

## Automatic Quick Changer – Gimatic EQC20



#8098 – Robot-Side Electric Quick Change



#8151 – EOAT-Side Electric Quick Changer

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 through-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 266 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 36.
- Optional docking pins for storage, see page 39.

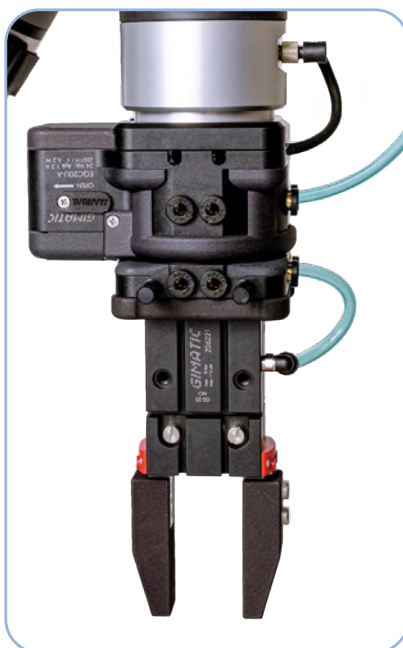


Quick#	Part#	Description	Weight	Price
8098	EQC20U-A	Robot-Side, Female M8 8-Pin Connector - For UR & Fanuc CRX	810g	\$1,552.00
8150	EQC20-A	Robot-Side, Male M8 8-Pin Connector, PNP	810g	\$1,481.00
8156	EQC20N-A	Robot-Side, Male M8 8-Pin Connector, NPN	810g	\$1,661.00
8155	EQC20TM-A	Robot-Side, Male M8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

Automatic Tool Changers require some level of added integration, and we encourage you to partner with our EOAT Engineers to ensure a seamless implementation.

**Try It Risk Free!**

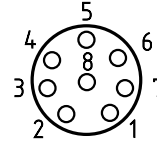
\*Contact us for details



# Automatic Quick Changer – Gimatic 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

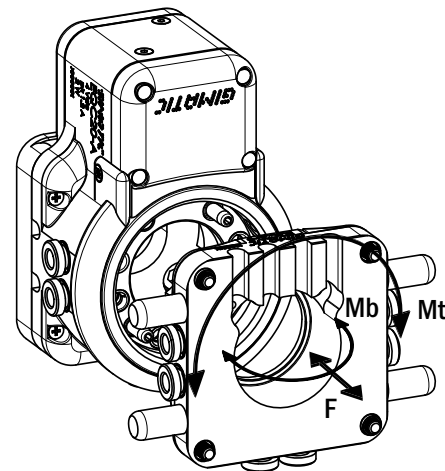
*\*Note: Q#8150 Pinout shown. Varies by model.*

## Safety loads

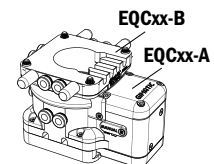
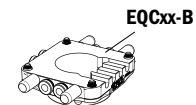
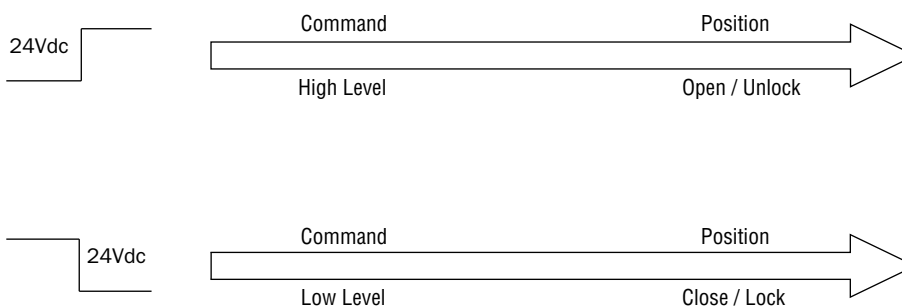
Check the table for the maximum loads allowed. Excessive forces or torques can damage the system, cause operation problems and endanger the safety of the operator.

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
<b>Safety Loads:</b>		
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 ±10% 0.5 Arms, 1.2 Apk
PNP digital inputs	Low: coupling command High: uncoupling command
Output initialization delay	200 ms

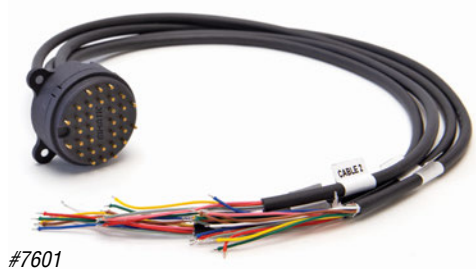
- CU
- QC
- VG
- VC
- VA
- SG
- GR
- MT
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- CS
- CC

# Automatic Quick Changer – Gimatic EQC20

## 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.*



See pages 266 and 268 for cables and field wireable connectors.



**Watch EMI's EQC Electrical Connector Video!**

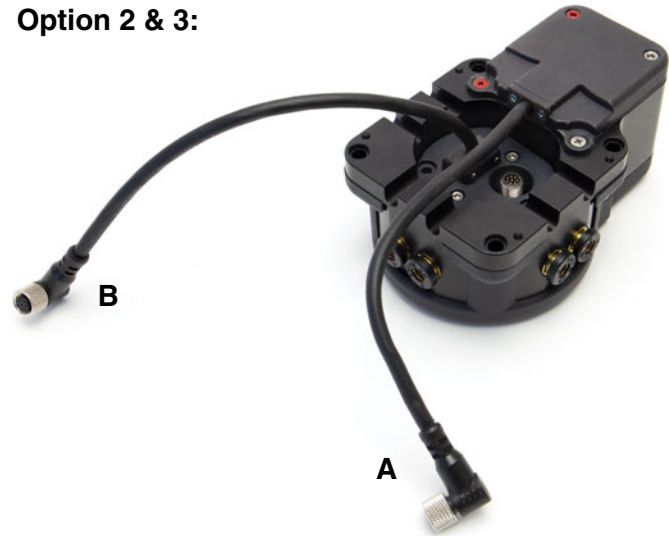
## Automatic Quick Changer – Gimatic EQC20

### 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

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# Automatic Quick Changer – Gimatic EQC20

## Robot-Side Interface Plates

(Dimensioned drawings reduced to fit)

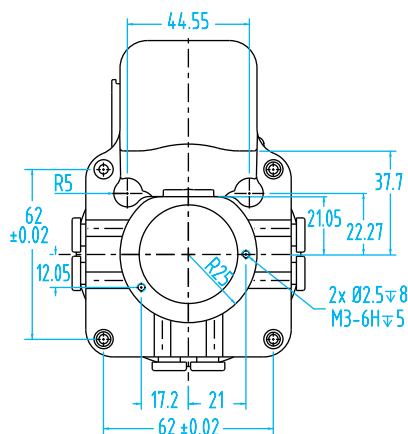
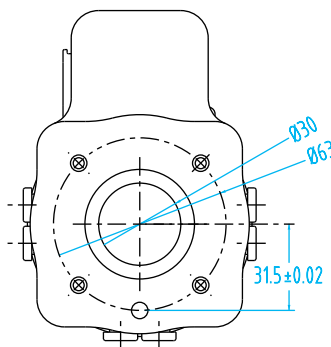
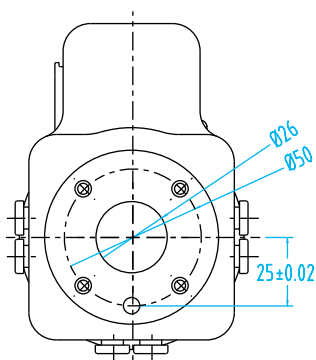


**Q#8153 EQC20-K50**  
ISO 9409-1-50-4-M6



**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

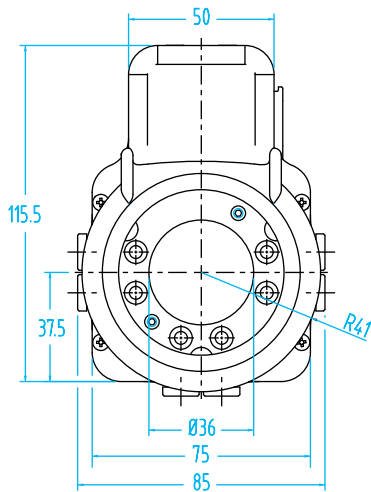
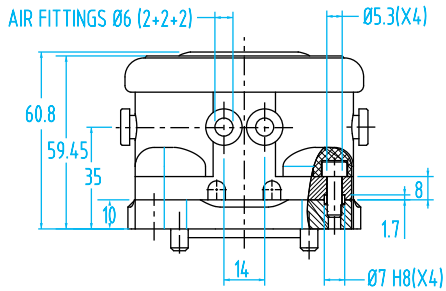
Watch EMI's  
EQC Quick  
Changer Video!



# Automatic Quick Changer – Gimatic EQC20

(Dimensioned drawings reduced to fit)

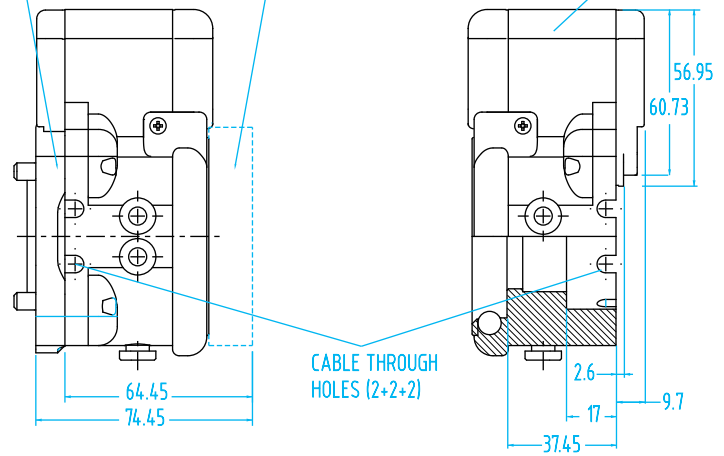
## Robot-Sides, #8098, #8150, #8155, #8156



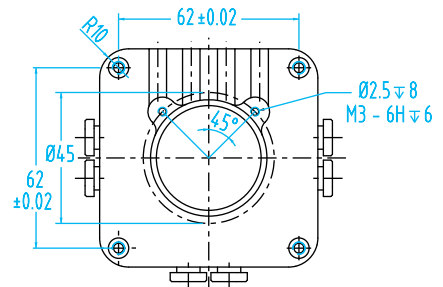
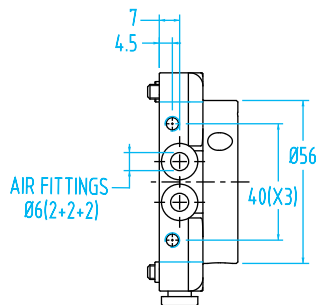
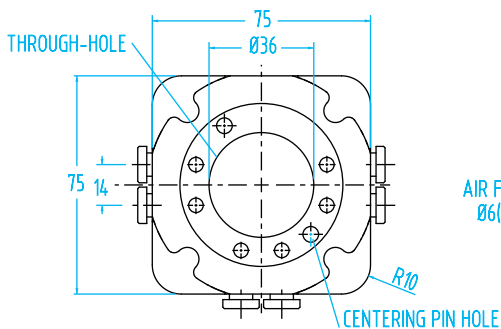
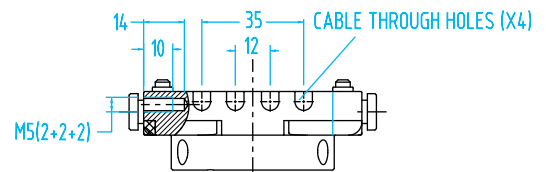
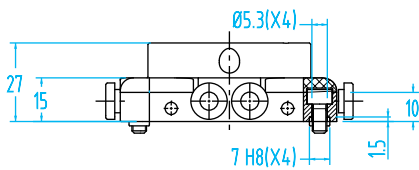
Q#8154, EQC20-K63

Q#8151, EQC20-B

Without interface plate



## EOAT-Side, #8151



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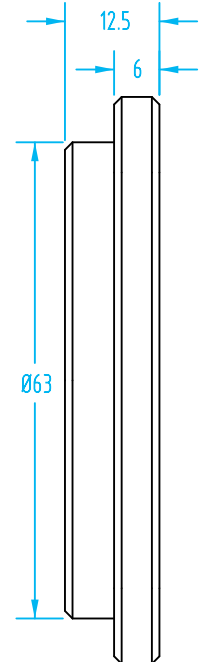
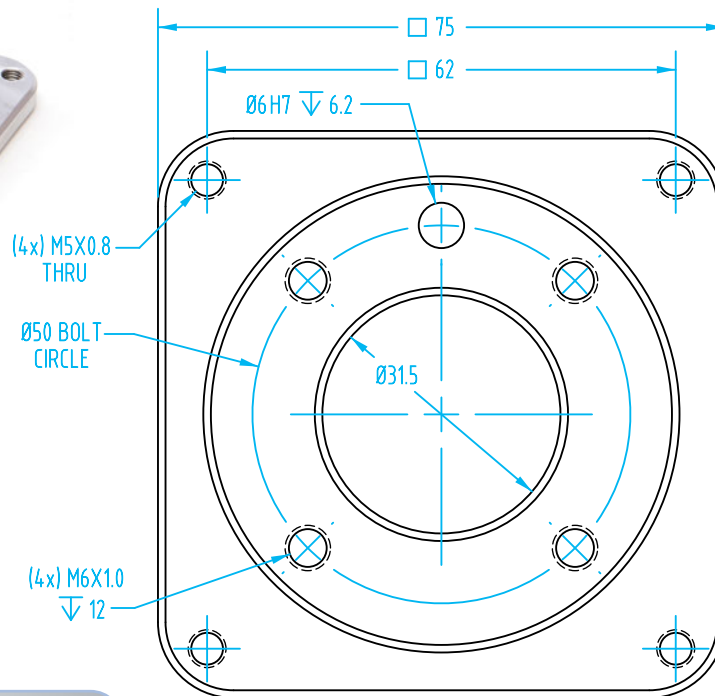
# Automatic Quick Changer – Gimatic EQC20

(Dimensioned drawings shown full scale)

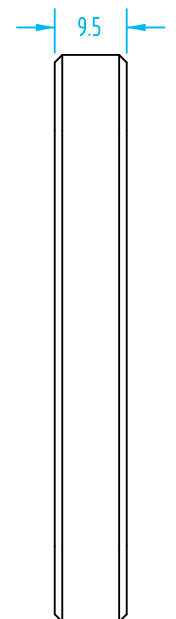
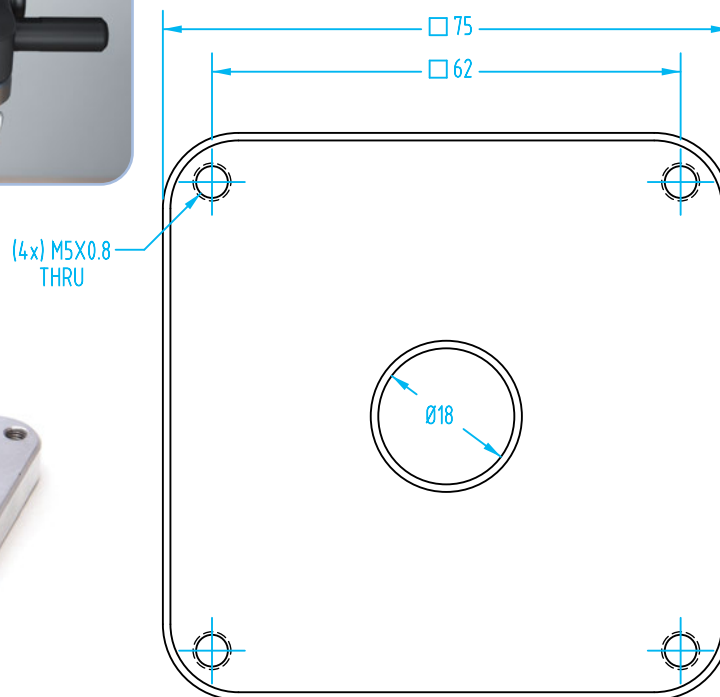


#8170

- Matches common cobot tool flanges.



#8171



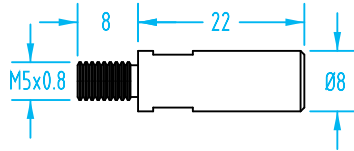
### EOAT-Side Interface Plates

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 – Gimatic EQC20

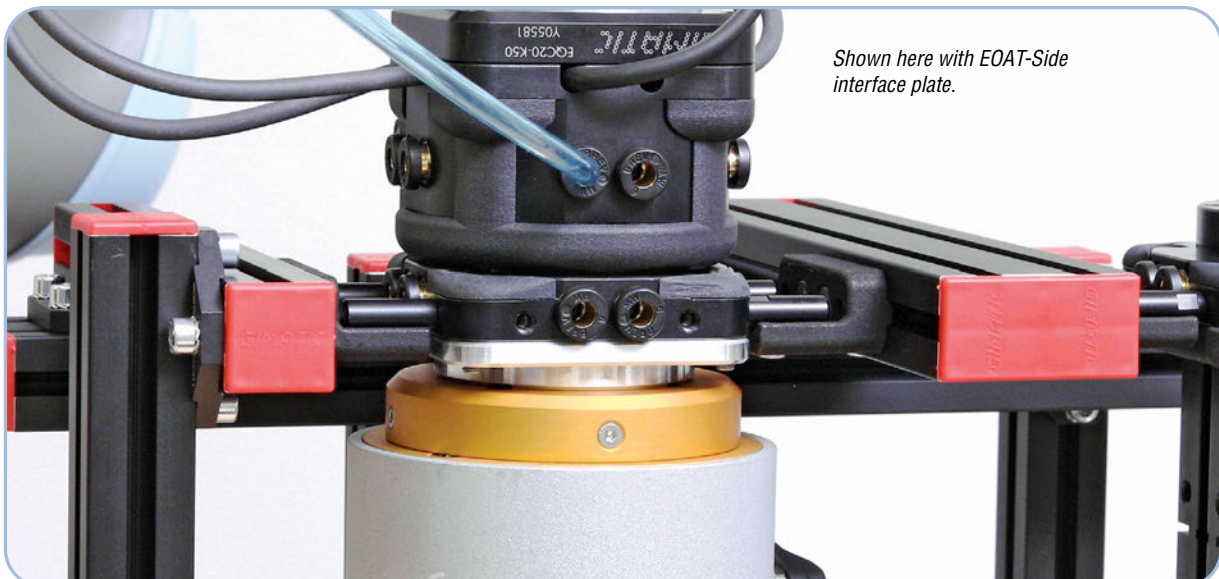
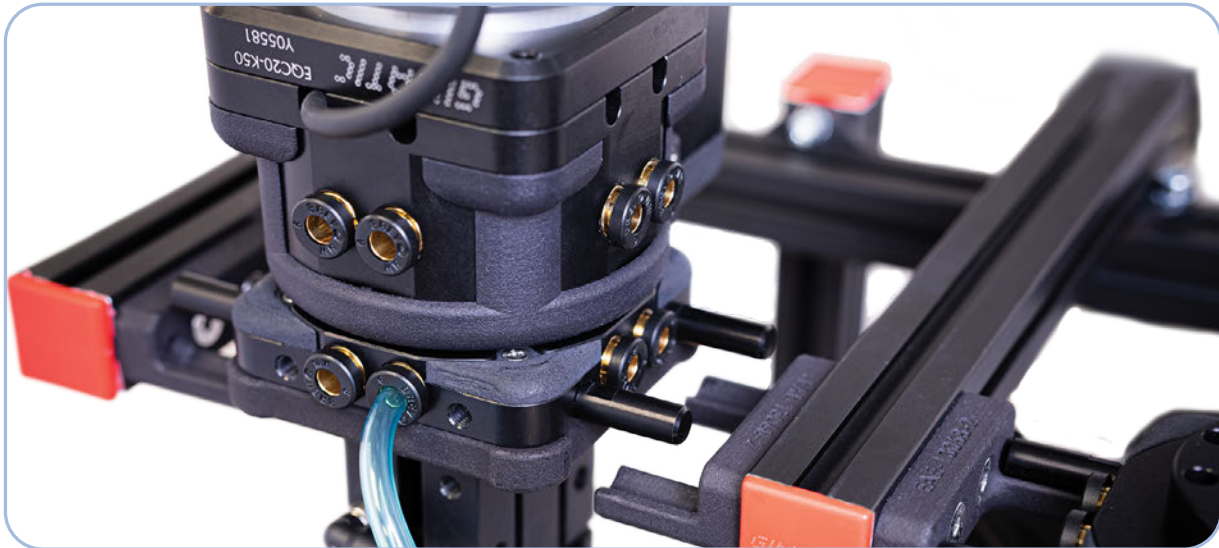
### Storage Docking Pins

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



### Storage Docking Pins

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



CU

QC

VG

VC

VA

SG

GR

MT

AC

CS

CC