

## ADAPTIVE LOAD PORTS PLUS 150 & 500 SMIF ARMS



### Features

- Into OEM open cassette tools Nine Robot arm designs, two body sizes to meet the challenges of loading cassette
- Less than 60-second load or unload cycle times maximizes production
- Small footprint saves valuable FAB floor-space
- Adjustable loading height provides ergonomic efficiency
- Built-in mini-environment and clean airflow system maintain Class 1 cleanliness

### EASY TO INTEGRATE

The fully automatic Fortrend Plus 500 transfers 200mm cassettes from SMIF pods onto process stages in 60 seconds or less. This system can also be used to load cassettes into process tools in a non-SMIF environment. With a total footprint not much larger than a SMIF pod, the Plus 500 SMIF arm is easy to integrate with OHT or AGV systems and into small areas.

A programmable robotic arm with end-effector that tilts wafers into the vertical position accommodates a wide variety of process tools

### SAFE AND RELIABLE

A patented, built-in mini-environment and airflow control system help protect wafers from contamination, while the robot is transferring pod between SMIF pods and tool stages. With many fail-safe features including pod present sensor, wafer protrusion sensor, cassette overload sensors, constant torque dc stepper motors (with encoder feedbacks) for accurate and reliable motion controls, the Plus 500 SMIF arms are the best choice for both OEMs and system integrators

### SIMPLE TO MAINTAIN

All Plus 500 models feature a variety of tool interface options: diamond-pin interface plate with quick-release latches and stand-alone floor mount enabling reconnection to and from virtually any process tool within 15 minutes or less. Considering that during ramp-up a pod loader may be disconnected and reconnected as often as twice a day to adjust the process tooling, this feature significantly reduces downtime and simplifies preventive maintenance

## ADAPTIVE LOAD PORTS PLUS 150 & 500 SMIF ARMS

### OUTSTANDING SUPPORT

Installation, on-site training, worldwide supports and variety choices of economical long-term maintenance contracts are available from Fortrend. Established in 1979, Fortrend's expertise in robotics, mechanics and software provide the optimum solution for semiconductor manufacturers who are driven to improve yield, increase throughput and reduce costs.

SMIF FUNCTION								
MODEL	Body Height	With Robot	Tilt (90degree)	Rotation (180degree)	Woving left (80mm)	Woving Right (80mm)	Heavy -load arm	E84 Controller (option)
PLUS-150/500S	1840mm	✓	✓					✓
PLUS-150/500R	1840mm	✓		✓				✓
PLUS-150/500SD	1840mm	✓						✓
PLUS-150/500SX	1840mm	✓	✓		✓	✓		✓
PLUS-150/500SX-B	1709mm	✓	✓		✓	✓		✓
PLUS-150/500CX	1520mm	✓	✓		✓	✓		✓
PLUS-150/500TX	1840mm	✓						✓
PLUS-150/500UX	1210mm	✓						✓
PLUS-150/500SDH	1210mm	✓					✓	✓
PLUS-150/500SH	1210mm	✓	✓				✓	✓
PLUS-150/500RH	1210mm	✓		✓			✓	✓
PLUS-150/500F	1770mm	✓		✓				✓
PLUS-150/500LM	1530mm							✓
PLM-150/200	815mm							✓

## PLUS 150/500 S-X

Standard Features

- Straight arm Movement
- Put the POD box level or vertical to the toolbag
- Wafer mapping function
- Progressive sensor of wafer chips
- Cassette Present Sensor
- SMIF pod in place Sensors
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



## PLUS 150/500 R-X

Standard Features

- Straight arm Movement with cassette able to rotate up to 359°
- Put the POD box level or vertical to the toolbag
- Wafer mapping function
- Progressive sensor of wafer chips
- SMIF pod in place Sensor
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



SPECIFICATIONS				
MODEL	PLUS 500S-L PLUS 150S-L	PLUS 500S-R PLUS 150S-R	PLUS 500S-L-OHT PLUS 150S-L-OHT	PLUS 500S-R-OHT PLUS 150S-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x184 cm(H)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<60 sec.(S Model without tilt and leave pod open after load)			
Cycle time (Unload)	<60sec.(S Model without tilt with pod left open after load)			
Arm Extension	390mm	Arm Z Travel	135mm	
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIFpod)	
Power-on reset time	<20 Secs	SMIF Arm Payload	3.2 Kg	
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm	
Gripper axis precision	±0.5 mm	Tilt axis precision	±0.15 degree	
Control	Manual (Front Panel); Remote (From OEM Tool or CIM); Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

SPECIFICATIONS				
MODEL	PLUS 500R-L PLUS 150R-L	PLUS 500R-R PLUS 150R-R	PLUS 500R-L-OHT PLUS 150R-L-OHT	PLUS 500R-R-OHT PLUS 150R-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x184cm(H)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<60 sec.(S Model without tilt and leave pod open after load)			
Cycle time (Unload)	<60 sec.(S Model without tilt and leave pod open after load)			
Arm Extension	305mm	Arm Z Travel	135mm	
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIFpod)	
Power-on reset time	<20 Secs	SMIF Arm Payload	3.2 Kg	
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm	
Gripper axis precision	±0.5 mm	Wrist axis precision	±0.15 degree	
Control	Manual (Front Panel); Remote (From OEM Tool or CIM); Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

## PLUS 150/500 SD-X

Standard Features

- Straight arm Movement
- Put the POD box level or vertical to the toolbag
- Wafer mapping function
- Progressive sensor of wafer chips
- SMIF pod in place Sensors
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



## PLUS 150SX-X

Standard Features

- Straight arm Movement
- Put the POD box level or vertical to the toolbag
- Slide the POD box to the right side of the center or right to 80mm
- Wafer mapping function
- Wafer protrusion sensor
- SMIF pod in place Sensors
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



SPECIFICATIONS				
MODEL	PLUS 500SD-L PLUS 150SD-L	PLUS 500SD-R PLUS 150SD-R	PLUS 500SD-L-OHT PLUS 150SD-L-OHT	PLUS 500SD-R-OHT PLUS 150SD-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x184cm(H)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<60 sec.(SD Model and leave pod open after load)			
Cycle time (Unload)	<60 sec.(SD Model and leave pod open after load)			
Arm Extension	440mm	Arm Z Travel	135mm	
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIFpod)	
Power-on reset time	<20 Secs	SMIF Arm Payload	3.2 Kg	
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm	
Gripper axis precision	±0.5 mm			
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

SPECIFICATIONS				
MODEL	PLUS 500SL-L PLUS 150SL-L	PLUS 500SR-R PLUS 150SR-R	PLUS 500SL-L-OHT PLUS 150SL-L-OHT	PLUS 500SR-R-OHT PLUS 150SR-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x184cm(H)			
Cycle time (load)	<80ec.(S Model without tilt and leave pod open after load)			
Cycle time (Unload)	<80 sec.(S Model without tilt and leave pod open after load)			
Arm Extension	390mm	Arm Z Travel	135mm	Transit 80mm
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIFpod)	
Power-on reset time	<20 Secs	SMIF Arm Payload	3.2 Kg	
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm	
Gripper axis precision	±0.5 mm		Tilt axis precision	±0.15 degree
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

## PLUS 500 SX-B

Standard Features

- Straight arm Movement
- Loads cassette to tool stage either wafer Horizontally or vertically
- Wafer Mapper
- Wafer protrusion sensor
- Cassette Present Sensor
- SMIF pod in place Sensors
- SMIF pod Present Sensor
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



## PLUS 150/500 CX-X

Standard Features

- Straight arm Movement
- Compact body
- Put the POD box level or vertical to the toolbage
- Slide the POD box to the right side of the center or right to 80mm
- Wafer mapping function
- Wafer protrusion sensor
- SMIF pod in place Sensors
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



SPECIFICATIONS				
MODEL	PLUS 500SL-B	PLUS 500SR-B	PLUS 500SL-B-OHT	PLUS 500SR-B-OHT
I/O Panel	Back	Back	Back	Back
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x170.9cm(H without Wheels)			
Cycle time (load)	<80 sec.(SL Model without tilt and leave pod open after load)			
Cycle time (Unload)	<80 sec.(SL Model without tilt with pod left open after load)			
Arm Extension	305mm	Arm Z Travel	135mm	
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIFpod)	
Power-on reset time	<20 Secs	SMIF Arm Payload	3.2 Kg	
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm	
Gripper axis precision	±0.5 mm	Tilt axis precision	±0.15 degree	
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

SPECIFICATIONS					
MODEL	PLUS 500CL-L PLUS 150CL-L	PLUS 500CR-R PLUS 150CR-R	PLUS 500CL-L-OHT PLUS 150CL-L-OHT	PLUS 500CR-R-OHT PLUS 150CR-R-OHT	
I/O Panel	Left	Right	Left	Right	
E84 COMM Board	No	No	Yes	Yes	
Dimensions	34.8cm(W)x49.8cm(D)x152cm(H)				
Wheel Height	6 to 15.3 cm tool dependent				
Cycle time (load)	<80 sec.(S Model without tilt and leave pod open after load)				
Cycle time (Unload)	<80 sec.(S Model without tilt and leave pod open after load)				
Arm Extension	390mm	Arm Z Travel	40mm	Transit	80mm
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIF pod)		
Power-on reset time	<20 Secs	SMIF Arm Payload	3.2 Kg		
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm		
Gripper axis precision	±0.5 mm	Tilt axis precision	±0.15 degree		
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant				
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O				
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID;				

## PLUS 150/500 TX-X

Standard Features

- Straight arm Movement with cassette able to rotate up to 359°
- Put the POD box level or vertical to the toolbag
- Wafer mapping function
- Progressive sensor of wafer chips
- SMIF pod in place Sensor
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



## PLUS 150/500 UX-X

Standard Features

- Straight arm Movement
- Ultra Low Body for 70cm cassette stage heights
- Wafer protrusion sensor
- Wafer protrusion sensor
- SMIF pod in place Sensors
- Info Pad Plugs
- Left or Rear I/O panel
- Tool Mount
- Dust cover



SPECIFICATIONS				
MODEL	PLUS 500TL-L PLUS 150TL-L	PLUS 500TR-R PLUS 150TR-R	PLUS 500TL-L-OHT PLUS 150TL-L-OHT	PLUS 500TR-R-OHT PLUS 150TR-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x184cm(H)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<60 sec.(The pod remains open after loading)			
Cycle time (Unload)	<60 sec.(The pod remains open after loading)			
Arm Extension	390mm	Arm Z Travel	135mm	
Power	100 to 240 VAC @ 50/60 HZ		Weight	93 Kg (not including SMIFpod)
Power-on reset time	<20 Secs		SMIF Arm Payload	3.2 Kg
Arm Extent axis precision	±0.1 mm		Arm Elevator axis precision	±0.1 mm
Gripper axis precision	±0.5 mm		Wrist axis precision	±0.15 degree
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

SPECIFICATIONS				
MODEL	PLUS 500UL-L PLUS 150UL-L	PLUS 500UR-R PLUS 150UR-R	PLUS 500UL-L-OHT PLUS 150UL-L-OHT	PLUS 500UR-R-OHT PLUS 150UR-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	59.2cm(W)x42cm(D)x121cm(H)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<80 sec.(S Model without tilt and leave pod open after load)			
Cycle time (Unload)	<80 sec.(S Model without tilt and leave pod open after load)			
Arm Extension	390mm	Arm Z Travel	40mm	
Power	100 to 240 VAC @ 50/60 HZ		Weight	93 Kg (not including SMIFpod)
Power-on reset time	<20 Secs		SMIF Arm Payload	3.2 Kg
Arm Extent axis precision	±0.1 mm		Arm Elevator axis precision	±0.1 mm
Gripper axis precision	±0.5 mm		Tilt axis precision	±0.15 degree
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

## PLUS 500 SDH-X

Standard Features

- Straight arm Movement
- Loads cassette to tool stage wafer Horizontally
- Wafer Mapper
- Lifts up to 7.5Kg
- Wafer protrusion sensor
- Cassette Present Sensor
- SMIF pod in place Sensors
- SMIF pod Present Sensor
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



## PLUS 500 SH-X

Standard Features

- Straight arm Movement
- Loads cassette to tool stage wafer Horizontally
- Wafer Mapper
- Lifts up to 7.5Kg
- Wafer protrusion sensor
- Cassette Present Sensor
- SMIF pod in place Sensors
- SMIF pod Present Sensor
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



SPECIFICATIONS				
MODEL	PLUS 500SDH-L	PLUS 500SDH-R	PLUS 500SDH-L-OHT	PLUS 500SDH-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x170.9cm(H without Wheels)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<60 sec.(SDH Model and leave pod open after load)			
Cycle time (Unload)	<60 sec.(SDH Model and pod left open after load)			
Arm Extension	390mm	Arm Z Travel	131mm	
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIFpod)	
Power-on reset time	<20 Secs	SMIF Arm Payload	7.5 Kg	
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm	
Gripper axis precision	±0.5 mm			
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; Intellion Lot Track system RFID Read/write Module - Fortrend or Hermos or Other RFID;			

SPECIFICATIONS				
MODEL	PLUS 500SH-L	PLUS 500SH-R	PLUS 500SH-L-OHT	PLUS 500SH-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x170.9cm(H without Wheels)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<60 sec.(S Model without tilt and leave pod open after load)			
Cycle time (Unload)	<60 sec.(S Model without tilt with pod left open after load)			
Arm Extension	390mm	Arm Z Travel	135mm	
Power	100 to 240 VAC @ 50/60 HZ	Weight	93 Kg (not including SMIFpod)	
Power-on reset time	<20 Secs	SMIF Arm Payload	7.5 Kg	
Arm Extent axis precision	±0.1 mm	Arm Elevator axis precision	±0.1 mm	
Gripper axis precision	±0.5 mm	Tilt axis precision	±0.15 degree	
Control	Manual (Front Panel): Remote (From OEM Tool or CIM): Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

## PLUS 500 RH-X

Standard Features

- Straight arm Movement with cassette able to rotate up to 359°
- for angled cassette stages
- Loads cassette to tool stage wafer Horizontally
- Wafer Mapper
- Wafer protrusion sensor
- Cassette Present Sensor
- SMIF pod in place Sensors
- SMIF pod Present Sensor
- Info Pad Plugs
- Left or Right I/O panel
- Tool Mount
- Dust cover



### SPECIFICATIONS

MODEL	PLUS 500RH-L	PLUS 500RH-R	PLUS 500RH-L-OHT	PLUS 500RH-R-OHT
I/O Panel	Left	Right	Left	Right
E84 COMM Board	No	No	Yes	Yes
Dimensions	34.8cm(W)x49.8cm(D)x170.9cm(H without Wheels)			
Wheel Height	6 to 15.3 cm tool dependent			
Cycle time (load)	<60 sec.(R Model leave pod open after load)			
Cycle time (Unload)	<60 sec.(R Model pod left open after load)			
Arm Extension	305mm	Arm Z Travel	135mm	
Power	100 to 240 VAC @ 50/60 HZ		Weight	93 Kg (not including SMIFpod)
Power-on reset time	<20 Secs		SMIF Arm Payload	7.5 Kg
Arm Extent axis precision	±0.1 mm		Arm Elevator axis precision	±0.1 mm
Gripper axis precision	±0.5 mm		Wrist axis precision	±0.15 degree
Control	Manual (Front Panel); Remote (From OEM Tool or CIM); Pendant			
Communication interface	RS232(Serial)-Fortrend HEX or ASCII or SECS Parallel I/O			
Lot ID Reader Options	IR(Smart) Tag-8200 or 8400 series; RFID Read/write Module - Fortrend or Hermos or Other RFID; Intellion Lot Track system			

## PLUS 500LM

### Product Introduction

The PLUS 500LM is an integrated 200mm Wafer SMIF Pod Opener that allows the OEM tool to use a robot to remove the cassette into the processing tool or remove the wafers from the cassette.

### Features

- ISO Class 2 or better cleanliness with active self-clean air flow design
- All electrical system with field programmable application software
- Wafer Mapping Sensor (Present, Cross Slot)
- Lifts the Pod shell leaving the Wafer Cassette in a sealed mini-environment
  - ◆ Wafers can be removed by OEM Robot
  - ◆ Cassette can be removed by OEM Robot
- Mounts directly into a process Tool using a 300mm Bolts interface to SEMI E63 to convert open station to a SMIF compatible station.
- SEMI E84 hand-off for OHT pod delivery
- Four programmable Interlock signals
- Wafer Cassette Present Sensor
- SEMI E19.4, S2 and S8 standards and CE certified
- Wafer Protrusion Sensor
- Pod Present Sensor
- RFID reader/writer or IR read/writer



### Specifications

Wafer size	200mm
Dimension	460W x 506D x 1530H mm
Elevator Stroke	240 mm
Load capacity	5.4kg
Pod interface	SEMI E19.4
Power requirement	24 VDC (110V/240V Optional)
Weight	23kg without Pod
Open Pod	< 12 seconds
Close Pod	< 10 seconds
MCBF	50,000 cycles
MTTR	< 1 hour
Communication	Serial or TCP/IP Ethernet or EIA-RS232C (SECS I/II)



PLUS 500LM

## PLUS 150/500 F

### Product Introduction

The PLUS 500F is designed to load 200mm Wafer cassettes to multi-level cassette stages or high-level cassette stages from SMIF pods with the cassette rotated 180° after being picked up from the cassette. The PLUS 500F is the approved SMIF pod loader by ASM for the A400-Classic and A400 DUO systems.

- Small footprint saves valuable FAB floor space
- ISO Class 2 or better cleanliness with active self-clean air flow design
- Lifts the Pod shell leaving the Wafer Cassette in a sealed mini-environment
- All electrical system with field programmable application software
- Pod Present Sensor
- Wafer Protrusion Sensor
- Wafer Mapper
- SEMI E19.4, S2 and S8 standards and CE certified Teach Pendant
- Teaching machine
- Optional Universal Floor Mount.
- Optional RFID reader/writer
- Optional IR reader/writer
- Used for ASMA400Classic and DUO system
- The SMIF option approved by ASM
- Cassette can be loaded into the A4003 level platform by a robotic arm
- Can directly replace the existing A400 SMIF
- Can be mounted directly onto existing ASMSMIF brackets



PLUS 500F  
SMF Docked to A400 Furnace

## PLUS 150/500 F

POD/Wafer Size	200 mm
Overall, Height	710mm W x 660mm D x 1770mm H
Robot arm payload	8 KG
Weight	185 KG(Depends on configuration)
Rated voltage	AC 220V
Rated power	2200W
The main material	Aluminum alloy, stainless steel (SUS 304)
Noise level	< 75 dBA
Communication	EIA-RS232C, SECS I/II Parallel I/O, SEMI E23-96, IEEE-TTL
Communication protocol	ASCII, TCP/P, ASCII, TCP/P
Optional options	iD read/write device with RFID module or IR Link
Cleanliness	ISO Class 2
Pod Interface	SEMIE19.4
Throughput	70 sec load & 90sec unload
Working Temperature	0 ~ 40°C
Working Humidity	5% ~ 90%

# SMIF OHT Load Port Manual Station

## Product Introduction

The 200mm OHT load port station is designed to integrate with the FAB OHT system to allow SMIF pods to be loaded and removed from the OHT system. This standalone system is located below the OHT track system for SMIF pods to be dropped off or picked up. Fully integrated with a E84 handshake and SECS I/II communication to the FAB MES system.

## Features and Benefits

- Dual SEMI E19.4 200mm SMIF Pod load Ports
- Pod Present and Lid Sensors
- Pod RFID Tag Read/Writer
- Manual OHT load/Unload switch
- Load port Status indicator light strip
- OHT Compatible
- GUI for setting up and configuration of station Hand held tablet
- Meets SEMI E84 and E110 requirements
- SEMI S2,S8 and CE certified.



Smart Load Port Station

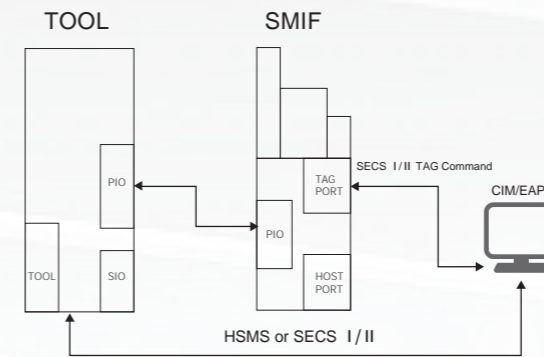
## Specifications

Pod size	200mm SMIF Pod
Number of Ports	2
Dimension	864mm W x 457mm D x1586mm H
Pod interface	SEMI E19.4
Power requirement	110V -240V 1A/1.4A 50/60Hz
SEMI E84	Parallel
Communication Host	EIA-RS232C(SECS I/II)Ethernet (Optional)
ID device	RF ID module IR (Smart) Tag reader optional
Operation	Host comm

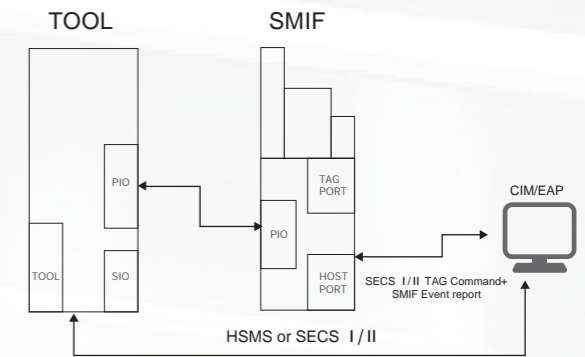


# SMIF Tool Communication Scenario

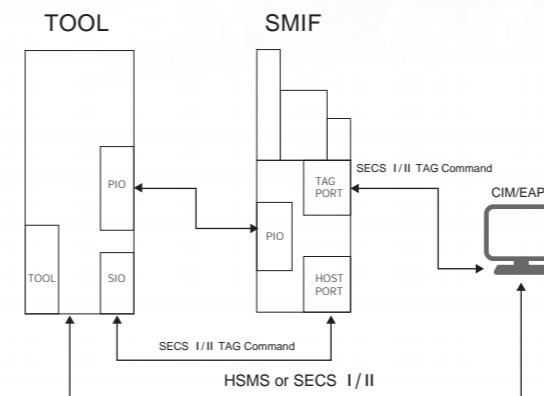
Communication Options #1  
Tool control SMIF using PIO



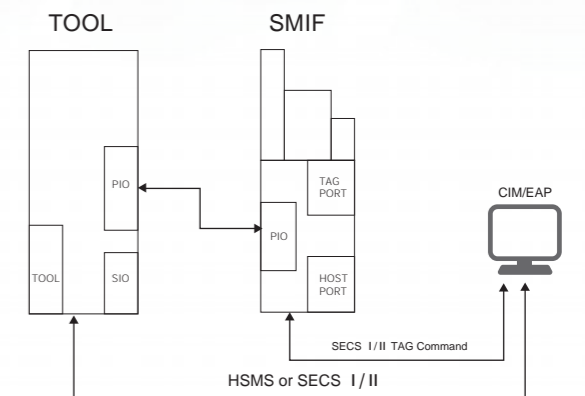
Communication Options #2  
Tool control SMIF using PIO



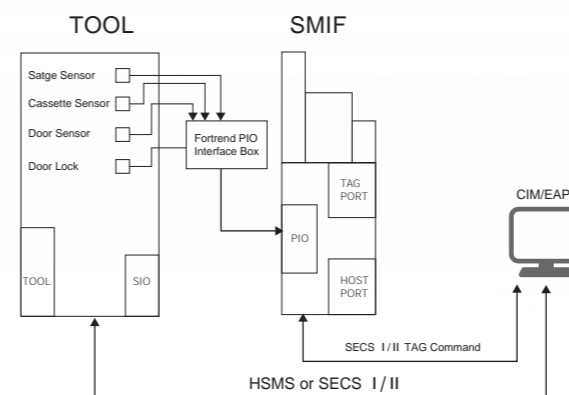
Communication Options #3  
Tool control SMIF using ASCII or SECSB



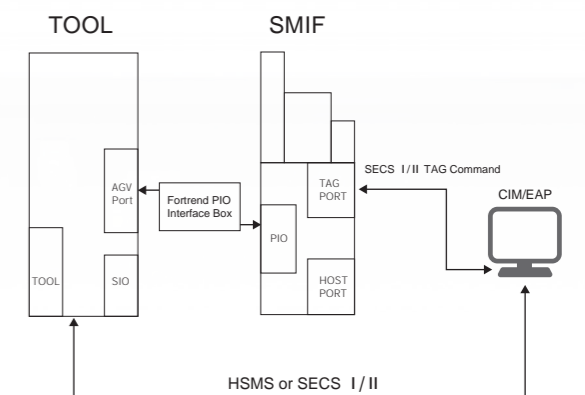
Communication Options #4  
CIM control SMIF using SECS



Communication Options #5  
CIM control SMIF using SECS



Communication Options #6  
Tool control SMIF using AGV Ports



# SMIF Load port Solutions Images



AMAT Endura Wide Body 2x PLUS 500S



AMAT Verity 2x PLUS 500S with Mini-Environment



AMAT Endura Wide Body 2x PLUS 500S



Centrothermc.Activator 200 2x PLUS 500S



AMAT Centura Wide Body 2x PUS 500S



AMAT Centura Narrow Body 2x PLUS 500R



AMAT Producer 2x PLUS 500R



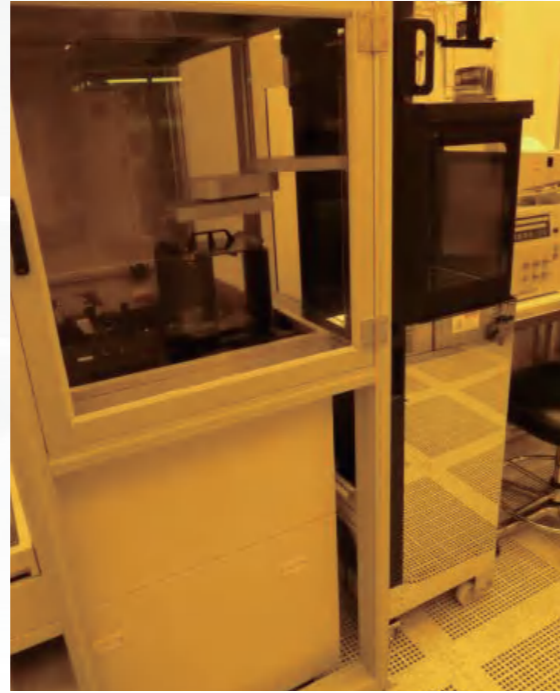
EBARA-FREX 200 4x PLUS 500S

# SMIF Load port Solutions Images

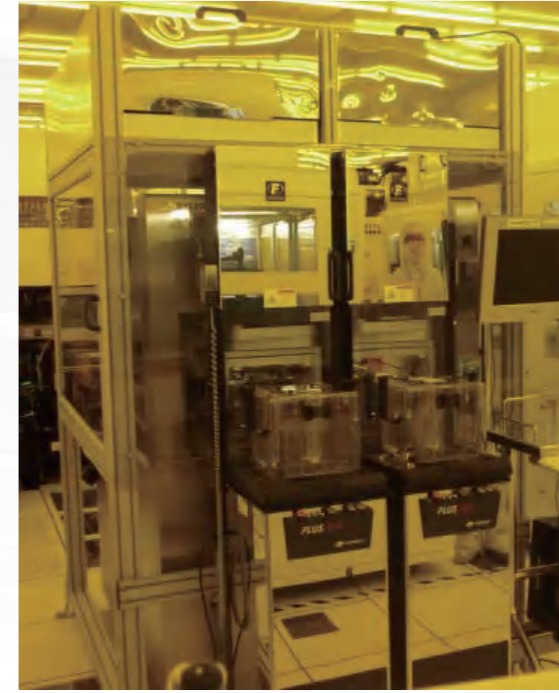
# SMIF Load port Solutions Images



Screen Z12000  
2x PLUS 500R



Nikon Opti Station PLUS 500R  
with Mini-Environment



Lam Rainbow 4520 with 2x  
PLUS 500S with Mini-Environment



LAM TCP9608PTX  
2x PLUS 500R



Hitachi S-9200S  
3x PLUS 500S



Kokusai KE-DD-853 Furnace  
2x PLUS 500CX



LAM-TCP-9408SE PLUS  
500SL-&PLUS 500S-R



Mattson ASPEN 2x  
PLUS 500Sx

# SMIF Load port Solutions Images

# SMIF Load port Solutions Images



Novellus-CONCEPTONE  
2x PLUS 500S & Minienvironment



Novellus-CONCEPT 2 2x  
PLUS 500S and Mini-Environment



Axcelis GSD 200E PLUS 500S



Eaton NV-MC3 3x PLUS 500S



NovelluS-PEPIDIA 2 PLUS 500S



AMAT P5000 PLUS 500R



TEL UWO200Z 2x PLUS 500S



TEI Mark 8 Track 2x PUS 500S

# SMIF Load port Solutions Images

### SMIF Load port Solutions Images



Ushio UV1250 PLUS 500S



Varian EHP220  
2x PLUS 500S+ Mini-Environment

### SMIF Load port Solutions Images



TEL ACT 8 3x PLM 200UL



TEL ACT 8 PLUS 500SL-L  
PLUS 500SR-R PLUS 500S-R



SPTS fxP Platform 2x PLUS 500R



SUSS MA200 Aligner 2x PLUS 500SD



Akרון GAMA Wet Bench 2x PLUS 500S



ONTO Imperia 2x PLUS 500S  
+ Mini-Environment

### SMIF Load port Solutions Images

### SMIF Load port Solutions Images



ONTO Vertex 2x PLUS 500S + Mini-Environment



Mechatronics Wafer Sorter 4x PLM 200W on Boltinterface



ASM A400 DUO PLUS 500F



Evatec Clusterline 200 2x PLUS 500R



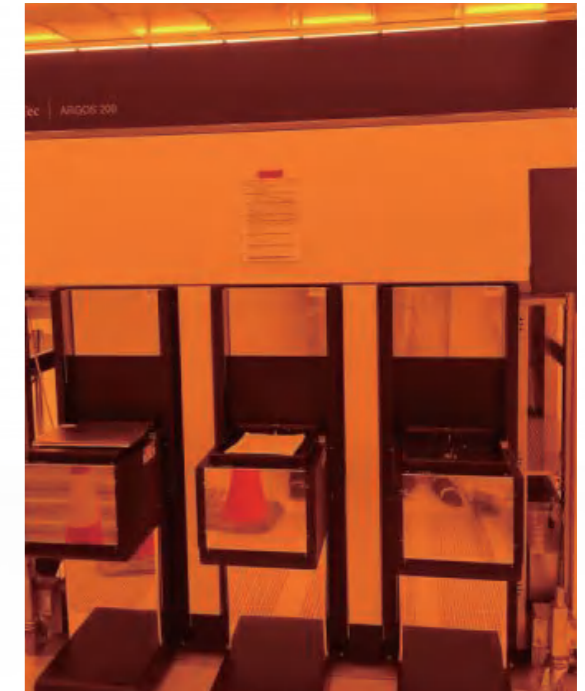
Picosun Morpher 2x PLUS 500R



MPI PLUS 500S

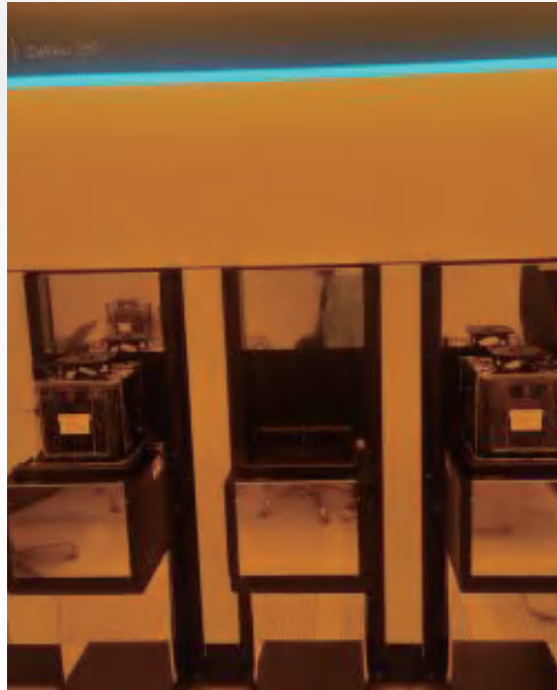


Rigaku TXRF 3760 PLUS 500S



MueTec Argos 200 3x PLM 200W on Bolt interface

### SMIF Load port Solutions Images



MueTec DaVinci 200 3x PLM 200W on BoltInterface



Micro Control 2x PLM 200W on BoltInterface



RENA Wet Bench 4XPLM 500LM



Veeco Wafer Storm 2x PLM 200W on Bolt interface



EVG 850 TB 4x PM 200W on BoltInterface



DISCO DFD6363 PLUS 500SDH(Heavy LiftArm)



AIXTRON 2x PLUS 500R



CANON STEPPER 2x PLUS 500UX

### SMIF Load port Solutions Images