

OPTIONAL MASK MODULE

MASK LOADPORT (PLM)

PLM 150RX PLM 200RX PLM EUV PLM MRSP

MASK ROBOT

MASK Support-Type Robot / Handler MASK Single-Arm Grip-Type Robot / Manipulator MASK Dual-Arm Grip-Type Robot / Manipulator

MASK LOADPORT

Open Cassette Shipping Box Nikon Canon

OPTIONAL MODULES

Blank Box Opener Turntable Manual Visual Inspection Buffer



MASK SMIF

MASK SMIF Product Introduction



150MM RETICLE SMIF

Fully self-developed by Fortrend, this mask/reticle opening module offers a variety of reticle handling arms and gripper designs to meet flexible OEM reticle-handling needs, including flipping, rotating, long-distance extension, OCR/BCR, and more.

- Various reticle handling arms and gripper designs for flexible OEM reticle manipulation requirements (flip, rotation, extended reach, OCR/BCR, etc.)
- Support serial and parallel I/O communication protocols
- Turnkey system on wheels (easy transportation to service areas)
- Optional 1D, 2D (SEMI T11) and EUV (SEMI T16) bar code readers
- Optional OCR reader
- Optional RFID reader



200MM RETICLE SMIF

Fully self-developed by Fortrend, this mask/reticle opening module offers a variety of reticle handling arms and gripper designs to meet flexible OEM reticle-handling needs, including flipping, rotating, long-distance extension, OCR/BCR, and more.

- Integrated RSP 200 SMIF opener with reticle handling robot – smallest automation footprint support SEMI E100 RSP-200
- Opener & Robot Arm meet iso Class I cleanliness work environment
- Rotate reticle 0 to 360°; Flip reticle 0 to 300°
- Various reticle handling arms and gripper designs for flexible OEM reticle manipulation requirements (flip, rotation, extended reach, OCR/BCR, etc.)
- Support serial and parallel I/O communication protocols
- Turnkey system on wheels (easy transportation to service areas)



200MM RETICLE SMIF (3-LINK)

Product Introduction

Product Name	150MM RETICLE SMIF	200MM RETICLE SMIF
Product Image		
Project	Parameter Comparison	
SMIF Pod Size	150 mm (SEMI E111)	200 mm (SEMI E100)
Height	1812-1847mm	1812-1847mm
Width	381mm	381mm
Depth	562mm	562mm
Reticle Rotation	0 to 360°	0 to 360°
Reticle Tilt	0 to 300°	0 to 300°
Arm Z	145mm	145mm
Arm Reach - STD	274mm	274mm
Arm Reach -3 link	422mm	422mm
SMIF Arm Payload	3.2 kg	3.2 kg
Pod Interface	SEMI E19.3	SEMI E19.4
Power	110V@3A/ 240V@1.4A, 60/50 Hz	110V@3A/ 240V@1.4A, 60/50 Hz
Weight	93Kg (pod not included)	93Kg (pod not included)
Load Height	925 mm ± 25 mm	925 mm ± 25 mm
Mounting Repeatability	± 0.5 mm	± 0.5 mm
Cycle Time	50 to 65 seconds	50 to 65 seconds
Control	Front panel, pendant, host	Front panel, pendant, host
Communication	EIA-RS232C, Parallel I/O, SEMI E23-96, IEEE-TTL	EIA-RS232C, Parallel I/O, SEMI E23-96, IEEE-TTL
Lot ID Reader Options	RFID and/or IR Link	RFID and/or IR Link
Cleanliness	ISO Class 1	ISO Class 1

MASK LOADPORT

PLM Product Introduction



PLM EUV

Developed entirely by Fortrend, it is suitable for opening and closing both the inner and outer doors of the SEMI E152 EUV SMIF POD, as well as for docking with RSP 200 incoming materials that comply with SEMI standards (SEMI E 100/113), Can identify information of different incoming cassettes through Info Pad/RFID.

- Equipped with Internal cassette detection sensors and opening mechanisms.
- Equipped with material presence sensors
- Pellicle presence and orientation sensors
- Supports overhead crane/AGV/manual feeding methods



PLM 200RX

Fully developed by Fortrend, it is suitable for docking with RSP 200 incoming materials that comply with the SEMI standard (SEMI E100/113). It is also suitable for opening and closing the outer door of the SEMI E152 EUV SMIF POD. It can identify the information of different incoming material boxes through Info Pad/RFID.

- Equipped with material presence sensors
- Pellicle presence and orientation sensors
- Supports overhead crane/AGV/manual feeding methods



PLM 150RX

Fully developed by Fortrend, it is suitable for docking with RSP 150 incoming materials that comply with the SEMI standard (SEMI E 111/112). It can identify the information of different incoming material boxes through Info Pad/RFID.

- Equipped with material presence sensors
- Pellicle presence and orientation sensors
- Supports overhead crane/AGV/manual feeding methods

Product Introduction

Product Name	PLM EUV	PLM 200RX	PLM 150RX
Product Image			
Project	Parameter Comparison		
Mask Specification	152mm W x 152mm D x 6.35mm H	152mm W x 152mm D x 6.35mm H	152mm W x 152mm D x 6.35mm H
Module Size	467W x 460D x 770H mm	467W x 460D x 770H mm	467W x 460D x 770H mm
Lifting Stroke	210 mm	210 mm	210 mm
Material Box Type	SEMI E100 Single RSP /SEMI E113 Multiple RSP SEMI E152 EUV SMIF Pod(Internal/ External)	SEMI E100 Single RSP /SEMI E113 Multiple RSP SEMI E152 EUV SMIF Pod(External)	SEMI E111 Single RSP SEMI E112 Multiple RSP
Material Box Interface	SEMI E19.3	SEMI E19.3	SEMI E19.3
Power Requirement	100V/240VAC @ 1Amp 50/60Hz Or 24 VDC (Option)	100V/240VAC @ 1Amp 50/60Hz Or 24 VDC (Option)	100V/240VAC @ 1Amp 50/60Hz Or 24 VDC (Option)
Open Material Box	< 12 seconds	< 12 seconds	< 12 seconds
Close Material Box	< 10 seconds	< 10 seconds	< 10 seconds
MTBF	50,000 cycles	50,000 cycles	50,000 cycles
MTTR	< 1 hour	< 1 hour	< 1 hour
Communication Method	EIA-RS232C	EIA-RS232C	EIA-RS232C
Communication Protoco	SECS I/II	SECS I/II	SECS I/II

MASK LOAD PORT - DESKTOP TYPE

Product Introduction

POM 150 and POM 200 are desktop standalone photomask unboxing modules, respectively compatible with SEMI-Standard RSP 150 and RSP 200. Operators can unlock/close the cassette manually via a button and transfer the mask/reticle using a clamp.



POM 150R/150 RSP Opener

- Class 1 cleanroom cleanliness
- Supports 150mm SMIF interface cassettes compliant with SEMI standards
- All electrical systems designed for easy installation



POM-200R Reticle Pod Opener

- Substrate protrusion sensor protects the mask during operation
- Patent-Pending clamping sensor ensures optimal safety for operators and masks
- Multiple cassette presence sensor eliminates operational errors
- Anti-Static transparent panel

Dimensions	Width 340mm x Depth 470mm x Height 690mm
Working Height	690mm (including cassette housing)
Lifting Stroke	350mm
Load Capacity	5.4KG
Cassette Interface	SEMI E15-96
Lifting Accuracy	± 0.1mm
Clamping Stop Device	Collision Bar Sensor
Pod Presence Sensor	2 sets
Mask/Cassette Protrusion Sensor	1 piece