FIEX-300A

The BL QUICK-CHANGE Model Flex-300A is a device for automatic tool changing, specially designed for high payload capacity robots generally used in handling and palletizing. Optional electrical contacts or pneumatic ports can be selected for the Flex-300A.

Heavy duty applications

For heavy duty applications, a special seal prevents dust from entering the locking mechanism and electrical contacts when the two plates are coupled. (Load Capacity: 300kg/Allowable static moment (Tx, Ty):270kgf·m)

Self-sealing pneumatic ports

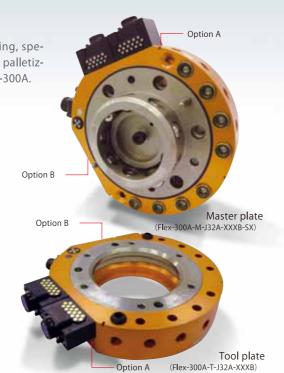
There are ten pneumatic ports in the Master plate (Rc3/8). Eight of the ten ports are self-sealing, which automatically shut off air pressure when uncoupled and allow for easier air control in the system.

Large misalignment correction capability

The unique design corrects misalignment when the Master and Tool plates couple. An approach sensor system, built into the plates, verifies coupling capability.

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

•1 locating pin

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

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opecine action.	

Main Body		
Load capacity (rated load)		2,940N (300kg)
Positional repeatability *1		±0.025mm
Allowable	Bending direction (Tx, Ty)	5,292N·m (540kgf·m)
dynamic moment	Twisting direction (Tz)	4,704N·m (480kgf·m)
Coupling force (with air pressure of 0.49MPa) %2		31,360N (3,200kgf)
Materials	Frame	Aluminum alloy
	Lock/ unlock mechanism	Stainless steel
Overall dimension (when coupled)	φ259×H116mm
Weight	Master plate	13.2kg
(Main body)	Tool plate	7.2kg
Self-separating mechanism		Ball-locking mechanism
Required air pressure		0.39~0.68MPa (4~7kgf/cm²)
Allowable temperature and humidity ranges		0~50°C、35~90% (Non-condensing)
Utilities	Electrical signals Max. 5 DC/AC200V Probe contact	5A×5 %3
	Pneumatic ports	Rc3/8×8 (self-sealing) %3
		Rc3/8×2
	Approach sensor	Senses Tool plate position up to 2.5mm distance

J16A. J16B	Electrical signals	5A×16 %3 %5
J32A. J32B	Electrical signals	5A×32 %3 %5
M10A. M10E	Electrical signals	13A×10 %3 %6
M20A. M20E	Electrical signals	13A×20 %3 %6
B15NA B15NB B15PA B15PB	Electric signals Max.50mA DC24V Non-contact system (Please refer to page 41 for details.)	50mA×15 WEB series connector ※3 インゾーン 1 IP67
B15DA B15DB	Electric signals Max.5mA DC12V Non-contact system (Please refer to page 41 for details.)	5mA×15 WEB series connector ※3 IP67
E50A. E50B	Ground	500A (50% usage) ×1
P18A. P18B	Pneumatic ports	Rc1/8×4
P14A. P14B	Pneumatic ports	Rc1/4×2
P38A. P38B	Pneumatic ports	Rc3/8×4
P3WA. P3WI	Pneumatic ports	Rc3/8×2
Lock/unlock sen	sor %6	Two built-in proximity switche

FIEX-300A-M-

Tool plate FIEX-300A - T -

(Option A)

_		
XXXA	No option	
J16A	Electrical signals 5A×16**3 **5	
J32A	Electrical signals 5A×32*3*5	
M10A	Electrical signals 13A×10*3*6	
M20A	Electrical signals 13A×20*3*6	
B15NA	Non-contact electric signal block Master side NPN output	
B15PA	Non-contact electric signal block Master side PNP output	
B15DA	Non-contact electric signal block Tool side	
E50A	Ground 500A×1	
P18A	Pneumatic ports Rc1/8×4	
P14A	Pneumatic ports Rc1/4×2	
P38A	Pneumatic ports Rc3/8×4	
P3WA	Pneumatic ports Rc3/8×2	

(Option B)

(Option b)				
	XXXB	No option		
	J16B	Electrical signals 5A×16 ^{*3} *5		
	J32B	Electrical signals 5A×32*3 *5		
	M10B	Electrical signals 13A×10*3*6		
	M20B	Electrical signals 13A×20*3 *6		
	R15NR	Non-contact electric signal block		

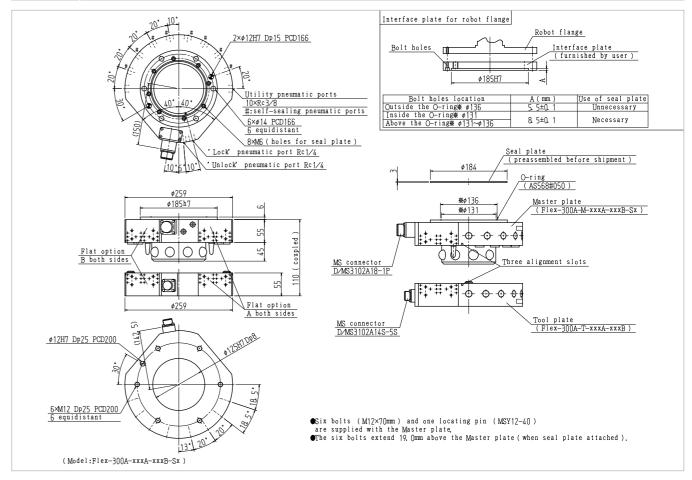
(Ontion B)

E50B Ground 500A×1

P18B Pneumatic ports Rc1/8×4 P14B Pneumatic ports Rc1/4×2

P38B Pneumatic ports Rc3/8×4 P3WB Pneumatic ports Rc3/8×2 (lock unlock sensor)

SX	No lock/unlock sensor
SA	Lock/unlock sensor A-Type (Customer processes the adaptor plat
SB	Lock/unlock sensor B-Type (BL Autotec processes the adaptor plate



■Electrical signal contact block



J16A,J16B 5A×16 (JM connector) *3 *5

Use JMR2116M-D for the J16A Master side Use JMR2116F-D for the J16A Tool side Use JMR2116MX-D for the J16B Master side Use JMR2116FX-D for the J16B Tool side

J32A,J32B

Use two JMR2116F-D for the J32A Tool side Use two JMR2116MX-D for the J32B Master side Use two IMR2116FX-D for the I32R Tool side



5A×32 (JM connector)*3 *5 Use two JMR2116M-D for the J32A Master side



M10A,M10B

13A×10 (MS connector)*3 *6

Use D/MS3102A18-1P for the M10A Master side Use D/MS3102A18-1S for the M10A Tool side Use D/MS3102A18-19P for the M10B Master side Use D/MS3102A18-19S for the M10B Tool side



M20A,M20B

Use two D/MS3102A18-19S for the M20R Tool side



13A×20 (MS connector)*3 *6

Use two D/MS3102A18-1P for the M20A Master side Use two D/MS3102A18-1S for the M20A Tool side Use two D/MS3102A18-19P for the M20B Master side

■ Non-contact electric signal block



B15DA/B (Tool side only)

B15NA/B NPN output B15PA/B PNP output

Receptacle connector: WEBR-2119S-D for B15NA/B and B15PA/B Receptacle connector: WEBR-2116FS-D for B15DA/B

■Lock/unlock sensor

■Pneumatic ports



E50A,E50B Ground 500A×1

■Ground



P18A,P18B Rc1/8×4

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

P14A,P14B Rc1/4×2



P38A,P38B Rc3/8×4



P3WA,P3WB Rc3/8×2

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. by the noun order the lock/unlock sensor places provide us with a drawing of the robot flange.



wo built-in proximity switches

**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. *4 Allowable current is total 57.2A for connector. *5 The two

built-in proximity switch signals of the lock/unlock sensor can be assigned to the MS connector (D/MS3102A18-1P) of the main body. Please contact BL Autotec, Ltd. for further information

GIGA

10kg 20kg 40kg 60kg 70kg

150kg