

Electric quick changer

The EQC electric quick changer is available for applications that need automatic change of the gripping element.

This system consists of an active part (side A) and a passive mechanical tool plate (side B).

The active part is usually connected to a robot's wrist while one or more flanges are connected to the interchangeable gripping elements.

- Fully automatic version.
- Plug & Play system.
- Designed to collaborative robot application.
- Optional flange ISO 9409 to interface directly with robot.
- Power cable with 8-pin M8x1 connector, length 200 mm.
- 24 Vdc low voltage supply.
- Up to 6 user pneumatic connections.
- Optional electric connectors to be positioned in the central through hole.

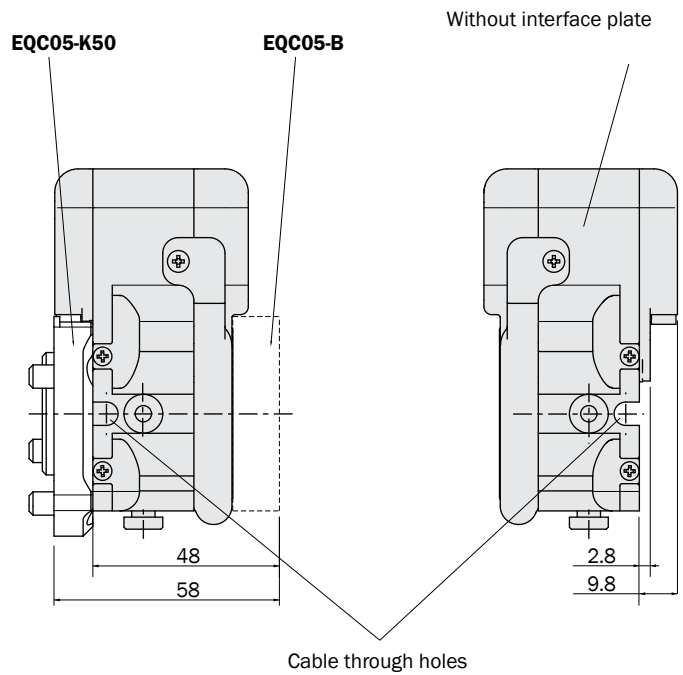
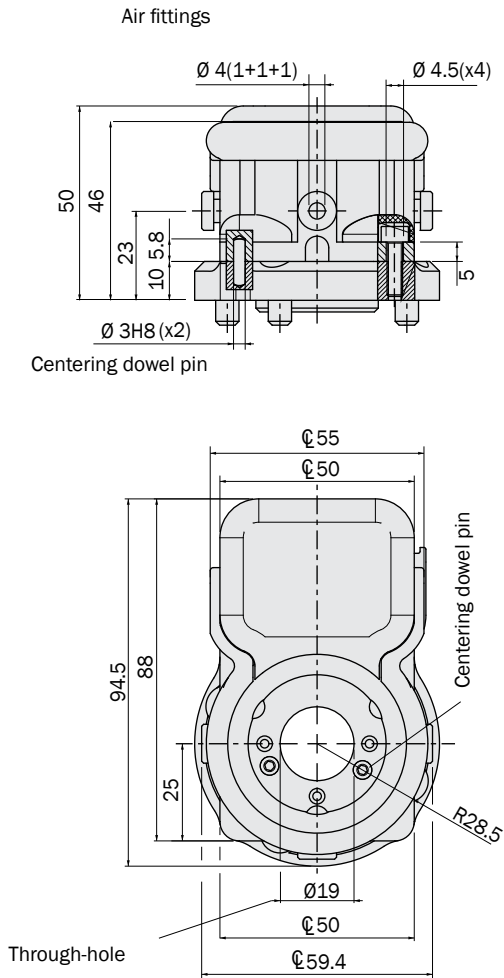


COMING SOON

	EQC05	EQC05N	EQC20	EQC20N	EQC100	EQC100N
Mass of the master plate (EQCxx-A)	500 g		810 g		2700 g	
Weight of the tool plate (EQCxx-B)	100 g		210 g		720 g	
Coupling / uncoupling time	0.5 s		1 s		1 s	
Maximum coupling distance	0.5 mm		1 mm		2 mm	
Torsional misalignment	± 2°		± 2°		± 2.5°	
Planar misalignment (R)	1 mm		2 mm		2.5 mm	
Repeatability	0.01 mm		0.01 mm		0.01 mm	
Protection rating	IP40		IP54		IP54	
Load capacity	5 kg		20 kg		100 kg	
Allowed temperature range			5-60 °C			
Pneumatic supply (integrated)	Ø4 (x3)		Ø6 (x6)		Ø8 (x6)	
Interchangeability			X-Y: 0.1 mm Z: 0.1 mm			
Repeatability			X-Y: 0.02 mm Z: 0.02 mm			
Moment of inertia Z-axis (Center of the robot flange)	3745 g · cm ²		13082 g · cm ²		109158 g · cm ²	
Moment of inertia Z-axis (Center of the robot flange)	338 g · cm ²		1719 g · cm ²		21370 g · cm ²	

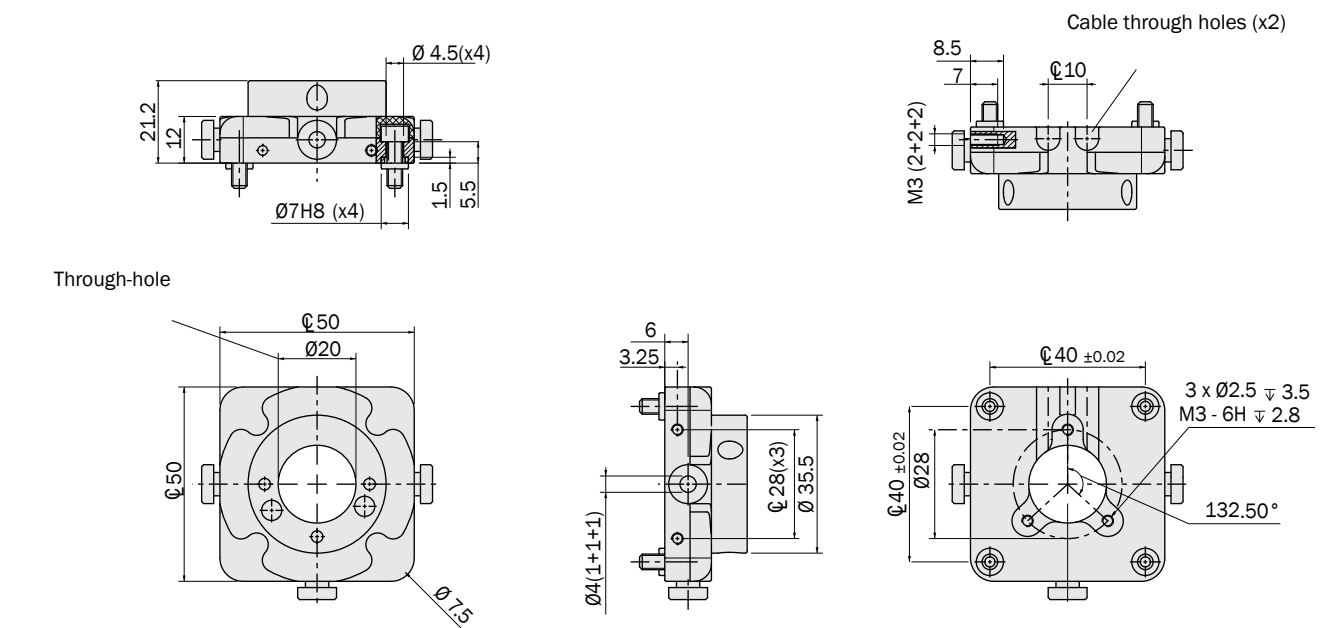
Dimensions (mm)

EQC05-A
EQC05N-A

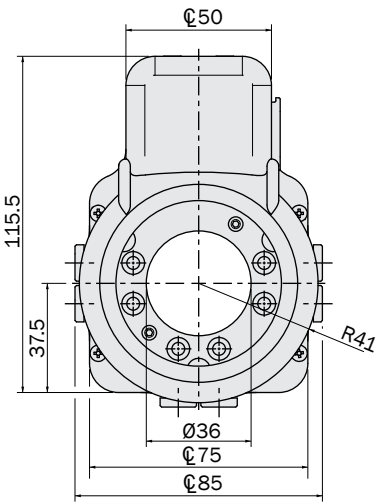
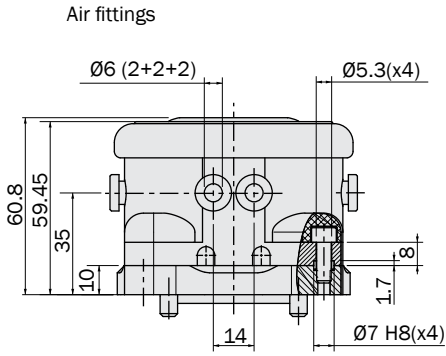


Dimensions (mm)

EQC05-B



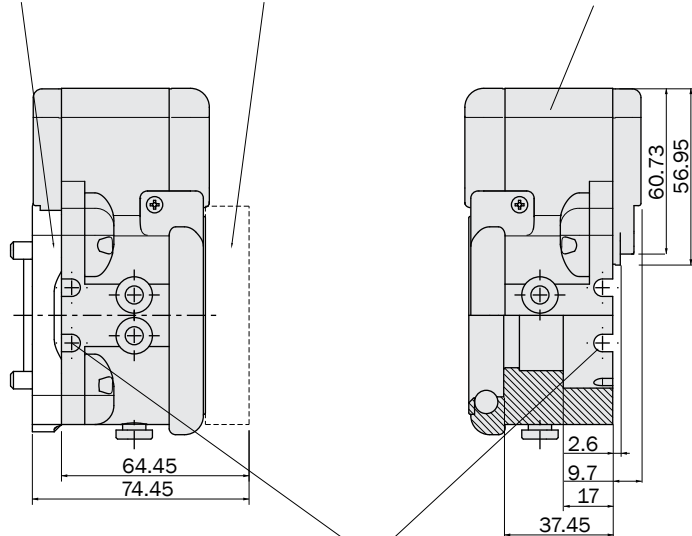
Dimensions (mm)



EQC20-K63

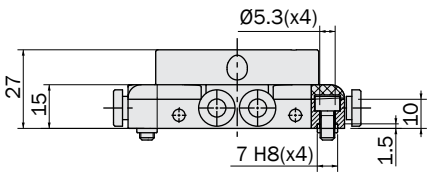
EQC20-B

Without interface plate

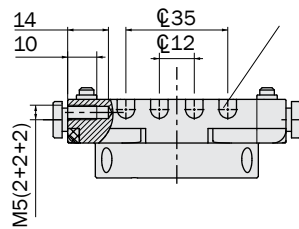


Cable through holes (2+2+2)

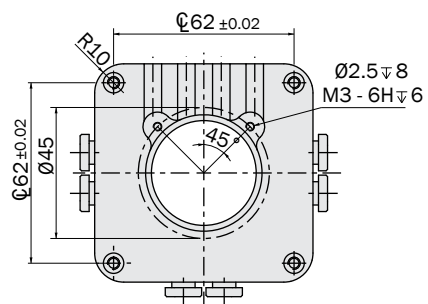
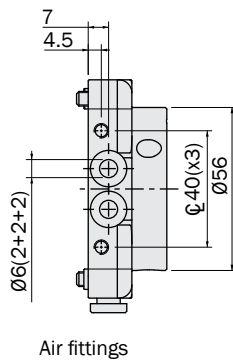
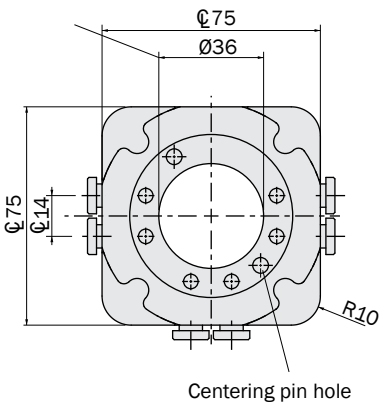
Dimensions (mm)



Cable through holes (x4)

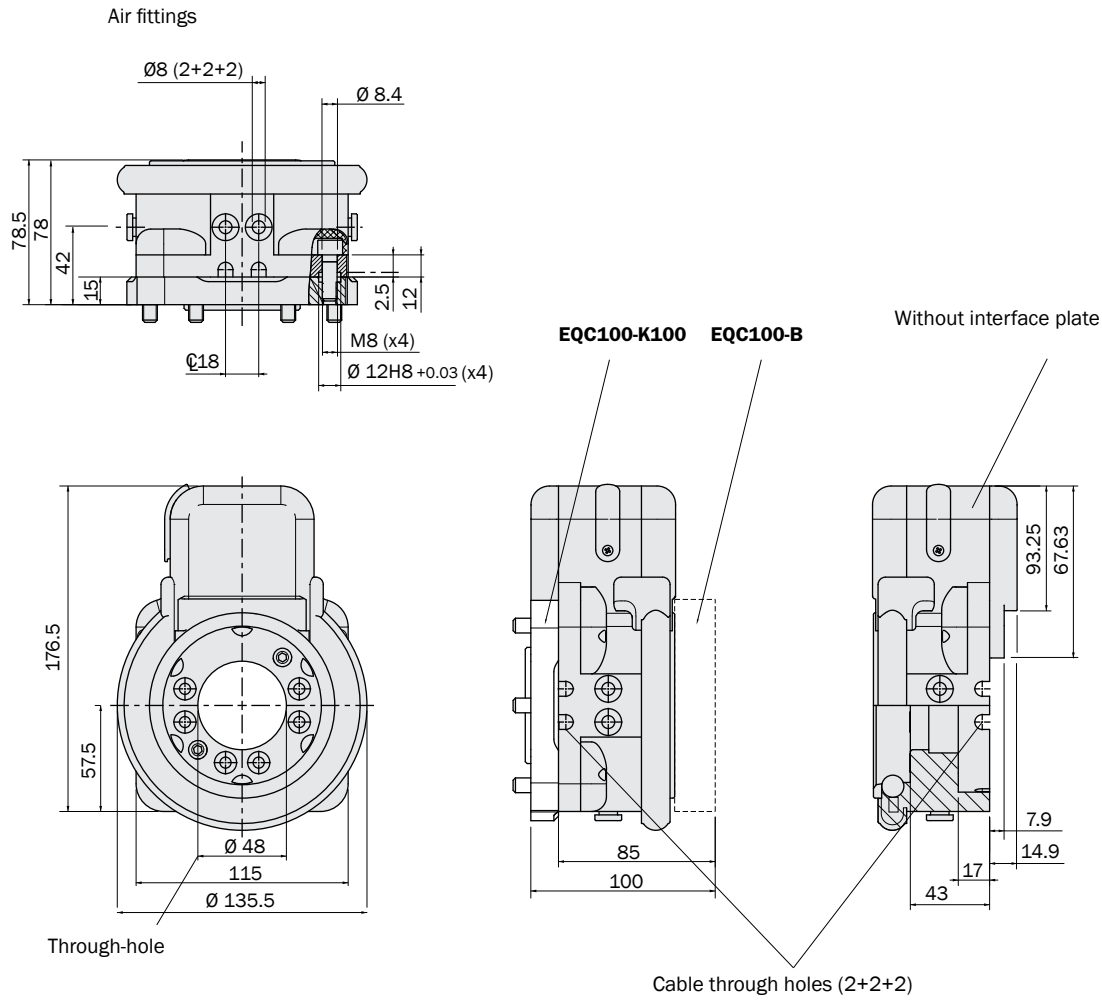


Through-hole



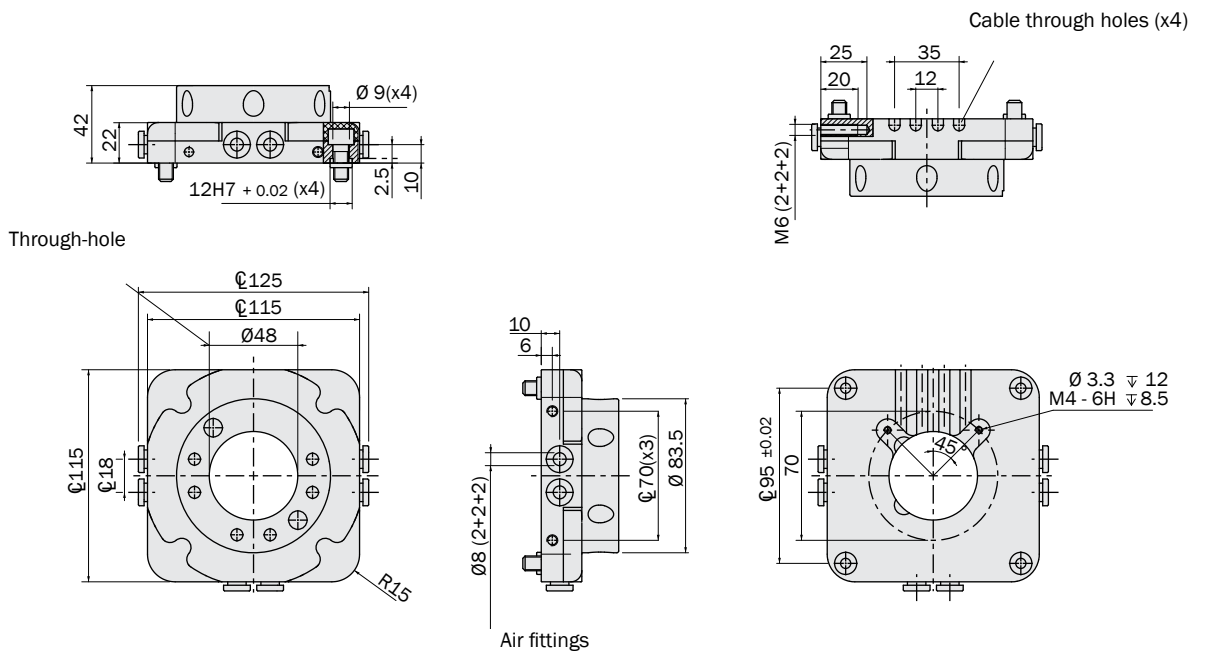
Dimensions (mm)

**EQC100-A
EQC100N-A**



Dimensions (mm)

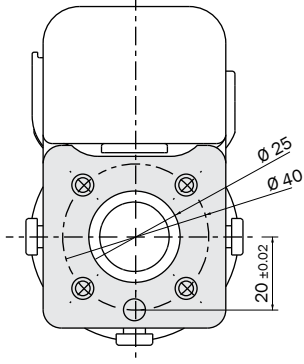
EQC100-B



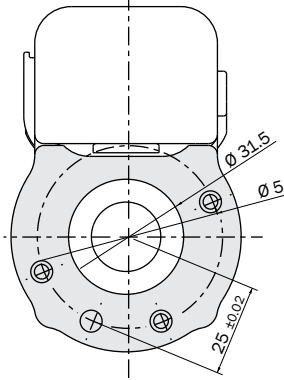
Robot interface plates ISO 9409

EQC05-A/ EQC05N-A

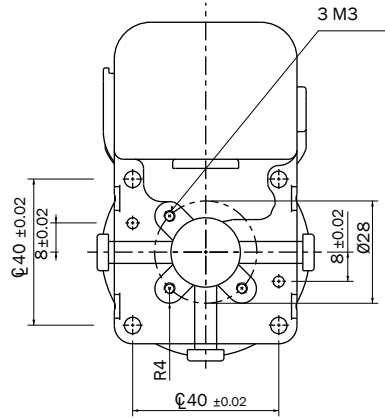
EQC05-K40
ISO 9409-1-40-4-M6



EQC05-K50
ISO 9409-1-50-4-M6

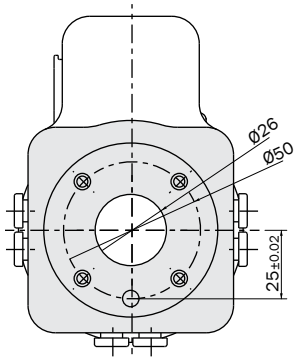


Without interface plate

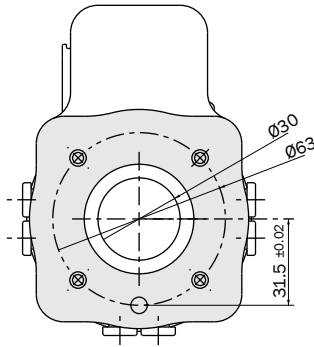


EQC20-A/ EQC20N-A

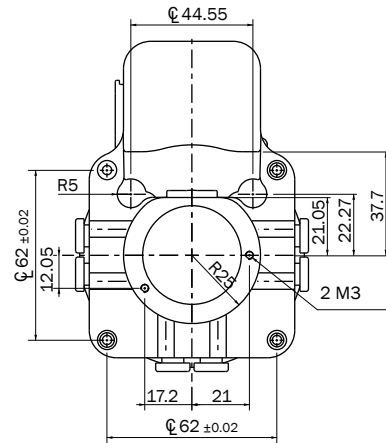
EQC20-K50
ISO 9409-1-50-4-M6



EQC20-K63
ISO 9409-1-63-4-M6

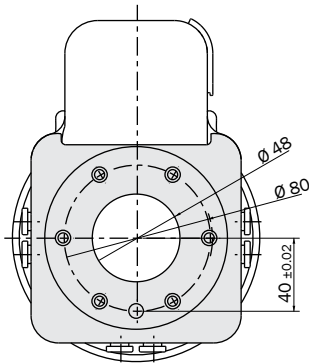


Without interface plate

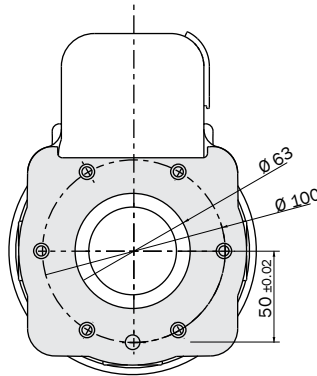


EQC100-A/ EQC100N-A

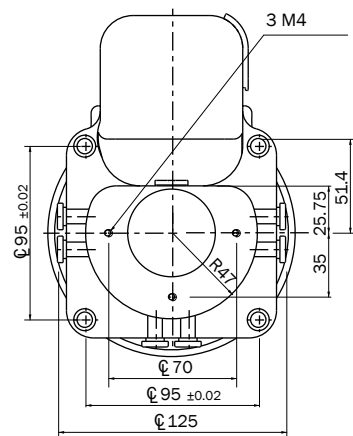
EQC100-K80
ISO 9409-1-80-6-M8



EQC100-K100
ISO 9409-1-100-6-M8



Without interface plate

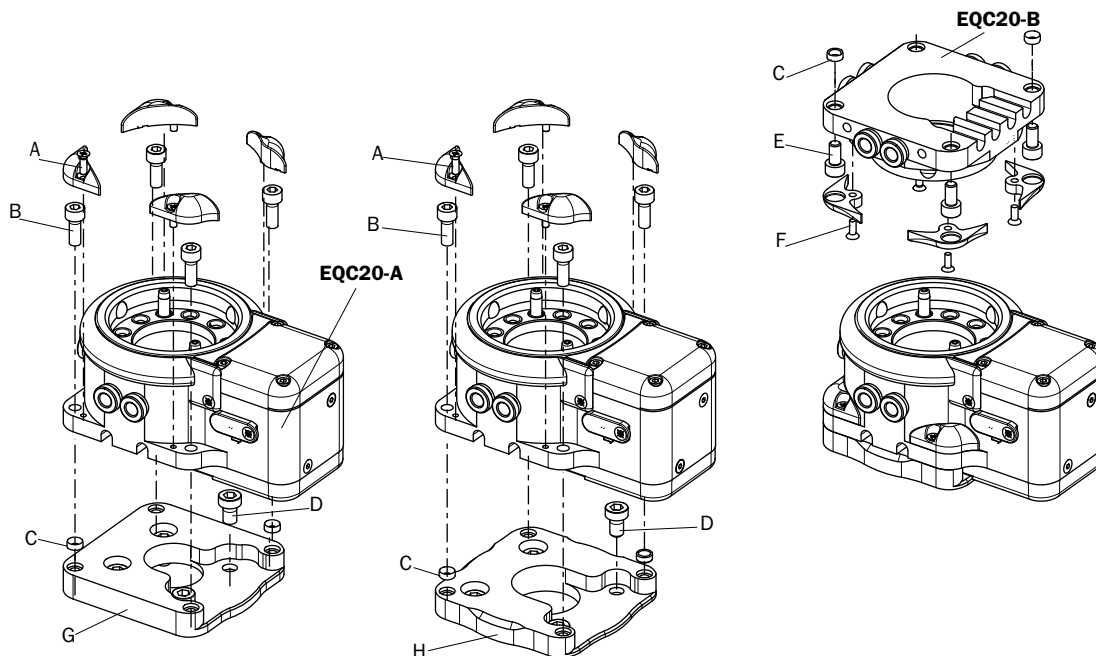


Rotary Units
Quick Changer
Profiles and Brackets
Grippers
Linear Actuators
Suspensions
Nippers
Robot Kit
Options
Sensors

Fastening

The active part of the quick changer can only be fastened on the bottom using four screws.
 The tool plate, B, can be fastened on the load in a similar manner.
 For proper centering of parts A and B, use the two bushes (C) supplied in the package.

Example with EQC20-A

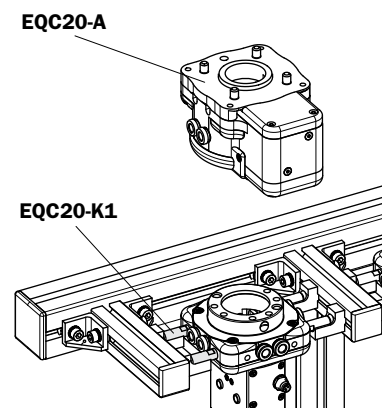
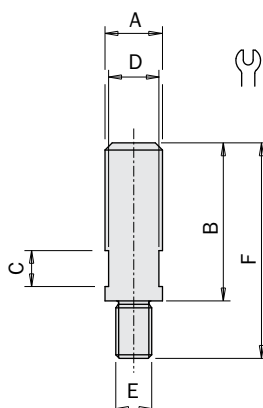


	EQC05-A/ EQC05N-A	EQC20-A/EQC20N-A	EQC100-A/EQC100N-A
A	TSP M2.5X6 DIN965	TSP M3X10 DIN 965A	M3X14 DIN7985A
B	TCEI M4X14 DIN 912	TCEI M5X14 DIN912	TCEI M8X25 DIN 912
C	∅ 3X12 DIN 6325	390677 ∅7x∅5.3x3	354236 ∅12x∅8.4x5
D	TCEI M6X10 DIN 7984	TCEI M6x10 DIN 7984	TCEI M8X16 DIN 912
E	TCEI M4 DIN912	TCEI M5 DIN912	TCEI M8 DIN912
F	TSP M2.5X8 DIN965A	TSP M3x8 DIN 965A	TSP M4X16 DIN965A
G	EQC05-K50 (ISO 9409-1-50-4-M6)	EQC20-K63 (ISO 9409-1-63-4-M6)	EQC100-K100 (ISO 9409-1-100-6-M6)
H	EQC05-K40 (ISO 9409-1-404M6)	EQC20-K50 (ISO 9409-1-50-5-M6)	EQC100-K63 (ISO 9409-1-63-6-M6)

Kit pin for storage (optional)

The pins required for storage of the tool plate when not in use are supplied separately.

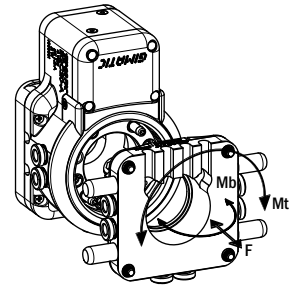
	EQC05-K1	EQC20-K1	EQC100-K1
A	D7	D8	D12
B	15	22	52
C	4+1	5+1	8+1
D	6	7	10
E	M4	M5	M6
F	20	30	70
	5	7	10



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.

	EQC05-A/ EQC05N-A	EQC20-A/ EQC20N-A	EQC100-A/ EQC100N-A
Mt	8 Nm	150 Nm	600 Nm
Mb	8 Nm	100 Nm	400 Nm
F	500 N	2000 N	8000 N



Main electrical connection

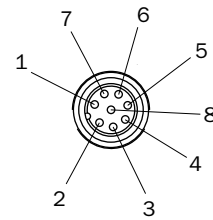
The electrical quick changer is equipped with an 8-poles M8 male connector that provides a 24Vdc power supply for the locking/unlocking command and for the connection of the digital outputs that identify the coupled and uncoupled system status. No additional external electronic control system is required. The major size of this electric tool changer (EQC100-A / EQC100N-A) has an additional input (IN SECURE) that must remain enabled (connected to 24vdc) to allow the operation of the product. No additional external electronic control system is required.

EQC05-A / EQC20-A

1	White /	N/C
2	Brown /	N/C
3	Green /	OUT CLOSED (PNP)
4	Yellow /	OUT OPENED (PNP)
5	Grey /	24 Vdc
6	Pink /	OPEN/CLOSE (PNP)*
7	Blue /	N/C
8	Red /	GND

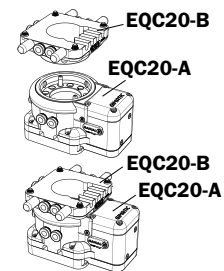
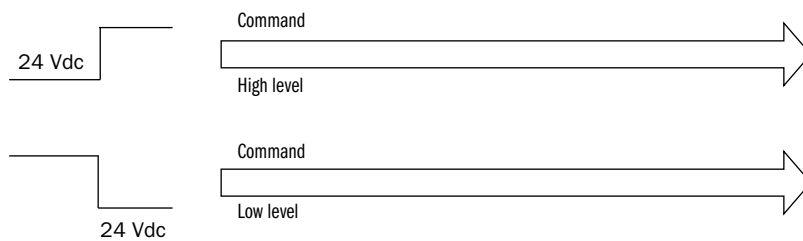
EQC100-A

1	White /	N/C
2	Brown /	N/C
3	Green /	OUT CLOSED (PNP)
4	Yellow /	OUT OPENED (PNP)
5	Grey /	24 Vdc
6	Pink /	OPEN/CLOSE (PNP)*
7	Blue /	IN SECURE
8	Red /	GND



*For EQC05N-A, EQC20N-A and EQC100N versions the type command is NPN

Command example with EQC20-A (type command: PNP)



Low: coupling command High: uncoupling command

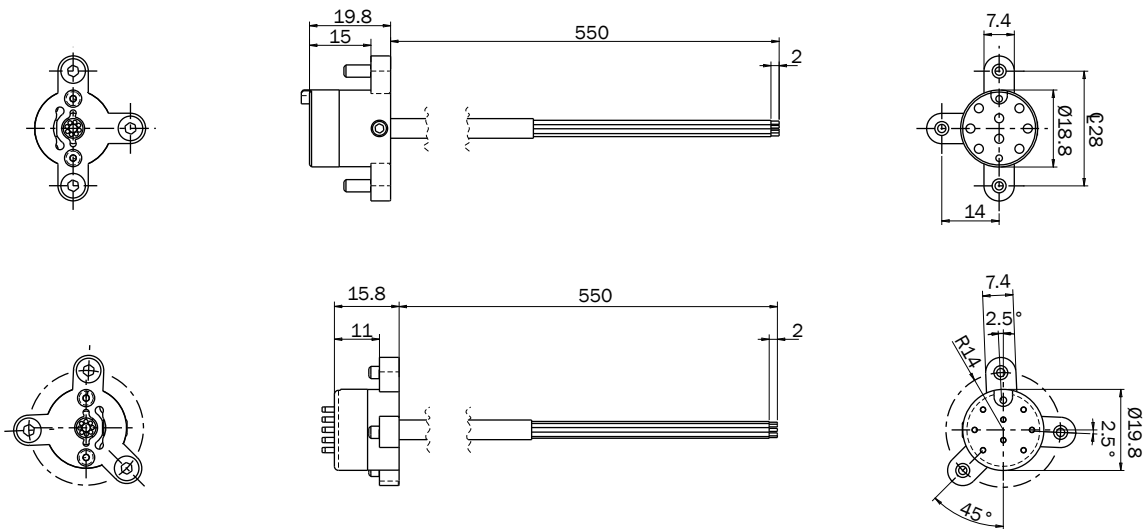
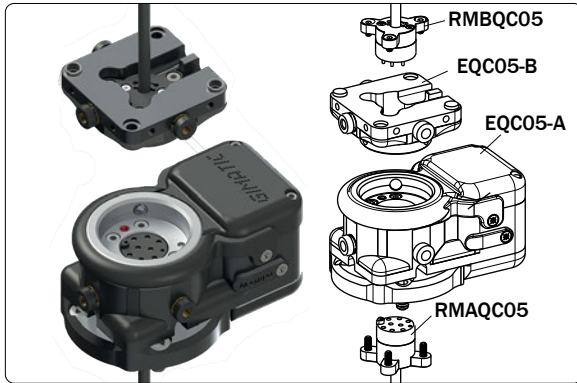
For NPN versions the logic is inverse.

	EQC05-A	EQC05N-A	EQC20-A	EQC20N-A	EQC100-A	EQC100N-A
Electrical connection	M8, 8-pole					
Power supply	24 Vdc ± 10% 0.35 Arms, 0.8 Apk		24 Vdc ± 10% 0.5 Arms, 1.2 Apk		24 Vdc ± 10% 1.5 Arms, 6 Apk	
PNP digital inputs	PNP	NPN	PNP	NPN	PNP	NPN
Output initialisation delay	200 ms					

**Electrical connection module: RMAQC05/
RMBQC05 (optional for EQC05)**

- Electrical connection module for EQC05 quick changer.
- 8 electrical spring connections.
- 1 output with pre-wired cable.

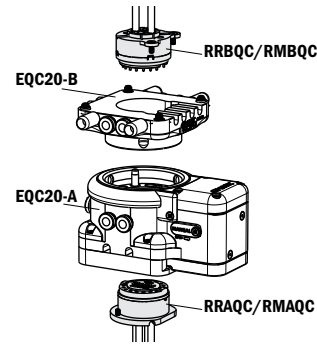
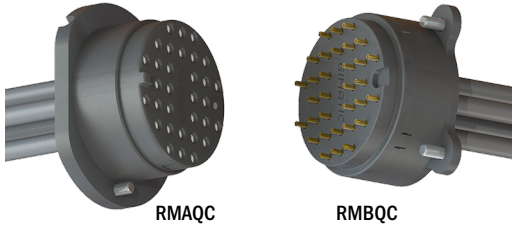
Application example



	RMAQC05	RMBQC05
Number of user connections	8	
Contact coating	Gold-plating	
Type of contact	Female	Male
Rated voltage	24 Vdc	
Max current per contact	1 A	
Operating temperature	5/60°C	
IP rating	IP40	
Electrical connection	1 cable (8 x 0.14mm ²)	
Cable length	500mm	
Cable insulation	PUR	
Cable sheath	PUR	
Weight	70g	

Electrical connection module: RMAQC/RMBQC (optional for EQC20)

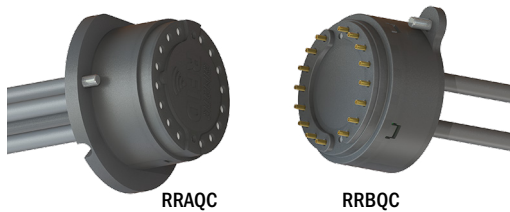
- Electric connection module.
- 32 electrical connection.
- Feeler pin with self-clearing heads.
- Output: four 8-pole cable x 0.14 mm²
- The two parts are supplied separately:
RMAQC – robot side;
RMBQC - frame side.



RRAQC/RRBQC (optional)

RFID identification modules + Electric connection module.
System for automatic recognition of gripping tool composed of a RFID reader (RRAQC) and memory TAG (RRBQC).

- Up to 255 identifiable tools.
- Binary coding of tools by means of 8 digital outputs 24 Vdc.
- Digital input to counting tool cycles execution.
- Generation of a maintenance warning signal once the tool reaches the preset number of cycles.
- Memorization of tool technical data.
- User data memory available.
- 16 pins connections.
- Feeler pin with self-clearing heads.
- RFID module output: two 8-pole cable x 0.14 mm².
- Electric connection module output: two 8-pole cable x 0.14 mm².
- The two parts are supplied separately:
RRAQC – robot side (Reader) [NPN: RRAQCN];
RRBQC – frame side (TAG).
- Communication also through your smartphone thanks to the new app “Gimatic Android App”.



	RRAQC/RRBQC	RMAQC/RMBQC
User connections number	16	32
RFID	Yes	No
Connections	8 x 0.14 mm ² 4 cable (cable diameter 4.8 mm)	
Maximum contact current	1 A	
Nominal tension	24 Vdc ± 10%	
Contacts	Self-cleaning spring contacts, gold-plated	
Temperature range	5 ÷ 60°C	