

Slimline Press Handling Specification

USP-100A

The BL QUICK-CHANGE Model USP-100A is a thin-shaped automatic end-effector changer designed to handle the high-speed conveyance of press parts. The thin design allows end-effectors on the parallel displacement arm to work on molding applications in press processes. Even if the opening is narrow, press parts can be conveyed without changing direction. (Japan Patent No. 3717923)

Slimline design

BL's unique lock/unlock mechanism was newly designed to this specification, with a thickness of only 50mm when coupled, so it can handle narrow press openings.

Built-in position confirmation sensor

The built-in position confirmation sensor is equipped with a proximity switch.

Superior fail-safe locking mechanism

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



Master plate Attachments  
• 8 bolts (M8×30)  
• 2 locating pins (MSY8-20)  
※ Seal plate, O-ring and screws are pre-assembled.

Specifications

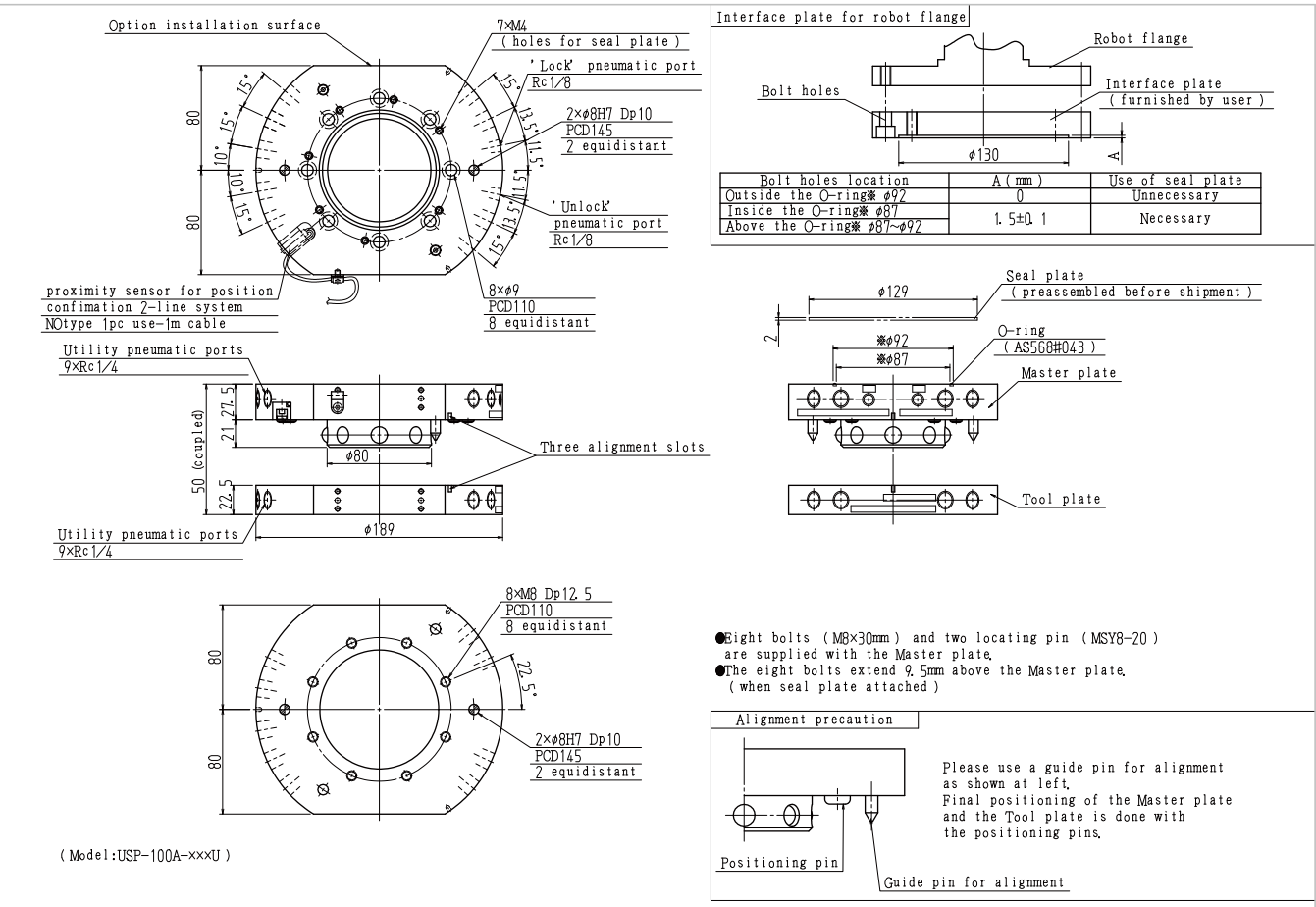
Main Body		
Load capacity (rated load)		980N (100kg)
Positional repeatability ※1		±0.025mm
Allowable dynamic moment	Bending direction (Tx, Ty)	980N·m (100kgf·m)
	Twisting direction (Tz)	980N·m (100kgf·m)
Coupling force (with air pressure of 0.49MPa) ※2		12,740N (1,300kgf)
Materials	Frame	Aluminum alloy
	Lock/unlock mechanism	Stainless steel
Overall dimension (when coupled)		φ189×H50mm
Weight (Main body)	Master plate	3.0kg
	Tool plate	1.7kg
Self-separating mechanism		Ball-locking mechanism
Required operating air pressure		0.39~0.68MPa (4~7kgf/cm <sup>2</sup> )
Position-confirming sensor		1 built-in proximity switch E2E-X2DI-N (OMRON) 1m sensor cable (lead wire)
Allowable temperature and humidity ranges		0~50°C, 35~90% (Non-condensing)
Utilities	Pneumatic ports	Rc1/4×9 (can use vacuum pressure)

Options			
Utilities	D15U	Electrical signals	3A×15 (D-sub connector) ※3

USP-100A Ordering Information

Master plate	<b>USP-100A -M-</b>	(Option)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Tool plate	<b>USP-100A -T-</b>	(Option)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		XXXU	No options
		D15U	Electrical signals 3A×15 ※3

Main Body Dimensions



Options

■ Electrical signal contact block

※(Note) The electrical signal connector is user-provided.



D15U

3A×15 D-sub contacts (female receptacle) ※3  
※Please use DDK, 17JE-23150-02(DBA)-CG or its equivalent, on the plug side. (Use RoHS-compliant, D-sub plug products.)

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

※1 Positional repeatability means the accuracy of position between the one master 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 force will be maintained until unlock pressure is applied or the device is damaged. ※3 Please provide a 17JE-23150-02(DBA)-CG plug or its equivalent. (D-sub plugs are RoHS.)