

# Light-5A

The BL QUICK-CHANGE Model Light-5A is a device for automatic tool changing, specially designed for low payload capacity robots, generally used in the assembly and handling of electrical parts, precision equipment and mechanical parts. During the unlocking process, the Light-5A Master plate pushes the Tool plate off (self-separating function). An optional shaft receptacle adaptor is available with the Light-5A to attach it to a shaft-type robot.

## Self-separating function

The Light-5A locking mechanism has been designed to push the Tool plate off during the unlocking process, providing reliable separation.

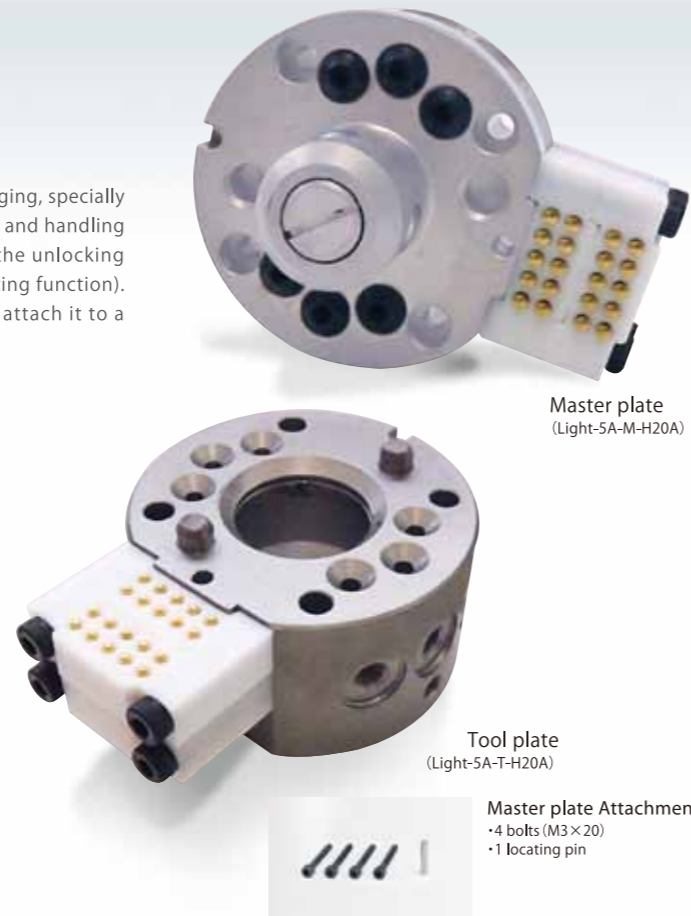
## Lock without touching

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.

(Notice): Please refer to page 56 for the minimum clearance between the Master Plate and Tool Plate and the gap between the Tool Plate and tool stand for teaching.



Master plate  
(Light-5A-M-H20A)

Tool plate  
(Light-5A-T-H20A)

Master plate Attachments  
• 4 bolts (M3×20)  
• 1 locating pin

## Specifications

Main Body		
Load capacity (rated load)	49N (5kg)	
Positional repeatability※1	±0.01mm	
Allowable dynamic moment	Bending direction(Tx,Ty)	25.4N·m (260 kgf·cm)
	Twisting direction(Tz)	33.2N·m (340 kgf·cm)
Coupling force (with air pressure of 0.49MPa) ※2	612.5N (62.5kgf)	
materials	Master plate	Stainless steel
	Tool plate	Aluminum alloy (The lock/unlock mechanism is stainless steel)
Overall dimension (when coupled)	φ49xH48.5mm	
Weight (main body)	Master plate	260g
	Tool plate	100g
Self-separating mechanism	BalLocking mechanism (Self-separating function)	
Required air pressure	0.39~0.68MPa (4~7kgf/cm <sup>2</sup> )	
Allowable temperature and humidity ranges	0~50°C, 35~90% (Non-condensing)	
Utilities	Pneumatic ports M5×6	

## Options

Utilities	Electrical signals	
H10A	Max3A DC50V	3A×10 (solder terminal)
H20A	Probe contact	3A×20 (solder terminal)
H30A		3A×30 (solder terminal)
H10L		3A×10 (with 1m lead wires)
H20L		3A×20 (with 1m lead wires)
Shaft receptacle adaptor		For shaft diameters of 8,9,10,11,12,13,14,15,16,20,24 and 25mm

## Light-5A Ordering Information

Master plate **Light-5A -M-** (Option)         - (Shaft receptacle adaptor)        

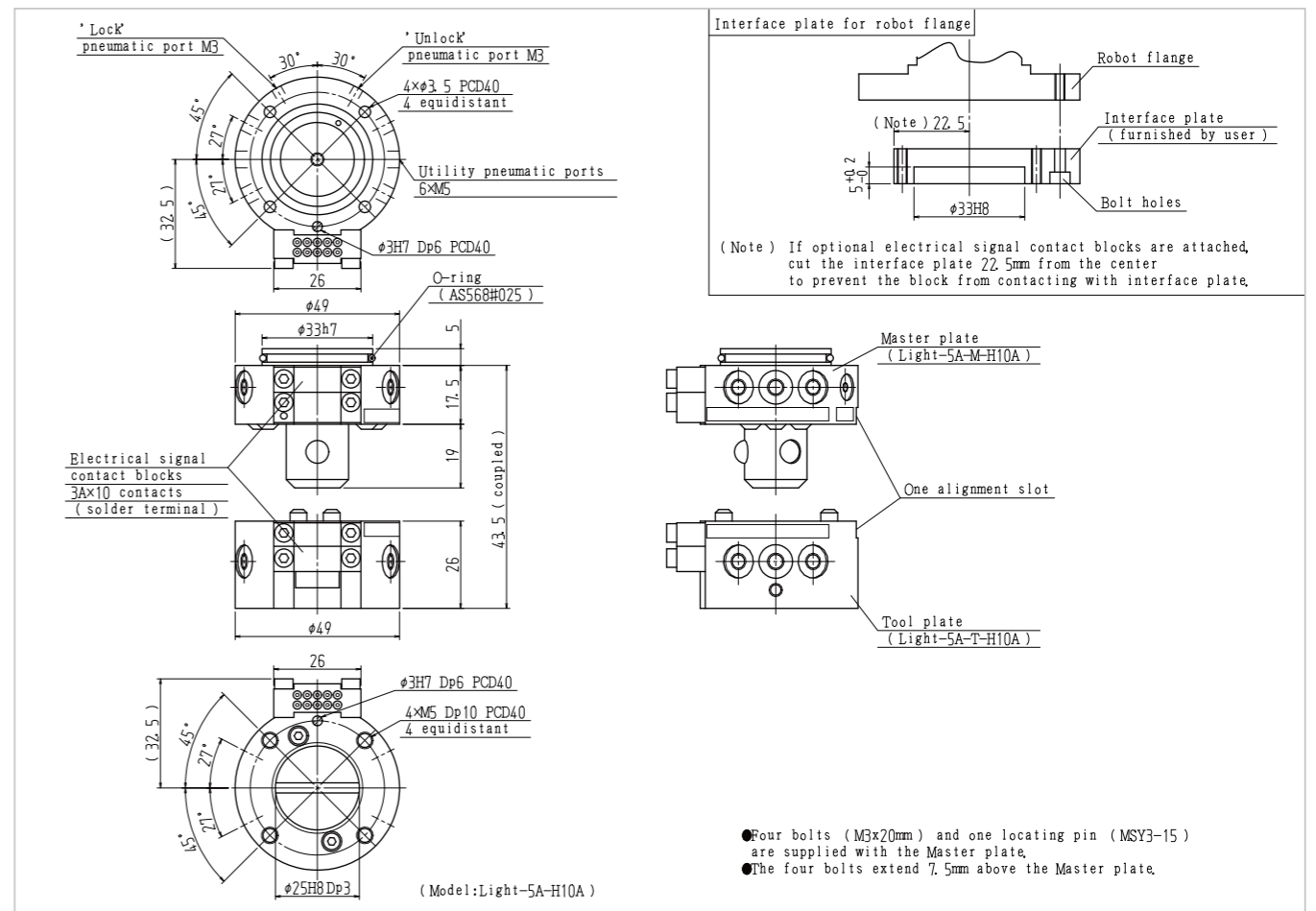
Tool plate **Light-5A -T-** (Option)        

XXXXA	No electrical signal
H10A	Electrical signals 3A×10 (solder terminal)
H20A	Electrical signals 3A×20 (solder terminal)
H30A	Electrical signals 3A×30 (solder terminal)
H10L	Electrical signals 3A×10 (with 1m lead wires)
H20L	Electrical signals 3A×20 (with 1m lead wires)

XXXXB No adaptor  
SA ○○ Shaft receptacle adaptor

Note: ○○ is shaft diameter.  
(For example, for a diameter of φ8mm, use 08, for a diameter of φ16mm, use 16.)

## Main Body Dimensions

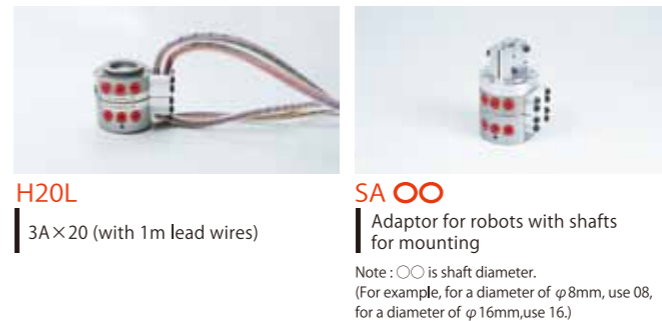


## Options

### Electrical signal contact bloc



### Shaft receptacle adaptor



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

※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 device is damaged.

Next-Generation Robots

ZEUS

GIGA

Automatic Tool Changer

1kg

5kg

10kg

20kg

40kg

60kg

70kg

100kg

150kg

220kg

300kg

Press Handling Specification

100kg

Spot-Welding Gun-Changer

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 Compliancer

NEC DRIVE LOOK-APPROXIMATE

Couple Joint

CJ2