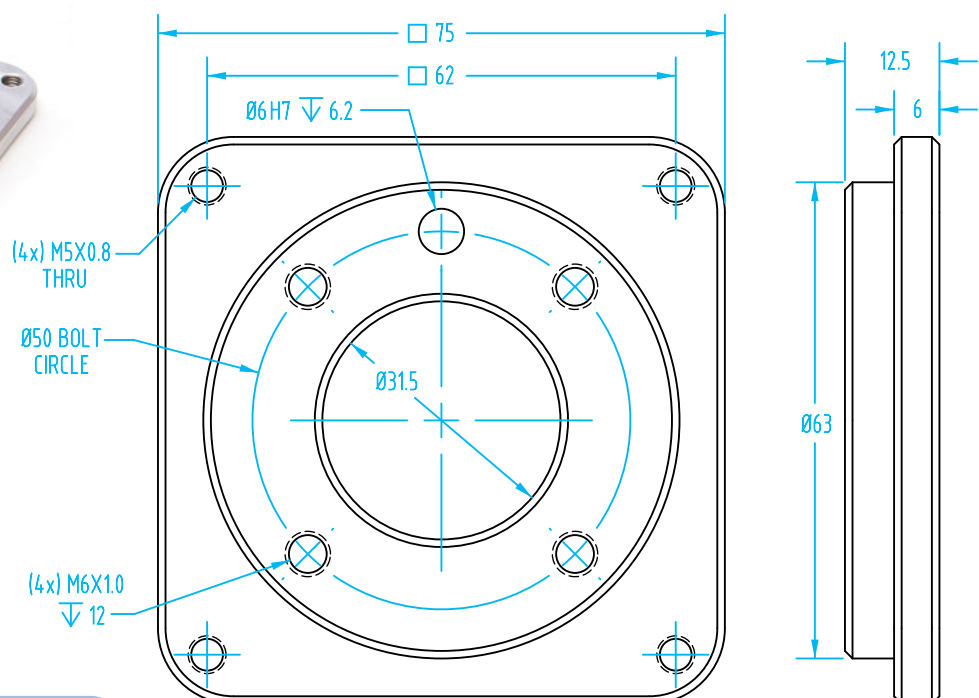
Automatic Quick Changer for Cobots – EQC20

(Dimensioned drawings shown full scale)

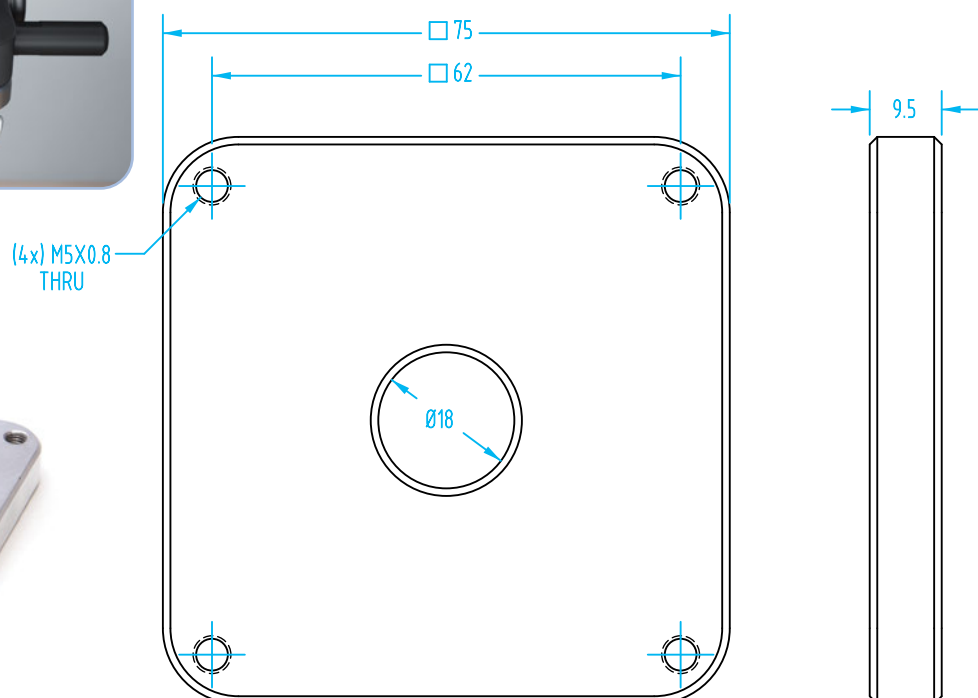


#8170

- Matches common cobot tool flanges.



#8171



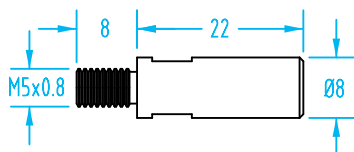
EOAT-Side Interface Plates

Quick#	Part#	Description	Weight	Price
8170	CRM-EQC20B-A	with ISO 9409-1-50-4-M6 interface	113g	\$40.50
8171	CRM-EQC20B-X	Blank	133g	\$30.75

Automatic Quick Changer for Cobots – EQC20

Storage Docking Pins

These pins are recommended for storage of your EOAT, and are supplied separately. Contact EMI for a cradle for your EOAT.



#8152

Storage Docking Pins

Quick#	Part#	Description	Weight	Price
8152	EQC20-K1	Storage Docking Pins for EOAT-Side (x4)	13g	\$37.53



Shown here with EOAT-Side Interface Plate.

Automatic Quick Changer for Cobots – EQC05

The EQC05 offers the same convenience and simplicity of an automatic quick change tool system, but in a more compact package intended for light duty application. Electrical Quick Changers are designed to connect to the wrist of Universal Robots and other Collaborative Robots. The optional electric connectors can be positioned in the central through hole.

- **Suggested payload: 11 lbs (5kg)**
- Three Integrated Ø4mm air fittings.
- Position confirmation sensing.
- Optional electrical connectors to be positioned in the central through hole.
- Separate adapter plate available for ISO 9409-1-50-4-M6 and 9409-1-63-4-M6 robot flanges, see page 24.
- Optional docking pins for storage, see page 24.



#8159 – EOAT-Side Electric Quick Changer with Male M8 Connector



#8158 – EOAT-Side Electric Quick Changer

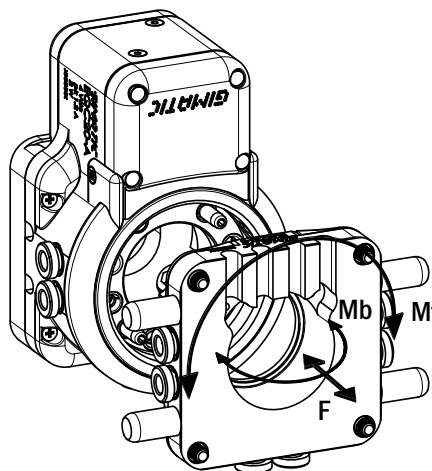
Quick#	Part#	Description	Weight	Price
8157	EQC05-A	Robot-Side with Male M8 Connection	500g	\$1,370.00
8159	EQC05N-A	Robot-Side with Female M8 Connection - For UR & Fanuc CRX	500g	\$1,495.00
8158	EQC05-B	EOAT-Side	100g	\$195.00

Safety loads

Check the table for the maximum loads allowed. Excessive forces or torques can damage the system, cause operation problems and endanger the safety of the operator.

Specifications for Quick Changer EQC05		
Weight	Robot Side	500g
	EOAT Side	100g
Suggested Max. Payload		11 lbs (5 kg)
Maximum Air Pressure		6 bar (87psi)
Air Ports		(3x) Ø4mm
Electrical Connector		Optional
Safety Loads:		
F 112 lbs	Mt 5.9 ft-lbs	Mb 5.9 ft-lbs

F= Axial Load Limit Mt= Torque Moment Limit
Mb= Bending Moment Limit

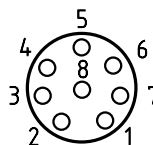


Check online for updated safety load ratings and please contact us directly if you're interested in the EQC05 for your application. Our engineers can help you decide!

Automatic Quick Changer for Cobots – EQC05

Electrical Operation Cable

The electrical quick changer is equipped with an 8-pin M8 female connector that provides a 24Vdc power supply for the locking/unlocking command and for the connection of the digital outputs that identify the coupled and uncoupled system status. No additional external electronic control system is required.



- 1 - White: N/C
- 2 - Brown: N/C
- 3 - Green: Out Closed (PNP)
- 4 - Yellow: Out Opened (PNP)
- 5 - Grey: 24V DC
- 6 - Pink: Open / Close (PNP)
- 7 - Blue: N/C
- 8 - Red: GND

**Note: Q#8150 Pinout shown. Varies by model.*

Electrical Connectors



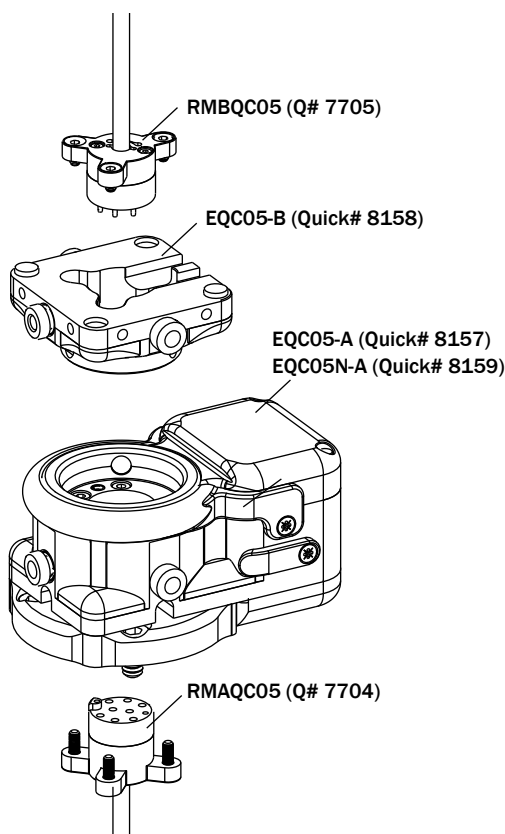
#7704 – EOAT-Side
Electrical Connector



#7705 – Robot-Side
Electrical Connector



Quick#	Part#	Description	Weight	Price
7704	RMAQC05	Robot-Side Electrical Connector, 8 Connections	50g	\$53.70
7705	RMBQC05	EOAT-Side Electrical Connector, 8 Connections	70g	\$85.92



Automatic Quick Changer for Cobots – EQC05

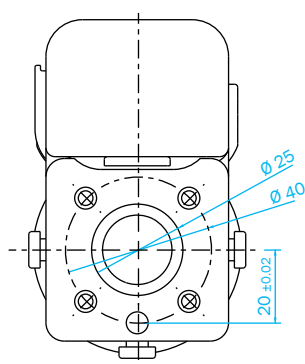


#8160

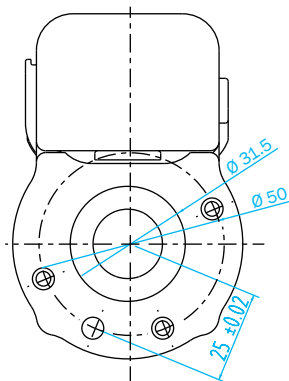


#8161

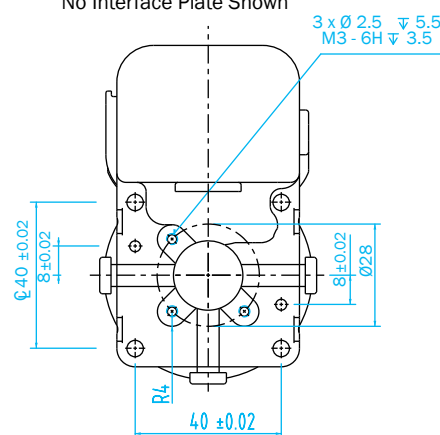
Q#8160 EQC05-K40
ISO 9409-1-40-4-M6



Q#8161 EQC05-K50
ISO 9409-1-50-4-M6



Robot Side EQC05
No Interface Plate Shown

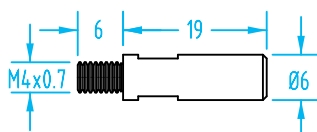


Robot-Side Interface Plates

Quick#	Part#	Description	Weight	Price
8160	EQC05-K40	with ISO 9409-1-40-4-M6 interface	80g	\$66.88
8161	EQC05-K50	with ISO 9409-1-50-4-M6 interface	80g	\$79.52

Storage Docking Pins

These pins are recommended for storage of your EOAT, and are supplied separately. Contact EMI for a cradle for your EOAT.



#8162

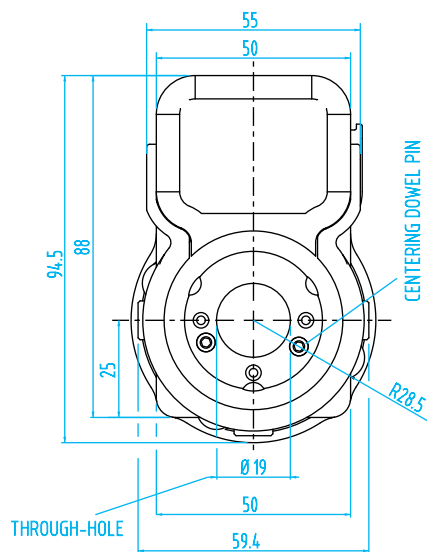
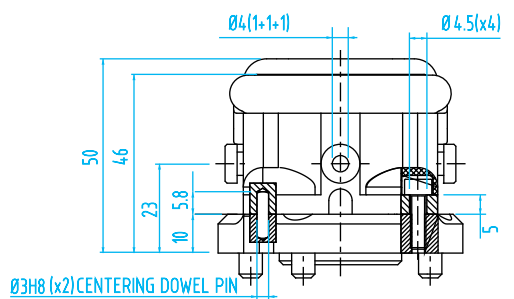
Storage Docking Pins

Quick#	Part#	Description	Weight	Price
8162	EQC05-K1	Storage Docking Pins for EOAT-Side (x4)	13g	\$28.59

Automatic Quick Changer for Cobots – EQC05

(Dimensioned drawings reduced to fit)

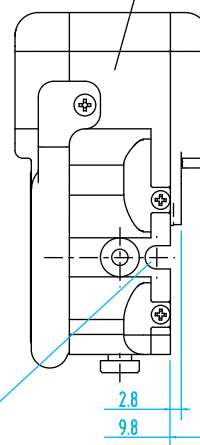
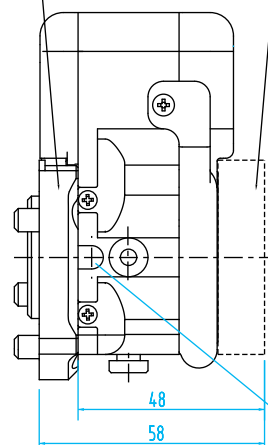
Robot-Side, #8157, #8159



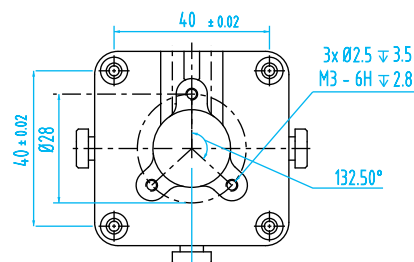
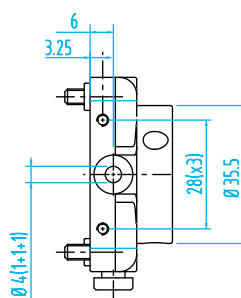
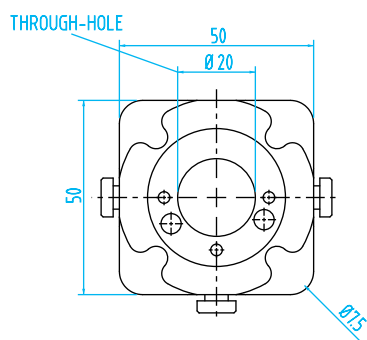
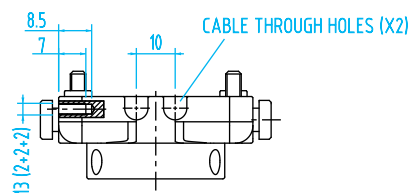
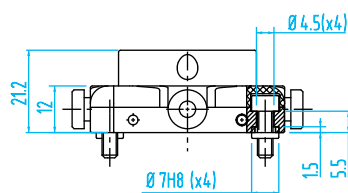
EQC05-K50 - Q# 8161

EQC05-B - Q# 8158

WITHOUT INTERFACE PLATE



EOAT Side, #8158



Wingman Quick Changer Kit for Cobots

- **Suggested payload: 72.75 lbs (33kg)**
- To be used with UR and Fanuc CRX.
- Also available for Doosan and Techman.
- Automatic and manual tool change in one with standard ISO flange.

Quick# 8401

WM1-DK-05-00-A

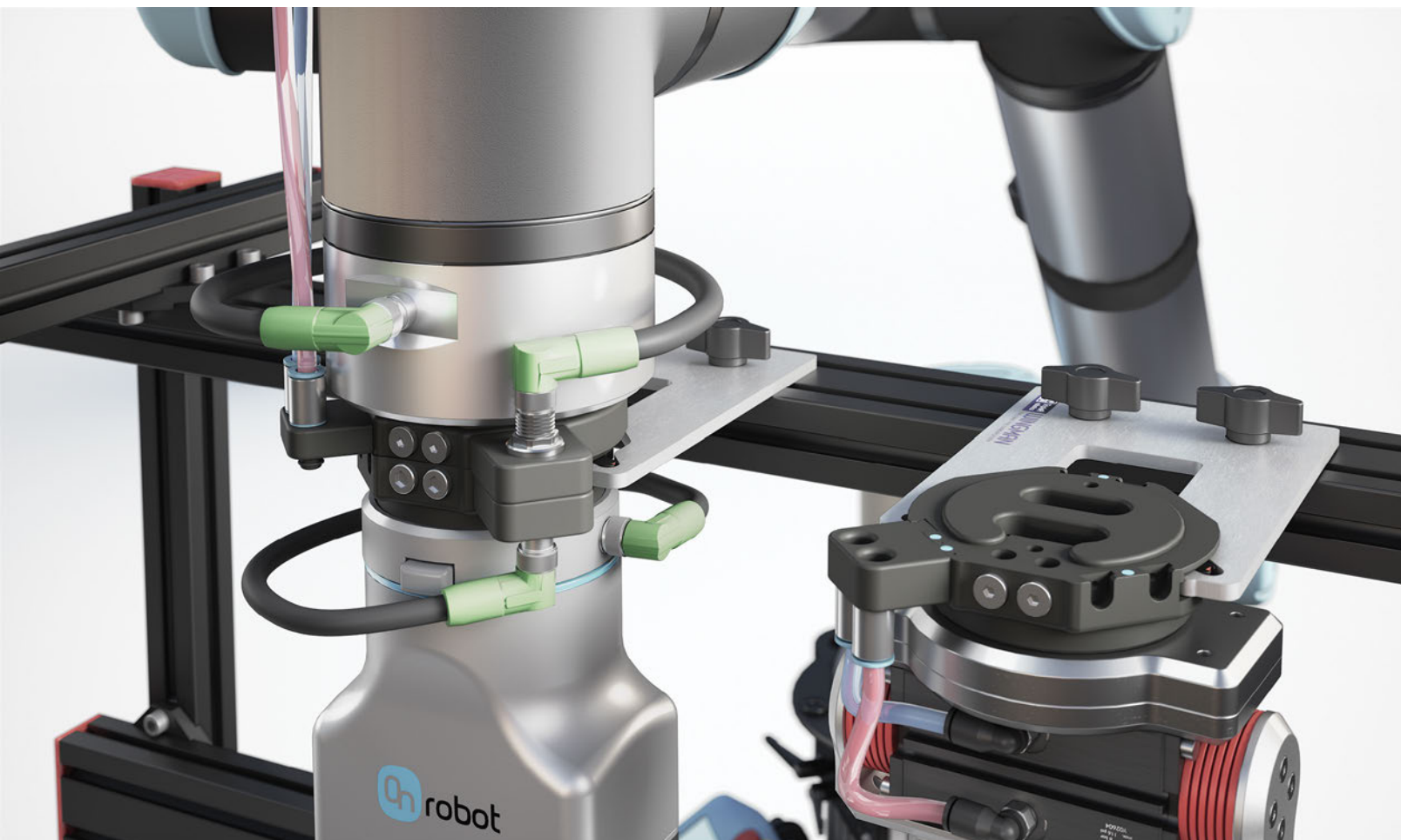
KIT PRICE: \$3,313.⁰⁰

Kit Includes:

- Quick# 8411: Robot-Side Quick Changer
- Quick# 8412: EOAT-Side Quick Changer (x2)
- Quick# 8413: EOAT Holder with hardware
- Quick#'s 8421 & 8422: EOAT and Robot Side Electrical Connectors
- Quick#'s 8441 & 8442: EOAT and Robot side Electrical Cables
- Quick#'s 8431 & 8432: EOAT and Robot Side Pneumatic Modules



Wingman Quick Changer Kit for Cobots



Wingman Quick Changer for Cobots

The Wingman automatic quick changer system is a fully modular, easy to install solution that requires only the energy of the robot to engage-disengage each tool. This makes programming and startup fast and intuitive.

Wingman's redundant locking mechanism enables for more electrical and pneumatic circuits for your application using built-in pneumatic quick change ports or expandable pneumatic or electric modules.

**Available as a kit
or build your own!**

- **Suggested payload: 72.75 lbs (33kg)**
- Compatible with most Collaborative Robots.
- Compatible with Plug & Play or custom tools.
- (2x) Built-in M5 pneumatic ports.
- Up to 3 electrical connections.
- Up to 6 pneumatic connections.
- Can connect to robot tool I/O or controller.



Quick#	Part#	Description	Weight	Price
8411	WM1-P-01-01-01	Robot-Side Quick Changer (w/ hardware)	110g	\$467.00
8412	WM1-P-02-01-01	EOAT-Side Quick Changer	150g	\$584.00
8413	WM1-P-03-01	EOAT-Side Quick Changer Holder (w/ hardware)	220g	\$208.00
8421	WM1-A-01-01-01	Electrical Connector – Robot-Side, M8 connector, Female-Male	22g	\$334.00
8422	WM1-A-01-02-01	Electrical Connector – EOAT-Side, M8 connector, Male	22g	\$334.00
8423	WM1-A-01-02-02	Electrical Connector – EOAT-Side, M8 connector, Female	22g	\$334.00
8441	WM1-A-02-01-01	Electrical cable – Wingman to EOAT I/O, M8 connector, Female-Male (UR1, FA)	18g	\$62.00
8442	WM1-A-02-01-02	Electrical cable – Wingman to EOAT I/O, M8 connector, Male-Male (TM1 OM1)	26g	\$62.00
8443	WM1-A-02-01-03	Electrical cable – Wingman to EOAT I/O, M8 connector, Male-Male (DO1)	28g	\$62.00
8431	WM1-A-03-01	Pneumatic Module – Robot-Side, 2x Ø6mm hose	22g	\$142.00
8432	WM1-A-03-02	Pneumatic Module – EOAT-Side, 2x Ø6mm hose	26g	\$142.00
8450	WM1-SK-01-01	Spare Part Kit for EOAT-Side (2x levers, 4x bearings, 2x springs, 2x pins)	20g	\$123.00

Use Quick#s for easy online ordering.

Wingman Quick Changer for Cobots



**Q# 8421 Robot-Side
M8 Connector**

**Q# 8411 Robot-Side
Quick Changer**

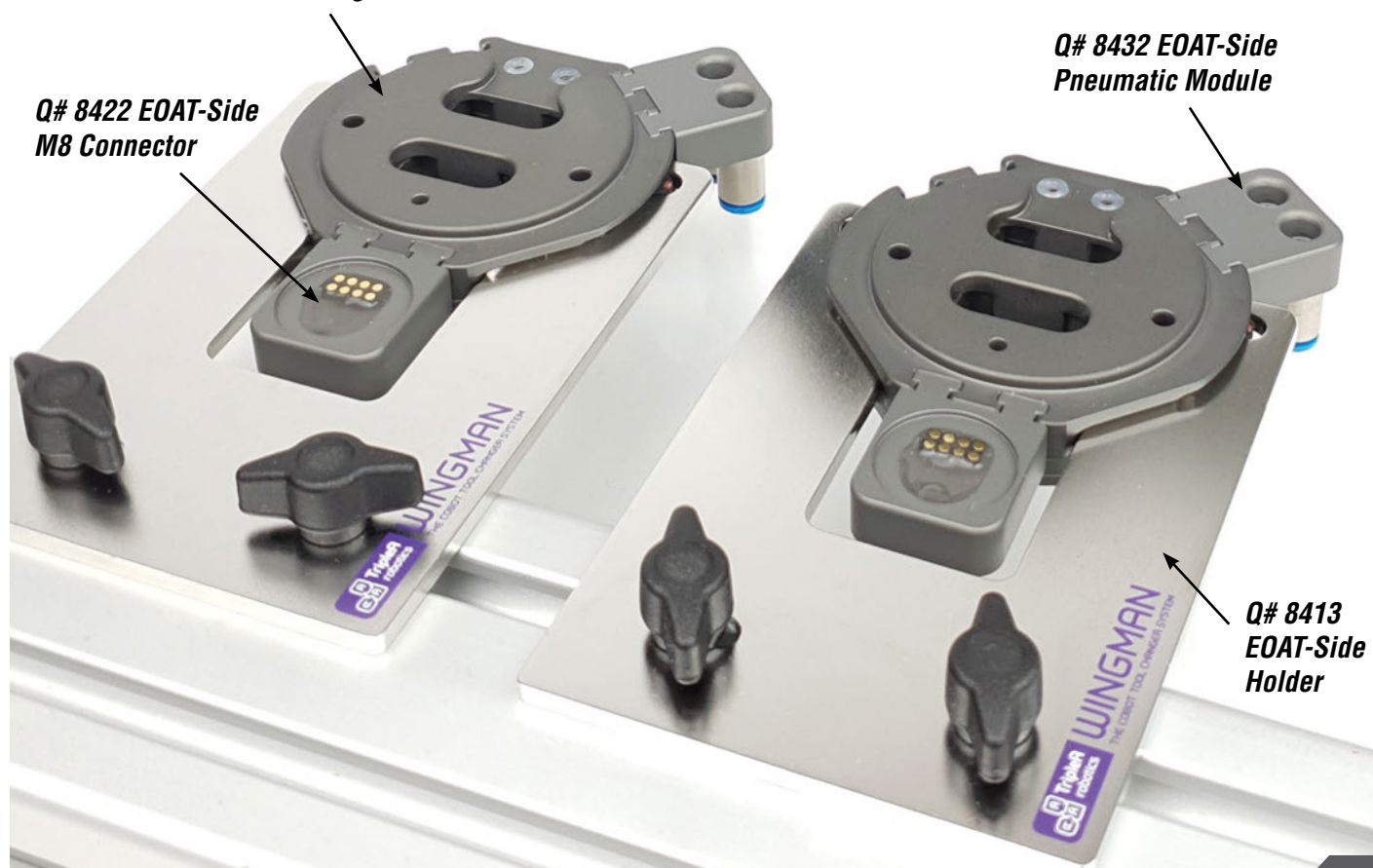
**Q# 8431 Robot-Side
Pneumatic Module**

**Q# 8412 EOAT-Side
Quick Changer**

**Q# 8422 EOAT-Side
M8 Connector**

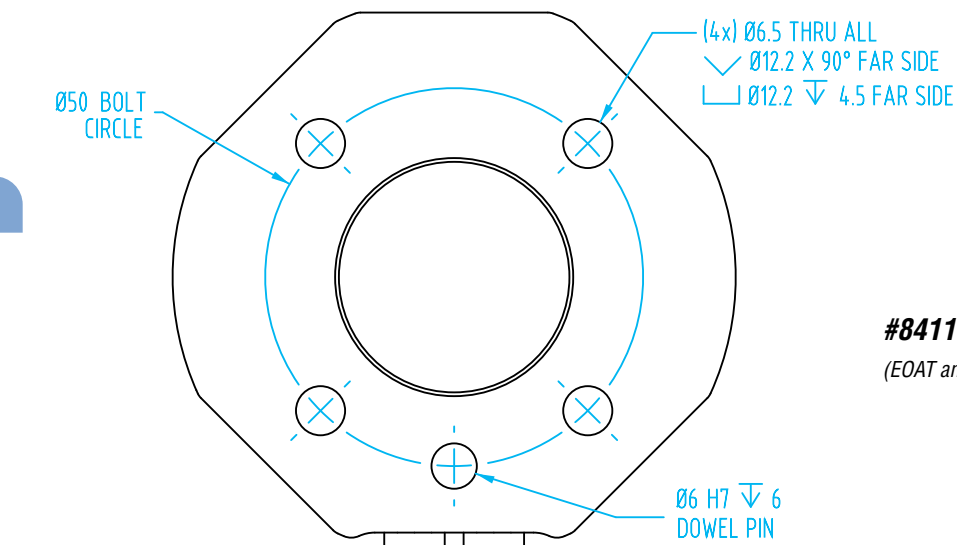
**Q# 8432 EOAT-Side
Pneumatic Module**

**Q# 8413
EOAT-Side
Holder**



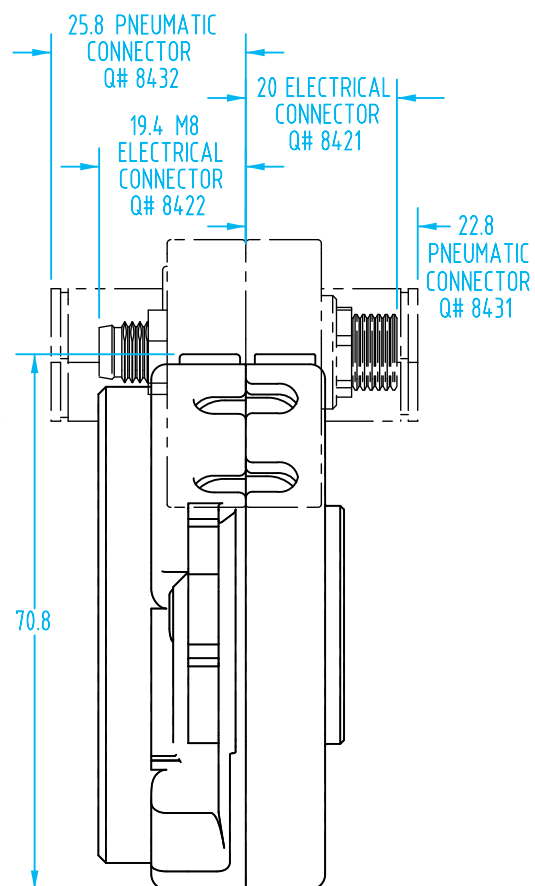
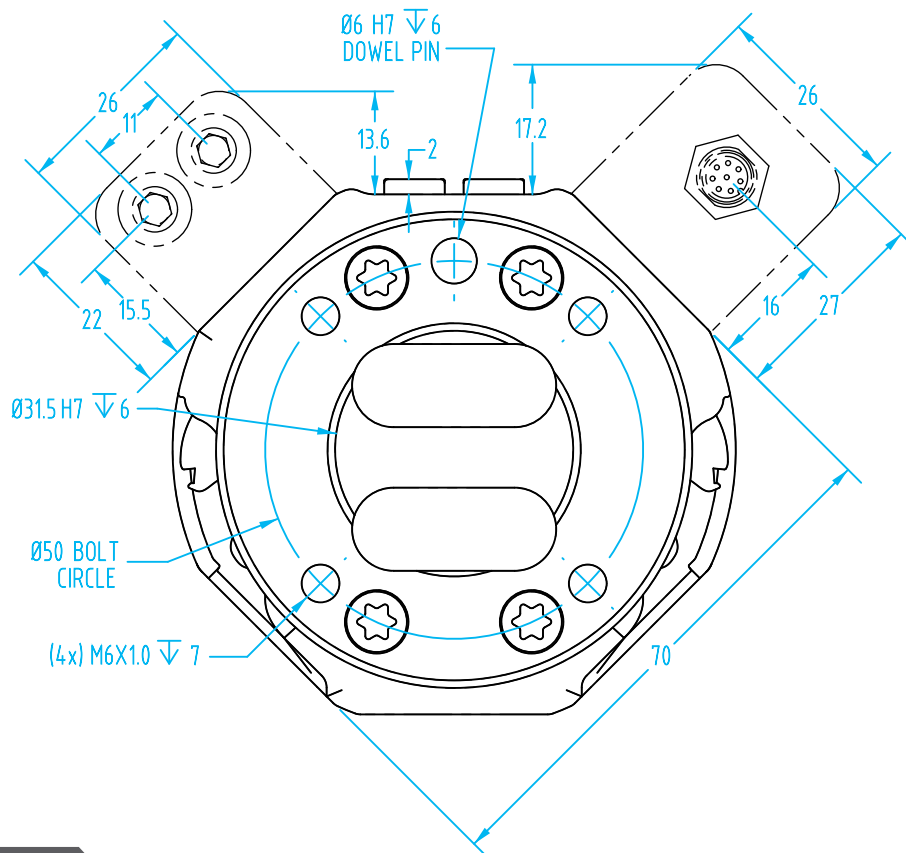
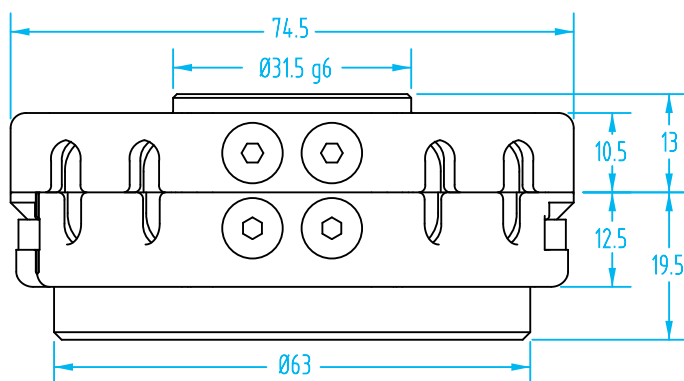
Wingman Quick Changer for Cobots

(Dimensioned drawings shown full scale)



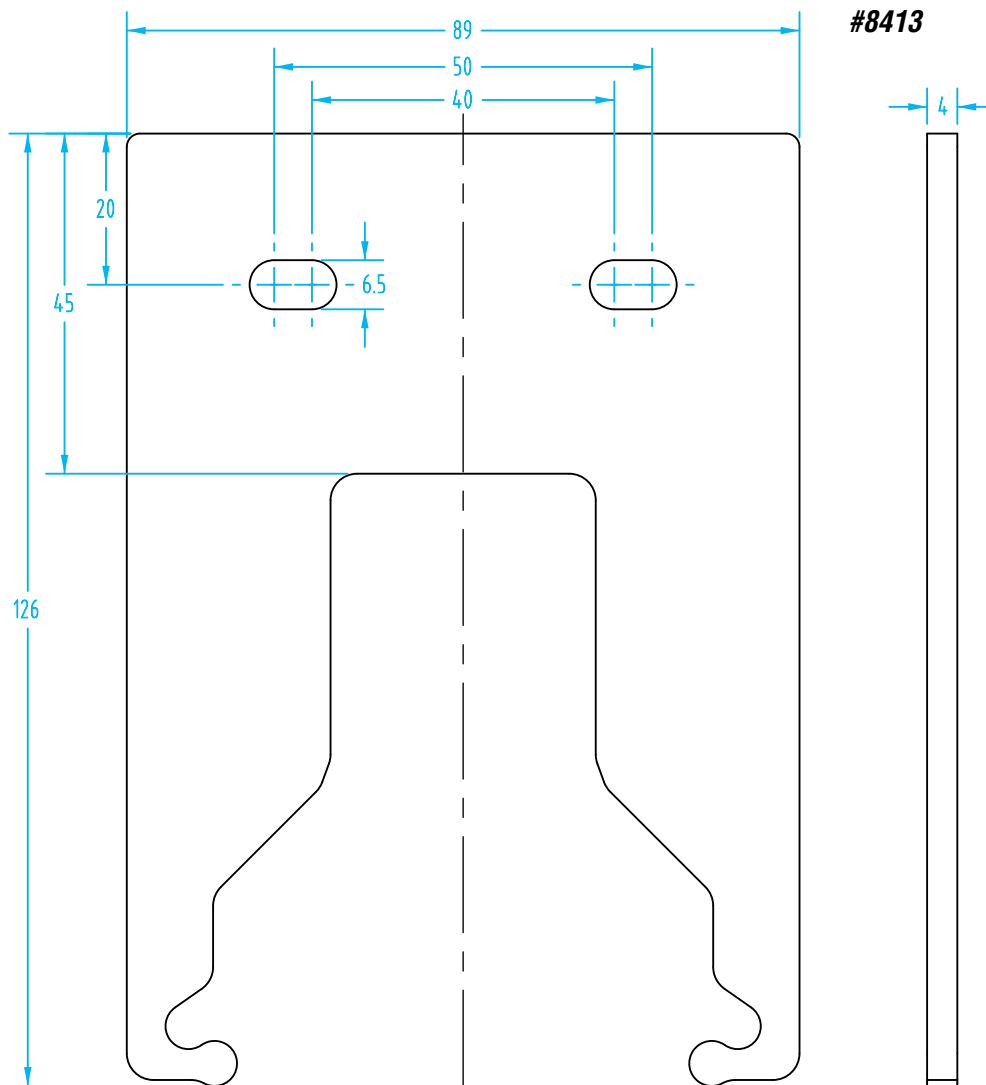
#8411 & #8412

(EOAT and Robot Sides Shown)



Wingman Quick Changer for Cobots

(Dimensioned drawings shown full scale)



See EMI website for more dimensional drawings and information on electric and pneumatic connectors.



OnRobot Quick Changer for Cobots



#8225
Robot-Side

The Robot-Side Quick Changer enables easy and fast tool changing. It is fully collaborative with no sharp edges, which makes it easy and safe for human interaction. The Quick Changer can handle up to a 44 lbs (20kg) payload and has a low built-in height and weight.

Compatible with eSeries UR, and any other cobot that uses the ISO-9409-1-50-4-M6 mounting pattern and can be easily adapted to even more robots.



#8221
EOAT-Side

Built into every OnRobot gripper, the EOAT-Side Quick Changer is now available for all EOAT which makes it easy to click into your cobot. With a 20kg max. payload, this quick changer is a simple way to swap your EOAT in between applications.

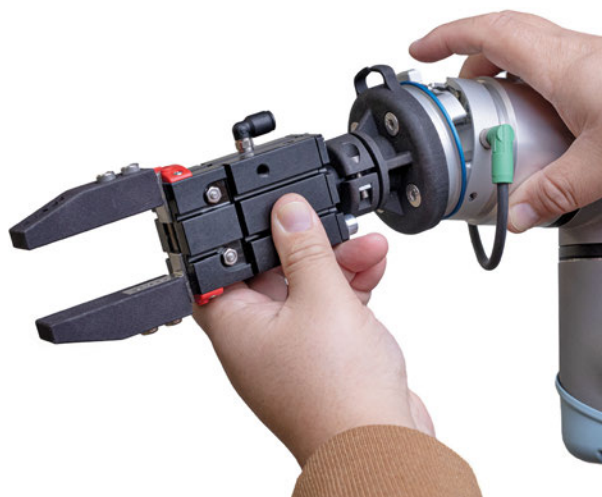
Use with pneumatic grippers, degating kits, or any third party product compatible with ISO-9409-1-50-4-M6 bolt pattern.

Quick#	Part#	Description	Weight	Price
8225	OR-QC-A1*	Robot-Side	58.9g	\$532.00
8221	OR-102014	EOAT-Side	140g	\$532.00

*Not compatible with CB3 series UR.

8224	OR-102326	Robot-Side for CB Series	95.2g (0.21lb)	\$634.00
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Technical Specs	
Maximum permissible force	90 lbf
Maximum permissible torque	442 in-lb
Rated payload	44 lb (20 kg)
Repeatability	+/- 0.02mm



Example of Q#8221 with a customized pneumatic gripper solution.

M8 8-Pin Tool Flange Connection for UR & Fanuc CRX



M8 8-Pin Tool Flange Connection

Quick#	Part#	Description	Price
8230	OR-102113*	M8 8-Pin Female Tool Flange for UR	\$85.00
8237	OR-107456**	M8 8-Pin Female Tool Flange for Fanuc CRX	\$85.00

*Required to use Q#8220/8225 Quick Changer on eSeries UR and Q#8224 Quick Changer on previous (CB3) UR models to connect directly to the Tool I/O M8 connector.

**Required to use Q#8220/8225 on Fanuc CRX Tool I/O M8 connector.

OnRobot Quick Changer for Cobots

(Dimensioned drawings shown full scale)

Robot-Side

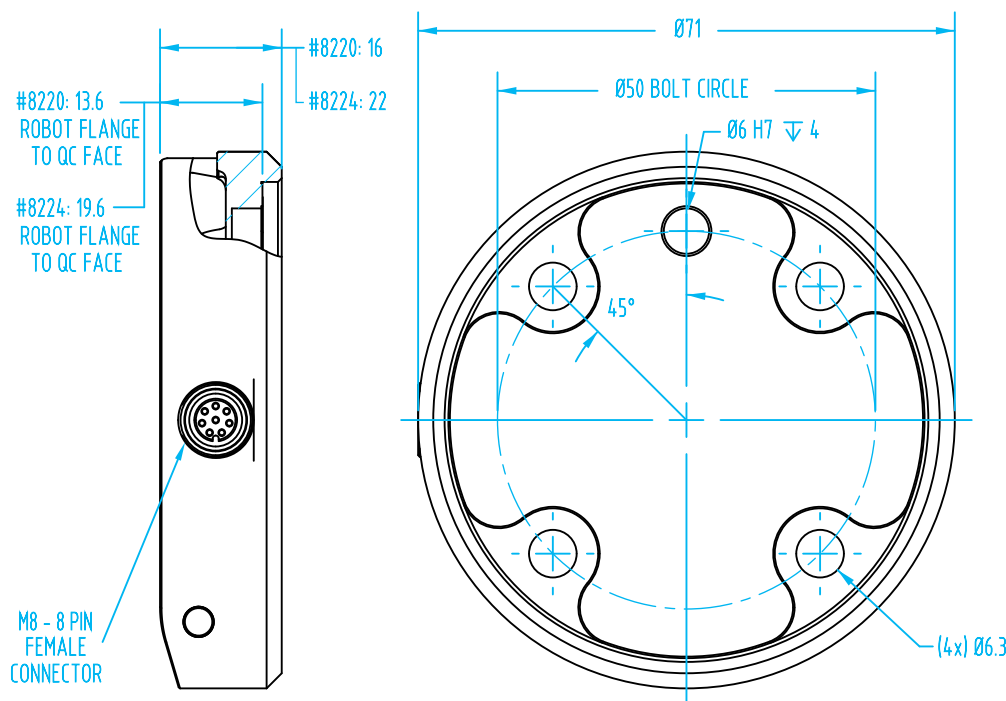
- #8225 & #8224: M8 8-Pin Female Tool Flange Connection Q#8230 required for UR Robot.
M8 8-Pin Male Tool Flange Connection Q#8237 required for Fanuc CRX Robot.
- #8225 & #8224: Have the same dimensions except for the overall height as noted below.



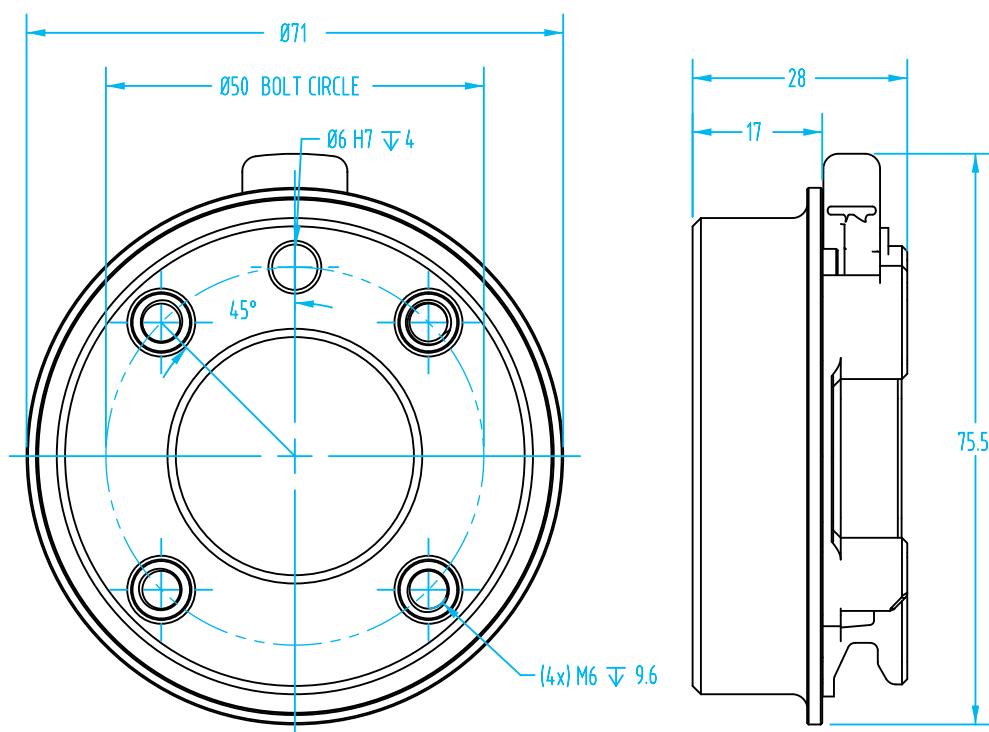
#8225
Robot-Side, 4.5a compatible



#8224
Robot-Side, for CB Series UR
Not compatible with eSeries UR



EOAT-Side



#8221
EOAT-Side

TMPlug&Play
CERTIFIED

OnRobot Dual Quick Changer for Cobots

The Dual Quick Changer enables you to use two EOAT's together in a single cycle.

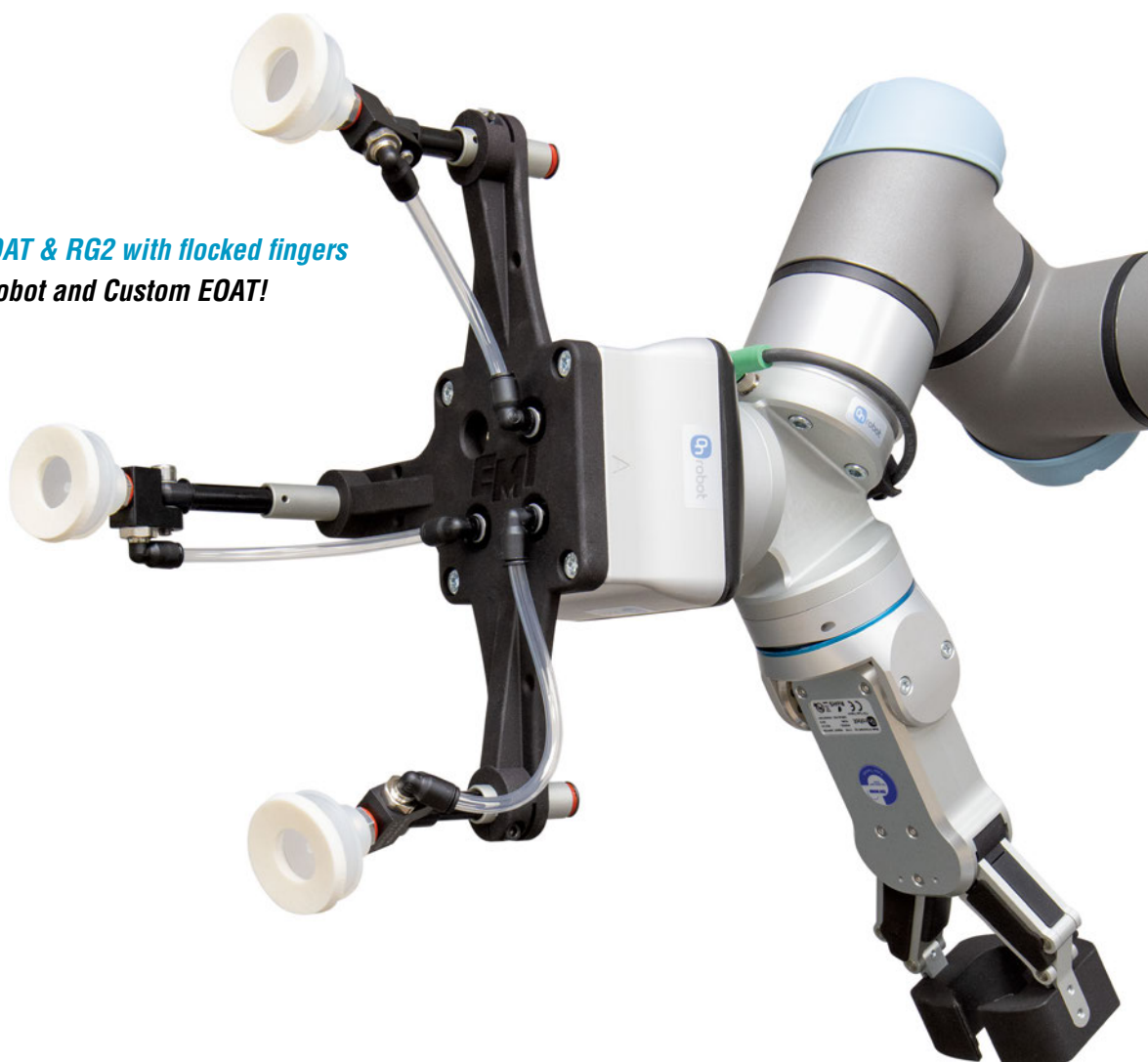
With this innovative solution you can use two grippers or vacuum units. Quickly and seamlessly switch between tools to maximize the utilization of your robots.

Quick#	Part#	Weight	Price
8222	OR-104293	410g	\$2,522.00

- Easy and fast change of tools.
- High repeatability.
- **Requires a Compute Box for all applications and robot models. See page 172 for robot specific Compute Boxes.**
- Compatible with ISO 9409-1-50-4-M6 mounting interface.
- Max. suggested payload: 44 lbs (20 kg).

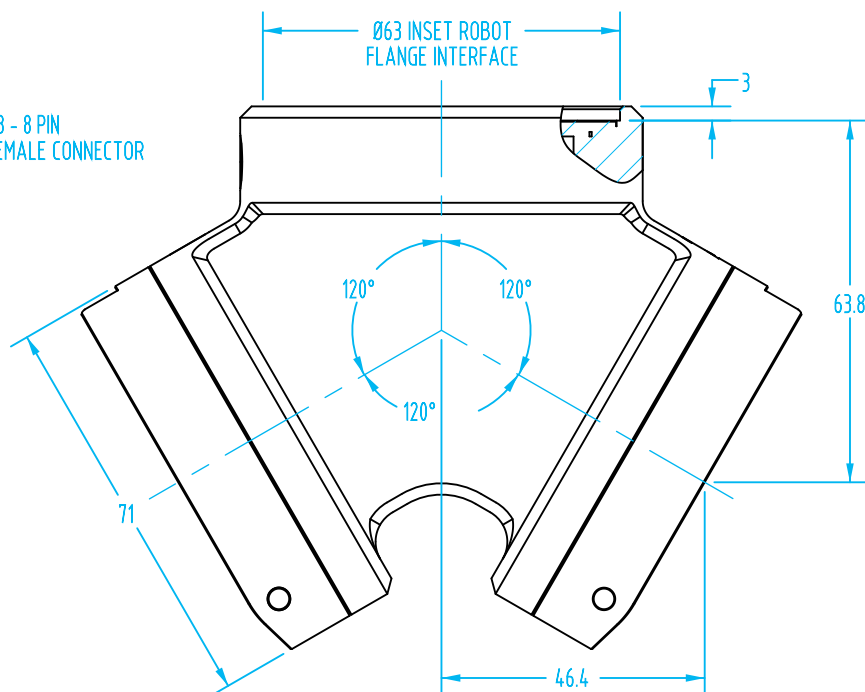
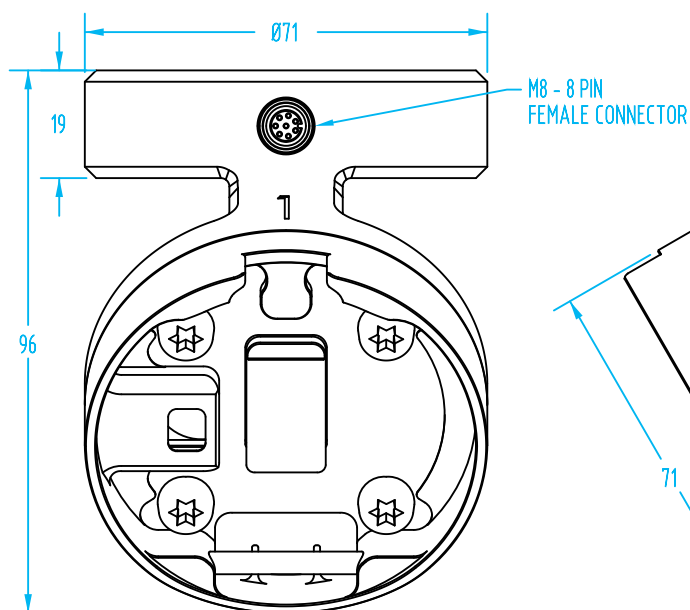
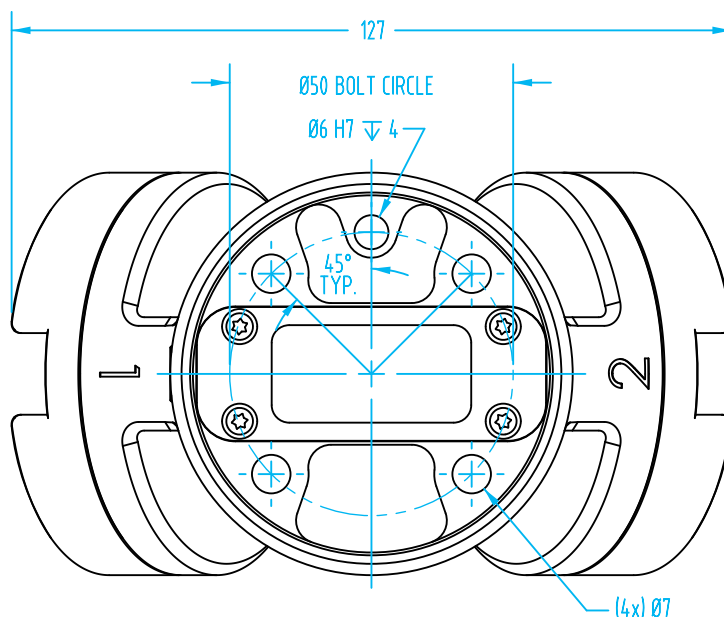


Custom 3D printed EOAT & RG2 with flocked fingers
Compatible with OnRobot and Custom EOAT!



OnRobot Dual Quick Changer for Cobots

(Dimensioned drawings shown 75% scale)



Replacement Cable Relief for Dual QC



Cable Relief for Dual QC

Quick#	Part#	Price
8242	OR-102919	\$72.00

- Direct OEM replacement of the 3D printed cable relief found on Q#8222 dual quick changer for Cobots.
- Contact EMI if you need additional cable management solutions for your Cobot.

OnRobot Hex-E Quick Changer Force/Torque Sensor



Utilizing the included URCap HEX commands, you can teach your robot the exact location, force and speed of operations such as **insert-loading** and **degating** of larger gates.

Try It Risk Free!

*Contact us for details

TM Plug & Play
CERTIFIED

Quick#	Part#	Wt.	Price
8223	OR-102111	347g	\$3,938.00

- Plastic applications include degating, and insert loading using the advanced control and force feedback.
- Common applications are polishing, sanding, deburring, grinding and assembly, but it can also be used for teach-in and crash detection.
- Unique optical based technology allows for high precision and repeatability.
- Keeps constant force while moving.
- Easy to use interface, no programming skills are needed (UR only).
- **Requires a Compute Box for all applications and robot models. See page 172 for robot specific Compute Boxes.**

OnRobot's 6-axis force torque sensor provides an accurate force and torque measurement along all 6 axes.

This gives you precise control when it comes to difficult jobs. Additionally, the HEX software includes path recording, force control (on UR and Kuka) and special features for insertion tasks (UR only). This means reduced integration time for your production line. The sensors are designed to fit most of the current industrial robot arms.

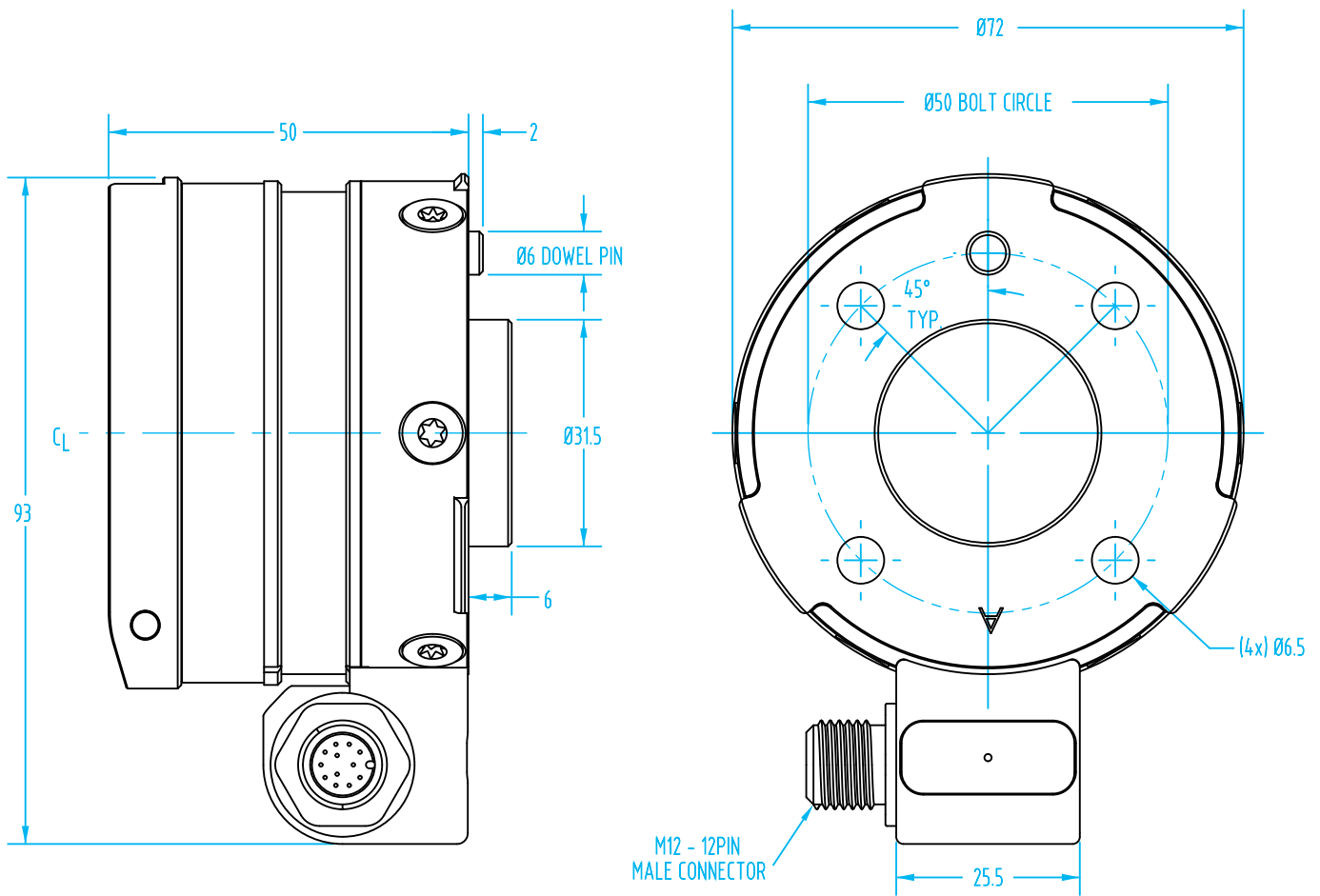
Technical Specs	Fx & Fy	Fz	Tx & Ty	Tz
Nominal capacity (N.C.)	200 N	200 N	10 Nm	6.5 Nm
Single axis deformation at N.C. (typical)	±1.7mm	±0.3mm	±2.5mm	±5mm
Single axis overload	500%	500%	500%	500%
Signal noise* (typical)	0.035 N	0.15 N	0.002 Nm	0.001 Nm
Noise-free resolution (typical)	0.2 N	0.8 N	0.01 Nm	0.002 Nm
Full scale nonlinearity	< 2%	< 2%	< 2%	< 2%
Hysteresis (measured on Fz axis, typical)	< 2%	< 2%	< 2%	< 2%
Crosstalk (typical)	< 5%	< 5%	< 5%	< 5%

* Signal noise is defined as the standard deviation (1sigma) of a typical one second no-load signal.

Operating Conditions	
Power supply	7V– 24V
Maximum current consumption	0.8W
Operating temperature	32° – 131°F

OnRobot Hex-E Quick Changer Force/Torque Sensor

(Dimensioned drawings shown full scale)



OnRobot HEX Force / Torque Sensor with Gimatic Hot Blade (Q#7286). Degrate by teaching your cobot the gate location, force required and part geometry.



90° Angle Offset Bracket



The OnRobot Angle Offset Bracket enables you to attach tools at a 90 degree angle from the robot flange. This improves the tool's ability to fit into tight spaces and it can lower the risk of the robot arm going into singularity.

Quick#	Part#	Weight	Price
8279	OR-105870	207g	\$194.00

- Machined aluminum.
- Fasteners included.
- Can mount to any robot with ISO-9409-1-50-4-M6 mounting pattern.
- Compatible with any gripper that mount to the robot wrist.
- Contact EMI if you need a custom offset adapter for your gripper.

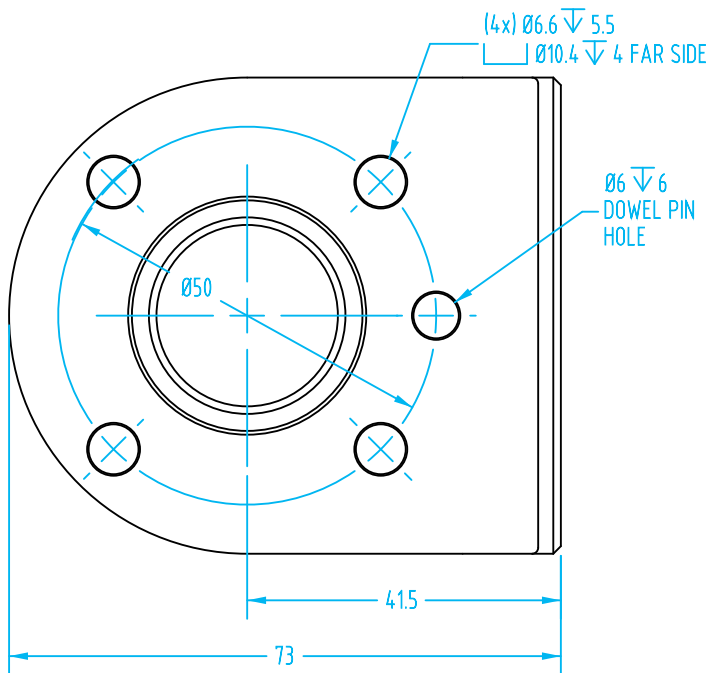
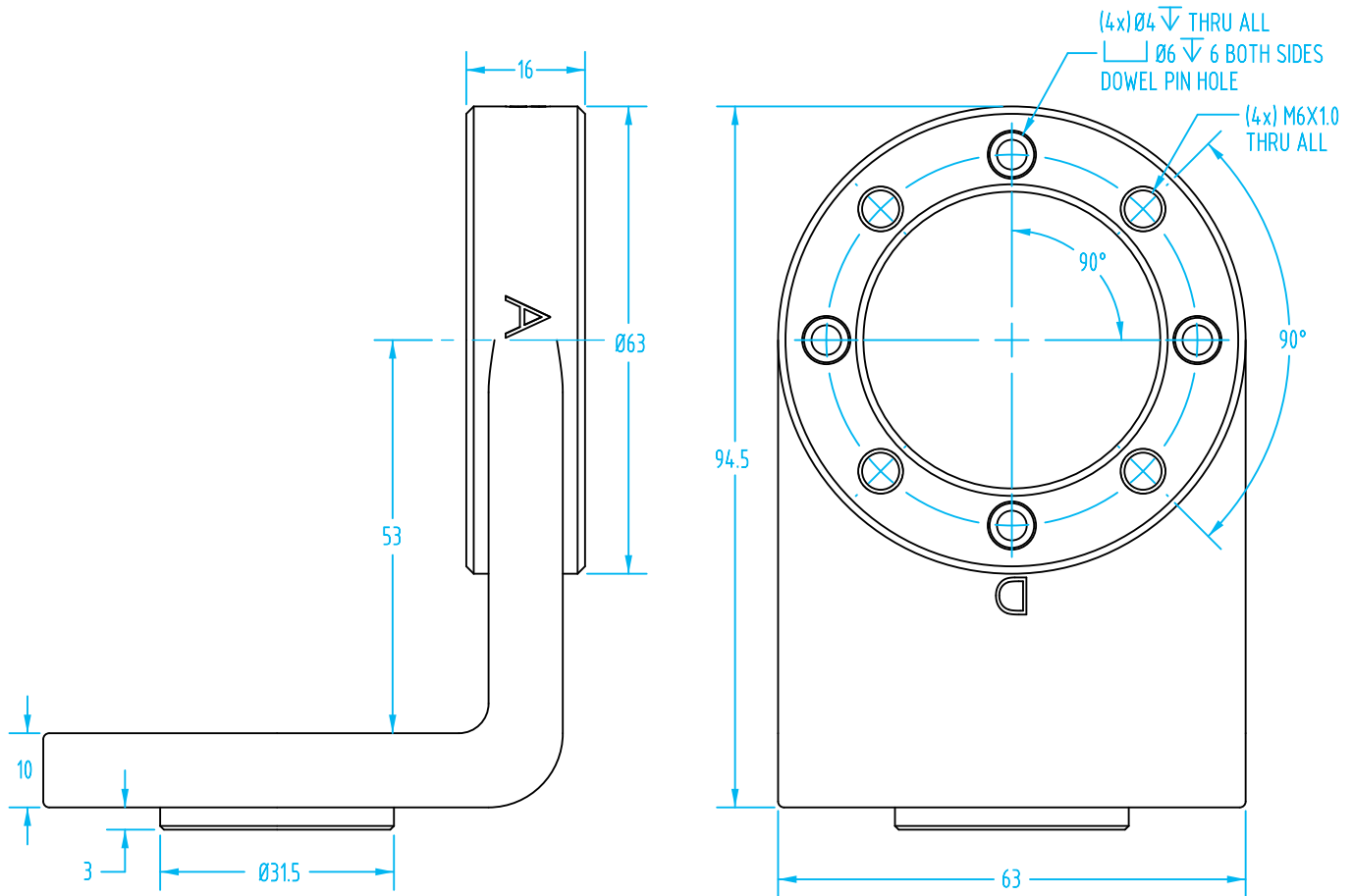


In-Stock OnRobot from EMI!



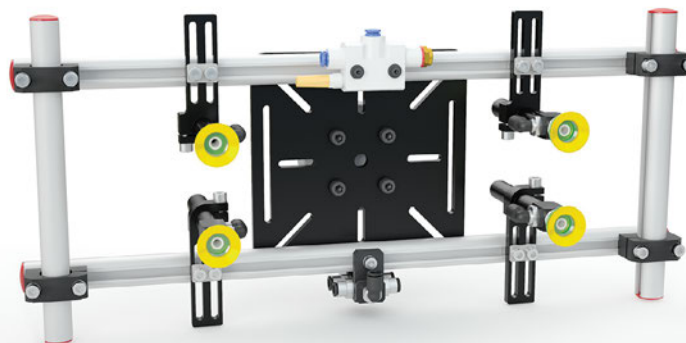
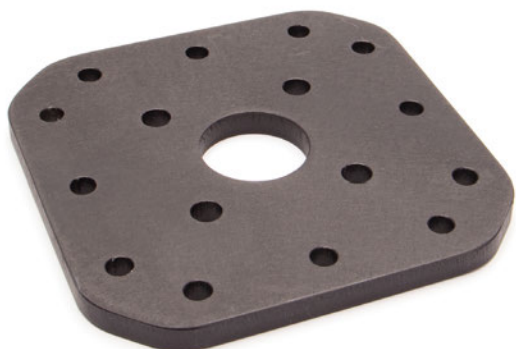
90° Angle Offset Bracket

(Dimensioned drawings shown full scale)



Interface Plate for Modular Profile Kit

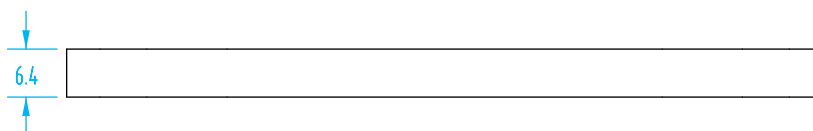
(Dimensioned drawings shown full scale)



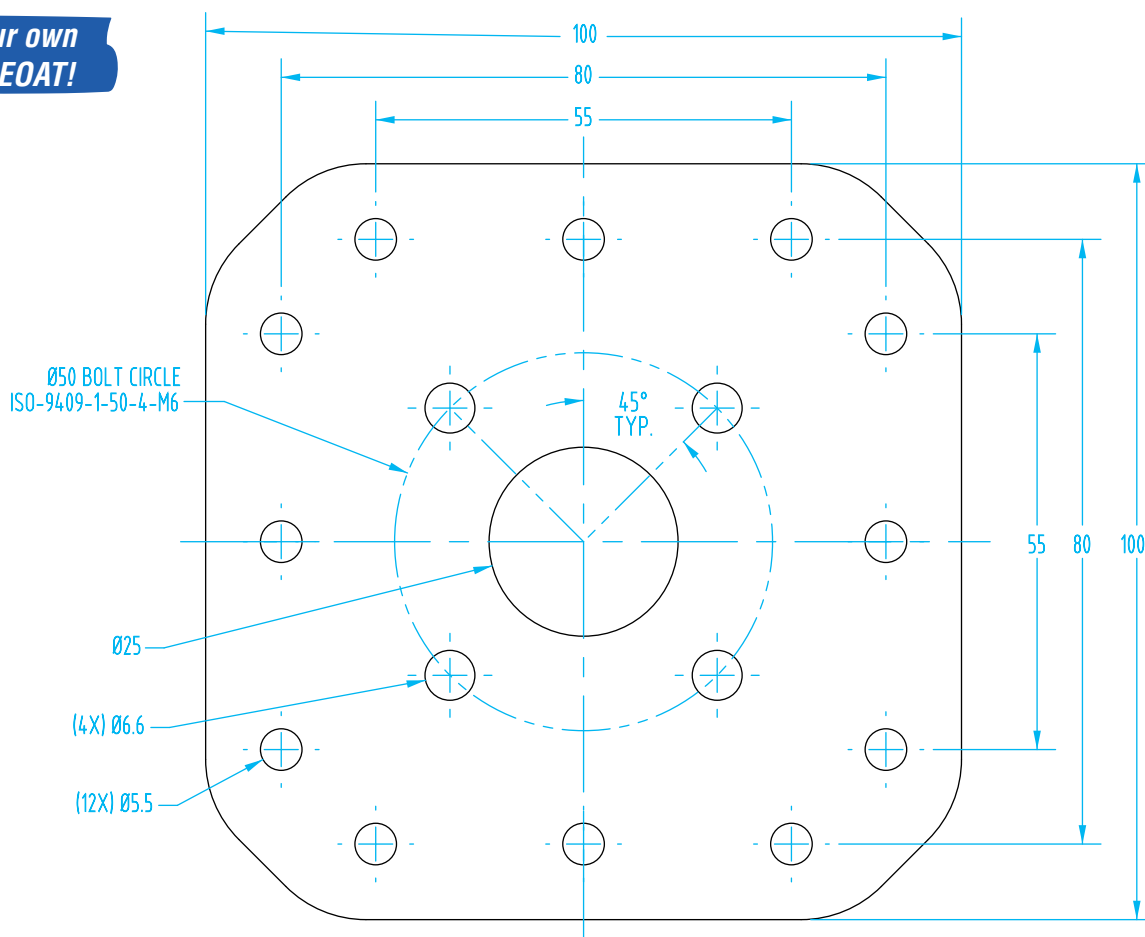
Quick#	Part#	Price	Wt.
8058	CRM-0138-2A	\$28.13	151g

Q# 8058 is included in the MPK Vacuum Kit #8005.

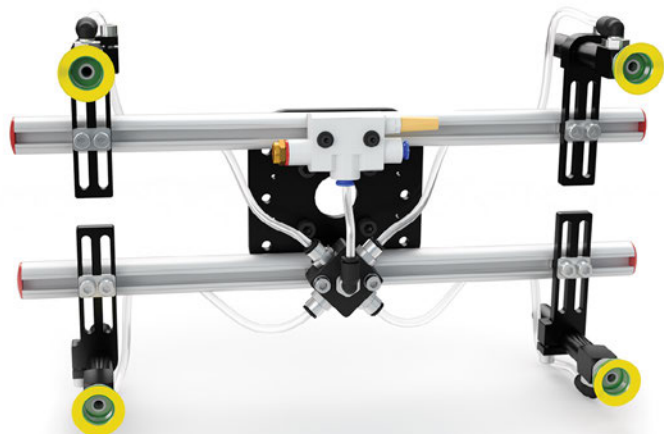
- Lightweight aluminum plate compatible with the ISO-9409-1-50-4-M6 mounting pattern.
- Can be manufactured to fit any Cobot.



**Build your own
Vacuum EOAT!**

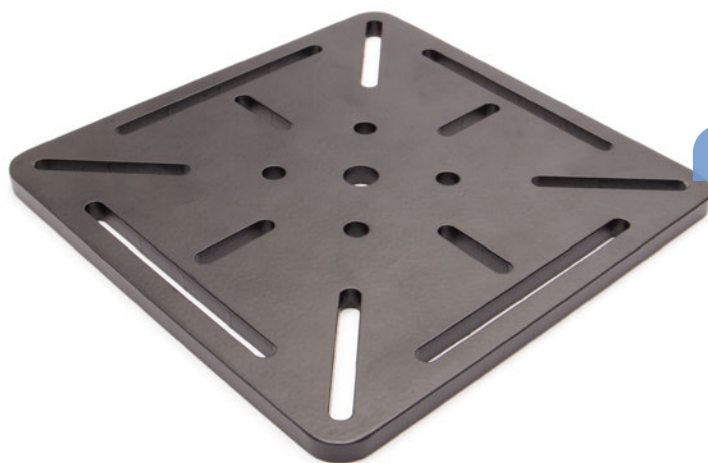


(Dimensioned drawings shown half scale)



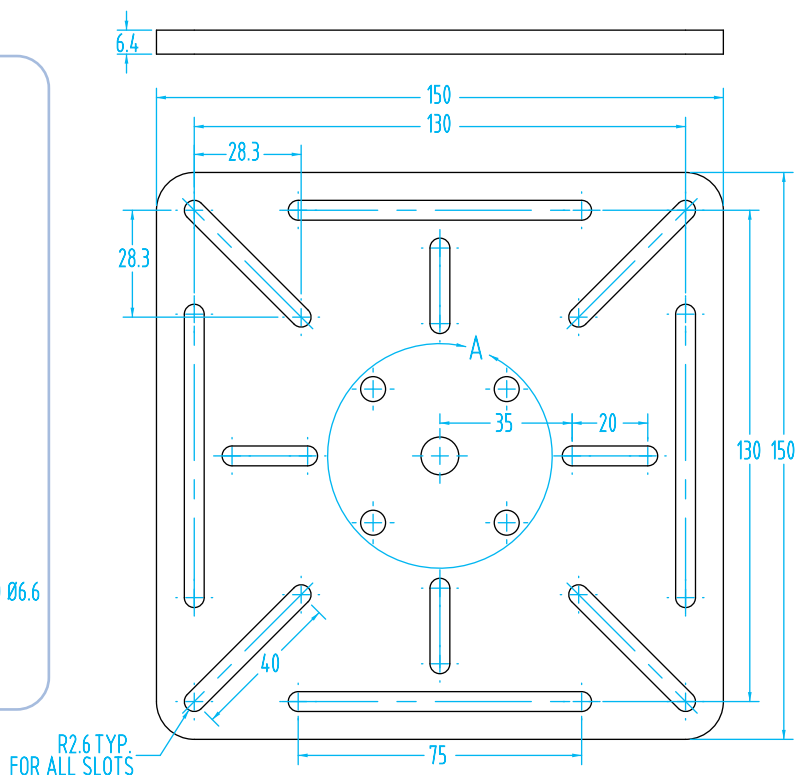
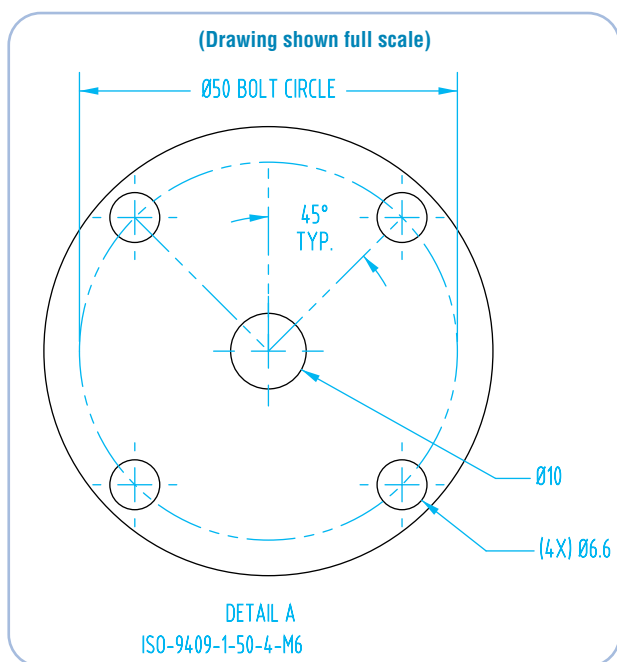
Q# 8057 is included in the MPK Vacuum Kit #8005.

Interface Plate for Modular Profile Kit



Quick#	Part#	Price	Wt.
8057	CRM-0138-1A	\$31.85	340g

- Lightweight aluminum plate compatible with the ISO-9409-1-50-4-M6 mounting pattern.
- Slots allow for quick adjustments.



Quick Changer Interface Plate

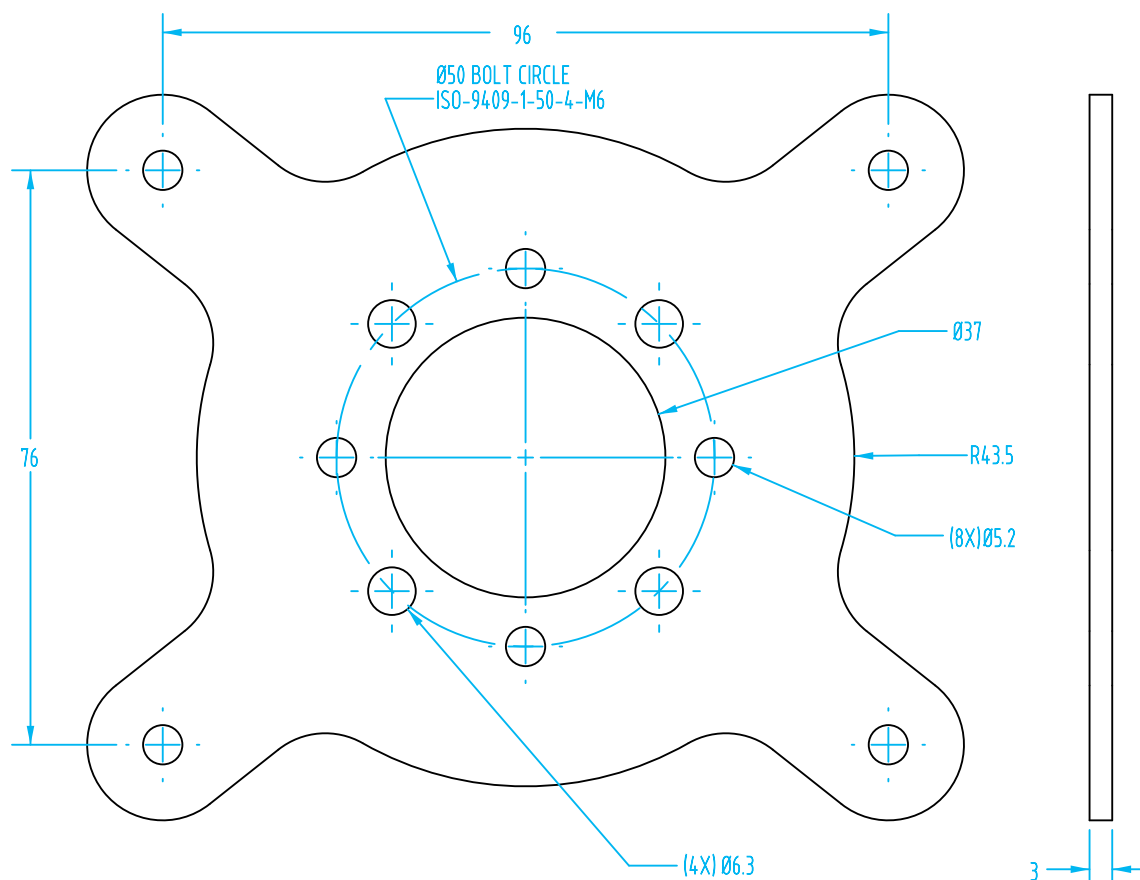
(Dimensioned drawings shown full scale)



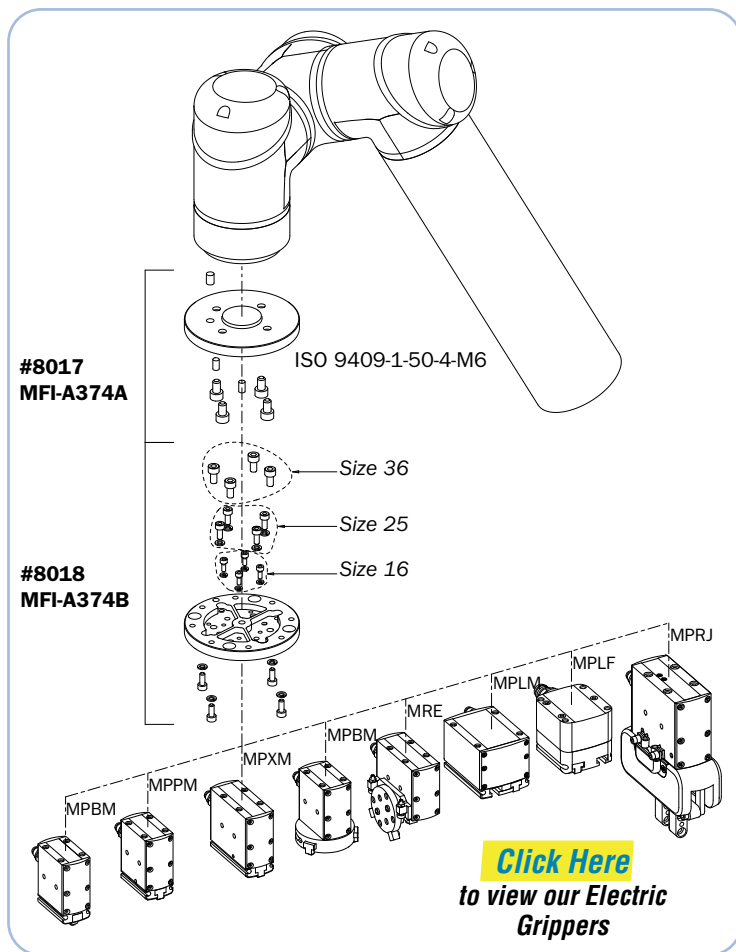
Quick#	Part#	Price	Wt.
7435	MFI-A372	\$29.29	218g

Use Quick#s for easy online ordering.

- Steel plate is compatible with the ISO-9409-1-50-4-M6 mounting pattern.
- Mounts directly to QC75, QC90, GSQ-G Quick Changers.
- Hardware included.



(Dimensioned drawings shown full scale)

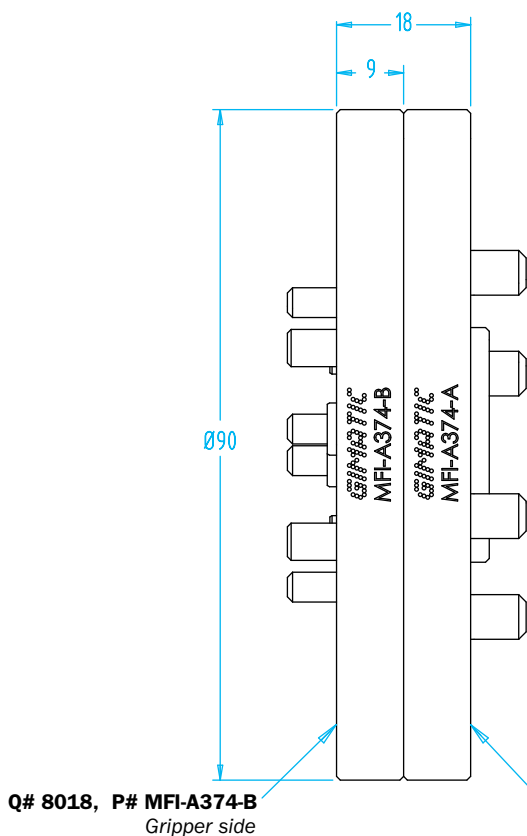


Interface for Mounting Electric Grippers

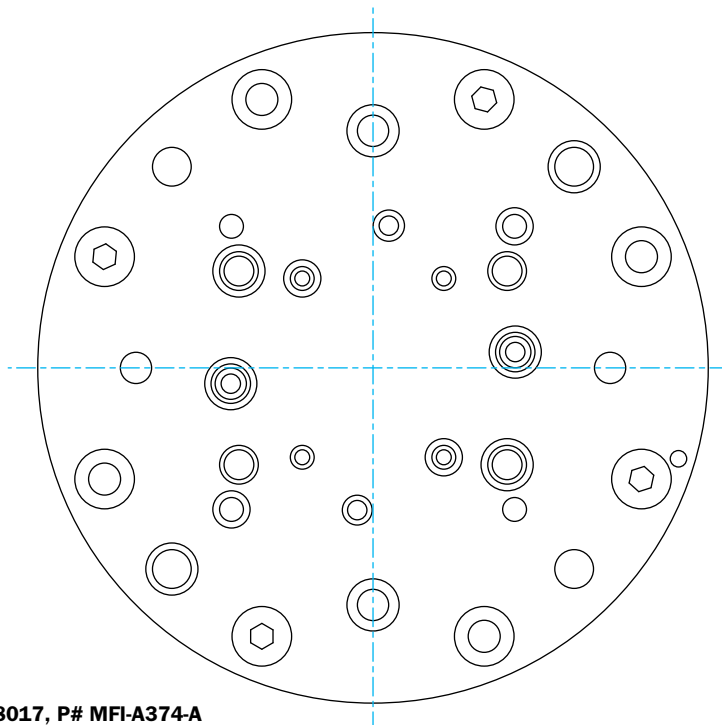


Quick#	Part#	Price	Wt.
8017	MFI-A374A	\$62.50	50g
8018	MFI-A374B	\$83.00	55g

- Compatible with the ISO-9409-1-50-4-M6 mounting pattern.
- Hardware included.
- Adapts to all Gimatic Electric Grippers, see page 116 for photos and more information.



Q# 8017, P# MFI-A374-A
ISO 9409-1-50-4-M6 Robot side



Cobot Flange Mono Clamp



**Spacer and hardware included for use with Gimatic Quick Changer QC-75*

EMI's Cobot mono clamps are lightweight, cost effective and easy to use. Simply mount the clamp directly to your Cobot's ISO-9409-1-50-4-M6 tool flange or to our Cobot Quick Changer with the included hardware and spacer.

Cobot Flange Mono Clamp

Quick#	Part#	Clamp	Price	Wt. *
8101	CRM-MC10-A	Ø10	\$38.29	47g
8102	CRM-MC14-A	Ø14	\$42.61	49g
8103	CRM-MC20-A	Ø20	\$46.33	61g
8104	CRM-MC30-A	Ø30	\$49.82	71g

**Standard weight. The weight is slightly higher when using hardware to attach to the QC-75.*

Compatible with your existing EOAT components!

- Available with Ø10, 14, 20, 30mm clamps.
- Can be printed to fit any Cobot.
- Compatible with our wide range of quick changers, vacuum posts, grippers or custom to fit your EOAT.

Cobot Mono Clamp Spacer for Sawyer ClickSmart

This 3D printed spacer enables you to expand Sawyers capabilities by using our Cobot Mono Clamp. Contact engineering if you have any questions.

Mono-Clamp Spacer for Sawyer ClickSmart

Quick#	Part#	Price	Wt.
8105	CRA-MCRT-B	\$15.48	51g



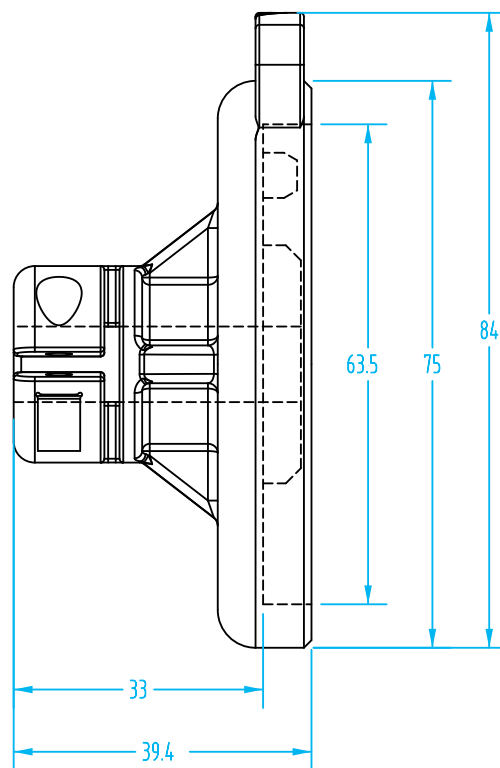
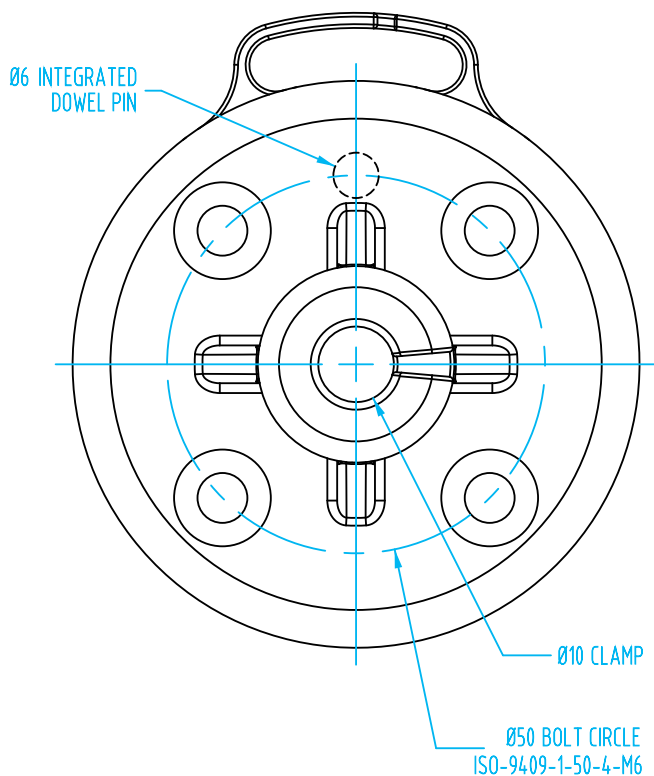
#8105

Easy Needle Gripping

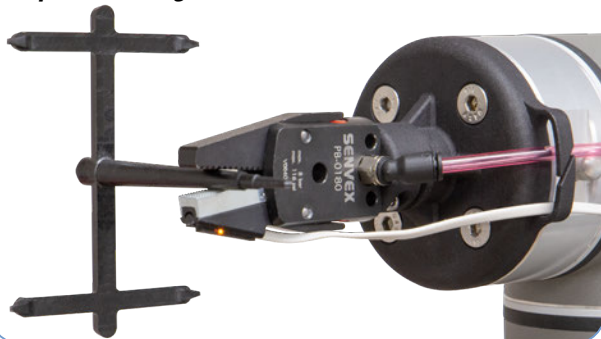


Cobot Flange Mono Clamp

(Quick# 8101 with Ø10mm clamp shown. All mono clamps have same overall dimensions.)



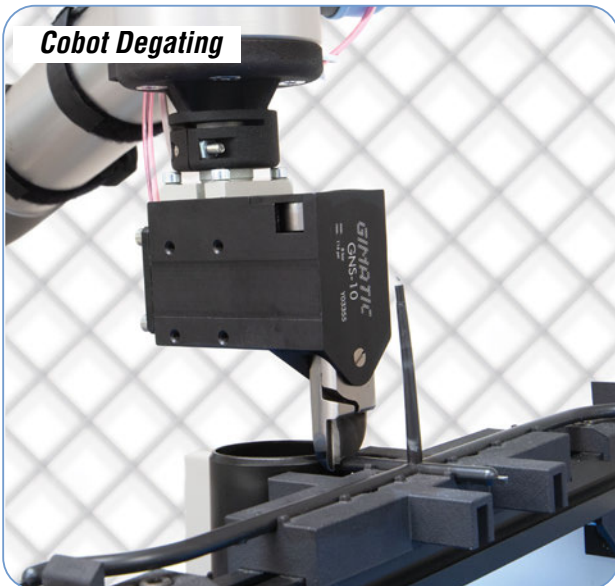
Sprue Picking



Secondary Vacuum Applications



Cobot Degating



ID Gripping





Custom and Plug-and-Play Solutions for your Cobot

Vacuum Gripper Kits

Vacuum is the most effective way of handling molded parts and EMI offers everything you need for a plug and play solution. EMI stocks the largest selection of Vacuum EOAT kits and components.

EMI Gripper Kits

EMI offers a wide array of handling gripper kits to meet your application needs, budget and Cobot platform. Every kit is in-stock and can be customized, expanded or simplified according to your specifications.

Cobot Accessories

Our Cobot Accessories are compatible with a wide range of robot platforms. EMI Solenoid Valve, Vacuum Generator and Cable Management kits are a cost effective, practical way to enhance your Collaborative Robot.

Cobot Stands

EMI Cobot Stands extend the reach of your robot arm. In-stock and cost-effective, these heavy-duty pedestals come in various heights and are available with a mobile base. Perfect for industrial environments.

Cobot Ready Conveyors

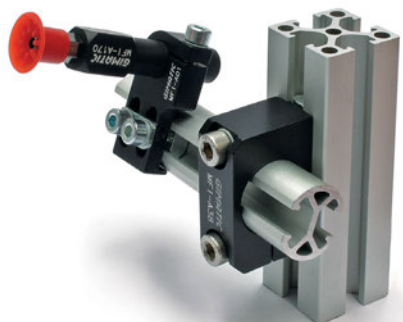
Cobot Ready Conveyors from EMI easily interact with your robot to provide continuous part transfer. Ideal for pick and place, machine tending and packaging, these conveyors are designed and manufactured to order.





EOAT Framing and Components from EMI

EMI stocks the complete line of Gimatic & >ASS< framing components!



Shop Profile!



EMI stocks a wide choice of extruded aluminum round, light and standard framing profile. Many optional items like end caps, channel covers, and cable ties are available.



Shop Framing!

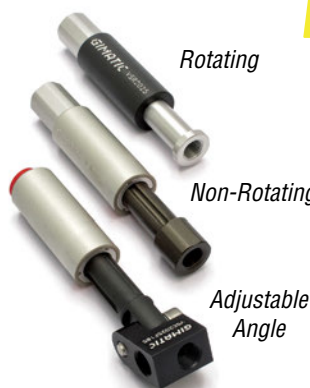


Inline vacuum cup mounts and adjustable angle arms shown to the left are common in vacuum applications.

EMI offers a wide choice of connectors, insert clamps, reducing inserts, slotted brackets, and more.



Shop Suspensions!



Rotating

Non-Rotating

Adjustable Angle

Suspensions are used to keep vacuum cups in position as the robot approaches.

EMI has a wide variety of rotating non-rotating, clampable and threaded body suspensions in-stock.

From the simplest to the most complex tooling, our EOAT engineers can design a tooling to suit your specific application.



Our extensive stock of framing components engineered for use by injection molders along with the broadest offering of vacuum cups, grippers, and everything needed in between, make EMI a one stop destination for robotic end effector / end-of-arm tooling builders.

Save time and money. Have EMI's experienced engineers design your EOAT. You'll get 3D CAD renderings of the design at no obligation. We'll also provide pricing for the tool should you want to purchase the EOAT from EMI either completely assembled or to build yourself.

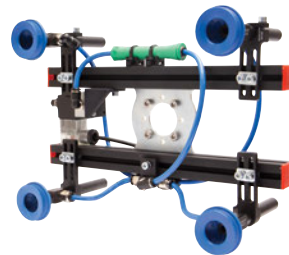
Modular Vacuum Gripper Kit p.52



3D Printed Vacuum Gripper Kit p.50



Pre-Built Vacuum Gripper Kit p.56



OnRobot VGC10 Vacuum Gripper p.58



OnRobot VG10 Vacuum Gripper with Dual Zone p.64



OnRobot VGP20 Vacuum Gripper with Quad Zone p.68



Schmalz® CobotPump Electric Vacuum Generator p.70



Coval® Sheet Metal Vacuum Cups p.76



Coval FlowPack for Packaging p.77



PIAB® MX Vacuum Cups – Multi-Purpose p.73



Schmalz Bin Packing Vacuum Cups p.74



Schmalz Sheet Metal Vacuum Cups p.75



Gimatic® Dual Durometer Vacuum Cups p.80



Gimatic Vacuum Cups for Package Handling p.78



Hithane® Vacuum Cups p.81



EMI Gripper Kit – 3D-V for Industrial Cobots

The development of the 3D-V Vacuum Kit stems from years of successful implementation of 3D printed components to compliment custom End-of-Arm Tools.

The 3D-V Vacuum Kit is easy to install, operate, and is ready to expand the capabilities of your Collaborative Industrial Robot.

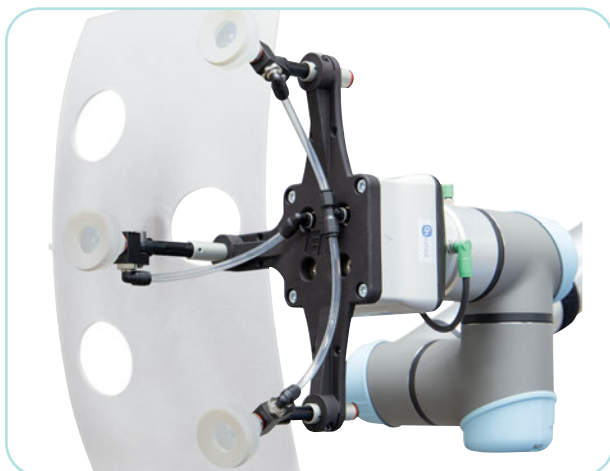
Quick#8000 – 3D-V (as shown)

KIT PRICE: \$895.00*

*price subject to change per configuration

3D-V Vacuum Kit:

- Fully Customizable: (1–16) Vacuum cups with variable spacing.
- Available with any vacuum cup from our catalog. Shown with industry standard Hithane vacuum cups above.
- Available with an integrated vacuum generator with a monitoring switch for part confirmation.
- Lightweight 3D printed frame made out of durable nylon.
- Up to 375mm x 275mm.
- Each 3D-V Vacuum Kit is designed for your specific application.
- Supply with compressed air.

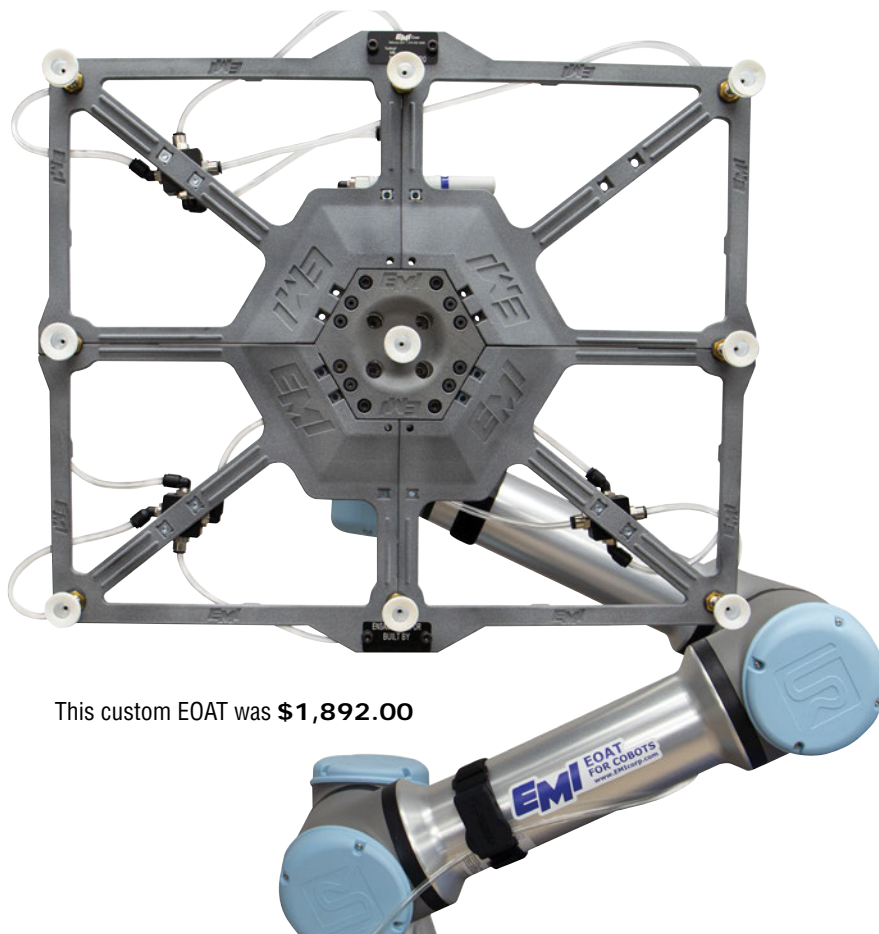


Combine with an OnRobot VGC10, see page 58.



Large sample 3DV can hold up to 10kg. Payload can vary by configuration.

EMI Gripper Kit – 3D-V for Industrial Cobots



This custom EOAT was \$1,892.00



Includes USB drive with literature and robot software plug-in.



Click here to download EMI's 3D-V Datasheet for ordering.



3D-V Gripper Kit Includes:



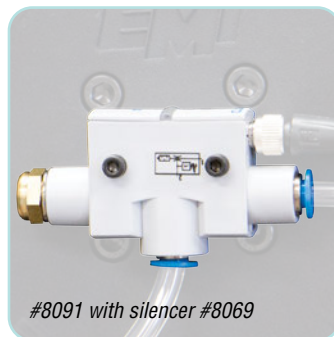
Quick# 8016

5/2 Solenoid valve with fittings, mufflers, and non-slip Velcro® strap.



Quick# 8015

Two cable management clamps with non-slip Velcro strap.



#8091 with silencer #8069

Vacuum generator with monitoring switch for part confirmation.



Hardware to mount your cobot or quick changer.

EMI Modular Vacuum Kit – MPK

Everything you need to get your Cobot up and running for vacuum applications.

EMI's Modular Profile Kit includes 2 mounting plates, 3 different lengths of profile (450mm, 350mm, 200mm), 3 styles of vacuum cups, vacuum posts, cross clamps, manifold, fittings, vacuum generator with integrated sensing, 5/2 on-arm solenoid valve, cable management clamps, tubing, wiring harness, and all the necessary hardware to build your own custom vacuum EOAT.

Quick# 8005

CRK-MPK1-A

KIT PRICE: \$995.⁰⁰

Modular MPK Vacuum Kit:

- Modular, lightweight aluminum frame with two anodized aluminum mount plates.
- Three sets of vacuum cups included: high temperature Silicone, non-marking Hithane and Dual Durometer.
- Includes an integrated vacuum generator with a monitoring switch for part confirmation.
- Up to 450mm x 450mm footprint!
- Compatible with our existing line-up of EOAT components.
- Includes EMI's robot plugin and sample CAD models for easy assembly and programming.
- Compatible with the ISO-9409-1-50-4-M6 mounting interface.
- Compatible with QC75 and QC90 quick changers.



Easily modify configurations when your application changes.



Our User Guide provides all information from setup to troubleshooting.

EMI Modular Vacuum Kit – MPK

Completely modular and lightweight, the MPK is a great starting point for most vacuum applications and can easily be expanded with EMI's complete line up of EOAT framing, suspensions, grippers, vacuum cups, and more. All in stock and ready to ship with a team of Engineers ready to assist you with your application.



Interface plates and URCap make attaching and programming on Universal Robots fast and easy.



Quick# 8016

5/2 Solenoid valve with fittings, mufflers, and non-slip Velcro® strap.



Quick# 8015

Two cable management clamps with non-slip Velcro strap.



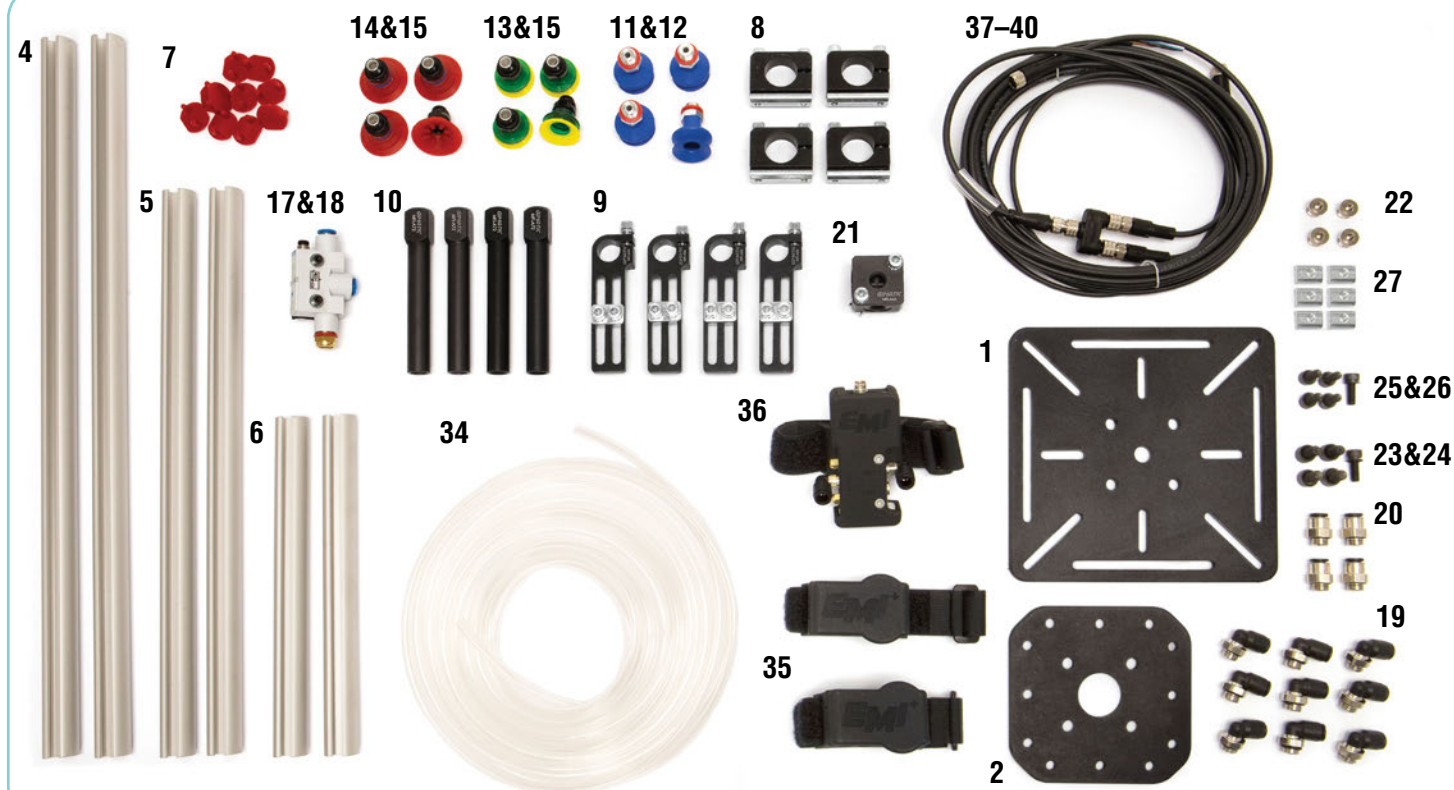
#8091 with silencer #8069

Vacuum generator with monitoring switch for part confirmation.



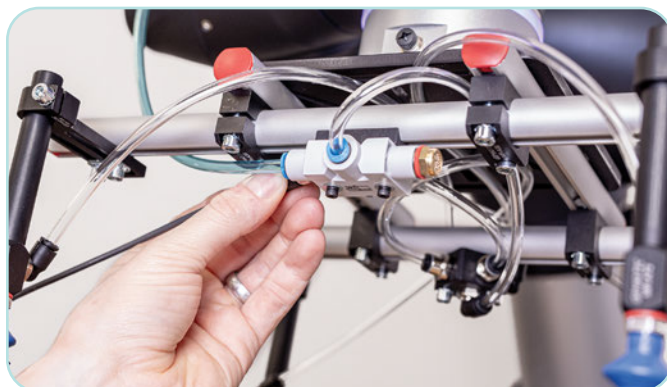
USB drive includes EOAT sample assemblies, and user manual.

EMI Modular Vacuum Kit – MPK



Easy to Assemble and Modify!

EMI's Modular Profile Kit includes all the components needed to build your own vacuum end effector. The USB drive includes several CAD models of assemblies pre-designed by our EOAT Engineers. If you have any questions on how to build your End of Arm Tooling, just give us a call. We'll be happy to guide you through the process.



Modular Profile Kit Bill of Materials

#	Quick#	Part#	Description	Qty.
1	8057	CRM-0138-1A	UR Mount Plate	1
2	8058	CRM-0138-2A	UR Mount plate	1
3	8092	CR3-0138-3	Vacuum Generator Bracket	1
4	6035	EMB-2017-1000	Ø20mm Profile, 450mm long	2
5	6035	EMB-2017-1000	Ø20mm Profile, 350mm long	2
6	6035	EMB-2017-1000	Ø20mm Profile, 200mm long	2
7	6054	MFP-K29	Profile end cap (10pack)	1
8	5695	MFI-A38	Ø20mm Cross Clamp	4
9	5702	MFI-A06	Ø14mm long Angle Clamp	4
10	5735	MFI-A72	Ø14mm Vacuum Arm	4
11	1653	GSV-BHT-25	25mm Hithane Vacuum Cup	4
12	1604	GSF-PFN-G8M	G1/8 Vacuum Nipple	4
13	5645	GSV-1BDD-25	25mm Duraflex Cup	4
14	1429	GSV-F30-20	30mm Flat Piab Cup	4
15	5157	GSV-02AB	G1/8 Nipple for Piab Cups	8
16	244	GSF-G-G8	G1/8 Seal Ring	4
17	8091	VN10H-T4-PQ2-VQ2-O1P	Vacuum Generator w/ Monitor	1
18	8069	AMTE-M-H-G18	G1/8 Muffler	1
19	121	GSF-QME-G806	6mm, G1/8 Elbow Fitting	9
20	105	GSF-QMC-G806	6mm, G1/8 Straight Fitting	4
21	5771	MFI-A66	5-port Manifold Block	1
22	1388	GSF-TPP-U8	G1/8 Plug	4
23	880	GSC-M6-LW	M6 Lock Washer	4
24	873	GSC-M6-14	M6x14 SHCS	4
25	854	GSC-M5-14	M5x14 SHCS	6
26	865	GSC-M5-LW	M5 Lock Washer	6
27	6019	MFI-025	M5 Channel Nut	6
28	822	GSC-M3-22	M3x22mm SHCS	2
29	827	GSC-M3-LW	M3 Lock Washer	2
30	829	GSC-M3-FW	M3 Fender Washer	2
31	318	GSC-TI-M3	M3 Brass Insert	2
32	986	GSC-FSH-4x10	M4x10mm FSH	1
33	6058	MFI-177	M4 Channel Nut	1
34	958	GSU-PC-0604	Ø6mm Clear Tubing	1
35	8015	CRA-CMK-1	Cable Mgmt. Kit	2
36	8016	CRA-SVK-1	Cobot Solenoid Valve Kit	1
37	8081	GSE-E12269	IFM Splitter	1
38	8082	GSE-RFC-M8-4P	4-pin M8 Connector Robotic Flex (5m)	1
39	8086	CRC 1000 3P*	3-pin M8 Cable (1000mm)	1
40	8084	CRC 650 3P*	3-pin M8 Cable (650mm)	1

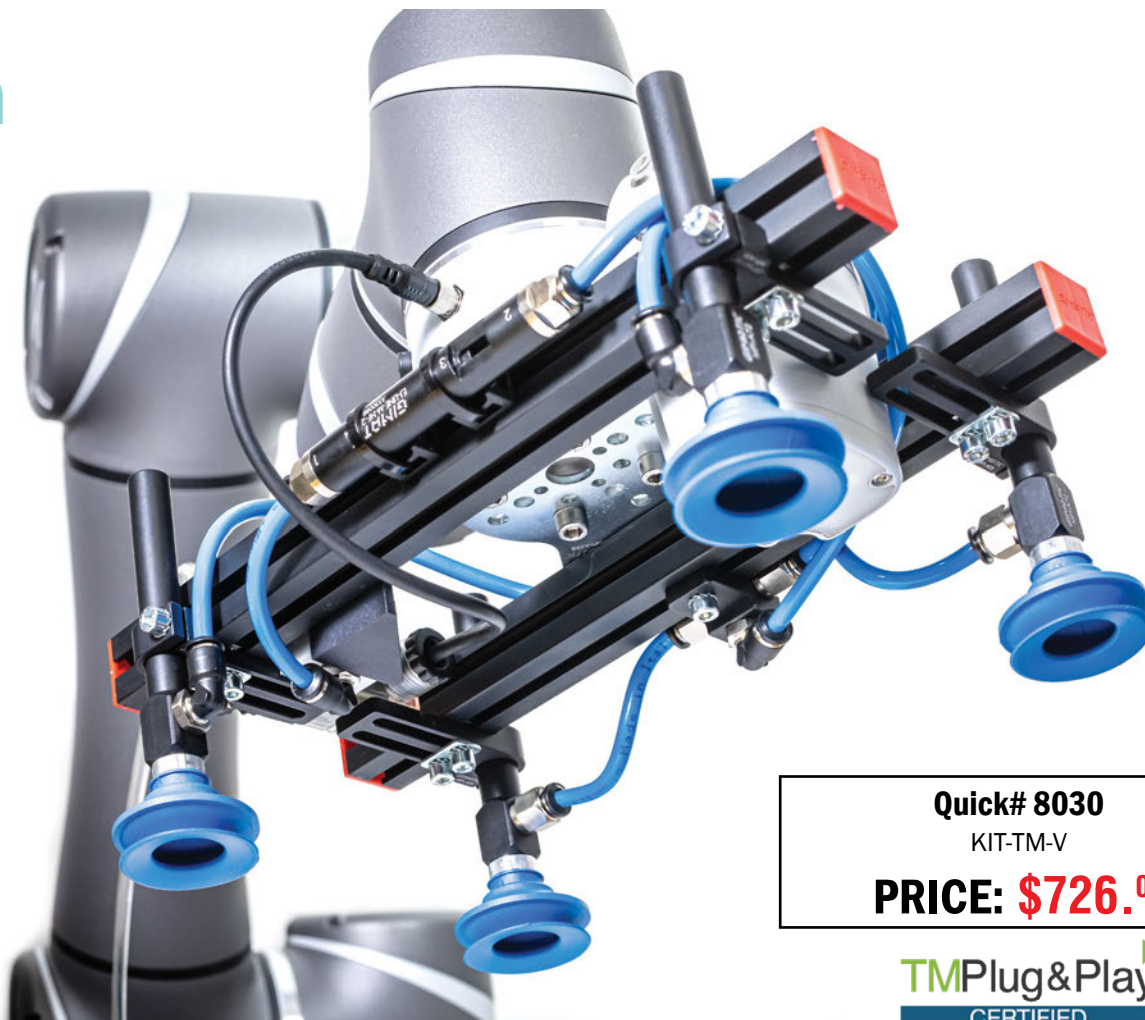
*Part may vary.

Contact EMI for hardware and 3D-printed components.

EMI's wide offering of EOAT components allows you to expand on the MPK. Check out different vacuum cups, grippers and framing in our EOAT Catalog to make this kit even more adaptable.

Modular Vacuum Kit for Cobots

KIT-V for UR and Fanuc CRX and Techman Robots is a modular and durable vacuum end effector. A lightweight, extruded aluminum frame offers versatility so it can be used for different tasks with minimal setup time.



Quick# 8030

KIT-TM-V

PRICE: \$726.⁰⁰

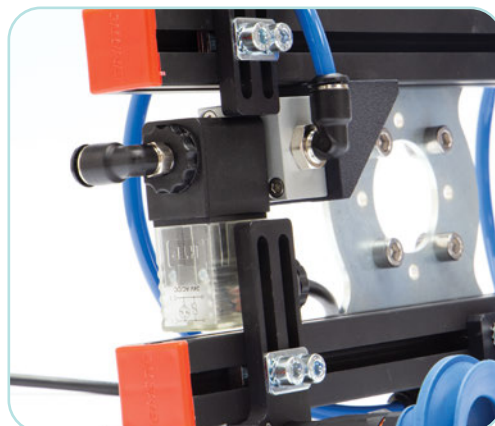
TMPlug&Play
CERTIFIED

Gimatic by EMI KIT-UR-V & KIT-TM-V

End Of Arm Tool (EOAT) for vacuum based pick & place operations. The included pneumatic actuator allows for a direct connection to the robot wrist.

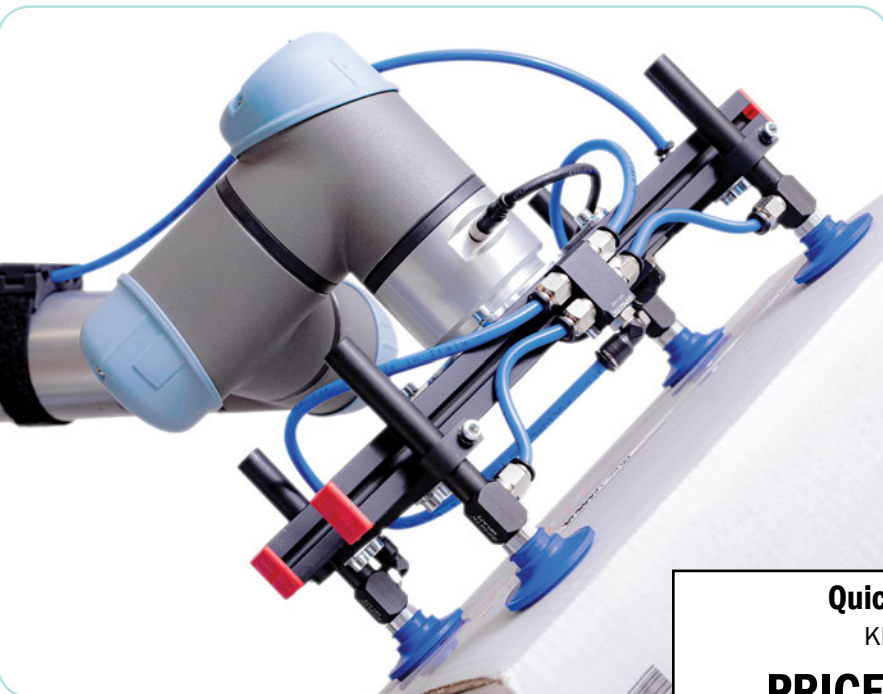
The KIT-TM-V is designed for Techman Robot cobots (TM5, TM12 and TM14 series). This kit is completely compatible with Gimatic EQC20-TM (Quick#8155) and it can be used in combination with any collaborative robot that provides a limited power supply capability at the wrist.

Mount the system with the included mechanical flange to the wrist of the robot and connect the main valve inlet to the pneumatic power source. The system can be electrically connected directly to the wrist of the robot. The system can be operated via digital output from the tool interface of the UR robot.



Complete with embedded vacuum generator and solenoid valve.

Modular Vacuum Kit for Cobots



Features:

- **Delivered fully assembled, and easy to adjust.**
- KIT-UR-V: Compatible UR and Fanuc CRX.
- KIT-TM-V: Compatible with TM5, TM12 and TM14.
- Directly connects to the wrist of the robot.
- Plug & play solution.
- Embedded vacuum generator and solenoid valve.
- Delivery with standard HNBR vacuum cups. Contact EMI for different vacuum cups.
- Weight: 1.3 kg.

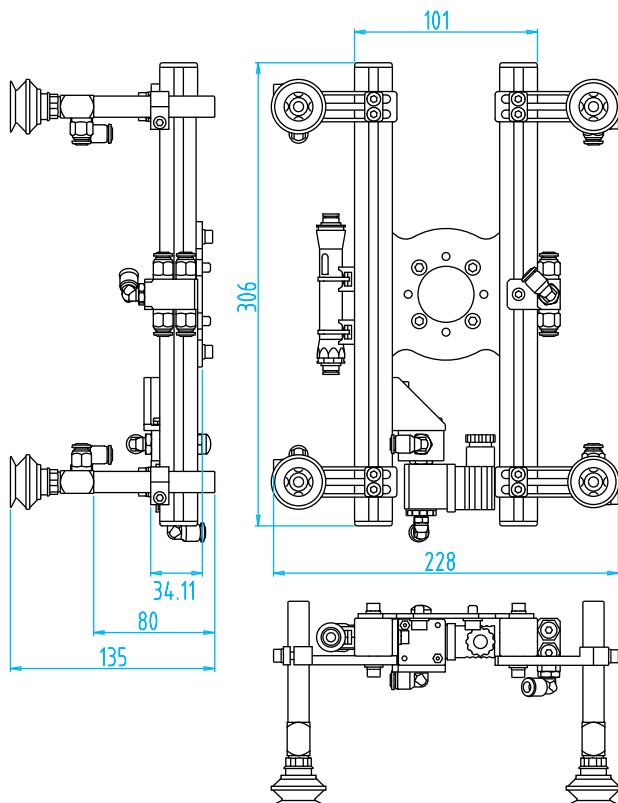
Quick# 8011

KIT-UR-V

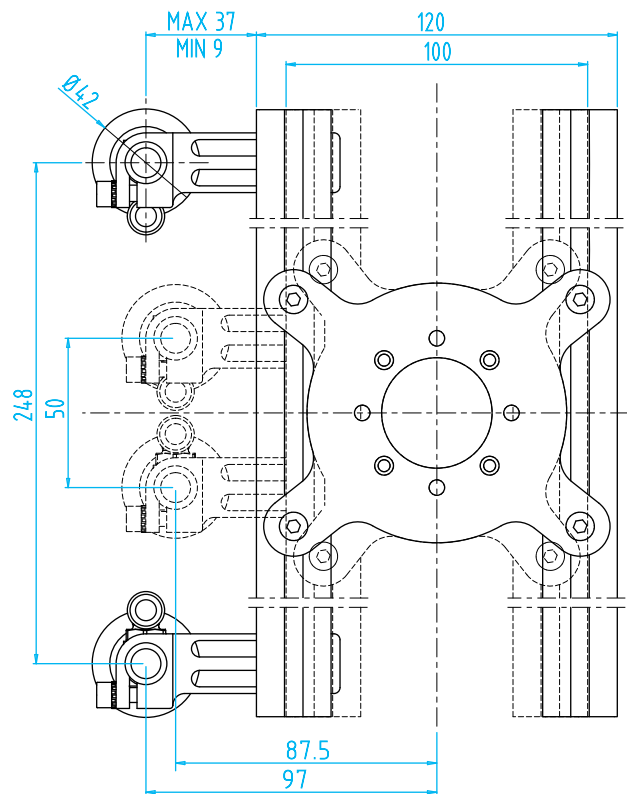
PRICE: \$726.⁰⁰



Dimensions (mm):



Adjustments (mm):



OnRobot VGC10 Customizable Electric Vacuum Gripper



Electric Vacuum Generator with 33 lbs payload, dual vacuum channels, and built-in quick changer is ideal for injection molded parts. Use your existing EOAT components to frame an EOAT that can run anywhere in your plant. **No Compressed Air Required!**

Quick# 8211

OR-102844

PRICE: \$3,364.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Features:

- Two independent LH/RH air channels for dual gripping are helpful for handling plastic molded parts.
- Flexible electric vacuum gripper with unlimited customization fits all your application needs.
- Compact, lightweight gripper is perfect for tight spaces but with plenty of power for objects up to 15kg.
- Built-in electric vacuum generator.
- No external air supply needed.
- Integrated software.

Technical Specs	
Vacuum	5%– 80% Vacuum (1.5Hg – 24Hg)
Air flow	12 NI /min (0.42 SCFM)
Max. payload w/ default attachments*	13.2 lb (6 kg)
Max. payload w/ custom attachments*	33.1 lb (15 kg)
Gripping time	0.35 seconds
Releasing time	0.20 seconds
Weight	814g (1.79 lb)
Power supply	20.4V – 28.8V
Current consumption	50mA – 1500mA
Operating temperature	32° – 122°F

* When using three 40mm cups (more info in the table). Number of cups needed for non-porous materials varies depending on payload and vacuum.

Box Includes:

- VGC10
- Mounting plate
- 15mm Vacuum cup (x 8)
- 30mm Vacuum cup (x 6)
- 40mm Vacuum cup (x 4)
- Vacuum post (x2)
- G1/8" Vacuum cup nipple (x10)
- 6mm Push-in fitting (x4)
- G1/8" Plug (x4)
- M6 x 10mm screw (x4)
- 3mm Hex key
- Torx T30 key



OnRobot VGC10 Customizable Electric Vacuum Gripper

Custom 3D Printed EOAT and Cobot Ready Conveyor by EMI

EMI's Cobot Ready Conveyors are designed to be integrated with your Universal Robot to provide continuous part transfer and are ideal for pick and place, machine tending, and packaging applications.

Foam Surface Cups
See EMI website.

**Electric Vacuum with
Molders in Mind!**



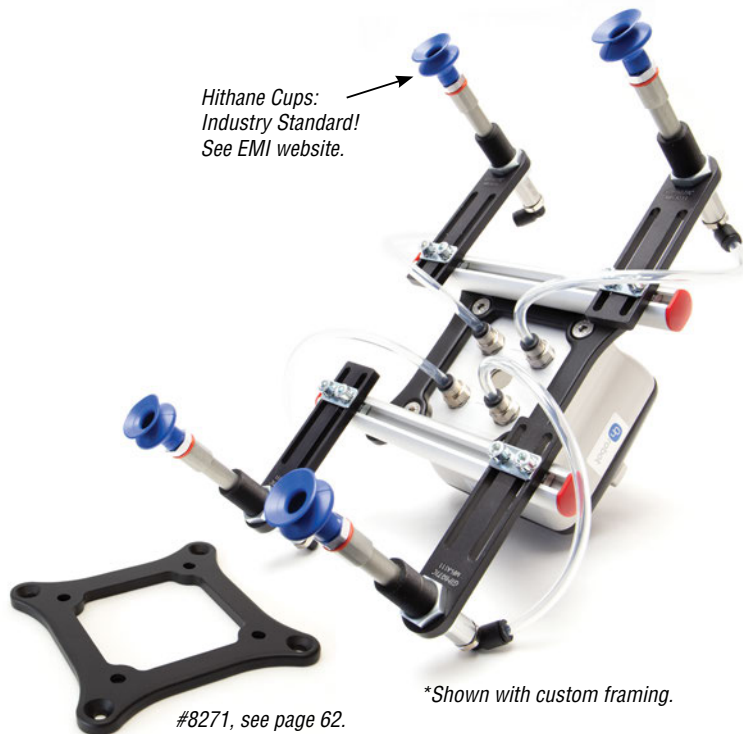
OnRobot VGC10 Filter Kit

Quick#	Part#	Price
8243	OR-100064	\$238.00

Box Includes:

- Manual with instructions
- 16x Input filters
- 16x Filter fittings
- 16x O-rings
- Output filter
- O-ring for output filter
- Retaining ring
- 14mm spanner
- 3mm Hex key
- Loctite®

Hithane Cups:
Industry Standard!
See EMI website.



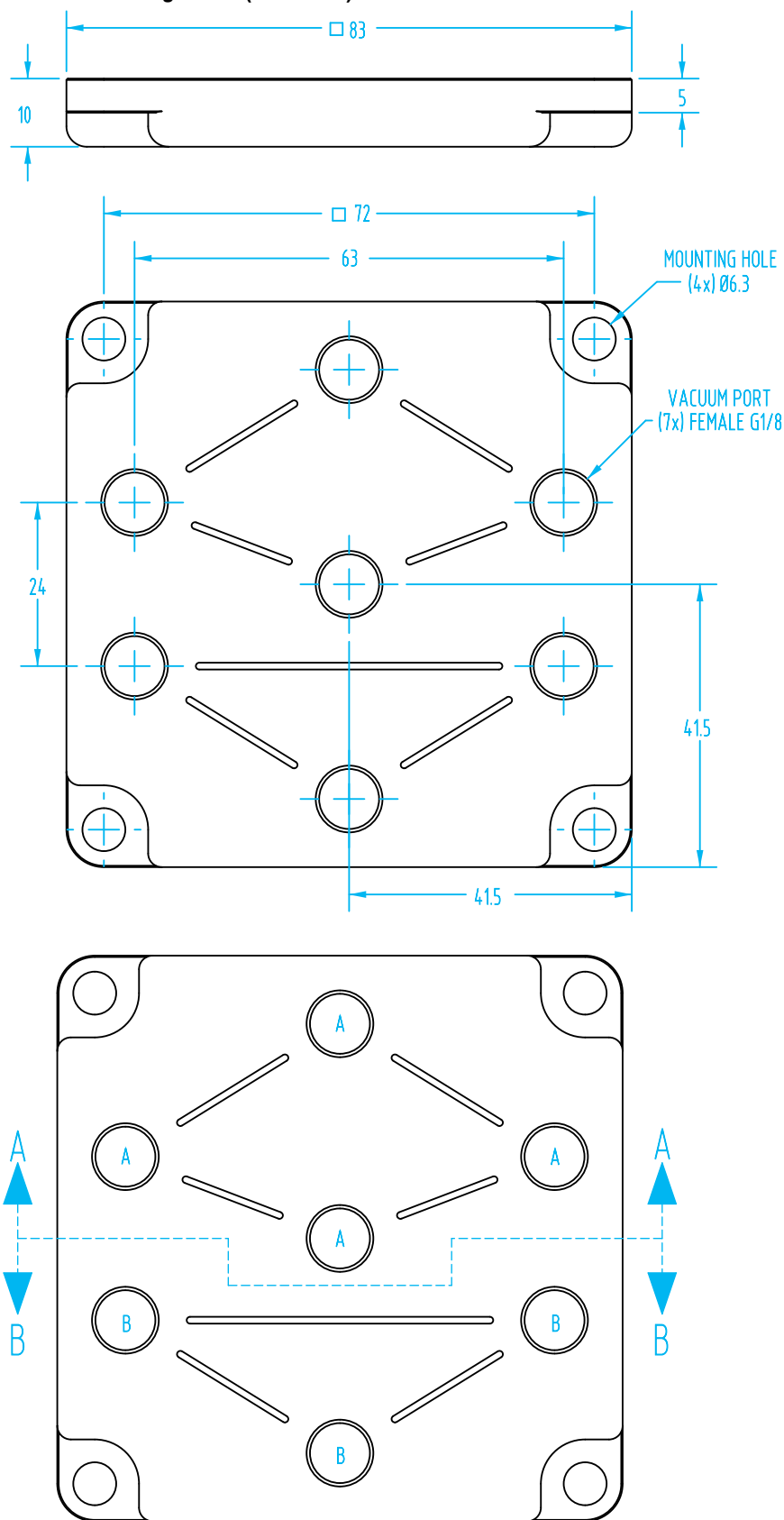
*Shown with custom framing.

#8271, see page 62.

OnRobot VGC10 Customizable Electric Vacuum Gripper

(Dimensioned drawing shown full scale)

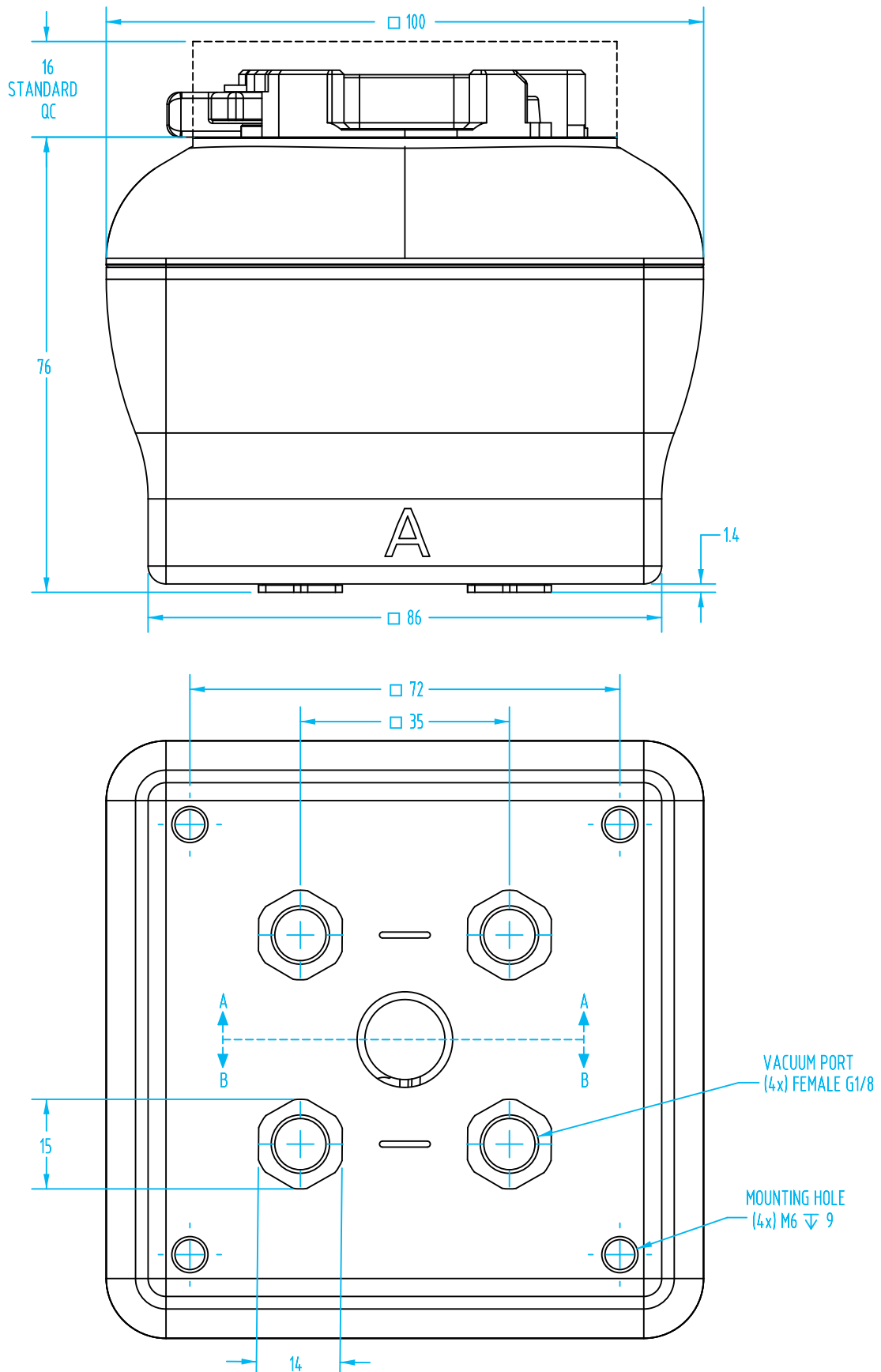
VGC10 Mounting Plate (Included):



PORTING LAYOUT OF THE INCLUDED VGC10 MOUNTING PLATE.
CHANNEL A - 4 PORTS, CHANNEL B - 3 PORTS.

OnRobot VGC10 Customizable Vacuum Gripper

(Dimensioned drawing shown full scale)



OnRobot VGC10 Customizable Electric Vacuum Gripper

(Dimensioned drawings shown full scale)

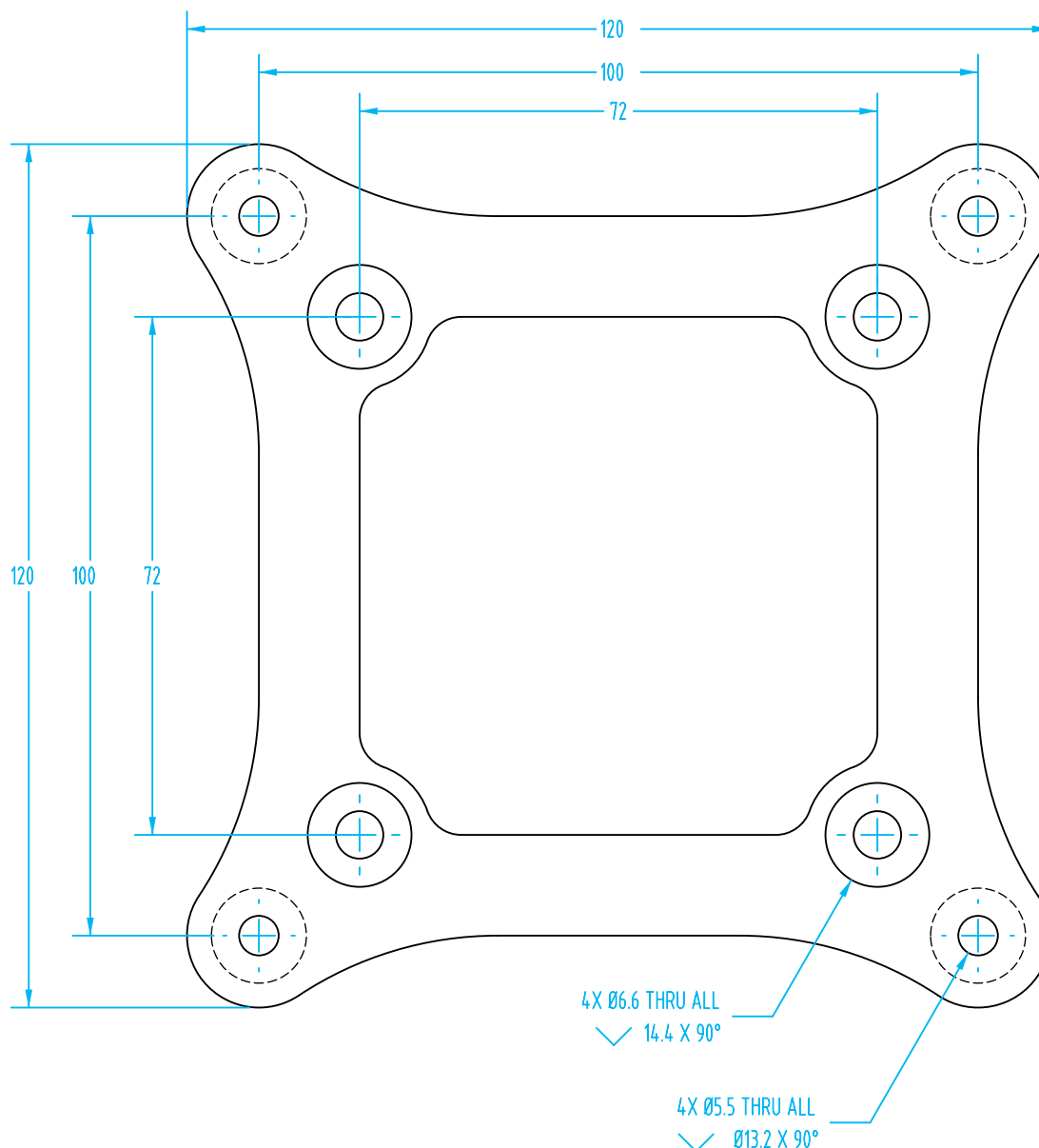
Custom mounting plates and EOAT by EMI

Have a specialty application that requires a custom vacuum gripper? Contact us to discuss! In-stock mounting plates are also available.

VGC10 Mounting Plates for EOAT

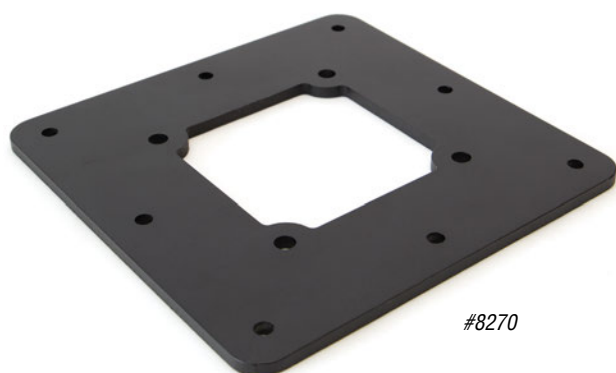
Quick#	Part#	Description	Wt.	Price
8271	CRM-0241-VGC10-4	Collaborative EOAT Plate	105g	\$41.84
8270	CRM-0241-VGC10-1	Laser Cut EOAT Plate	225g	\$23.45

Use Quick#s for easy online ordering.

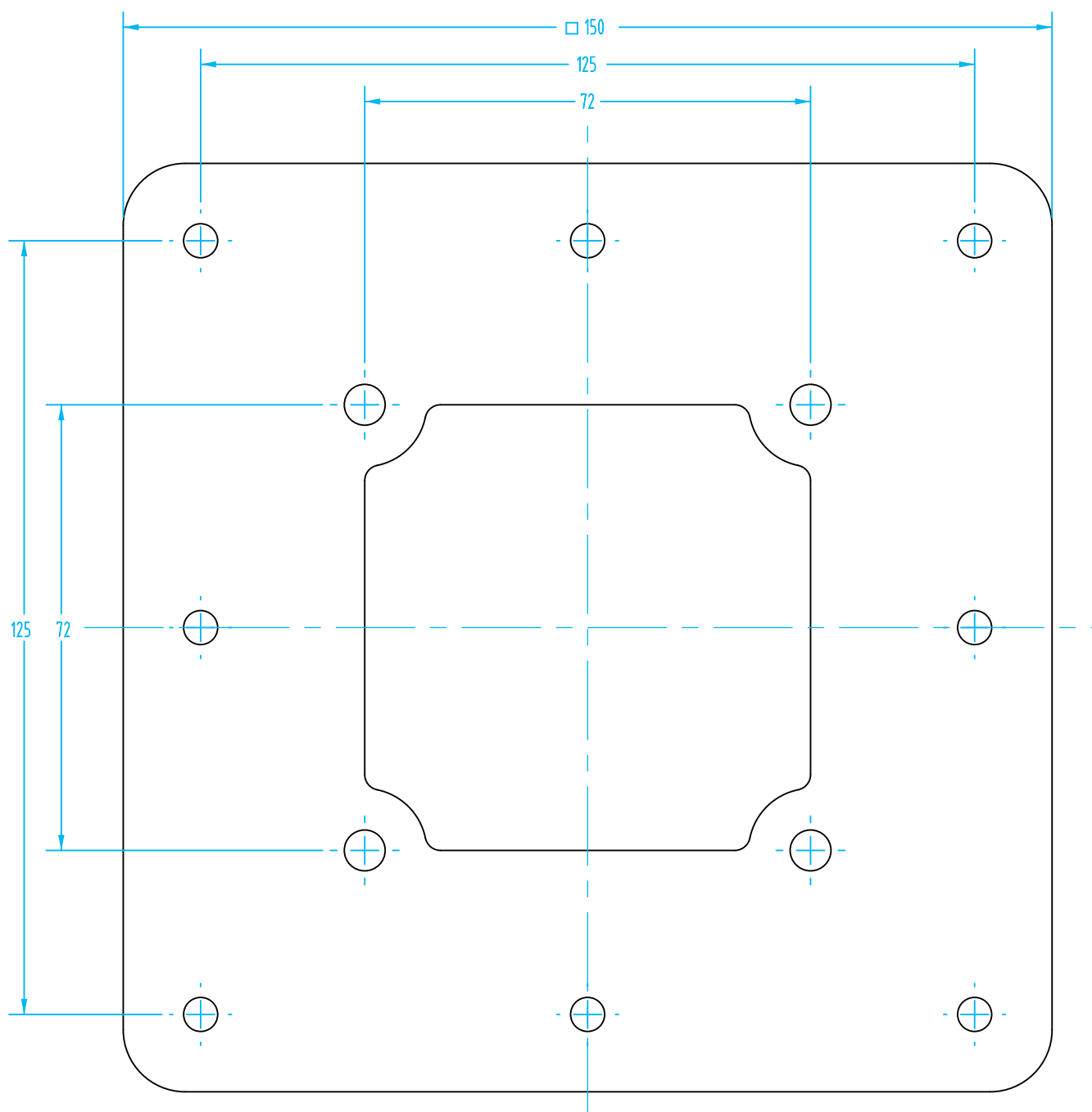


OnRobot VGC10 Customizable Electric Vacuum Gripper

(Dimensioned drawings shown full scale)



#8270



OnRobot VG10 Electric Vacuum Gripper with Dual Zone



Quick# 8210
OR-101661

PRICE: \$5,462.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Built on the VGC10 platform, this unit has the same features plus built-in swiveling arms that can house up to 16 vacuum cups on a 400mm footprint.

Features:

- Two independent LH/RH air channels for dual gripping is helpful for handling plastic molded parts.
- No external air supply required.
- Seamless integration with the robot of your choice.
- Integrated software.
- Configurable vacuum cups on four swivelling arms, up to 16 cups can be used with 8 per vacuum channel.
- Built-in electric vacuum generator.
- Dimensions (folded): 105mm x 146mm x 146mm tall. Dimensions (unfolded): 105mm x 390mm x 390mm tall.

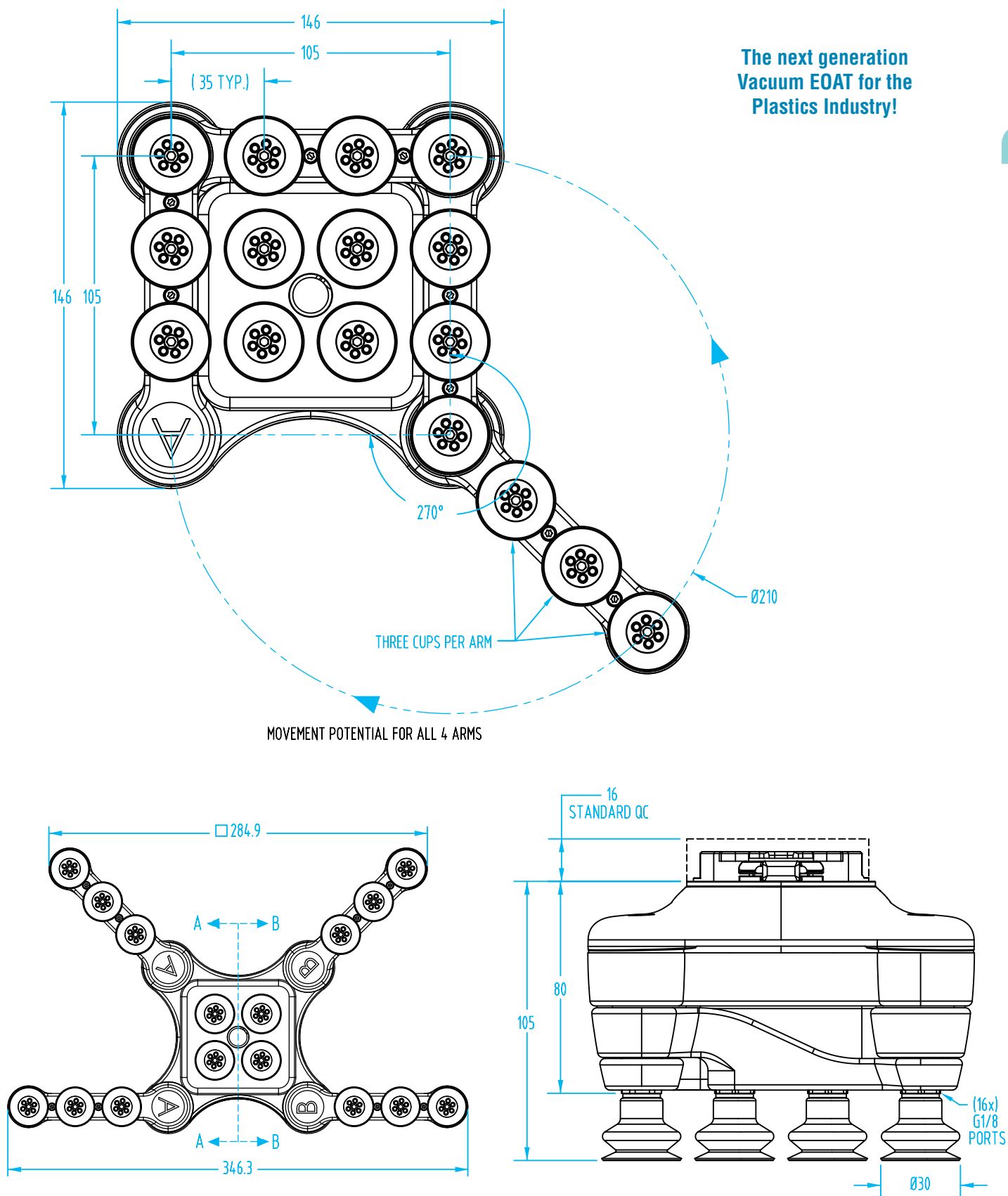
Technical Specs	
Vacuum	5%– 80% Vacuum (1.5Hg – 24Hg)
Air flow	12 NI /min (0.42 SCFM)
Arms adjustment	0° – 270°
Arm holding torque	6 Nm
Maximum rated payload	33 lb (15 kg)
Gripping time	0.35 seconds
Releasing time	0.20 seconds
Weight	1620g (3.57 lb)
Power supply	20.4V – 28.8V
Current consumption	50mA – 1500mA
Operating temperature	32° – 131°F



OnRobot VG10 Electric Vacuum Gripper with Dual Zone

(Dimensioned drawings reduced to fit)

The next generation
Vacuum EOAT for the
Plastics Industry!



OnRobot VG10 Electric Vacuum Gripper with Dual Zone

The VG10 uses the separate vacuum channels to control the left hand and right hand cavities separately. Hithane® vacuum cups are recommended for parts that may be painted or chromed.



OnRobot VG10 Electric Vacuum Gripper with Dual Zone



VG10 shown in its most compact form working with an EMI Cobot Ready Conveyor is perfect for packaging applications. See page 194 for more information about our Conveyors!

OnRobot VG10 Filter Kit

Quick#	Part#	Price
8243	OR-100064	\$238.00

Box Includes:

- Manual with instructions
- 16x Input filters
- 16x Filter fittings
- 16x O-rings
- Output filter
- O-ring for output filter
- Retaining ring
- 14mm spanner
- 3mm Hex key
- Loctite®



OnRobot VGP20 Electric Vacuum Gripper with Quad Zone



Quick# 8213

OR-107242

PRICE: \$6,009.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Features:

- Industry's most powerful electric vacuum gripper.
- Highly versatile gripper with unlimited customization possibilities fits many applications.
- Built-in intelligence and multichannel functionality ensure fail-safe, flexible operation.
- Complete out-of-the-box vacuum gripper offers fast, easy deployment with any leading robot.
- Powerful, flexible gripper is ideal for porous and non-porous surfaces.
- Sixteen Ø40mm vacuum cups are included with a total 450mm footprint. Many other cup options are available, see EMI's website.

Technical Specs	
Vacuum	5%– 60% Vacuum (1.5Hg – 17.95Hg)
Air flow total	48 NL /min (1.7 SCFM)
Air flow on each channel	12 NL /min (0.42 SCFM)
Maximum rated payload*	44 lb (20 kg)
Gripping time**	0.25 seconds
Releasing time	0.40 seconds
Weight	2550g (5.62 lb)
Power supply	20.4V – 28.8V
Current consumption	50mA – 4500mA
Operating temperature	32° – 122°F

* Cardboard is recommended up to 10 kg. 20 kg payload can be achieved with low accelerations (0.2G added to 1G; 1G = gravity = 9.82 m/s²). Other conditions may apply.

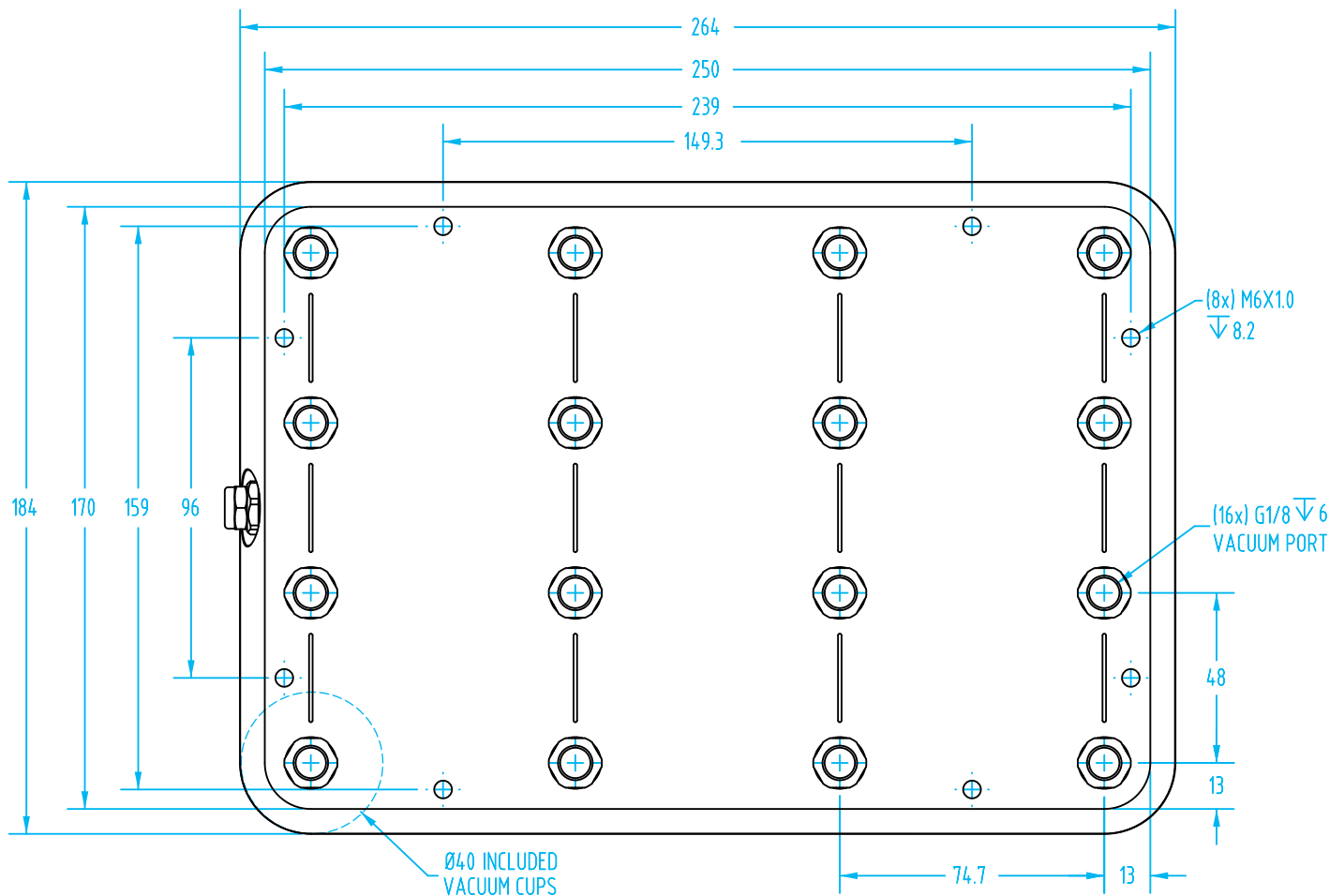
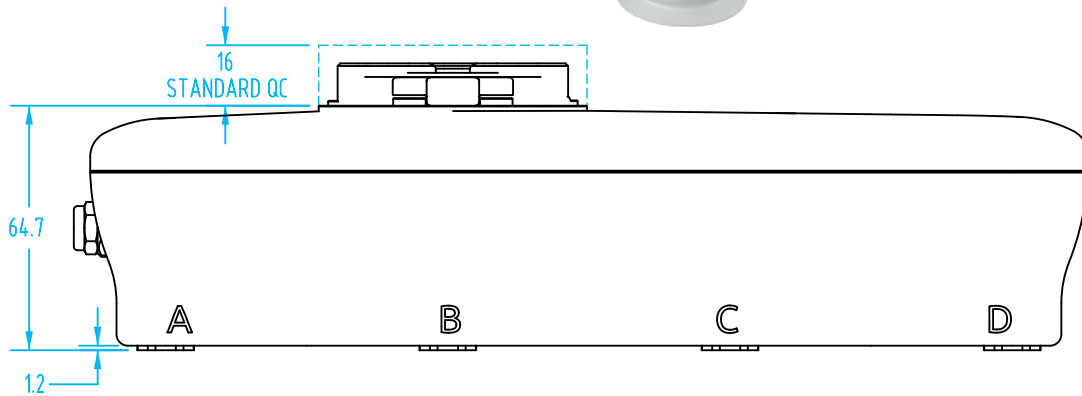
** The gripping time can be shortened with smaller or less suction cups. The release time depends on the payload. With high payload, you can achieve fast release time.



Shown with a Gimatic tilt unit and roller for a label placement application.

OnRobot VGP20 Electric Vacuum Gripper with Quad Zone

(Dimensioned drawings shown 1:2)



Schmalz® CobotPump Electric Vacuum Generator



The CobotPump ECBPM is designed especially for the automated handling of small parts with a single vacuum cup. This lightweight and compact solution is typically used on collaborative robots with a lifting capacity of up to three kilograms (6.6 lbs).

Quick# 8090

ECBPM-UR

PRICE: \$1,391.⁰⁰

Try It Risk Free!

*Contact us for details

Electric Vacuum Generator for Collaborative Robots

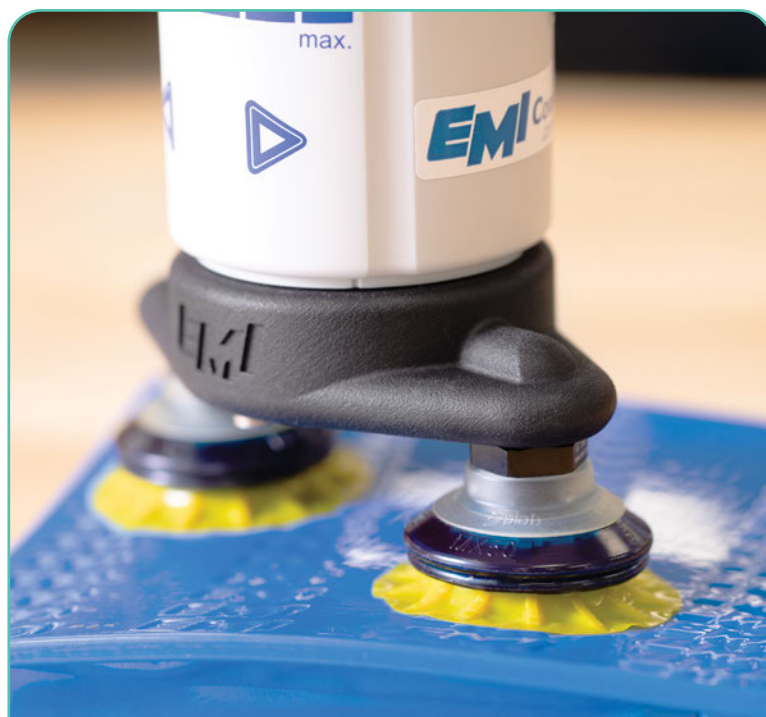
- Fully electric, no need for compressed air.
- Energy saving control mode ensures efficient operation.
- Mechanical connection via flange adapter plate.
- Central electrical interface and simple control.
- Electrical connection via external cable routing or internal pin connection.
- Compatible with other robots. Contact EMI for more info.
- Has a female G1/4" thread. Reducer bushings available from EMI.
- Many replacement vacuum cups available, see EMI website.

ECBPM Technical Specifications:

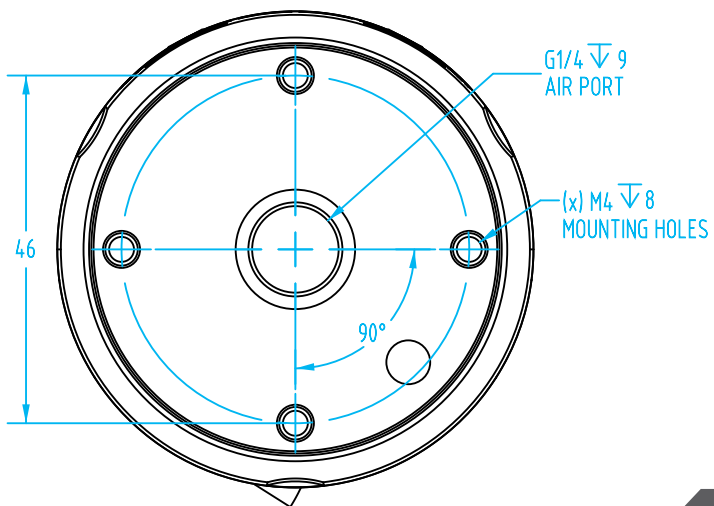
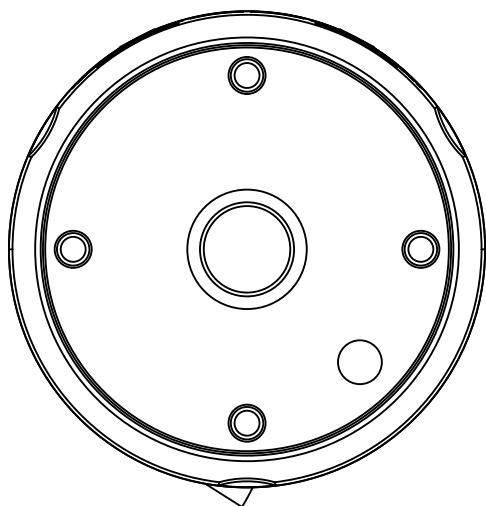
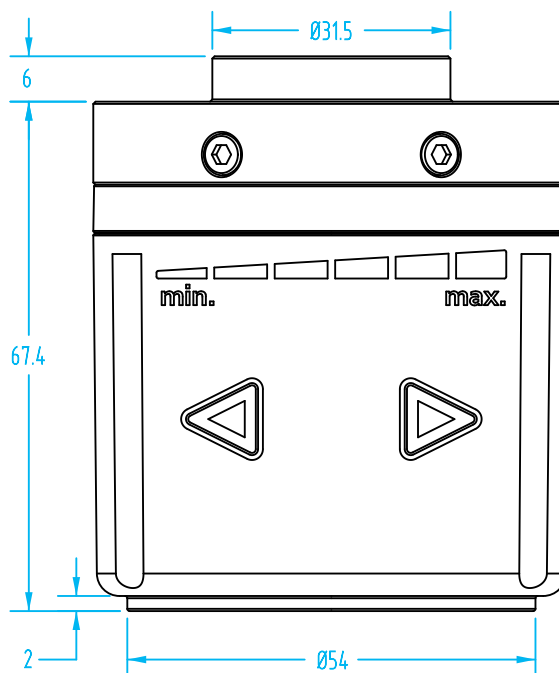
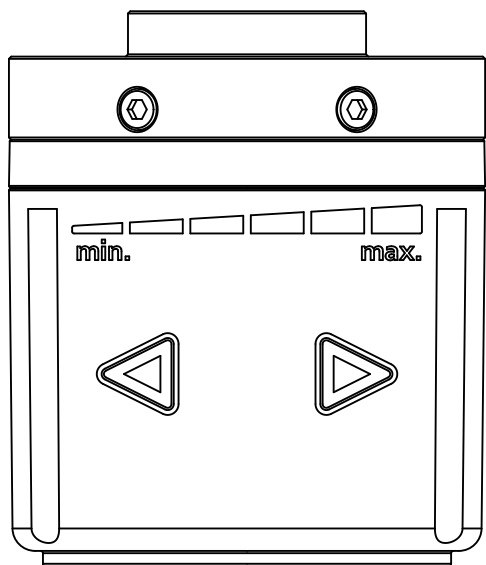
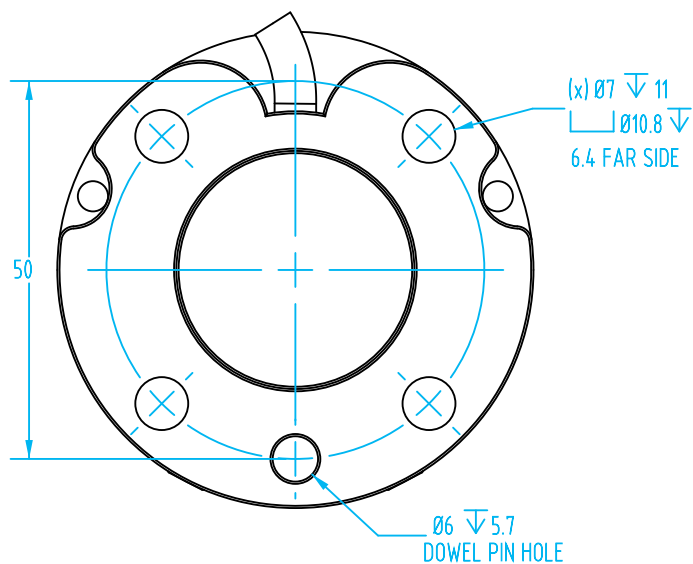
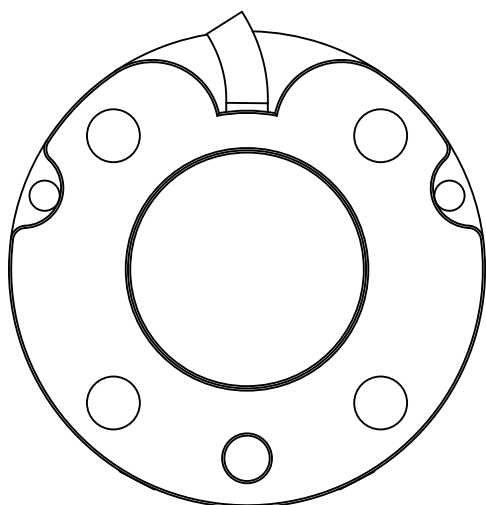
- Max payload: 6.6 lb (3 kg)
- Suction rate (max): 1.6 l/min
- Rated power: 7.2 W
- Voltage: 24Vdc
- Rated current: 0.3 A
- Electrical connection: Spring contact
- Noise level (max): 57 dB
- Ambient temperature: 32–104°F (0–40 °C)

ECBPM Vacuum Gripper Kit Includes:

- Cobot Pump with mounting interface.
- Vacuum cups with fittings: Ø20mm Flat & Ø30mm 1.5 Bellow.
- Hardware
- USB Drive with robot plugin.



Schmalz® CobotPump Electric Vacuum Generator



Vacuum Cups from EMI

Gimatic®



Available in two styles: flat or with 1.5 bellows.
Four materials: Silicone, EPDM, and HNBR.
*Call EMI for Natural Rubber cups.
Diameter from Ø11mm to 53mm.

Dual-Durometer



Dual Durometer cups are considered to be the best polyurethane cups for use with EOAT.
Mark-free, long-lasting Polyurethane.
Flexible surface.
1.5 Bellow, & 2.5 Bellow Ø11–75mm.

Hithane®



A hybrid, high-temp, non-silicone, non-marking cup for use with hot plastic parts.
Maximum temperature 320°F.
Good flexibility.
Flat, Oval, 1.5 Bellow, & 2.5 Bellow.

Foam



Very soft, closed-cell silicone foam vacuum cups for textured surfaces.
Flat Ø8–40mm.
1.5 bellows, Ø20–40mm.

Packaging & Paper



DURAFLEX® mark-free material features the elasticity of rubber in combination with the wear resistance of polyurethane.
High-flow fitting allows for high initial vacuum flow needed for bag handling.
Ø30–40mm.

Mini



For those tiny parts, vacuum cups as small as Ø1mm.
Flat, 1.5 bellows, and 2.5 bellows.

Anti-Static



Anti-Static vacuum cups are typically used in electronic, packaging, and small parts applications.
These are from the SMC family of vacuum cups.
Available in Flat, and 1.5 bellows up to Ø16mm.

Hi-Speed



Optimized for high speed attachment and release.
Great for high speed thin wall molding applications.
Silicone and very flexible polyurethane materials.

Choose the right cup for your application:

- Injection Molding
- Bin Picking
- Sheet Metal
- Corrugate
- Composites
- FlowPack
- Packaging
- Anti Static

EMI offers a wide selection of in-stock vacuum cups to upgrade your Cobot Vacuum Kit. Contact us if you need assistance with you application.

Shop EOAT Vacuum Cups!

PIAB®



- Excellent performing silicone vacuum cups in many styles.
- Low-cost chloroprene for lower temperature, non-critical applications.
- Dual durometer cups are one of the best PU cups for use with EOAT.
- Configurable piGRIP vacuum cups have replaceable lips. Choose standard lips from 60°shore to extremely flexible, soft lips in 30° shore.

Material	Flat w/Ribs	Flat	Deep	1.5 Bellows	2.5 Bellows
Silicone	15–75mm	2–50mm	15–50mm	5–110mm	
Polyurethane	15–50mm			15–50mm	
Chloroprene	15–30mm	4–20mm	15–50mm	5–40mm	
Nitrile	40–75mm	30–50mm	15–50mm	50–75mm	
piGRIP		28–77mm		28–77mm	28–77mm
Dual-Durometer				10–75mm	10–75mm

Paper & Foil



Special ridges keep paper, foil, and other thin material from being sucked into the cup.
Natural rubber vacuum cups Ø15–40mm.

For Carbon Fiber



PTFE vacuum cups do not stick to hot carbon fiber parts (up to 480°F)
Used in applications where needle grippers would puncture and damage the structure of composites.
Supporting ribs avoid suction and deformation of soft materials.

PIAB® MX Vacuum Cups – Multi-Purpose

The MX suction cups are outstanding for picking various objects of different materials. Designed primarily for logistics, warehousing, e-commerce and re-cycling applications – this is a truly multi-purpose suction cup with extreme gripping capabilities.

- **Sizes available:** 35, 42, 50, 57, 65mm.
- Sturdy bellows. Soft, thin lip.
- Made out of Piab's Duraflex® material.
- Wear resistant polyurethane.
- "Mark Free" capabilities.
- Exceptional sealing capabilities at lower vacuum levels.



Shop Here!



PIAB MX Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
Dual Durometer Polyurethane	Semi-translucent Blue / Yellow	122°F	30/60



Schmalz® SVE Vacuum Cups for Bin Picking



Shop Here!



These bin-picking vacuum cups from Schmalz have an extremely thin sealing lip for optimal adaptation to corners, edges and free form surfaces. Stabilizing internal support contour for safe handling of different products. Large nominal flow compensates for leakages in a wide variety of workpieces.

- **Two sizes: 33mm & 53mm.**
- Bell-shaped suction cup for maximum flexibility on corners and edges.
- Handling of various workpieces in bin-picking applications.
- Handling of consumer goods in the field of warehouse automation.
- FDA compliant silicone for direct contact with food products.

Schmalz SVE Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
PU	Blue	266°F	55°
Silicone SI	Light Blue	428°F	55°



Schmalz Vacuum Cups for Sheet Metal

These vacuum cups can adapt to the most varied workpiece contours. Special inner structure for maximum holding force at high accelerations, especially on oily sheets. Its extremely wear-resistant material Elastodur is resistant to ozone and aggressive drawing oils.

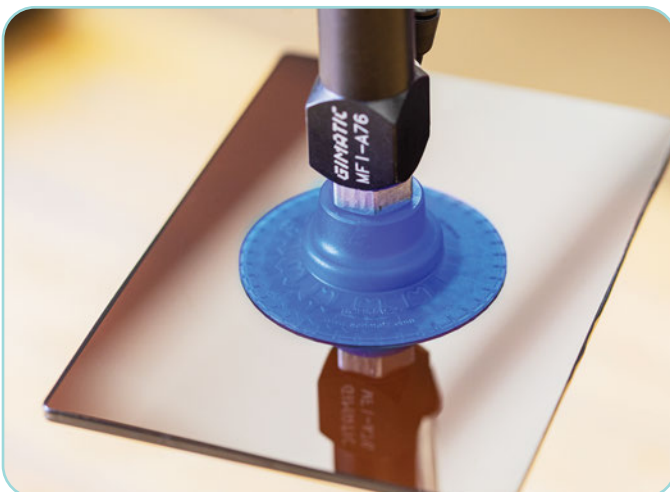
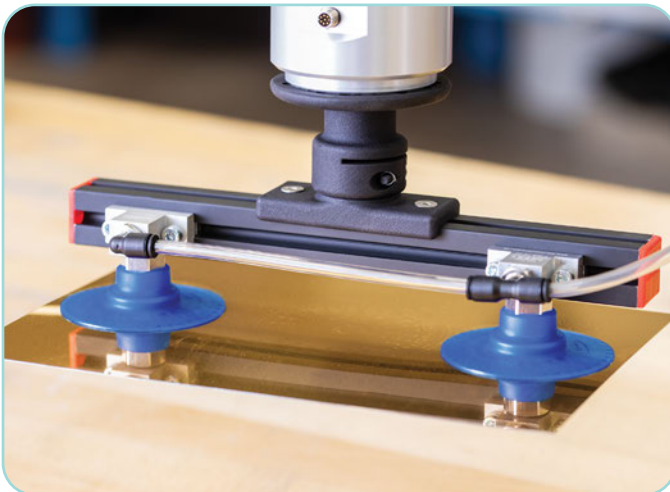
- **Sizes available: 20mm, 30mm, 40mm, 50mm, 60mm, 80mm, 100mm.**
- High-speed suction cups with demands for highest holding and shear absorption forces for fast handling of sheet metal and car body parts.
- Handling of workpieces with oily surfaces.
- Loading and unloading of CNC metalworking and laser cutting machines.
- Handling of blanks at destackers.
- Handling of workpieces with convex surfaces.

Schmalz SAXM Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
Elastodur	Blue	212°F	85°



*Order online or call 216-535-4848 to order!



Coval® Vacuum Cups for Sheet Metal



Shop Here!



The COVAL CBC series high-performance suction cup range has been designed to meet the requirements of the automotive industry. The improved characteristics of the C series range optimize production tools in all spheres of activity.

- **Sizes available:** 22mm, 30mm, 45mm, 60mm, 85mm, 115mm.
- Non-slip cleats ensure optimum positioning on oily sheet metal.
- Structured suction cups for gripping thin sheet metal without deforming the piece.
- Ideal for automated applications.
- Specifically for use in the stamping and welding sectors.

Coval CBC Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
Nitrile	Black	212°F	55°



Coval FlowPack Vacuum Cups for Packaging

FlowPack Cups are fully dedicated to handling packaging. A real technological breakthrough for a constantly evolving packaging method.

- **Sizes available:** 35mm, 45mm, 60mm, 120mmx100mm.
- Thin and wavy lips that perfectly mold to the packaging, whatever the shape.
- Internal cleats that allow for optimized vacuum while preventing any crushing and also strengthen the hold on the product being handled.
- Fittings featuring a lateral vacuum distributor that prevent any loss in efficiency when the product is held.
- Materials: Food-grade silicone and plastic insert meets FDA and CE standards.

FlowPack Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
Silicone	Light blue	428°F	35°
Silicone	Blue	428°F	50°



Shop Here!



Gimatic® 1.5 Bellow Vacuum Cups for Package Handling



Suitable for handling bags, pouches and flexible packages for solids and liquids.

- **Sizes available:** 30mm, 41mm, 48mm, 55mm.
- FDA-compliant silicone. (remove the insert for flow packs in PA12 GB material for food handling applications).
- Reinforced bellows for higher grip stability.
- The lip of the suction cup has been designed to maximise the grip and allow perfect adhesion even on wrinkles without damaging the grip surfaces.

Gimatic VG.BPG Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
Silicone	Transparent	392°F	40°



Gimatic 3.5 Bellow Vacuum Cups for Package Handling

Suitable for handling bags, pouches and flexible packages for solids and liquids.

- **Sizes available: 30mm, 41mm, 48mm.**
- FDA-compliant silicone. (remove the insert for flow packs in PA12 GB material for food handling applications).
- Reinforced bellows for higher grip stability.
- The lip of the suction cup has been designed to maximise the grip and allow perfect adhesion even on wrinkles without damaging the grip surfaces.

Gimatic VG.LPG Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
Silicone	Transparent	392°F	40°



Shop Here!



Gimatic Dual Durometer Vacuum Cups

Gimatic's take on dual durometer polyurethane cups is a good alternative for general vacuum handling of textured surfaces in particular.

- **Sizes available:** 20mm, 25mm, 35mm, 45mm
- Ideal to handle uneven and rough surfaces.
- High flexibility: the wide yet thin lip allows for adaptation to uneven surfaces.
- Polyurethane material with double hardness, 30/60 Shore.
- Good resistance to wear.

Gimatic VG.IS Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
PU	Red/Gray	113°F	30/60°

Shop Here!



Shown: Q#8030 - KIT-TM-V with Gimatic VG.IS cups.

Hithane® Vacuum Cups

This hybrid non-marking cup combines the high-temperature and flexibility properties of silicone with the wear resistance and non-marking properties of polyurethane.

- **Many Sizes available**
- Industry standard cup for injection molding.
- Hithane is designed not to leave residue, mold release marks, or ghost marks on hot, injection molded plastic parts.
- It contains no silicone so it is suitable to be used with parts that will be painted.



Hithane Vacuum Cup Properties

Material	Color	Max Temp.	Durometer
Hithane	Blue	320°F	60°

Hithane - Time Proven!

Shop Here!



Flat



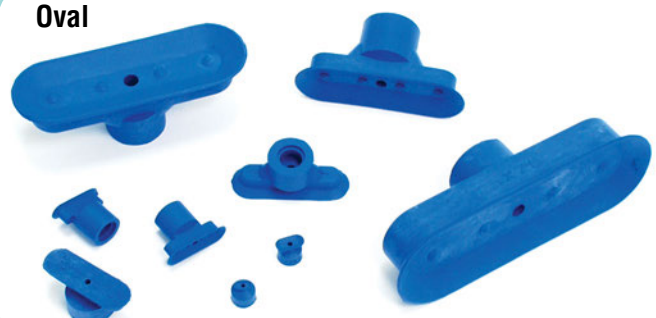
1.5 Bellows



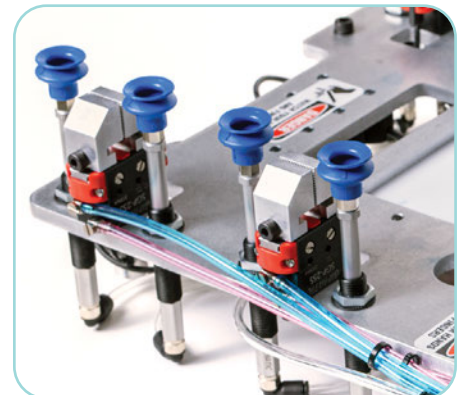
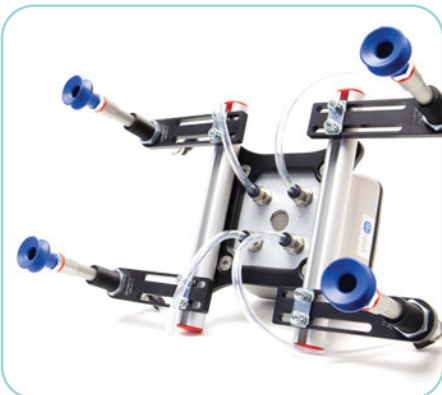
2.5 Bellows



Oval



Injection molding industry standard vacuum cups!



OnRobot Gecko Gripper for Cobots

The Gecko Gripper uses millions of micro-scaled fibrillar stalks that adhere to a surface using powerful van der Waals forces — the same way that geckos climb. It's possible to attach and lift any type of flat and smooth surfaces without compressed air or any external power, using easy gripping technology for Pick & Place applications.

Try It Risk Free!

*Contact us for details

TMPlug&Play
CERTIFIED



Gecko Grippers

Quick#	Part#	Ø Pad	Max Suggested Payload	Price
8251	OR-104086	35mm	2.20 lb (1 kg)	\$773.00
8252	OR-104087	60mm	6.61 lb (3 kg)	\$773.00
8253	OR-108088	75mm	11.02 lb (5 kg)	\$773.00

*Note: Robot-side quick changer is required. See page 32 for OnRobot Quick Changers.
Pricing effective 7/1/2022. Check website for current pricing.*

No pneumatics needed!

Perfect for handling of smooth flat parts!





Soft Gripper Actuators for Cobots Overview

EMI offers a selection of Soft Grippers for handling of delicate, variable objects as well as products of irregular shape. Electrically or vacuum driven, with part detection or food-grade, EMI has researched and tested adaptable and reliable grippers for a variety of applications. In-stock now at EMI and backed by the support of our EOAT Engineers.

OnRobot Soft Gripper

p.84



Ubiros Soft Gripper

p.88



PIAB® piSoftGrip 4-Finger

p.90



PIAB piSoftGrip 3-Finger

p.92



PIAB piSoftGrip 2-Finger

p.94



Watch our Soft Gripper Overview Video featuring the OnRobot, Ubiros, and piSOFTGRIP!



OnRobot Soft Gripper Actuator for Cobots



The OnRobot Soft Gripper is able to pick a wide array of irregular shapes and delicate items, making it **ideal for pick-and-place applications**, as well as manufacturing or packaging.

The gripper is available with three interchangeable silicon-molded cups. The Soft Gripper operates without an external air supply, for no additional costs or complexity.

Quick# 8280

OR-103456

PRICE: \$3,971.⁰⁰

* Actuator price only. Modules sold separately.

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Features:

- Actuator base weight: 0.77kg / 1.69lbs
- Actuator base dimensions: 84mm x 98mm.
- Smart lock tool mechanism and quick changer base included.
- Maximum payload of 2.2 kg depends on shape, softness, and friction of items to be handled, and grip dimensions range from 11mm to 118mm, depending on cup used.
- IP 67 Classification.
- Silicone is FDA 21 CFR 177.2600* & EC 1935/2004 approved.
- Integrated software.
- Automatic tool center point (TCP) calculation, depth compensation, and payload calculation for UR.

Technical Specs	
Total spindle stroke	11–40mm
Spindle force	380N
Spindle speed	37mm/s (1.46in/s)
Maximum rated payload	Dependant on end effector (see next page)
Gripping time*	32 grip/min
Weight	77g (1.69 lb)
Power supply	20V – 25V
Current consumption	45mA – 600mA
Operating temperature	32° – 122°F

* Gripping time is tool depended.





OnRobot Soft Gripper Actuator for Cobots



Gripper Modules for Soft Gripper Actuator

Quick#	Part#	Description	Max Payload*	Gripping Range	Price
8281	OR-103689	Soft	4.85 / 3.3 lb (2.2 / 1.5 kg)	11–75mm	\$945.00

* Test object: 3D-printed ABS cylinder Ø65mm. Payload depends on shape, softness, and friction of the product.



Gripper Modules for Soft Gripper Actuator

Quick#	Part#	Description	Max Payload*	Gripping Range	Price
8282	OR-103860	Extra Soft	4.85 / 3.3 lb (2.2 / 1.5 kg)	11–75mm	\$945.00

* Test object: 3D-printed ABS cylinder Ø65mm. Payload depends on shape, softness, and friction of the product.



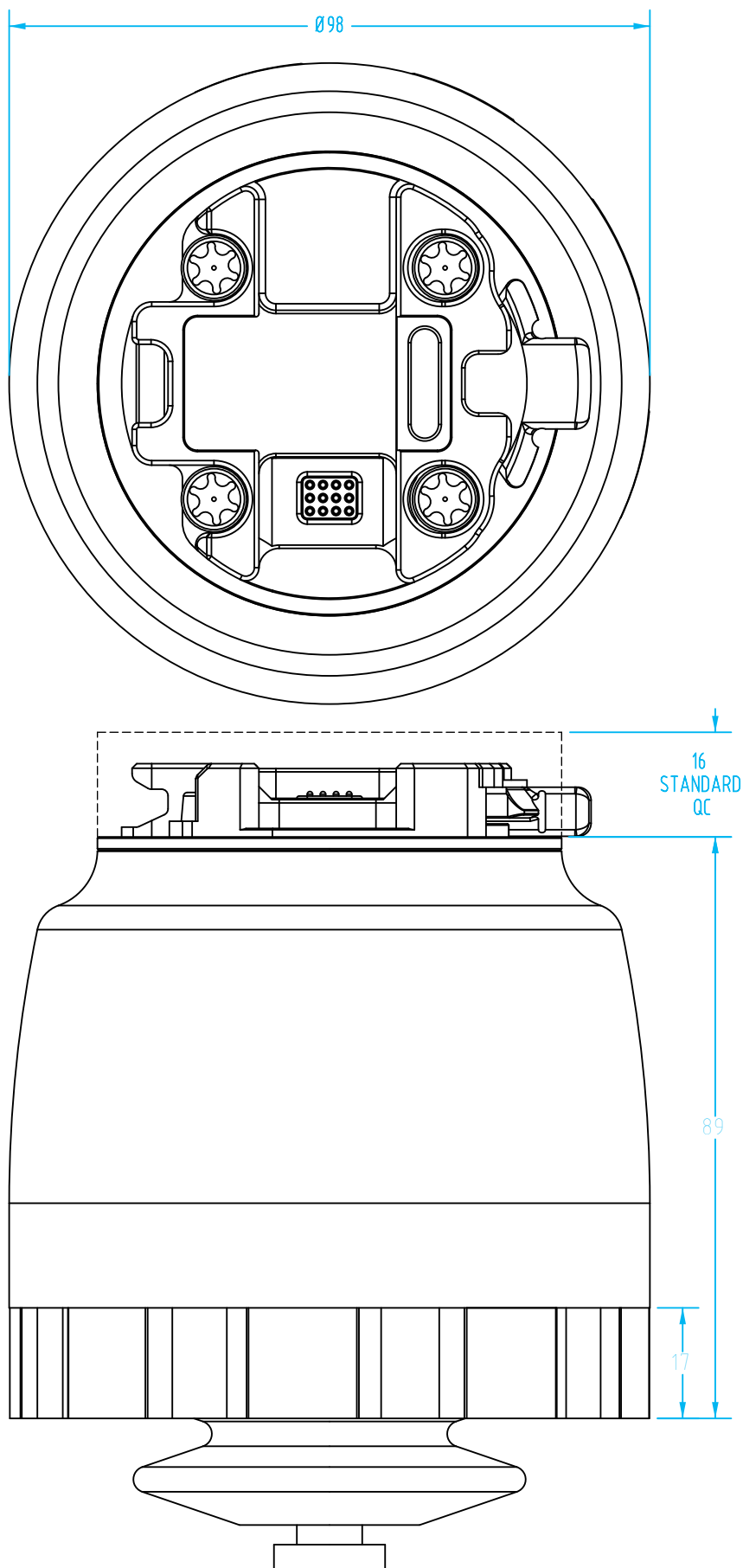
Gripper Modules for Soft Gripper Actuator

Quick#	Part#	Description	Max Payload*	Gripping Range	Price
8283	OR-103691	Claw	2.42 lb (1.1 kg)	24–118mm	\$945.00

* Test object: 3D-printed ABS cylinder Ø65mm. Payload depends on shape, softness, and friction of the product.

OnRobot Soft Gripper Actuator for Cobots

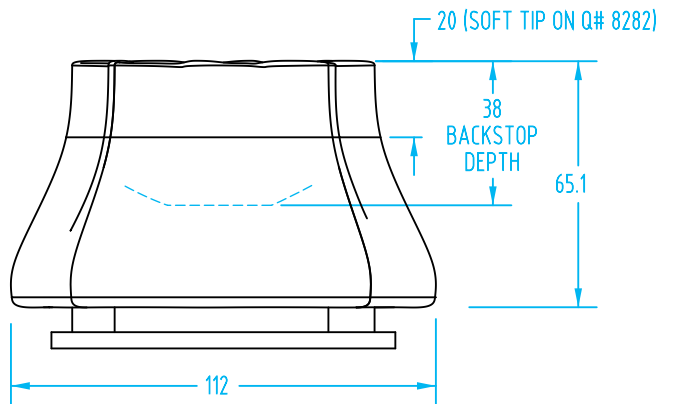
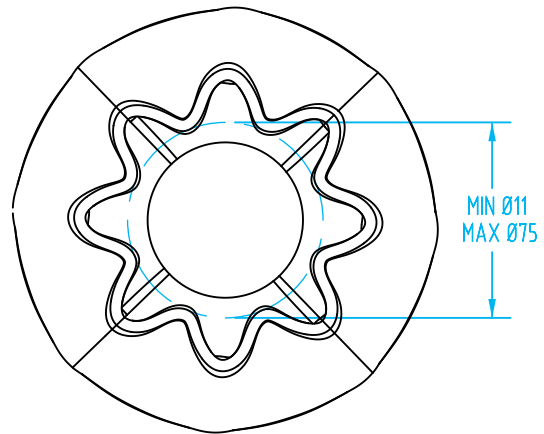
(Dimensioned drawings shown full scale)





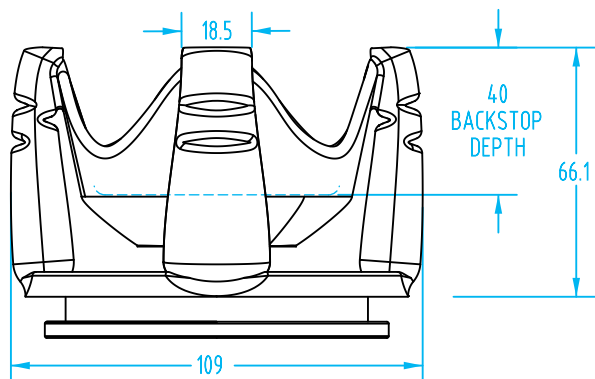
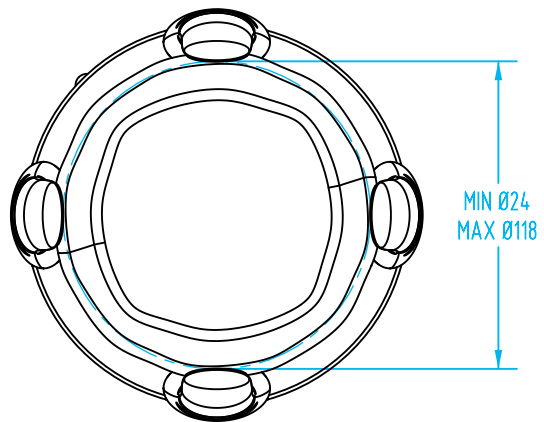
OnRobot Soft Gripper Actuator for Cobots

(Dimensioned drawings shown at 50% scale)



Need to handle delicate plastic parts?

Try a Soft Gripper from EMI!



Ubiros® Gentle Duo Mini Gripper for Cobots



Gentle Duo Mini grippers provide an optimal balance of versatility and grip stability in handling delicate objects or products that vary in size, shape, and weight during primary packaging.

Gentle Duo Mini Touch (Q# 8302) adds extra control for handling more complex applications.

Quick# 8301
PRICE: \$2,400

With Force Feedback
Quick# 8302
PRICE: \$3,800



Features:

- Digital output force feedback for part confirmation on Touch model.
- Integrated software accessible through wifi for configuring grip positions and calibrating fingers.
- Common interface plate mounts on all ISO flanges from 31.5mm to 63mm.
- Mount hardware and interface cable included.
- Robot plugin available for simplified use.
- Overall height: 172.5mm, Base OD: Ø104mm

Quick#	8301	8302
Part#	GNT-DUO-2F-0	GNT-DUO-2F-T
Price	\$2,400.00	\$3,800.00
Part confirmation	No sensing	Adjustable force feedback
Gripper control	1 input, 2 positions	2 inputs, 4 positions Force control
Payload (at 2A)*	3.3 lb (1.5 kg)	
Gripping time	100ms/ 50mm	
Input voltage	15V - 25V	
Max. current	0.03A (idle) / 2A (load) / 3A (instantaneous)	
Finger material	Silicone (FDA approved)	
Weight	800g (1.8 lb)	

**Actual payload dependent on workpiece properties: geometry, material, surface qualities, etc.*



Try It Risk Free!

*Contact us for details

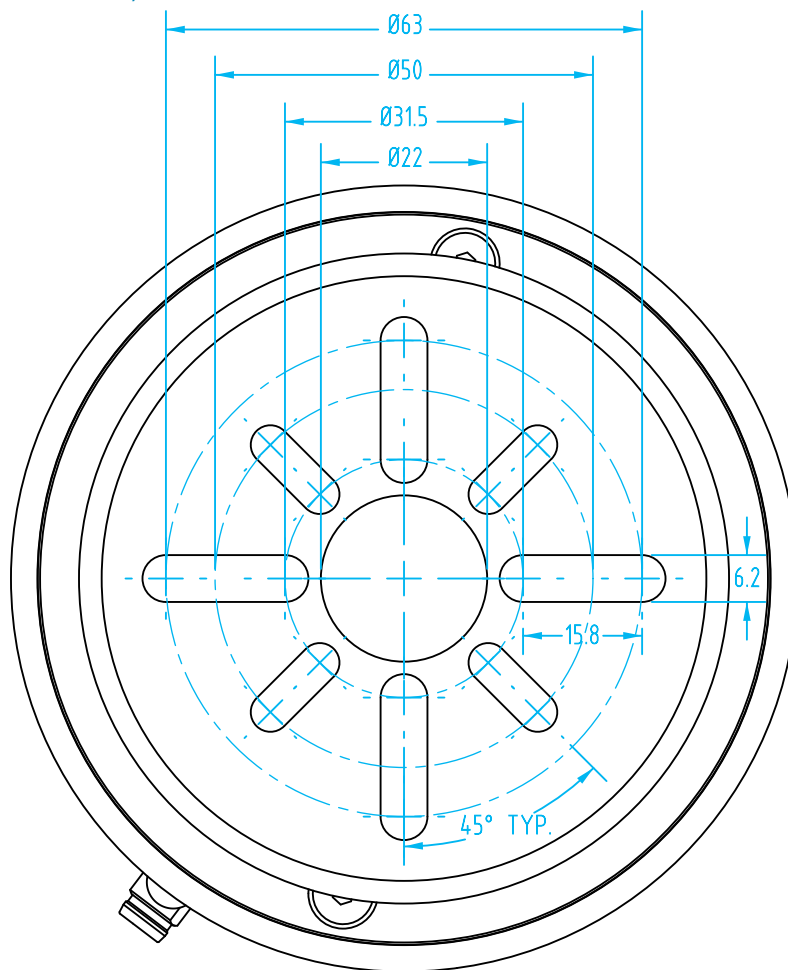
Wifi-Enabled Web App for Configuring Gripper



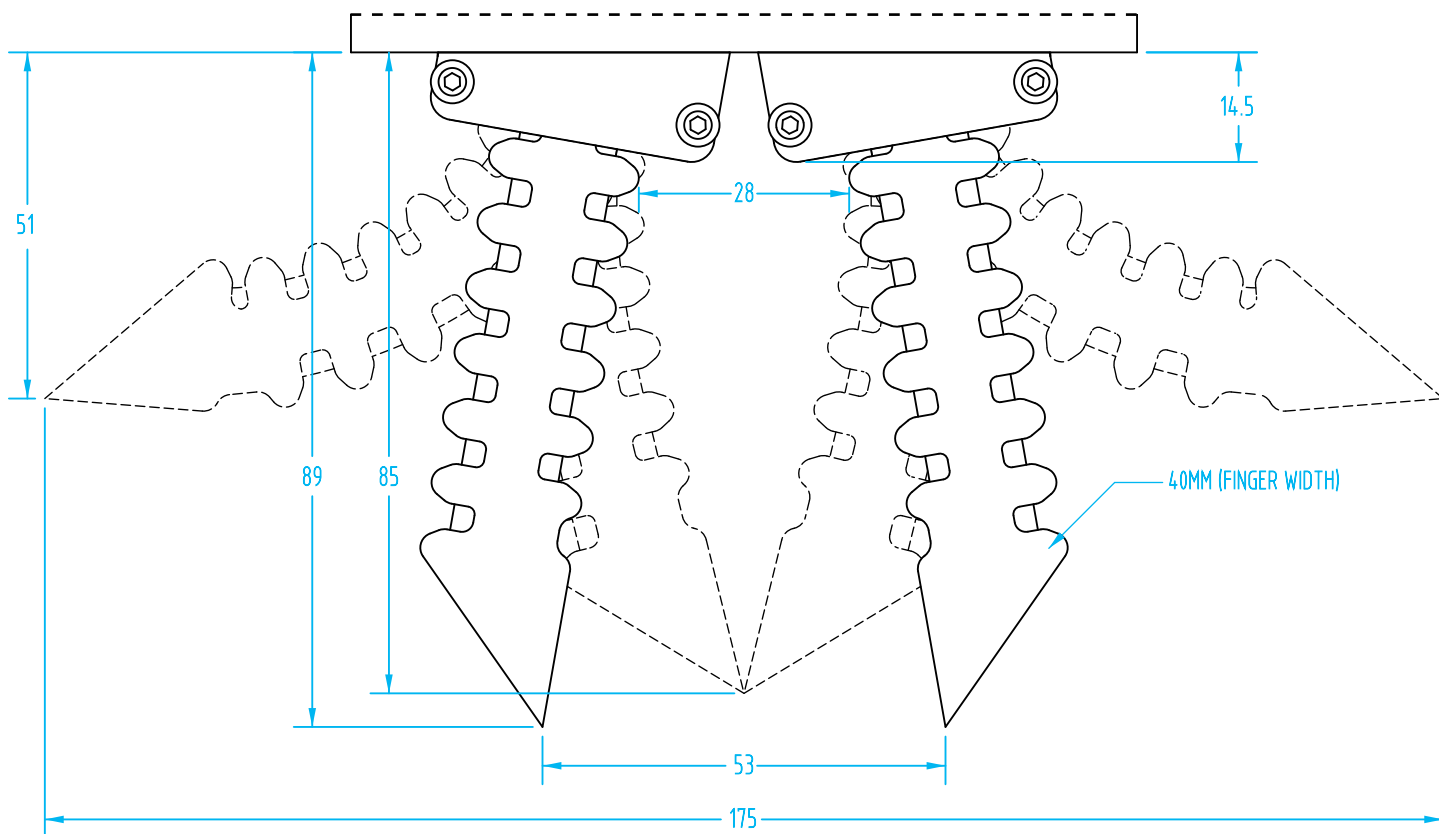
Ubiros Gentle Duo Mini Gripper for Cobots

(Dimensioned drawings shown full scale)

Mounting Pattern:



Finger Dimensions:



piSOFTGRIP® Four Finger Gripper

Cost effective, simple and robust. This silicone gripper is ideal for sensitive and lightweight object handling.

Made in detectable silicone approved for direct contact with food, in accordance with FDA 21 CFR and EU 1935/2004 regulations. Gripper is actuated using a vacuum circuit.

Available with either a standard male G1/4" fitting or stainless-steel G1/4" fitting for wash-down. Both are compatible with our wide range of vacuum posts, suspensions and 3D printed supports.



#8061

	Size 100	
Quick#	8061	8062
Part#	CRG-PSG100-4S-G14M	CRG-PSG100-4S-GW14M
Price	\$193.55	\$275.27
Weight	170g	241g
Temperature range	-4–212°F	
Recommended vacuum level	0.4–0.9 Bar	
Maximum object size	100mm	
Maximum payload	250g	
Connection	Male G1/4"	Wash-down G1/4"
Finger / Claw material	Detectable Silicone 70° Shore A	

PiSOFTGRIP Related Items:

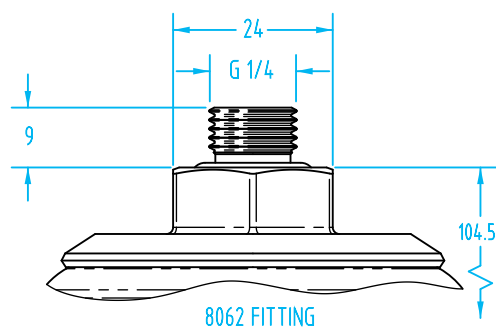
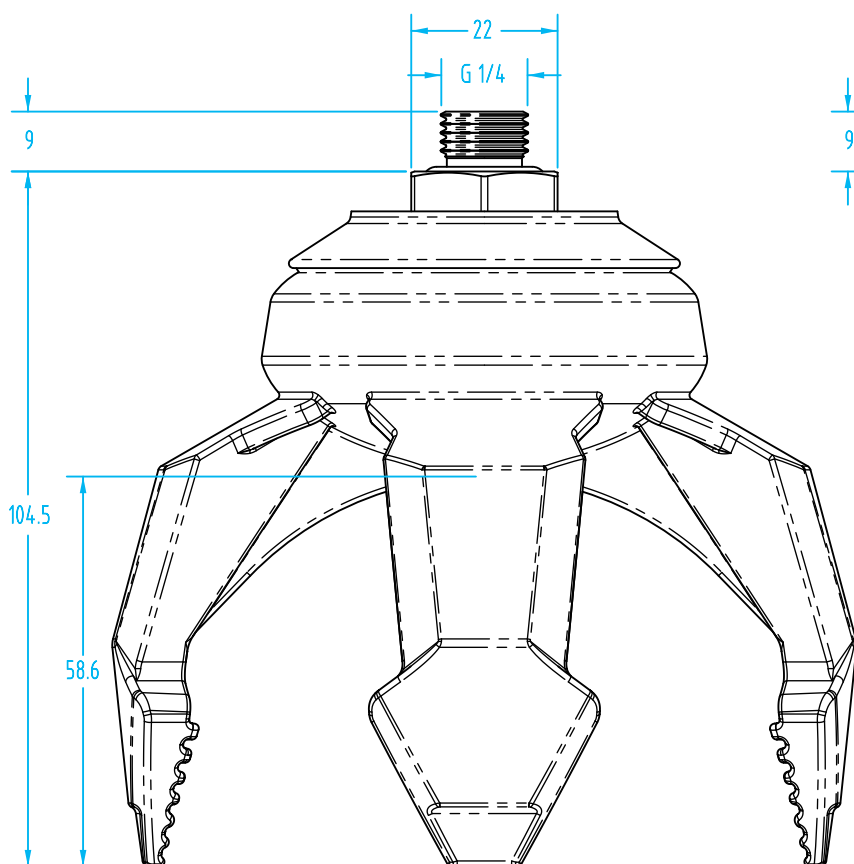


The related items shown here can be found online and in our comprehensive EOAT catalog.

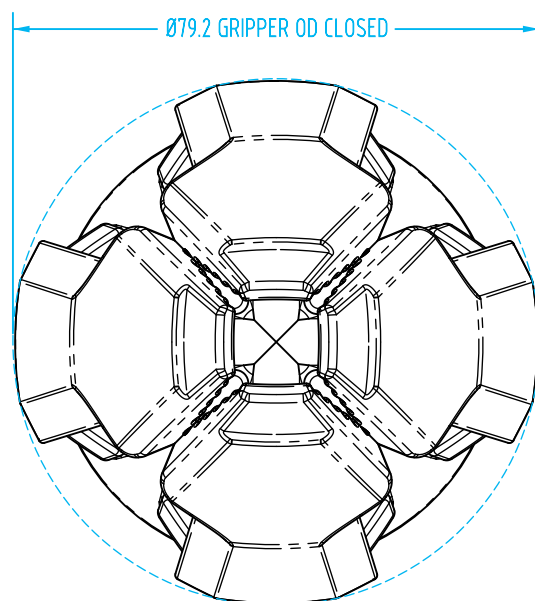
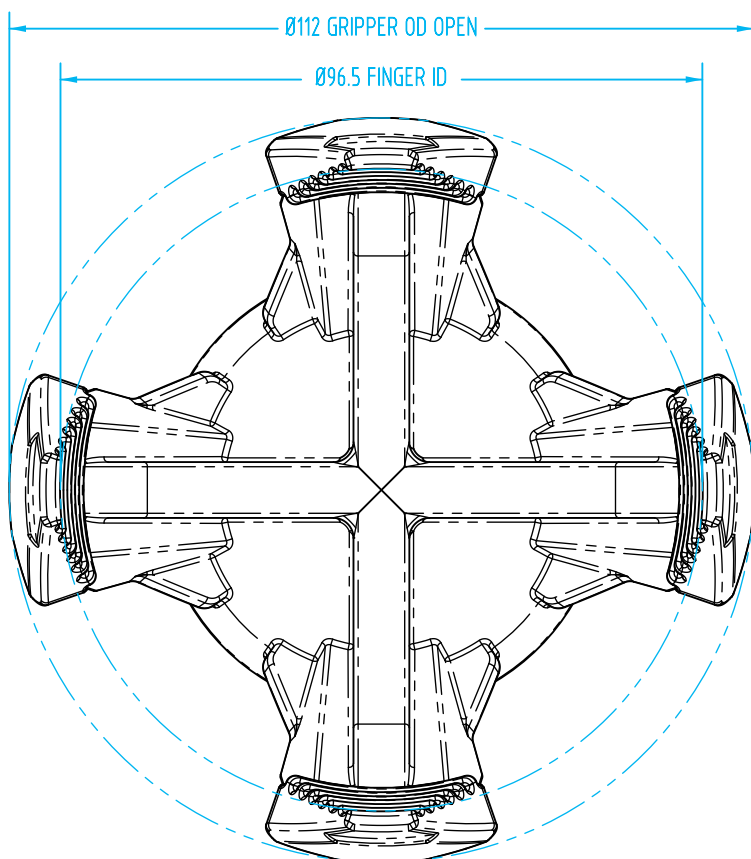


piSOFTGRIP Four Finger Gripper

(Dimensioned drawings reduced to fit)



#8062, wash-down



piSOFTGRIP Three Finger Grippers

(Dimensioned drawings shown full scale)

Cost effective, simple and robust. This silicone gripper is ideal for sensitive and lightweight object handling.

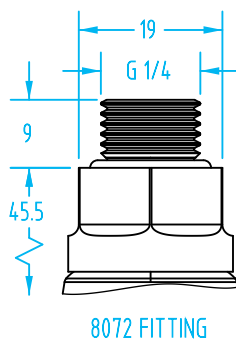
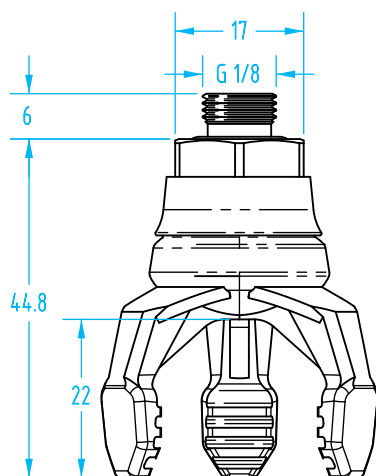
Made in detectable silicone approved for direct contact with food, in accordance with FDA 21 CFR and EU 1935/2004 regulations. Gripper is actuated using a vacuum circuit.

**Cost Effective
Soft Grippers!**

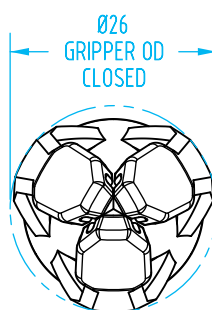
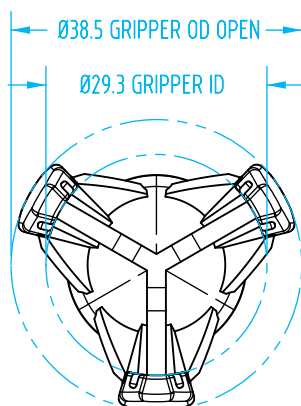
Available with either a male G1/8" fitting or stainless-steel G1/4" fitting for wash-down. Both are compatible with our wide range of vacuum posts, suspensions and 3D printed supports.

	Size 30		Size 50	
Quick#	8070	8072	8080	8074
Part#	CRG-PSG30-3S-G18M	CRG-PSG30-3S-GW14M	CRG-PSG-3S-G18M	CRG-PSG50-3S-GW14M
Price	\$74.87	\$102.32	\$118.61	\$178.84
Weight	12g	34g	46g	110g
Temperature range	-4–212°F			
Recommended vacuum level	0.4–0.9 Bar		0.2–0.6 Bar	
Maximum object size	29mm		62mm	
Maximum payload	50g		250g	
Connection	Male G1/8"	Wash-down G1/4"	Male G1/8"	Wash-down G1/4"
Finger / Claw material	Detectable Silicone 70° Shore A			

Size 30:



#8072, wash-down

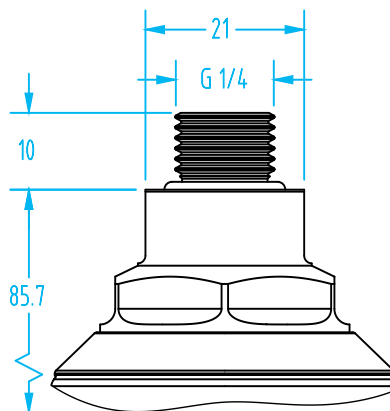
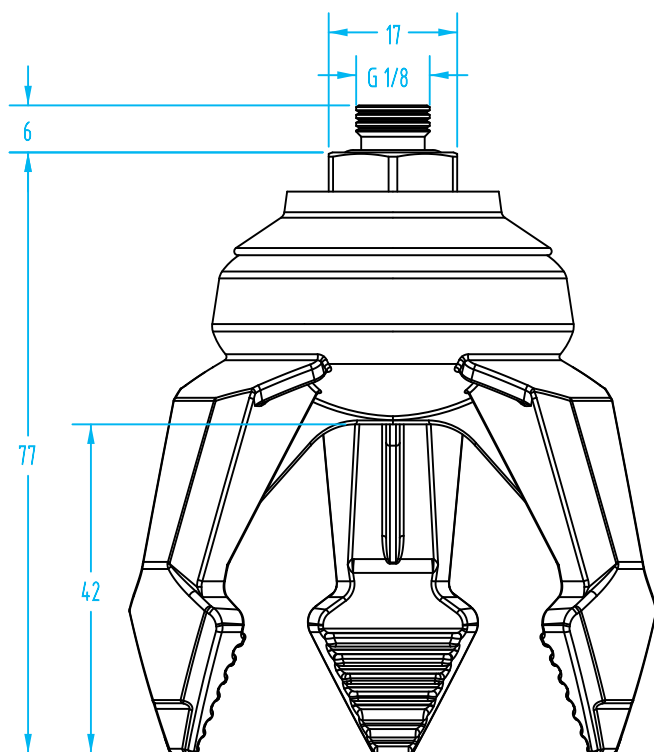




piSOFTGRIP Three Finger Grippers

(Dimensioned drawings shown full scale)

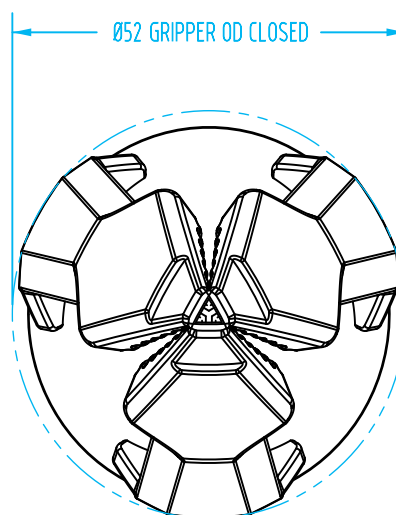
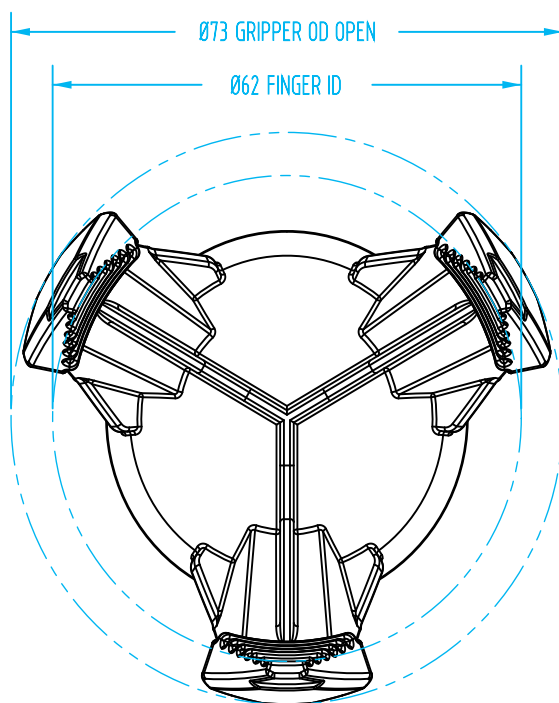
Size 50:



8074 FITTING



#8080



piSOFTGRIP Two Finger Gripper

This two-finger vacuum-based soft gripper can grip sensitive and lightweight objects with odd geometries and/or objects with an unusual surface. Made in detectable silicone approved for direct contact with food, in accordance with FDA 21 CFR and EU 1935/2004 regulations.

The #8071 has a male G1/8" fitting or the #8073 offers stainless-steel G1/4" fitting for wash-down. Both are compatible with our wide range of vacuum posts, suspensions and 3D printed supports.



	Size 50	
Quick#	8071	8073
Part#	CRG-PSG50-2S-G18M	CRG-PSG50-2S-GW14M
Price	\$101.00	\$161.57
Weight	41g	104g
Temperature range	-4–212°F	
Recommended vacuum level	0.4–0.9 Bar	
Maximum object size	53.59mm	
Maximum payload	150g	
Connection	Male G1/8"	Wash-down G1/4"
Finger / Claw material	Detectable Silicone 70° Shore A	

PiSOFTGRIP Related Items:

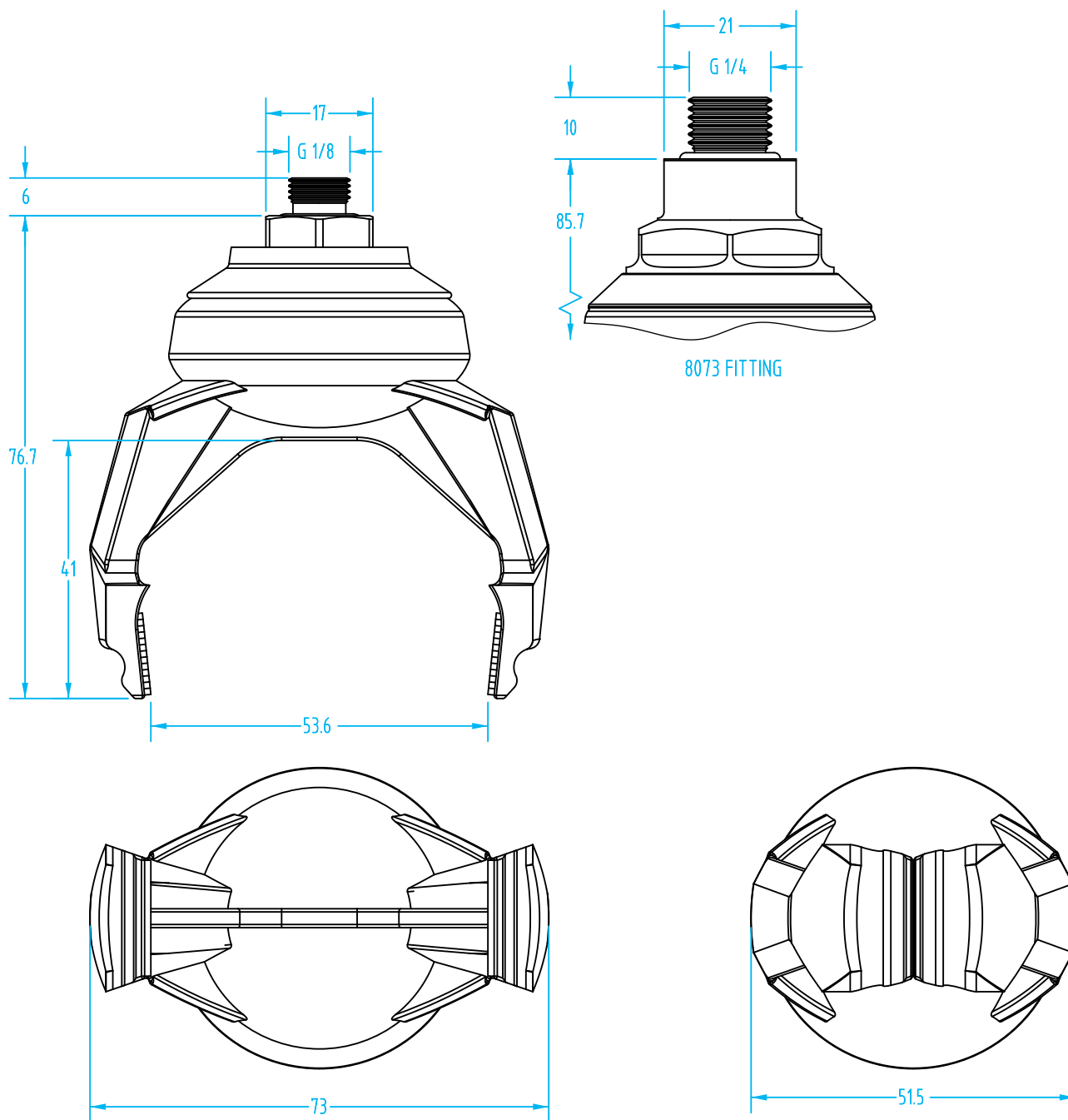


The related items shown here can be found online and in our comprehensive EOAT catalog.



piSOFTGRIP Two Finger Gripper

(Dimensioned drawings shown full scale)



piSOFTGRIP® Grippers



Quick# 8061, Ø10mm Mono Clamp
Quick# 8101, & clampable Gimatic
Vacuum Generator.



Quick# 8080, Ø10mm Mono
Clamp Quick# 8101, & Vacuum
Post Quick# 5732.

Easy Vacuum Actuation!





piSOFTGRIP Grippers



#8071 Two-finger gripper can grip sensitive and lightweight objects with odd geometries.



Quick# 8070 & Quick# 8090 Schmalz CobotPump Electric vacuum generator.

**Connects to your Existing
EOAT Components**



Grippers Available from EMI

Two & Three Jaw Pneumatic Grippers

Click the boxes below to Shop!



GS – Parallel



SX – Clean Room



DH – General Parallel



GX-S – Radial



SGP – Compact Parallel



SXT – Clean Room



TH – General Parallel



SZ – Economical Parallel



MGX – High Precision



PE – Long Stroke



PQ – Single Acting



GW – Angular

Angular & Sprue Grippers



Micro & Mini Grippers



Angular Grippers



Compact Grippers



Mini Grippers



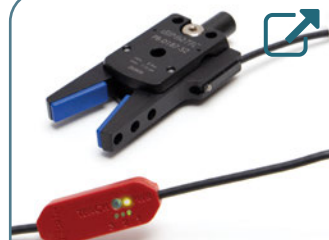
Die Cast Grippers



High-Power Sprue Jaws



>ASS< Sprue Grippers



Many Sensor Options!

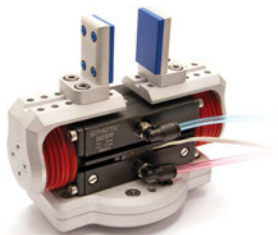
The grippers shown above can be found online and in our comprehensive EOAT catalog.

Handling Grippers for Cobots Overview

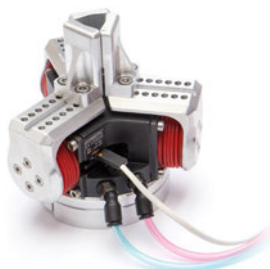
A wide variety of general purpose grippers for robotic end effectors are available from EMI. We offer high quality, industrial-grade grippers at competitive prices.

Two and three-jaw grippers are available in pneumatic and electric operation. For general gripping of parts large or small, EMI has the gripper to fit any application.

Two-Jaw Gripper Kit – SX p.100



Three-Jaw Gripper Kit – SXT p.104



Two-Jaw Gripper Kit – SGP p.108



Gimatic Electric Gripper Kit-TM/UR-J p.114



Gimatic Electric Gripper Kit-UR-G p.112



OnRobot 2-Jaw Gripper 2FG7 p.120



OnRobot 2-Jaw Gripper RG2 p.124



OnRobot 2-Jaw Gripper RG6 p.128



OnRobot 3-Jaw Gripper 3FG15 p.132



OnRobot Magnet Gripper MG10 p.134



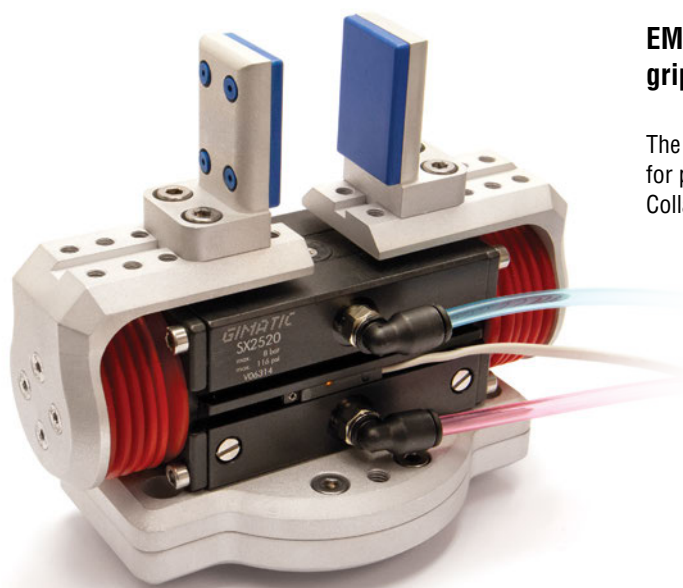
Magnet Gripper Kit MAG40 p.136



Electric Grippers p.116



EMI Gripper Kit – Two-Jaw SX for Industrial Cobots



EMI has adapted a cost-effective and industry-proven gripper to expand the capabilities of Industrial robots.

The Pneumatic SX Gripper Kit by EMI offers the ideal solution for part handling, machine tending and secondary operations in Collaborative Industrial Robot applications.

Quick# 8002

CRK-SX2520-A

KIT PRICE: \$995.⁰⁰



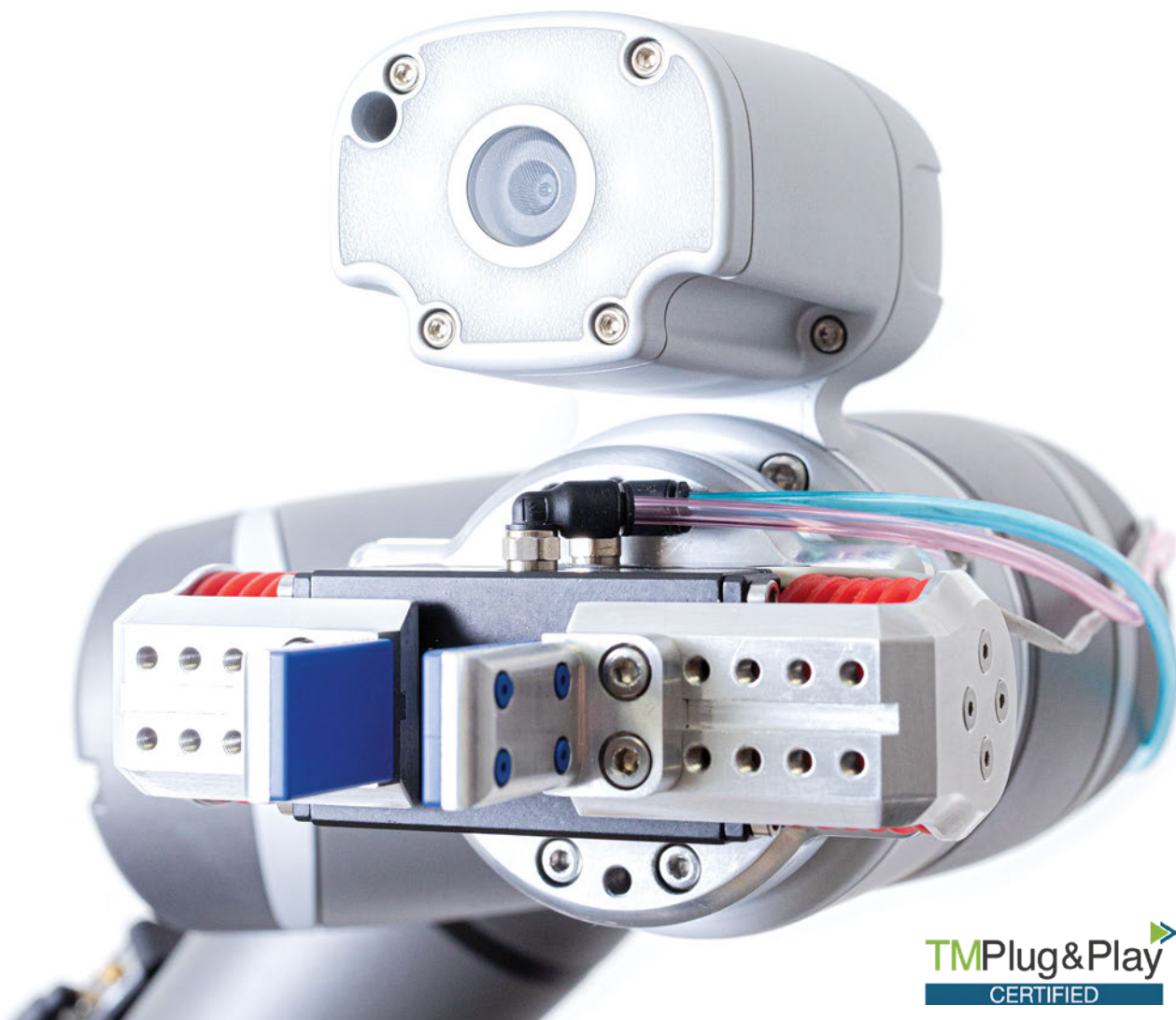
Part#	SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380
Quick#	7164	7165	7166	7167	7168	7169	7170	7171
Medium	Filtered, lubricated / non-lubricated compressed air							
Operating pressure range	30–116 psi							
Total Opening force at 87 psi	112lbf	112lbf	292lbf	292lbf	472lbf	472lbf	764lbf	764lbf
Total Closing force at 87 psi	87lbf	87lbf	225lbf	225lbf	360lbf	360lbf	562lbf	562lbf
Stroke (±0.5mm)	10mm	20mm	20mm	40mm	30mm	60mm	40mm	80mm
Opening / closing time without load	0.03s	0.05s	0.03s	0.08s	0.06s	0.10s	0.20s	0.30s
Repetition accuracy	0.05mm							
Mid-stroke detection capability	No	Yes, with Magnetoresistive sensor						
Weight of Gripper (Only)	260g	310g	750g	900g	1300g	1700g	2800g	3500g

SX Parallel, Self-Centering Two-Jaw Gripper Kit:

- This versatile kit can be adapted to other SX Gripper sizes with various strokes and gripping force upon request.
- The precision machined components make this industrial gripper rugged, while offering a high degree of repeatability.
- The SX gripper is completely sealed – IP67 protection class.
- Double acting with 5/2 solenoid valve and cable management clamps.
- Includes 1 magnet sensor for part detection.
- The included interface plate mounts directly to any robot with an ISO-9409-1-50-4-M6 tool flange. Contact EMI if you need a different interface plate.
- Includes 3 sets of finger pads: silicone, rubber, HNBR.
- CRK-SX2520-A Mass: 735g (subject to change per configuration).

EMI Gripper Kit – Two-Jaw SX for Industrial Cobots

Easy installation and programming!



TMPlug&Play
CERTIFIED

CRK SX2520 A Gripper Kit Includes:



5/2 Solenoid valve with fittings, mufflers, and non-slip Velcro® strap.



Two cable management clamps with non-slip Velcro strap.



Alternate pads for fingers.



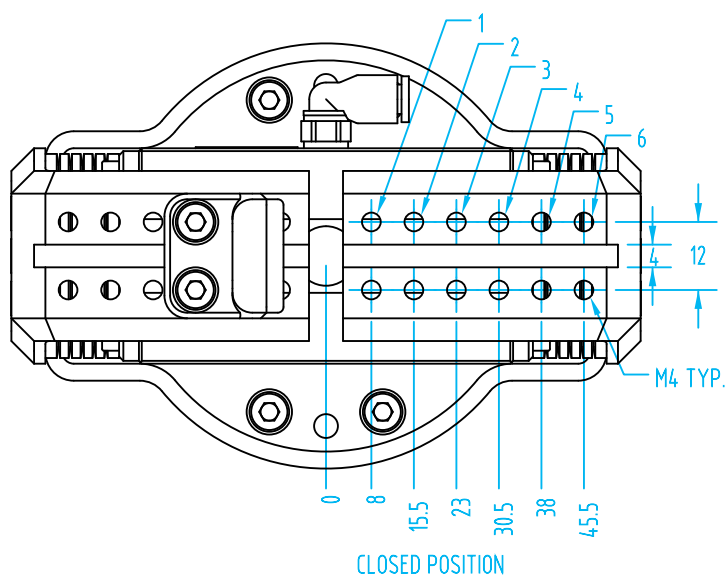
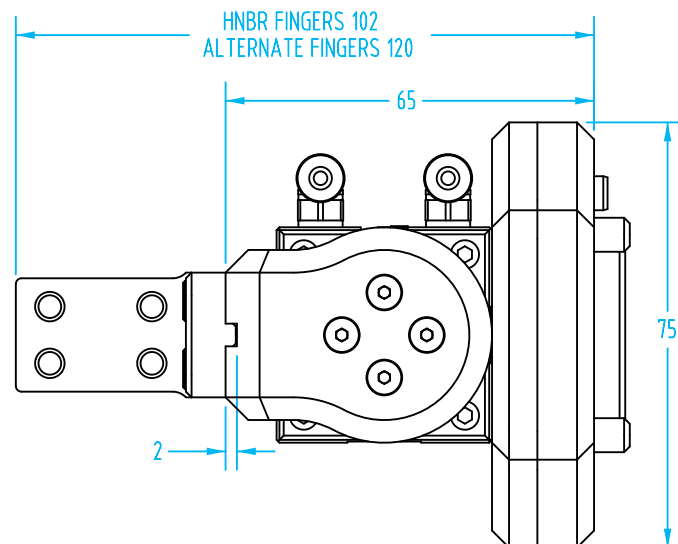
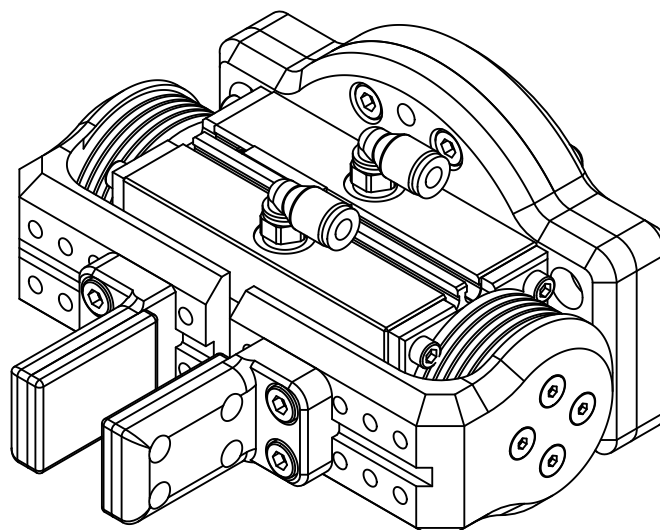
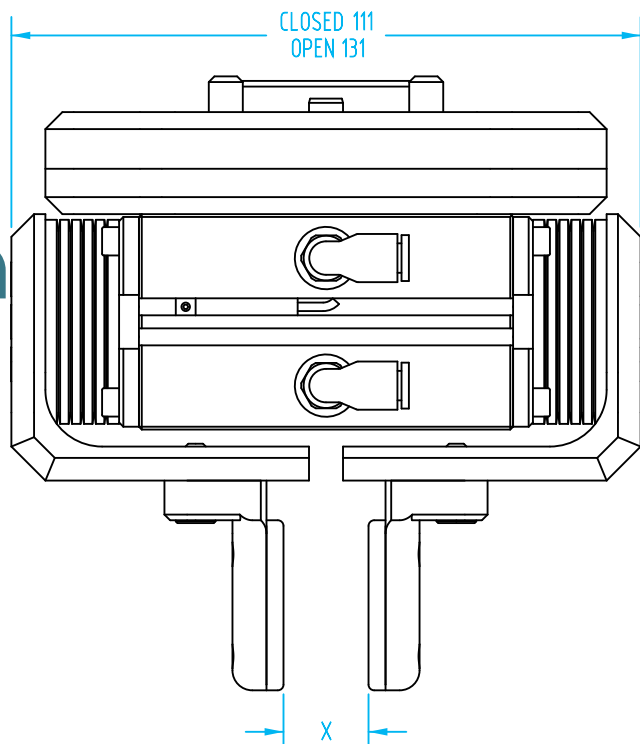
USB drive with robot plugin, and user manual.

EMI Gripper Kit – Two-Jaw SX for Industrial Cobots

(Dimensioned drawing shown at 75% scale)

These diagrams show the **CRK-SX2520-A Kit**.

Information like this is found in the User Manuals supplied with each kit.



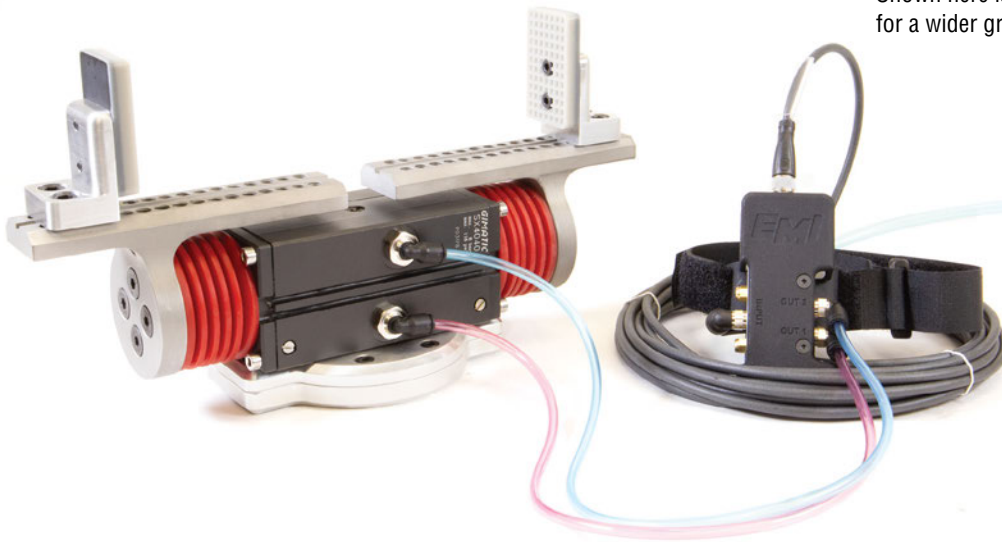
Finger Mount Position #	HNBR Finger Pads		Silicone/Rubber Finger Pads	
	CLOSED MIN (mm)	OPEN MAX (mm)	CLOSED MIN (mm)	OPEN MAX (mm)
1	0	5	0	0.8
2	0	20	0	15.8
3	15	35	10.8	30.8
4	30	50	25.8	45.8
5	45	65	40.8	60.8
6	60	80	55.8	75.8

SX Gripper Options for Industrial Cobots

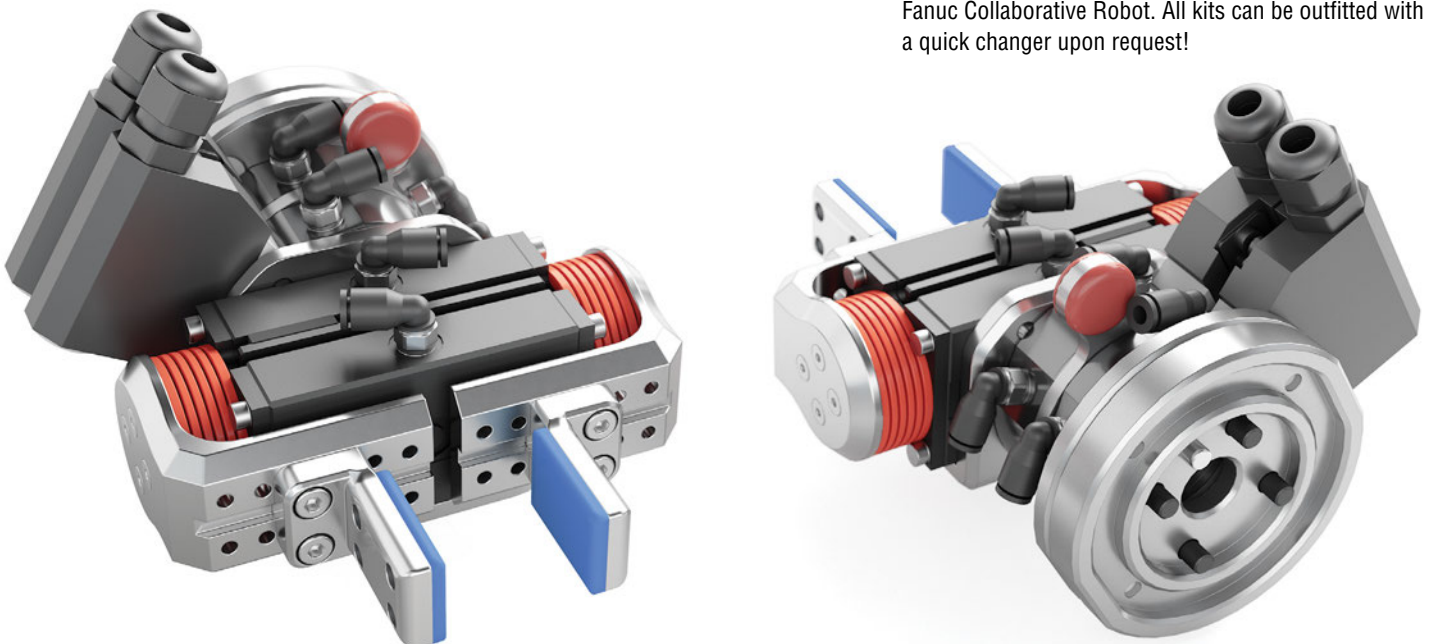
Sawyer shown with a custom SX2520 Gripper kit.



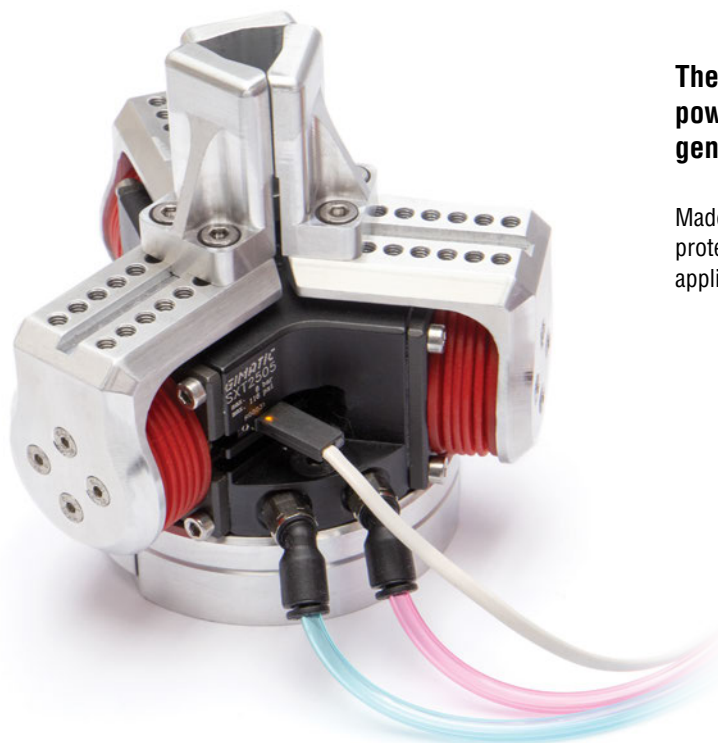
Shown here is a custom kit using the SX4040 gripper for a wider gripping range with greater adjustability.



QC50 Quick Changer with SX2520 Gripper adapted to a Fanuc Collaborative Robot. All kits can be outfitted with a quick changer upon request!



EMI Gripper Kit – Three-Jaw SXT for Industrial Cobots



The SXT gripper kit by EMI uses a concentric, powerful 3-jaw gripper **ideal for machine tending and general handling of cylindrical workpieces.**

Made out of high-quality machined components with a IP67 protection class, the SXT Gripper is ideal for a variety of industrial applications.

Quick# 8006
CRK-SXT2505-A

KIT PRICE: \$1,495.⁰⁰

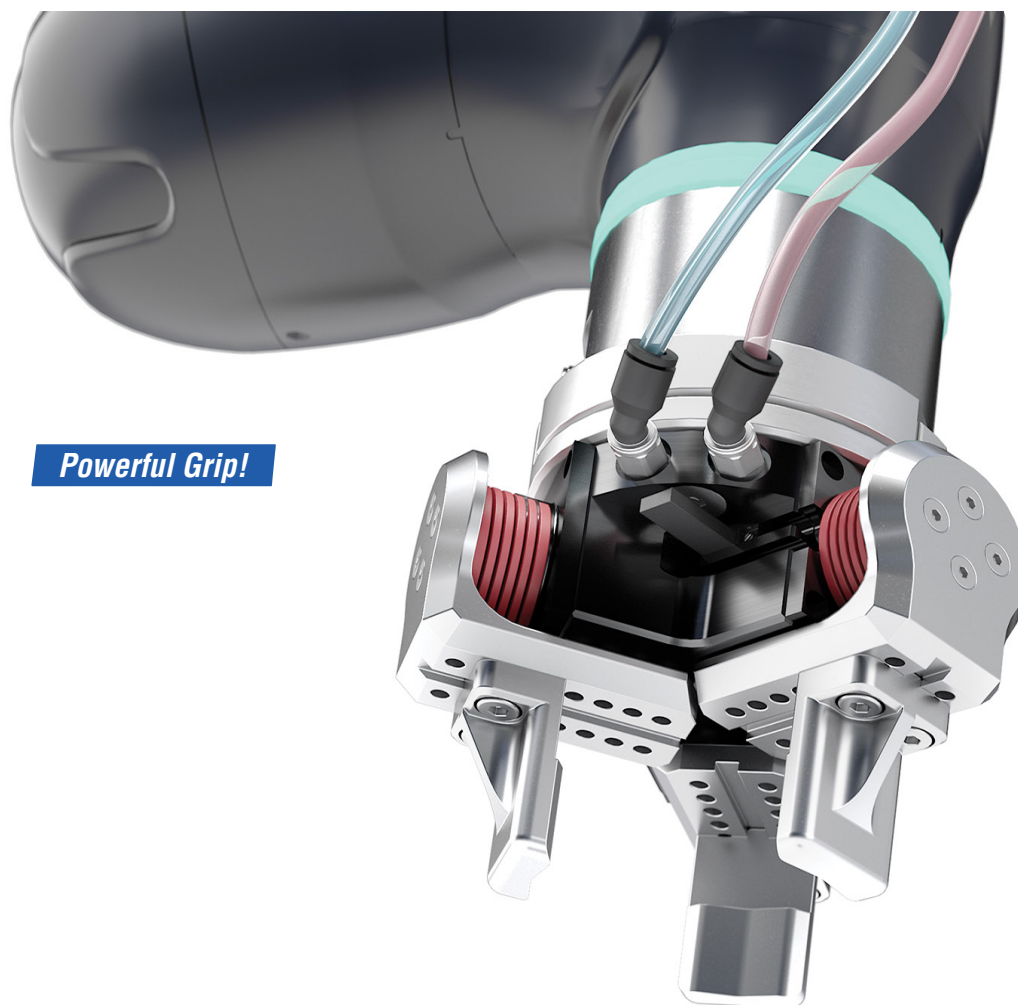


Part#	SXT2505	SXT4008	SXT5012	SXT6315
Quick#	7172	7173	7174	7175
Medium	Filtered, lubricated / non-lubricated compressed air			
Operating pressure range	36–116 psi			
Total Opening force at 87 psi	168lbf	438lbf	708lbf	1112lbf
Total Closing force at 87 psi	131lbf	337lbf	539lbf	809lbf
Stroke (±0.5mm)	3x5mm	3x8mm	3x12mm	3x15mm
Opening / closing time without load	0.02s	0.02s	0.05s	0.15s
Repetition accuracy	0.05mm			
Mid-stroke detection capability	No	Yes, with Magnetoresistive sensor		
Weight of Gripper (only)	420g	1100g	2000g	3800g

SXT Concentric, Self-Centering Three-Jaw Gripper Kit:

- This versatile kit can be adapted to other SXT Gripper sizes with various strokes and gripping force upon request.
- Completely sealed with IP67 protection class.
- Double acting with 5/2 solenoid valve and cable management clamps.
- Includes 1 magnetic sensor for open/close position detection.
- The included interface plate mounts directly to any robot with an ISO-9409-1-50-4-M6 tool flange. Contact EMI if you need a different interface plate.
- Includes an alternative set of V-Groove fingers to extend the gripping range.
- Includes USB drive with literature and robot software plug-in.
- CRK-SXT2505-A Mass: 825g (subject to change per configuration).

EMI Gripper Kit – Three-Jaw SXT for Industrial Cobots



Powerful Grip!

Compatible with any robot and with all the features to make it easy to install and kick off on your next Cobot application.

CRK-SXT2505-A Gripper Kit Includes:



5/2 Solenoid valve with fittings, mufflers, and non-slip Velcro® strap.



Two cable management clamps with non-slip Velcro strap.



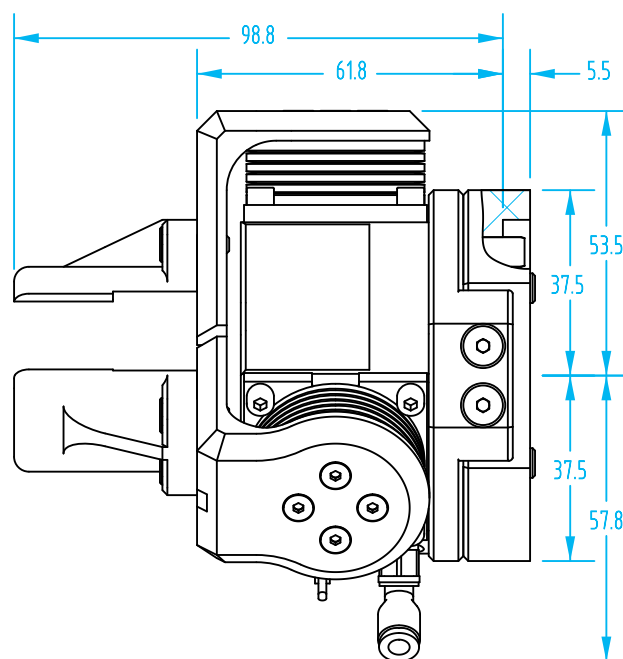
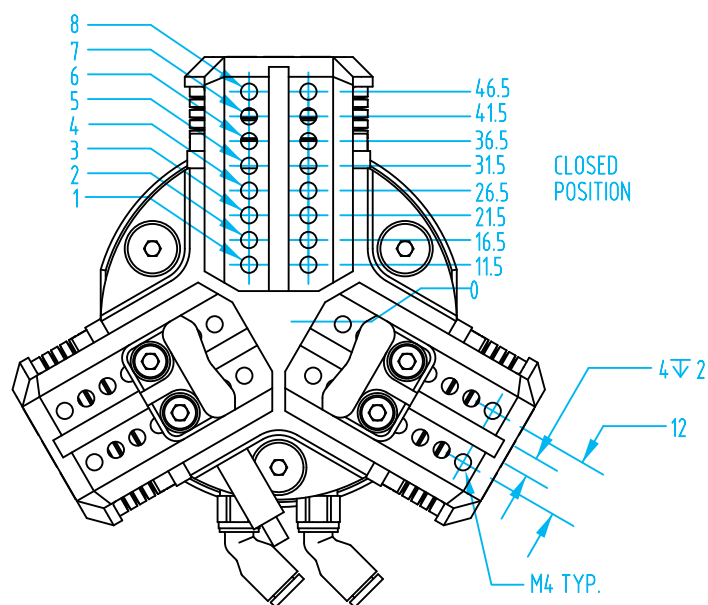
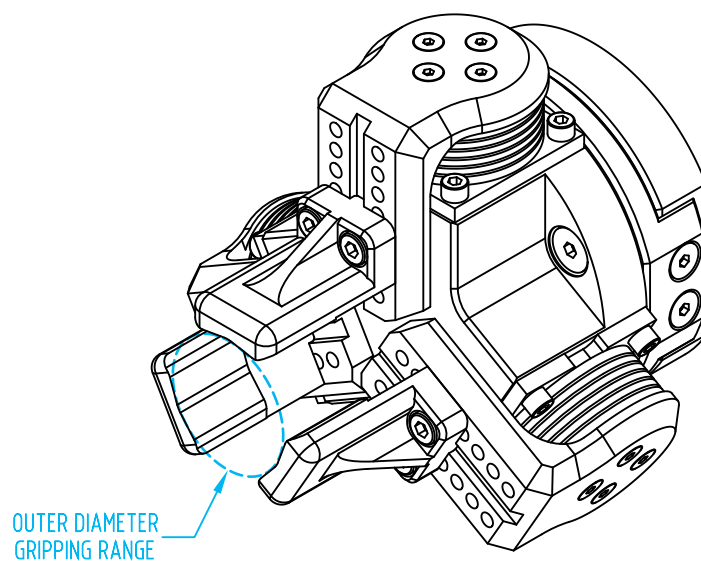
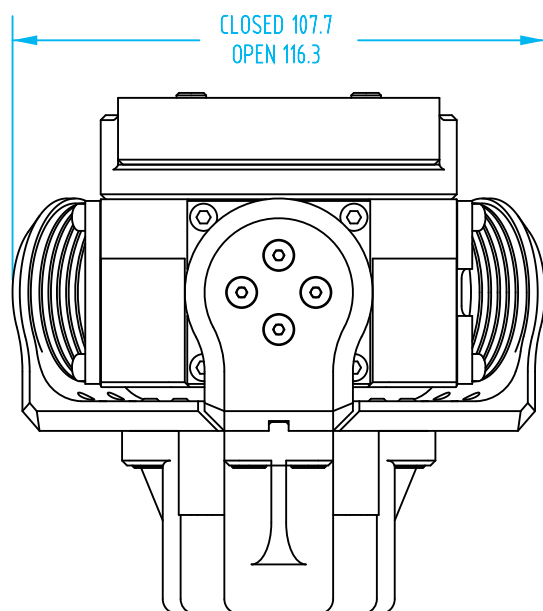
Alternate V-Groove fingers to extend the gripping range. Contact EMI for custom fingers.



USB drive with robot plugin, and user manual.

EMI Gripper Kit – Three-Jaw SXT for Industrial Cobots

(Dimensioned drawing reduced to fit)



Finger Mount Position	Outer Diameter Gripping Range			
	Gripper Finger		Gripper Finger +2.5	
	Min (mm)	Max (mm)	Min (mm)	Max (mm)
1	N/A	N/A	N/A	N/A
2	12.3	22.2	12	17.2
3	22.2	32	17.2	27.1
4	32	41.9	27.1	36.9
5	41.9	51.7	36.9	46.8
6	51.7	61.6	46.8	56.6
7	61.6	71.4	56.6	66.5
8	71.4	81.3	66.5	76.3

SXT Gripper Options for Industrial Cobots



EMI's plate EOAT removes the part from the injection mold, hands it off to the Cobot end effector customized by our Engineers, and delivers the workpiece to a Cobot-Ready Conveyor. EMI helped automate this real world application in a customer facility. See page 194 for more information about our Conveyors!



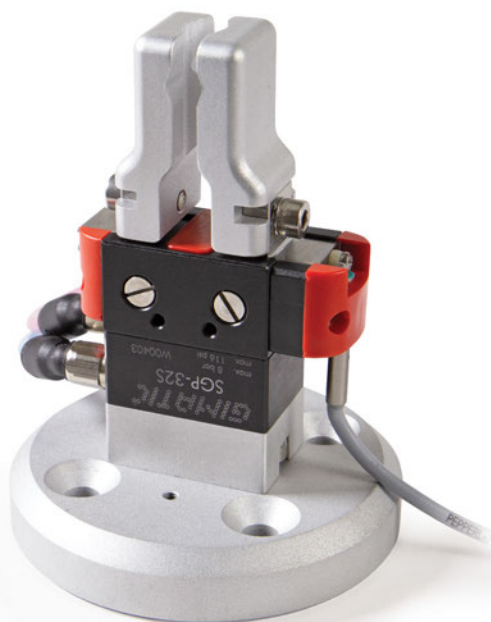
EMI's SXT concentric gripper kit uses a 3D printed extended boom to reach into a box to place the workpiece.



An EMI-designed plate EOAT removes the part from the mold and delivers it to the Cobot EOAT to be packaged.



EMI Gripper Kit – Two-Jaw SGP for Industrial Cobots



EMI's experience in high precision applications prove that the SGP family of grippers are the perfect solution for a wide variety of industrial gripper needs.

The SGP High Precision Gripper Kit by EMI is a double-acting parallel gripper ideal for high precision applications such as insert loading or high accuracy pick-and-place. With blank finger-mounting jaws, the possibilities are virtually endless with the ability to use custom fingers that fit your exact application.

Quick# 8001

CRK-SGP32S-A

KIT PRICE: \$695.⁰⁰



Quick#	7693	6780	6781	6782	6783	7694
Part#	SGP-16S	SGP-20S	SGP-25S	SGP-32S	SGP-40S	SGP-50S
Medium	Filtered, lubricated / non-lubricated compressed air					
Pressure range	36–116 psi			30–116 psi		
Opening total gripping force at 87 psi	7.2 lbf	10.4 lbf	23.4 lbf	30.2 lbf	36 lbf	65.2 lbf
Closing total gripping force at 87 psi	6.2 lbf	9 lbf	21.2 lbf	27 lbf	32.8 lbf	56.6 lbf
Total stroke (± 0.3mm)	3mm	4mm	6mm	8mm	12mm	16mm
Maximum repeatability tolerance	±0.02mm					
Mid-stroke detection capability	Yes, with use of inductive sensor or PRO-SN.. sensor					
Gripper weight	19g	33g	43g	86g	170g	250g

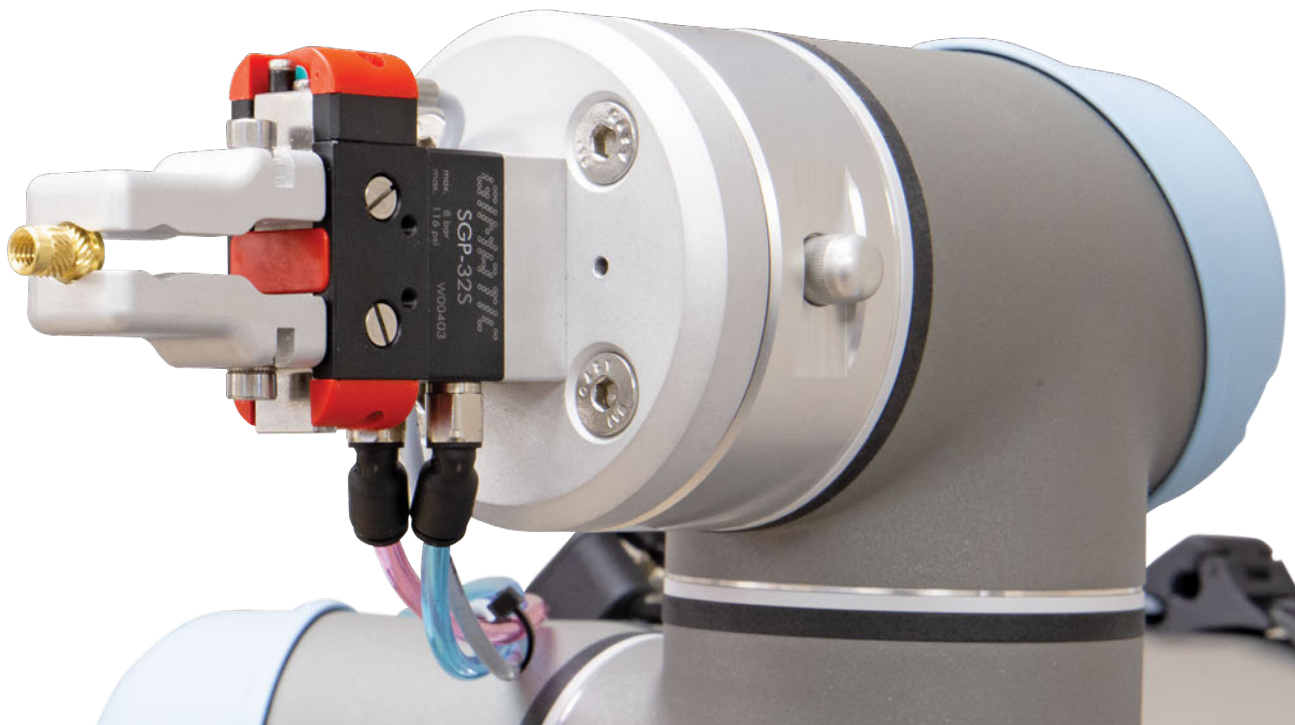
SGP Parallel, High-Precision Gripper Kit :

- This versatile kit can be adapted to other SGP Gripper sizes with various strokes and gripping force upon request.
- Double acting with patented backlash adjusting system.
- The rugged construction lends itself to heavy-duty applications for a trouble-free long life without maintenance.
- Includes 5/2 solenoid valve and cable management clamps.
- Includes 1 inductive sensor for mid-stroke workpiece detection.
- The included interface plate mounts directly to any robot with an ISO-9409-1-50-4-M6 tool flange. Contact EMI if you need a different interface plate.
- 0–8mm V-Groove fingers included.
- Includes USB drive with literature and robot software plug-in.
- CRK-SGP32S-A Mass: 285g (subject to change per configuration).

EMI Gripper Kit – Two-Jaw SGP for Industrial Cobots



Includes USB drive with literature and robot software plug-in.



CRK-SGP32S-A Gripper Kit Includes:



5/2 Solenoid valve with fittings, mufflers, and non-slip Velcro® strap.



Two cable management clamps with non-slip Velcro strap.



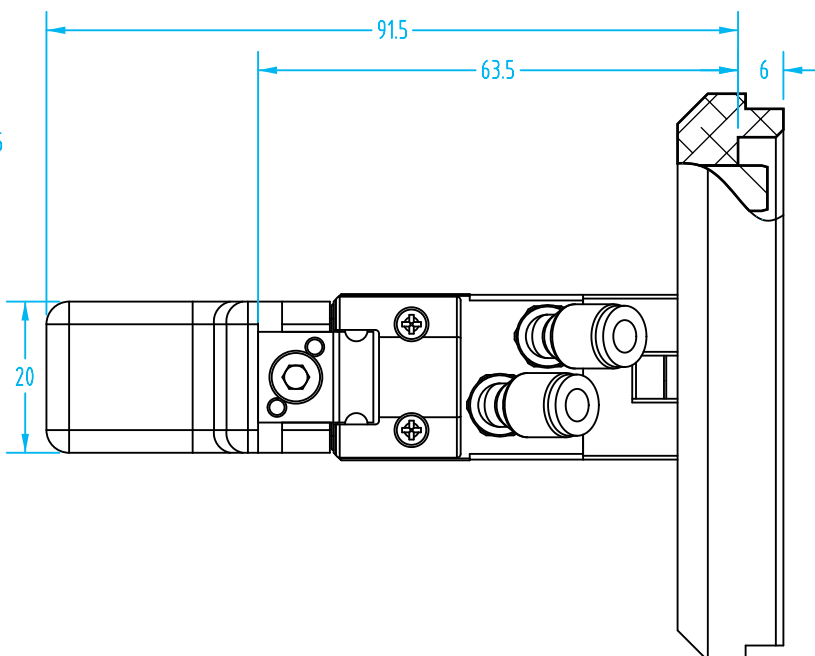
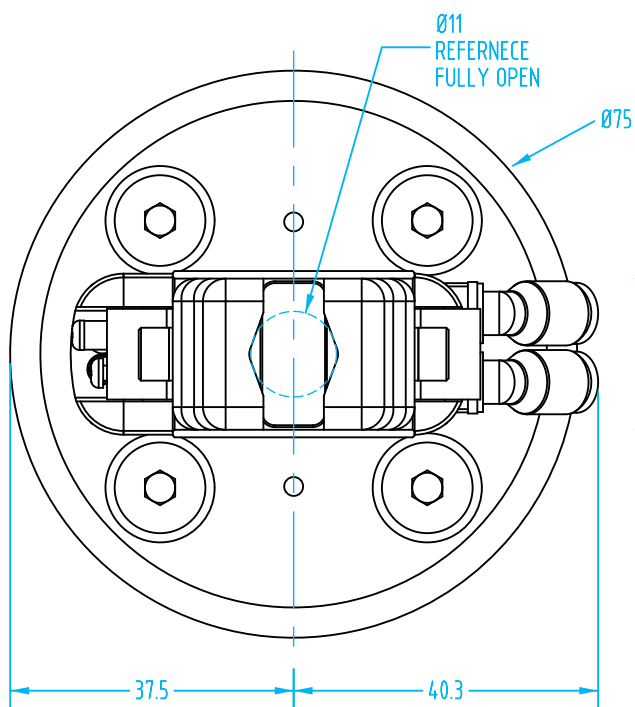
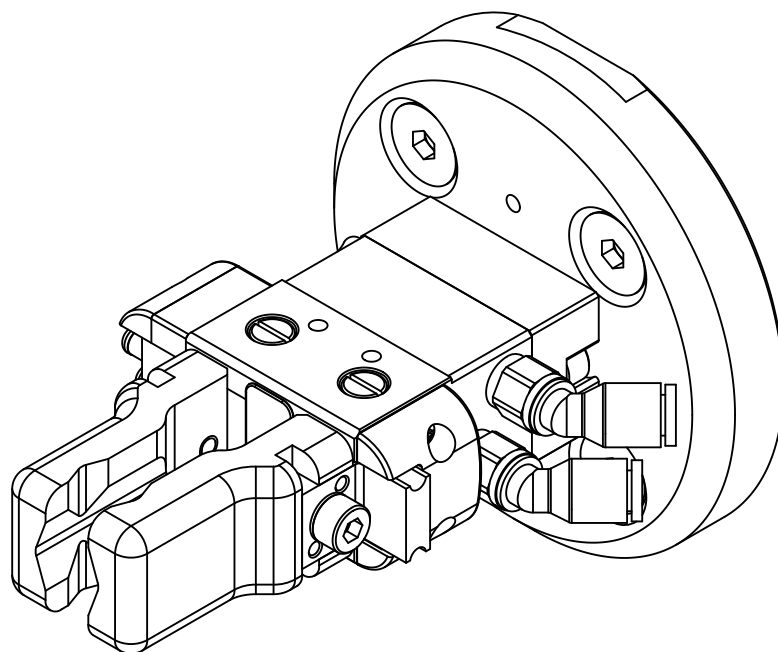
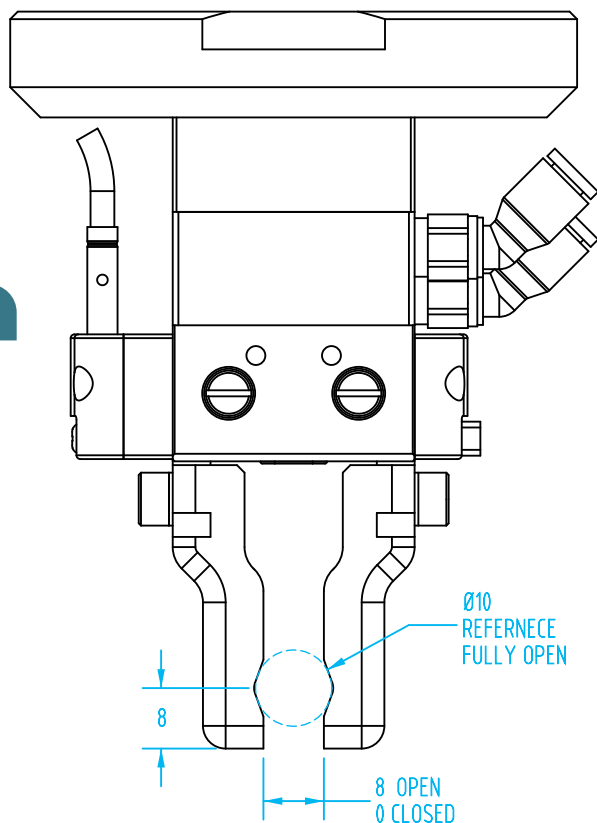
A high precision inductive sensor with M8 connector is included in the kit for part detection.



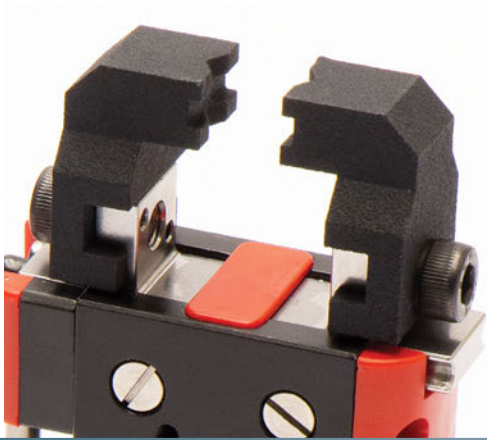
Interface plates, magnetic sensor for part detection, USB drive with robot plugin, and user manual.

EMI Gripper Kit – Two-Jaw SGP for Industrial Cobots

(Dimensioned drawing shown full scale)

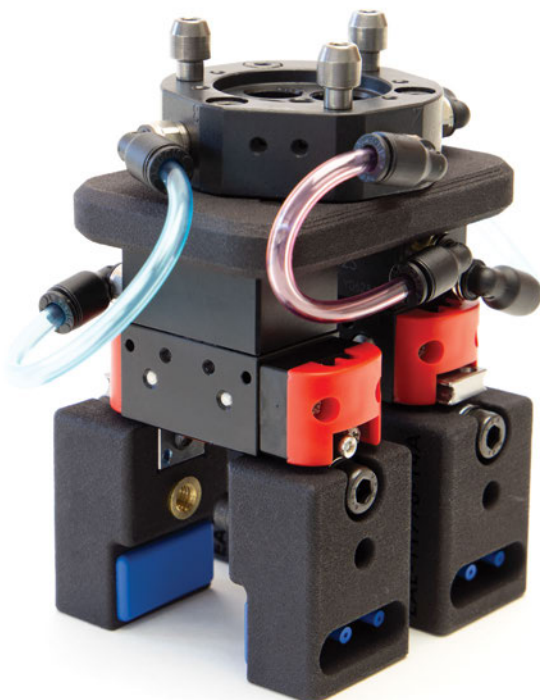
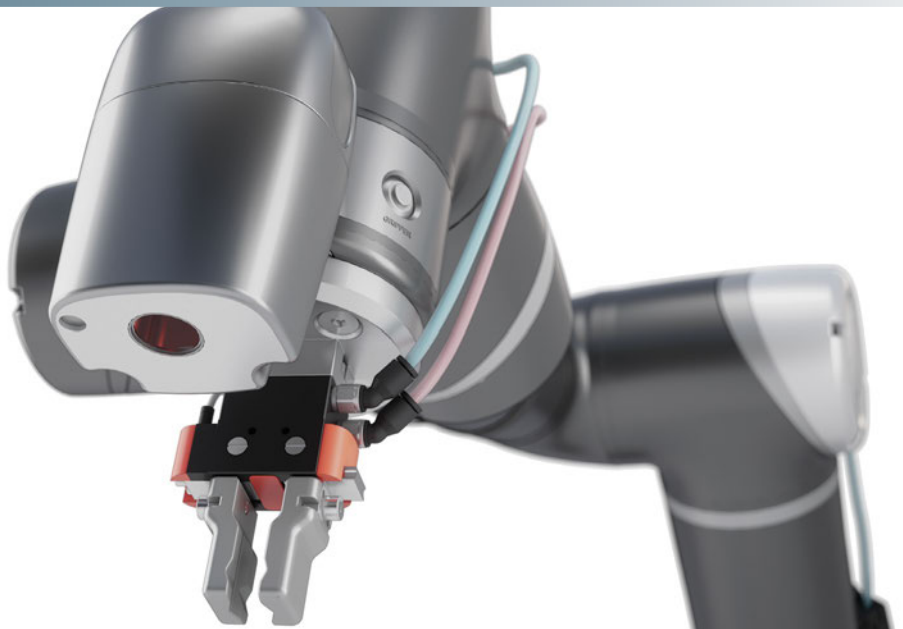


SGP Gripper Options for Industrial Cobots



- Custom 3D printed gripper fingers from EMI are ideal for use on EOAT in plastics as well as on collaborative robot grippers.
- We can provide engineering support to develop 3D printed or machined fingers.

**Cost Effective,
High Precision!**



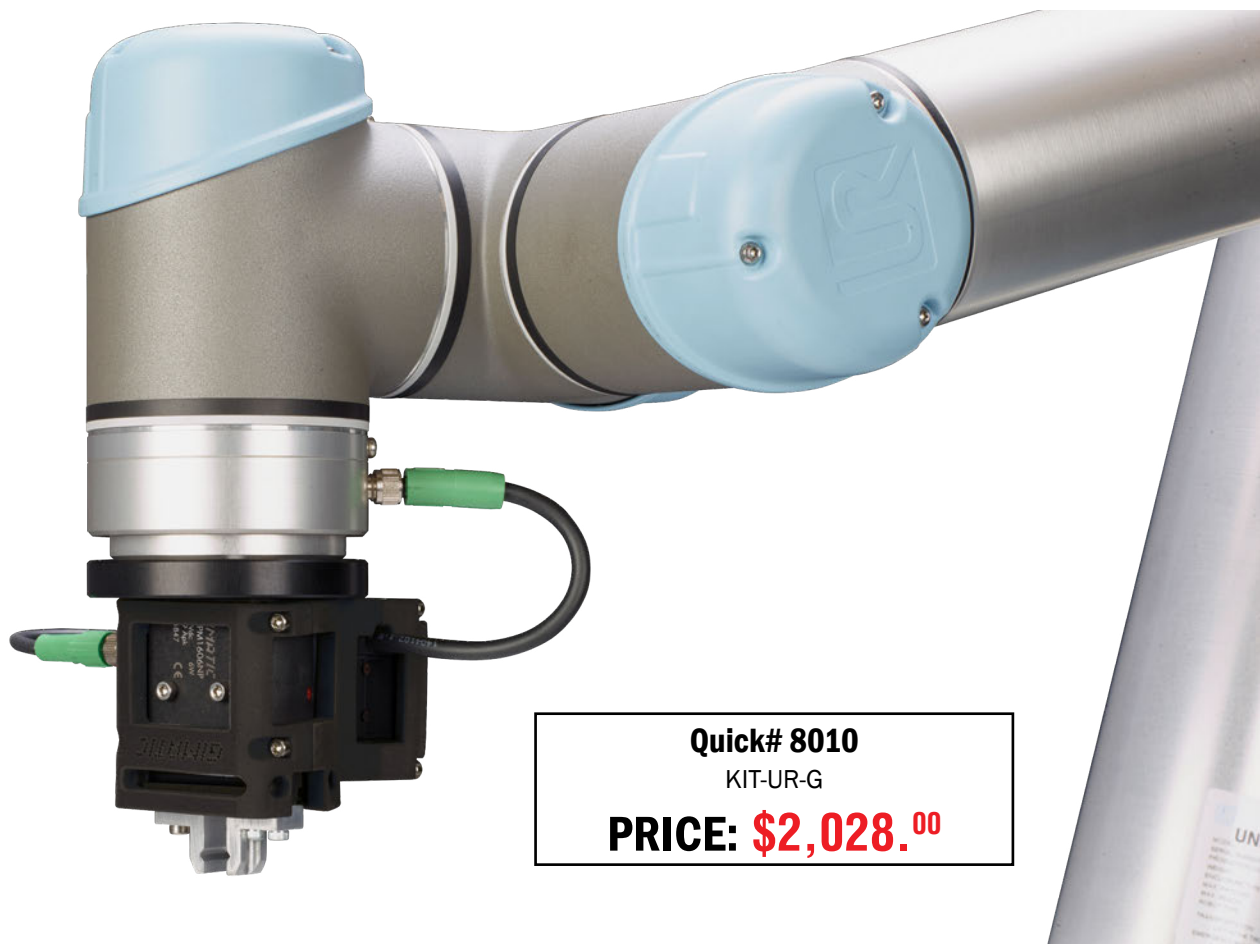
- **Designed for SCARA robots.**
- Quick Changer QC50 for quick set-up.
- Automatically engages pneumatic and electrical circuits.
- Padded fingers for an increased friction hold and softer touch to prevent damage.
- SGP-S Precision grippers are used for small work pieces and accurate handling.

This custom EOAT was **\$1,346.00**

For more SCARA applications, see page 180.

Gimatic by EMI – KIT-UR-G for Universal Robots

The Gimatic KIT-UR-G is an industrial electric gripper that plugs straight to your UR and Fanuc CRX wrist connector. Equipped with machined fingers that can be replaced by custom fingers for your application.

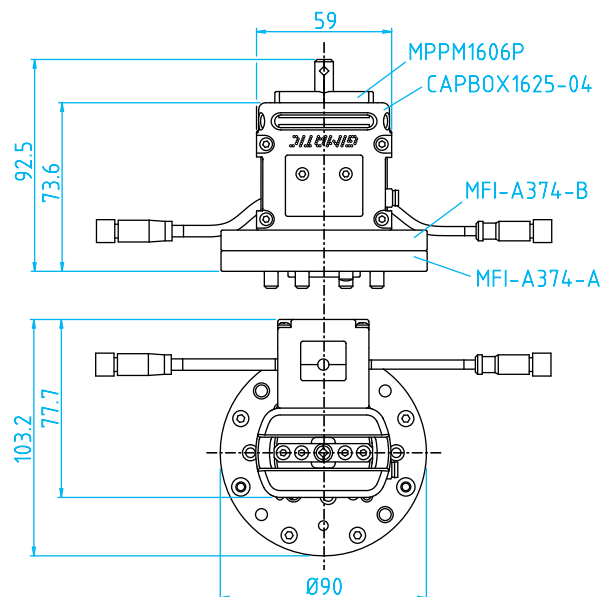


Gimatic by EMI KIT-UR-G

Electric 2-jaw parallel gripper with nylon cover and capacitor box. The system can be assembled on the UR or Fanuc CRX collaborative robots. The included capacitor box allows for a direct connection to the robot's wrist. Standard fingers are also included.

Mount the gripper with the included mechanical flange to the wrist of the robot and install the protective cover and the capacitor box. The system connects directly to the M8 plug connector at the wrist of the robot. The system can be operated via digital signals from the tool interface of the UR robot.

Available in Various Strokes & Grip Force!



Gimatic by EMI – KIT-UR-G for Universal Robots



Features:

- Compatible with UR and Fanuc CRX.
- Plug & play solution.
- Connects directly to the robot's wrist.
- 2x3mm Stroke with 15lbf total gripping force.
- Base diameter: 100mm.
- Total height (fingers included): 83mm
- Contact EMI for custom fingers.
- Sensor ready for gripping or end of the stroke detection.
- The included interface plate mounts directly to any robot with an ISO-9409-1-50-4-M6 tool flange. Contact EMI if you need a different interface plate.



Part#	MPPM1606	MPPM2508	MPPM3210
Quick#	6989	6990	6991
Total gripping force	15lbf	28lbf	55lbf
Stroke	2x3mm	2x4mm	2x5mm
Max frequency	1Hz	0.83Hz	0.66Hz
Cycle per minute	60	50	40
Opening/closing jaws time	0.05s	0.1s	0.15s
Working gripper time	0.2s	0.3s	0.4s
Duty cycle	40%	50%	60%
Peak current	0.8 A	1.2 A	3.4 A
Brushless motor power	6W	8W	11W
Open/closed input signal	PNP open connector		
Noise level	<70dB		
Weight of Gripper (motor included)	145g	330g	525g
IPA Clean Room Certification	ISO04	TBA	TBA
CE Certification	CE; EMC		
Environmental Degree	IP54	IP54	IP54

Gimatic by EMI – Kit-UR-J Long-Stroke Electric Gripper for Cobots

The Gimatic KIT-UR-J is an industrial electric gripper with a long stroke that plugs straight to your UR and Fanuc CRX wrist connector. Equipped with finger blanks that can be fitted with custom fingers (shown below) specific to your application.

Quick# 8012

KIT-UR-J

PRICE: \$2,904.⁰⁰



*Fingers not included.



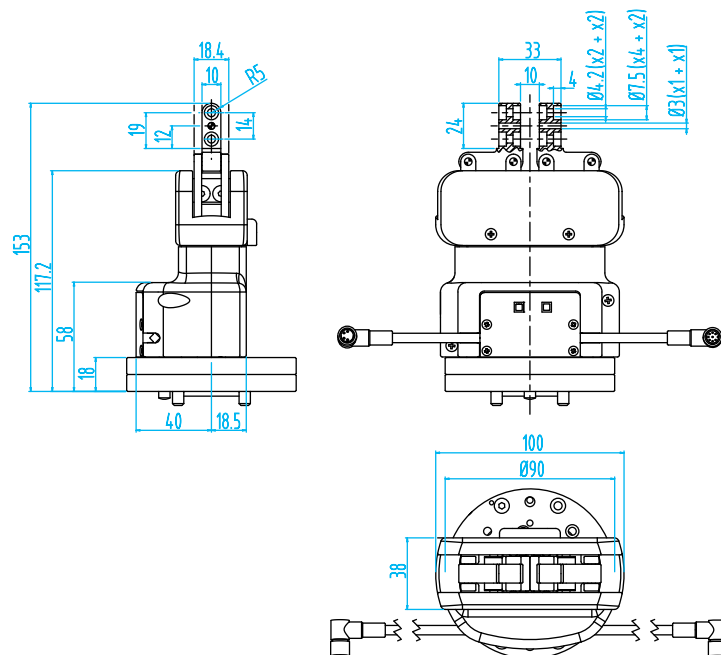
Custom fingers available, contact us today!

Gimatic by EMI KIT-UR-J & KIT-TM-J

The Kit-UR-J is an electric, 2-jaw parallel gripper with a safety shroud and capacitor box. This gripper can be assembled onto the UR or Fanuc CRX collaborative robots. By installing the associated robot plugin, the user can configure the device along with a list of work pieces to be gripped.

The KIT-TM-J is a plug & play gripping solution for Techman Robot cobots (TM5, TM12 and TM14 series) and it is completely compatible with Gimatic Quick Changer EQC20-TM (Quick#8155). It can be used in combination with any collaborative robot that provides a limited power supply capability at the wrist.

This gripper has a long stroke with a fast opening/closing motion.



Gimatic by EMI – KIT-TM-J Long-Stroke Electric Gripper for Cobots



Quick# 8031

KIT-TM-J

PRICE: \$2,904.⁰⁰



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

Features:

- Kit-UR-J: Compatible with UR or Fanuc CRX.
- Kit-TM-J: Compatible with TM5, TM12 and TM14 series.
- Plug & play solution.
- Connects directly to the robot's wrist.
- Sensor ready for gripping or end of the stroke detection.
- 53mm Stroke
- Base diameter: 100mm
- Contact EMI for custom fingers.
- The included interface plate mounts directly to any robot with an ISO-9409-1-50-4-M6 tool flange. Contact EMI if you need a different interface plate.

Gimatic Electric Grippers for Cobots

Gimatic Electric Grippers are priced competitively and ideal for DIY applications.



[Learn more about Gimatic Electric Grippers here!](#)

Gimatic electric grippers and rotaries are easy to set up and operate and use electricity from your PLC. All models use 24VDC and an M8x1, 3-pole standard connection.

- No electricity is used when engaged.
- Gripper retention guaranteed in power loss.
- Long-life brushless DC motor.
- Built in motor driver.
- Self-centering jaw system (patented).
- Carbon-fiber gear reduction.
- Maintenance-free for 10 million cycles.
- T-slot style jaws for heavy loads.
- Easy sensor upgrades available.
- Additional cables and connectors on page 170.
- ISO 9409-1-50-4-M6 interface plates on page 43.
- Sensor diagrams, grip force, dimensional drawings and other specifications can be found on our online product pages.
- Contact us with any questions or for custom 3D printed or machined jaws.



Gimatic Electric Grippers for Cobots

Two-Jaw Electric Parallel Gripper – MPPM



Priced from \$925.00

- Three sizes with a 6–10mm stroke.
- See page 112 for more information.

Two-Jaw Electric Parallel Gripper – MPXM



Priced from \$1,059.00

- Three sizes with a 12–20mm stroke.
- Self-adapting jaws part.

Two-Jaw Electric Gripper with Long Stroke – MPLM



Priced from \$1,193.00

- Three sizes with a 30–40mm stroke.
- See page 184 for Kit version.

Two-Jaw Electric Angular Gripper – MPBM



Priced from \$925.00

- Three sizes with a 2 x 23° stroke.
- Jaws contained within gripper profile.

Two-Jaw Electric Radial Gripper – MPRM



Priced from \$1,193.00

- Three sizes with a 2 x 93° stroke.

Two-Jaw Electric Parallel Gripper – MPRJ



Priced at \$2,033.00

- One size with 50mm stroke.
- See page 114 for more information.

Two-Jaw Electric Angular Sprue Gripper – MPBS



Priced from \$925.00

- S version with gripping sensor on the jaw.
- Two options with a 20mm stroke.

Three-Jaw Electric Parallel Gripper – MPTM



Priced from \$1,059.00

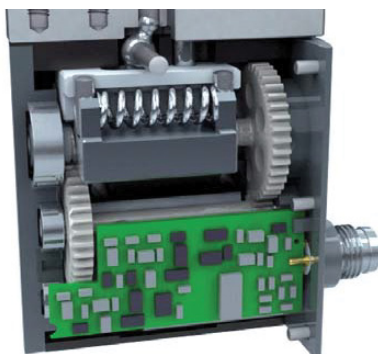
- Three sizes with a 9–15mm stroke.

Electric Rotary Actuators – MRE

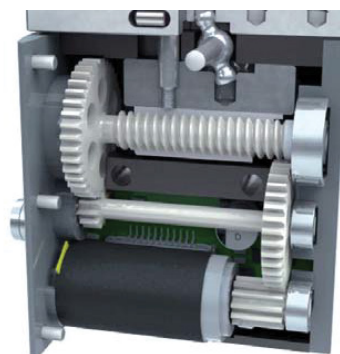


Priced from \$1,059.00

- 90° or 180° rotation (mechanically set).
- Three sizes available.



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

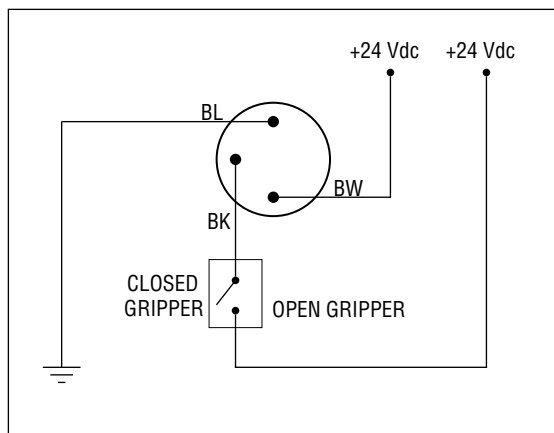


The carrier with the springs is driven by a 2-stage reducer and a worm. The carrier drives two jaws with a patented self-centering mechanism--already tested in other Gimatic grippers.

Gimatic Electric Grippers for Cobots

Electrical Connection

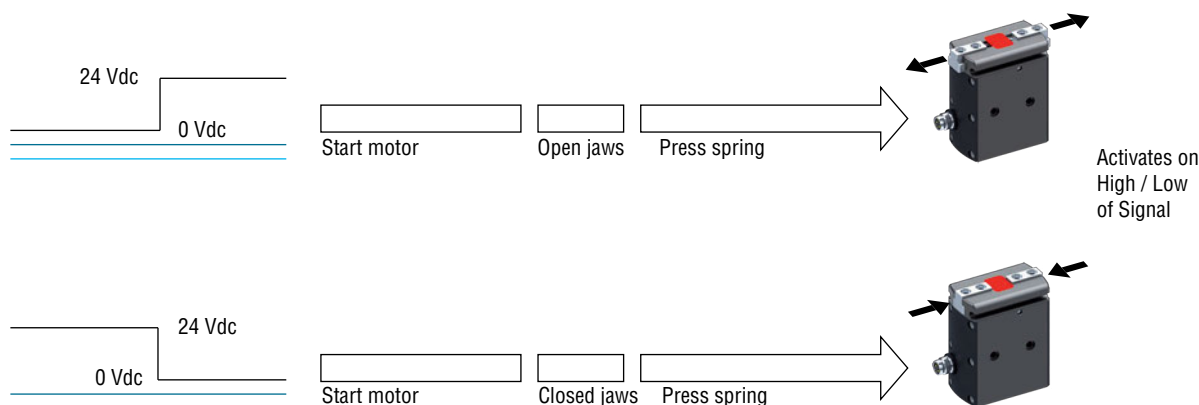
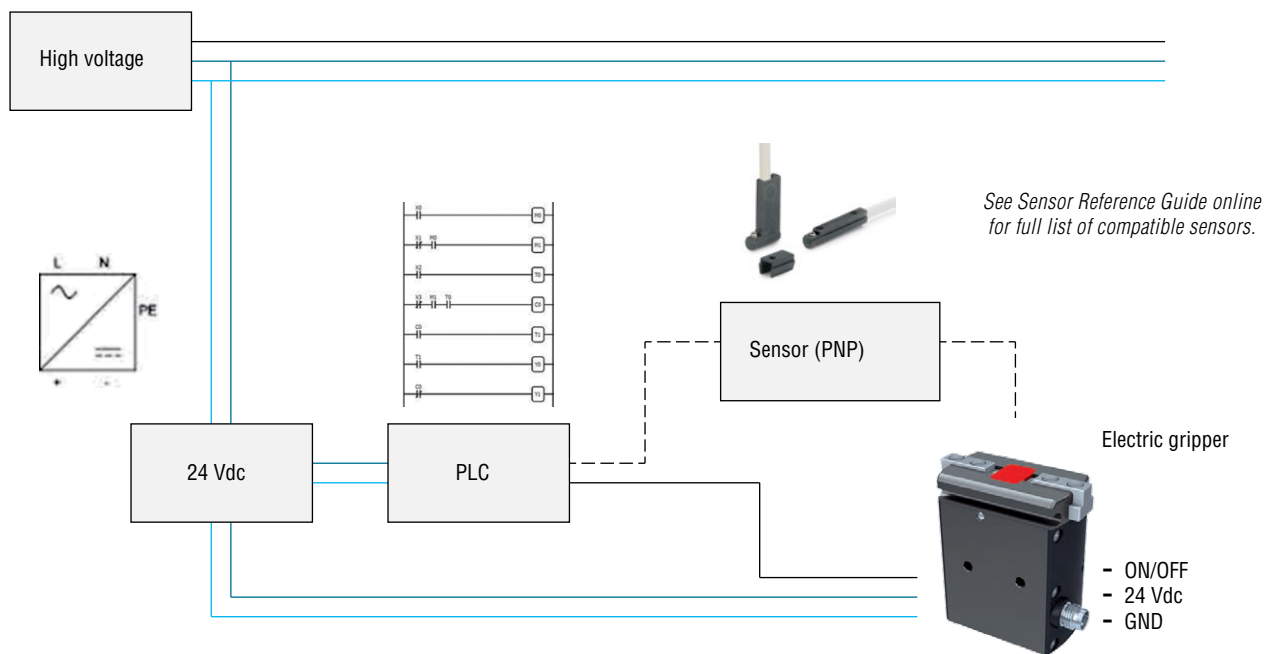
Gimatic mechatronic devices have a 3-pin M8 connection that is used to receive both the 24VDC power and on/off signal.



Continuous Flex Cables

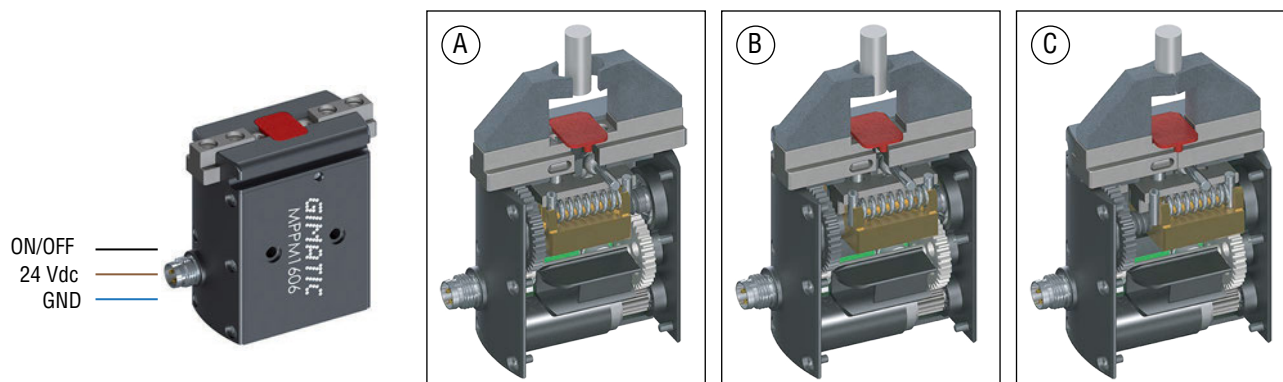
Quick#	Part#	Description	Price
7160	CFGM800325P	2.5m cable 3-Wire with Straight M8 Connector	\$13.00
7161	CFGM890325P	2.5m cable 3-Wire with 90° M8 Connector	\$13.00

- Additional cables and connectors on page 170.
- Sensor diagrams and other specifications can be found on our online product pages at: www.EMlcorp.com
- Contact us with any questions: Sales@EMlcorp.com.

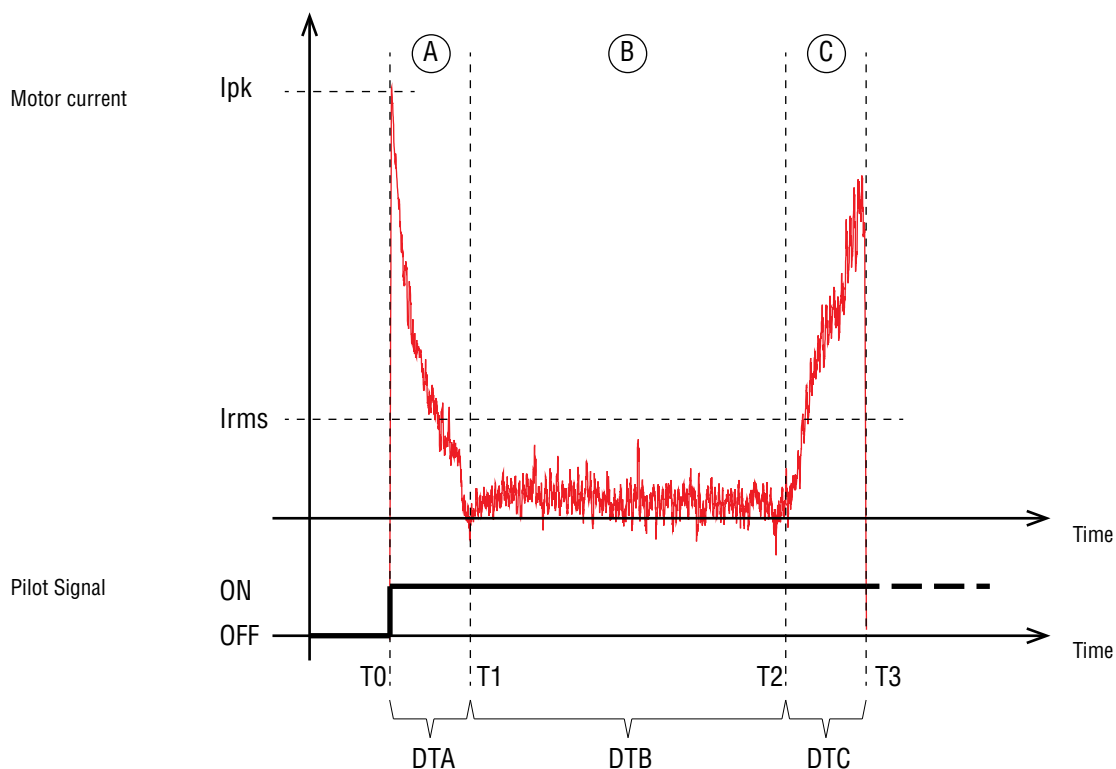


Gripping force

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



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



Operation description

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

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

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

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

OnRobot 2FG7 Parallel Gripper for Cobots



OnRobot's 2FG7 is a complete, off-the-shelf electric parallel gripper that can be deployed within minutes and requires no custom engineering for installation, programming, or maintenance.

This strong parallel gripper can be used in tight spaces and handles demanding payload requirements.

Quick# 8204

OR-106376

PRICE: \$4,201.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



TMPlug&Play
CERTIFIED

Features:

- Grip detection / lost grip detection.
- Integrated software.
- Ready for use almost anywhere, with IP67 rating for harsh environments and ISO Class 5 certification for cleanroom use.

Technical Specs	
Total OD stroke (w/ stock fingers)	1–73mm
Total ID stroke (w/ stock fingers)	11–83mm
Payload with stock fingers (force fit)	15.43 lb (7kg)
Payload with custom fingers (form fit)	24.25 lb (11kg)
Repetition accuracy	± 0.1mm
Gripping force (adjustable)*	4.5 lbf – 31.5 lbf
Gripping force deviation	+/- 5%
Gripping speed**	16mm – 450mm /second
Gripping time***	200ms
Storage temperature	32° – 140°F
Weight	1100g (2.4 lb)
Power supply	20V – 25V
Max. Current consumption****	2000mA
Operating temperature	41° – 122°F

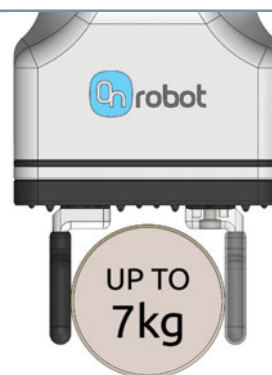
* The required current is 2000 mA, less current will result in less gripping force.

** Relatively from the gripping object (both arms).

*** At 4 mm stroke and 80 N. The typical value is 300 ms at 40 mm and 80 N.

**** Automatically adapts to the current requirements when UR CB3 tool connector is used (600mA).

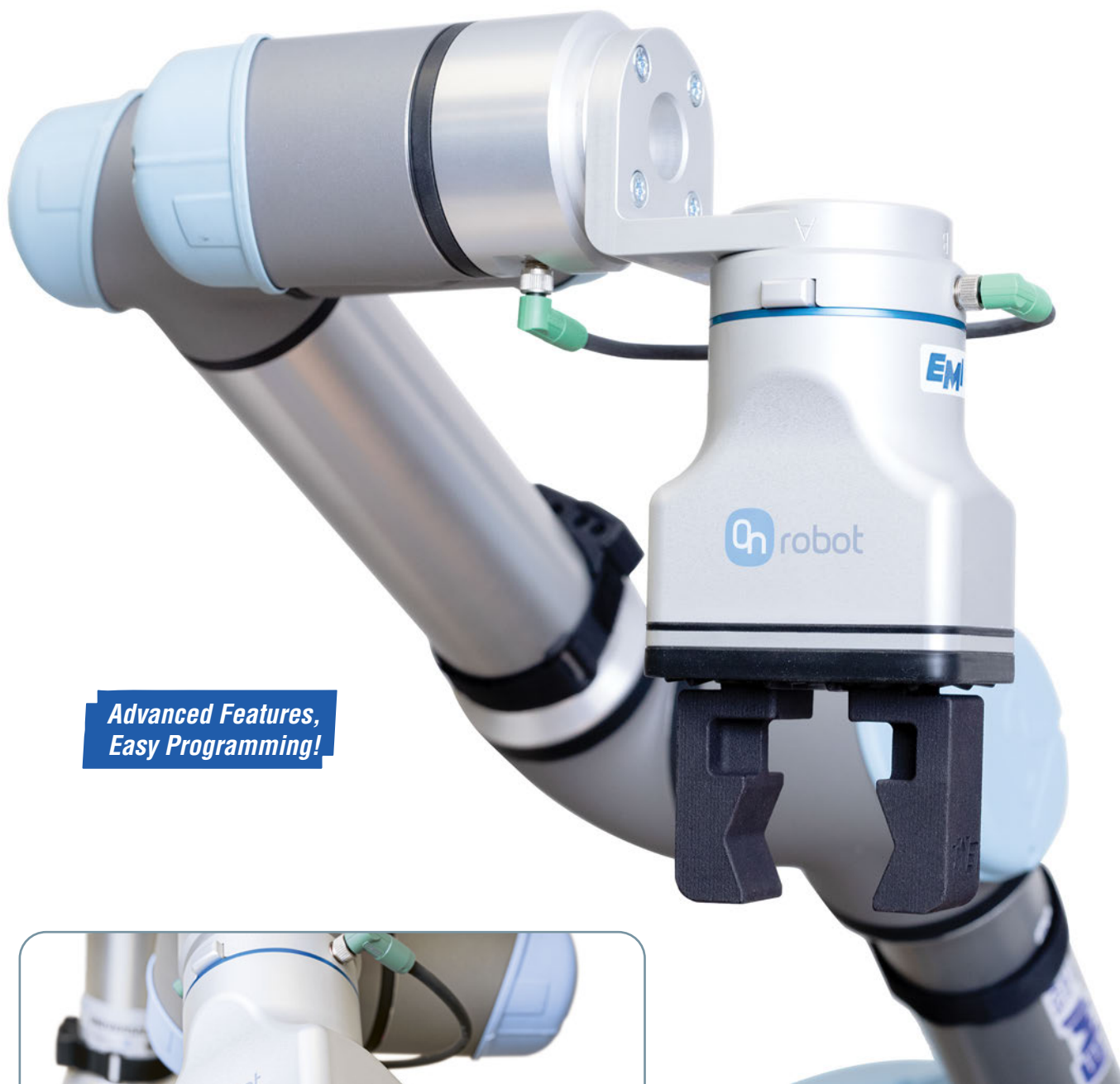
Force Fit:



Form Fit:



OnRobot 2FG7 Parallel Gripper for Cobots



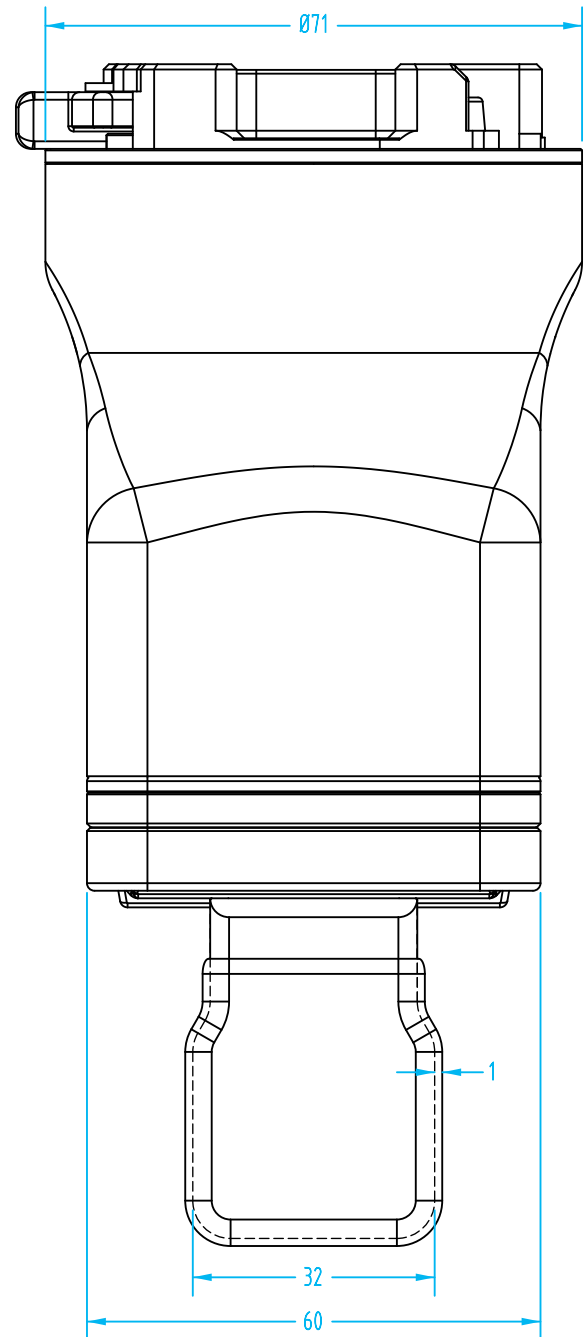
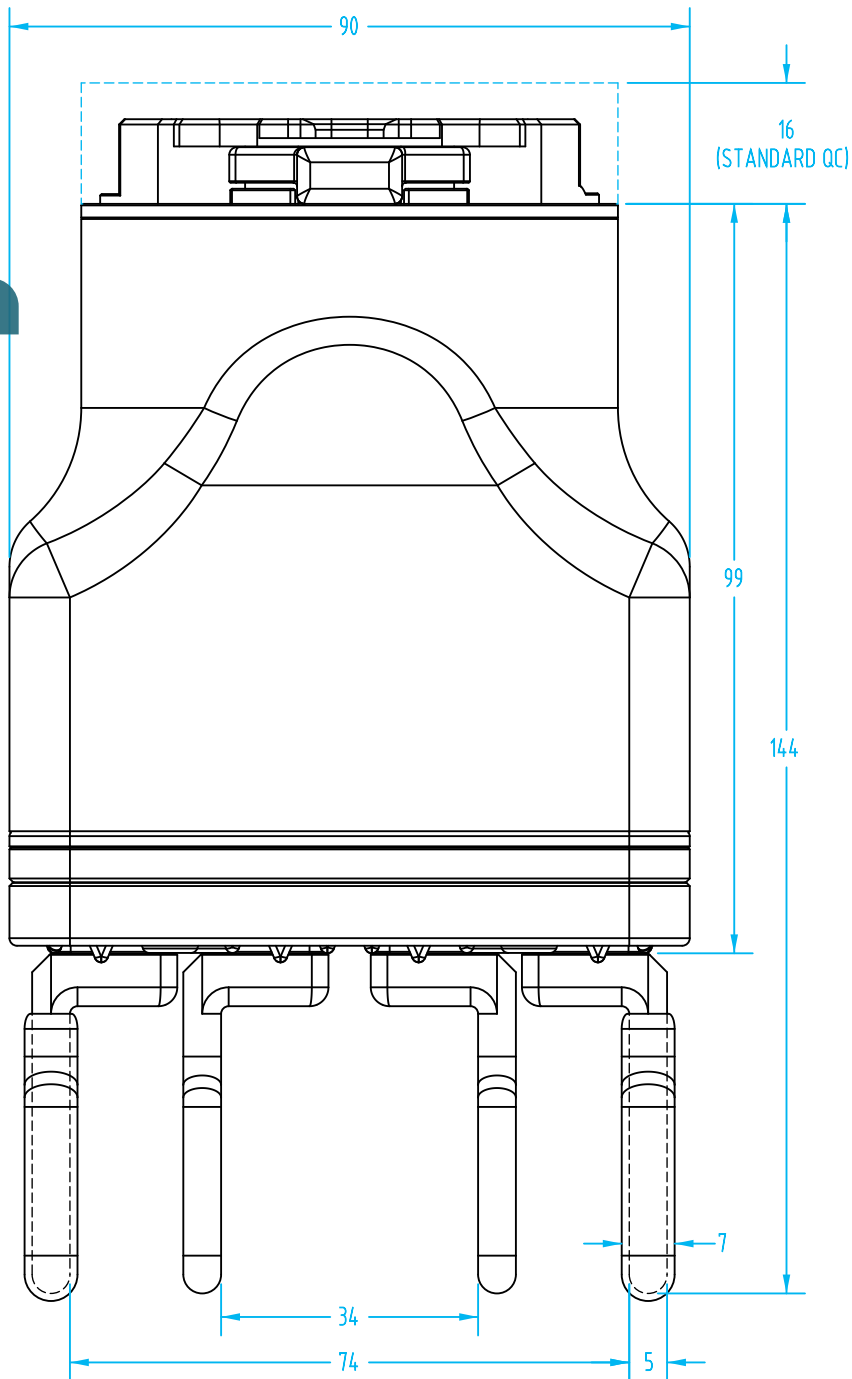
**Advanced Features,
Easy Programming!**



Shown with custom 3D printed fingers available from EMI.

OnRobot 2FG7 Parallel Gripper for Cobots

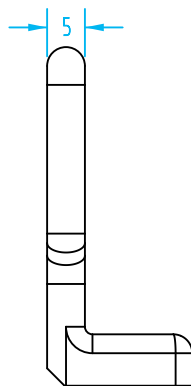
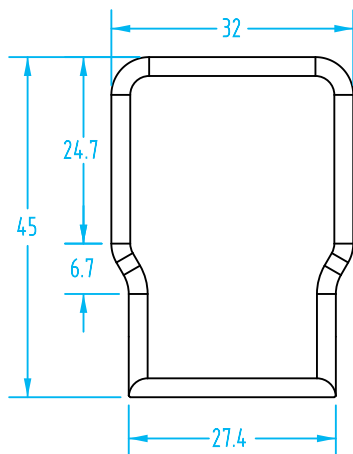
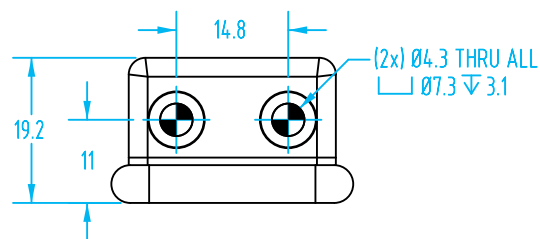
(Dimensioned drawing shown full scale)



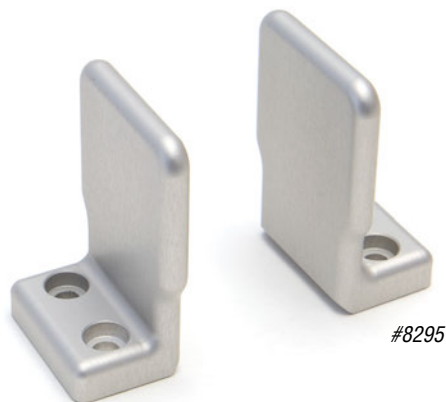
OnRobot 2FG7 Parallel Gripper for Cobots

(Dimensioned drawing shown full scale)

2FG7 Replacement Fingers and Bellow



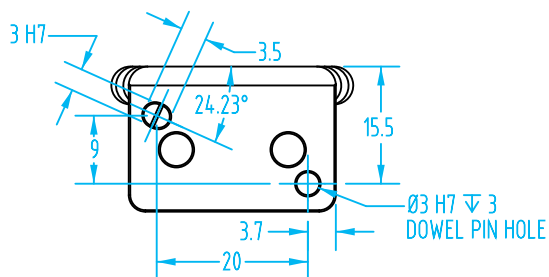
**In-Stock
Replacement Parts!**



#8295



#8296



#8297

Replacement 2FG7 Parts

Quick#	Part#	Description	Price
8295	OR-106553	2-Finger Kit (2pc plus hardware)	\$186.00
8296	OR-106559	Finger Sleeves (4pc)	\$72.00
8297	OR-106576	Bellow Kit (2pc)	\$72.00

Use Quick#s for easy online ordering.

OnRobot RG2 Adaptive Gripper for Cobots



Adaptive Grippers make it easy to program secondary operations using Cobots around the Injection Molding Machine or anywhere in your plant.

Contact our EOAT experts to learn more about OnRobot! Cobots@emicorp.com

Quick# 8201
OR-102012

PRICE: \$4,963.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Features:

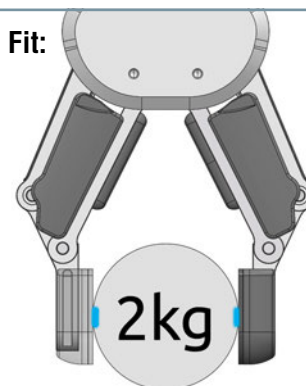
- Grip indications (part confirmation).
- Automatic tool center point (TCP) calculation, depth compensation, and payload calculation for UR.
- Integrated software.
- +/-90° Angular adjustments built into device in 30° Increments.

Technical Specs	
Adjustable stroke (w/ stock fingers)	0–110mm
Payload with stock fingers (force fit)	4.4 lb (2 kg)
Payload with custom fingers (form fit)	11.02 lb (5 kg)
Finger position resolution	± 0.1mm
Repetition accuracy	± 0.1mm– 0.2mm
Reversing backlash	± 0.1mm – 0.3mm
Gripping force (adjustable)	0.7 lbf – 9 lbf
Gripping force deviation	+/-25%
Gripping speed	38mm – 127mm /second
Gripping time*	0.06s – 0.21s
Adjustable bracket tilting accuracy	less than 1°
Storage temperature	32° – 122°F
Weight	780g (1.72 lb)
Power supply	20V – 25V
Current consumption**	10mA –600mA
Operating temperature	41° – 122°F

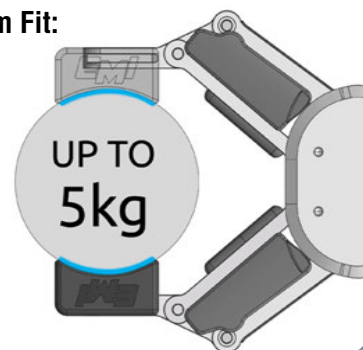
* Based on 8mm total movement between fingers. The speed is linearly proportional to the force.

**Current spikes up to 3A (max 6mS) may occur during the release action.

Force Fit:

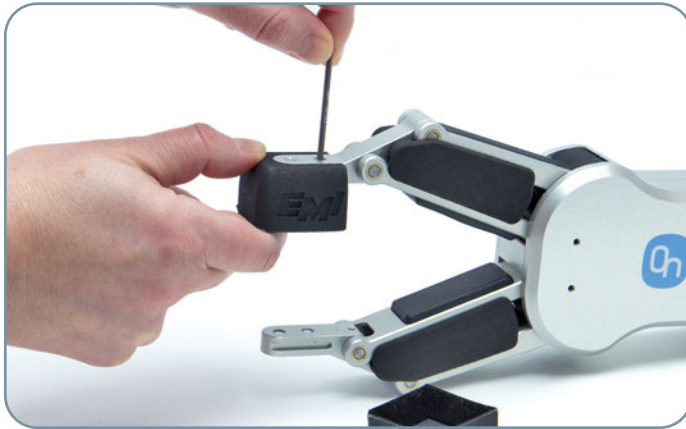


Form Fit:

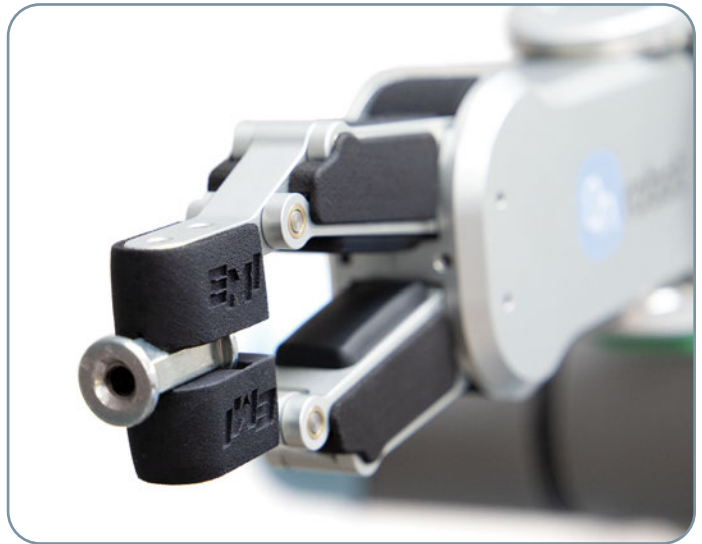
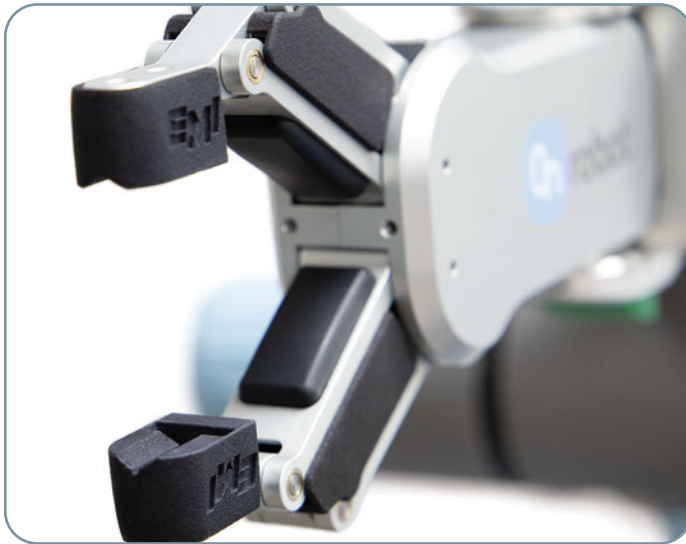


OnRobot RG2 Adaptive Gripper for Cobots

Easy finger tip replacement



Perfect for insert-loading applications



OnRobot's RG2 gripper has a dovetail style finger tip design which enables you to use custom fingers made for your application(s).

Replacement and optional RG2 items:



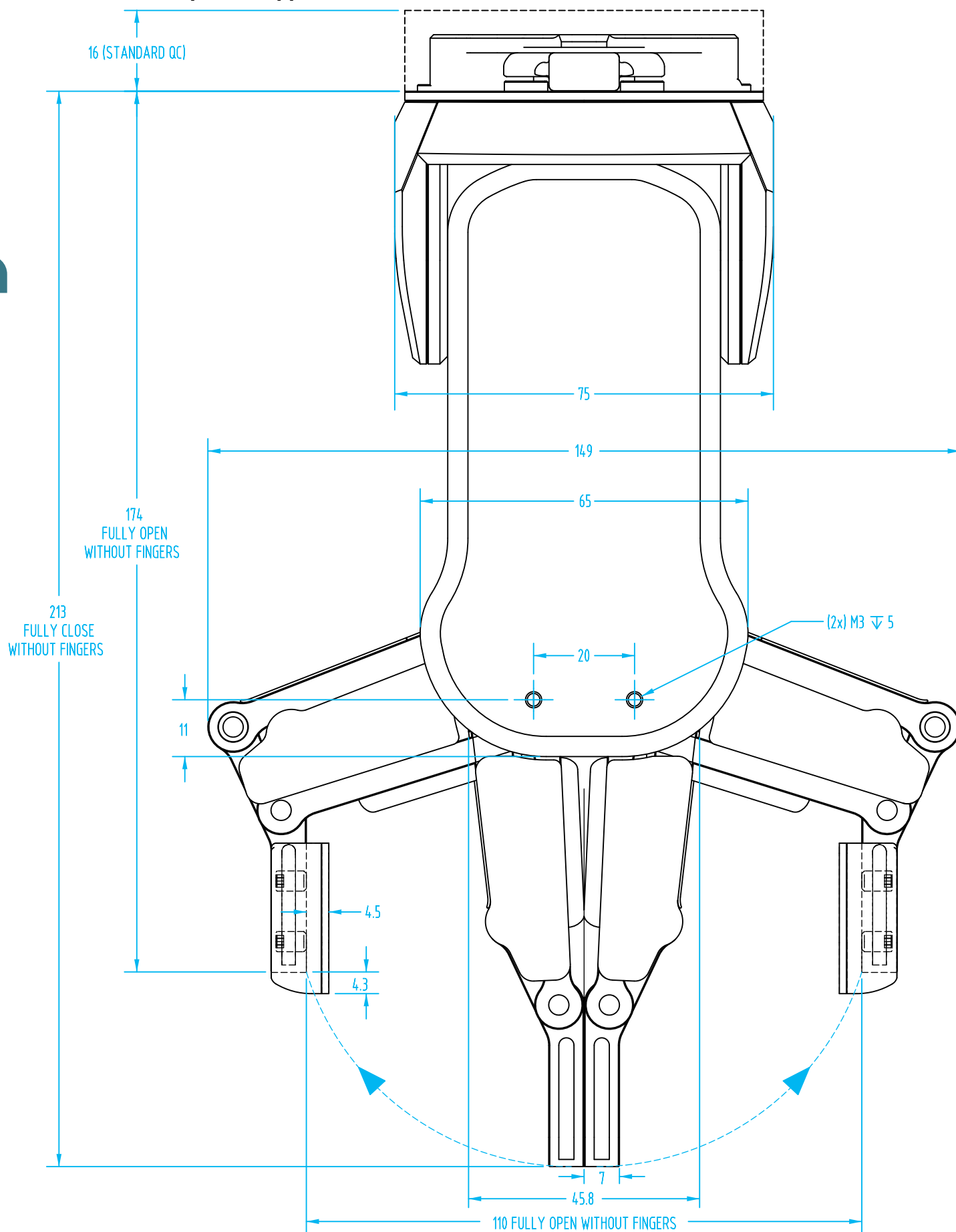
Quick#	Part#	Description	Price
8240	OR-100669	Standard Finger Tip	\$72.00
8272	OR-105871	X-Shape Finger Tip	\$109.00
8274	OR-106959	50mm Finger Extension	\$194.00
8275	OR-106960	100mm Finger Extension	\$194.00

Note: See EMI website for dimensional drawings.

Contact EMI for Custom Fingers: Cobots@Emicorp.com

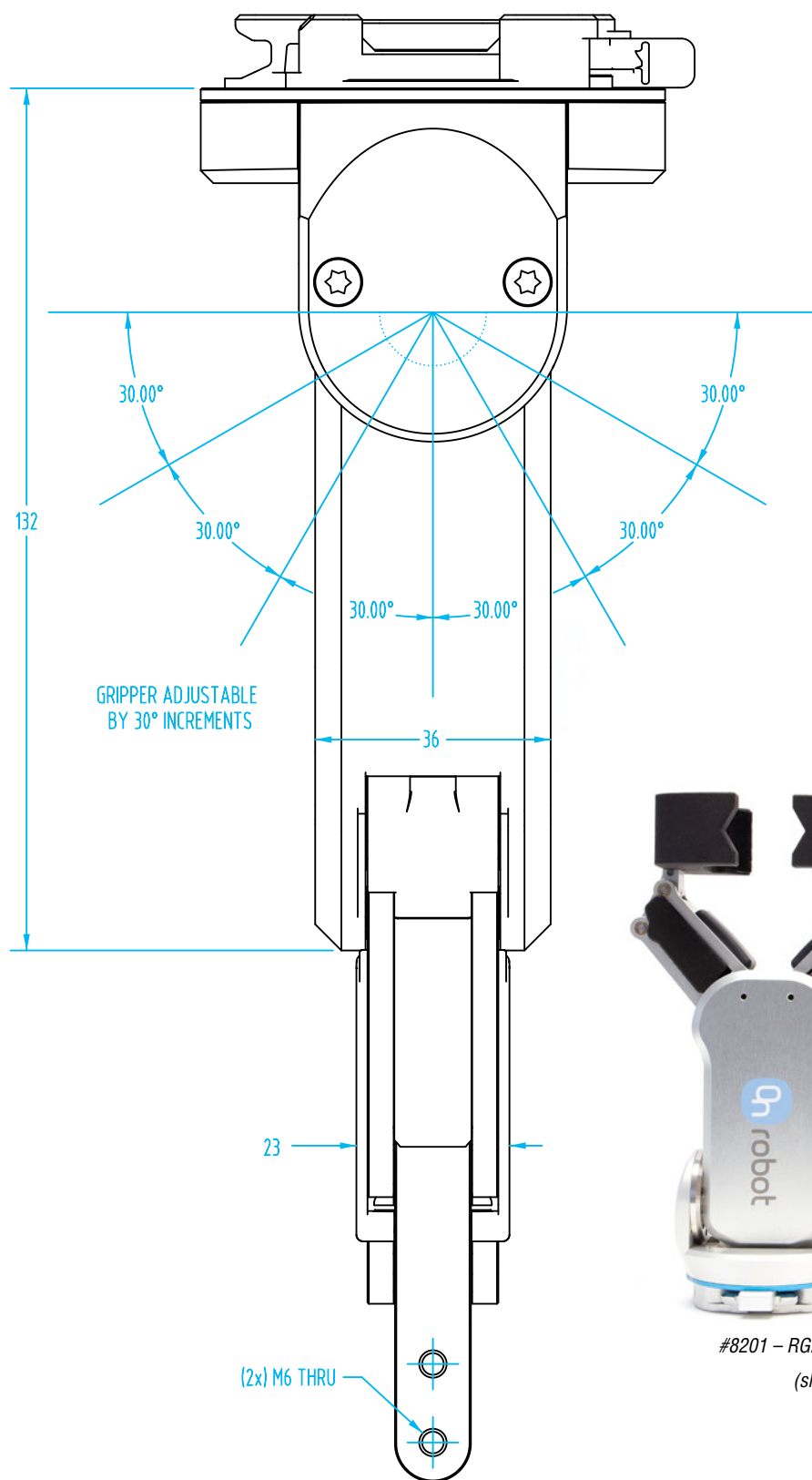
OnRobot RG2 Adaptive Gripper

(Dimensioned drawing shown full scale)



(Dimensioned drawing shown full scale)

OnRobot RG2 Adaptive Gripper



#8201 - RG2

#8202 - RG6

(shown with custom EMI fingers)

OnRobot RG6 Adaptive Gripper for Cobots



OnRobot's RG6 adaptive gripper is a powerful adaptive gripper with features that make it the ideal gripper for Collaborative and Industrial Applications.

It includes a built-in Quick Changer, adjustable stroke and grip force, finger tips, and software that makes it easy to use.

Quick# 8202

OR-102021

PRICE: \$5,945.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Features:

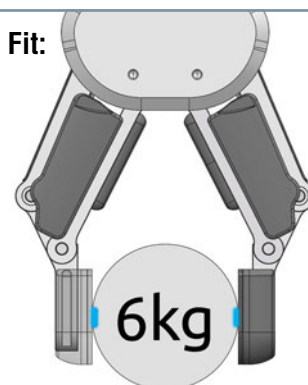
- Grip indications (part confirmation).
- Automatic tool center point (TCP) calculation, depth compensation, and payload calculation for UR.
- Integrated software.
- +/-90° Angular adjustments built into device in 30° Increments.

Technical Specs	
Adjustable stroke (w/ stock fingers)	0–160mm
Payload with stock fingers (force fit)	13.22 lb (6 kg)
Payload with custom fingers (form fit)	22.04 lb (10 kg)
Finger position resolution	± 0.1mm
Repetition accuracy	± 0.1mm – 0.2mm
Reversing backlash	± 0.1mm – 0.3mm
Gripping force (adjustable)	5.6 lbf – 27 lbf
Gripping force deviation	+/-25%
Gripping speed	51mm – 160mm /second
Gripping time*	0.05s – 0.15s
Adjustable bracket tilting accuracy	less than 1°
Storage temperature	32° – 122°F
Weight	1250g (1.76 lb)
Power supply	20V – 25V
Current consumption**	70mA – 600mA
Operating temperature	41° – 122°F

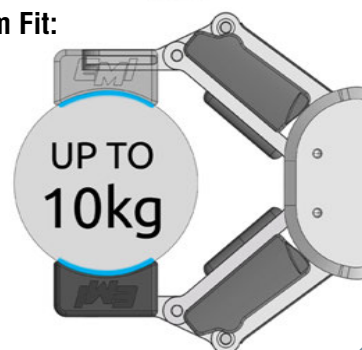
* Based on 8mm total movement between fingers. The speed is linearly proportional to the force.

**Current spikes up to 3A (max 6mS) may occur during the release action.

Force Fit:



Form Fit:

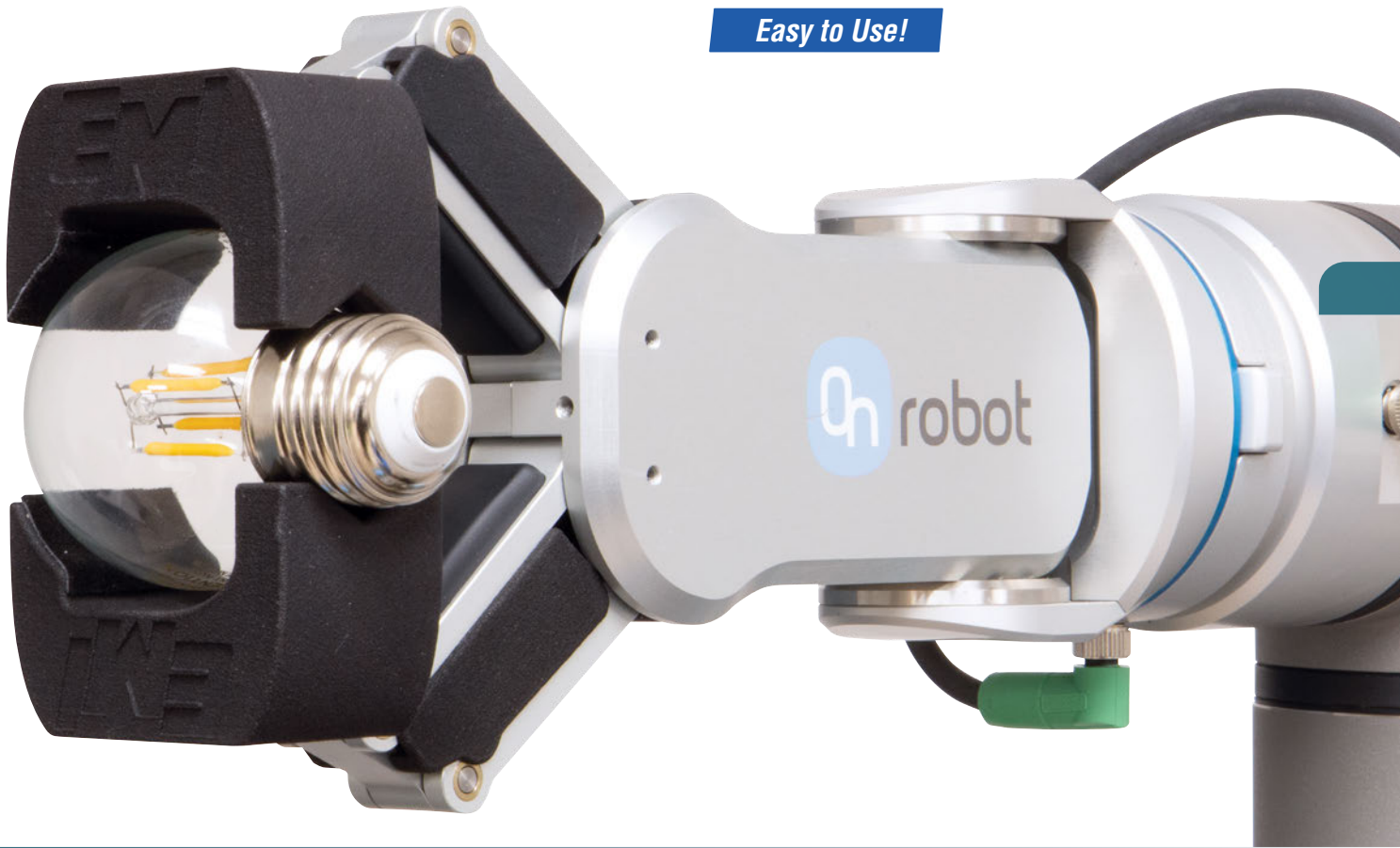


OnRobot RG6 Adaptive Gripper for Cobots

Custom fingers with soft-touch flocking available.

Contact EMI about 3D printed fingers.

Easy to Use!



Replacement and optional RG6 items:



#8241



#8273



#8276



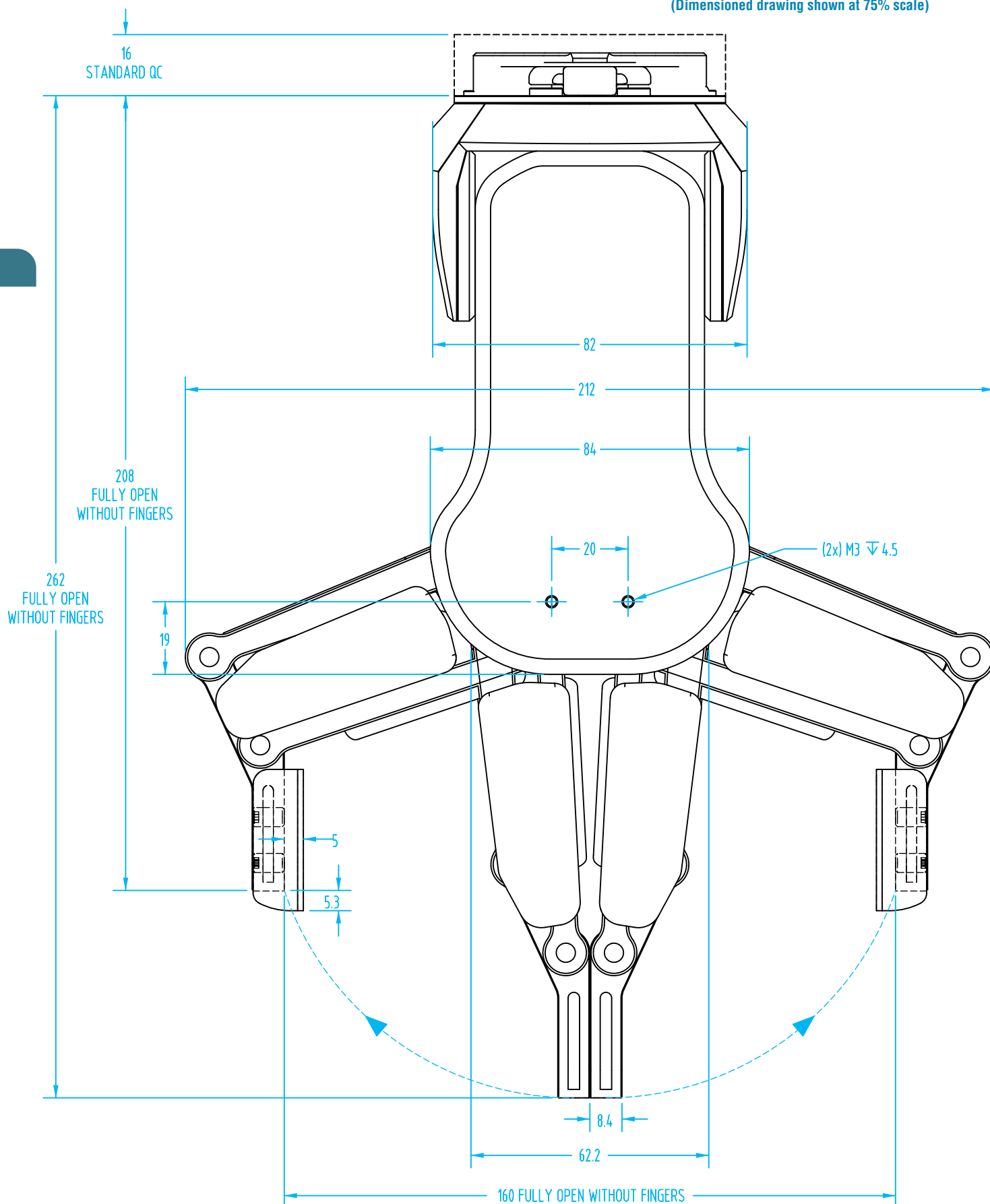
Quick#	Part#	Description	Price
8241	OR-100670	Standard Finger Tip	\$72.00
8273	OR-106957	X-Shape Finger Tip	\$109.00
8276	OR-106966	50mm Finger Extension	\$194.00
8277	OR-106967	100mm Finger Extension	\$194.00

Note: See EMI website for dimensional drawings.

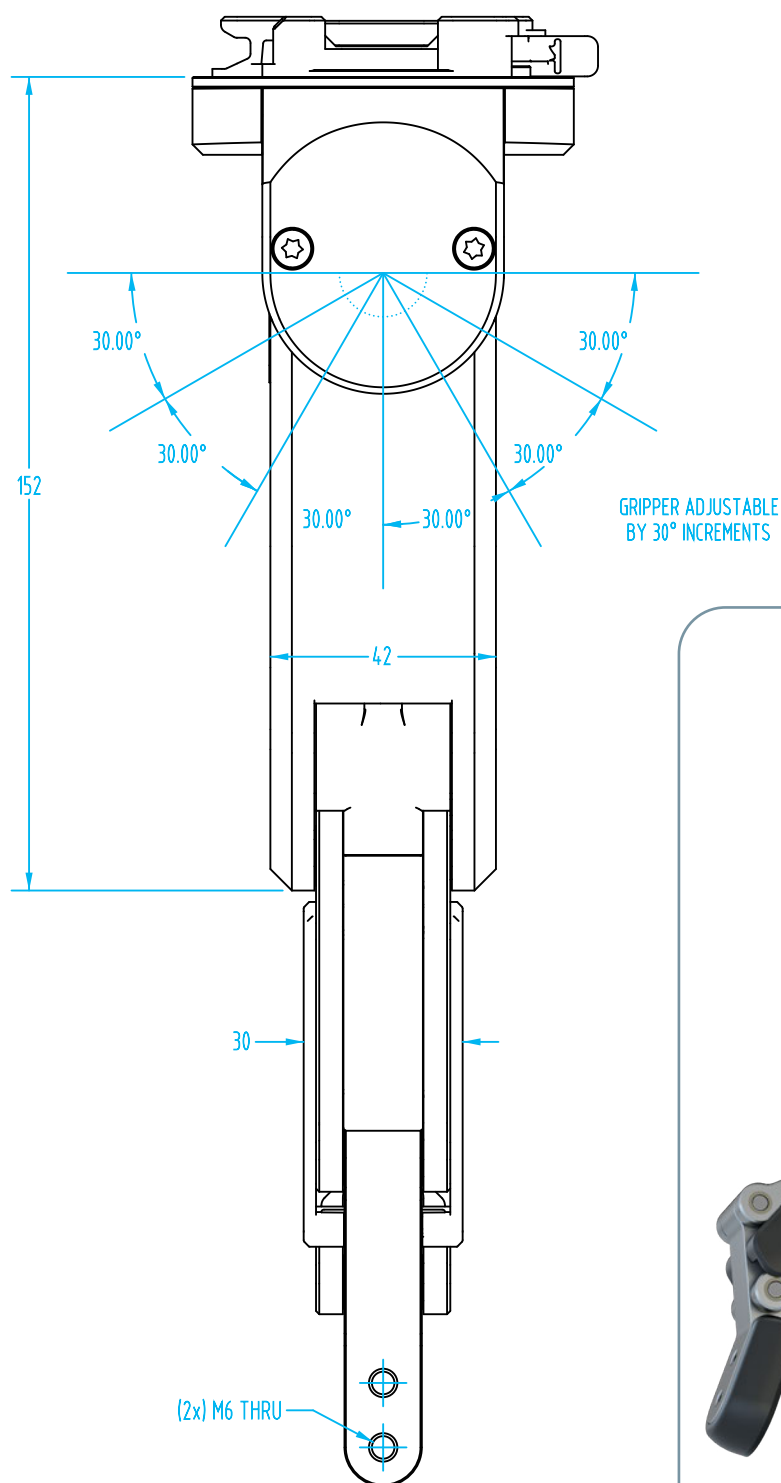
Use Quick#s for easy online ordering.

OnRobot RG6 Adaptive Gripper

(Dimensioned drawing shown at 75% scale)



(Dimensioned drawings shown at 75% scale)



OnRobot 3FG15 Three-Jaw Gripper for Cobots



The 3FG15 is ideal for gripping a wide range of cylindrical objects in machine-tending applications such as CNC lathe machines.

The gripper's design automatically centers workpieces, resulting in fast deployment with a strong, stable grip and precise placement.

Quick# 8203
OR-103666

PRICE: \$5,231.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Features:

- Grip indications (part confirmation).
- Custom fingers available from EMI.
- Automatic tool center point (TCP) calculation, depth compensation, and payload calculation for UR.
- Integrated software.
- IP67 rating for harsh environments and ISO Class 5 certification for cleanroom use.

Technical Specs	
Total OD stroke (w/ stock fingers)	4–152mm
Total ID stroke (w/ stock fingers)	35–176mm
Payload with stock fingers (force fit)	22.04 lb (10 kg)
Payload with custom fingers (form fit)	33.06 lb (15 kg)
Finger position resolution	±0.1mm
Repetition accuracy	± 0.1mm–0.2mm
Gripping force (adjustable)*	2.25 lbf – 54 lbf
Gripping force deviation	+/- 5%
Gripping speed**	125mm
Gripping time***	500ms
Storage temperature	32° – 140°F
Weight	1500g (2.5 lb)
Power supply	20V – 25V
Max. Current consumption****	1500mA
Operating temperature	41° – 122°F

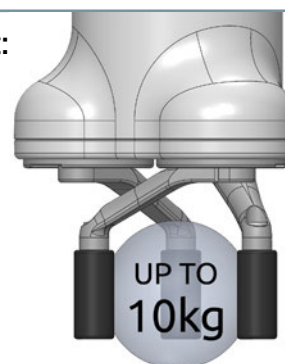
* The required current is 2000 mA, less current will result in less gripping force.

** Relatively from the gripping object (both arms).

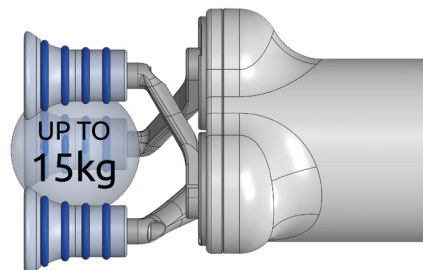
*** At 4 mm stroke and 80 N. The typical value is 300 ms at 40 mm and 80 N.

****Automatically adapts to the current requirements when UR CB3 tool connector is used (600mA).

Force Fit:

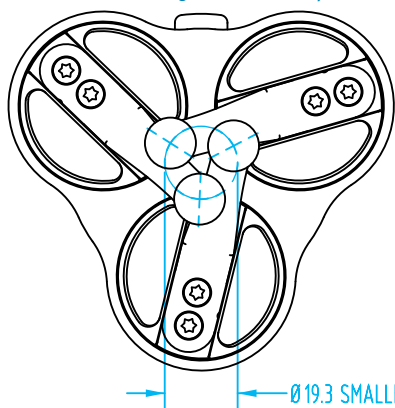


Form Fit:



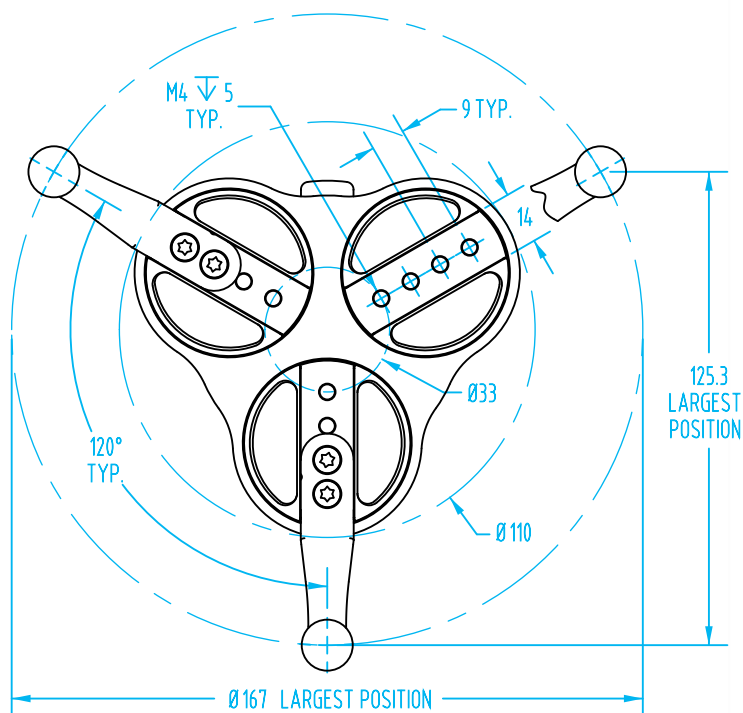
OnRobot 3FG15 Three-Jaw Gripper for Cobots

(Dimensioned drawings reduced to fit)



Ø19.3 SMALLEST POS

Ships Same Day!



3FG15 Replacement fingers and bumpers

***In-Stock
Replacement Parts!***



#8290



#8291



#8294



#8278

Quick#	Part#	Description	Price
8290	OR-104160	Ø10mm Steel fingers (3pc)	\$72.00
8291	OR-104162	Rubber bumpers for Ø10mm fingers (3pc)	\$72.00
8292	OR-104241	Ø13mm Steel fingers (3pc)	\$72.00
8293	OR-104240	Rubber bumpers for Ø13mm fingers (3pc)	\$72.00
8278	OR-106963	X-Shape Steel fingers (3pc)	\$194.00
8294	OR-104161	Steel finger base for fingers (3pc)	\$132.00

OnRobot Magnet Gripper MG10 for Cobots



OnRobot's MG10 is a versatile, easy to use magnetic gripper for material handling, assembly and machine tending applications in manufacturing, automotive and aerospace environments.

Fully compatible with all major robot brands through OnRobot's One System Solution, the MG10 offers unique adjustable force and grip detection features that provide users with unprecedented levels of control.

Quick# 8212

OR-105202

PRICE: \$2,780.⁰⁰

Pricing effective 7/1/2022. Check website for current pricing.

Try It Risk Free!

*Contact us for details



Features:

- Reliable gripping with variable force.
- Built-in proximity sensor to automatically detect the workpiece.
- Includes exchangeable fingertips for handling cylindrical objects.
- Includes protective pads (shown above).
- Safe, consistent grip even after power loss.
- Integrated software.
- No compressed air needed.

Technical Specs	
Payload	0.002–22.046 lb (0.001–10 kg)
Workpiece size	Ø65.4mm (Ø2.574 in)
Magnetism resolution	100 steps
Gripping time	300 ms
Storage temperature	32–131°F (0–55°C)
IP Classification	IP67
Weight	800g (1.763 lb)

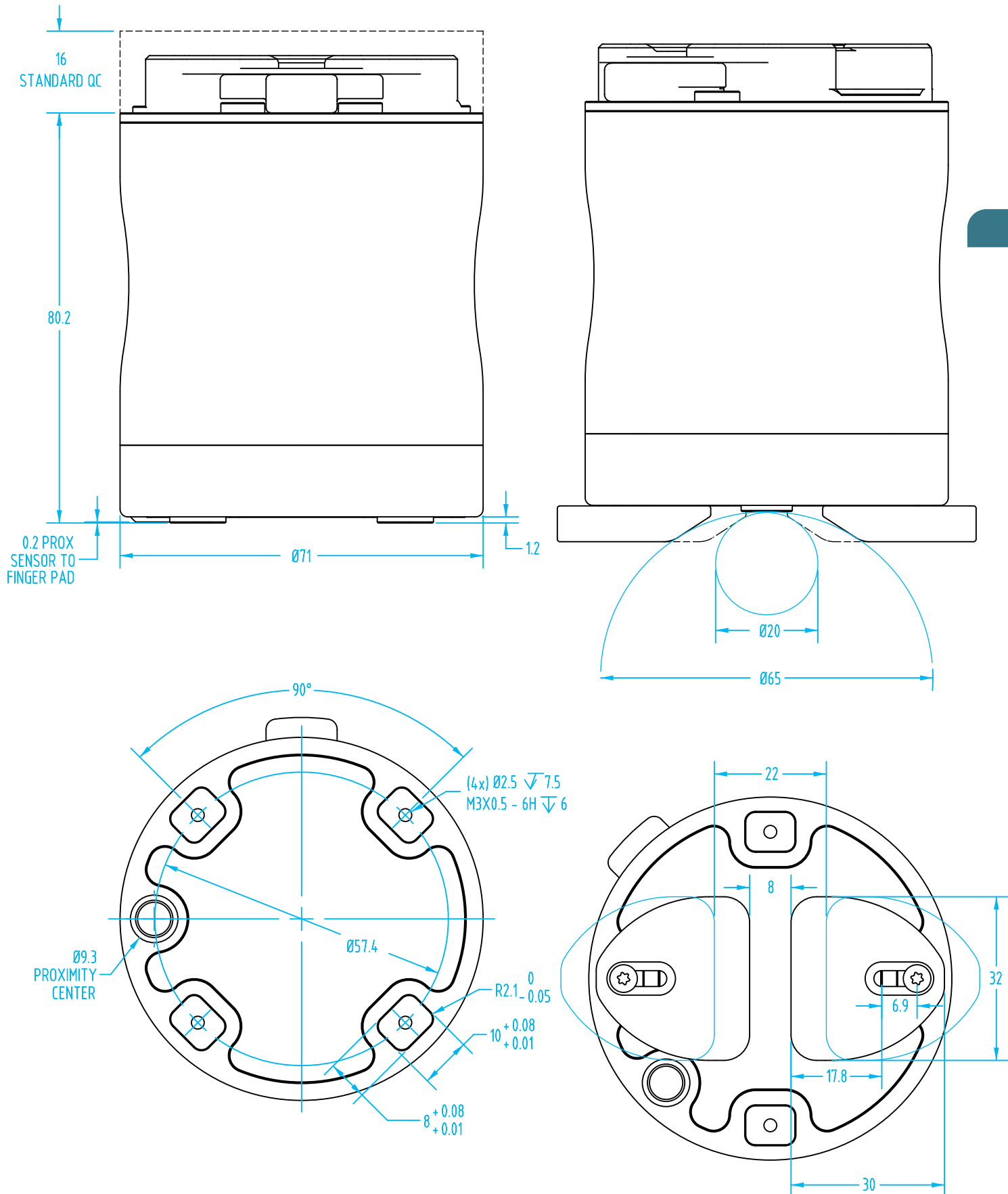


Shown with v-shape nesting tips for cylindrical objects.



OnRobot Magnet Gripper MG10 for Cobots

(Dimensioned drawings shown full scale)



EMI Gripper Kit – Magnet Gripper for Industrial Cobots

The MAG Gripper Kit for Industrial Cobots by EMI is a pneumatically-driven gripper **ideal for insert loading** as well as handling of ferromagnetic workpieces.

The MAG Gripper Kit offers customization with the ability to mount custom-made nests and sensors to make sure the part is picked, held and placed accurately.

Quick# 8003

CRK-MAG40-A

KIT PRICE: \$695.⁰⁰

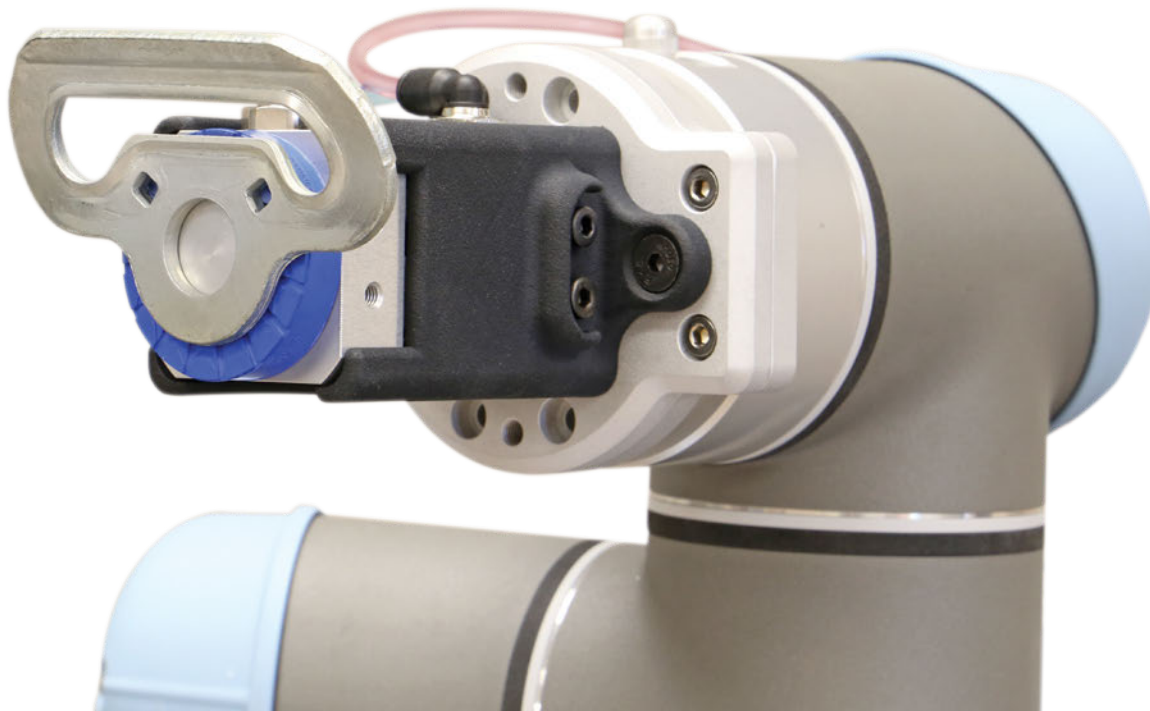
Quick#	Part#	Holding Force*	Remaining Force	Operating Pressure	Operating Temp.	Wt. of Gripper
1993	SGM-30-G18-IG	7.8 lbf	0.06 lbf	50.7–87 psi	41°–158°F	130g
1994	SGM-40-G14-IG	22.4 lbf				240g
1995	SGM-50-G14-IG	40.4 lbf				440g
*Note: The value given is a static value with no safety factor; based on a plate with a thickness of 2mm. For system configurations with magnetic grippers, a safety factor of S = 3 must be applied.						

MAG40, Double-Acting Magnetic Gripper Kit:

- This versatile kit can be adapted to other SGM Gripper sizes with various gripping forces upon request.
- Compact, heavy-duty aluminum housing with permanent magnet for handling of ferromagnetic workpieces.
- Double acting with 5/2 solenoid valve and cable management clamps.
- Includes a 3D printed protective shroud.
- Multiple options for nest and sensor mounting.
- The included interface plate mounts directly to any robot with an ISO-9409-1-50-4-M6 tool flange. Contact EMI if you need a different interface plate.
- Replaceable polyurethane ring for delicate handling and added friction.
- CRK-MAG40-A Mass: 555g (subject to change per configuration).
- See website for dimensional drawing.

EMI Gripper Kit – Magnet Gripper for Industrial Cobots

The protective shroud design and interface plate make this double-acting gripper easy to mount to your cobot. EMI's included robot plugin makes the installation and programming simple and intuitive.



CRK-MAG40-A Gripper Kit Includes:



5/2 Solenoid valve with fittings, mufflers, and non-slip Velcro® strap.



Two cable management clamps with non-slip Velcro strap.



Package with 3D printed insert for storage.



Interface plates, USB drive with robot plugin, and user manual.

Shop other Magnet Grippers: [↗](#)



Gimatic MAG Gripper



Schmalz SGM-HP

Expansion Grippers for Collaborative Robots

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

- The elastic part can be in Silicone (white), rated for 1million cycles and a max temp of 392°F or EPDM (black) with a higher tensile strength and max temp of 284°F.
- Grip diameters from 8 to 85mm.
- Optional nose cones for centering.
- Optional Gimatic SN.. sensors.
- Use standard Ø14, 20, 30mm clamps for mounting.
- Optional mounting adaptors for thread mounting available.



[Click Here](#) 
to view our I.D.
Expansion Grippers

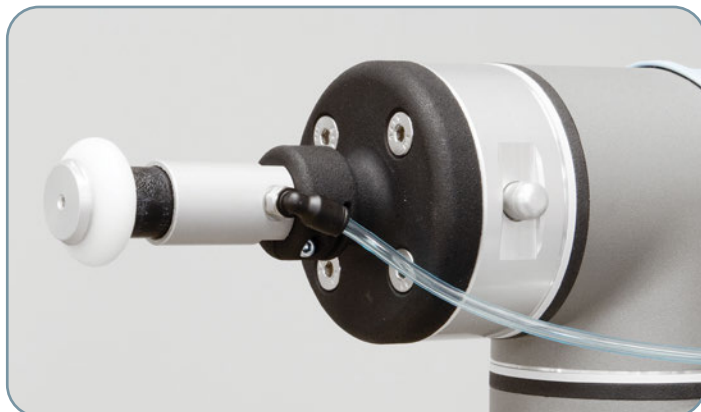


MFD – The MFD has a downward motion that compresses the expander.

The OAL is unchanged.

MFU – The MFU has an upward motion that compresses the expander.

The OAL is reduced.

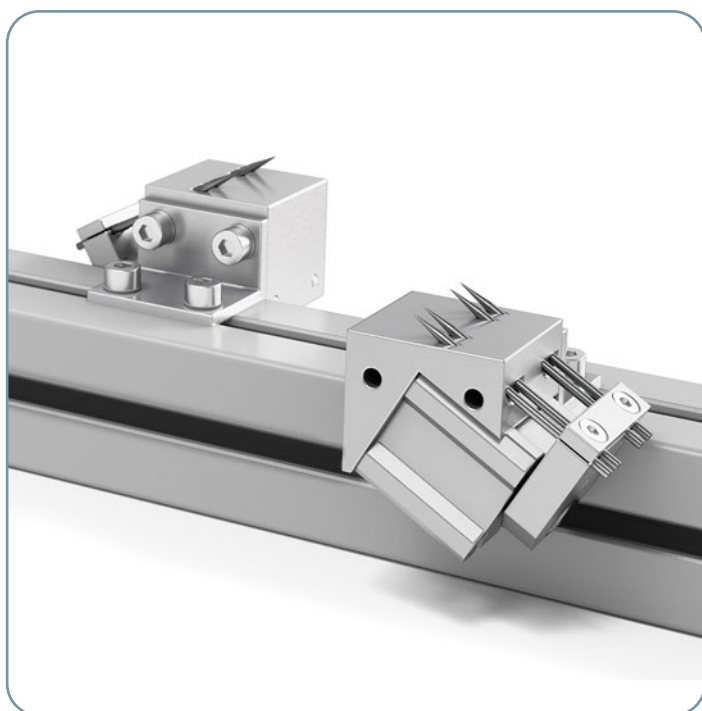


Needle Grippers for Collaborative Robots



Needle grippers are a great option for highly porous workpieces that are difficult to grip using vacuum cups or standard grippers. Needle grippers can reliably pick and place fabrics like carbon fiber reinforced textile. EMI can provide an in-stock economic solution for your application.

- Many in-stock Gimatic and >ASS< needle grippers for same day delivery.
- Suitable for the textile and food industry.
- Double and single acting models.
- Plate and clamp mounting.
- Adjustable needle depth.
- Replacement needles available.

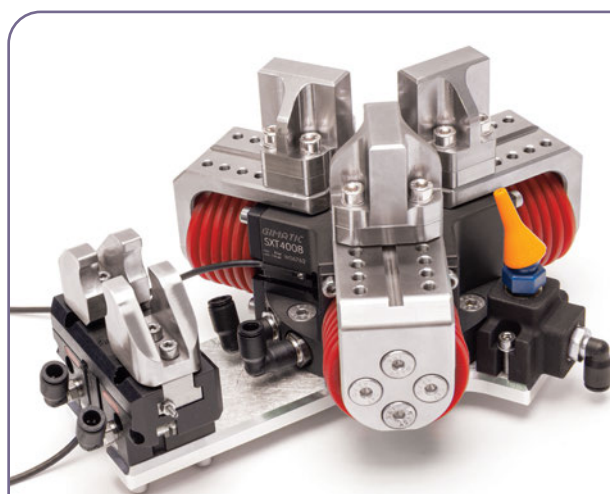
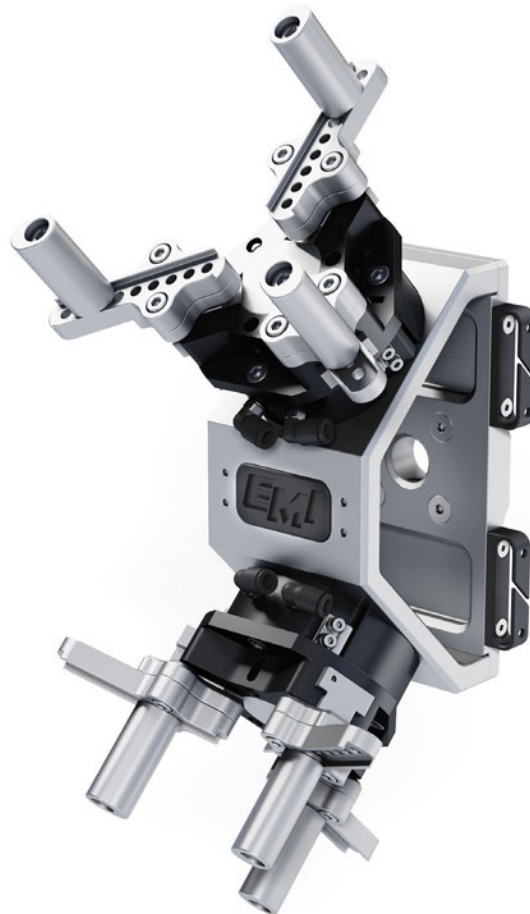


Machine Tending Kits from EMI

Machine Tending Kits from EMI are a perfect starting point for tending machine centers, such as CNC mills and lathes. With multiple mounting configurations available, these kits can be used in a wide variety of applications.

Features:

- Mounts directly to ISO 9409-1-50-4-M6 robot flange (hardware included).
- Mounting options include dual gripper set up in a 90° or 180° configuration and single gripper 180°.
- Two-Jaw & Three-Jaw gripper options available in each mounting option.
- Grippers can be mounted in multiple orientations.
- All kits include stock, adjustable gripping jaws.
- Includes EMI's Essentials Tool Kit (Q# 8110 see page 156).
- Each gripper includes a multi-output, programmable sensor (PNP).
- Includes blow-off manifold, nozzle kit and blocking plate.
- Operates via filtered, lubricated / unlubricated compressed air (nominal pressure, 87 psi).



**Need a custom solution?
EMI can provide that too!**



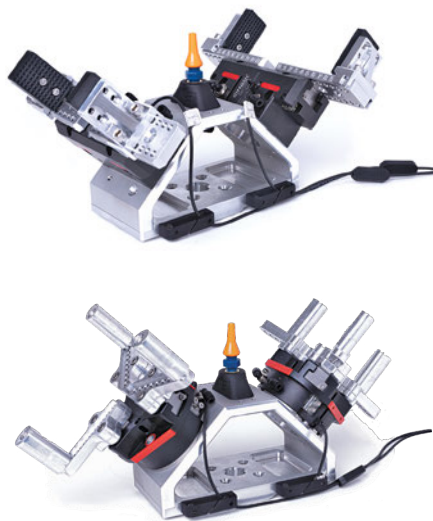
Our Machine Tending Datasheet is online, Click here!

Machine Tending Kit Overview

**Automate Your Machine
Tending Process!**

D90 Parallel and Concentric Gripper Kits

p.144



D180 Parallel and Concentric Gripper Kits

p.148



S180 Parallel and Concentric Gripper Kits

p.152



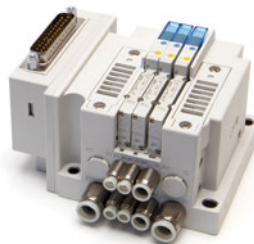
Filter Regulator Assembly

p.156



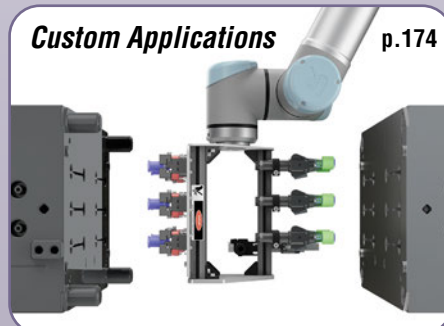
3-Station Valve Assembly

p.156



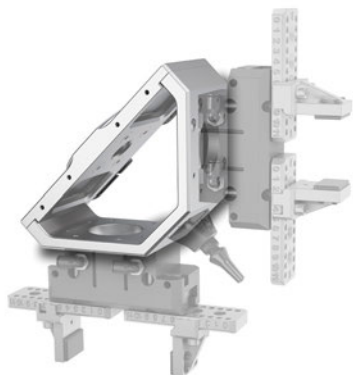
Custom Applications

p.174

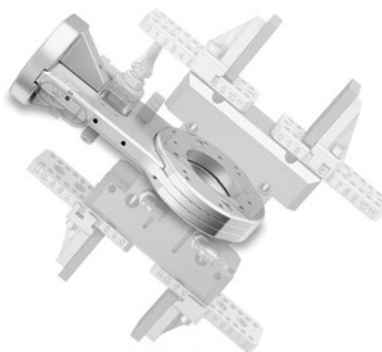


Machine Tending Kits from EMI

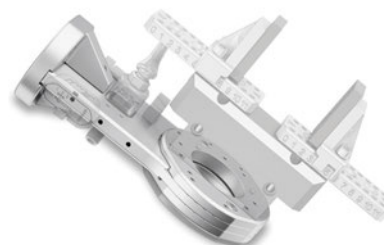
Step 1: Select a Mounting Configuration



D90: Dual Gripper 90°



D180: Dual Gripper 180°



S180: Single Gripper 180°

Step 2: Select a Two or Three Jaw Gripper



2-Jaw Gripper DH44

- DH4410: Shorter Stroke, Higher Grip Force
- DH4420: Longer Stroke, Lower Grip Force

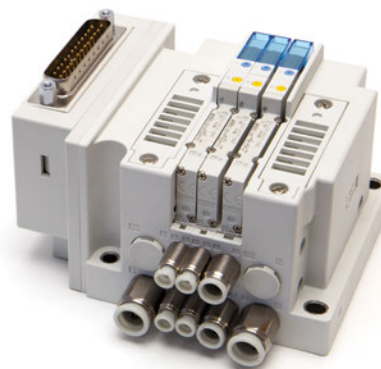


3-Jaw Gripper TH54

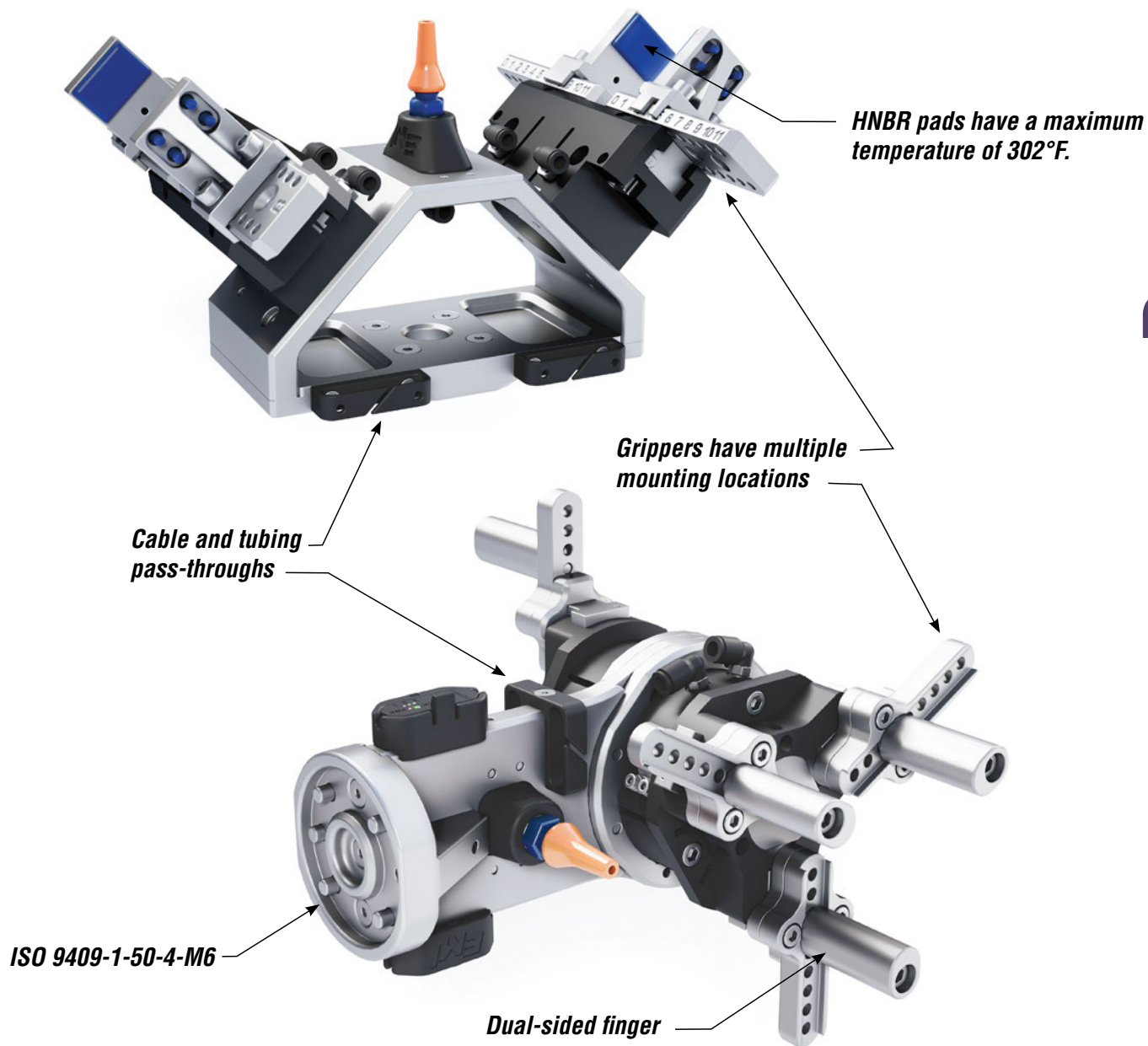
- TH5404: Shorter Stroke, Higher Grip Force
- TH5408: Longer Stroke, Lower Grip Force

Step 3: Select Pneumatics Control Package (optional)

Control your EMI Machine Tending Kit with our pre-configured and pre-assembled, 3-station pneumatic solenoid valve kit and filter/regulator assembly. Perfect for controlling two grippers and blow-off nozzle. See page 156 for more information.



Machine Tending Kit Features



Blow-off nozzle with nozzle kit

**Includes cover plate if nozzle is not needed.*



Teachable 3-Position sensor

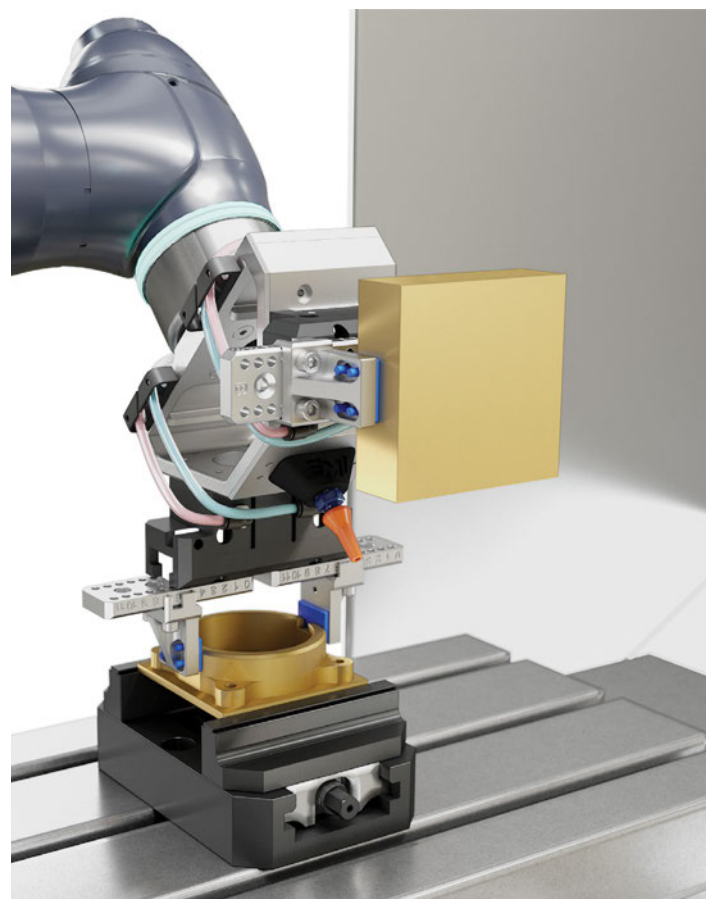




DH Grippers with replaceable HNBR and rubber pads

Machine Tending – D90 Parallel and Concentric Gripper Kits

D90 Kit Features:

- Gimatic DH or TH self-centering, pneumatic grippers at a 90° mounting configuration.
- Two-Jaw kits include aluminum jaws, and HNBR & rubber pad options. They feature a reversible finger base for increased gripping range.
- Three-Jaw kits include dual-sided gripper fingers to accommodate a larger variety of grip ranges.
- Both kits can be used to pick either external (closed grip) or interior surfaces (open grip).
- Two-Jaw grippers can be mounted in multiple 90° orientations.
- Three-Jaw grippers can be mounted in multiple 60° orientations.
- See EMI website for more information on DH & TH grippers.



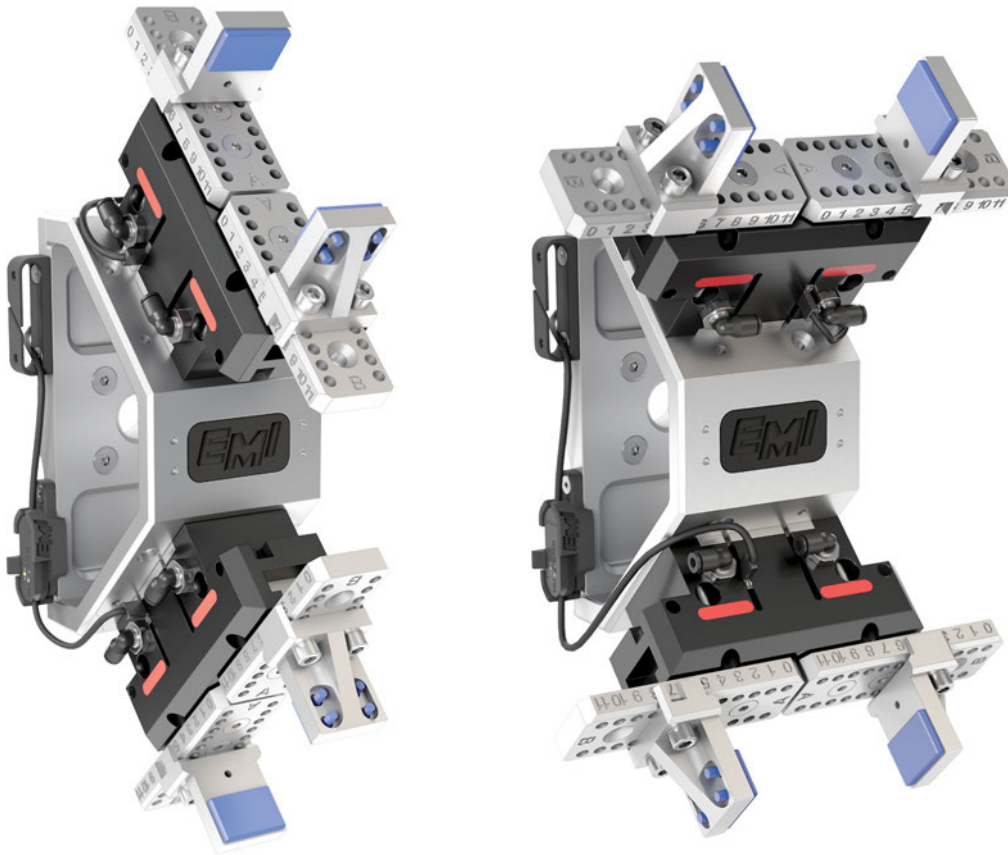
Quick#	8111	8112	8117	8118
Part#	CRK-DH4410-D90-A	CRK-DH4420-D90-A	CRK-TH5404-D90-A	CRK-TH5408-D90-A
Price	\$4,195.00	\$4,195.00	\$4,295.00	\$4,295.00
Mount configuration				
Operating pressure range	36–116 psi			
Gripper stroke	2x5mm	2x10mm	3x4mm	3x8mm
Gripper type	2x DH4410	2X DH4420	2x TH5404	2x TH5408
Closing force w/stock jaws	247.3 lbf	123.6 lbf	370.9 lbf	185.5 lbf
Kit Operating Grip Range*^	0–160mm	0–170mm	0–150mm	0–158mm
Maximum work piece mass***^	6.2 kg	3.0 kg	8.9 kg	4.4 kg
Weight	3.31 kg	3.27 kg	3.29 kg	3.27 kg

*Minimum to maximum external grip range with the included stock finger kit.

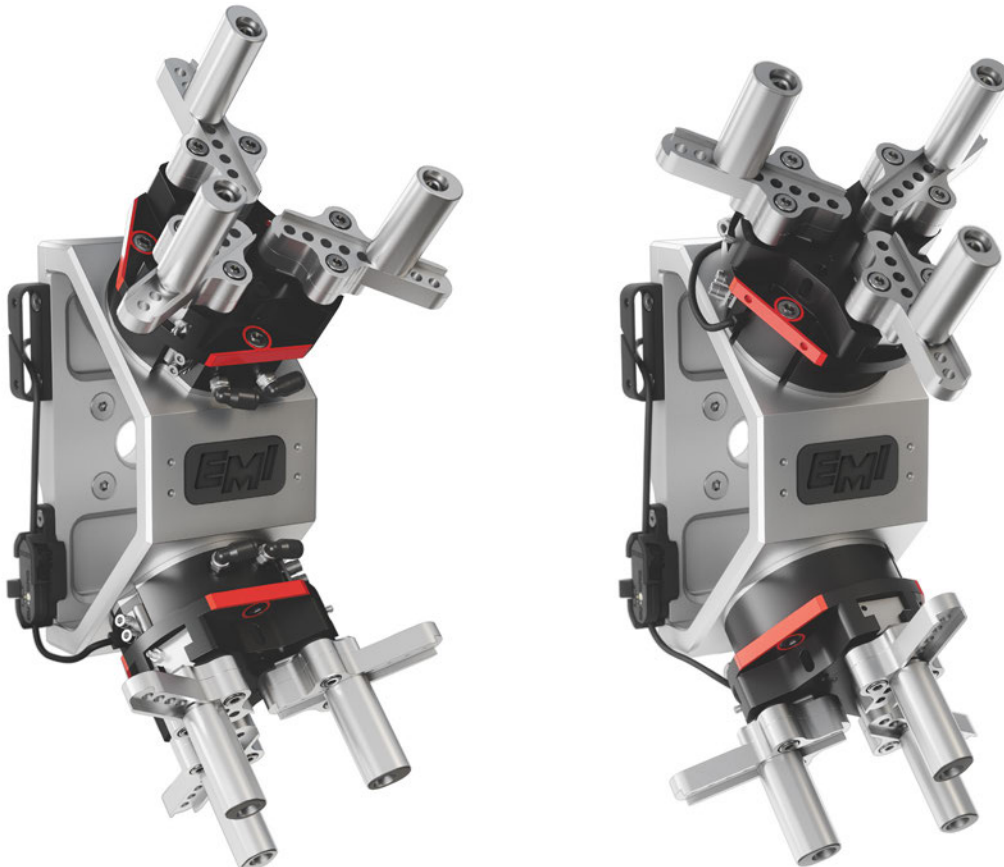
**Indicates usage at 87psi with stock finger kit with dry & clear surface conditions. Varies based on grip style, orientation, materials and input pressure.

^ Values may vary based on certain application conditions. See online product page for more detailed information.

Machine Tending – D90 Parallel and Concentric Gripper Kits

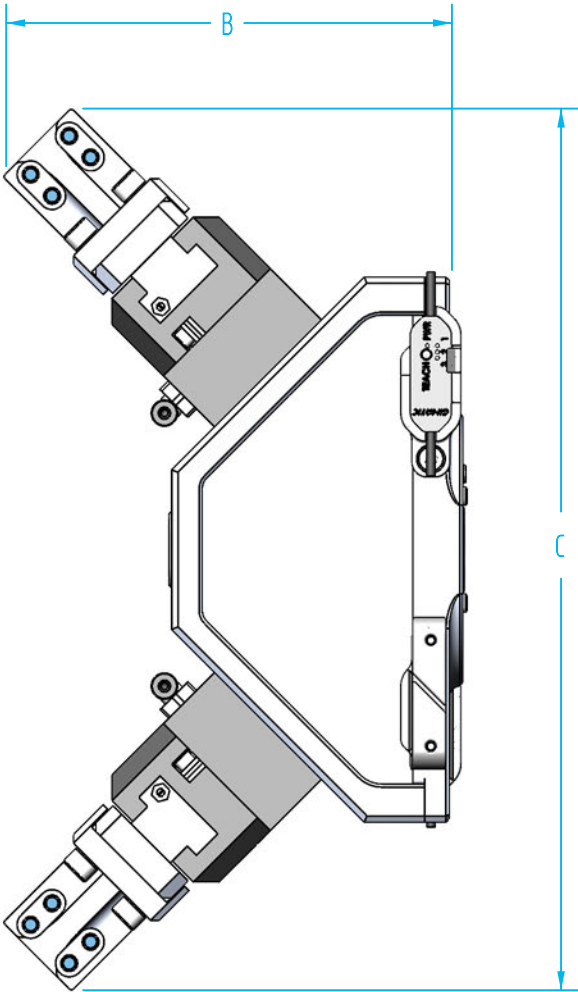
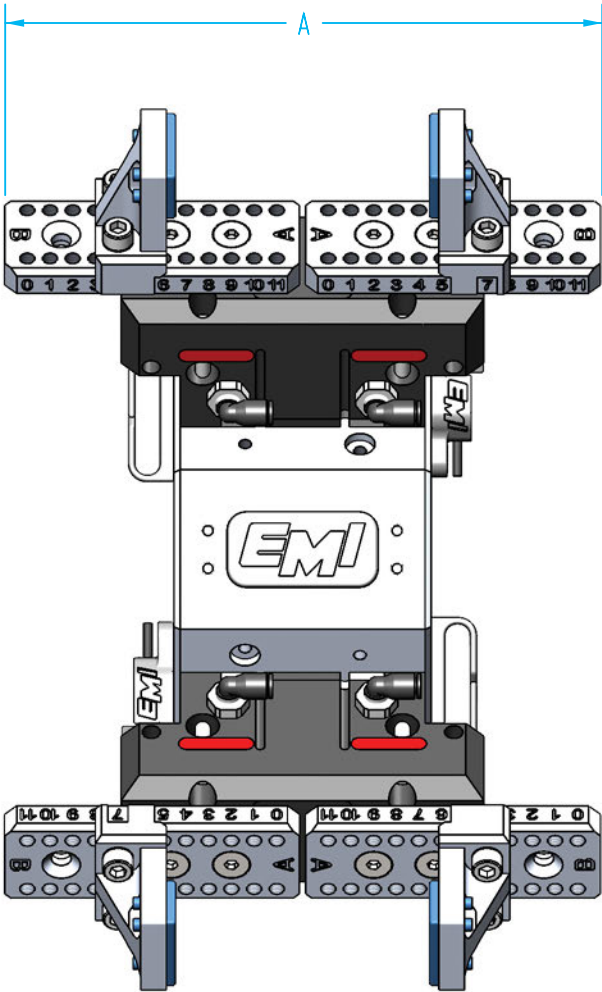


Grippers can be mounted horizontally or vertically.



Machine Tending – 2-Jaw D-90 Parallel Gripper Kits

Quick#'s 8111 & 8112 Dimensions



Horizontal Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8111	214.5 mm	197.0 mm	300.2 mm
8112	224.5 mm		

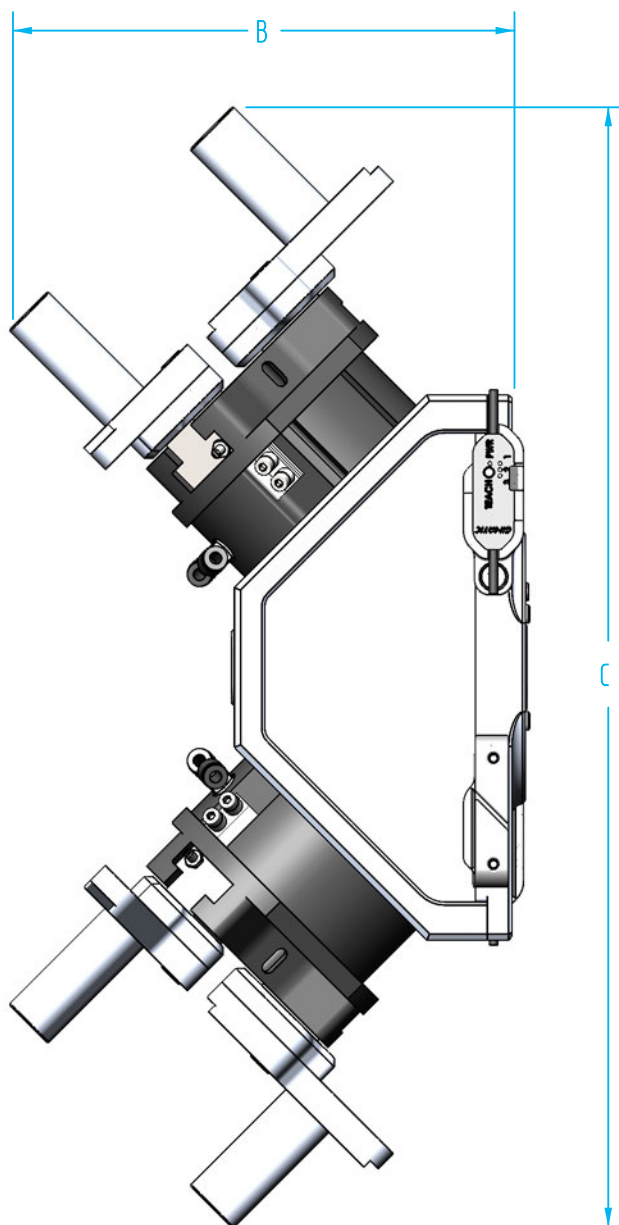
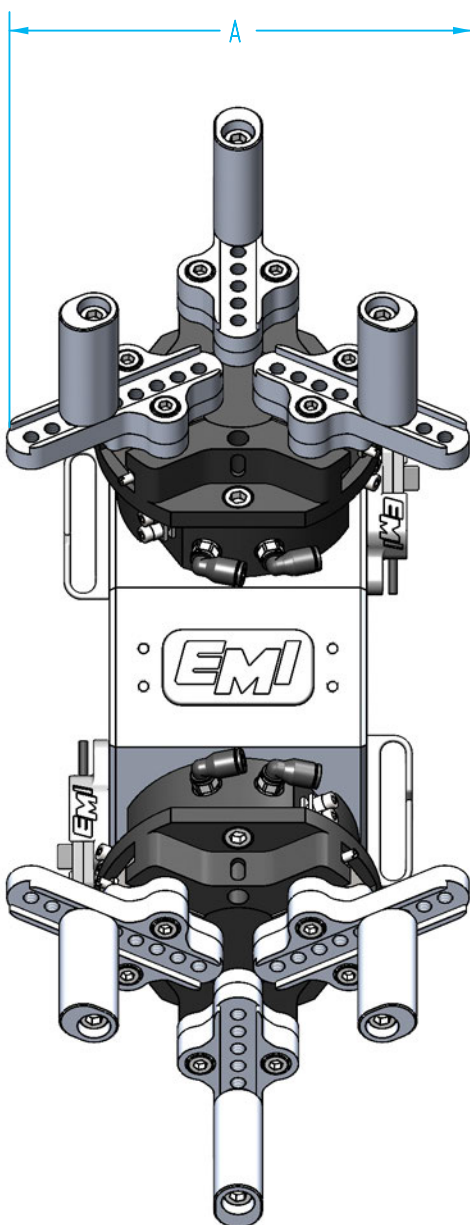
Vertical Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8111	100 mm	201.4 mm	400.2 mm
8112		205 mm	407.4 mm

All dimensions represent the maximum value with the gripper in an OPEN configuration.
 Dimensions may vary based on finger type and position.

Machine Tending – 3-Jaw D-90 Concentric Gripper Kits

Quick#'s 8117 & 8118 Dimensions



Horizontal Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8117	166.7mm	175.7mm	409.5mm
8118	173.6mm	177.1mm	415.2mm

Vertical Gripper Orientation

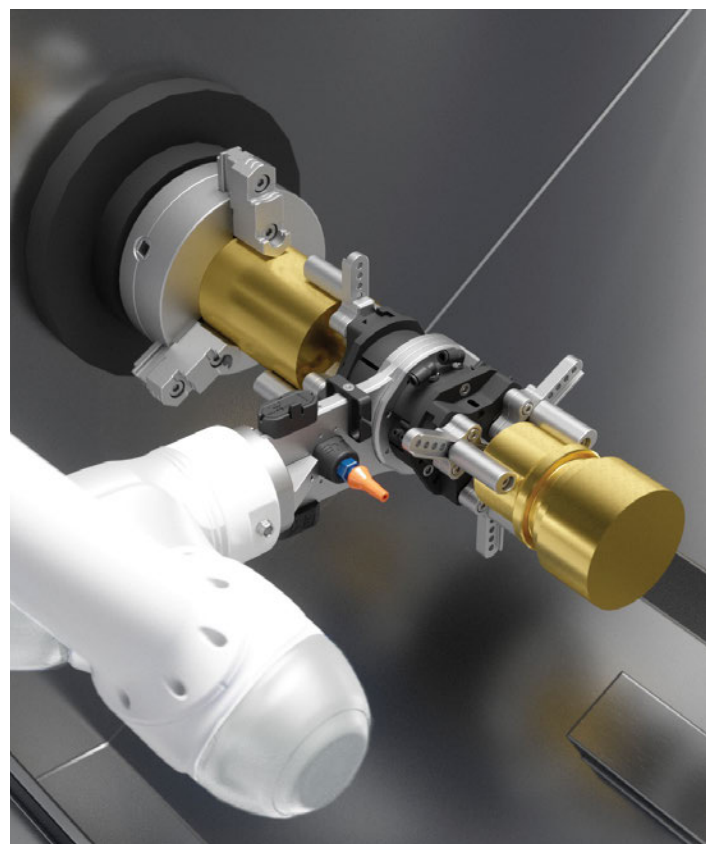
Quick#	A (Width)	B (Depth)	C (Height)
8117	166.7mm	206.4mm	348.0mm
8118	173.6mm	209.2mm	350.8mm


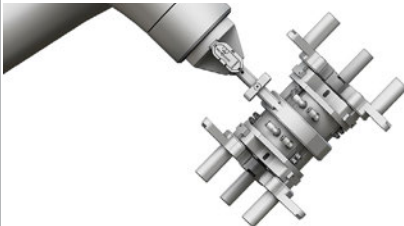
*All dimensions represent the maximum value with the gripper in an OPEN configuration.
Dimensions may vary based on finger type and position.*

Machine Tending – D180 Parallel and Concentric Gripper Kits

D180 Kit Features:

- Gimatic DH or TH self-centering, pneumatic grippers at an 180° mounting configuration.
- Two-Jaw kits include aluminum jaws, and HNBR & rubber pad options. They feature a reversible finger base for increased gripping range.
- Three-Jaw kits include dual-sided gripper fingers to accommodate a larger variety of grip ranges.
- Both kits can be used to pick either external (closed grip) or interior surfaces (open grip).
- Two-Jaw grippers can be mounted in multiple 90° orientations.
- Three-Jaw grippers can be mounted in multiple 90° orientations.
- See EMI website for more information on DH & TH grippers.



Quick#	8113	8114	8119	8120
Part#	CRK-DH4410-D180-A	CRK-DH4420-D180-A	CRK-TH5404-D180-A	CRK-TH5408-D180-A
Price	\$3,695.00	\$3,695.00	\$3,795.00	\$3,795.00
Mount configuration				
Operating pressure range	36–116 psi			
Gripper stroke	2x5mm	2x10mm	3x4mm	3x8mm
Gripper type	2x DH4410	2x DH4420	2x TH5404	2x TH5408
Closing force w/stock jaws	247.3 lbf	123.6 lbf	370.9 lbf	185.5 lbf
Kit Operating Grip Range*^	0–160mm	0–170mm	0–150mm	0–158mm
Maximum work piece mass***^	6.2 kg	3.0 kg	8.9 kg	4.4 kg
Weight	3.15 kg	3.11 kg	3.12 kg	3.10 kg

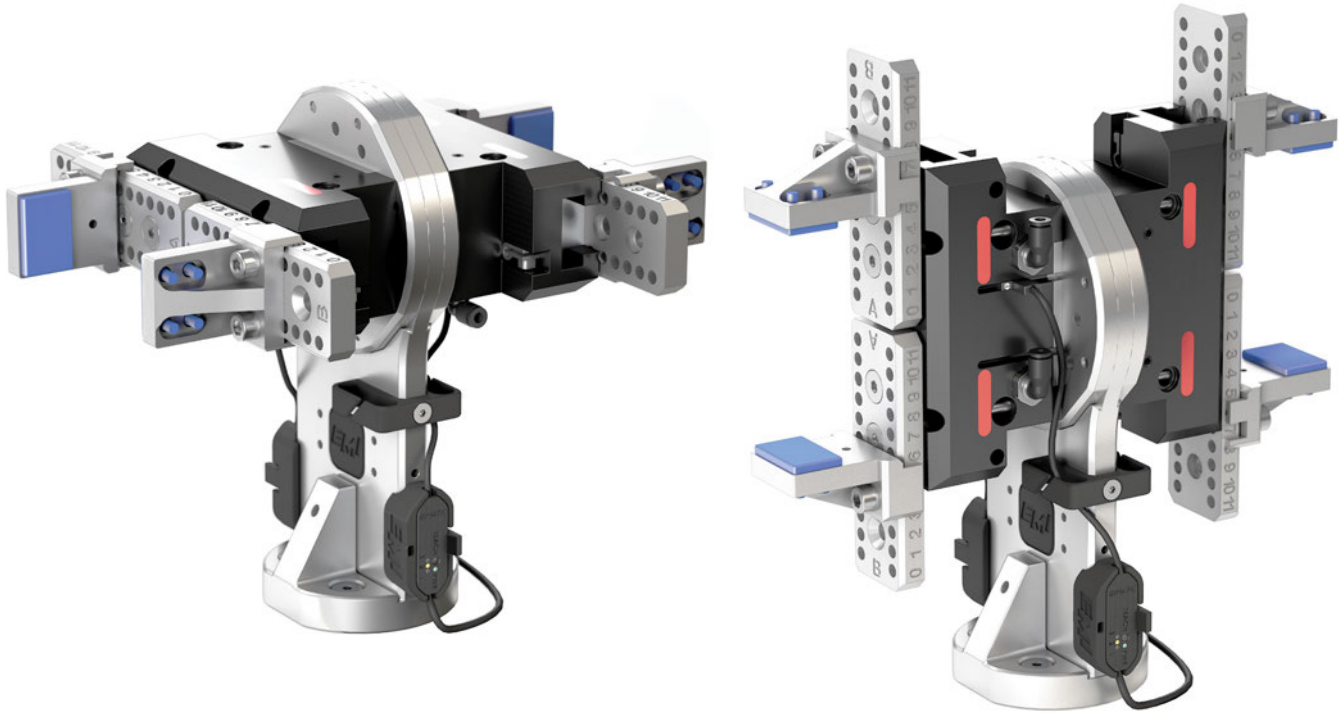
*Minimum to maximum external grip range with the included stock finger kit.

**Indicates usage at 87psi with stock finger kit with dry & clear surface conditions. Varies based on grip style, orientation, materials and input pressure.

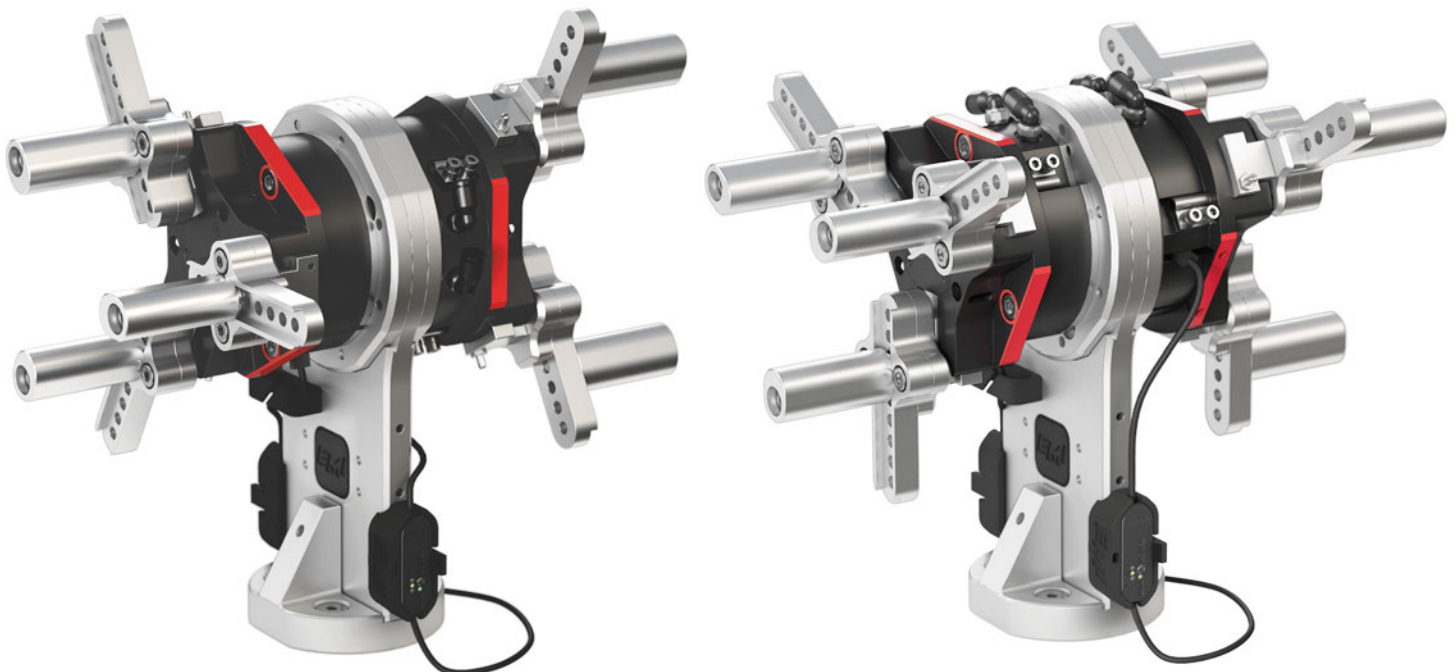
^ Values may vary based on certain application conditions. See online product page for more detailed information.

[Use Quick#s for easy online ordering.](#)

Machine Tending – D180 Parallel and Concentric Gripper Kits

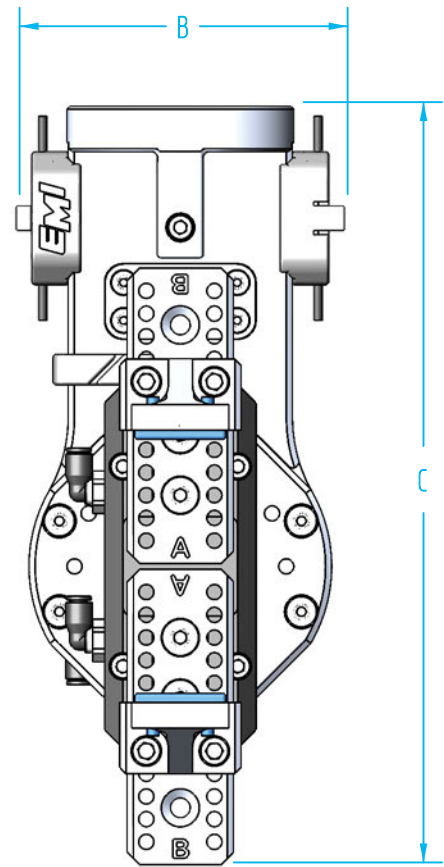
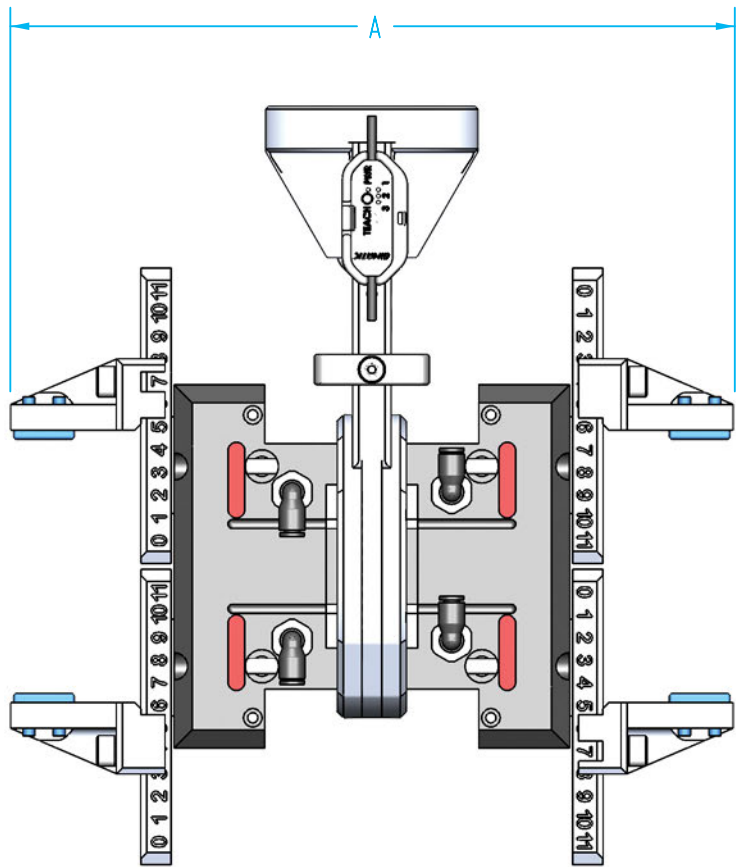


Grippers can be mounted horizontally or vertically.



Machine Tending – 2-Jaw D-180 Parallel Gripper Kits

Quick#'s 8113 & 8114 Dimensions



Horizontal Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8113	256.7mm	108.4mm	253.8mm
8114			258.8mm

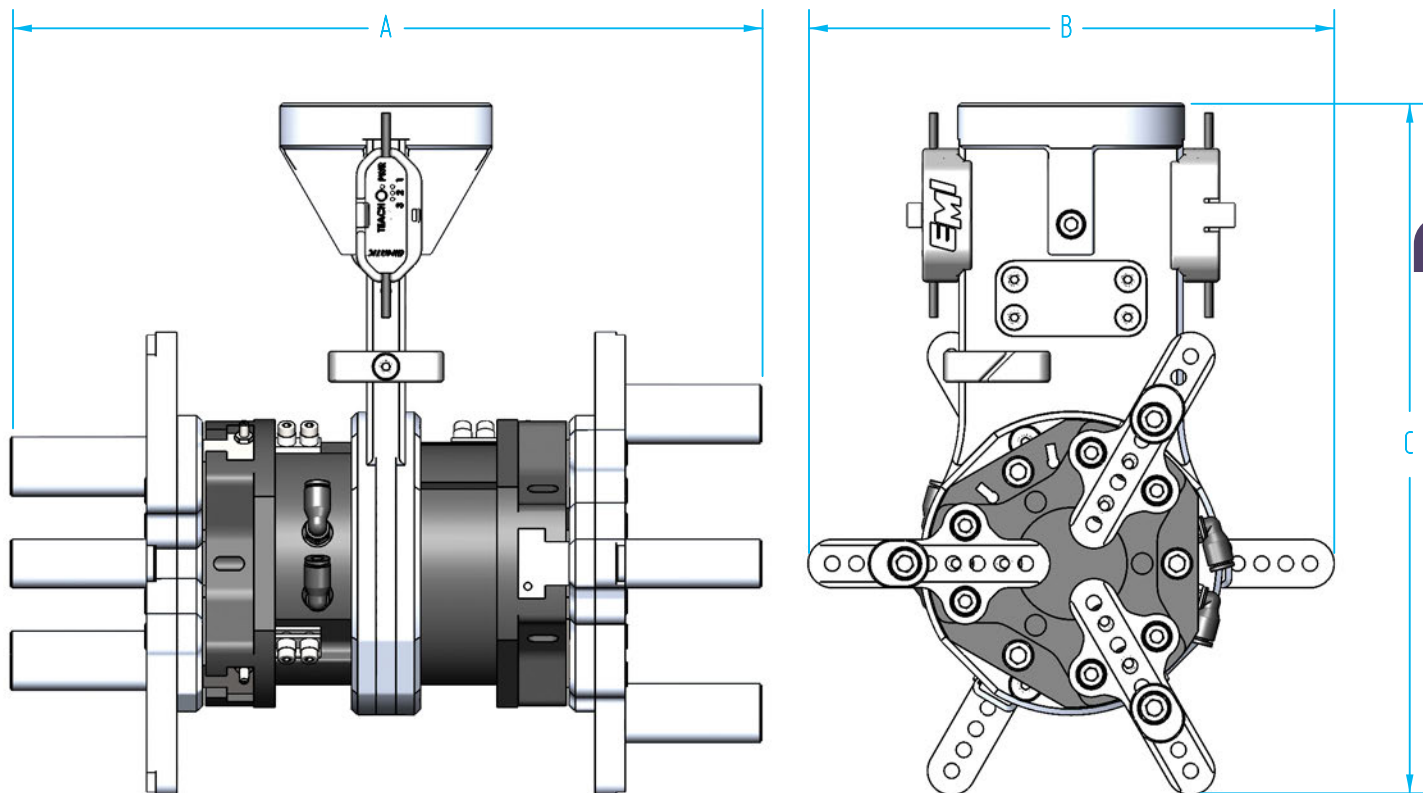
Vertical Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8113	256.7mm	214.5mm	196.5mm
8114		224.5mm	

All dimensions represent the maximum value with the gripper in an OPEN configuration.
Dimensions may vary based on finger type and position.

Machine Tending – 3-Jaw D-180 Concentric Gripper Kits

Quick#'s 8119 & 8120 Dimensions



Horizontal Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8119	248.3mm	157.6mm	243.0mm
8120		161.6mm	247.0mm

Vertical Gripper Orientation

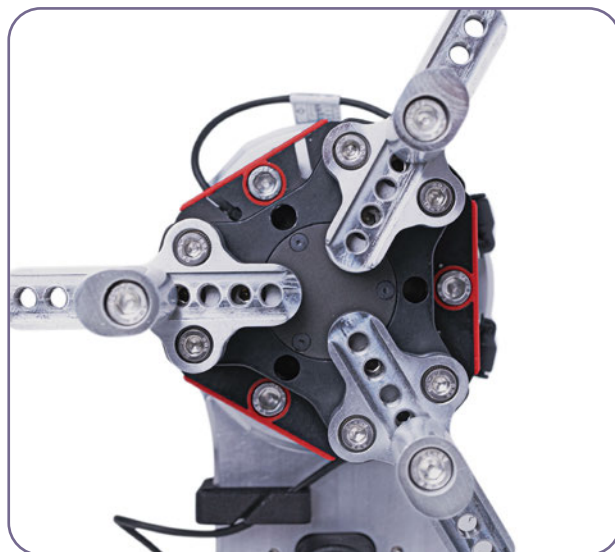
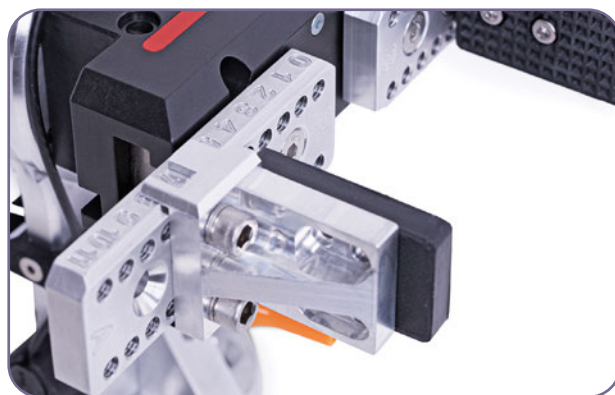
Quick#	A (Width)	B (Depth)	C (Height)
8119	248.3mm	182.0mm	230.8mm
8120		190.0mm	234.3mm



*All dimensions represent the maximum value with the gripper in an OPEN configuration.
Dimensions may vary based on finger type and position.*

Machine Tending – S180 Parallel and Concentric Gripper Kits

S180 Kit Features:

- Gimatic DH or TH self-centering, pneumatic gripper at an 90° mounting configuration.
- Two-Jaw kits include aluminum jaws, and HNBR & rubber pad options. They feature a reversible finger base for increased gripping range.
- Three-Jaw kits include dual-sided gripper fingers to accommodate a larger variety of grip ranges.
- Both kits can be used to pick either external (closed grip) or interior surfaces (open grip).
- Two-Jaw grippers can be mounted in multiple 90° orientations.
- Three-Jaw grippers can be mounted in multiple 90° orientations.
- See EMI website for more information on DH & TH grippers.



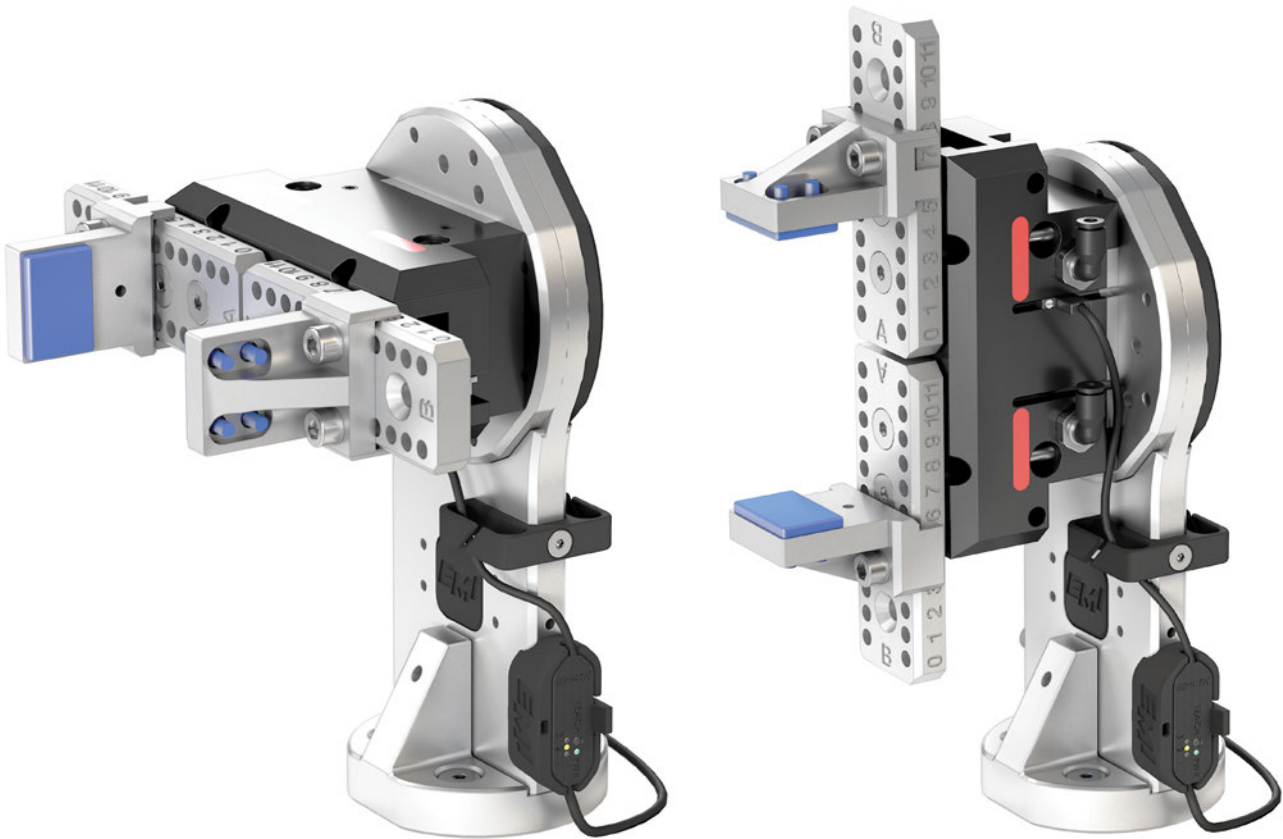
Quick#	8115	8116	8121	8122
Part#	CRK-DH4410-S180-A	CRK-DH4420-S180-A	CRK-TH5404-S180-A	CRK-TH5408-S180-A
Price	\$1,945.00	\$1,945.00	\$1,995.00	\$1,995.00
Mount configuration				
Operating pressure range	36–116 psi			
Gripper stroke	2x5mm	2x10mm	3x4mm	3x8mm
Gripper type	1x DH4410	1x DH4420	1x TH5404	1x TH5408
Closing force w/stock jaws	247.3 lbf	123.6 lbf	370.9 lbf	185.5 lbf
Kit Operating Grip Range*^	0–160mm	0–170mm	0–150mm	0–158mm
Maximum work piece mass**^	6.2 kg	3.0 kg	8.9 kg	4.4 kg
Weight	1.89 kg	1.87 kg	1.87 kg	1.87 kg

*Minimum to maximum external grip range with the included stock finger kit.

**Indicates usage at 87psi with stock finger kit with dry & clear surface conditions. Varies based on grip style, orientation, materials and input pressure.

^ Values may vary based on certain application conditions. See online product page for more detailed information.

Machine Tending – S180 Parallel and Concentric Gripper Kits

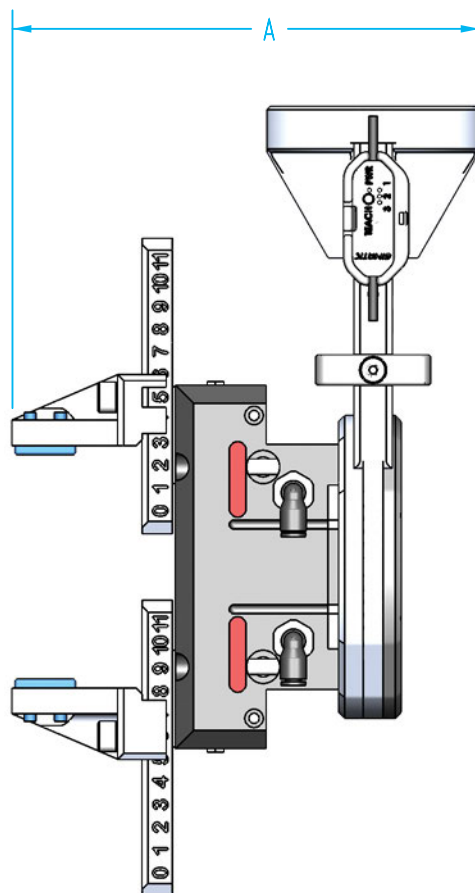
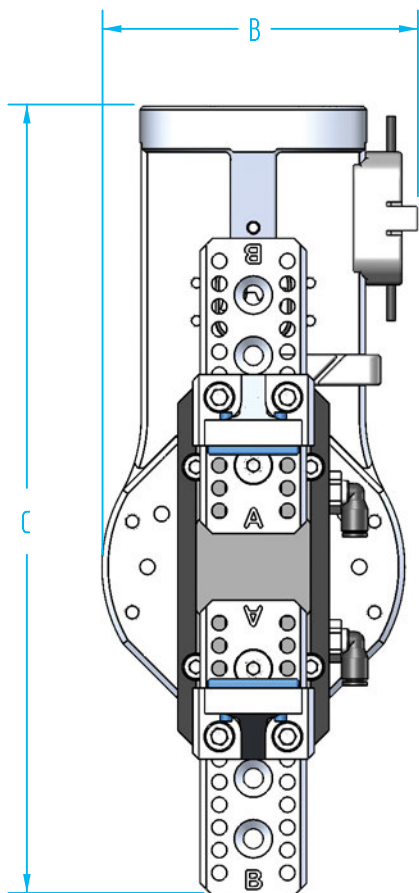


Grippers can be mounted horizontally or vertically.



Machine Tending – 2-Jaw S-180 Parallel Gripper Kits

Quick#'s 8115 & 8116 Dimensions



Horizontal Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8115	163.4mm	104.2mm	253.8mm
8116			258.8mm

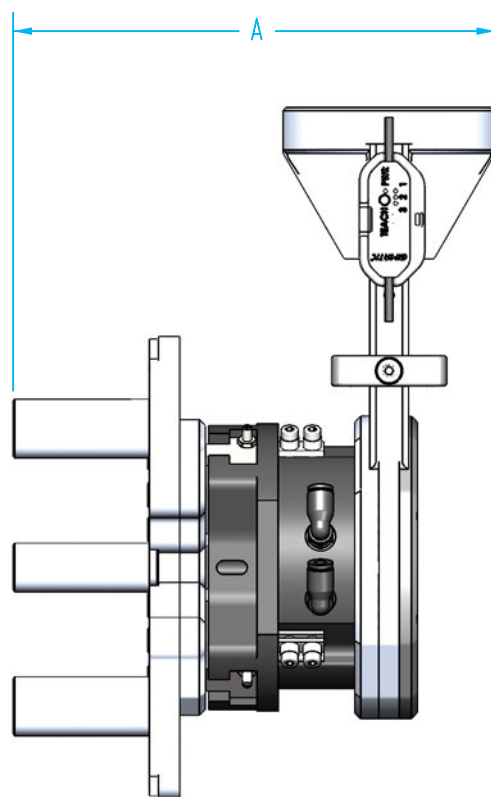
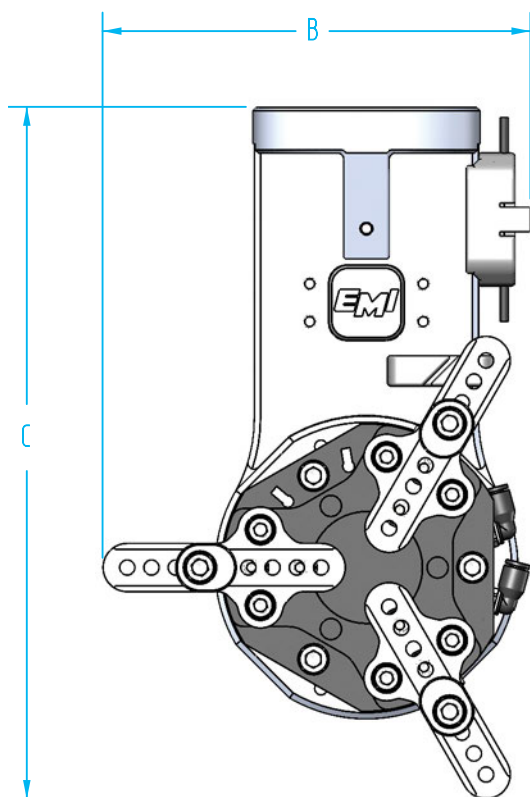
Vertical Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8115	163.4mm	214.5mm	196.5mm
8116		224.5mm	

*All dimensions represent the maximum value with the gripper in an OPEN configuration.
Dimensions may vary based on finger type and position.*

Machine Tending – 3-Jaw S180 Concentric Gripper Kits

Quick#'s 8121 & 8122 Dimensions



Horizontal Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8121	159.2mm	157.6mm	243.0mm
8122		164.5mm	247.0mm

Vertical Gripper Orientation

Quick#	A (Width)	B (Depth)	C (Height)
8121	159.2mm	145.2mm	230.8mm
8122		149.2mm	234.3mm

All dimensions represent the maximum value with the gripper in an OPEN configuration.
Dimensions may vary based on finger type and position.

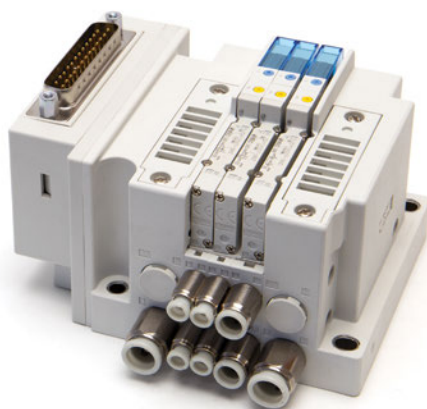
Machine Tending – Accessories



Filter / Regulator Assembly

Quick#	Part#	Description	Price
2800	CRA-FR-R14-1	Filter / Regulator with Shut-off and R1/4" Ports	\$99.50

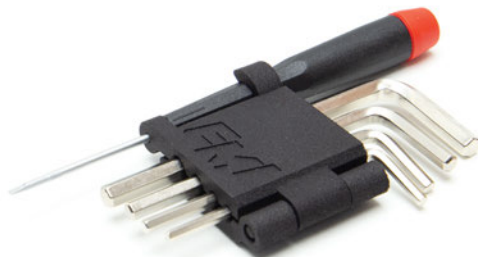
Note: See website for more information. Visit www.EMlcorp.com and search by Quick#.



3-Station Valve Assembly, PNP

Quick#	Part#	Description	Price
2801	CRA-JSY1-P3Z-1	2x 5/2 Single Solenoid + 1x 5/4 Double Solenoid	\$635.00
2802	CRA-JSY1-P3Z-2	2x 5/2 Double Solenoid + 1x 5/4 Double Solenoid	\$695.00

Other configurations available upon request, contact EMI.



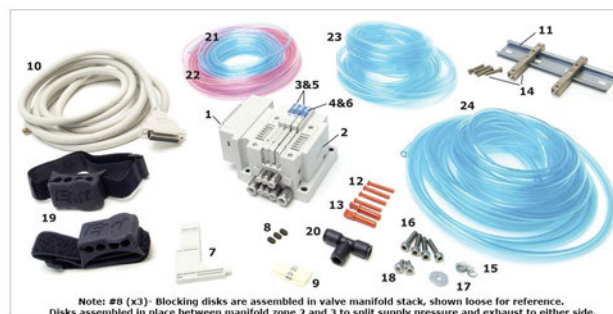
Machine Tending Toolkit with Magnet

Quick#	Part#	Description	Price
8110	CRA-TOOLKIT-1	2.5 – 5mm Hex Wrench and 1.8 PFHSD	\$22.95

Features:

- Filter regulator with embedded pressure gauge. A combination filter and regulator, minimizing space and piping by integrating two units into one.
- Maximum operating pressure: 145psi.
- Output pressure range: 7-125psi.
- Nominal filtration rating: 5µm.
- Pressure relief valve included with safety locking holes.
- Includes mounting bracket.

Detailed view online with Valve Assembly contents:



Parts for 2801 JSY1000 Valve Manifold PNP 3-Station 2-Position Single Solenoid

Enter the quantity for each needed part and click add to cart

No.	Part No.	Item Description	Qty Req.	Price	Qty
1	JSY11M 1P 3A51 C8	2815 JSY1000 Manifold Block	1	\$39.65 Each	
2	JSY11M 3P 1A5 C8	2816 JSY1000 Manifold Block	1	\$16.00 Each	
3	JSY11M 2P 10A C4	2821 6.5mm Pitch Manifold Base with 4mm Fittings	2	\$13.40 Each	
4	JSY11M 2P 20A C6	2822 9mm Pitch Manifold Base	1	\$13.40 Each	
5	JSY1100T SNZ	2827 Single Solenoid Valve 2 Position PNP	2	\$45.00 Each	
6	JSY1A00T SNZ	2833 Double Solenoid Valve 4 Position Dual 3 Port-PNP	1	\$71.80 Each	
7	JSY11M 26P 1A	2835 Blanking Plate for JSY1000 Valve Manifold	1	\$4.40 Each	
8	JSY11M 40P 1A	2875 Supply/Exhaust Blocking Disk (1pc)	3	\$2.10 Each	
9	SJ3000 155 1A	2876 Supply/Exhaust Blocking Disk LABEL (1pc)	1	\$11.30 Each	
10	AKT100 D525 030	2908 25-Pin D-Sub Cable -3m	1	\$95.80 Each	
11	EL 704W	5073 Din Rail 1M	1	\$18.92 Each	
12	GSF QP 04	192 Plug Fitting For #4mm Tube	4	\$0.40 Each	
13	GSF QP 06	193 Plug Fitting For #6mm Tube	2	\$1.00 Each	
14	JSY11M 15P 1A	2909 Din Rail Bracket	2	\$10.30 Each	
15	GSC M5 LW SS	M5 Lock Washer	6	\$0.20 Each	
16	GSC M5 20 SS	M5x20mm SHCS-Stainless Steel	4	\$0.50 Each	
17	GSC M5 FW	#68 M5 Fender Washer	2	\$0.10 Each	
18	GSC M5 8 SS	M5x8mm SHCS-Stainless	2	\$0.40 Each	
19	CRA CMK 1	8015 Cable Management Kit for Collaborative Robots	2	\$35.00 Each	
20	GSF QTU 08	149 8mm Push-In T Fitting	1	\$4.90 Each	
21	GSU PB 0424	960 4mm Blue Polyurethane Tubing - 25' Coil	1	\$5.68 Each	
22	GSU PR 0424	966 4mm Red Polyurethane Tubing - 25' Coil	1	\$5.68 Each	
23	GSU PB 0604	961 6mm Blue Polyurethane Tubing - 25' Coil	1	\$9.38 Each	
24	GSU PB 0806	962 8mm Blue Polyurethane Tubing - 25' Coil	1	\$16.37 Each	

Enter the quantity for each needed part and click add to cart

Add to Cart Print Parts List



Gimatic 2-Jaw DH44.. Finger Kit

Quick#	Part#	Description	Price
8131	CRA-DH44-FK1	Aluminum jaws, and HNBR & rubber pad options, along with the mounting plate and hardware.	\$174.95

**In-Stock
Replacement Parts**



Gimatic 2-Jaw TH54.. Finger Kit

Quick#	Part#	Description	Price
8132	CRA-TH54-FK1	Dual-sided gripper fingers to accommodate a larger variety of grip ranges, along with the mounting plate and hardware.	\$239.95

Machine Tending – Design Assistance Datasheet

Customer Information

Company Name: _____

Contact: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: _____

Email: _____

Download the interactive form here.
Fill out and submit form to:
Sales@emicorp.com



Support Contact: Cobots@emicorp.com

*All fields are required

Required Items

Send 2D Drawing (*.PDF or *.edrw) or 3D Model (*.STEP) of the part BLANK that is to be loaded
(Identify grip area & part orientation/accessibility).

Send 2D Drawing (*.PDF or *.edrw) or 3D Model (*.STEP) of the FINISHED parts that is to be unloaded
(Identify grip area & part orientation/accessibility).

If available, please provide a layout drawing of the work area or simulation of the process/operations.

Application Information (Check all that apply)

Machine Type: CNC Mill Lathe (Single Spindle) Lathe (Dual Spindle) Laser Engraver Other: _____

Cycle Time: _____

Robot to perform the following: Load Parts Unload Parts Other: _____

Door Functionality: Automatic Door Manual Door (Robot to open the door) No Door _____

Part Information

Part Name / ID#: _____

Material: _____

Blank Part: Mass (Specify units): _____

Surface Conditions: Dry Surface Lubricated Surface Does not Apply

Finished Part: Mass (Specify units): _____

Surface Conditions: Dry Surface Lubricated Surface Does not Apply

Robot Information

Robot Manufacturer: _____

Robot Type / Model: _____

Robot Payload: _____

Robot Mounting: Direct Mount (ISO 9409-1-50-4-M6) Direct Mount, Other (Please include drawing)

Blank Plate (I'll make my own) Quick Changer, Please specify: _____

Machine Tending – Design Assistance Datasheet

EOAT Configuration

Select EOAT Configuration:



Single Gripper (in-line)



Single Gripper (offset)



Two Gripper (90° offset)



Two Gripper (180° offset)

Custom Application:

Gripper Fingers Required:	Yes, please include gripper finger		No, I'll make my own			
If yes, Finger Material:	Aluminum	Steel	Stainless Steel	Acetal (POM)	Nylon (3D-Printed)	No Preference
Additional Features / Equipment Related: (select all that apply)			Pneumatic Solenoid Valves		Filter / Pressure Regulator	
Blow-off (on robot)		Other:				

Sensor / Electrical Information

Gripper / Part Sensing:	Yes	No
Signal Type:	PNP (sourcing)	NPN (sinking)

Please specify Sequence of Operations, Finished Part Constraints, Contact Areas and Notes

Slides for Automation Available from EMI



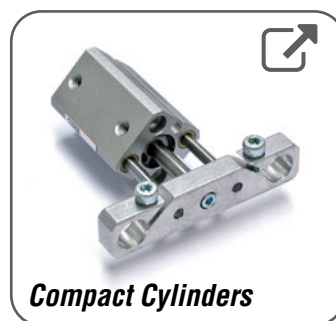
Vacuum Cylinder



Rotating Cylinder



Clampable Cylinder



Compact Cylinders



Slide for EOAT



Mini Slide



Heavy-Duty Guided Slide

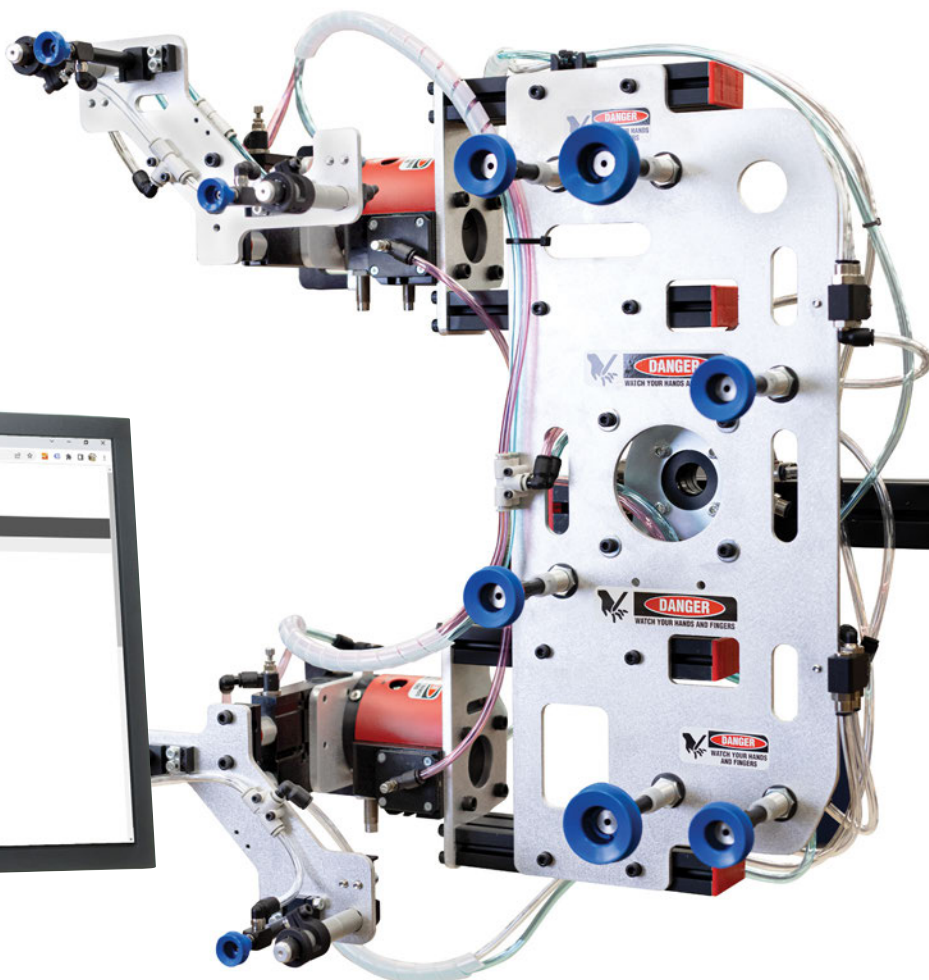
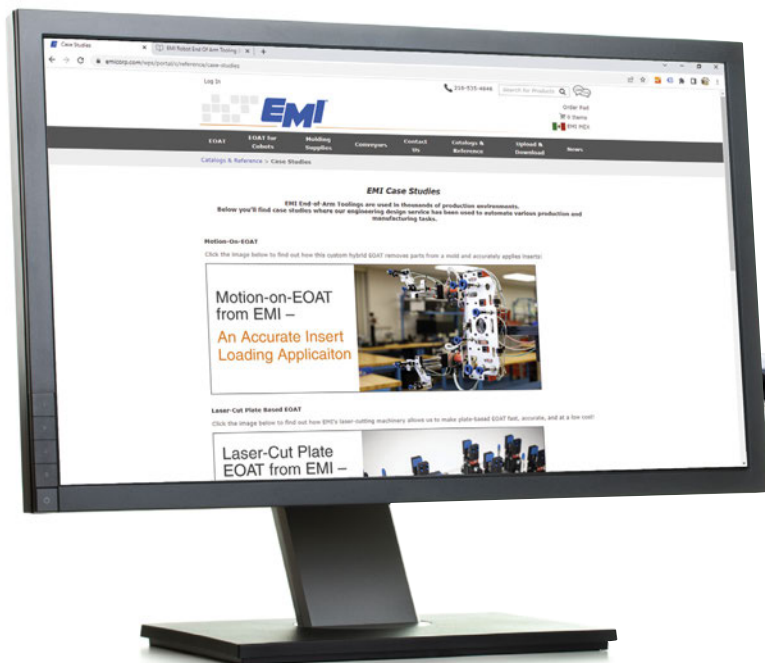


Precision Slide

Click the boxes above to Shop!

EMI EOAT's are used in thousands of production environments.

On our website you'll find case studies where our engineering design service has been used to automate various production and manufacturing tasks.



Accessories and Peripheral Equipment for Cobots Overview

One Stop Shop for Cobot Accessories!
Contact EMI for Custom Solutions!



Solenoid Valve Kit

p.162



Cable Management Kit

p.166



Vacuum Generator Kit

p.164



Wrist Wrangler

p.167



Teachable Sensors

p.168



Tubing, Cables, Connectors

p.170



Fittings, Adaptors, Plugs



Shop Online!



Cobot Stands

p.188



Cobot Ready Conveyors

p.194



Cobot Solenoid Valve Kit



*One-Time Purchase!
Compatible with ALL
EMI Grippers!*



Cobot Solenoid Valve Kit

Quick#	Part#	Price	Wt.
8016	CRA-SVK-1	\$149.00	230g

Use Quick#s for easy online ordering.

- Simple, on-arm design with protective shroud and non-slip Velcro® strap to mount to the robot arm.
- Q#8067: 5/2 Solenoid Valve - Single - Solenoid, monostable.

EMI's **Solenoid Valve Kit** for Collaborative Robots is an essential add-on for all pneumatic applications. It enables you to actuate single acting (NO/NC) and double acting end effectors while using a single digital output and compressed air line. Includes a M8, 3-pole cable, 4mm and 6mm fittings, silencers, threaded and push plugs, neoprene padded strap and a 3D printed shroud. EMI's Cobot Solenoid Valve Kit is the cornerstone of all pneumatic end effectors.

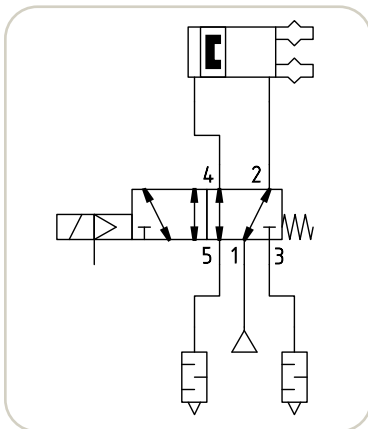




In-line Solenoid Valve

In-line valves are designed to be used as stand-alone units, no manifold required! All pneumatic connections are on the valve, open for equipping with your preferred fittings and tubing. The electrical connection to the solenoid is made through an M8 3-pin male plug. The solenoid is controlled by switching a 24Vdc monostable signal.

Electrical cables can be found on page 171.



#8068

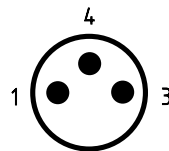


Festo 5/2 Size10 Solenoid Inline Valve

Quick#	Part#	Price	Style	Wt.
8067	VUVGL10M52-RTM5-1R8L	\$57.61	5 Port / 2 Position, Single Solenoid Valve M8, 3-pin Connector & M5 Ports	45g
Accessory				
8068	AMTE-M-H-M5	\$2.15	M5 Short Brass Silencer	

Click Quick# for more information.

Pin#	Function	Wire Color	Control Box Terminal
1	Not Used	Brown	N/A
3	Ground	Blue	0Vdc
4	Signal Wire	Black	Digital Output



1: Not Used
3: + or -
4: + or -



**Extensive EOAT Inventory
in US & Mexico!**

Easy Online Ordering!

- Create Supply Lists
- Order from History
- Export Purchase Orders
- Track Orders

Product Pages Include:

- CAD file downloads
- 360° 3D Views
- Dimensional drawings
- Related items & Spare parts



Vacuum Generator Kit



- Housing made of lightweight impact-resistant plastic.
- Connection of compressed air and vacuum with push-in 6mm.
- Operating temp: 32–122° F.
- Operating pressure: 1–8 bar.
- Kit includes User Manual, Silencer, Velcro strap, 3-Pin Cable, and Clear PU tubing.

EMI's **Vacuum Generator Kit** operates off of a 24Vdc, mono-stable signal and is the ideal solution for vacuum EOAT. With an incorporated teachable vacuum switch, 3D printed housing and anti-slip straps, the VGK is a true plug and play solution for your cobot.

Vacuum Generator Kit with Teachable Vacuum Switch

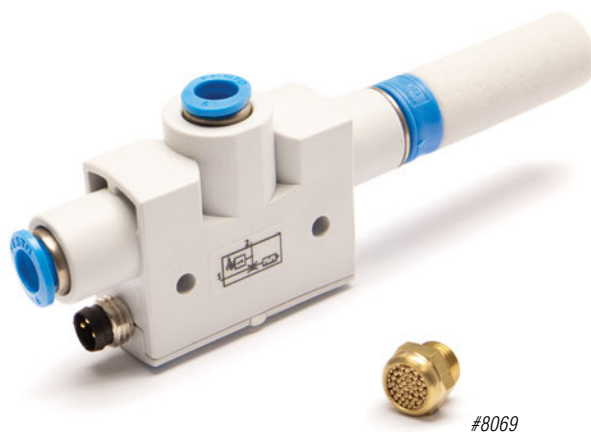
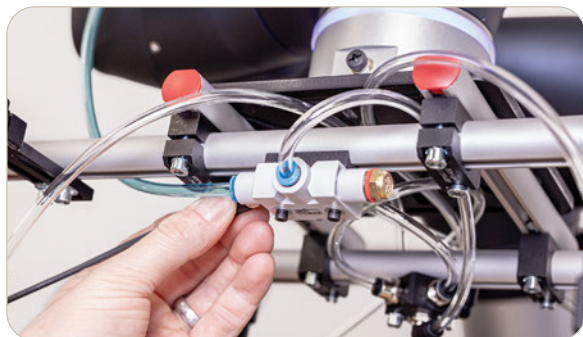
Quick#	Part#	Tubing	Price
8021	CRA-VGK-1	Ø6mm	\$265.00





Vacuum Generator

- High vacuum with integrated 3-pin M8 Male monitor switch and RO1 silencer included.
- Housing made of light, impact-resistant plastic.
- Switching output: PNP



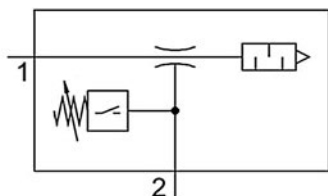
#8069

Festo Vacuum Generator

Quick#	Part#	Price	Max Vacuum Level*	Max Suction Flow*	Air Consumption*	Standard Supply Pressure	Max Operating Pressure	Tubing OD Port	Overall Length**	Wt**
8091	VN10H-T4-PQ2-VQ2-O1P	\$205.00	93%	0.77 SCFM	1.97 SCFM	87 psi	116 psi	Ø6mm	107mm	36g

*Values listed are achieved when supplied the listed standard supply pressure.

**Overall Length and weight with standard silencer (shown above). This is reduced when using Quick# 8069. Full dimensional drawing online.



Vacuum Generator Accessories

Quick#	Part#	Description	Price
8069	AMTE-M-H-G18	G1/8" Short Brass Silencer	\$2.50
244	GSF-G-G8	G1/8" Sealing Ring (use with #8069)	\$0.23

3-pin Sensor cables on page 171. Dimensional drawings online.

Vacuum Generators available from EMI:



Schmalz SEG



Schmalz SBP



PIAB COAX Pilnline



SMC ZU Series



PIAB Vacuum Pump



Gimatic Clampable

Shop Vacuum Generators!



Cable Management Kit



Cable Management Kit

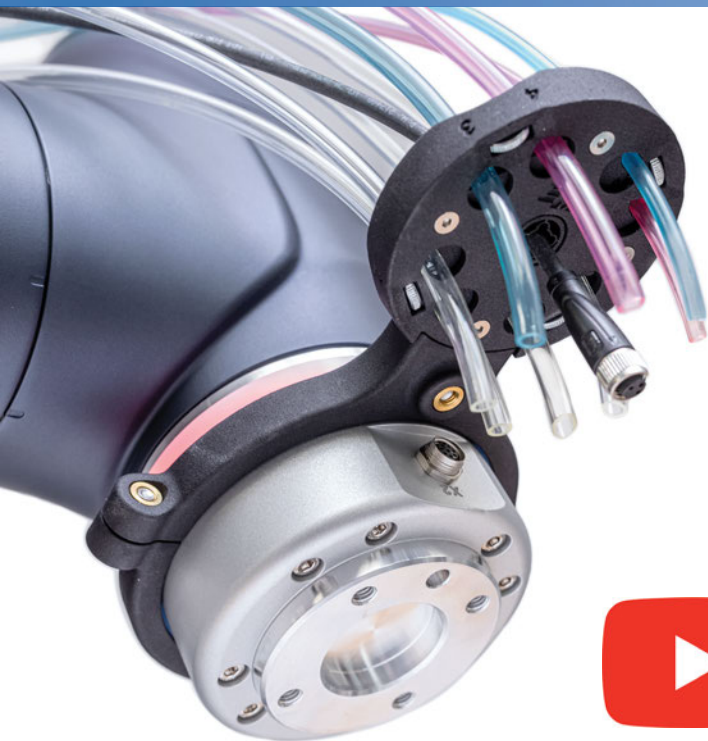
Quick#	Part#	Price	Wt.
8015	CRA-CMK-1	\$35.00	65g

Organize and secure pneumatic and electric lines running down your robot arm. Clamps have (4x) channels for tubing and cables up to 8mm diameter. Kit includes 2 clamps, one 12in. strap, and one 18in. strap that fit most Collaborative Robots.

Contact EMI for Custom Solutions!



Wrist Wrangler

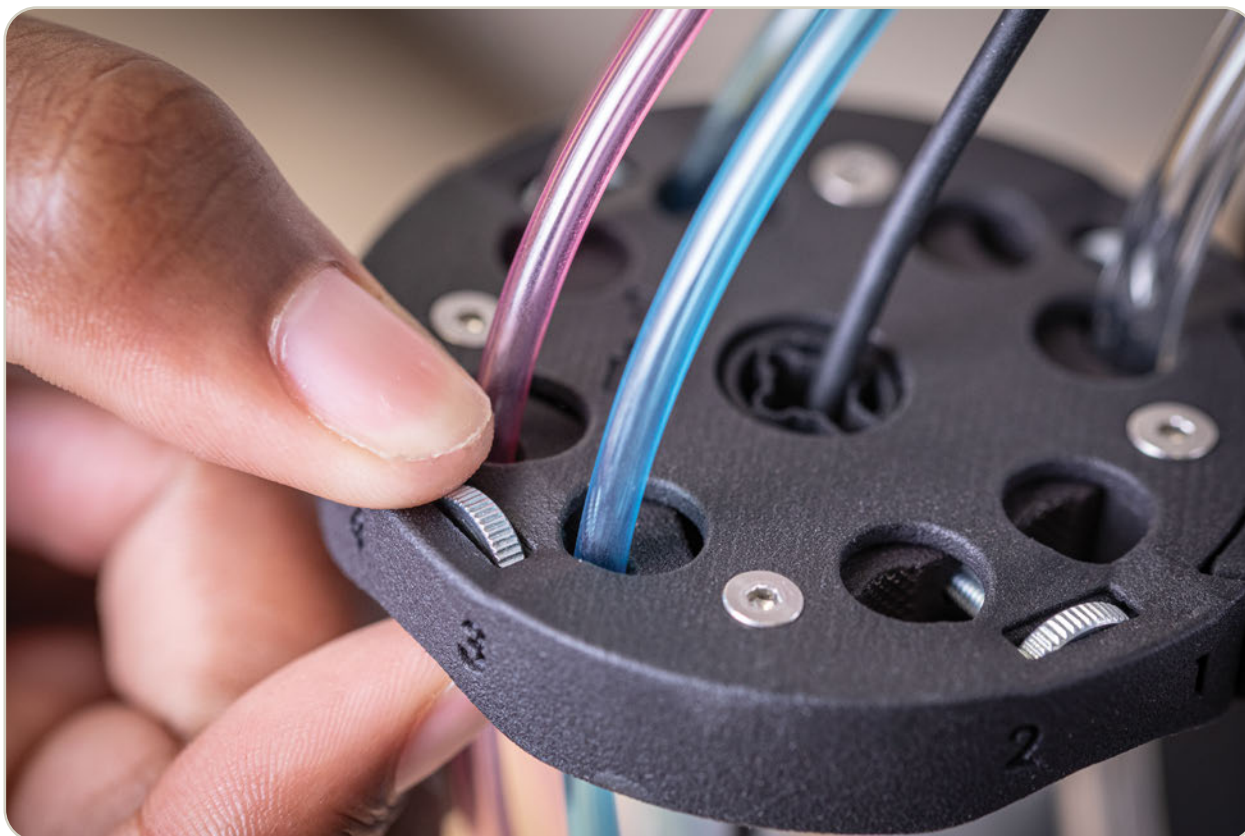


[Click for our Wrist Wrangler Video!](#)

EMI's **Wrist Wrangler** is a cable and tubing management solution designed for collaborative robots. It clamps at the wrist of your robot and it helps organize cables and pneumatic lines for more complex EOAT or for multiple gripper tools. Available with Ø63mm, Ø75mm and Ø90mm robot wrist clamps, it can secure 8x conduits up to Ø10mm each with an additional grommet at the center for additional tubing and cables.

Wrist Wrangler

Quick#	Part#	Description	Price
8024	CRA-WW1-A3	Ø63mm Wrist Mount (for use with UR3)	\$184.00
8025	CRA-WW1-A5	Ø75mm Wrist Mount (for use with UR5)	\$189.00
8027	CRA-WW1-A10	Ø90mm Wrist Mount (for use with UR10 & UR16)	\$194.00



Gimatic Teachable Sensors

Gimatic PRO-SS and PRO-SN 5-Wire sensors are digital magnetoresistive sensors with up to 3 programmable output signals, for example: gripper fully open, gripper fully closed, and part gripped.

Configuring the outputs is achieved through a simple one-button interface. It includes a TEACH button and various LED lights, one for power and one for each output signal: 1, 2, and 3. For more details on programming, we have a Programming Procedure that can be found online at: www.EMICorp.com.

- Highly accurate, this sensor is ideal for part confirmation/mid-stroke detection for any size gripper.
- Easy single button programming.
- Ideal for applications where space is limited and multiple output signals are needed.
- For Gimatic C-shaped sensor slots and fixed in place with set screw.
- Each output can be independently configured to Normally Open or Normally Closed and is clearly identified by LEDs.
- Wide +/- 30mm sensing range (relative to the magnet and the sensor).
- Adaptor cable #7527 is available for splitting the single 8-pin M8 connector into 3x3-pin M8 connectors. Extension cable #2581 is available to assist with wiring.



Looking for other sensors?

Shop Sensors!



SS.. Programmable Magnetic Sensors for C-Slots

Quick#	Part#	Signal	Style	Description	Wt.	Price
7521	PRO-SS4N225G	PNP	Straight	with leads, 12/24 Vdc, 0.2 A, PUR cable, 2.5m long	50g	\$70.00
7522	PRO-SS4M225G	NPN			50g	\$70.00
7525	PRO-SS3N215G	PNP		with M8 8-pin Connector, 12/24 Vdc, 0.2 A, PUR cable, 1.5m long	70g	\$92.00
7625	PRO-SS3M215G	NPN			70g	\$92.00

SN.. Programmable Magnetic Sensors for C-Slots

Quick#	Part#	Signal	Style	Description	Wt.	Price
7523	PRO-SN4N225G	PNP	90°	with leads, 12/24 Vdc, 0.2 A, PUR cable, 2.5m long	50g	\$70.00
7524	PRO-SN4M225G	NPN			50g	\$70.00
7526	PRO-SN3N215G	PNP		with M8 8-pin Connector, 12/24 Vdc, 0.2 A, PUR cable, 1.5m long	70g	\$92.00
7626	PRO-SN3M215G	NPN			70g	\$92.00

SN..HSG Programmable Magnetic Sensors for New Style SGP-S Grippers

Quick#	Part#	Signal	Style	Description	Wt.	Price
7635	PRO-SN4N225HSG	PNP	90°	with leads, 12/24 Vdc, 0.2 A, PUR cable, 2.5m long	50g	\$70.00
7636	PRO-SN4M225HSG	NPN			50g	\$70.00
7633	PRO-SN3N215HSG	PNP		with M8 8-pin Connector, 12/24 Vdc, 0.2 A, PUR cable, 1.5m long	70g	\$80.00
7634	PRO-SN3M215HSG	NPN			70g	\$80.00

SSR.. Programmable Magnetic Sensors with 2 Programmable Positions & 1 Driven by NOR logic gate

Quick#	Part#	Signal	Style	Description	Wt.	Price
7644	PRO-SSR4N225G	PNP	Straight	with leads, 12/24 Vdc, 0.2 A, PUR cable, 2.5m long	50g	\$70.00
7645	PRO-SSR4M225G	NPN			50g	\$70.00
7646	PRO-SSR3N215G	PNP		with M8 8-pin Connector, 12/24 Vdc, 0.2 A, PUR cable, 1.5m long	70g	\$87.00
7647	PRO-SSR3M215G	NPN			70g	\$87.00

Use Quick#s for easy online ordering.



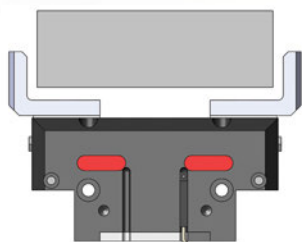
Gimatic Teachable Sensors



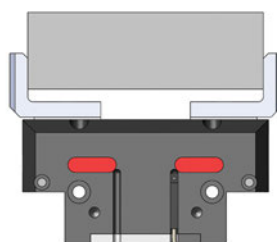
Watch our Teachable PRO SN/SS Sensor YouTube video!

Follow us at: www.youtube.com/EMICorpVideo

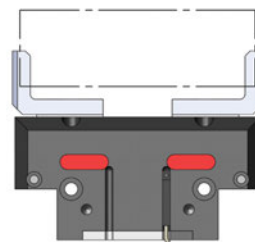
Output - Gripper Open:



Output 2 - Gripper Mid-Stroke: (Part Gripped)

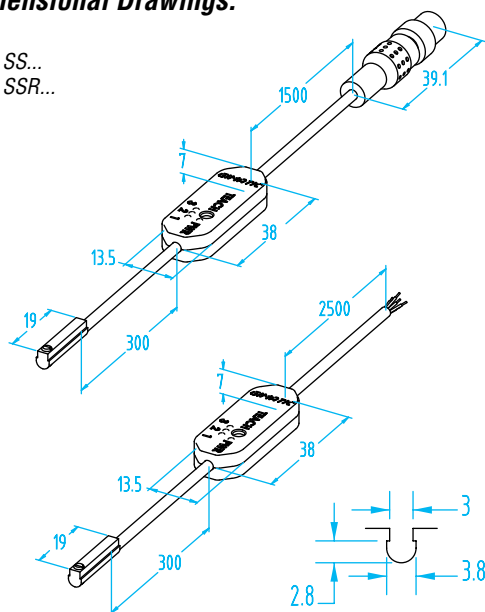


Output 3 - Gripper Closed: (Part Missed)

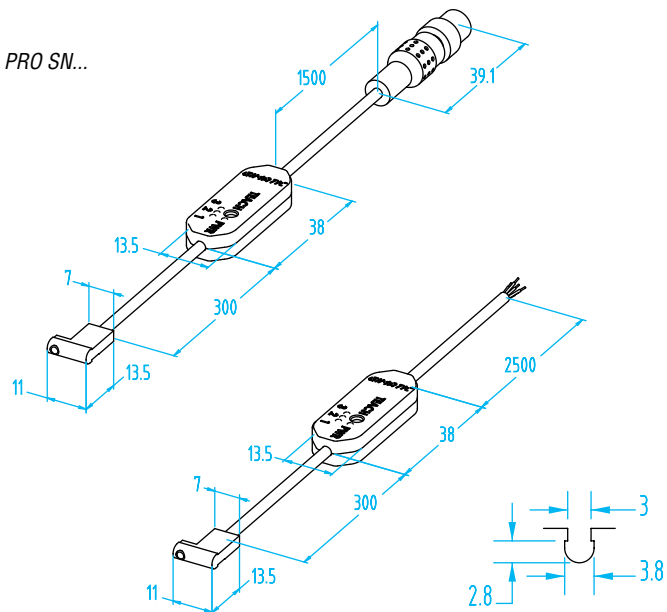


Dimensional Drawings:

PRO SS...
PRO SSR...

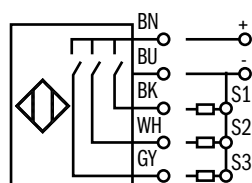


PRO SN...

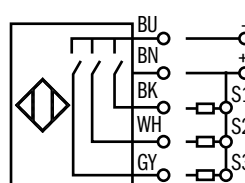


Connections:

PNP:



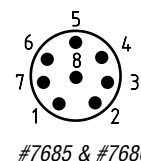
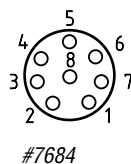
NPN:



Cables and Connectors

- Continuous flex cables can handle the high cycle requirements of many automation applications.
- Thin cables can be used when space is tight and multiple cables are required such as sensor boxes.
- Sensor diagrams and other specifications can be found on our online product pages at: www.EMICorp.com
- See page 32 for OnRobot cables.
- See page 28 for Wingman cables & connectors.
- Additional cables and connectors on EMI's website.
- Contact us with any questions: Cobots@emicorp.com

Power your Cobot End Effectors!



Field Wireable M12 Connectors with Screw Terminals

Quick#	Part#	Connection	Description	Price
7684	CFGM1200800	Straight	8-Pin Female M12 Connector	\$19.76
7685	CMGM1200800	Straight	8-Pin Male M12 Connector	\$19.76
7686	CMGM1290800	90°	8-Pin Male M12 Connector	\$32.00

- Use these field wireable M12, 8-Pin connectors to extend cables from a quick changer and build custom wire harnesses.



3-Pin Field Wireable M8 Connectors with Screw Terminals

Quick#	Part#	Description	Price
7285	CMGM800300	3-Pin M8 Male Connector	\$14.00
7284	CFGM800300	3-Pin M8 Female Connector	\$14.00

- Use with SB Modular Sensor Boxes.



4-Pin Field Wireable M8 Connectors with Screw Terminals

Quick#	Part#	Description	Price
7698	CMGM800400	4-Pin M8 Male Connector	\$14.00
7699	CFGM800400	4-Pin M8 Female Connector	\$14.00

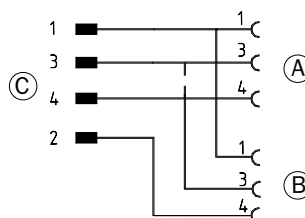
- Use with 4-Pin equipped components including sensors, grippers, etc.



Y-Splitter with M8 Connector

Quick#	Part#	Description	Price
8081	GSE-E12269	2x M8 3-pin female, 1x M8 4-pin Male	\$41.00

- Combine two sensor cables to simplify I/O requirements.



Use Quick#s for easy online ordering.

Extension Cables (connector with free lead wire)


Quick#	Part#	End 1 (plug)		Cord		End 2 (free leads reference)	Notes:	Price
		Pins	Connector	Length	Ø			
461	GSF-VMC-90	4 (Female)	90° M8	5m	3.8mm	4 wire	Standard cable	\$13.00
7719	GSE-TSCE90-M825-4P		90° M8	2.5m	2.5mm	1 - Brown 2 - White 3 - Blue 4 - Black	Thin cable	\$17.63
8082	GSE-RFC-M8-4P		Straight M8	5m	4.3mm		Continuous Flex	\$16.00
462	GSF-VMC-S		Straight M8	5m	3.8mm		Standard cable	\$13.00
7718	GSE-TSCE-M825-4P		Straight M8	2.5m	2.5mm		Thin cable	\$17.63
7161	CFGM890325P		90° M8	2.5m	4.3mm	3 wire 1 - Brown 3 - Blue 4 - Black	Continuous Flex	\$13.00
2582	GSE-NAN-3A		90° M8	5m	3.8mm		Standard cable	\$13.00
7720	GSE-TSCE90-M825		90° M8	2.5m	2.2mm		Thin cable	\$12.43
7160	CFGM800325P		Straight M8	2.5m	4.3mm		Continuous Flex	\$13.00
2583	GSE-NAN-3F		Straight M8	5m	3.8mm		Standard cable	\$13.00
7715	GSE-TSCE-M825		Straight M8	2.5m	2.2mm		Thin cable	\$12.43
2581	GSE-RCS-8FS-5000		Straight M8	5m	5mm	8 wire 1 - White 2 - Brown 3 - Green 4 - Yellow 5 - Gray 6 - Pink 7 - Blue 8 - Red	Standard cable	\$26.75
7683	CFGM1200850P		Straight M12	5m	5mm		Standard cable	\$40.56
8087	CFGM890802P*		Straight M8	0.2m	5mm		Standard cable	\$33.88
2580	GSE-RCS-8MS-5000		Straight M8	5m	5mm		Standard cable	\$40.35
8079	CMGM800803P*		Straight M8	0.3m	5mm		Standard cable	\$27.92

- *Use #8079 & #8087 for wiring into a quick changer, see page 16 for more information.

Interface Cables (connectors on both ends)


Quick#	Part#	End 1 (to component)		Cord		End 2 (to robot)		Notes:	Price
		Pins	Connector	Length	Ø	Pins	Connector		
7712	GSE-TSC180-M803	3 (F)	Straight M8	0.3m	2.2mm	3 (M)	Straight M8	Thin cable	\$13.94
7713	GSE-TSC180-M805	3 (F)	Straight M8	0.5m	2.2mm	3 (M)	Straight M8	Thin cable	\$15.08
7714	GSE-TSC180-M812	3 (F)	Straight M8	1.2m	2.2mm	3 (M)	Straight M8	Thin cable	\$16.22
7335	GSE-CS180-M81	3 (F)	Straight M8	1m	4mm	3 (M)	Straight M8	Standard cable	\$17.00
7336	GSE-CS180-M82	3 (F)	Straight M8	2m	4mm	3 (M)	Straight M8	Standard cable	\$17.50
7337	GSE-CS90-M81	3 (F)	Straight M8	1m	4mm	3 (M)	90° M8	Standard cable	\$17.00
7338	GSE-CS90-M82	3 (F)	Straight M8	2m	4mm	3 (M)	90° M8	Standard cable	\$18.20
8084	CRC-650-3P	3 (F)	Straight M8	0.65m	4mm	3 (M)	Straight M8	Continuous Flex	\$32.00
8085	CRC-750-3P	3 (F)	Straight M8	0.75m	4mm	3 (M)	Straight M8	Continuous Flex	\$32.00
8086	CRC-1000-3P	3 (F)	Straight M8	1m	4mm	3 (M)	Straight M8	Continuous Flex	\$32.00
8088	CFGM8908CF8903010*	3 (F)	90° M8	0.1m	4.3mm	8 (M)	90° M8	Standard cable	\$33.51
8089	CFGM8908CF8904010*	4 (F)	90° M8	0.1m	4.3mm	8 (M)	90° M8	Standard cable	\$35.75

- Reference drawings in the chart above for wiring information and refer to our website for additional information.
- *Use #8088 & #8089 to connect electric grippers direct to the Tool I/O at the wrist of a cobot, see page 16 for more information.

OnRobot Compute Box

Powerful, Simple, Versatile

OnRobot Grippers are compatible with a wide variety of Robots using the Compute Box to communicate via Ethernet or Digital I/O interface. The Compute Box is also required for OnRobot's more advanced products: Dual QC, HEX Force/Torque Sensor as well as the RG2 F/T and Gecko grippers.

OnRobot's WebLogic App can also be accessed through a computer to program your gripper remotely though Ethernet or while on the robot if you are using Digital I/O.

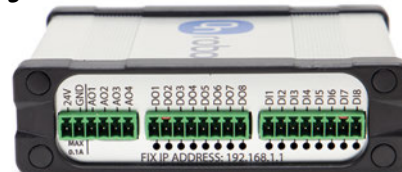
Email Cobots@emicorp.com for support!



Ethernet



Digital I/O



OnRobot's Compute Box is needed with:

- All OnRobot Grippers to be used on robots other than UR®:
 - Doosan® Kuka® Kawasaki®
 - Hanwha® Fanuc® Nachi®
 - Techman Robot® Yaskawa® Other
- Dual Quick Changer on any robot, including UR.
- Hex Force/Torque Sensor on any robot, including UR.
- RG2 F/T Gripper on any robot, including UR.
- Gecko Gripper on any robot, including UR.
- A computer to access WebLogic App.

Box Includes:

- Compute box
- 5m Cable (M12 to M8)
- UTP Cable (RJ45 to RJ45)
- Power supply
- USB stick
- 4x Cable strap
- 3x Terminal blocks
- 8x I/O Wires
- Mounting plate (if stated below)

Robot	Model	Interface Plate	Quick#	Part#	Price
UR	All	Not Required	8231	OR-102344	\$913.00
Doosan					
Hanwha					
Techman	Techman / Omron TM Robot	Yes (Included)	8236	OR-102359	\$913.00
Fanuc	CRX, LR Mate 200, CR-41A, CR71A		8233	OR-102362	\$913.00
Kuka	KR 8 R2010, KR 12 R1810, LBR ilwa 7 R800, LBR ilwa 14 R820		8234	OR-102360	\$913.00
Kuka	Others		8235	OR-102361	\$913.00
Yaskawa	Call EMI		Call EMI	\$913.00	
Kawasaki					
Nachi					
ABB					
Denso					
Kossow					
Omron					
Epson					

Check for updated compatibility online!

Polyurethane Tubing & Accessories

Polyurethane Tube for Push-In Fittings - Sold in 25' Coils

Quick#	Part#	øOD	øID	Color	Min. Radius	Price
957	GSU-PC-0424	4	2.4	Clear	10mm	\$6.25
958	GSU-PC-0604	6	4	Clear	13mm	\$10.50
959	GSU-PC-0806	8	6	Clear	19mm	\$18.50
960	GSU-PB-0424	4	2.4	Blue	10mm	\$6.25
961	GSU-PB-0604	6	4	Blue	13mm	\$10.50
962	GSU-PB-0806	8	6	Blue	19mm	\$16.37
966	GSU-PR-0424	4	2.4	Red	10mm	\$6.25
967	GSU-PR-0604	6	4	Red	13mm	\$10.50
968	GSU-PR-0806	8	6	Red	19mm	\$18.50



Spiral Polyurethane Tubing

Quick#	Part#	Description	Price
987	GSU-PCR-0424	Ø4mm Transparent Red, 2.6m long	\$20.23
988	GSU-PCB-0424	Ø4mm Transparent Blue, 2.6m long	\$20.23
996	GSU-PCC-0604	Ø6mm Transparent Clear, 2.6m long	\$22.10
997	GSU-PCR-0604	Ø6mm Transparent Red, 2.6m long	\$22.10
998	GSU-PCB-0604	Ø6mm Transparent Blue, 2.6m long	\$22.10



Ideal to avoid tension between robot joints

- Ø4mm spiral tubing has a maximum suggested working length of 2.6m, with a retracted coil length of 135mm.
- Ø6mm spiral tubing has a maximum suggested working length of 2.6m, with a retracted coil length of 150mm.

Pneumatic Fittings: Many sizes and styles to choose!

[Click here to Shop!](#)



Good

- Compact, lightweight design
- Improved tube insertion & removal
- Tapered thread and seal tape for a good vacuum seal



Better

- Medium weight
- Medium size
- Soft seal O-ring for a better vacuum seal



Best

- Compact, lightweight design
- Parallel thread with soft seal O-ring for the best vacuum seal

Pressure Regulators

[Click here to Shop!](#)



Regulator with Indicator

- With push-in fitting for Ø6mm or Ø8mm tubing.
- Gauge: 15–116psi.



Mini Inline Regulators

- With push-in fitting for Ø6mm & Ø8mm tubing or with threaded G1/8" or G1/4" fitting.



Mini Regulators

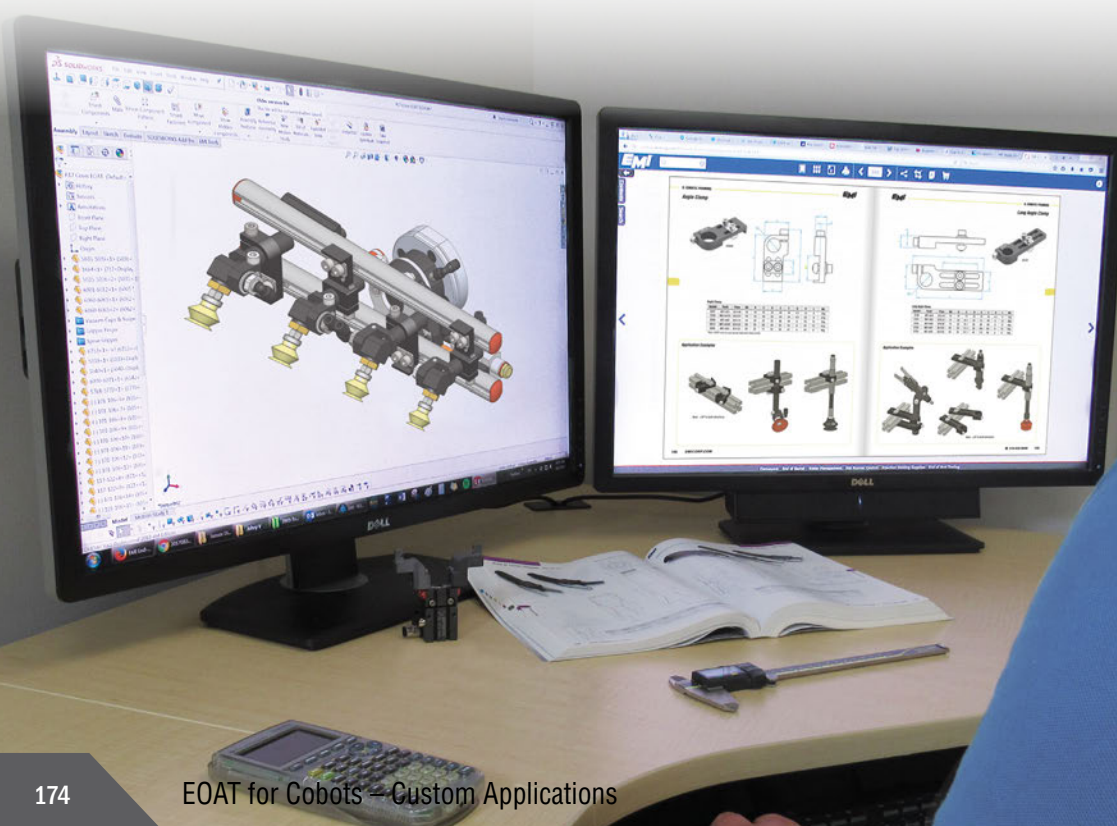
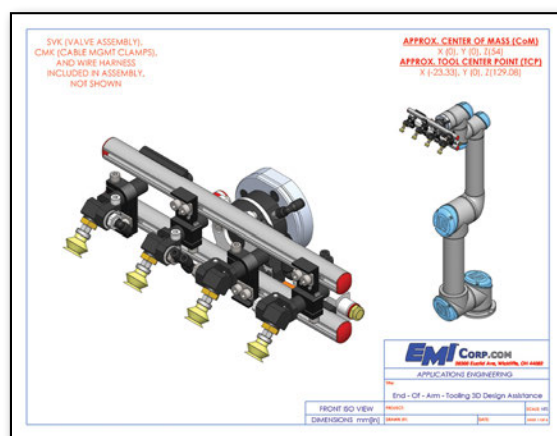
- With push-in fitting for Ø4mm, Ø6mm & Ø8mm tubing or with threaded G1/8" or G1/4" fitting.

Custom EOAT from EMI

Our extensive stock of framing components engineered for use in automation along with the broadest offering of cups, grippers, and everything needed in between, make EMI a one stop destination for robotic end effector / end-of-arm tooling builders and designers.

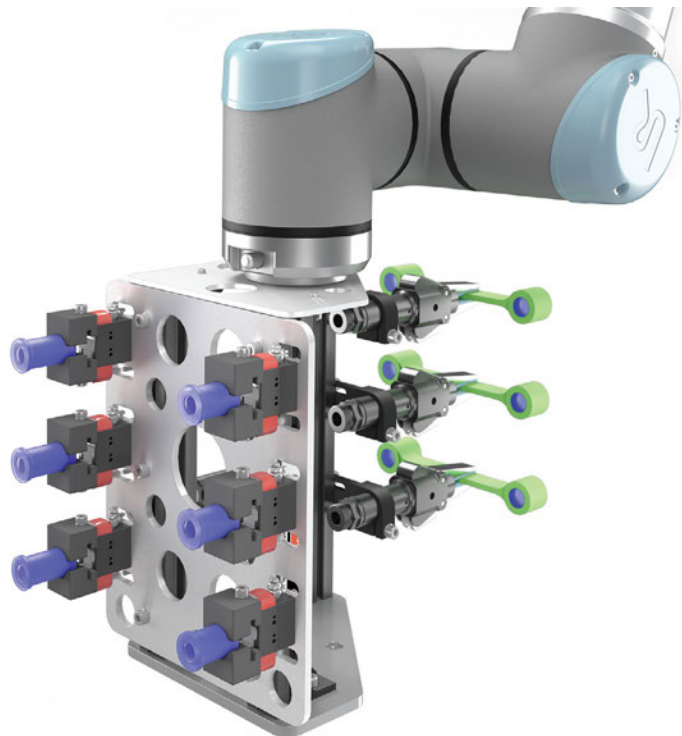


Weight: 1.6kg
EOAT PRICE: **\$1608.00**

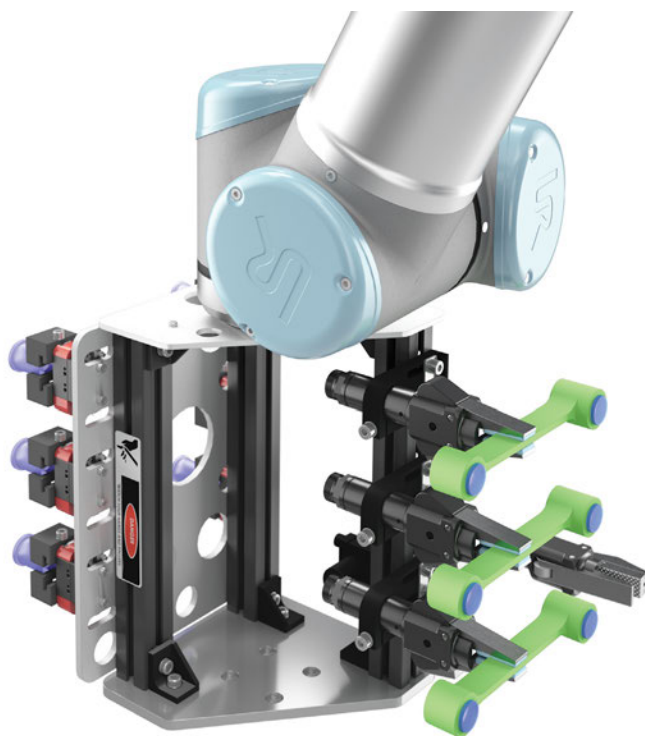


Custom EOAT from EMI

Below is a traditional insert load application for plastic injection molding. The cobot uses a custom 2-sided EOAT to accurately place metal inserts into the mold, then picks the finished parts.



Insert-Load side of the EOAT with part detection.



Part-picking side of the EOAT with soft touch angular grippers.

Weight: 3.4kg
EOAT PRICE: \$2966.00

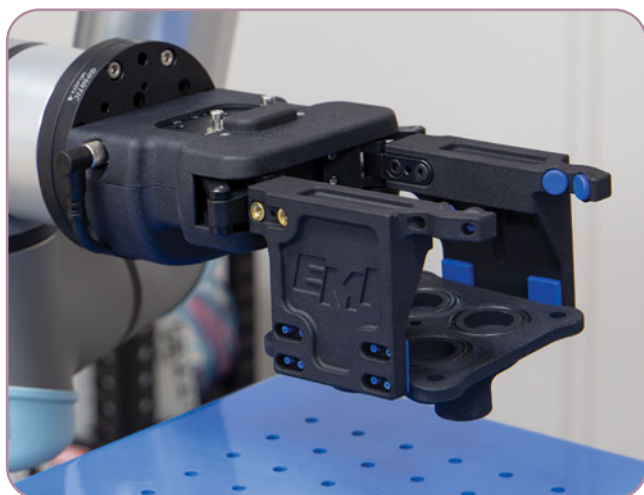


Cobot in place to perform both actions.

Custom EOAT from EMI

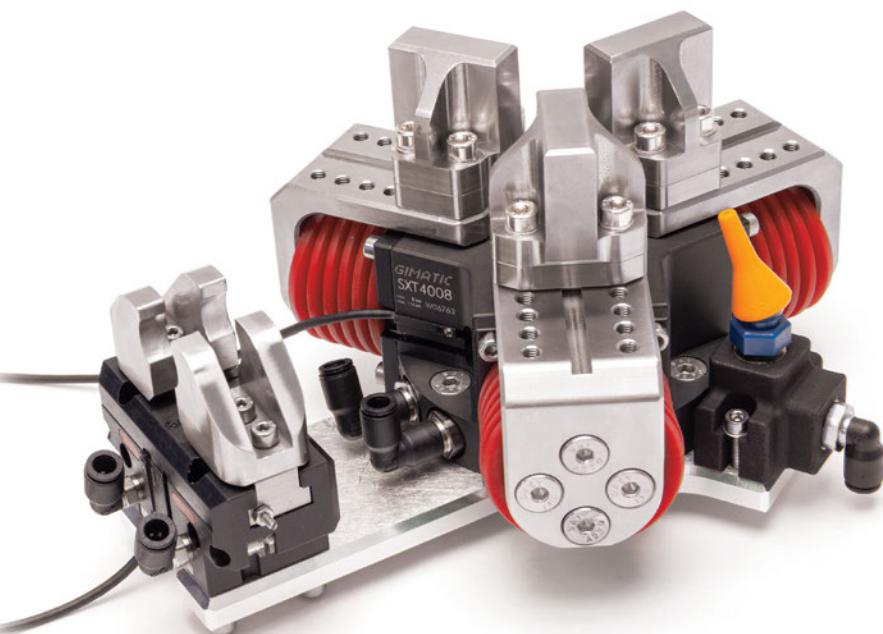
Suitable Applications:

- Plastic Handling
- General Assembly
- Packaging and Box Filling
- Plastic Secondary Operations (Degating, packaging, assembly)
- Machine Tending (CNC Mill, lathe, laser engraving)



EMI can help with custom, low-cost fingers!

- Dual zone gripper fingers to pick a variety of work pieces.
- Padded fingers for an increased friction hold and softer touch to prevent damage.
- Quick turn-around time for printed fingers.

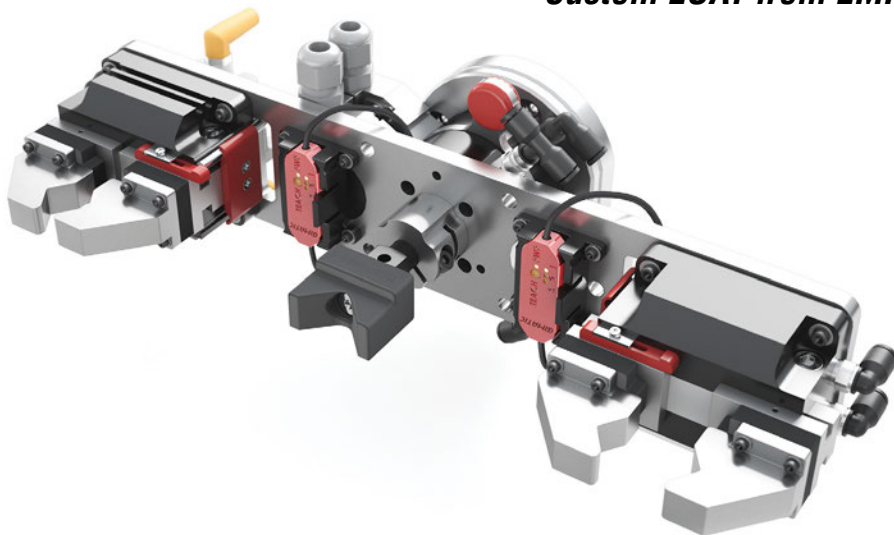


Features:

- One, 2-Jaw DH parallel gripper, and one 3-Jaw SXT concentric gripper with custom machined fingers.
- Part blow-off.
- Direct mount laser-cut plate.
- Sensors for part detection.
- These machine tending kits are delivered with stock gripper fingers that allow the kits to be easily applied to a wide variety of application.

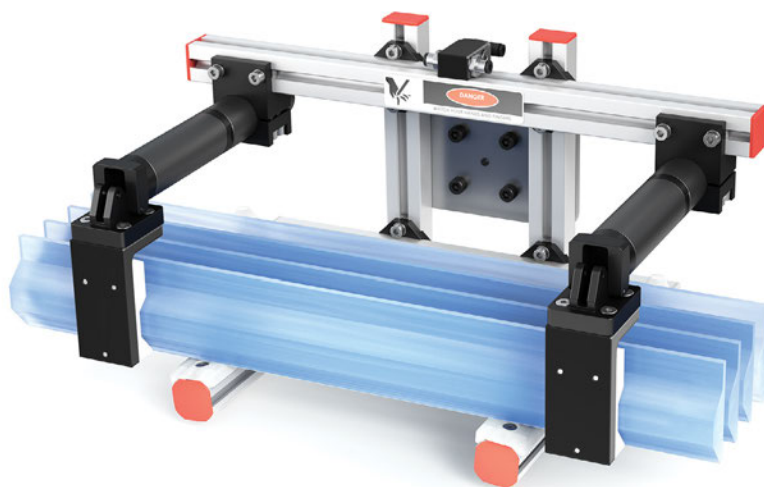
Features:

- Load/Unload fuel rods into pressure testing fixture.
- Dual parallel gripper design allows for balanced handling.
- Quick changer used for quick tooling change over.



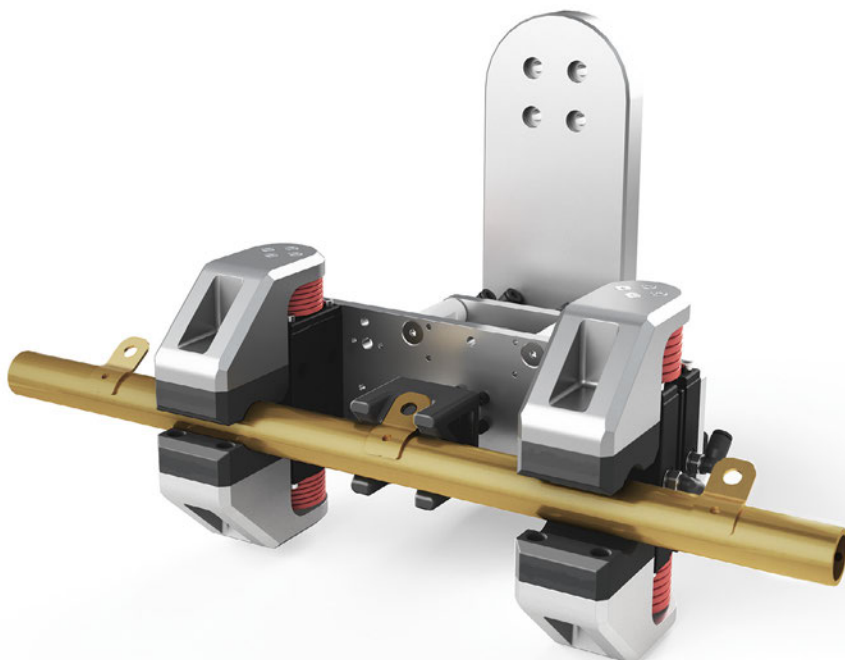
Features:

- Modular design for easy adjustments.
- Grippers with 95° angular motion “traps” parts onto forks.
- Unloads several parts simultaneously from machine.
- Deposits parts into containers.

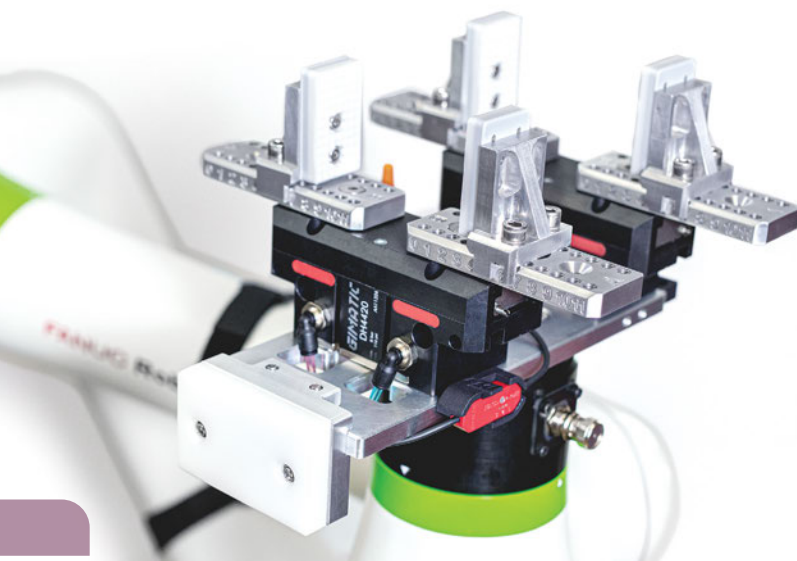


Features:

- Two SX parallel grippers with custom radial-groove finger tips.
- Two-piece jaw design allows for finger tip changeout.
- 3D printed nest secures parts.
- Grippers have sensors for mid-stroke part confirmation.
- Offset mounting plate designed for Fanuc robot can be mounted to a quick changer for easy tool change.



Custom EOAT from EMI



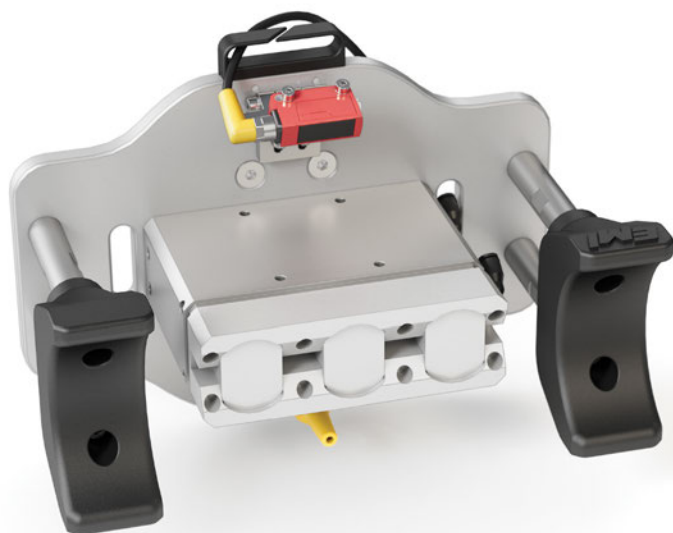
Features:

- Dual, pneumatic 2-jaw gripper design used on a single work piece for greater stabilization.
- Adjustable, silicone padded fingers for non-marking application.
- Aluminum plate mounts directly to robot.
- Acetal push bar used to open/close drawer mechanism for discharging part.
- Pro-SSR sensor for part detection of various work pieces.



Features:

- Dual DH parallel grippers with custom fingers.
- Part blow-off. (many options available)
- Direct mount with pass-through for tubing and cables.
- This solution caters to heavy duty machine tending applications at an affordable price.



Features:

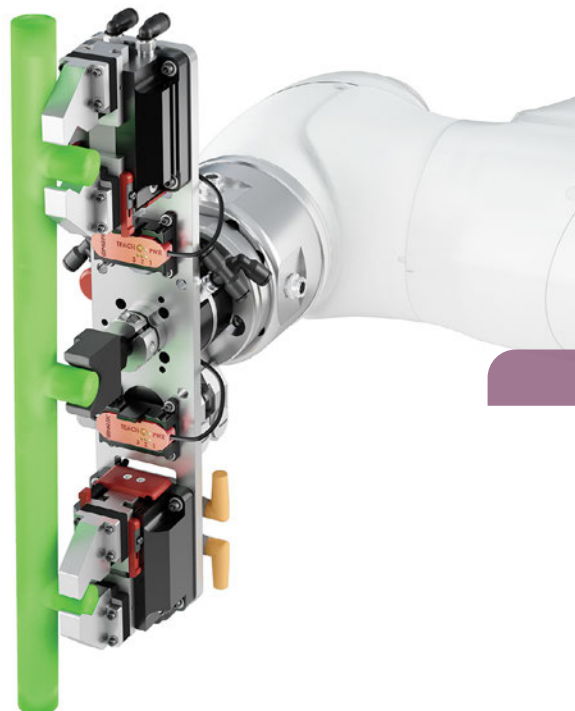
- Pneumatically controlled magnetic gripper used to pick cylindrical work piece.
- 3D Printed nests secure the work piece to ensure alignment.
- Photo sensor for part confirmation.
- Directly mounted to robot.
- Blow-off nozzle to clean work piece after machining operation.

Custom EOAT from EMI

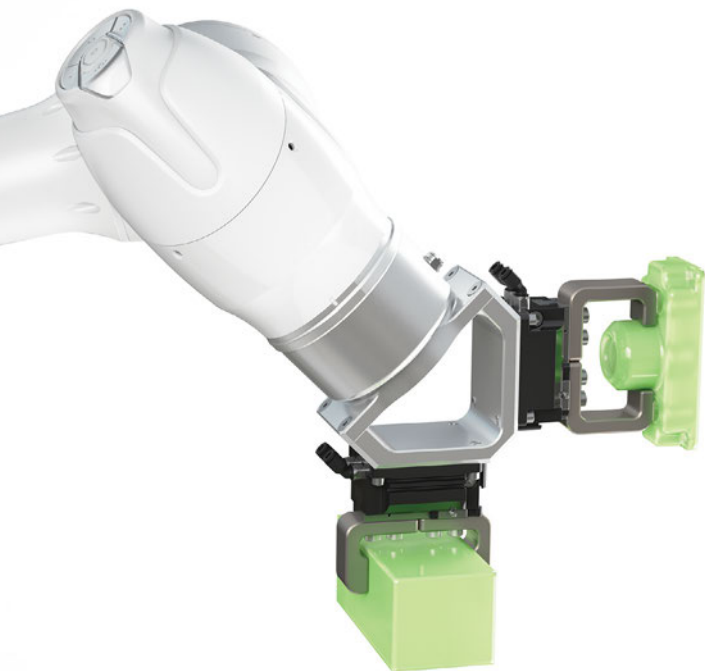
Have a specialty application that requires a custom gripper or 3D printed finger? Contact us to discuss!

This EOAT mounted on a Doosan robot handles the same workpiece by gripping in two different positions for added accuracy. This solution includes a Quick Changer.

Weight: 2kg
EOAT PRICE: **\$3,730.⁰⁰**



Weight: 1.6kg
EOAT PRICE: **\$2,870.⁰⁰**



Weight: 0.87kg
EOAT PRICE: **\$1,925.⁰⁰**



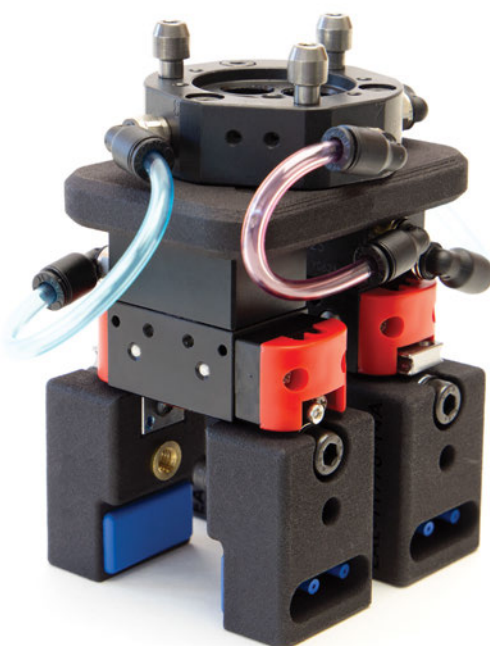
A custom machine tending application is achieved using two MGX parallel grippers at 90° to pick a finished part and to place a block of raw material.

This three-jaw electric MPTM gripper with steel fingers grips the ID of a workpiece. Stock adapter plates are available from EMI on page 43.

Custom SCARA EOAT from EMI

Features:

- **Designed for SCARA robots.**
- Quick Changer for quick set-up and tooling change over.
- Automatically engages pneumatic and electrical circuits.
- Padded fingers for an increased friction hold and softer touch to prevent damage.
- SGP-S Precision grippers are used for small work pieces and accurate handling.



Single SGP-S version also available.

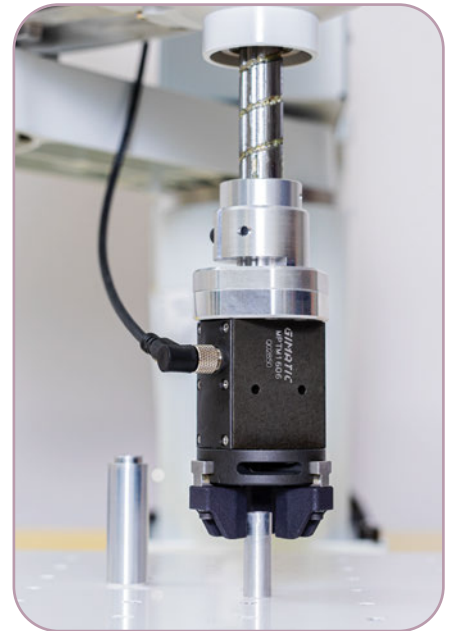
Features:

- **Designed for SCARA robots.**
- FlowPack vacuum cup.
- Clampable Gimatic vacuum generator.
- Modular clamp design.
- Streamlined design only requires (1x) compressed airline.



Features:

- **Designed for SCARA robots.**
- Electric Grippers: 2-jaw / 3-jaw.
- Low profile interface plate.
- 3D printed fingers.
- Simple gripper actuation.



Features:

- **Designed for SCARA robots.**
- Dual vacuum circuit design for independent part handling.
- Integrated vacuum generators (pneumatically driven).
- Lightweight, 3D printed frame.
- Interchangeable vacuum cups.



Custom EOAT for Sawyer



Rethink's easy to use and fast to deploy collaborative robot Sawyer can provide flexible and reliable industrial automation to countless industries.

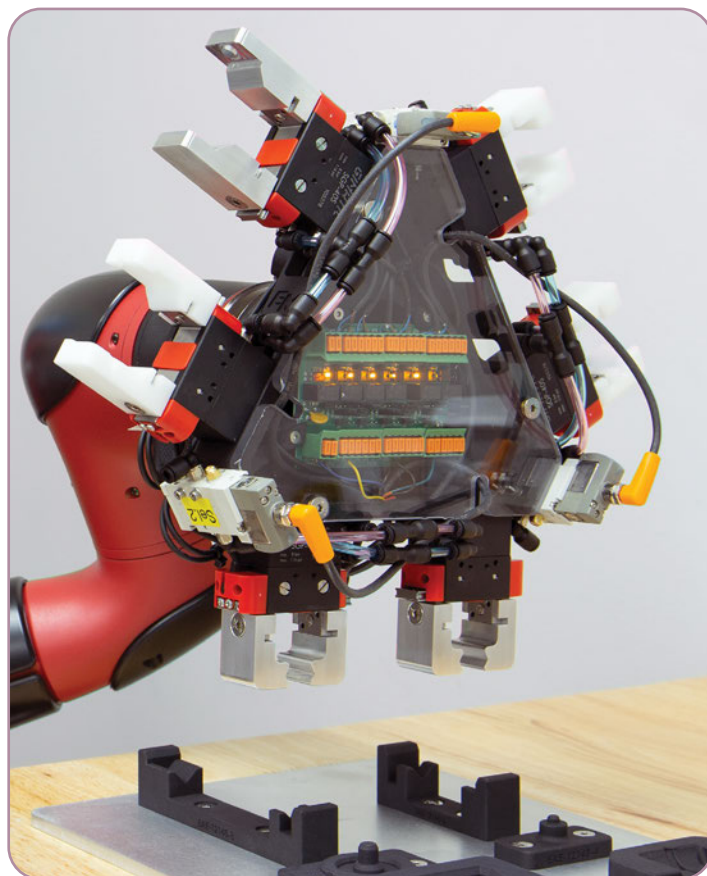
Here are just a few examples showcasing some EMI designed end effectors for Sawyer.

Shown above: 3D printed EOAT (left). Pick and Place application with Gimatic ITSC rotary indexing table (right).

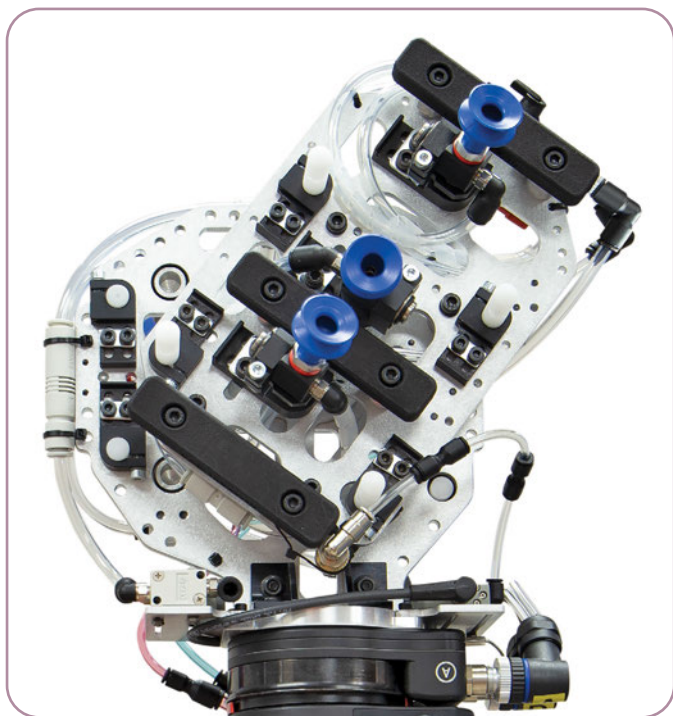
This custom EOAT automates a bag filling operation, performing three part pick sequences and one loading sequence to fill a bag with six unique parts. The structure is a 3D-Printed housing that neatly contains the electrical board and wiring for the part confirmation sensors, as well as the outputs that control the solenoid valves.

- Performs (3) picking sequences to fill package with (6) unique parts.
- Sensor box contained within tooling structure.
- Integrated solenoid valves to control grippers.
- 3D printed body to minimize weight of EOAT.

Cobot applications often require specialized gripper fingers and part nests that EMI engineers can help design based on years of expertise solving customer applications from simple to complex, machined, or 3D printed.



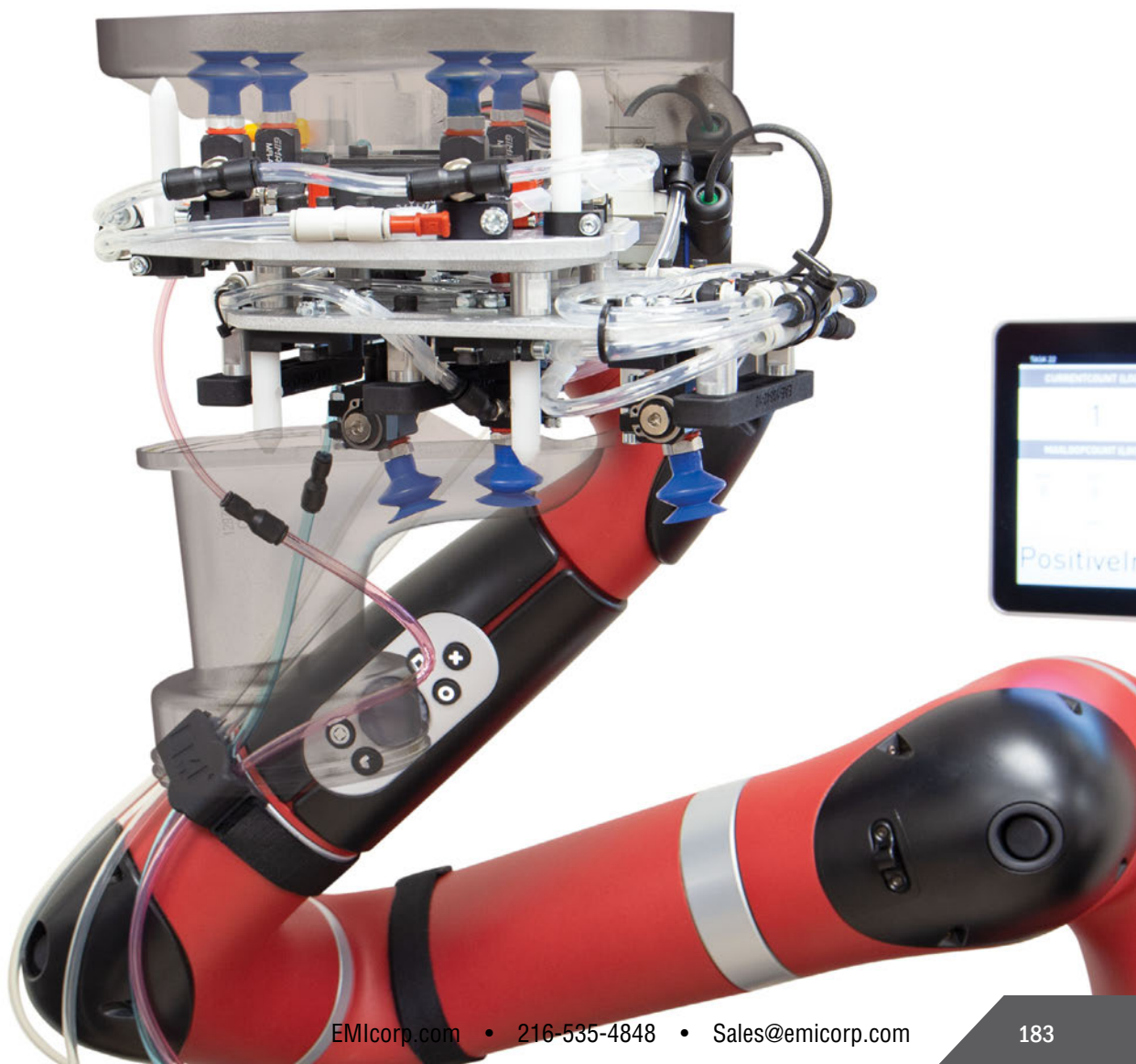
Custom EOAT for Sawyer



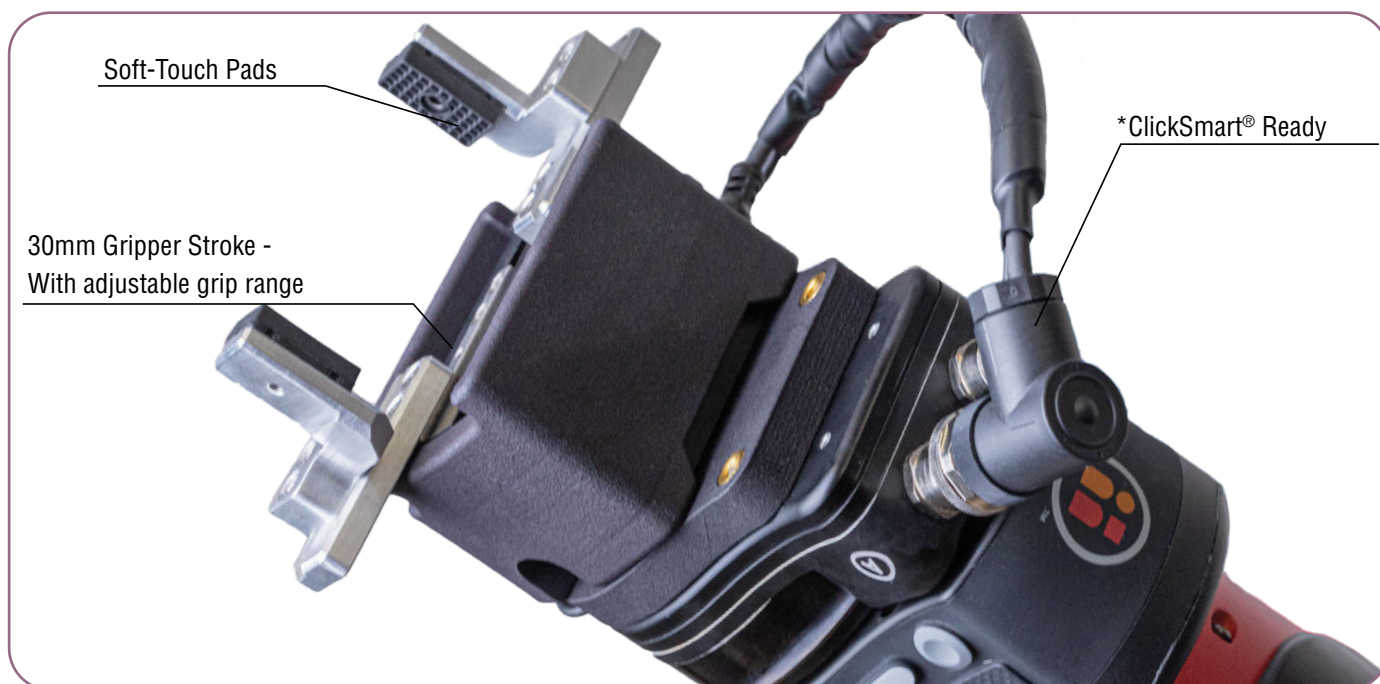
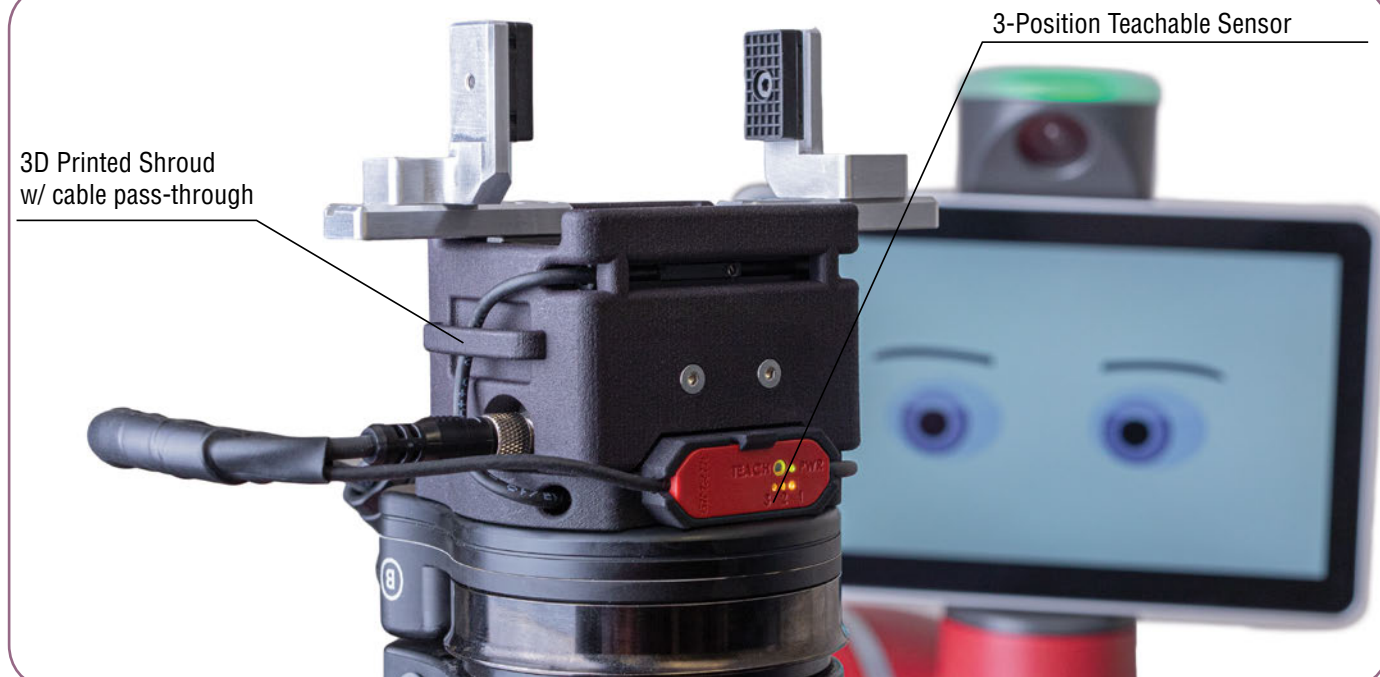
Using independent vacuum circuits, this EOAT grips 2 different parts out of an Injection Molding Machine, for placement into a secondary assembly process. Before placement, self-contained 180° rotary action is required for proper reorientation of a part. Once the secondary assembly is complete, the EOAT removes the final assembly.

On-board pneumatic valves control air flow to cartridge vacuum generators, and part confirmation is achieved through vacuum monitor switches. All I/O operates through ClickSmart connectors at Sawyer's wrist.

This custom EOAT was **\$3,048.00**

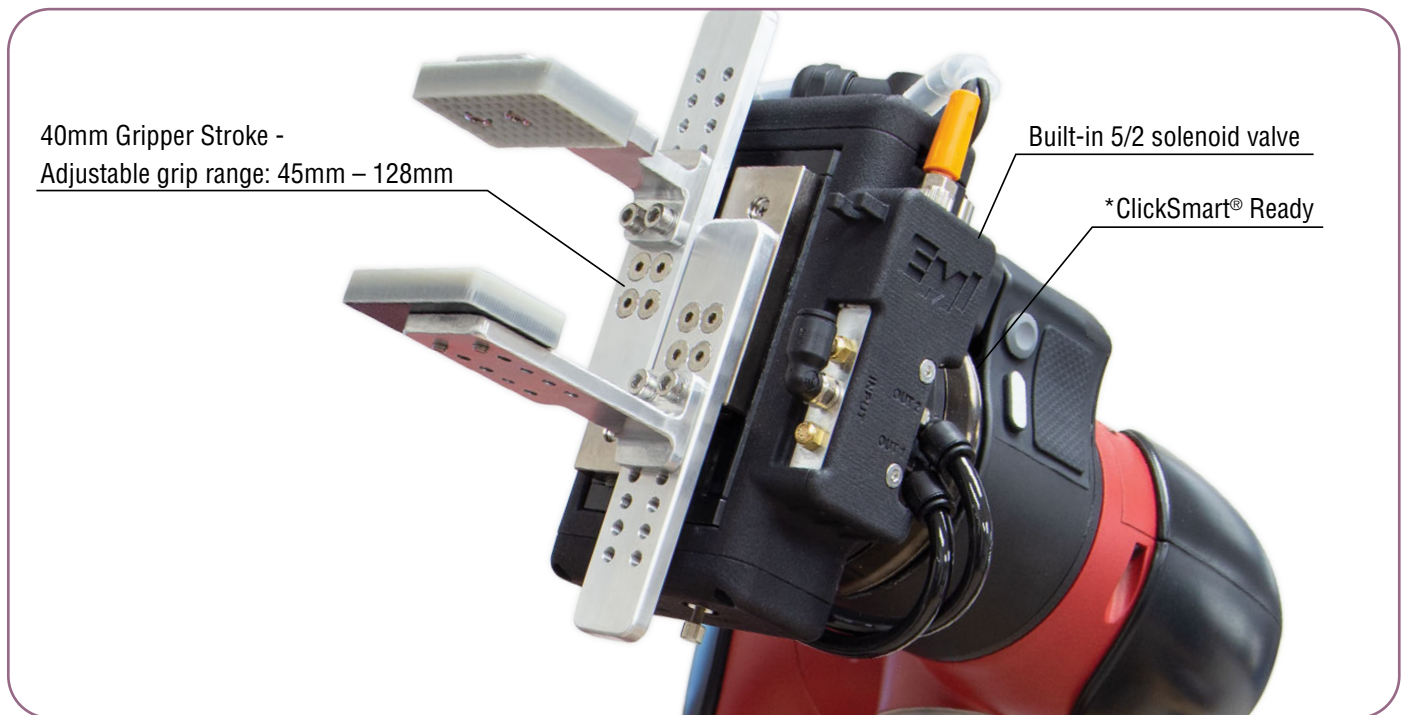
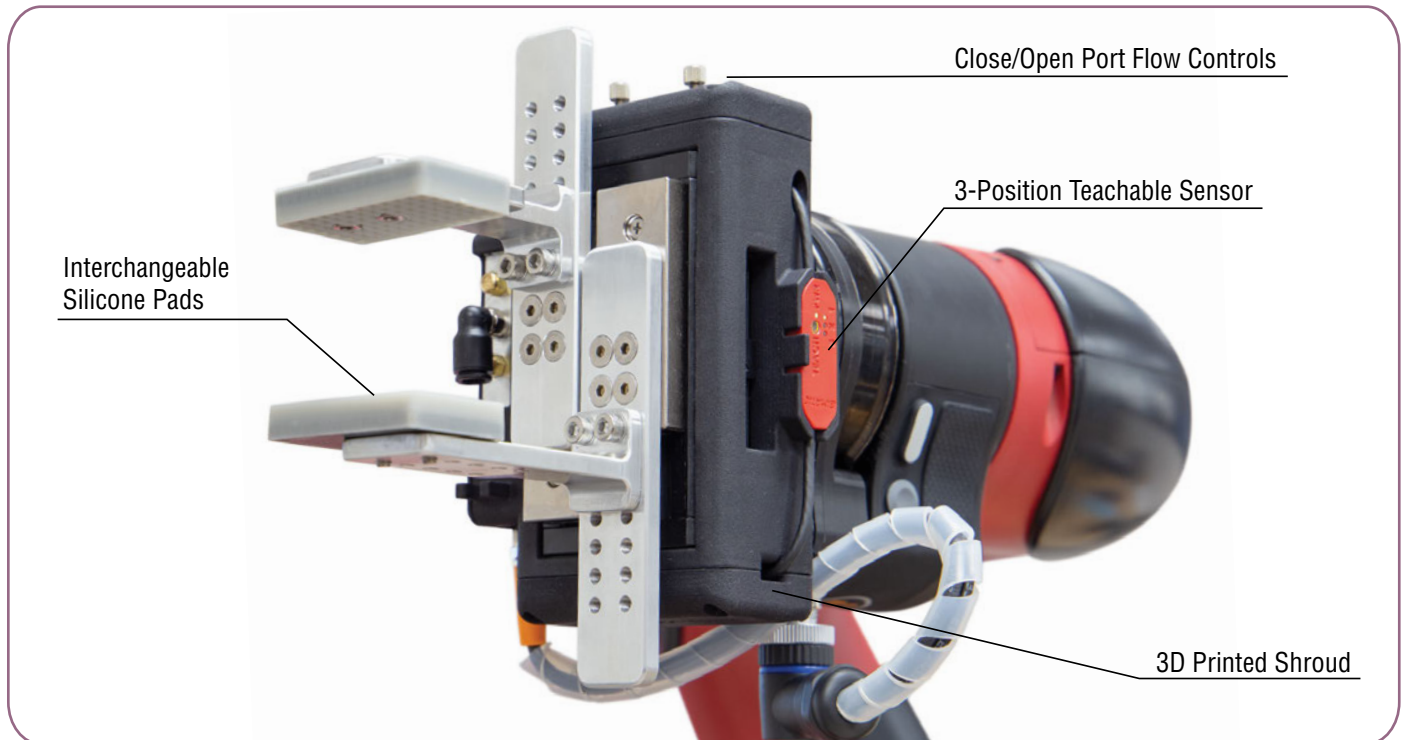


Electric Gripper Kit for Sawyer



Total gripping force	14.16 lbf
Stroke	2x15mm
Max frequency	0.51Hz
Jaw closing time	0.37s
Working gripper time	0.52s
Duty cycle	54%
Peak current	0.9 A
Brushless motor power	6W
Open/closed input signal	PNP open collector
Environmental Degree	IP54
Noise level	<70dB

Pneumatic Gripper Kit for Sawyer



Pressure range	30–116 psi
Total gripping force at 87 psi	45 lbf
Stroke ($\pm 0.25\text{mm}$)	2x20mm (with adjustable grip range: 45mm – 128mm)
Cycle air consumption	21cm ³
Maximum repeatability tolerance	0.03mm
Mid-stroke detection capability	Yes, with use of magnetoresistive sensor

3D Printing for EOAT

Gripper fingers that would normally be machined out of aluminum can be confidently designed and 3D printed for most applications. Thermal properties vary by material and soft-touch HNBR pads can be added. Take advantage of EMI's experience and talk with an EMI engineer about custom designed and printed gripper fingers for your application. We think you'll find EMI's 3D printing is affordable and fast.

[Click here find out more!](#)



Machined vs. Additive Manufacturing

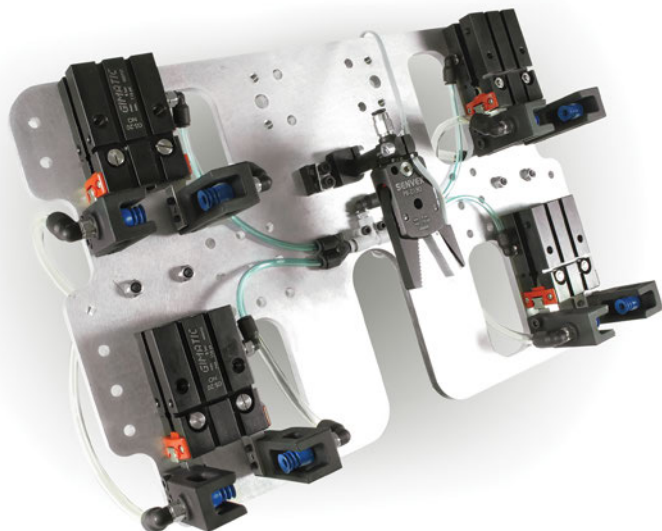
All manufacturing methods have their own benefits and drawbacks. Additive manufacturing methods have some benefits that traditional machining methods do not.

	3D Printing	Machining	
Lead Times	✓		Due to the fast and robust nature of the processes lead times are better for 3D printing
Precision	✓	✓+	While 3D Printing can be precise, machining can hold tighter tolerances
Complexity	✓		3D printing has less manufacturing constraints so it can produce more complex parts
Strength		✓	Machined metal is stiffer and stronger than plastic
Thermal Limit		✓	Metal can handle higher temperatures
Weight	✓		Complex internal lattice structure can be utilized in printing to lighten parts
Material Waste	✓		Very efficient process allows for very little scrap
Cost Effectiveness	✓		In general 3D printed parts cost less than machined parts

*Comparison can differ depending on materials and processes

3D Printing for EOAT

Vacuum fingers are a great way to handle your part and detect it without the use of sensors. Talk to our engineers to see if this is right for your application!



Hybrid EOAT is rapidly becoming a go-to option for customers who require lightweight and durable framing, but cannot afford to sacrifice precision and lead times.



	Profile-Based EOAT	3D-Printed EOAT	Plate-Style EOAT
Lead Time	Fastest	Fast	Varies by application
Weight	✓✓✓	✓	✓✓
Adjustability	✓✓✓	✓	✓
Common Applications			
High Number Of Cavities	✓✓✓	✓✓✓✓	✓✓✓✓✓
Small Parts	✓✓	✓✓✓✓✓	✓✓✓✓
Large Parts	✓✓✓✓✓	✓✓	✓✓✓
Insert Loading	✓✓	✓✓✓	✓✓✓✓✓
High-Speed Molding	✓✓✓	✓✓✓✓✓	✓✓✓✓
Degating	✓✓✓	✓	✓✓✓✓
EOATs with Nesting Features	✓✓✓	✓✓✓✓✓	✓✓✓✓

To help you decide which approach is best for your applications, this comparison explains the benefits of EMI's EOAT solutions as used by our Engineers on a daily basis.

EMI's 3DV Gripper Kit for Cobots is the perfect example of applications for 3D printed EOAT. Internal porting, built-in clamps and pressed inserts help keep it a lightweight, low-cost solution.

Profile Based EOAT are a proven solution for industrial applications. As you start to expand, weight adds up but the adjustability only increases. EMI has all the needed components in-stock to build adjustable EOAT that can also include 3D printed components for a more custom approach to your application.

Plate Style EOAT offer the highest precision, with reasonable weight requirements, where in some instances, adjustability can be offered for the less critical features of the application. 3D printed components are a perfect addition to plate tools. Custom laser cut or machined plates do require some manufacturing time, and EMI can help with that as well.

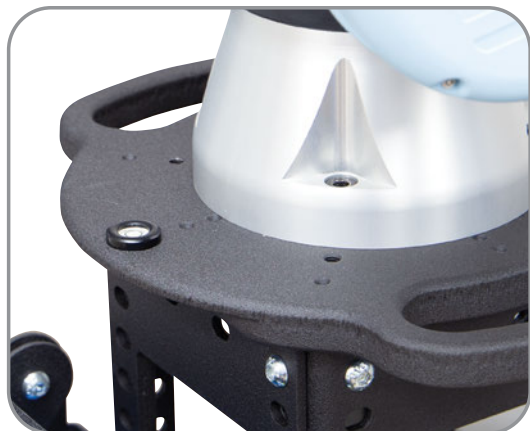
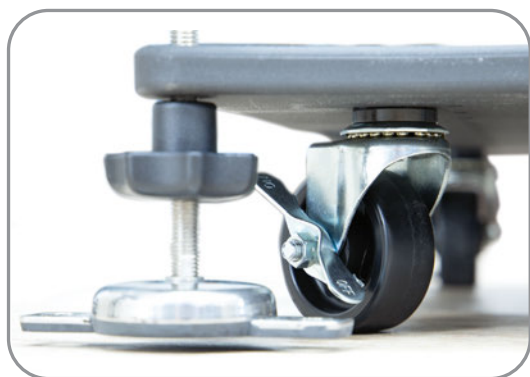
Fixed Height Cobot Stand

When a more robust cobot pedestal is required, consider EMI's Fixed Height Cobot Stand. The powder coated, 7ga. steel riser is available in 30", 36", 42" and 48" height options and is ideal for applications that require repeatable height.

Similar to the adjustable riser, the fixed height cobot stand can be secured directly to the floor with ½" floor anchors or a mobile base unit can be added for easier mobility and redeployment.

Cobot Stands are partially assembled and ship based on customer configuration and shipping instructions. Usually within 1-2 days. Custom height options and configurations are available upon request.

- 7ga. Steel riser with fixed heights (custom sizes upon request).
- Powder coated matte black (custom paint upon request).
- Cable management included (x2).
- Integrated shelves for storage.
- Locking casters and leveling pads (mobile base unit only).





Fixed Height Cobot Stand



Fixed Base (Steel Riser) with Fixed Height

Quick #	Part #	Description	Wt.	Price
8930	CRS-FF-30	30.6" OAH	68 lbs	\$985.00
8931	CRS-FF-36	36.9" OAH	71 lbs	\$1,060.00
8932	CRS-FF-42	42.5" OAH	79 lbs	\$1,135.00
8933	CRS-FF-48	48.7" OAH	87 lbs	\$1,230.00

Use Quick#s for easy online ordering.

Mobile Base (Steel Riser) with Fixed Height

Quick #	Part #	Description	Wt.	Price
8910	CRS-MF-35	35.3" OAH	176 lbs	\$2,267.00
8911	CRS-MF-41	41.6" OAH	179 lbs	\$2,342.00
8912	CRS-MF-47	47.2" OAH	187 lbs	\$2,417.00
8913	CRS-MF-53	53.5" OAH	195 lbs	\$2,512.00

Note: The mobile base unit adds roughly 4.7" to the overall height.

Optional Accessories:

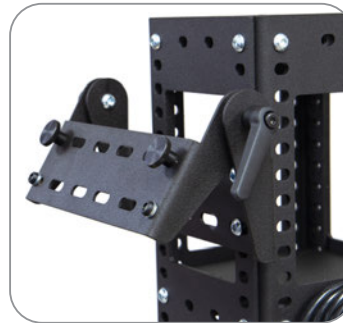
* not included with base.



UR Control Box Hanger



Doosan Control Box Mount



Adjustable Tilt Pendant Hangers for Doosan and UR*

Check online for new accessories!



Cable Management (2x included with Stand)

Optional Accessories

Quick #	Part #	Description	Price
8940	CRS-CBM-UR	UR Control Box Mount for Cobot Stand	\$34.00
8943	CRS-CBM-DO	Doosan Control Box Mount for Cobot Stand	\$204.00
8941	CRS-TPH-UR	UR Pendant Hanger w/ Adj. Tilt Angle	\$99.00
8944	CRS-TPH-DO	Doosan Pendant Hanger w/ Adj. Tilt Angle	\$109.00
8942	CRS-CM-1	Cobot Stand Cable Management (x2)	\$39.00

*Teach pendant hanger includes bracket for older model (CB-Series) UR Teach Pendant

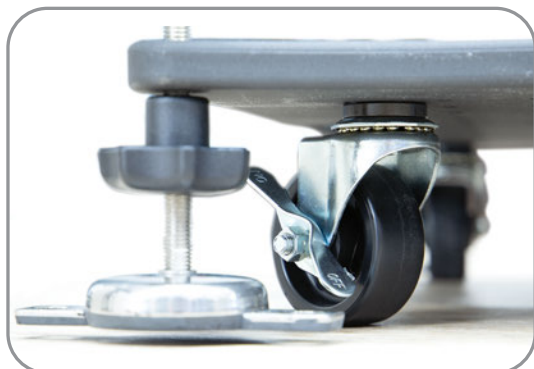
Adjustable Height Cobot Stand

EMI's Cobot Pedestals extend the reach of a cobot arm. These heavy-duty robot stands are perfect to an industrial environment where redeployment and adjustability may be required.

The extruded aluminum profile riser is the perfect solution when a variable height set-up is needed. These pedestals can be fixed directly to the floor using ½" floor anchors or integrate onto our mobile base for easy mobility and redeployment.

Cobot Stands are partially assembled and ship based on customer configuration and shipping instructions. Usually within 1-2 days. Custom height options and configurations are available upon request.

- Aluminum profile riser with adjustable height.
- Dual handle on each side of riser for easier adjustments.
- Cable management included (x2).
- In-Stock standard sizes for quick delivery.
- Accepts (4x) ½" floor anchor (not supplied with stand).
- Locking casters and leveling pads (mobile base units only).



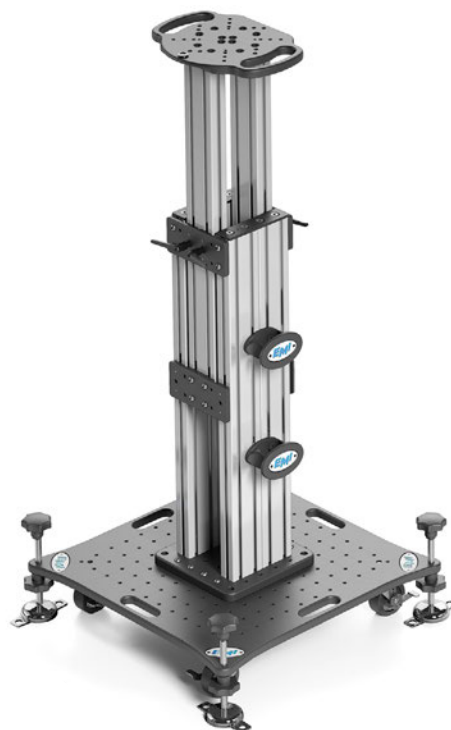


Adjustable Height Cobot Stand



Fixed Base (Aluminum Profile Riser) with Adjustable Height

Quick #	Part #	Description	Wt.	Price
8920	CRS-FA-2339	23.7"–39.9" OAH	59 lbs	\$1,298.00
8921	CRS-FA-3054	30.8"–54" OAH	65 lbs	\$1,360.00



Mobile Base (Aluminum Profile Riser) with Adjustable Height

Quick #	Part #	Description	Wt.	Price
8901	CRS-MA-2844	28.5"–44.5" OAH	167 lbs	\$2,580.00
8902	CRS-MA-3558	35.5"–58.8" OAH	173 lbs	\$2,642.00

Optional Accessories:

** not included with base.*



UR Control Box Hanger



Doosan Control Box Mount



Adjustable Tilt Pendant Hangers for Doosan and UR*

Check online for new accessories!



Cable Management (2x included with Stand)



Optional Accessories

Quick #	Part #	Description	Price
8940	CRS-CBM-UR	UR Control Box Mount for Cobot Stand	\$34.00
8943	CRS-CBM-DO	Doosan Control Box Mount for Cobot Stand	\$204.00
8941	CRS-TPH-UR	UR Pendant Hanger w/ Adj. Tilt Angle	\$99.00
8944	CRS-TPH-DO	Doosan Pendant Hanger w/ Adj. Tilt Angle	\$109.00
8942	CRS-CM-1	Cobot Stand Cable Management (x2)	\$39.00

**Teach pendant hanger includes bracket for older model (CB-Series) UR Teach Pendant*

Cobot Stand Features

Adaptable Base Design

A grid of threaded M8 holes, spaced every 40mm allows the fixed and adjustable height risers to be placed anywhere on the mobile base.

Cobot Mounting Plates

Robust and versatile, EMI cobot mounting plates come ready for UR, Doosan, Techman and Fanuc CRX-10iA and 10iA/L.

Contact us with the make and model of your cobot!

Combine with EMI's Cobot Ready Conveyors

EMI's Cobot Ready Conveyors are certified by Universal Robot and provide continuous part transfer and are ideal for pick and place, machine tending, and packaging applications.

Reliable Manufacturing, Made in USA

Our production facility in Jackson Center, Ohio can design and build custom industrial equipment for cobots. If you need a custom stand, we have a form you can submit to: Cobots@emicorp.com.



Mounting pattern compatible with:



UNIVERSAL ROBOTS

UR3/e, UR5/e, UR10/e, UR16/e

FANUC

CRx-10iA, CRx-10iA/L



A0509, A0509S, A0915, A0912S
M0609, M0617, M1013, M1509
H2017, H2515



TM5, TM12, TM14

UR Universal Robots, Doosan, TM Techman Robot, and Fanuc are trademarks of their respective owners.

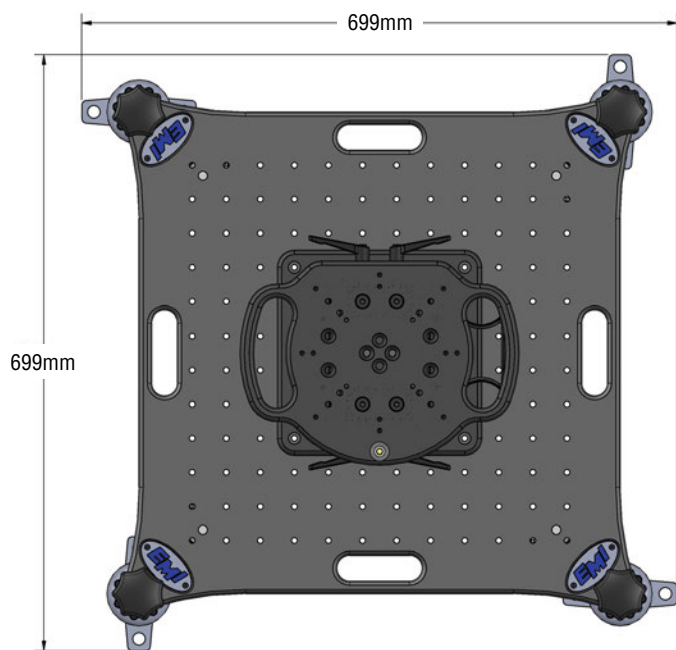


Click to view our Cobot Stand video!

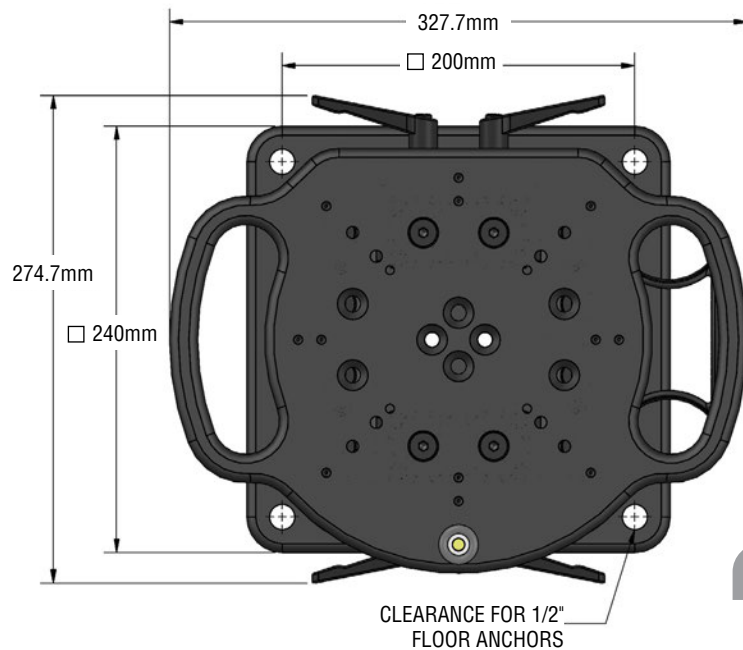


Cobot Stand Features

Mobile Stand Footprint



Fixed Stand Footprint



Cobot Ready Conveyors

EMI has developed a conveyor package to easily integrate with your Collaborative Robot.

Our conveyors are Certified by Universal Robots. With EMI's URCap development, any Universal Robot can easily control the conveyor's speed and direction.

With every Cobot Conveyor:

- Two photo-eyes (at infeed and discharge ends of the conveyor).
- Variable Speed, Internal Motor Drive Package (EA-ID Package) or External Drive. (See below)
- Compact touch screen speed control allows for independent control, if necessary.
- 4" x 90° 12ga. Steel powder coated side rails with multiple photo eye mounting positions.
- Adjustable leg sets with 4" swivel, locking castors.
- EMI URCap allows for easy programming and use when integrated with your UR.
- Using a Doosan, Kuka, Fanuc, or other Collaborative Robot? Contact us to discuss!

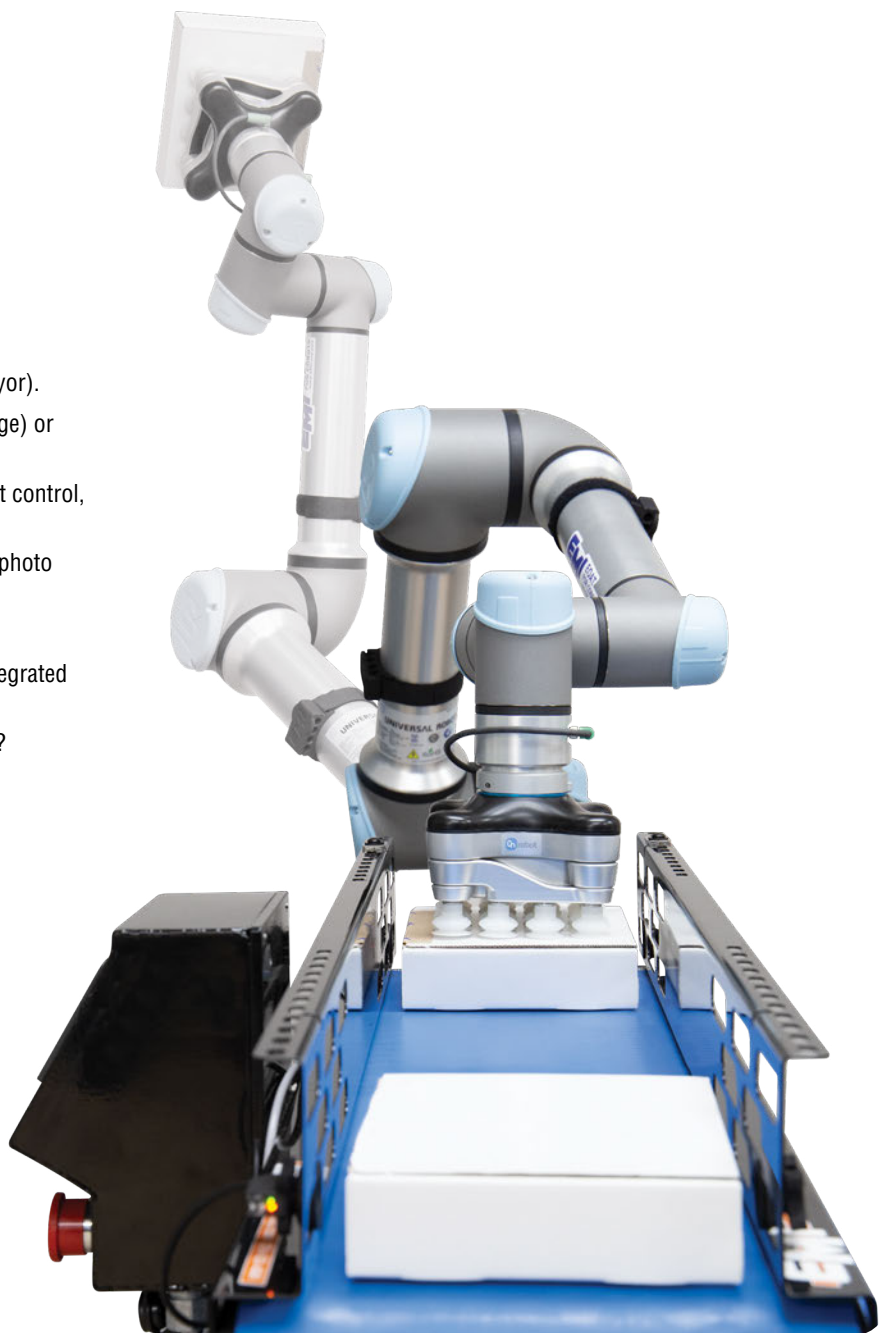
**To request more information, call
216-535-4848 or email
Sales@EMInc.com**



Click here to learn more!



**Click here to download the Cobot
Ready Conveyor Order Form**



Choose Either Internal or External Drive:

Internal Drive Package: (Extruded Aluminum Model Conveyors Only)

- MODBUS communication via Ethernet (EA-PLC-UR Electrical Package)
- Single V-guide polyurethane belting
- Power: 110V/ 5amp
- Maximum load: 50lbs
- Maximum belt speed: 70FPM*
- Belt widths: 4"-60" at 2" increments
- Belt lengths: starting at 4ft

*Belt speed may vary based on overall length and width

External Drive Package:

- Steel or aluminum frame
- MODBUS communication via Ethernet (T-99 Electrical Package)
- Power: 110V/ 5 amp
- Maximum load: see page 196
- Belt widths: see page 196
- Belt lengths: starting at 4ft
- Speed: 20, 40 or 80 FPM
- Variable frequency drive as compared to EA-ID



Cobot Ready Conveyors



URCap Features:

- MODBUS communication via Ethernet cable.
- Simple UR pendant interface.
- Variable speed control.
- Directional control.
- Detect workpiece presence.
- User Manual.

EMI Conveyors are built in the USA!



	Extruded Aluminum	Extruded Aluminum	Trim Line (steel / aluminum)	Merit Line (steel / aluminum)	Clean Room (aluminum)	Signature Line (steel)
Electrical Package	Internal Drive with EA-PLC-UR Package		External Drive with T-99 Cobot Controller Package			
Price for standard Cobot Ready Flat Belt Conveyor (18" wide by 10' long) <i>Other sizes available</i>	EAF-18-10-20 \$4,721	EAF-18-10-20 \$4,814	STL / ATL-18-10-20 \$4,621	ADF-18-10-20 \$5,139	ACRF-18-10-20 \$5,414	RM-18-10-20 \$5,610
				DDF-18-10-20 \$5,341		

Pricing effective 12/01/2021

Cobot Ready Conveyors

EMI's conveyors are built to withstand heavy-duty industrial use!

Extruded Aluminum Line (EA)

- Lengths to 40'
- Widths to 60"
- Direct Drive 1/3hp motor
- 4–40 FPM AC variable speed



Trim Line

Aluminum (ATL) or Steel (STL) Frame Conveyors

- Lengths to 20'
- Widths to 24"
- Direct drive 1/4hp motor
- 4–40 FPM AC variable speed



Merit Line

Aluminum (AD) or Steel (DD) Frame Conveyors

- Lengths to 30'
- Widths to 36"
- Direct drive 1/3hp motor
- 4–40 FPM AC variable speed
- Clean Room Models



Signature Line

Heavy-Duty Steel Frame Belt Conveyors

- Lengths to 180'
- Widths to 96"
- Direct drive 1/3hp motor
- 4–40 FPM AC variable speed



EMI conveyors are guaranteed for 3 years See EMI website for more information.



Cobot Ready Conveyors

T-99-Cobot Controller Package:

- Can be added to any EMI conveyor with an external drive.
- Ideal for robot indexing, box filling, and process control tie-in applications.
- Indexing, reversing, and 20-80FPM depending on what is selected for FPM.
- Continuous run mode.
- Accepts momentary or maintained signals for indexing and reversing.
- Easily adjustable digital timers.

Note: Programming includes the possibility to run in any sequence with indexing/reversing continuous run. "Maintained or Momentary" normally open dry contact or 24VDC signals are both accepted for indexing and reversing inputs. All timers shall be programmed via keypad function.

Everything but the cobot!

Our Conveyor - Your Cobot - Our Cobot Stand - Our End Effector



Cobot Ready Conveyors

Electrical Features:

If you're considering automating your process with a conveyor indexing program, EMI's control packages, combined with an EMI conveyor, can provide a wide range of automation benefits.

Implementing a box packing, stacking, or indexing system can increase productivity and decrease down-time.



Click here to download the Cobot Ready Conveyor Order Form



- Adjustable photo eye placement within the side rails.
- We offer many types of photo eyes for different applications depending on the size and color of the part you are detecting.



- MODBUS communication via Ethernet (EA-PLC-UR Electrical Package shown)



- Touch screen display



- Digital and Ethernet connections for internal and external drive.



Cobot Ready Conveyors

Easily automate tasks to increase productivity!

Whether you are automating your process using multiple cobot assisted conveyors or multiple collaborative robots, EMI can help develop an ideal solution.

Suitable Applications:

- Machine tending
- Injection molding
- Material handling
- Pick and place
- Box filling



Click for a 360° View!



Click for a 360° View!



Click for a 360° View!

Decades of constant improvement and custom conveying applications make EMI conveyor systems the standard in the plastics industry.

Manufactured in our Ohio facility, EMI conveyors are designed to your specifications, crafted by experienced assemblers and are made to last in industrial environments while offering advanced features to manufacturers.

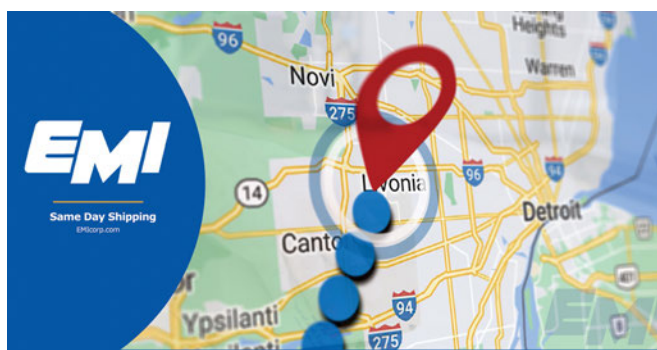
Subscribe to our YouTube Channel!



www.youtube.com/EMICorpVideo

Visit and subscribe to EMI's YouTube channel to watch the latest videos!

We are constantly adding new content to our YouTube channel. From product overviews to in-depth how-to videos, we are sure you'll find our video's helpful.





Sales and Service in Mexico!



¡Contamos con un Gran Inventario con Despachos Diarios!



Disponibilidad

Con nuestro almacén en Querétaro, hemos agregado muchos productos a nuestro amplio inventario de componentes de Fin de Brazo, refacciones para máquinas de inyección de plástico y sensorica básica listos para despachar.

Nos esforzamos por asegurar que todas las órdenes de productos en existencia sean despachadas el mismo día en que recibimos la orden.



Eficiencia

Contamos con un equipo de logística eficiente y capacitado que se asegura de que todas las órdenes de productos en existencias sean enviadas en tiempo y forma.



Servicio

Nuestro personal de ingeniería y ventas te apoyarán en el diseño de tu fin de brazo como parte de nuestros servicios sin costo adicional. O bien proponiendo los mejores componentes para tu aplicación.

Aprovecha la oportunidad de diseñar tu fin de brazo con nosotros, sólo envíanos tus archivos de molde y pieza.

Ventas@emicorp.com

+52 442-349-7646

www.EMlcorp.com.mx

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