Fortrend Robot Selection Rules

FWRD-Z400-R190.5-Rta-Ata-F-8-MRTX-MOD

F:Fortrend

W:wafer

P:PLP substrate

M:Mask

C:Cassette

H:humid

R:Robot

D:Arm Qty.

S:Single arm

D:Dual-arm

A*:X(X:Number of Arms)

Axis-Z Height

240mm

300mm

400mm

500mm

Z*XXX(Customized)

LZ：Compact Lifting Height：

240mm

300mm

400mm

500mm

LZ*XXX（Customized）

Dual-Z

ZD600mm

ZD700mm

ZD800mm

ZD*XXX(Customized)

Module-based

MZXXX

Drive arm R length

146mm

190.5mm

213mm

Eccentric ER (optional)

Special module

Rta: : Single arm FLiP

Rta2: Double Arm Up FLIP

Rta2: Double Arm Down FLIP

RtaD: Double arm double FLip

FR: wafer frame

No Options

Wafer Size

4/6/8/12

N*:Non-wafer object

Special Customization

Have：Special Model

None：Normal Device

Fork Type

F:Original fork

No Options

End-effector Type

Ata:Vacuum suction

Cta:Edge gripper

Han:Clamp lift type

Ber1:Contact Bernoulli

Ber2:Non-Contact Bernoulli

Customer Customization

Matching Options

M：

M1:Opposite-shooting Mapping Quantity 1

M2:Opposite-shooting Mapping Quantity 2

M*:Mapping Quantity 1

No Options

R：

R:Original teach pendant

No Options

TX:

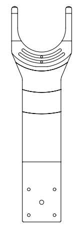
T:Original Track axis

X:TRACK axis effective distance/mm

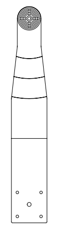
No Options

Robot Fork Series

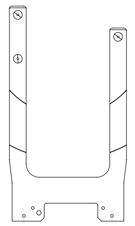
Vacuum Fork



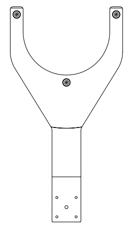
Standard Vacuum Suction Y-Type



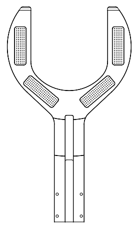
Standard Vacuum Suction Linear Type



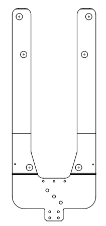
U-shaped Vacuum Fork for Takio Plate



Fork for Large Warping 1.5-5mm

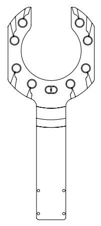


Multi-hole Vacuum Suction Fork

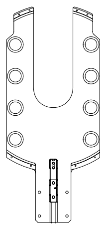


Vacuum Suction & Friction Pad Fork

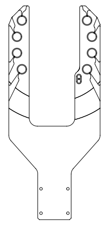
Bernoulli Fork



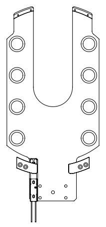
Contact Bernoulli Circular Type



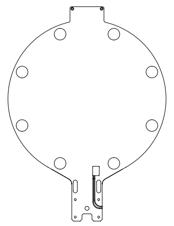
Edge Contact Bernoulli



Contact Bernoulli Y-shaped

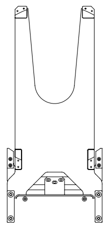


Edge Contactless Bernoulli

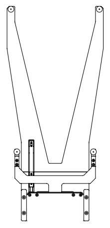


Edge Clamping Non-contact Bernoulli

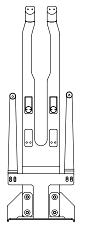
Wafer-holding Fork



Gripper Type Fork

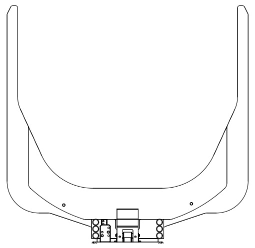


Gripper Rotating Type

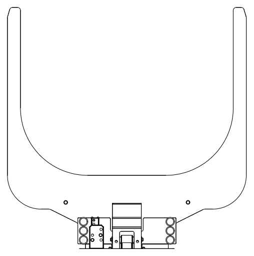


Compatible Fork

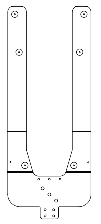
Frame-type Fork



Frame Gripping Fork



Frame Clamping Fork



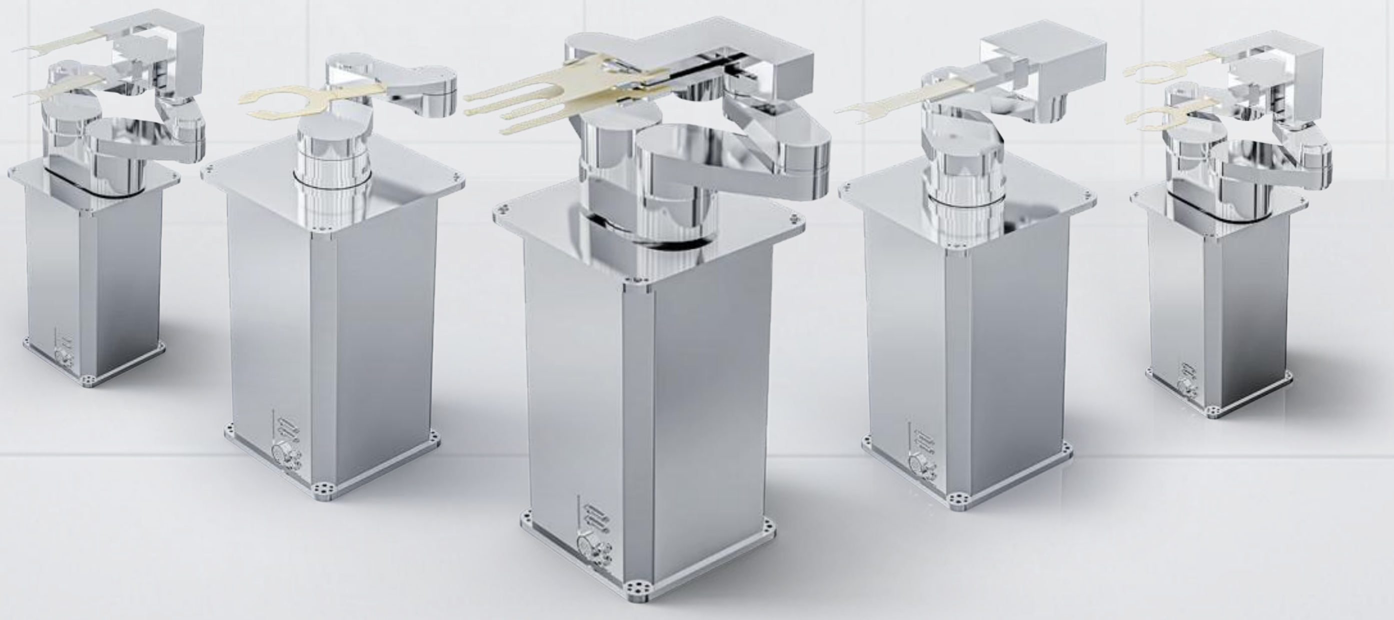
Frame Vacuum Suction Fork

Transfer Robot

High efficiency

Highly refined

High stability

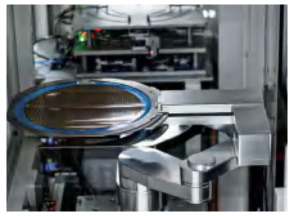


- The core components are fully developed in-house, and the entire machine is assembled and produced at the Fortrend Wuxi manufacturing base, ensuring greater reliability;
- The device features RS232 serial interface and Ethernet bus communication, making operation more convenient;
- It is equipped with the Smart Move function and features a teaching design, making it more intelligent;
- It offers a variety of end-effector specifications and customizable linear modules to meet the needs of diverse working conditions.ess.

Specification parameter

Project	Specification	
Structure	3-6 Axis (Servo Motor) Z-axis: Motor with Brake	
Wafer Size	2-inch to 12-inch Wafer	
Working Range	R-axis	146mm/190.5mm/213mm
	Single Z-axis	240mm/300mm/400mm/500mm
	Dual Z-axis	600mm/700mm/800mm/920mm
	θ-axis	340°
	Flip-axis	180°
	Track	Customizable according to working conditions
Maximum Speed	R-axis	1500mm/S
	Single Z-axis	500mm/S
	Dual Z-axis	800mm/S
	θ-axis	235~340°/S
	Flip-axis	360°/S
	Track	800mm—1500mm
Maximum Payload	Third joint center 3Kg or less	
Repeatability	±0.1mm	
Cleanliness Class	Highest ISO Class 1	
Noise Level	80 dB or lower	
Robot Material	Aluminum alloy	
EEF (End Effector)	Ceramic/carbon fiber/aluminum alloy, etc. (customized as required)	
Operating Voltage	220V	
Communication Method	Ethernet communication/RS232	
Communication Protocol	HEX/ASCII	
Air Supply	Positive pressure: 0.15-0.5Mpa/Negative pressure: -70- -90Kpa	

Application Cases



FWRS-3-Axis Single-Arm Robot Series

This mechanical arm is designed for material handling in high-cleanliness environments, employing a closed-loop servo control system and is suitable for high-speed transportation.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

Carrying capacity: Below 3Kg at the third joint of the arm

Compatible with various types of Forks to meet the wafer transfer needs for different jobs

Wafer securing methods: Vacuum suction type / Clamping type / Clamping and lifting type / Contact Bernoulli type / Non-contact Bernoulli type

Based on the equipment layout, you can choose either an upper or lower fixing method

- Application: Suitable for various semiconductor equipment, including EFEM, Sorter, inspection equipment, etc.

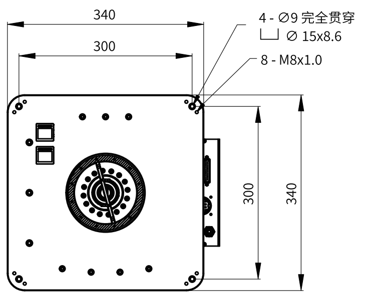
Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers		
Reachable Range	Arm: 290/376mm	Rotation: 340°	Lifting: 240/300/400/500
Handling Speed (average speed)	750mm/S	235~340°/S	500mm/S
Arm Type	Single Arm		
Handling Height	700-1000mm		
Repeatability Accuracy	Within ±0.1mm		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class 1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

RANGE OF MOTION

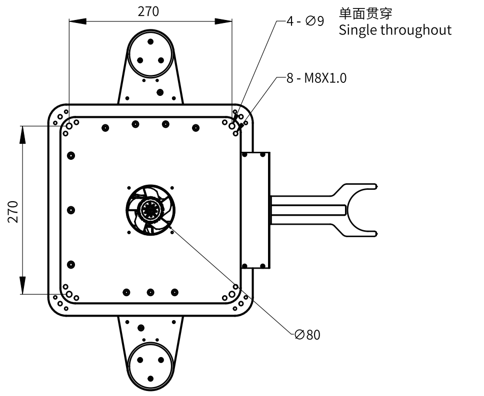
Top fixed mode

(Fix the counterbore and adjust the screw according to the configuration)

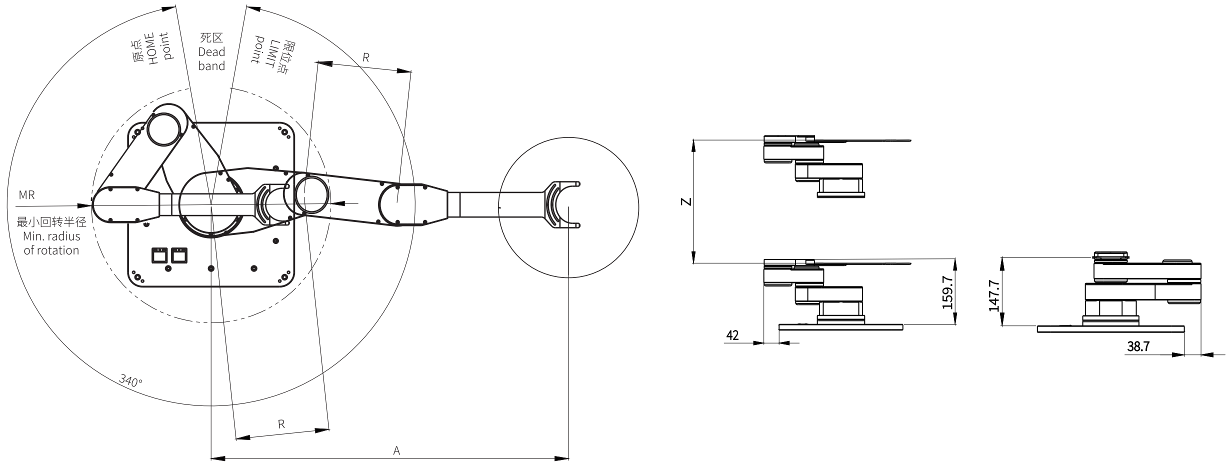


Bottom fixed mode

(Fix the counterbore and adjust the screw according to the configuration)



Single - arm robot motion range schematic



Model	Z	R	MR*	A*
FWRS	300/400/500	146	8寸540	600
		190.5	12寸610	680

The arm length and minimum rotation radius may vary depending on the specific end effectors and drive shafts selected. The actual length should be based on the final product.

FWRD-Four-Axis Dual-Arm Robot Series

This mechanical arm is designed for material handling in high-cleanliness environments, employing a closed-loop servo control system and is suitable for high-speed transportation.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

Utilizing a dual-arm structure to achieve high-speed wafer transfer

Carrying capacity: Below 3Kg at the third joint of the arm

Compatible with various types of Forks to meet the wafer transfer needs for different jobs

Wafer securing methods: Vacuum suction type / Clamping type / Clamping and lifting type / Contact Bernoulli type / Non-contact Bernoulli type

Based on the equipment layout, you can choose either an upper or lower fixing method

- Application: Suitable for high-speed wafer handling in atmospheric environments, applicable to various semiconductor equipment, including EFEM (Equipment Front End Module), Sorter, coating and developing equipment, cleaning equipment, and inspection equipment

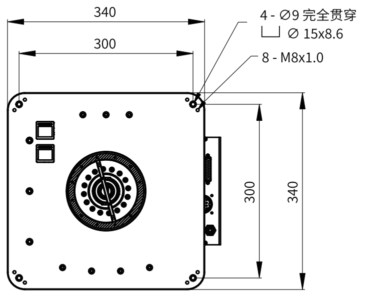
Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers		
Reachable Range	Arm: 290/376mm	Rotation:340度	Lifting:240/300/400/500
Handling Speed (average speed)	750mm/s	235~340°/s	500mm/s
Arm Type	Dual Arms		
Handling Height	700-1020mm		
Repeatability Accuracy	Within ±0.1mm		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class 1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

RANGE OF MOTION

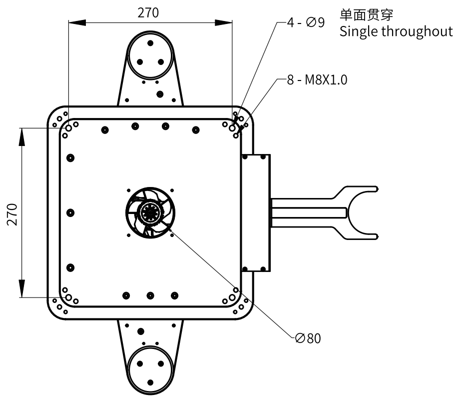
Top fixed mode

(Fix the counterbore and adjust the screw according to the configuration)

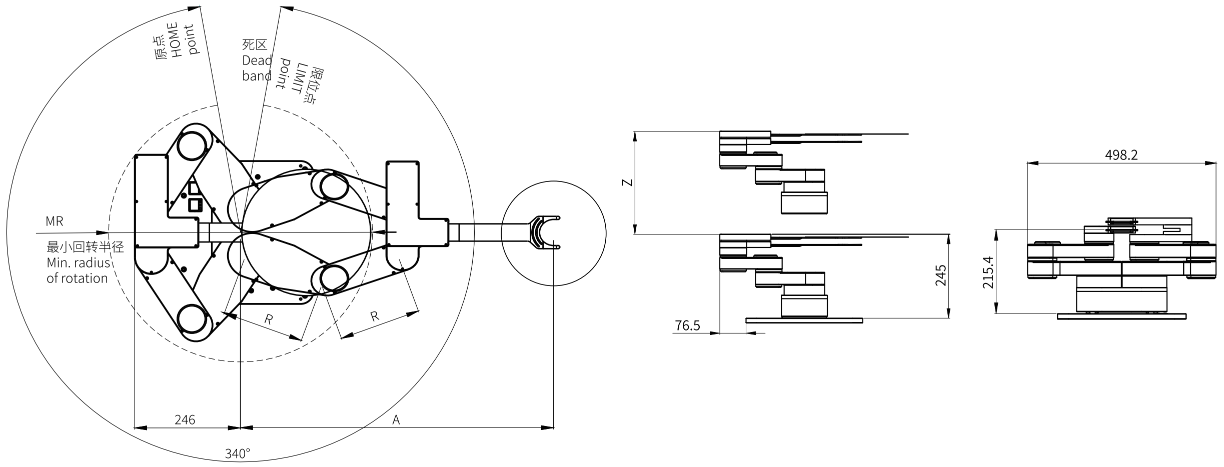


Bottom fixed mode

(Fix the counterbore and adjust the screw according to the configuration)



Schematic diagram of the motion range for a dual-arm robotic arm



Model	Z	R	MR*	A*
FWRS	300	146	8寸520	600
	400	190.5	8寸600	720
	500	213	12寸630	910

The arm length and minimum rotation radius may vary depending on the specific end effectors and drive shafts selected. The actual length should be based on the final product.

FPRD Series Dual-Arm 4-Axis PLP Robot

This mechanical arm is designed for material handling in high-cleanliness environments. It employs a closed-loop control system and is suitable for the transportation of PLP glass substrates.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

Carrying weight: below 4Kg

Capable of being paired with different types of Forks to meet various wafer transfer requirements

Fixed methods can be chosen either from the top or bottom based on the equipment layout

- Application: High-cleanliness, space-constrained glass substrate PLP EFEM and similar equipment.

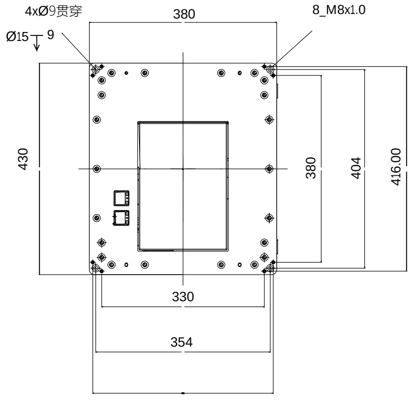
Specification parameter

Handling Object	515*510mm Glass Substrate		
Reachable Range	Arm: 376/500/760mm	Theta Rotation:340°	Lifting:Z300/ZD500/ZD700
Handling Speed (average speed)	550mm/s	200°/s	300mm/s
Arm Type	Dual Arms		
Handling Height	890mm		
Repeatability Accuracy	Within ±0.2mm		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class 1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

RANGE OF MOTION

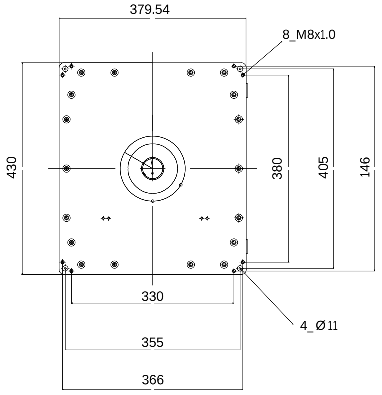
Top fixed mode

(Fix the counterbore and adjust the screw according to the configuration)

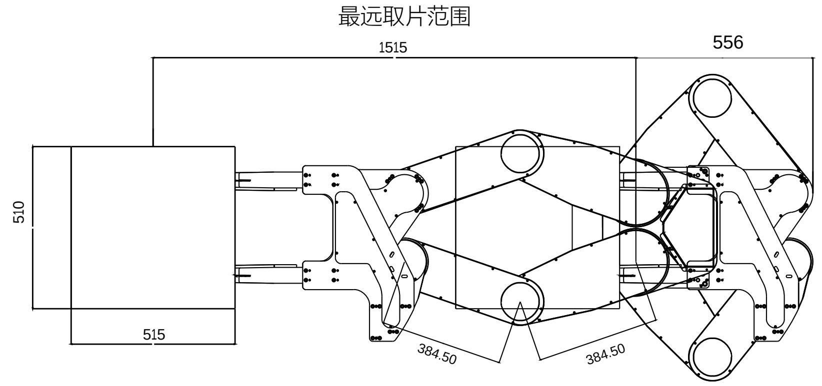


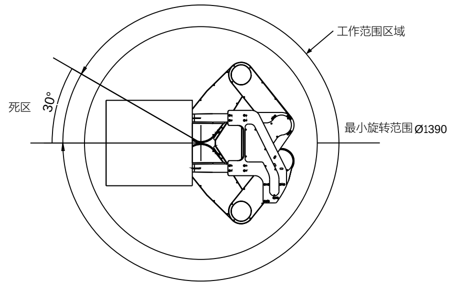
Bottom fixed mode

(Fix the counterbore and adjust the screw according to the configuration)

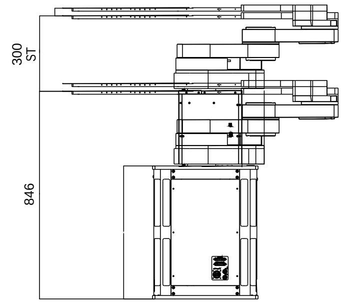


Schematic diagram of the motion range for a dual-arm robotic arm





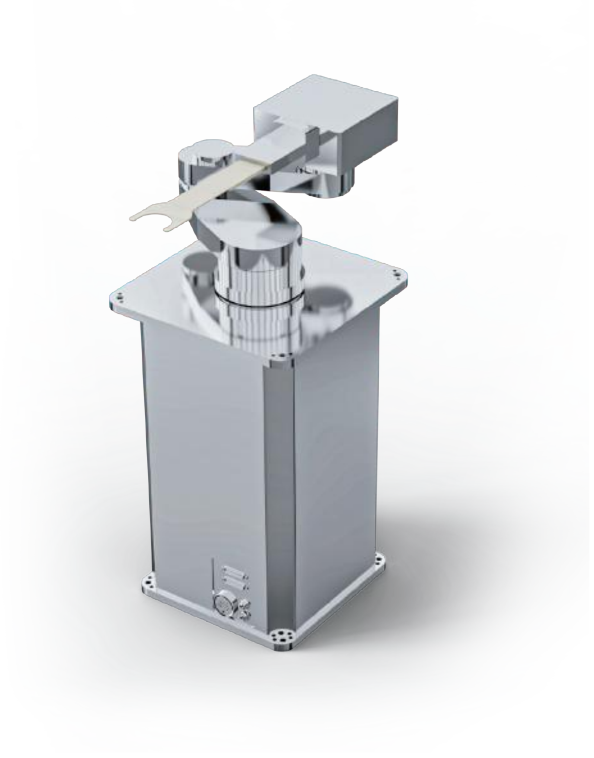
Home position



The arm length and minimum rotation radius may vary depending on the specific end effectors and drive shafts selected. The actual length should be based on the final product.

FWRS Series Single-Arm Rotary Robot with 4-Axis

This mechanical arm is designed for material handling in high-cleanliness environments. It features a closed-loop control system and is suitable for applications where End Effector (EEF) rotation is required.



Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

The EEF can achieve a flip from 0 to 180 degrees

Carrying capacity: Below 3Kg at the third joint of the arm

Compatible with various types of Forks to meet the wafer transfer needs for different jobs

Wafer retention methods: Vacuum suction type/Clamping type/Contact Bernoulli type/Non-contact Bernoulli type

Based on the equipment layout, you can choose either an upper or lower fixing method

- Application: High-speed wafer handling in atmospheric environments, suitable for various semiconductor equipment such as EFEM, Sorter, coating and developing equipment, cleaning equipment, and inspection equipment.

Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers			
Reachable Range	Arm: 290/376mm	Rotation: 340°	Lifting:240/300/400/500	Flip Rotation:180°
Handling Speed (average speed)	750mm/s	340°/s	500mm/s	360°/s
Arm Type	Single Arm			
Handling Height	690-1050mm			
Repeatability Accuracy	± 0.1mm Within			
Communication Protocol	HEX/ASCII			
Communication Method	EtherNet/RS232			
Cleanliness	Highest ISO Class 1			
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa			

FWRD-Five/Six-Axis Dual-Arm Flip Manipulator Series

This mechanical arm is designed for material handling in high-cleanliness environments. It features a closed-loop control system and is suitable for applications where End Effector (EEF) rotation is required.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

Utilizing a dual-arm structure to achieve high-speed wafer transfer

Utilizing a dual-arm structure to achieve high-speed wafer transfer

Carrying capacity: Below 3Kg at the third joint of the arm

Carrying capacity: Below 3Kg at the third joint of the arm

Wafer holding methods: Vacuum suction/Clamping/Contact Bernoulli/Non-contact Bernoulli

Carrying capacity: Below 3Kg at the third joint of the arm

- Application: High-speed wafer handling in atmospheric conditions, suitable for various semiconductor equipment, including EFEM, Sorter, cleaning equipment, and inspection equipment.

Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers			
Reachable Range	Arm: 290/376mm	Rotation: 340°	Lifting:240/300/400/500	Flip Rotation:180°
Handling Speed (average speed)	750mm/s	235~340°/s	500mm/s	360°/s
Arm Type	Dual-arm Single Flip/Dual-arm Double Flip Options Available			
Handling Height	690-1050mm			
Repeatability Accuracy	Within ± 0.1mm			
Communication Protocol	HEX/ASCII			
Communication Method	EtherNet/RS232			
Cleanliness	Highest ISO Class 1			
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa			

FMRS-Three-Axis MASK Single-Arm Manipulator

This mechanical arm is designed for material handling in high-cleanliness environments. It employs a closed-loop control system and is suitable for the transfer of MASK wafers and square glass plates.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

The EEF employs a closed-loop control system using a gripping mechanism

Carrying capacity: Below 3Kg at the third joint of the arm

Compatible with various types of Forks to meet the wafer transfer needs for different applications

Wafer holding methods: Clamping type, Lifting type

Based on the equipment layout, you can choose either an upper or lower fixing method

- Application: Suitable for working conditions with high requirements for cleanliness, precision, and reliability, ensuring the efficient and stable transfer of photomask (MASK) wafers in lithography processes. It is applicable to MASK EFEM and other MASK wafer transfer systems.

Specification parameter

Handling Object	Mask Wafer/Square Glass Wafer		
Reachable Range	Arm: 376mm	Theta Rotation: 340°	Lifting:240/300/400/500
Handling Speed (average speed)	600mm/s	235°/s	250mm/s
Arm Type	Single Arm		
Handling Height	520-820mm		
Repeatability Accuracy	±0.1mm Within		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class 1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

FMRD-Four-Axis MASK Dual-Arm Manipulator

This mechanical arm is designed for material handling in high-cleanliness environments. It employs a closed-loop control system and is suitable for the transfer of MASK wafers and square glass plates.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout;

The EEF employs a closed-loop control system using a gripping mechanism;

Adopting a dual-arm structure, the robotic arm can reduce the wafer exchange time。

Wafer holding methods: Clamping type, Lifting type;

Compatible with various types of Forks to meet the wafer transfer needs for different applications;

Carrying capacity: Below 3Kg at the third joint of the arm;

Based on the equipment layout, you can choose either an upper or lower fixing method。

- Application: Suitable for working conditions with high requirements for cleanliness, precision, and reliability, ensuring the efficient and stable transfer of photomask (MASK) wafers in lithography processes. It is applicable to MASK EFEM and other MASK wafer transfer systems.

Specification parameter

Handling Object	Mask Wafer/Square Glass Wafer		
Reachable Range	Arm: 376mm	Theta Rotation: 340°	Lifting:240/300/400/500
Handling Speed (average speed)	600mm/s	235°/s	250mm/s
Arm Type	Dual Arms		
Handling Height	520-820mm		
Repeatability Accuracy	±0.1mm Within		
Communication Protocol	HEX/ASCI		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class 1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

FHRS-Three-Axis Humid Single-Arm Manipulator

This robotic arm is suitable for wafer transfer in waterproof environments and can be used in conjunction with a wafer flipper and edge grip mechanism. It has a protection level of IP64 and is capable of handling wafers in acidic, alkaline, and cleaning environments.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

Carrying capacity: Below 3Kg at the third joint of the arm

The arm section is coated with Teflon to ensure corrosion resistance

O-ring seals are used at component joint interfaces

The waterproof structure of the Z-axis utilizes an accordion-style bellows

Wafer fixing methods: Vacuum suction type / Clamping type

- Application: High-speed transportation of semiconductor wafers in waterproof environments, suitable for various wet process semiconductor equipment, EFEM (Equipment Front End Module), Sorter, and other cleaning process equipment.

Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers		
Reachable Range	Arm: 290/376mm	Theta Rotation: 340°	Lifting:300/400/500
Handling Speed (average speed)	750mm/s	235°/s	500mm/s
Arm Type	Single Arm		
Handling Height	780--980mm		
Repeatability Accuracy	±0.1mm Within		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

FHRD-Four-Axis Humid Dual-Arm Manipulator

This manipulator is suitable for wafer transfer in waterproof environments and can be used in conjunction with wafer flipping and edge clamping mechanisms. It has a protection level of IP64, enabling the handling of wafers in acidic, alkaline, and cleaning environments.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

The arm section is coated with Teflon to ensure corrosion resistance

Carrying capacity: Below 3Kg at the third joint of the arm

O-ring seals are used at component joint interfaces

The waterproof structure of the Z-axis utilizes an accordion-style bellows

Wafer fixing methods: Vacuum suction type / Clamping type

Adopting a dual-arm structure, the robotic arm can reduce the wafer exchange time

Based on the equipment layout, you can choose either an upper or lower fixing method

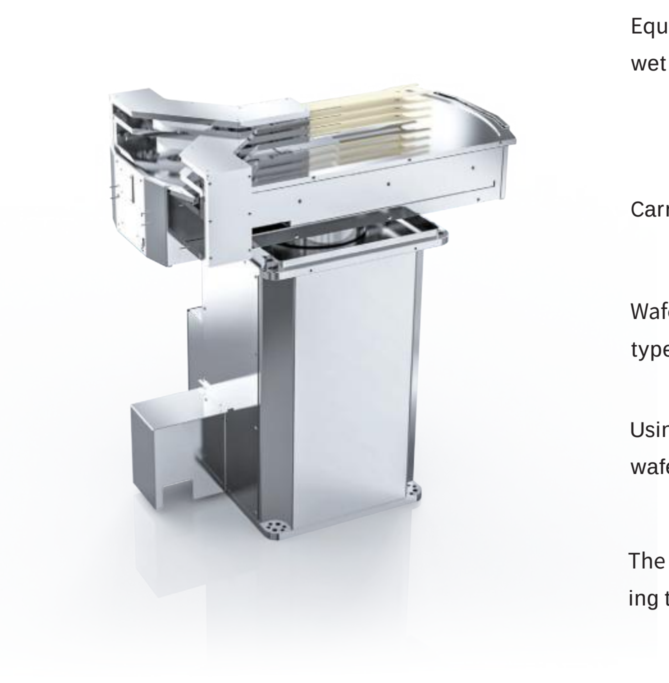
- Application: High-speed transportation of semiconductor wafers in waterproof environments, suitable for various wet process semiconductor equipment, EFEM (Equipment Front End Module), Sorter, and other cleaning process equipment.

Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers		
Reachable Range	Arm: 290/376mm	Theta Rotation: 340°	Lifting:300/400/500
Handling Speed (average speed)	750mm/s	235°/s	500mm/s
Arm Type	Dual Arms		
Handling Height	800--1000mm		
Repeatability Accuracy	±0.1mm Within		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

FHRA*4-6 Axis Humid Quadruple-Arm Robot

This robotic arm is suitable for wafer transfer in waterproof environments and can be equipped with vacuum suction/edge clamping mechanisms. It has an IP64 protection rating, allowing it to handle wafers in acidic, alkaline, and cleaning environments.



Equipped with four Forks, it can be separated for dry and wet handling.

Carrying capacity: Below 3Kg at the third joint of the arm

Wafer fixing methods: Vacuum suction type / Clamping type

Using a 4-arm structure, with independent motion for wafer transfer, reduces wafer exchange time

The arm reach and track travel can be customized according to actual working conditions

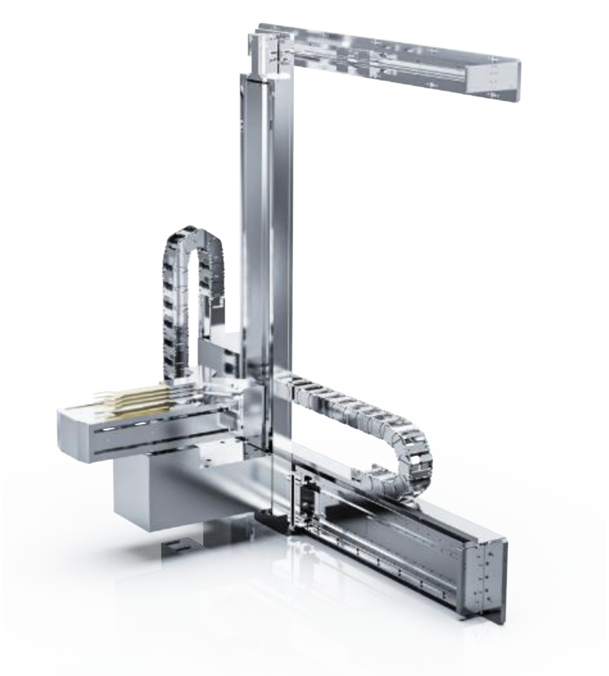
- Application: High-speed wafer handling in waterproof environments, suitable for various semiconductor equipment related to wet processes, including EFEM, Sorter, and cleaning process equipment with compact space requirements.

Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers		
Reachable Range	Arm: 290/376mm	Theta Rotation: 340°	Lifting:300/400/500
Handling Speed (average speed)	1000mm/s	200°/s	500mm/s
Arm Type	Single Arm		
Handling Height	692--792		
Repeatability Accuracy	±0.1mm Within		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

FHRA*4-7 Axis Humid Quadruple-Arm Robot

This robotic arm is suitable for wafer transfer in waterproof environments and can be equipped with vacuum suction/edge clamping mechanisms. It has an IP64 protection rating, allowing it to handle wafers in acidic, alkaline, and cleaning environments.



Equipped with four Forks, it can be separated for dry and wet handling.

Carrying capacity: Below 500g at the third joint of the arm

Carrying capacity: Below 3Kg at the third joint of the arm

Wafer fixing methods: Vacuum suction type / Clamping type

Using a 4-arm structure, with independent motion for wafer transfer, reduces wafer exchange time

The arm reach and track travel can be customized according to actual working conditions

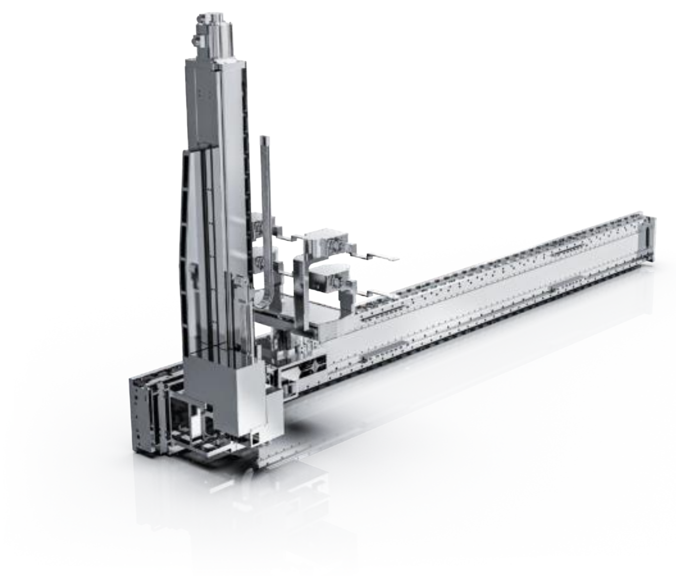
- Application: High-speed wafer handling in waterproof environments, suitable for various semiconductor equipment related to wet processes, including EFEM, Sorter, and cleaning process equipment where the vertical and horizontal travel distances need to be customized according to space requirements.

Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers			
Reachable Range	Arm: 1000mm	Rotation: 340°	Lifting: Customized ≥500	Track:定制
Transport Speed (average speed)	2000mm/s	200°	400~1000mm/s	800~3500mm/s
Arm Type	Quad Arms			
Repeat Precision	±0.1mm以内			
Communication Protocol	HEX/ASCII			
Communication Method	EtherNet/RS232			
Cleanliness Level	Highest ISO Class1			
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa			

FHRD-Seven-Axis Electroplating Process Manipulator

This mechanical arm is designed for material handling in cleanroom environments with corrosive liquids. It employs a closed-loop servo control system and is suitable for stable transportation.



Optional XY Module-based Equipment Layout

Adopting a modular dual-arm structure to achieve high-speed wafer transfer

Adopting a modular lifting structure to achieve rapid elevation of the main body and customized design

Can be paired with different types of Forks to meet various wafer transfer requirements under different working conditions

Handling Weight: The arm, including the End Effector (EEF), is below 3Kg

Wafer Fixation Methods: Vacuum Adsorption / Mechanical Clamping

Customizable according to customer space requirements

- Application: Positioned inside the customer's electroplating process chamber to facilitate the transfer of wafers in wet processes, and the travel range of XYR can be customized according to the customer's spatial requirements.

Specification parameter

Handling Object	12-inch Wafer			
Reachable Range (from rotation center to the third joint center)	Arm: 475mm Customizable	Theta Rotation:340°	Lifting: 500—2000mm customizable	Flip Axis: ±180°
Handling Speed (average speed)	550mm/s	340°/s	400——1000mm/s customizable	340°/s
Arm Type	Dual Arms			
Handling Height	Depends on configuration			
Repeatability Accuracy	Within ±0.1mm			
Communication Protocol	HEX/ASCII			
Communication Method	EtherNet/RS232			
Cleanliness	Highest ISO Class 1			
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa			

FCRS-Four-Axis Cassette Robot

This robotic arm is designed for material handling in high-cleanliness conditions, employing a closed-loop servo control system, and is suitable for high-speed transfer operations.

Optional pseudo-horizontal multi-joint motion corresponding to parallel equipment layout

Adopting a single-arm construction, it can achieve high-speed transfer of wafers

Adopting a single Z-axis lifting structure, it is possible to achieve rapid lifting and lowering of the main body

Carrying capacity: Below 4Kg at the third joint of the arm

Capable of being paired with various types of custom forks to meet the transportation needs of different specifications of Cassette/reagent boxes

Fixed Method: Clamping Type

Fixed methods can be chosen either from the top or bottom based on the equipment layout

- Application: Suitable for handling open cassettes, reagent boxes, and similar items in clean environments, with customization available based on specific usage conditions.

Specification parameter

Handling Object	3-inch/4-inch/6-inch/8-inch Cassette/Suitable Size Reagent Box		
Reachable Range (from rotation center to the third joint center)	Arm: 290/376mm	Theta Rotation:340°	Lifting: 300/400/500
Handling Speed (average speed)	750mm/s	235°/s	500mm/s
Arm Type	Single Arm		
Handling Height	Configuration dependent		
Repeatability Accuracy	±0.1mm Within		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class 1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

FWRD-ZD Five-Axis Dual-Z Robot Series

This robotic arm is designed for material handling in high-cleanliness conditions, employing a closed-loop servo control system, and is suitable for high-speed transfer operations.

The robot is equipped with four forks to accommodate dry/wet robotic arms

The dual-arm configuration can achieve high-speed wafer transfer

Using a dual Z-axis lifting structure, rapid lifting and lowering of the main body can be achieved within a high travel range.

Carrying capacity: Below 3Kg at the third joint of the arm

Capable of being paired with different types of Forks to meet various wafer transfer requirements

Wafer holding methods: Vacuum suction type/Clamping type/Clamping and lifting type/Contact Bernoulli type / Non-contact Bernoulli type

Based on the equipment layout, you can choose either an upper or lower fixing method

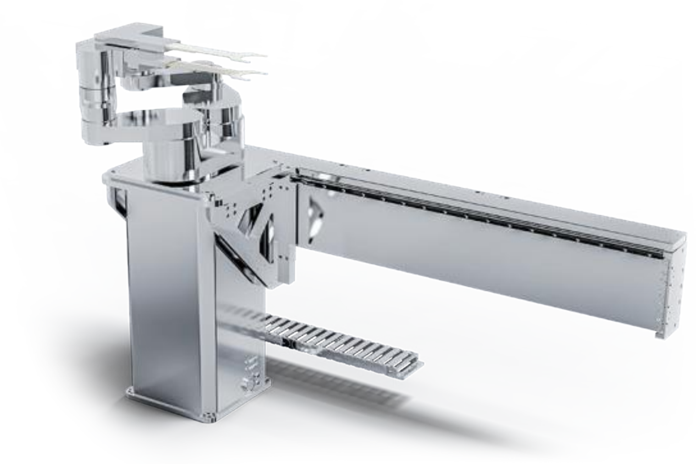
Specification parameter

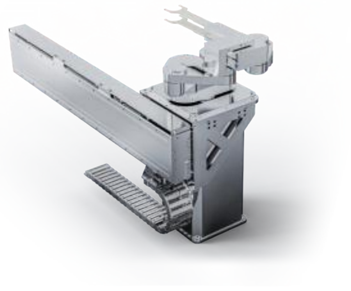
Handling Object	3-inch/4-inch/6-inch/8-inch/12-inch wafers		
Reachable Range	Arm: 290/376mm	Theta Rotation:340°	Lifting: 300/400/500
Handling Speed (average speed)	750mm/s	235°/s	800mm/s
Arm Type	Dual Arms		
Handling Height	820--1020mm		
Repeatability Accuracy	±0.1mm以内		
Communication Protocol	HEX/ASCII		
Communication Method	EtherNet/RS232		
Cleanliness	Highest ISO Class 1		
Facilities	Power: 220V, 10A, Vacuum: -70~-90Kpa, Positive Pressure: 0.1—0.5Mpa		

Optional TRACK Axis Series

With the optional Track axis, it can be coordinated with Fortrend Robot to be suitable for 2-4 LOADPORT wafertransfer

Side-Mounted TRACK





Floor-Mounted TRACK