QC-150C

Lock without touching

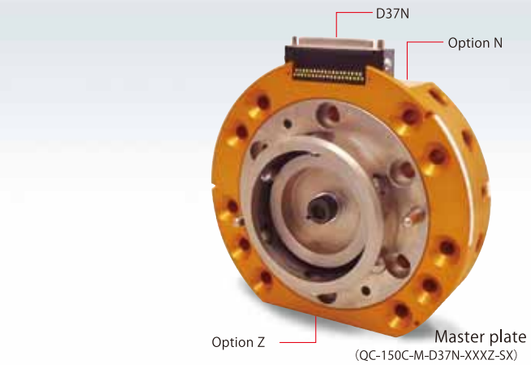
The Master plate can lock onto the Tool plate with a gap between them.

Superior fail-safe locking mechanism

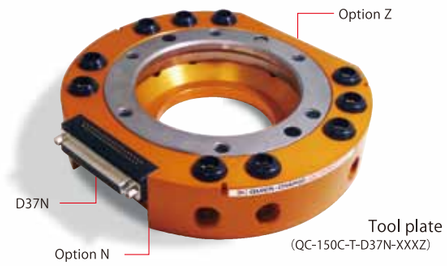
BL's unique lock/unlock mechanism contains a mechanical fail-safe feature which does not allow the Master and Tool plates to uncouple if the air pressure is shut off.

Master plate Attachments
- 6 bolts (M10×60)
- 1 locating pin

※Seal plate, O-ring and screws are pre-assembled.



Master plate
(QC-150C-M-D37N-XXXZ-SX)



Tool plate
(QC-150C-T-D37N-XXXZ)

Specifications

Main Body

Load capacity (rated load)		1,470N (150kg)
Positional repeatability ※1		±0.015mm
Allowable dynamic moment	Bending direction (Tx, Ty)	1,960N・m (200kgf・m)
	Twisting direction (Tz)	1,960N・m (200kgf・m)
Coupling force (with air pressure of 0.49MPa) ※2		14,317N (1,460kgf)
Materials	Frame	Anodized aliminum
	Lock/unlock mechanism	Stainless steel
Overall domension (when coupled)		φ200×H90mm
Weight (Main body)	Master plate	5,810g
	Tool plate	2,860g
Self-separating mechanism		Ball-locking mechanism
Required air pressure		0.39～0.68MPa (4～7kgf/cm²)
Allowable temperature and humidity ranges		0～50℃、35～90% (Non-condensing)
Utilities	Electical signals Max3 AC50V Probe contact	3A×37 or none ※3
	Pneumatic ports	Rc3/8×10

Options

Utilities	D37Z	Electical signals	3A×37 ※3
	J16Z	Electical signals	5A×16 ※4 ※5
	M10Z	Electical signals	13A×10 ※4 ※6
	M19Z	Electical signals	13A×19 ※4 ※7
	A16Z	Electical signals	Approach sensor+5A×16 ※4 ※5
	A08Z	Electical signals	Approach sensor+13A×8 ※4 ※6
	B15NZ B15PZ	Electric signals Max.50mA DC24V Non-contact system (Please refer to page 41 for details.)	50mA×15 WEB series connector ※4 In Zone 1 IP67
	B15DZ	Electric signals Max.5mA DC12V Non-contact system (Please refer to page 41 for details.)	5mA×15 WEB series connector ※4 IP67
	E50Z	Ground	500A (50% usage) ×1
	P18Z	Pneumatic ports	Rc1/8×4
	P14Z	Pneumatic ports	Rc1/4×2
	P38Z	Pneumatic ports	Rc3/8×4
	P3WZ	Pneumatic ports	Rc3/8×2
Lock/unlock sensor ※7			Two built-in proximity switches

QC-150C Ordering Information

Master plate **QC-150C -M-** (Option N) – (Option Z) – (lock unlock sensor)

Tool plate **QC-150C -T-** (Option N) – (Option Z)

(Option N)	
DXXN	No electrical signal
D37N	Electrical signals 3A×37※3

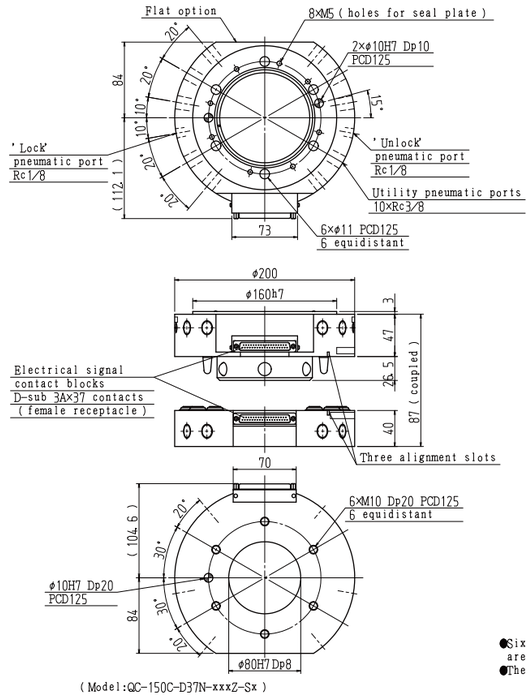
(Option Z)	
XXXZ	No option
D37Z	Electrical signals 3A×37※3
J16Z	Electrical signals 3A×16※4 ※5
M10Z	Electrical signals 13A×10※4 ※6
M19Z	Electrical signals 13A×19※4 ※7
A16Z	Approch sensors +Electrical signals 5A×16※4 ※5
A08Z	Approch sensors +Electrical signals 13A×8※4 ※6
B15NZ	Non-contact electric signalblock Master side NPN output
B15PZ	Non-contact electric signalblock Master side PNP output
B15DZ	Non-contact electric signal block Tool side
E50Z	Ground 500A×1
P18Z	Pneumatic ports Rc1/8×4
P14Z	Pneumatic ports Rc1/4×3
P38Z	Pneumatic ports Rc3/3×4
P3WZ	Pneumatic ports Rc3/8×2

(lock unlock sensor)	
SX	No lock/unlock sesor
SA	Lock/unlock sensor A-Type (Customers processes the adaptor plate)
SB	Lock/unlock sensor B-Type (BL.Autotec processes the adaptor plate)

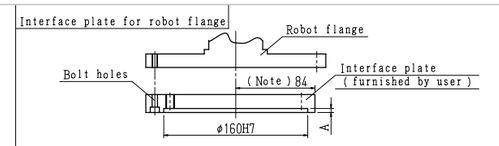
(Note) Please provide specifics on the electric signal contact block as follows.
(Model D37N-M for master plate, Model D37N-T for Tool plate).

※QC-150C is interchangeable with the previous QC-150B and QC-150A.

Main Body Dimensions

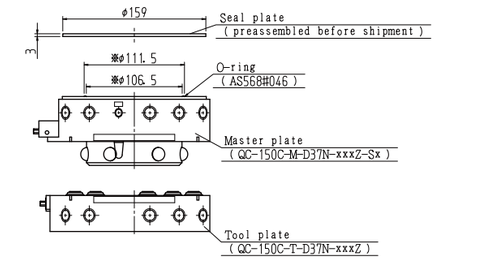


(Model:QC-150C-D37N-xxxZ-Sx)



(Note) If optional electrical signal contact blocks (M10A, M10B) are attached, cut the interface plate 84mm from the center to prevent the block from contacting with the interface plate.

Bolt holes location	A (mm)	Use of seal plate
Outside the O-ring※ φ111.5	2.5±0.1	Unnecessary
Inside the O-ring※ φ106.5	5.5±0.1	Necessary
Above the O-ring※ φ106.5～φ111.5		



●Six bolts (M10×60mm) and one locating pin (MSY10-30) are supplied with the Master plate.
●The six bolts extend 17.8mm above the Master plate (when seal plate attached).

Options

■Electrical signal contact block

D37Z
3A×37 D-sub 37 contacts (female receptacles)※3
※Plug side is DDK, 17JE-23370-02 (D8A) -CG, or its equivalent.

J16Z
5A×16 (JM connector)※4※5
Use JMR2116M-D for the J16Z Master side
Use JMR2116F-D for the J16Z Tool side

M10Z
13A×10 (MS connector)※4※6
Use D/MS3102A18-1P for the M10Z Master side
Use D/MS3102A18-1S for the M10Z Tool side

M19Z
13A×19 (MS connector)※4 ※7
Use D/MS3102A22-14P for the M19Y Master side
Use D/MS3102A22-14S for the M19Y Tool side

A16Z
Approach Sensor 5A×16 (JM connector)※4※5
Use JMR2119M-D for the A16Z Master side
Use JMR2119F-D for the A16Z Tool side

A08Z
Approach Sensor 13A×8 (MS connector)※4 ※6
Use D/MS3102A18-1P for theA08Z Master side
Use D/MS3102A18-1S for the A08Z Tool side

■Non-contact electric signal block

B15NZ,B15PZ
B15DZ (Tool side only)
B15NZ NPN output
B15PZ PNP output
Receptacle connector: WEBR-21195-D for B15NZ and B15PZ
Receptacle connector: WEBR-21195-D for B15DZ

■Ground

E50Z
Ground 500A×1

■Pneumatic ports

P18Z
Rc1/8×4

P14Z
Rc1/4×2

P38Z
Rc3/8×4

P3WZ
Rc3/8×2

■ Lock/unlock sensor

SA,SB
Two built-in proximity switches verify piston position, thus reliably checking the lock and unlock status.

Please contact BL Autotec, Ltd.
for detailed information on the options.

SA Type・・・The sensor plate can be used in place of an interface plate with modifications by the user
SB Type・・・The sensor plate can be used in place of an interface plate with modifications by BL Autotec ,Ltd.
※When you order the lock/unlock sensor please provide us with a drawing of the robot flange.

※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 type 17JE-23150-02(D8A)-CG or compatible type. ※4 Plug connector is not included. Please prepare plug connector by customer. For connector, please see correspondence table on page 46. ※5 Allowable current is total 30.4A for connector. ※6 Allowable current is total 57.2A for connector. ※7 Allowable current is total 88.9AA for connector.