

QCP-220

The BL QUICK-CHANGE Model QCP-220 is an automatic end-effector changer used in press handling and loading applications, with a payload capacity of 200kg for large panels and high-speed robots. It can be directly installed on a PCD125 mm robot flange.

Utilities specifically for press applications

Pneumatic ports (Rc1/2) can be used for vacuum pressure and electrical signals can be used for ID confirmation.

Built-in lock/unlock sensor

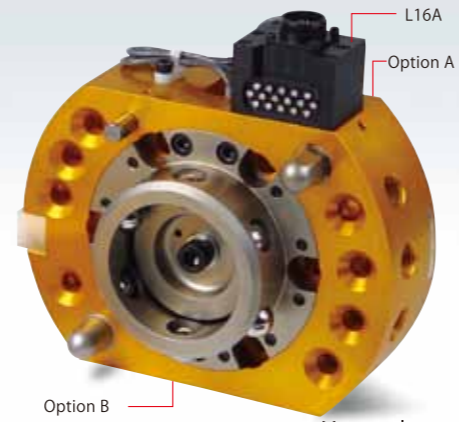
Due to built-in design, QCP-220 is 12.4% thinner than QC-150C with the lock/unlock sensor.

Faster lock/unlock operation

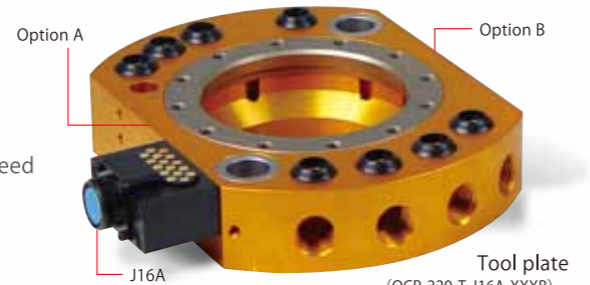
By enlarging the lock/unlock port diameter, we increased the lock/unlock speed by 50% compared with previous models. (In-house comparison.)

Superior fail-safe locking mechanism

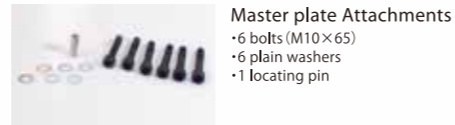
BL's unique lock/unlock mechanism contains a mechanical fail-safe feature which does not allow the Master and Tool plates to uncouple if the air pressure is shut off.



Master plate
(QCP-220-M-L16A-XXXB-SA)



Tool plate
(QCP-220-T-J16A-XXXB)



Master plate Attachments
• 6 bolts (M10×65)
• 6 plain washers
• 1 locating pin

Specifications

Main Body		
Load capacity (rated load)	2,156N (220kg)	
Positional repeatability ※1	±0.025mm	
Allowable dynamic moment	Bending direction (Tx, Ty)	3,332N·m (340kgf·m)
	Twisting direction (Tz)	3,332N·m (340kgf·m)
Coupling force (at 0.49MPa air pressure) ※2	27,444N (2,800kgf)	
Materials	Frame	Aluminum alloy
	Lock/unlock mechanism	Stainless steel
Overall dimension (when coupled)	φ 229×H110mm	
Weight (Main body)	Master plate	8.4kg
	Tool plate	3.6kg
Lock/unlock mechanism	Ball-locking mechanism	
Required operating air pressure	0.39~0.68MPa (4~7kgf/cm ²)	
Lock/unlock sensor	Lock status	1built-in proximity switch EZE-XZD1-N (OMRON) (2-wire direct current)
	Unlock status	1built-in proximity switch EZE-XZD1-N (OMRON) (2-wire direct current)
Allowable temperature and humidity ranges	0~50°C, 35~90% (Non-condensing)	
Utilities	Electrical signals	5A×16 (There are 19 lock/unlock receptacles on the Master plate side) ※3
	Pneumatic ports	Rc1/2×8 (can use vacuum pressure)

Options			
Utilities	J16A	Electrical signals	5A×16 ※3 ※4
	J16B	Electrical signals	5A×16 ※3 ※4 ※6
	M10B	Electrical signals	13A×10 ※2 ※4
	B15NB	Electric signals	50mA×15
	B15PB	Non-contact system	WEB series connector ※3 In Zone 1 IP67
	B15DB	Electric signals	5mA×15
	B15PB	Non-contact system	WEB series connector ※3 IP67
	P3WB	Pneumatic ports	Rc3/8×4
P38B	Pneumatic ports	Rc3/8×2	

Master plate **QCP-220 -M-**

(Option A)	(Option B)	(lock unlock sensor)
XXXX	XXXXB	SX
L16A	J16B	SA

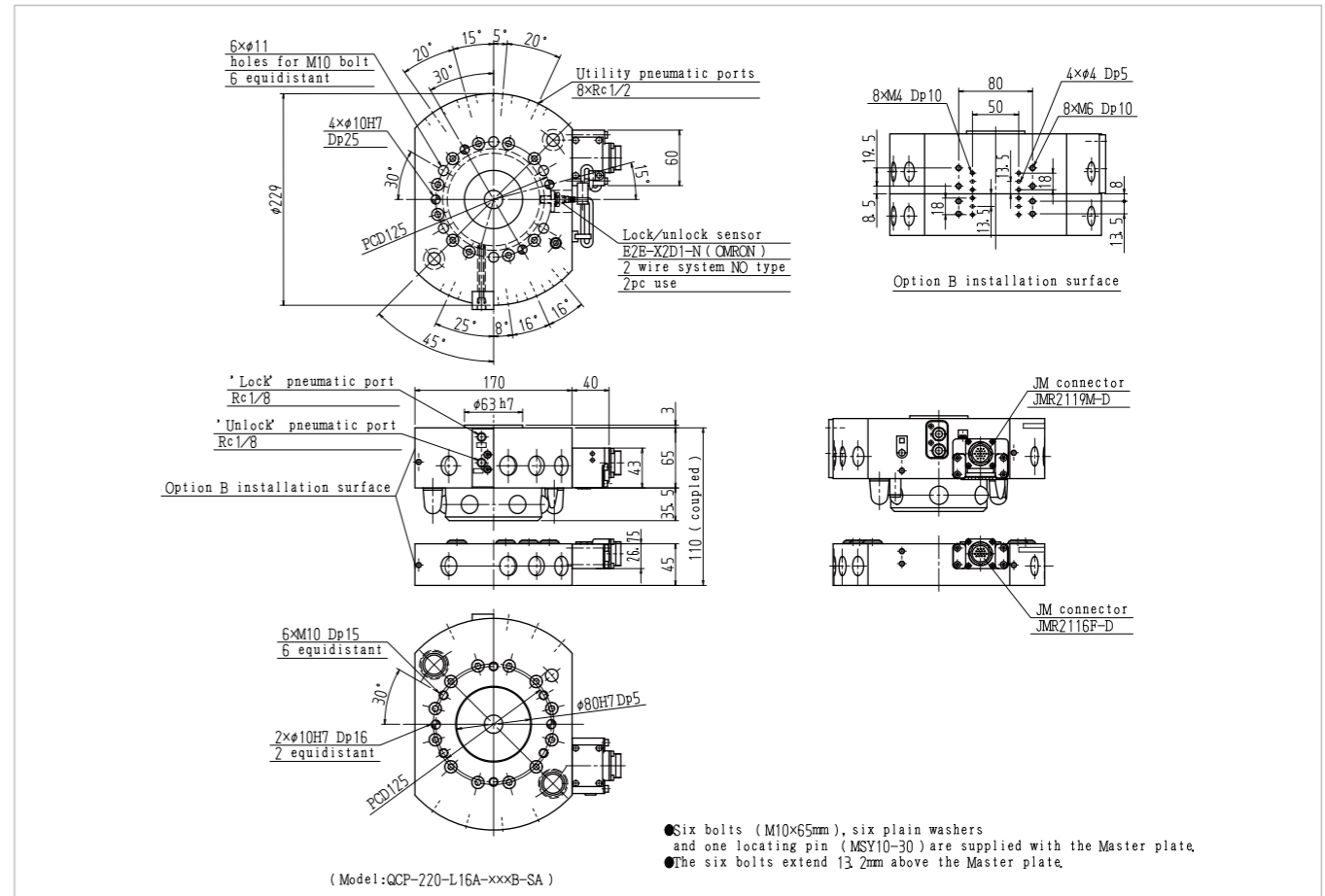
XXXX	No electrical signal	XXXXB	No option	SX	No lock/unlock sensor
L16A	Electrical signals 5A×16※3 ※4	J16B	Electrical signals 5A×16※3 ※4	SA	Built-in lock/unlock sensor
L16A	Electrical signals Master side 5A×16※3 ※4	M10B	Electrical signals 13A×10※3 ※5	Note) If "SX" type is selected, "XXXXA" is automatically provided.	
B15NB	Non-contact electric signal block Master side NPN output	B15NB	Non-contact electric signal block Master side PNP output		
B15PB	Non-contact electric signal block Master side PNP output	P38B	Pneumatic ports Rc3/8×4		
P38B	Pneumatic ports Rc3/8×4	P3WB	Pneumatic ports Rc3/8×2		

Note) "Option" is installed at B side only.

Tool plate **QCP-220 -T-**

(Option A)	(Option B)
XXXX	B15DB
J16A	Non-contact electric signal block Tool side

Main Body Dimensions



Options

Electrical signal contact block



L16A (Master side only)※6
J16A (Tool side only)

5A×16 (JM connector)※3 ※4
Use JMR2119M-D for the L16A on the Master side
Use JMR2116M-D for the J16A on the Master side
Use JMR2116F-D for the J16A on the Tool side

Non-contact electric signal block



B15NB, B15PB (Master side only)
B15DB (Tool side only)

13A×10 (MS connector)※3 ※5
Use D/ MS3102A18-9P on the Master side of M10B
Use D/ MS3102A18-19S on the Tool side of M10B
(Use RoHS-compliant MS receptacle products.)
Receptacle connector: WEBR-2119S-D for B15NB and B15PB
Receptacle connector: WEBR-2116F-D for B15DB

Pneumatic pressure ports



P3WB

Rc3/8×2

P38B

Rc3/8×4

Please contact us for detailed information on the options.

※1 Positional repeatability means the accuracy of position between the one master plate and the one tool plate(A) repeat coupled and uncoupled. It is not possible to apply this positional repeatability to different tool plate(B). ※2 Coupling force is the force to achieve specified repeatability. Coupling will be maintained until unlock pressure is applied or the device is damaged. ※3 Plug connector is not included. Please prepare plug connector by customer. For connector, please see correspondence table on page 46. ※4 Allowable current is total 30.4A for connector. ※5 Allowable current is total 57.2A for connector. ※6 Standard lock/unlock sensor is NPN. Please ask us if you request PNP system.

Next-Generation Robots
ZEUS
GIGA
Automatic Tool Changer
1kg
5kg
10kg
20kg
40kg
60kg
70kg
100kg
150kg
220kg
300kg
Press Handling Specification
100kg
Spot-Welding Gun-Changer
300kg
Options
Wire-Saving module / Contact Block
Non-contact electric signal block
A mechanical safety valve prevents Tool plate drops
Option List
Product Overview
Rotary Joint
PN-ZERO Series
Wrist Compliance
ACCURACY DATA/PRECISION
Couple Joint
C02