

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

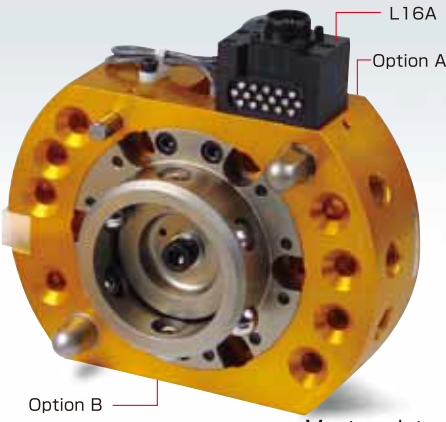
Due to built-in design, QCP-220 is 12.4% thinner than QC-150C with the lock/unlock sensor.

Faster lock/unlock operation

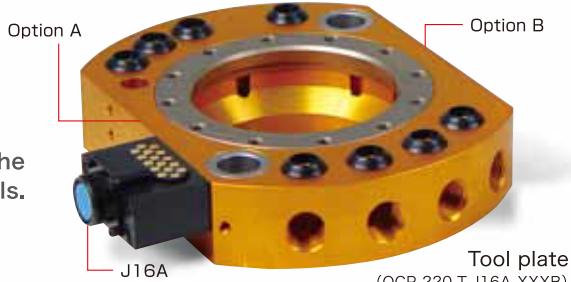
By enlarging the lock/unlock port diameter, we increased the lock/unlock speed by 50% compared with previous models. (In-house comparison.)

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 (M10x65)
• 6 plain washers
• 1 locating pin

Specifications

Main Body			
Load capacity (rated load)		2,156N (220kg)	
Positional repeatability		±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) ※1		27,444N (2,800kgf)	
Materials	Frame	Aluminum alloy	
	Lock/ unlock mechanism	Stainless steel	
Overall dimension (when coupled)		φ229×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/cm²)	
Lock/unlock sensor	Lock status	1built-in proximity switch E2E-X2D1-N(OMRON)(2-wire direct current)	
	Unlock status	1built-in proximity switch E2E-X2D1-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) ※2	
	Pneumatic ports	Rc1/2×8 (can use vacuum pressure)	

Options			
Utilities	J16A	Electrical signals	5A×16 ※2 ※3
	J16B	Electrical signals	5A×16 ※2 ※3 ※5
	M10B	Electrical signals	13A×10 ※2 ※4
	B15NB	Electric signals	50mA×15
	B15PB	Max.50mA DC24V	WEB series connector ※2
		Non-contact system	In Zone 1
		(Please refer to page 41 for details.)	IP67
	B15DB	Electric signals	5mA×15
		Max.5mA DC12V	WEB series connector ※2
		Non-contact system	IP67
	P3WB	Pneumatic ports	Rc3/8×4
	P38B	Pneumatic ports	Rc3/8×2

Master plate

QCP-220 - M-

(Option A)

XXXX

No electrical signal

(Option B)

XXXX

No option

(lock unlock sensor)

SX

No lock/unlock sensor

(lock unlock sensor)

SA

Built-in lock/unlock sensor

(Option A)

J16A

Electrical signals 5A×16※2 ※3

(Option B)

L16A

Electrical signals Master side 5A×16※2 ※3

(Option A)

M10B

Electrical signals 13A×10※2 ※4

(Option B)

B15NB

Non-contact electric signal block Master side NPN output

(Option B)

B15PB

Non-contact electric signal block Master side PNP output

(Option B)

P38B

Pneumatic ports Rc3/8×4

(Option B)

P3WB

Pneumatic ports Rc3/8×2

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

Tool plate

QCP-220 - T-

(Option A)

XXXX

No electrical signal

(Option B)

XXXX

No option

(lock unlock sensor)

SX

No lock/unlock sensor

(lock unlock sensor)

SA

Built-in lock/unlock sensor

(Option A)

J16A

Electrical signals 5A×16※2 ※3

(Option B)

L16A

Electrical signals Master side 5A×16※2 ※3

(Option A)

M10B

Electrical signals 13A×10※2 ※4

(Option B)

B15NB

Non-contact electric signal block Master side NPN output

(Option B)

B15PB

Non-contact electric signal block Master side PNP output

(Option B)

P38B

Pneumatic ports Rc3/8×4

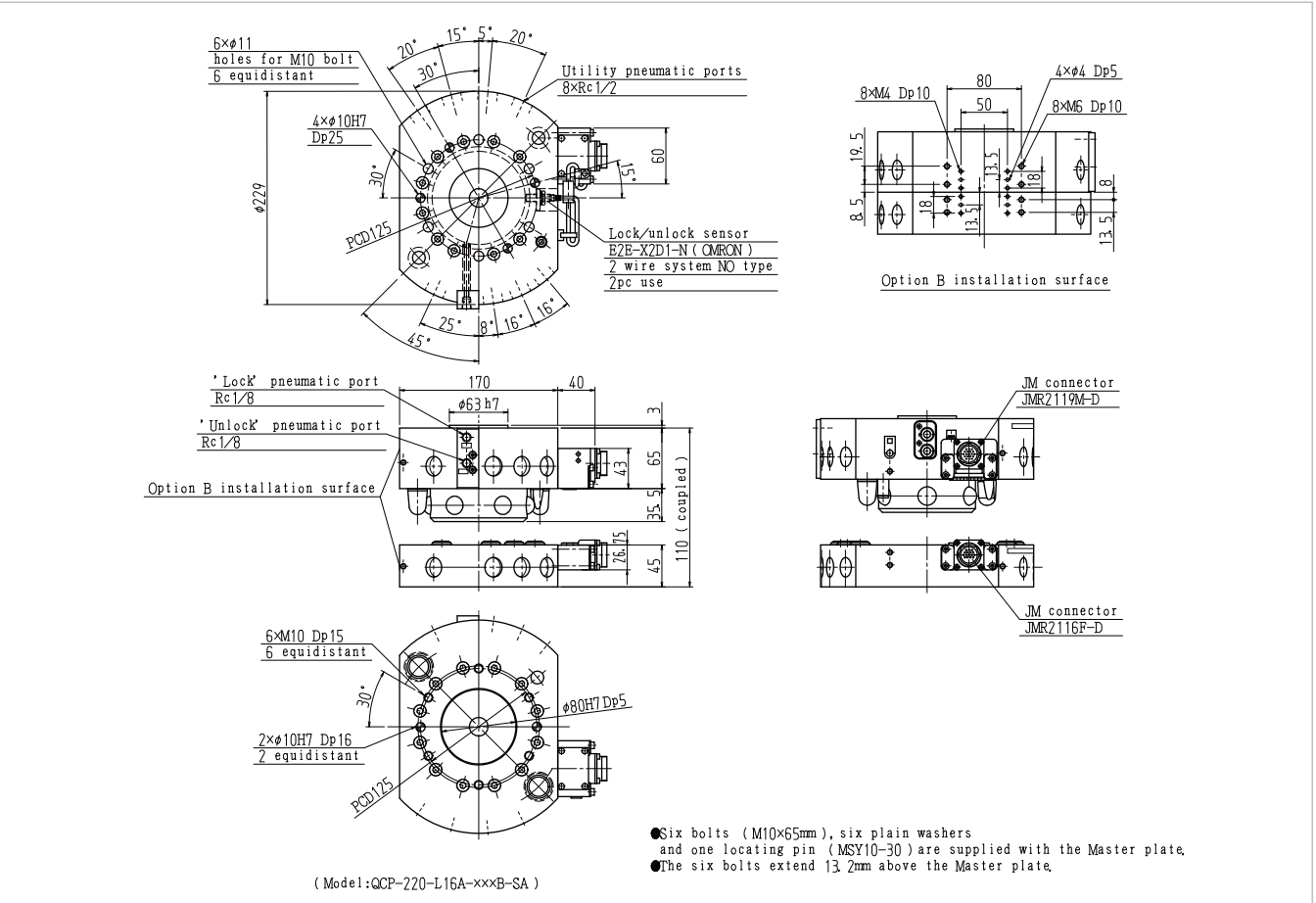
(Option B)

P3WB

Pneumatic ports Rc3/8×2

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

Main Body Dimensions



Options

Electrical signal contact block

L16A(Master side only)

J16A(Tool side only)

5A×16 (JM connector) 2 3

5A×16 (JM connector) 2 3

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) 2 4

13A×10 (MS connector) 2 4

Use D/ MS3102A18-9P on the Master side of M10B

Use D/ MS3102A18-195 on the Tool side of M10B

(Use RoHS-compliant MS receptacle products.)

Pneumatic pressure ports

P3WB

Rc3/8×2

P38B

Rc3/8×4

Please contact us for detailed information on the options.

※1 Coupling force is the force to achieve specified repeatability. Coupling will be maintained until unlock pressure is applied or the device is damaged. ※2 Plug connector is not included. Please prepare plug connector by customer. For connector, please see correspondence table on page 46. ※3 Allowable current is total 30.4A for connector. ※4 Allowable current is total 57.2A for connector. ※5 Standard lock/unlock sensor is NPN. Please ask us if you request PNP system.