

The World's Leader of Robot Technology
Robots and Design

Robots and design

Specialized in developing and manufacturing advanced Robots and Equipment or Factory Automation

(주)로봇앤디자인은

첨단 로봇과 자동화장비를 연구 개발 및 제조하는 로봇 전문 기업입니다.

(株)ロボットアンドデザインは

ハイテックロボットと自動化装置を研究開発及び製造するロボット専門の企業です。

Robots and design

是一家专门研发制造尖端机械设备和自动化装备的企业。

Technical Patent

Content	Patent Technology	Registration No.
Patent	Clean environmental Correspondence Structure of Clean Cartesian Robot	Patent No. 365015
	Class Chip Position Arrangement Device	Patent No. 419002
	Cartesian Robot with two End-Effectors	Patent No. 410882
	DNA/Protein Array Humidification Control Device	Patent No. 419003
	Robot Standard Link	Patent No. 503851
	Robot Module with accessible interface device	Patent No. 464555
	Robot Link Structure	Patent No. 464554
	Slide Gripper used for Gene Reader	Patent No. 459766
	Sliding Automatic Transfer Device & Sliding Transfer Method	Patent No. 446352
	Device of Robot Hand	Patent No. 536034
Protective device for Robot Hand	Patent No. 536033	

Certificate

CONTENT	ITEM	ISSUED BY
CE	WAFER TRANSFER ROBOT	TUV
	EFEM	TUV
	CCD ALIGNER	TUV
	FOUP OPENER	TUV
ISO9001	Quality Management System	SYSTEM KOREA

Company Group



Incell Bio Co., Ltd launches and develops total laboratory automation system which process 300 tests per hour, micro-organism stainer for TB, Gram, and etc stains ans so on.

WEBPAGE : <http://incellbio.co.kr>

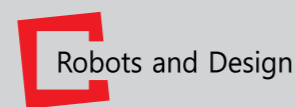


Maxx Digm, Inc. is a manufacturer of advanced dental milling machine and expert in robotics, and representative of their sales and service in North America.

WEB PAGE : <http://www.maxxdigm.com>



Celltrio, Inc. provides robotics-based solutions for the life sciences industry with unique, IP-protected solutions in biobanking, cell culturing automation, and more.



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About Us...

(주)로봇앤디자인은 첨단 로봇 및 자동화 장비 전문 회사로 보다 나은 인간의 삶을 위해 연구 개발에 전념하고 있습니다. 1999년 자사 설립 이후, 자체 기술로 개발된 55개 이상의 로봇을 제조하여 이를 ODM, OEM 형태로 국내외 반도체, 디스플레이, 나노 광학, 바이오산업, 교육 및 서비스 시장에 공급해왔습니다.
 (주)로봇앤디자인의 목표는 최고의 솔루션을 제공해 고객 만족을 극대화하는 것입니다.
 20년 이상의 축적된 전문기술과 신속한 대응력은 고객 만족을 실현하게 합니다.

Specialized in Advanced Robots and Automation Equipment, Robots and Design devotes to R&D for a better human life. Established in 1999, RND has manufactured and supplied more than 55 kinds of robots as ODM or OEM to the domestic as well as the international market in the field of semiconductor, display, nano-optics, biotechnology, education, service, etc. Also, RND has developed the high quality products with our own technology within a competitive price range. RND aims to provide the best solution and optimize our customer's satisfaction. With more than 20 years of accumulated expertise and rapid service capability, RND brings our aim to realization.

(株) ロボットアンドデザインは、ウェハ搬送関連ロボットに於いて、お客様に最適なソリューションを提供し、ロボット専門企業として20年以上蓄積した経験と熟練した技術を基に半導体装置や最先端自動化装置などを開発、製造、販売しています。産業用最先端ロボットには、主にPick and Placeと組立工程で使用されている、垂直/水平多関節ロボット、半導体、ディスプレイ、光学機器が含まれており、その他にも教育サービス用、フィールド用製品も設計・製造しています。
 (株) ロボットアンドデザインはこれからも最適なソリューションを迅速に提供し、お客様の信頼できるパートナーになり、最終的に更なる発展と相互成功を目指します。

RND公司成立于1999年，经过20多年不断开拓，我们生产的自动化设备已经超出了200种。主要产品包括半导体装置用Robot, System, Display, 工业用机器人, 教育用机器人, 服务用机器人等高质量产品。
 RND公司以‘满意客户’为核心价值，一切以用户需求为中心，并且倡导‘卓越品质’。
 优质的设计制造以及细腻的服务，不仅赢得了众多企业的信赖和好评，而且在选材上采用国际一流的标准部件，同时我们根据客户的需求灵活设计改良产品，逐步塑造了韩国自动化设备领域的先导企业。
 我们的目的是为客户提供最佳的解决方案和优质的产品。
 我们相信，我们的不懈努力和追求一定能够实现与客户企业的互利共赢发展。

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Standard WTR(Wafer Transfer Robot)



- Transfer 12" Wafer
- Clean room Application
- ODM or OEM Supply
- Single & Dual arm / Multi Blade Type
- Fast & Precise Motion Robot
- 0.1 micron meter CLASS 1 Cleanliness
- Various End-Effector : Vacuum Blade, Edge Gripper
- Linear Track, Mapping Sensor(Optional)
- Customization available when requested

SPECIFICATION

MODEL		SPECIFICATION				
		8"WTR Single	8"WTR Dual	12"WTR Single	12"WTR Dual	
Motion Range	R1,R2 axis(Extension)	510 mm	510 mm	645 mm	645 mm	
	T axis(Rotation)	330 deg	330 deg	330 deg	330 deg	
	Z axis(Up/down)	200 mm	200 mm	300 mm	300 mm	
	X axis(Traverse) Optional	○	○	○	○	
Performance Max. Speed	R1,R2 axis(Extension)	247 deg/sec	247 deg/sec	247 deg/sec	247 deg/sec	
	T axis(Rotation)	211 deg/sec	211 deg/sec	211 deg/sec	211 deg/sec	
	Z axis(Up/down)	500 mm/sec	500 mm/sec	500 mm/sec	500 mm/sec	
	X axis(Traverse) Optional	1000 mm/sec	1000 mm/sec	1000 mm/sec	1000 mm/sec	
Repeatability	R1,R2 axis(Extension)	±0.1 mm	±0.1 mm	±0.1 mm	±0.1 mm	
	T axis(Rotation)	±0.02 deg	±0.02 deg	±0.02 deg	±0.02 deg	
	Z axis(Up/down)	±0.1 mm	±0.1 mm	±0.1 mm	±0.1 mm	
	X axis(Traverse) Optional	±0.1 mm	±0.1 mm	±0.1 mm	±0.1 mm	
General	Wafer Size	8 inch		12 inch		
	Control Axis	3	4	3	4	
	Arm Type	Single Arm	Dual Arm	Single Arm	Dual Arm	
	Blade Thickness	≤ 2.5mm		≤ 3mm		
	Cleanliness	Class 1 @ 0.1µm				
	Load Capacity	1 kgf (Including Gripper)				
	Weight	32 kgf	32 kgf	35 kgf	35 kgf	
	Cable Length (Robot - Controller)	3m (Standard)				
	Utility	Power (Controller)	Single Phase AC208 ±10%, 50/60Hz			
		Air	More than 0.4~ 0.5MPa, Ø 4mm			
Vacuum		Less than -50 kPa				
Environment	Operating Temp.	0~40 °				

Telescopic Robot



- Maximum 1,200 mm vertical stroke(Z-stroke) is achieved.
- Up to 3-step telescopic type application
- ODM or OEM Supply
- Dual arm / Multi Blade Type
- Fast & Precise Motion Robot
- 0.1 micron meter CLASS 1 Cleanliness
- Various End-Effector : Vacuum Blade, Edge Gripper
- Linear Track, Wafer mapping sensor(Optional)
- Customization available when requested

SPECIFICATION

MODEL		SPECIFICATION			
		Tele Single (2-Step)	Tele Dual (2-Step)	Tele Single (3-Step)	Tele Dual (3-Step)
Motion Range	R1,R2 axis(Extension)	651 mm	651 mm	651 mm	651 mm
	T axis(Rotation)	330 deg	330 deg	330 deg	330 deg
	Z axis(Up/down)	1,050 mm	1,050 mm	1,200 mm	1,200 mm
	X axis(Traverse) Optional	○	○	○	○
Performance Max. Speed	R1,R2 axis(Extension)	360 deg/sec	360 deg/sec	360 deg/sec	360 deg/sec
	T axis(Rotation)	256 deg/sec	256 deg/sec	196 deg/sec	196 deg/sec
	Z axis(Up/down)	600+600 mm/sec		400+400+400 mm/sec	
	X axis(Traverse) Optional	1000 mm/sec			
Repeatability	R1,R2 axis(Extension)	±0.1 mm	±0.1 mm	±0.1 mm	±0.1 mm
	T axis(Rotation)	±0.02 deg	±0.02 deg	±0.02 deg	±0.02 deg
	Z axis(Up/down)	±0.1 mm	±0.1 mm	±0.1 mm	±0.1 mm
General	Wafer Size	8~12 inch			
	Control Axis	4	5	5	6
	Arm Type	Single Arm	Dual Arm	Single Arm	Dual Arm
	Blade Thickness	≤ 3mm			
	Cleanliness	Class 1 @ 0.1µm			
	Load Capacity	1 kgf (Including Gripper)			
	Weight	80 kgf	80 kgf	110 kgf	110 kgf
	Cable Length (Robot - Controller)	3m (Standard)	3m (Standard)	3m (Standard)	3m (Standard)
	Power (Controller)	Single Phase AC220V ±10%, 10A			
	Utility	Air	More than 0.4~ 0.5MPa, Ø 4mm		
	Vacuum	Less than -50 kPa			
Environment	Operating Temp.	0~40 °			

Flip Robot



- Single or Dual arm Robot
- Handling 8~12" wafers
- 180°Arm flipping function : Single or Dual flip.
- Options : mapping function, Smart motion, Linear Track (Linear motor type, belt type, ball screw type, Rack pinion type)

SPECIFICATION

MODEL		SPECIFICATION		
		12" S-Flip	12" D-Flip	
Motion Range	R1,R2 axis (Extension)	600 mm	600 mm	
	T axis(Rotation)	330 deg	330 deg	
	Z axis(Up/down)	300 mm	300 mm	
	X axis(Traverse) Optional	○	○	
Performance Max. Speed	R1,R2 axis (Extension)	300 deg/sec	300 deg/sec	
	T axis(Rotation)	211 deg/sec	211 deg/sec	
	Z axis(Up/down)	500 mm/sec	500 mm/sec	
	X axis(Traverse) Optional	1000 mm/sec	1000 mm/sec	
Repeatability	R1,R2 axis (Extension)	±0.1 mm	±0.1 mm	
	T axis(Rotation)	±0.02 deg	±0.02 deg	
	Z axis(Up/down)	±0.1 mm	±0.1 mm	
General	Wafer Size	8~12"		
	Control Axis	4	5	
	Arm Type	Single Arm	Dual Arm	
	Blade Thickness	≤ 3mm	≤ 3mm	
	Cleanliness	Class 10		
	Load Capacity	1 kgf (Including Gripper)		
	Weight	35 kgf		
	Cable Length (Robot - Controller)	3m (Standard)		
	Utility	Power (Controller)	Single Phase AC208 ±10%, 50/60Hz	
		Air	More than 0.4~ 0.5MPa, Ø 4mm	
Vacuum		Less than -50 kPa		
Environment	Operating Temp.	0~40 °		

SCARA Robot



- Transfer 12inch Wafer
- Single Arm with 1 or 2 Blade
- Wide range without traverse axis(track)
- Fast & Precise Motion Robot
- Port Application : 2 port base (3 Port possible if the arm is modified)
- Customization available when requested.

SPECIFICATION

MODEL		SPECIFICATION		
		Scara Single	Scara Dual	
Motion Range	X axis	±798 mm	±798 mm	
	Ø axis	330 deg	330 deg	
	Roll 1,2	360 deg	360 deg	
	Z axis	300 mm	300 mm	
Performance Max. Speed	X axis	360 deg/sec	360 deg/sec	
	Ø axis	226 deg/sec	226 deg/sec	
	Roll 1,2	500 deg/sec	500 deg/sec	
	Z axis	750 mm/sec	750 mm/sec	
Repeatability	X axis	±0.1 mm	±0.1 mm	
	Ø axis	±0.1 deg	±0.1 deg	
	Roll 1,2	±0.1 deg	±0.1 deg	
General	Wafer Size	12" wafers		
	Control Axis	4	5	
	Arm Type	Single Arm	Dual Arm	
	Blade Thickness	≤ 3mm		
	Cleanliness	Class 1 @ 0.1µm		
	Load Capacity	1 kgf (Including Gripper)		
	Weight	45 kgf	45 kgf	
	Cable Length (Robot - Controller)	3m (Standard)		
	Utility	Power (Controller)	AC220/230V ±10% 1Phase, 50/60 Hz, 6A, 1.2kva	
		Air	0.25 ~ 0.5MPa, Ø4mm	
Vacuum		-66.7 kpa, Ø6mm		
Environment	Operating Temp.	0~40 °		

SEMICONDUCTOR APPLICATION

Cartesian Unit Robot



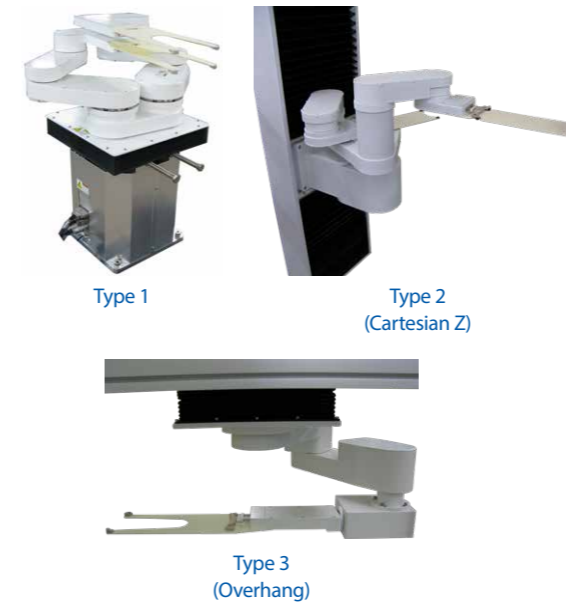
- Cartesian coordinates structure for all axes
- High speed and precise wafer handling
- Short tack time and increase of throughput
- Available to use in lower passline

SPECIFICATION

	CONTENTS	SPECIFICATION	
Motion Range	R1,R2 axis(Extension)	680 mm	
	T axis(Rotation)	330deg	
	Z axis(Up/down)	1550 mm	
	X axis(Traverse) Optional	0	
Max. Speed	R1,R2 axis(Extension)	247 deg/sec	
	T axis(Rotation)	235 deg/sec	
	Z axis(Up/down)	555 mm/sec	
	X axis(Traverse)	1500 mm/sec	
Repeatability	R1,R2 axis(Extension)	±0.05 mm	
	T axis(Rotation)	±0.01 deg	
	Z axis(Up/down)	±0.05mm	
	X axis(Traverse)	±0.02mm	

SEMICONDUCTOR APPLICATION

Wet Robot



- Designed to use in wet/humid condition
- Use of bellows and Teflon coated body with cover
- Highly sealed mechanical structure

SPECIFICATION

	CONTENTS	SPECIFICATION	
		TYPE 1	TYPE 2 (Cartesian Z)
Motion Range	R1,R2 axis(Extension)	645 mm	680 mm
	T axis(Rotation)	330deg	330deg
	Z axis(Up/down)	300 mm	1255 mm
	X axis(Traverse) Optional	0	0
Max. Speed	R1,R2 axis(Extension)	247 deg/sec	275 deg/sec
	T axis(Rotation)	211 deg/sec	188 deg/sec
	Z axis(Up/down)	500 mm/sec	500 mm/sec
	X axis(Traverse)	1000 mm/sec	1000 mm/sec
Repeatability	R1,R2 axis(Extension)	±0.1 mm	±0.1 mm
	T axis(Rotation)	±0.05 deg	±0.05 deg
	Z axis(Up/down)	±0.1 mm	±0.1 mm
	X axis(Traverse)	±0.1 mm	±0.1 mm

Cartesian Z axis Robot



- Combination of Cartesian Z axis & link structure (Gantry or Non Gantry type of Z axis)
- High speed and precise wafer handling
- Short tack time and increase of throughput
- Available to use in lower passline

SPECIFICATION

	CONTENTS	SPECIFICATION	
		Gantry type	Non-Gantry type
Motion Range	R1,R2 axis(Extension)	680 mm	560 mm
	T axis(Rotation)	330deg	210deg
	Z axis(Up/down)	1550 mm	1100 mm
	X axis(Traverse) Optional	0	0
Max. Speed	R1,R2 axis(Extension)	247 deg/sec	247 deg/sec
	T axis(Rotation)	211 deg/sec	211deg/sec
	Z axis(Up/down)	500 mm/sec	500 mm/sec
	X axis(Traverse)	1000 mm/sec	1000 mm/sec
Repeatability	R1,R2 axis(Extension)	±0.05 mm	±0.1 mm
	T axis(Rotation)	±0.01 deg	±0.1 deg
	Z axis(Up/down)	±0.05mm	±0.1 mm
	X axis(Traverse)	±0.02mm	±0.1 mm

Variable Pitch WTR



- 6~25mm pitch variation (Accessible to different pitch of cassettes)
- Easy Maintenance
- Multi-chuck wafer transfer(5 wafer/time)
- Single wafer transfer(1+4 Blade type)
- Wafer mapping(Optional)
- High reliability
- Customization for customer's needs

SPECIFICATION

	MODEL	SPECIFICATION	
Work Space	X axis	450 mm	
	T axis	236 deg	
	Z axis	1050 mm	
	V axis	6 mm ~ 25mm	
	W axis	120 deg	
Max Speed	X axis	500 mm/sec	
	T axis	200 deg/sec	
	Z axis	500 mm/sec	
	V axis	15 mm/sec	
	W axis	90 deg/sec	
Repeatable Accuracy	X axis	±0.1mm	
End-Effector		4 + 1 Blade	
End-Effector Grip type		Pocket Type	

Foup Handling Robot



- 12 inch Foup handling
- Mounted to AGV (Automated Guided Vehicle)
- 25 kg of payload maximum
- Wide motion range with Scara arm structure

SPECIFICATION

MODEL		SPECIFICATION	
Performance	Motion Range	R axis (Arm)	900 (615 + 285) mm
		T axis (rotation)	360 deg
		Z axis(Up/down)	250 mm
	Max. Speed	R axis (Arm)	118 deg/sec (Wrist) 151 deg/sec (Elbow)
		T axis (rotation)	188 deg/sec
		Z axis(Up/down)	500 mm/sec
Repeatability		±0.10 mm	
General	Handling Object		300mm 25 Slot FOUF, Ring Frame Cassette
	Control Axis		5
	Arm Type		SCARA
	Cleanliness		Class 10
	Load Capacity		15 kgf
	Weight		About 70 Kgf
Cable Length (Robot - Controller)		3m (Standard)	
Utility	Power (Controller)	DC12 or 24V (using 1Kw DC-AC converter)	
	Communication	Ethernet	

Cylindrical Type Robot



- Arm link structure with Cylindrical type of long Z axis for LED wafer Transfer
- Fast & precise motion and low cost
- Small footprint
- easy operation & maintenance
- Wide operation range

SPECIFICATION

MODEL		SPECIFICATION		
		SINGLE ARM	DUAL ARM	
Performance	Motion Range	R1,R2 axis(Extension)	530 mm	530 mm
		T axis(Rotation)	330 deg	330 deg
		Z axis(Up/down)	600 mm	600 mm
	Max.Speed	R1,R2 axis(Extension)	288 deg/sec	288 deg/sec
		T axis(Rotation)	733 mm/sec	733 mm/sec
		Z axis(Up/down)	500 mm/sec	500 mm/sec
Repeatability	R1,R2 axis(Extension)	±0.1 mm	±0.1 mm	
	T axis(Rotation)	±0.02 deg	±0.02 deg	
	Z axis(Up/down)	±0.1 mm	±0.1 mm	
General	Wafer Size		2~8"	
	Control Axis		3	4
	Arm Type		Single Arm	Dual Arm
	Blade Thickness		≤ 3mm	
	Cleanliness		Class 1 @ 0.1µm	
	Load Capacity		0.7 kgf (Including Gripper)	
Cable Length (Robot - Controller)		3m (Standard)		
Utility	Power (Controller)	Single Phase AC220V ±10%, 10A,		
	Air	More than 0.4~ 0.5MPa , Φ 4mm		
	Vacuum	Less than -50 kPa		
Environment	Operating Temp.	0~40°		

Foup Transfer Unit



- Transfer FOUF containing 25 of 300mm wafers to stocker
- Smooth and precise mechanism
- 10 kg of load capacity
- Vertical traverse axis allows to transfer the Foup from low and high position

SPECIFICATION

MODEL		SPECIFICATION
Operation range	Z axis(Up/Down)	2163mm
	Y axis(Travers)	505mm(2 FOUF)
	X axis(In/Out)	+354~-396mm
Transfer Speed	Z axis(Up/Down)	300 mm/sec
	Y axis(Travers)	500 mm/sec
	X axis(In/Out)	90 deg/sec
Repeatability	Z axis(Up/Down)	±0.20
	Y axis(Travers)	±0.10mm
	X axis(In/Out)	±0.20mm
Load Capacity		10kg(300mm 25slot FOUF)
Cleanliness		Clean Class10

18 inch Wafer Transfer Robot



- Clean Robot handling 18 inch wafer
- 2 step of Z axis
- Advanced motion control system
- High rigidity & lower vibration

SPECIFICATION

MODEL		SPECIFICATION		
		SINGLE ARM	DUAL ARM	
Performance	Motion Range	R1,R2 axis(Extension)	885 mm	885 mm
		T axis(Rotation)	330 deg	330 deg
		Z axis(Up/down)	600 mm	600 mm
	Max.Speed	R1,R2 axis(Extension)	360 deg/sec	360 deg/sec
		T axis(Rotation)	211 mm/sec	211 mm/sec
		Z axis(Up/down)	500 mm/sec	500 mm/sec
Repeatability	R1,R2 axis(Extension)	±0.1 mm	±0.1 mm	
	T axis(Rotation)	±0.02 deg	±0.02 deg	
	Z axis(Up/down)	±0.1 mm	±0.1 mm	
General	Wafer Size		8~18"	
	Control Axis		4	5
	Arm Type		Single Arm	Dual Arm
	Blade Thickness		≤ 3mm	
	Cleanliness		Class 1 @ 0.1µm	
	Load Capacity		1 kgf (Including Gripper)	
Cable Length (Robot - Controller)		3m (Standard)		
Utility	Power (Controller)	Single Phase AC208 ±10%, 50/60Hz		
	Air	More than 0.4~ 0.5MPa , Φ 4mm		
	Vacuum	Less than -50 kPa		
Environment	Operating Temp.	0~40°		

Long SCARA robot



SPECIFICATION

CONTENTS		SPECIFICATION
Motion Range	R axis(Extension)	680 mm
	T axis(Rotation)	170mm (Roll1 : 165mm, Roll2 : 275mm)
	Z axis(Up/down)	130 mm
Max. Speed	R axis(Extension)	600 deg/sec (Wrist) 450 deg/sec (Elbow)
	T axis(Rotation)	286 deg/sec
	Z axis(Up/down)	500 mm/sec
Repeatability	R axis(Extension)	±0.1 mm
	T axis(Rotation)	±0.05 deg
	Z axis(Up/down)	±0.1 mm
Load capacity		2 kg (including gripper)

- Extended motion range without traverse axis.
- Save the space and simplify the system configuration (One robot for multiple stages)
- Use the SCARA link with Cartesian Z axis
- Achieve the high speed of wafer transferring upto 417 wafers per an hour (WPH).

Reticle/Mask handling Robot



SPECIFICATION

CONTENTS		SPECIFICATION
Motion Range	R axis(Extension)	645 mm
	T axis(Rotation)	330 deg
	Z axis(Up/down)	200 mm
	X axis(Traverse) Optional	O
Max. Speed	R axis(Extension)	72 deg/sec
	T axis(Rotation)	106 deg/sec
	Z axis(Up/down)	250 mm/sec
Repeatability	X axis(Traverse)	750 mm/sec
	R axis(Extension)	±0.1 mm
	T axis(Rotation)	±0.02 deg
	Z axis(Up/down)	±0.1 mm
Load capacity		3 kg (including gripper)

- Handle the 150x150 reticle/mask.
- Use the specially designed gripper for handling
- Reticle or mask flipping is available

Pre-aligners

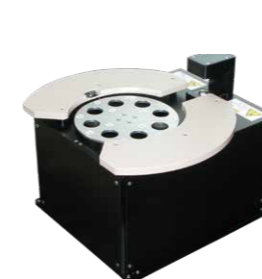


CCD ALIGNER (XYR TYPE)



CCD ALIGNER (XZR TYPE)

- Controller integrated compact Design.
- High Accuracy and reliable repeatability
- Compatible with 200mm/300mm wafer without any mechanical change (Edge grip type is only for 300mm)



CCD ALIGNER (WARPAGE TYPE)



EDGE GRIP ALIGNER

SPECIFICATION

MODEL	SPECIFICATION			
	CCD (XYR TYPE)	CCD (XZR TYPE)		
General	Axes	3	3	
	Handling Wafer	8~12 inch	2~8 inch	
	Body dimension	W	320 mm	305 mm
		D	230 mm	200 mm
		H	210 mm	248 mm
	Weight	About 10 kg	About 10 kg	
	Accuracy	Center Offset(mm)	±5 mm	±5 mm
		Centering(mm)	±0.1 mm	±0.1 mm
		Rotation(Deg.)	±0.1 deg.	±0.1 deg.
	Alignment Time	≤4 sec	≤6 sec	
Utility	Power	24V DC±10%, 5A		
	Vacuum	Less than -80 kPa		
	Communication	RS232C		

SPECIFICATION

Specification	SPECIFICATION			
	CCD (Warpage)	Edge Grip Type		
General	Axes	3	3	
	Handling Wafer	8~12 inch (for warpage wafer)	12 inch	
	Body dimension	W	290 mm	260 mm
		D	250 mm	260 mm
		H	237 mm	305 mm
	Weight	About 12 Kg	About 15 kg	
	Accuracy	Center Offset(mm)	±5 mm	±1.5 mm
		Centering(mm)	±0.1 mm	±0.1 mm
		Rotation(Deg.)	±0.1 deg.	±0.2 deg.
	Alignment Time	≤7 sec	≤9 sec	
Utility	Power	24V DC ±10, 5A	24V DC±10%, 4A Max	
	Vacuum	Less than -80kPa		
	Communication	RS232C		

SMIF(Standard Mechanical Interface)



SPECIFICATION

MODEL	SPECIFICATION
Wafer Size	200mm
Cassette Pickup Position	909mm
Load Height of SMIF Pod	900mm
Max. Reach of Load Arm	410mm
Height	1820mm
Width	410mm
Depth	495mm
Weight(without Pod, Cassette, Wafer)	77.27kg
Power	2 Amp/230VAC(+10, -5%), 50~60Hz, Single Phase
Communication	Serial RS-232C(SECS I/SECS II) Parallel Input/Output

- Ergonomically designed I/O easily integrates SMIF
 - Pod cassette loading and unloading into a wide variety of 150 ~ 200 mm wafer processing and metrology tools
- Designed to be adaptive for equipment manufacturer applications for vacuum load-lock tools
- SMIF-LP provides capability for a wide variety of wafer fab tools and leads the industry in reduced cycle time and footprint

SEMICONDUCTOR APPLICATION

Foup Opener



12" FOUP (STANDARD)



8" CASSETTE ADAPTOR



18" FOUP



12" FOUP WITH N2 PURGE



FOR FOUP CLEANING TOOL

- RS-232 communication interface
- Foup Present, placement & protrusion sensors are included
- Mapping function is included
- BEOL/FEOL lock out pin
- Module design for quick service swap-outs
- Designed for 12" SEMI compliant FOUP, 18" FOUP, MAC FOUP for 12" ring frame wafer individually

12" FOUP opener (only)

- Compatible with all SEMI compliant 12" FOUPs
- CE,S2 and SEMI compliant
- FOUP pinch point protection
- 8" cassette is compatible with optional adaptor
- Option: adaptor for 8" cassette, RFID, etc

Cassette Loader



8" CASSETTE & 12" RING FRAME CASSETTE



12" RING FRAME CASSETTE



MAC FOUP



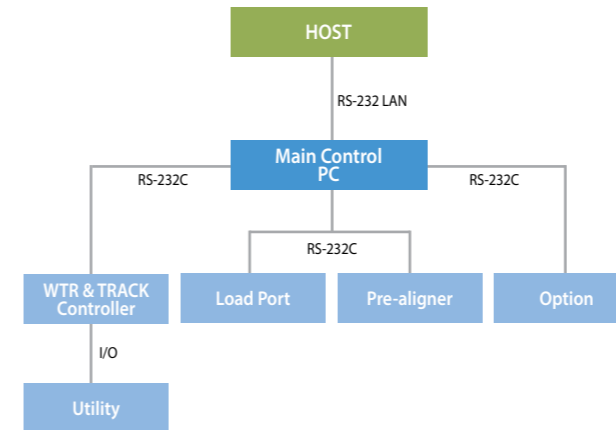
12" FOUP & 12" RING FRAME CASSETTE

- Designed for cassette for 8 or 12" ring frame wafer
- Cassette loading & docking are available
- Ring frame alignment function
- Cassette presence sensor is included
- Manual or automatic lift-up cover
- Option: RFID, Multi-cassette handling, etc.

SEMICONDUCTOR APPLICATION

EFEM (Equipment Front End Module)

- Integrating a pre-aligner with a clean robot results in a small footprint and allows space to be used with great efficiency
- Clean robot with an end-effector on a rotary axis operates without a traverse axis contributing to a high throughput
- Clean robot's air-flow simulation optimizes and ensures high level of cleanliness



CONFIGURATION

- Loadport(Mapping)
- Single or Dual Arm Robot
- Linear Track for Robot Traveling
- Encloser structure
 - Fan Filter Unit
 - Area Sensor
- System Software
- System Electrics
- Option
 - Wafer Aligner
 - Ionization System
 - PIO Sensor
 - RFID Reader/ Writer
 - Edge Grip Blades
 - Teaching Pendant

SPECIFICATION

MODEL	RE-2P	RE-3P	RE-4P
Loadport	2 Ports	3 Ports	4 Ports
Size	1355x760x2,000mm	1,860x678x2,000mm	2,365x678x2,000mm
Weight	250kg	350kg	450kg
Height	2,000mm ~ 2,800mm		
Width	1,650mm ~ 1,854mm(at 3 PODs)		
Depth	678mm		
Weight	Less than 480kg		
Carrier	300mm FOUP (SEMI E14.7 - 1101 Compliance)		
Cleanliness	Class@0.1µm(PEFE)		
Laminar Flow Recovery Time	Less than 1 minute		
Repeatability	Less than 0.1mm@3sigma		
Alignment Accuracy / Time	±0.05Degree/6sec		
Electric Supply	220V±10%(60Hz, 1Φ)3wires + ground, no neutral		
Acoustic Noise	Less than 65dB		
Communication	Ether-Net(HSMS)		
MTBF/MTTR	More than 20,000hrs / Less than 2hrs		
User Interface	GUI - Touch Screen(optional)		



RE-2P



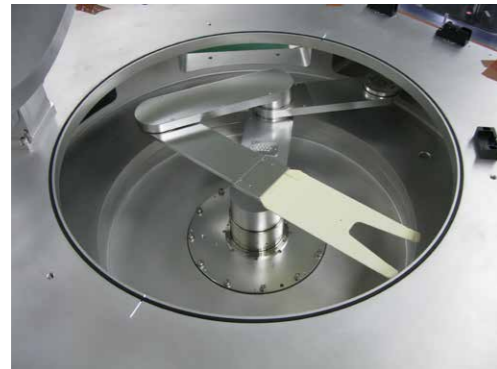
RE-3P



RE-4P

VACUUM APPLICATION

Vacuum Robot



- Minimizing the rotation diameter and maximizing the extension.
- Magnetic fluid sealing
- Servo motor for all axes
- Used for 1E-6Pa of vacuum environment.

SPECIFICATION

MODEL		SPECIFICATION		
		Branch Structure	Boomerang Structure	
Performance	Motion Range	R1,R2 axis (Extension)	1100 mm	800 mm
		T axis(Rotation)	±185 deg at origin position	±185 deg at origin position
		Z axis(Up/down)	0~+104 mm	0~+104 mm
	Max. Speed	R1,R2 axis (Extension)	120 deg/sec	240 deg/sec
		T axis(Rotation)	120 deg/sec	240 deg/sec
		Z axis(Up/down)	42 mm/sec	42 mm/sec
Repeatability	R1,R2 axis (Extension)	±0.1 mm	±0.1 mm	
	Z axis(Up/down)	±0.05 mm	±0.05 mm	
General	Wafer Size	12" wafer	12" wafer	
	Control Axis	4	4	
	Arm Type	Dual Arm	Dual Arm	
	Blade Thinkness	≤ 3mm	≤ 3mm	
	Load Capacity	1.5 kg	1.5 kg	
	Cable Length (Robot - Controller)	3m (Standard)	3m (Standard)	
Utility	Power (Controller)	Single Phase AC208V ±10%, 5A	Single Phase AC208V ±10%, 5A	
	Communication	RS232C	RS232C	
Environment	Operating Pressure	Atmospheric pressure~10 ⁻⁶ Pa	Atmospheric pressure~10 ⁻⁶ Pa	

Load Lock Chamber



- 2 or 1 shelf pass-through chamber (loading/Unloading)
- 4 of view point
- Auto door open structure
- Included wafer slide out detection sensor
- Control the vacuum when transferring the wafer, which is in/out from vacuum chamber and Atmospheric equipment(EFEM)

VACUUM APPLICATION

TM chamber



- 7 Side for 6PMs, 1 Load Locks integrated
- Vacuum Robot integrated
- Wafer detection sensor, Wafer slide out detection sensor, wafer presence sensor are installed
- 6 of view point

Cluster Tool



SPECIFICATION

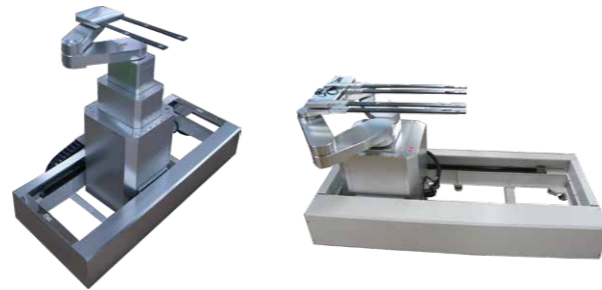
MODEL		SPECIFICATION
General Info.	Wafer Size	300 mm
	Configuration	EFEM, Load Lock, TM Chamber
	Dimension	1,180(W)×1,190(D)×1,190(H)
	Valve	Vacuum Slot Valve
	LIP	Manual Gear Type
	Passline	1,100 mm
Utility	Vacuum	1x10E ⁻² ~ 5x10E ⁻²
	Vent	Nitrogen
	PCW	Normal 40Psi
	CDA	5kg/cm ²

- Up to 7 sides for 5PMs TM Chamber for 300mm Wafer
- 2 slots of L/L chamber
- Includes Load lock options : 2 wafer pass-through
- 2 wafer with cooling and pre-heat
- 26-wafer batch or 13-wafer batch with cooling
- Dual Arm Vacuum Robot
- Vacuum Pumping system
- SEMI compliance

LED/LCD/FPD APPLICATION

Glass Transfer Robot(LTR)

- Specialized robot for transferring LCD/FPD glass
- Currently developed for 2 to 4 generation of LCD/FPD glass
- Transfer the LCD/FPD glass with Parallel End-effector with vacuum chuck
- Single/Dual Arm available.
- Options : Traverse axis , Step availability (1 to 3 steps), glass presence sensor



SPECIFICATION

MODEL		SPECIFICATION			
		LTR SINGLE (2 STEP)	LTR SINGLE (2 STEP)	LTR DUAL (2 STEP)	
Performance	Motion Range	R1,R2 axis(Extension)	1250 mm	1300 mm	1300 mm
		T axis(Rotation)	330 deg	320 deg	320 deg
		Z axis(Up/down)	700 (350+350) mm	620 mm	620 mm
		X axis(Traverse) Optional	○	○	○
	Max. Speed	R1,R2 axis(Extension)	1200 mm/sec	1200 mm/sec	1200 mm/sec
		T axis(Rotation)	200 deg/sec	200 deg/sec	200 deg/sec
		Z axis(Up/down)	600 mm/sec	600 mm/sec	600 mm/sec
		X axis(Traverse)	500 mm/sec	500 mm/sec	500 mm/sec
Repeatability		±0.2 or deg			
General	Carrying Object	500x400x1t Quartz + Glass	620x720 mm (0.15~0.7t)	620x720 mm (0.15~0.7t)	
	Control Axis	4	5	6	
	Load Capacity	1.5 kg	3.5 kg	3.5 kg	
Utility	Power (Controller)	Single Phase AC220V ±10%, 15A	Single Phase AC220V ±10%, 20A		
	Vacuum	-50 kPa or more	-73 kPa or more		

Glass transfer Robot (Multi glass handling)

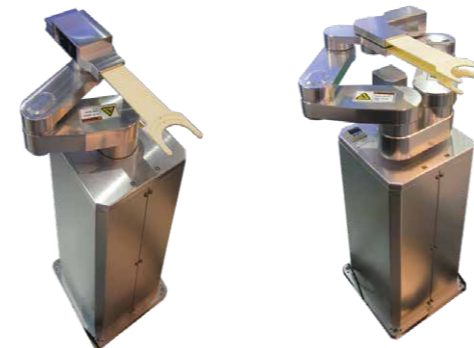


SPECIFICATION

MODEL		SPECIFICATION	
		LTR (8 Glass multi)	LTR (18 Glass multi)
Motion Range	R1,R2 axis(Extension)	959 mm	968 mm
	T axis(Rotation)	330deg	-
	Z axis(Up/down)	700 mm	700 mm
	X axis(Traverse) Optional	○	○
Max. Speed	R1,R2 axis(Extension)	500 mm/sec	500 mm/sec
	T axis(Rotation)	90 deg/sec	-
	Z axis(Up/down)	250 mm/sec	250 mm/sec
	X axis(Traverse)	1000 mm/sec	1000 mm/sec
Repeatability		±0.2 or deg	
Carrying Object		500x400x1t Quartz + Glass	620x720 mm (0.15~0.7t)
Control Axis		4	5
Load Capacity		1.5 kg	3.5 kg
Power (Controller)		Single Phase AC220V ±10%, 15A	Single Phase AC220V ±10%, 20A
Vacuum		-50 kPa or more	-73 kPa or more

LED/LCD/FPD APPLICATION

LED Wafer Transfer Robot



Single Arm

Dual Arm

- Specialized Robot for LED wafer handling
- Compact size & Light weight Design
- Handling 2~6 inch of sapphire wafer for LED process
- Different size of wafer compatible without any mechanical conversion
- Minimized rotation diameter allows downsizing the whole equipment & maximizing the space-effectiveness
- Customization available when requested

SPECIFICATION

MODEL		SPECIFICATION	
		SINGLE ARM	DUAL ARM
Motion Range	R axis(Extension)	470mm	470mm
	Θ axis(Rotation)	330deg	330deg
	Z axis(Up/Down)	200mm	200mm
Maximum Speed	R axis	640mm/sec	
	Θ axis	180deg/sec	
	Z axis	240mm/sec	
Repeatable Accuracy	R axis	±0.1mm	
	Θ axis	±0.1deg	
	Z axis	±0.1mm	
Min. Diameter of Rotation		460mm	430mm
Noise Generation		≤ 70db	
Cleanliness		Class 1@0.1μm	
Robot Body Material		Anodized Alumimun (8±2 μm)	
Blade Material		Ceramic ≤2mm	
Power(Controller)		Single Phase AC 220V±10%, 10A	
Air Supply		More than 0.4~0.5MPa, Ø4mm	
Vacuum Supply		Less than -50kPa	
Weight		Approx. 18 kgf	
Payload		0.7kgf (Including Gripper)	
End-Effector Grip Type		Vacuum	
Wafer Mapping(Optional)		Laser Sensor	

LED EFEM



FEATURES

- LED wafer handling Clean Robot & Aligner integrated system
- Loading the cassette for 2~6 inch LED wafer
- Cassette Loader: 2 to 4 cassettes expandable
- Cleanliness: ISO class 3
- Customization available when requested

SPECIFICATION

MODEL		SPECIFICATION		
		RE-2C	RE-3C	RE-4C
Cassette Loader		2 Cassette	3 Cassette	4 Cassette
Frame Size		1600x730x2000	1800x730x2000	2100x730x2000
Carrier		2~6 inch (20~150mm) LED cassette		
Repeatability		Less than 0.1mm		
Cleanliness		ISO class 3		
Alignment Accuracy/Time		0.5 Degree/6sec		
Electric Supply		220V 10% (60Hz, 1), 3 Wires + Ground, No Neutral		
Acoustic Noise		Less than 65dB		
User Interface		GUI-touch screen (optional)		
MTBF		≥ 20,000 hours		
MTTR		>2 hours		

SCARA(SCARA 600/miniSCARA series)



- Compact Size & Light Weight Design
- Wide Motion Range & Shift
- Newly designed AC/DC Servo Driver and Harmonic gear reducer
- Using Dynax controller
- 3 dimensional palletizing / 2 dimensional dispensing function
- Serial linked I/O module, 16 DI/16 DO (Max.256)
- Easy to attach Vacuum tool on Hand
- Various application for industrial, educational and research
- SCARA Series : Clean Environment
- Clean class 100 : Atmosphere air flow suction
- Various customizing available

SPECIFICATION

MODEL	SPECIFICATION		
	MINI SCARA 200	MINI SCARA300/300C	SCARA600
Arm Length	200mm(100+100)	300mm(150+150)	600mm(350+250)
Z-axis Stroke	50mm	80mm	200mm
Repeatability	X,Y axis	±0.050mm	±0.030mm
	Z axis	±0.050mm	±0.030mm
	R axis	±0.06deg	±0.05deg
Max. Speed	X axis	300deg/sec	240deg/sec
	Y axis	300deg/sec	480deg/sec
	Z axis	50mm/sec	200mm/sec
	R axis	1,200deg/sec	1,200deg/sec
Motors	X axis	DC Servo Motor	AC Servo Motor
	Y axis	DC Servo Motor	AC Servo Motor
	Z axis	Micro Stepping Motor	Micro Stepping Motor
	R axis	Micro Stepping Motor	Micro Stepping Motor
Reducer	X axis	Harmonic Drive 1/50	Harmonic Drive 1/100
	Y axis	Harmonic Drive 1/50	Harmonic Drive 1/50
	Z axis	Lead Screw Lead 4.0mm	Lead Screw Lead 13.5mm
	R axis	Timing Belt 1/4	Timing Belt 1/5
Payload	Max. 0.8kg	Max. 1.5kg	Max. 3.0kg
User Wiring	4 Wires	6 Wires	4 Wires
User Tubing	Ø 4x2	Ø 4x2	Ø 6x2
Weight	Approx. 3.8kg	Approx. 5.5kg	Approx. 30kg

miniCRANE



- Compact Size & Light Weight Design
- Controller integrated design
- Wide motion range(465mm), 1kg of payload
- Use Of The Integrated Cable & Air Tube Which Enables Easy Modification of End-Of-Arm Tools (Option : Electro-motion Gripper)
- Easy Installation & Programming
- OEM/ODM Manufacturing Available
- Long Lasting Durability & Minimized Backlash by Using Integrated harmonic Gear Reducers

SPECIFICATION

MODEL	SPECIFICATION	
DOF	5 DOF	
Arm Length	250mm + 200mm + 65mm	
Max Radial Reach	515mm	
Motor Drive	R,A,B axis (AC Servo Motor) C,U axis (DC Servo Motor)	
Position Detection	Incremental Encoder	
Max. Load Capacity	1.0kg	
Repeatability	At Point P ±0.1mm	
Motion Range	R axis	-150deg ~ +150deg
	A axis	-60deg ~ +120deg
	B axis	-60deg ~ +120deg
	C axis	-100deg ~ +100deg
	U axis	-160deg ~ +160deg
Gear Ratio	R axis	100 : 1
	A axis	200 : 1
	B axis	120 : 1
	C axis	213.3 : 1
Max. Speed	R axis	180deg/sec
	A axis	90deg/sec
	B axis	180deg/sec
	C axis	90deg/sec
U axis	180deg/sec	
Wiring	Power(24V), I/O, 3.2mm Pneumatic Barb Fitting(2 ea)	
Weight	Approx. 7.2kg	

Well Plate Transfer Robot



- Transfer Well Plate in Bio Lab
- Compact design & small footprint
- Easy to load the well plate with Hand gripper
- Reliable and precise motion
- Easy and user-friendly operation
- Customization available when requested

SPECIFICATION

MODEL		SPECIFICATION	
Performance	Motion Range	G axis	10 mm
		R axis	270 mm
		T axis	330 deg
		Z axis	300 mm
	Max. Speed	G axis	≤5 mm/sec
		R axis	≤270 mm/sec
		T axis	≤±320 deg/sec
		Z axis	≤80 mm/sec
	Repeatability	G,R,Z axis	±0.1 mm
		T axis	±0.02 deg
General	Carrying Object (Well Plate)	5.03 inch (127.8) x 3.366 inch (85.5)	
	Control Axis	4	
	Grip Method	Hand Grip	
	Max. Load Capacity	1.0 kgf (Including Gripper)	
	Controller	AC servo motor	
	Weight	Approx. 10.5 kgf	

6-Axis Crane Robot



- 6-Axis vertical articulated robot
- Max. 3kg of payload
- Pneumatic Gripper on End-of-hand (Optional)
- Customized grip type is available.
- Easy operation and reliable motion

SPECIFICATION

MODEL		SPECIFICATION	
Motion Range	1 axis	Rotation range ±140 deg	
	2 axis	Arm length	450mm
		Rotation range	-60 ~ 120 deg
	3 axis	Arm length	400mm
		Rotation range	0 ~ 130 deg
	4 axis	Rotation range	±135 deg
5 axis		Arm length	100mm
	6 axis	Rotation range	±120 deg
Max. Speed		1 axis	120 deg/s
	2 axis	90 deg/s	
	3 axis	90 deg/s	
	4 axis	90 deg/s	
	5 axis	90 deg/s	
	6 axis	120 deg/s	
Motors	1 axis	AC Servo motor (200W) (ABS)	
	2 axis	AC Servo motor (with brake) (400W) (ABS)	
	3 axis	AC Servo motor (with brake) (400W) (ABS)	
	4 axis	AC Servo motor (with brake) (100 W) (ABS)	
	5 axis	AC Servo motor (with brake) (50 W) (ABS)	
	6 axis	AC Servo motor (50 W) (ABS)	
	Payload	Max 3 kg	
	Repeatability	± 0.1mm	
	User wiring	5 wires	
	Power (controller)	DC48V	

▶▶ ▶▶ ADVANCED ROBOT

miniDeskTop / Tabletop Stage



- Compact Size & Light Weight Design
- Precision ball screw applied
- Various range of models (3 ~ 5 axis)
- Optional motor for machine purpose
- Vision-Guidance function (optional)
- For precision part assembling, dispensing, screwing, and soldering
- Easy Installment
- Customization for customer's needs



- Application of linear scale (resolution 0.5um) : High precision movement control
- AC / DC Servo or Stepping motor either can be applied
- High-precision Ball Screw leads Backlash Zero
- Application of 485 communication link
- Integrated Cable : Simple Design
- Closed Loop Control : Drive level position feedback
- PCI type Stand Alone : 24V & 5V self-operation on exterior power
- Easy to set up tools for convenient operation environment
- Customization for user when required

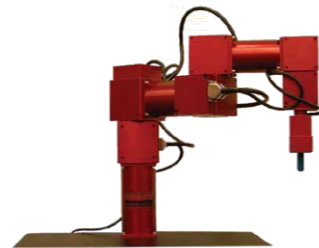
Educational Robot



- Intelligence Robot Platform
- Equipped with Control Unit, Manipulator, Vision Guide & Mobile base for Educating Students Task Performance & Mobility
 - Expandable Software Contents to Target Unilateral Comprehension of the Intelligent Robot System



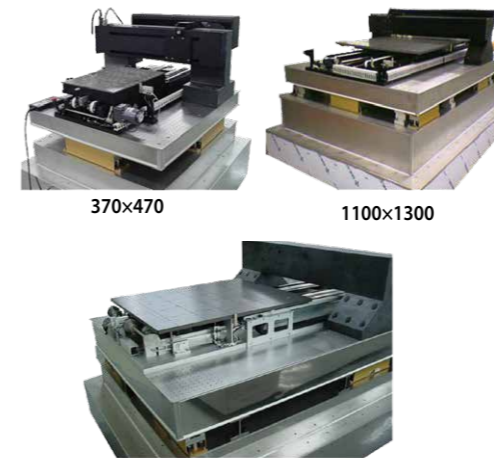
- Robot Arm & Hand
- Light-weight Body
 - Multi-jointed Structure
 - Control Simulation
 - Modular Concept Application
 - Safety Design without Sharp Edges



- Power Module
- Easy Assembly & Disassembly
 - PC Direct Control
 - Compact Size & Light Weight
 - Modular Concept
 - Expandable Interface
 - Harmonic Drive : Precise & Smooth Motion
 - Simple Design : Driver & Controller in 1 Unit
 - Power Supply Safety (24V Input)
 - Electricity Overload Prevention Circuit
 - Vertical & Horizontal Multi Axis Combination
 - Learning Robot Control by Inputting parameter (Educational Effect)

▶▶ ▶▶ ADVANCED ROBOT

Stage



- Alignment Stage
- FPD/LCD Flat Panel Inspection (Vision Guided)
 - Scanning Probe microscope
 - Precision System Position Setting
 - Clean Environment Application
 - Design Customization
 - ODM/OEM Supply
 - Repeatability : $\pm 5\mu\text{m}$
 - Accuracy : $\pm 50\mu\text{m}$
 - Clean Environment Application
 - Scanning Probe Microscope



- X-Y STAGE
- Designed for user convenient
 - Small footprint
 - X-Y flat stage used for research, inspection, metrology purpose etc.
 - Installed the device onto the upper stage such as scanner or Position feedback from linear scale
 - 2 step motors (5 phase) & cross roller linear guide allows the flat stage move in X-Y plane
 - Highly precise and reliable in motion
 - Customization available when requested

Field Service



- Human Aid Robot
- Provided by ODM
 - Mobile Based System
 - Assist Disabled People for Self-Transfer (Between Bed, Wheelchair & Bathroom)
 - Easy to Control & Change Direction
 - Modular Components
 - Competitive Price by Minimizing Components



- Bridge Inspection Robot
- Provided by ODM
 - Inspection Range : 15m x 12m
 - Max Height of Inspection Range : 6m
 - Capturing Time : 40 min
 - Positioning Accuracy : $\pm 0.05\text{m}$
 - Size of Image (FOV) : 1.5m x 1.1m
 - Transportation Equipment Preparing Time : 10 min
 - Transportation Equipment Accuracy : $\pm 0.02\text{m}$

▶▶ ▶ BIO/MEDI-BIO APPLICATION

Bio Lab Automation



Well-Chip Micro Arrayer

- Manufacture Well-Type Protein Chip
- Drug Screening & Testing
- User-Friendly Operation
- High Quality & Efficiency
- HTS System Application



Nano-Chip Bonder

- Chip Size : 2 (Tray) × 45 (Chip)
- Applicable for Various Chips
- Stepping Motor, AC Servo Motor
- Highly Efficient Dissolution
- Low Noise
- Precision Position Setting
- Precision Dispensing Using Syringe Pump
- PC Based Control, User-Friendly GUI



Automatic Cell Culturing System

- Fully Automated System
- Cultivates Bio-Material
- Temperature Control
- Clean Environment
- Reliable Mass Production

▶▶ ▶ BIO/MEDI-BIO APPLICATION

MAXX DM series



DM200-5M



DM200-5A/5AW, DM110-5P

Premium 5-axis system to mill all materials

- Specialized in metal milling with rigidity of index
- Capable of milling long metal and implant bar bridge
- Multi-system to mill all CAD/CAM materials

Professional 5-axis system to mill dental model and final prosthesis

- Capable of milling model with intra oral scanned data to check its fitness
- Unmanned overnight and weekend operation by auto loader robot
- High-production of orthodontic/implant/prosthetic digital model
- High-production of detailed and precise model with less cost

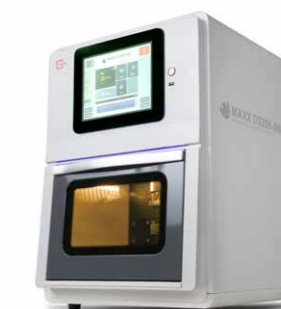
MAXX DS series



DS200-5Z



DS200-4WA



DS200-4WX

Premium 5-axis system to mill all materials

- Specialized in metal milling with rigidity of index
- Capable of milling long metal and implant bar bridge
- Multi-system to mill all CAD/CAM materials

Progressive 4-axis system with guaranteed durability

- Specialized in milling hard materials including pre-milled blank and metal
- Multi-purpose machine to mill soft and hard materials
- Precise and detailed milling with powerful and high-precision spindle

Premium 5-axis system to mill all materials

- Fast and precise milling of ceramic and composite ceramic
- Specialized system for prompt prosthesis materials
- Compatible with many different types of blocks