

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

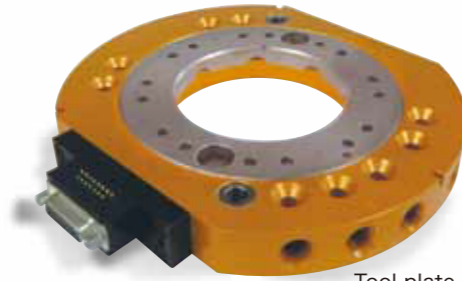
The built-in position confirmation sensor is equipped with a proximity switch.

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
(USP-100A-M-D15U)



Tool plate
(USP-100A-T-D15U)



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	±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) ※1	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 ²)
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) ※2

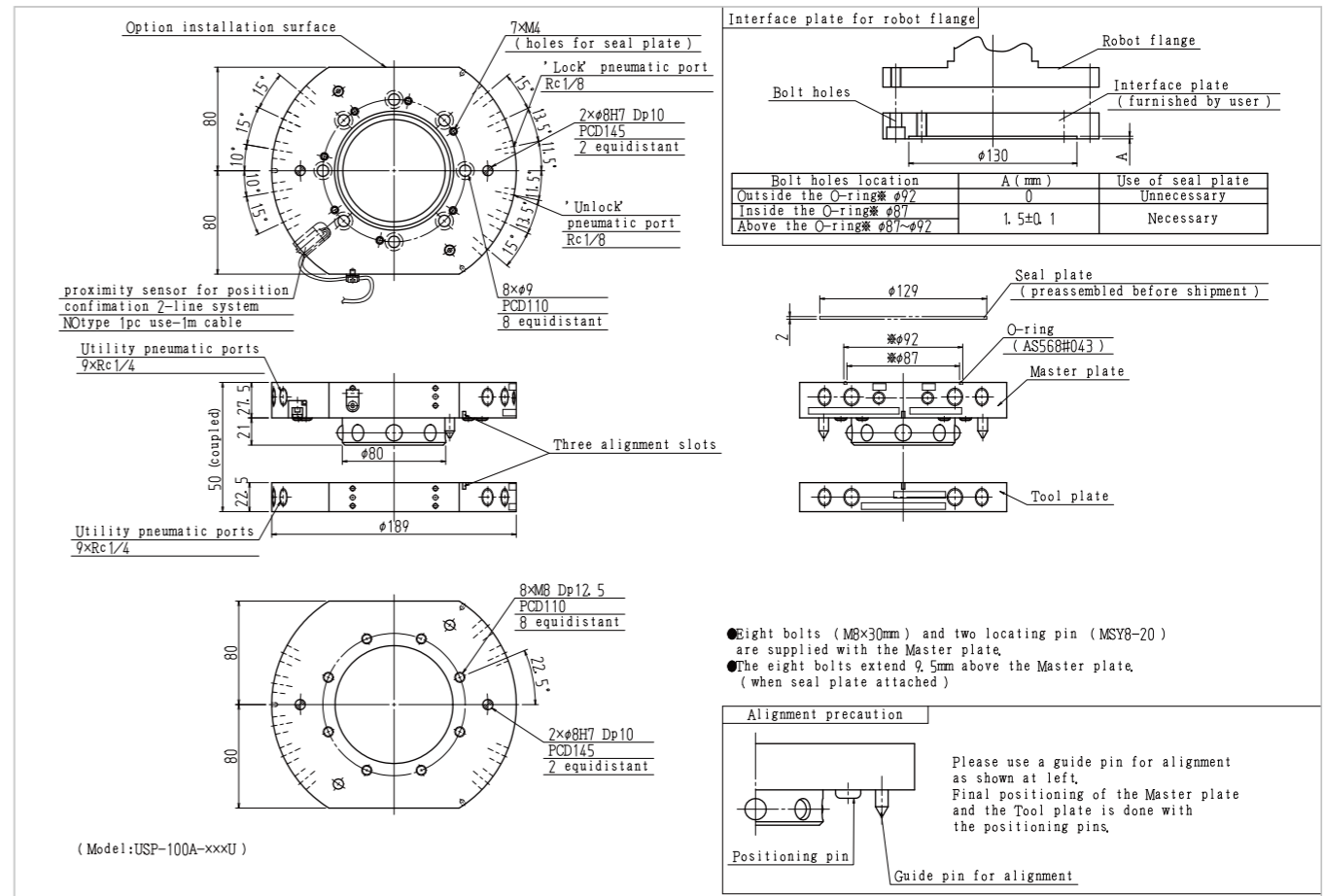
USP-100A Ordering Information

Master plate **USP-100A-M-** (Option)

Tool plate **USP-100A-T-** (Option)

XXXU No options
 D15U Electrical signals 3A×15 ※2

Main Body Dimensions



Options

■ Electrical signal contact block ※(Note) The electrical signal connector is user-provided.



D15U

3A×15 D-sub contacts (female receptacle) ※2
 ※ 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 Coupling force is the force to achieve specified repeatability. Coupling force will be maintained until unlock pressure is applied or the device is damaged.
 ※2. Please provide a 17JE-23150-02(DBA)-CG plug or its equivalent. (D-sub plugs are RoHS.)

Next-Generation Robots
 ZEUS
 GIGA
 Automatic Changer
 Tool
 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 Complainer
 ROCC DEVICE / ROCC PRO DEVICE
 Coupler Joint
 CJ2