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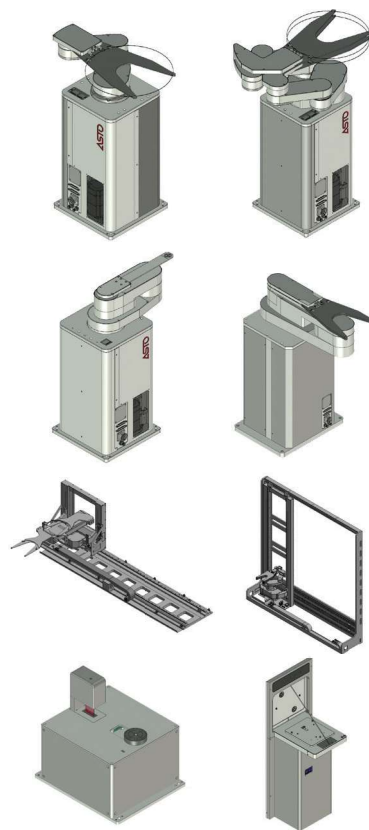
Your Excellent **Solution Provider**
in Robotics & Automation



PRODUCT
CATALOG

Wafer Transfer

Your Excellent Solution Provider in Robotics & Automation



ASTO

- ◆ Custom design available to meet various system requirements
- ◆ Various tool options are available
- ◆ Comply cleanliness ISO Class 1
- ◆ High speed and high precision transportation is possible using AC servo motor and Harmonic Drive Reducer
- ◆ High throughput achieved by applying Smart Motion Processing technology

Model name

●● Wafer Transfer Robot

URW - S 3 160 - 400 - A V T 2000 Option

M : Mapping F : Flip Hand V : Variable Pitch
Track Stroke
T : Track
Blade Type : V (Vacuum Type) : P (Passive Type) : E (Edge Grip Type) : M (Multi-Blade)
Environment : A (Atm) : V (Vacuum)
Z Stroke : mm
S or D : Arm Length C or H : Hand Stroke
Q'ty of Axes
Combination : S → Single Arm WTR D → Dual Arm WTR C → Cartesian Type WTR H → Cartesian + Link Type WTR
Robot Coordinate : W → WTR (Cylindrical Coordinate) M → Multi-Joint Arm (SCARA)

●● Pre Aligner

U A C - 8 12 A

Environment A : ATM V : Vacuum
Wafer Size (Max) 12 : 12 inch 8 : 8 inch
Wafer Size (Min) None : Standard 2 ~ 8 : 2 ~ 8 inch
Align Mechanism C : CCD Sensor E : Edge grip
Unit A : Aligner

●● Loadport

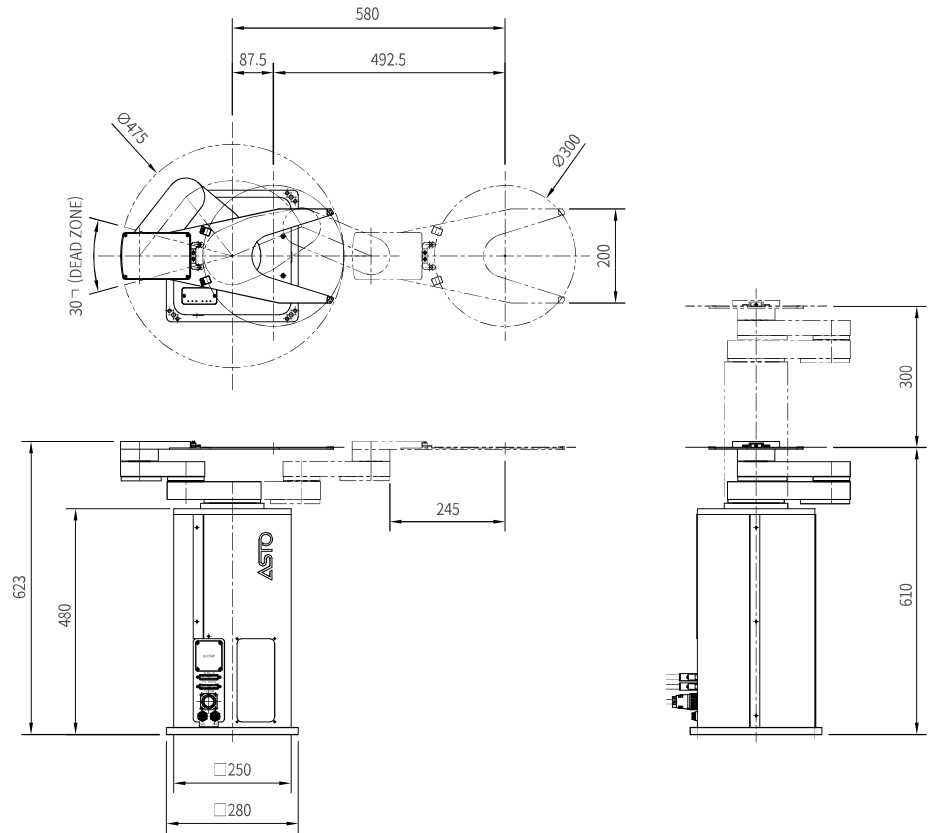
U L M - 6 ST - N2

Option None : Standard N2 : N2 Purge
Cassette Size (Max) ST : 12 inch 2 ~ 8 : 2 ~ 8 inch
Cassette Size (Min) A : Standard 2 ~ 8 : 2 ~ 8 inch
Carrying Object F : FOUP C : Open Cassette M : FOUP & Cassette
Unit L : Loader

Wafer Transfer | 01

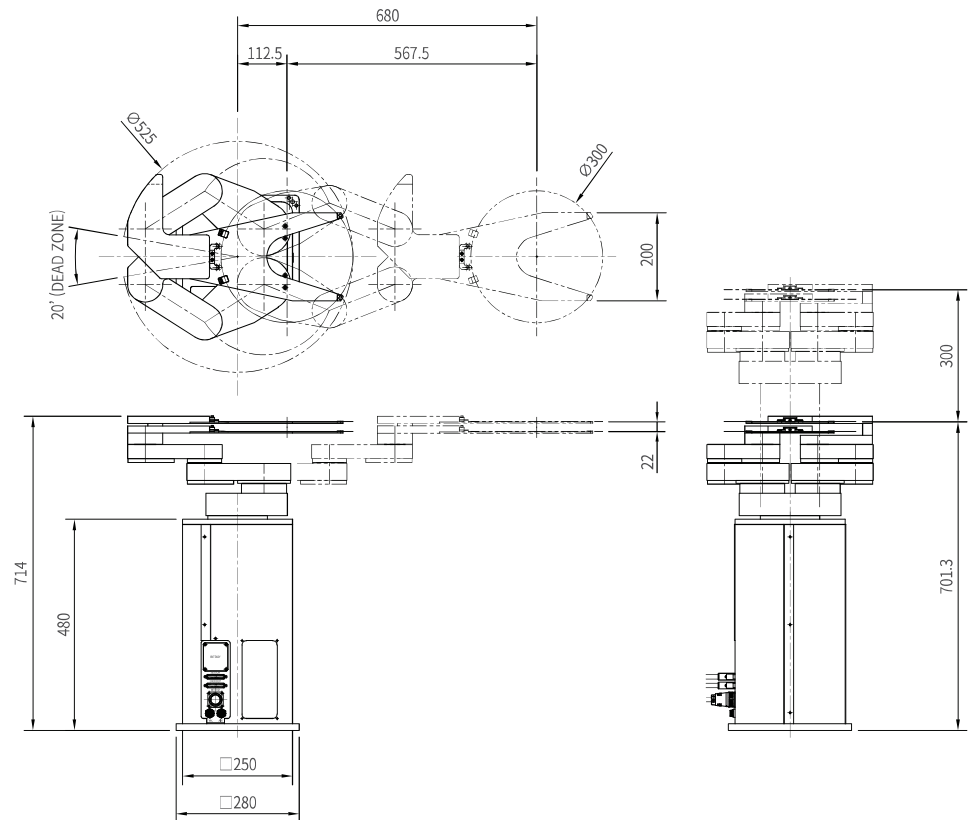
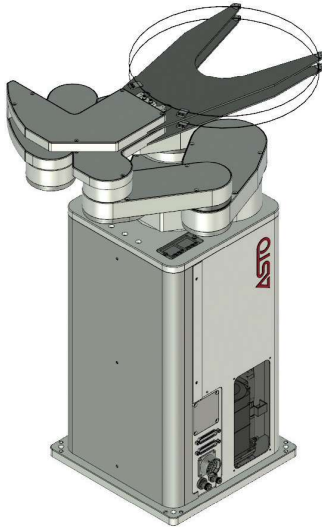
Single Arm WTR
Edge Grip Hand

URW-S3160-300-AE



Contents		Specifications
General Information	Type	URW-S3160-300-AE
	DOF	3 axis
	Repeatability	±0.1 mm
	Weight	Approx. 35kg
	Mounting	Flange Mount or Bottom Mount
	Teaching pendant	Included (1set)
	Cleanliness	ISO Class 1
Gripper	Grip method	Edge Grip
	Carrying Object	Wafer - 12inch
	Blade quantity	1
	Blade thickness	≤3 mm
Stroke	R axis	580mm
	T axis	340 deg
	Z axis	300mm
Speed	R axis	330 deg/s (1855mm/s)
	T axis	400 deg/s
	Z axis	500 mm/s
Material	Robot body	Anodized aluminum, Stainless steel
	Cover	Anodized aluminum
Others	Power Source	AC200/230V ±10%, 7.5A
	Utility	CDA or Vacuum

URW- D4160-300-AE

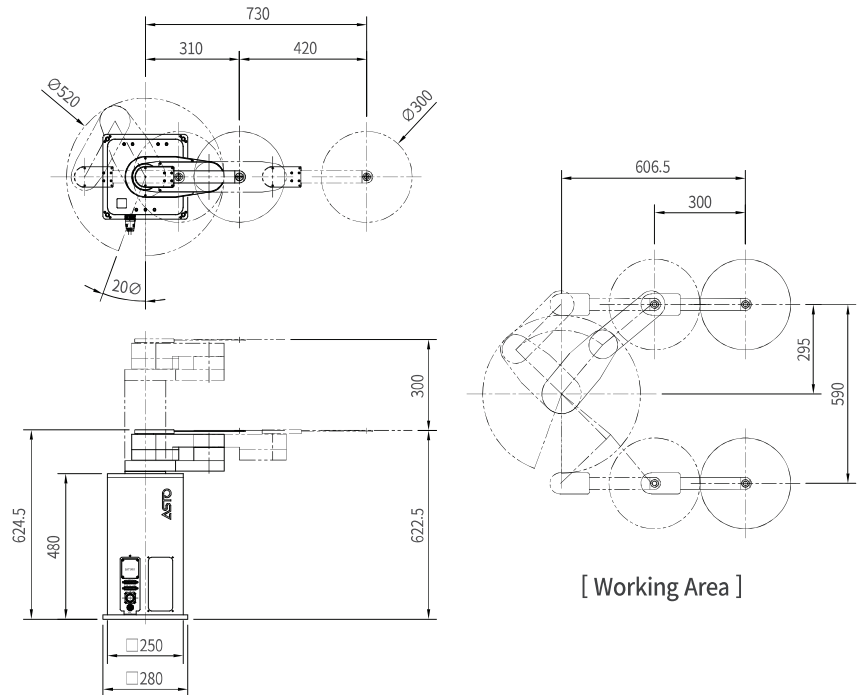


Contents		Specifications
General Information	Type	URW-D4160-300-AE
	DOF	4 axis
	Repeatability	±0.1 mm
	Weight	Approx. 40kg
	Mounting	Flange Mount or Bottom Mount
	Teaching pendent	Included (1set)
	Cleanliness	ISO Class 1
Gripper	Grip method	Edge Grip
	Carrying Object	Wafer - 12inch
	Blade quantity	1+1
	Blade thickness	≤3 mm
Stroke	R axis	680mm
	T axis	340 deg
	Z axis	300mm
Speed	R axis	330 deg/s (1855mm/s)
	T axis	400 deg/s
	Z axis	500 mm/s
Material	Robot body	Anodized aluminum, Stainless steel
	Cover	Anodized aluminum
Others	Power Source	AC200/230V ±10%, 7.5A
	Utility	CDA or Vacuum

Wafer Transfer | 03

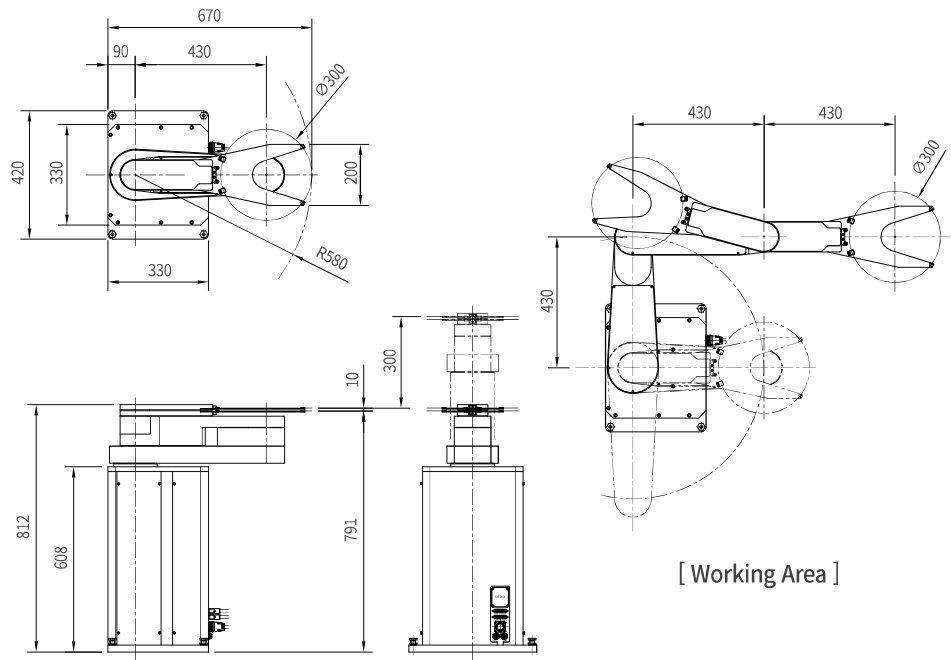
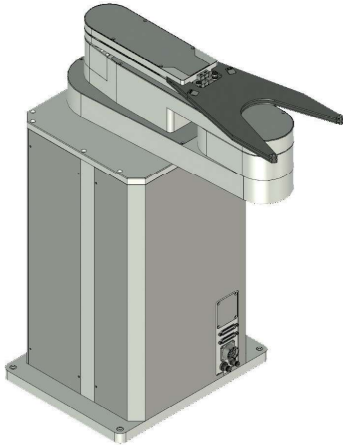
Scara Type Single Wrist WTR
Vacuum Grip Hand

URM- S4210-300-AV



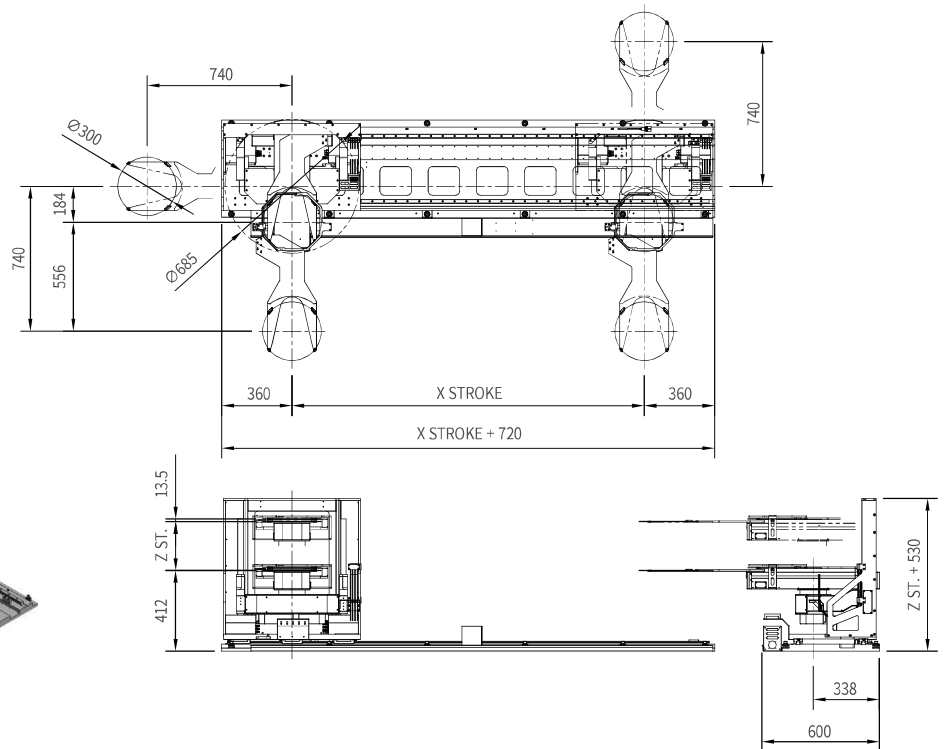
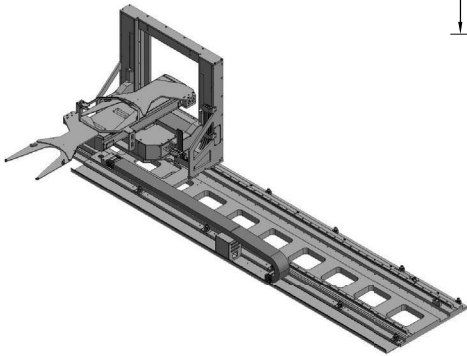
Contents		Specifications
DOF		4 axis
Gripper	Grip method	Vacuum Grip
	Carrying Object	12inch Wafer(STD)
	Gripper config	1
Work Space	Z axis	300mm
	T axis	±100 deg
	E axis	±270 deg (Relative Angle to 2nd Arm)
	W axis	±270 deg (Relative Angle to 3rd Arm)
Maximum Speed	Z axis	500 mm/s
	T axis	4.36 rad/s
	E axis	6.54 rad/s
	W axis	9.42 rad/s
Repeatability		±0.1 mm
Deflection at Blade Tip with Wafer		≤0.2 mm
Thickness of Blade		≤3 mm
Material	Robot body	Anodized Aluminum
	Blade	CERAMIC
	Wafer Pad	NA
General	Load capacity	2kg (Including Gripper)
	Weight	Approx. 40kg
	Cleanliness	ISO Class 1
Utility	Power Source	AC200/230V ±10%, 7.5A(1.5kVA)
	Vacuum Pressure	≤ -80 kPa
Others	MTBF	≥ 20,000 hrs/system
	MTTR	≤ 2hrs/system

URM- D5430-300-AE



Contents		Specifications
DOF		5 axis
Gripper	Grip method	Edge Grip
	Carrying Object	12inch Wafer(STD)
	Gripper config	1+1
Work Space	Z axis	300mm
	T axis	±100 deg
	E axis	±270 deg (Relative Angle to 2nd Arm)
	W1 axis (Lower)	±270 deg (Relative Angle to 3rd Arm)
	W2 axis (Upper)	±165 deg (Relative Angle to Lower Hand)
aximum Speed	Z axis	500 mm/s
	T axis	4.36 rad/s
	E axis	6.54 rad/s
	W 1/2 axis	9.42 rad/s
Repeatability		±0.1 mm
Deflection at Blade Tip with Wafer		≤0.2 mm
Thickness of Blade		≤3 mm
Material	Robot body	Anodized Aluminum
	Blade	CFRP
	Wafer Pad	PEEK (ESD)
General	Load capacity	2kg (Including Gripper)
	Weight	Approx. 60kg
	Cleanliness	ISO Class 1
Utility	Power Source	AC200/230V ±10%, 7.5A (1.5kVA)
	CDA	≥ 0.5 MPa
Others	MTBF	≥ 20,000 hrs/system
	MTRR	≤ 2 hrs/system

URW- C5556-250- AP-T2380

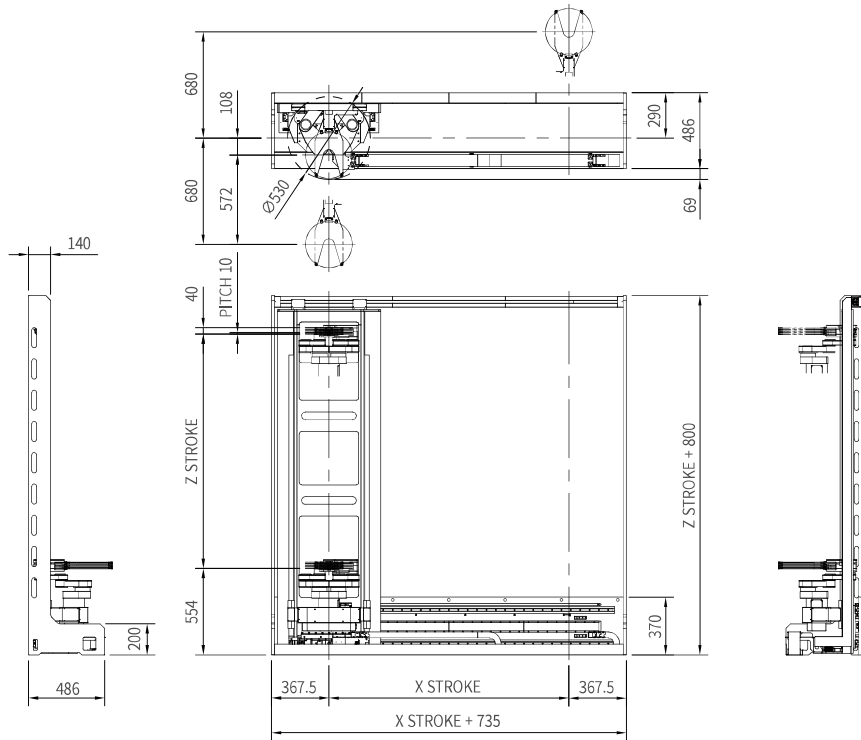
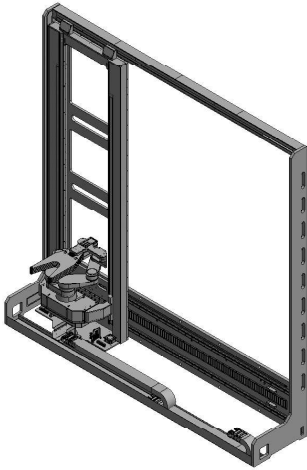


* Please contact ASTO sales department for details.

Contents		Specifications
DOF		5 axis
Gripper	Grip method	Pocket Grip
	Carrying Object	12inch Wafer(STD)
	Gripper config	2
Work Space	Track axis	2,380 mm
	Z axis	250 mm
	T axis	340 deg
	R1, R2 axis	556 mm (Extension 740mm)
Maximum Speed	Track axis	1,500 mm/s
	Z axis	550 mm/s
	T axis	330 deg/s
	R1, R2 axis	800 mm/s
Repeatability		± 0.05 mm
Deflection at Blade Tip with Wafer		≤ 0.2 mm
Thickness of Blade		≤ 3 mm
Material	Robot body	Anodized Aluminum
	Blade	CFRP
	Wafer Pad	NA
General	Load capacity	2kg (Including Gripper)
	Cleanliness	ISO Class 1
Utility	Power Source	AC200/230V $\pm 10\%$, 7.5A (1.5kVA)
Others	MTBF	$\geq 20,000$ hrs/system
	MTTR	≤ 2 hrs/system

Cartesian + Link Type WTR
Multi Blade Grip Hand

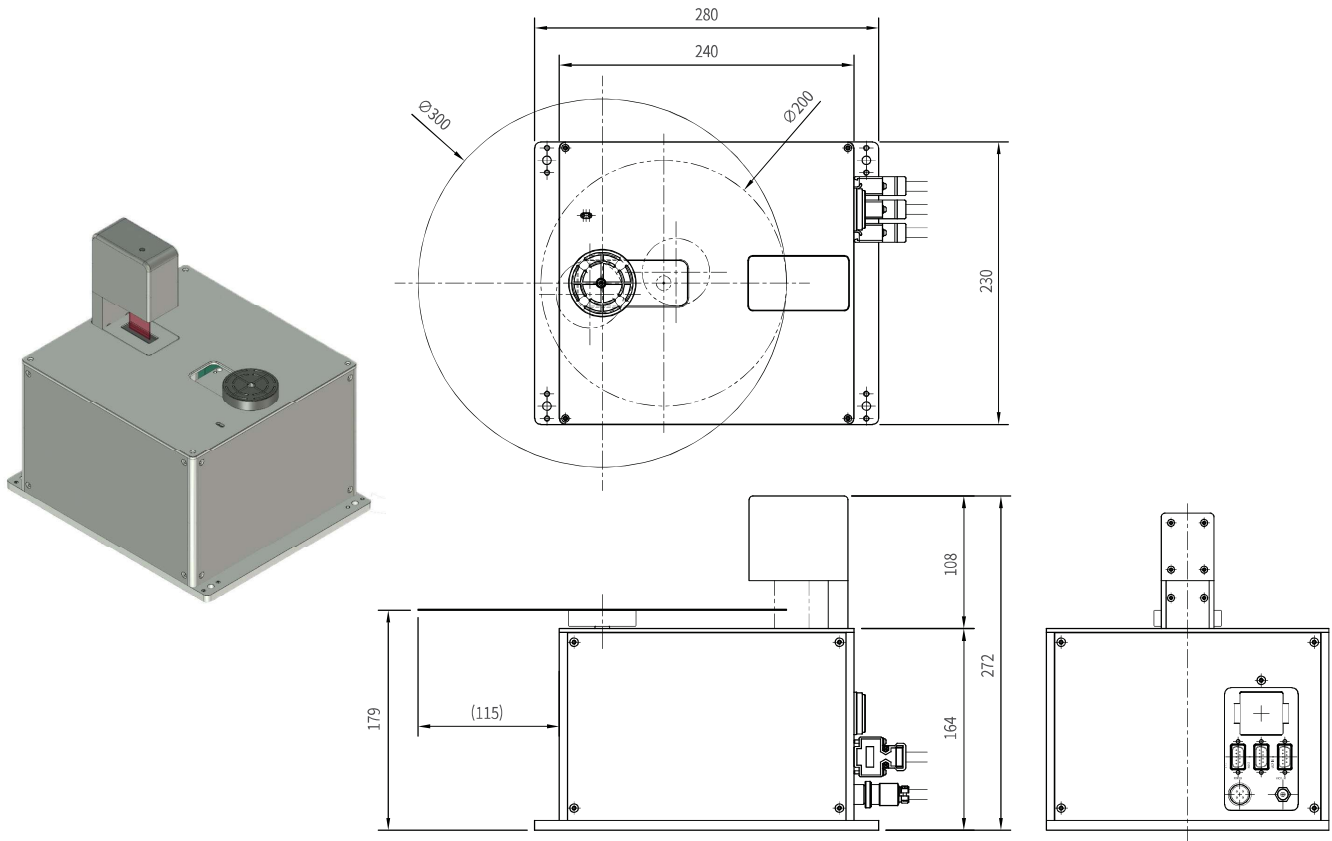
URW- H5220-1510- AM-T1535



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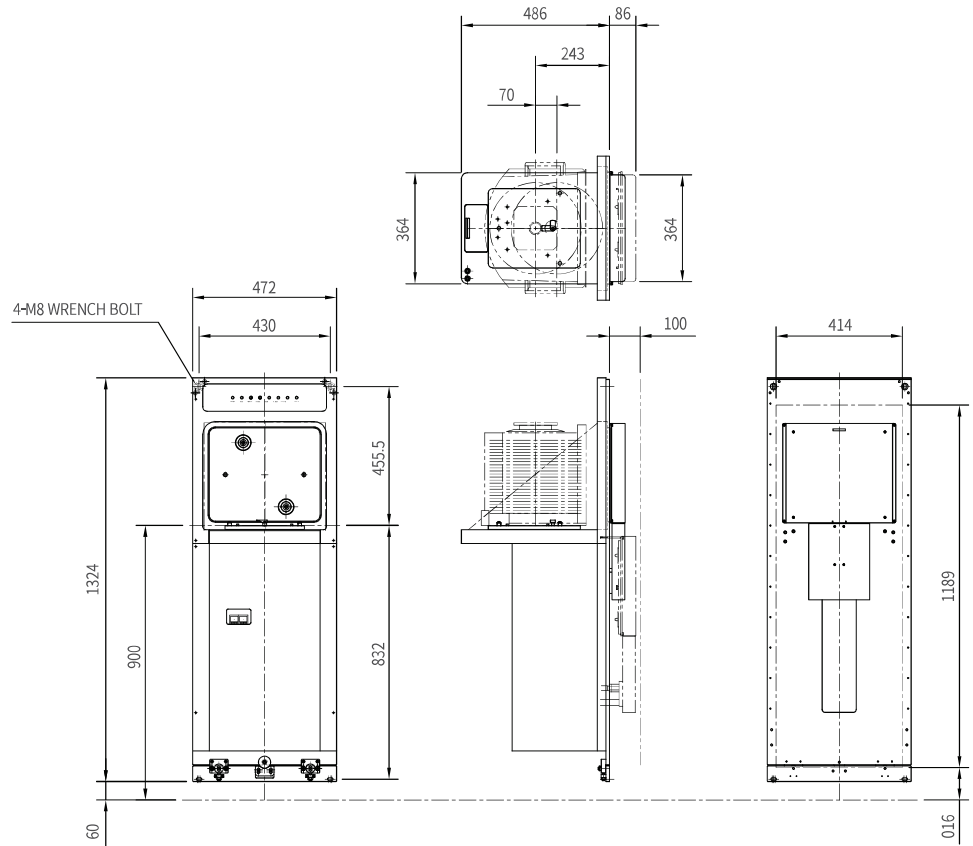
Contents		Specifications
DOF		5 axis
Gripper	Grip method	Multi Blade (Edge Grip)
	Carrying Object	12inch Wafer(STD)
	Gripper config	4+1
Work Space	Track axis	1,535 mm
	Z axis	1,510 mm
	T axis	340 deg
	R1, R2 axis	680 mm
Maximum Speed	Track axis	1,500 mm/s
	Z axis	550 mm/s
	T axis	330 deg/s
	R1, R2 axis	400 deg/s
Repeatability		± 0.1 mm
Deflection at Blade Tip with Wafer		≤ 0.2 mm
Thickness of Blade		≤ 3 mm
Material	Robot body	Anodized Aluminum
	Blade	CFRP
	Wafer Pad	NA
General	Load capacity	2kg (Including Gripper)
	Cleanliness	ISO Class 1
Utility	Power Source	AC200/230V $\pm 10\%$, 7.5A (1.5kVA)
	CDA	≥ 0.5 MPa
Others	MTBF	$\geq 20,000$ hrs/system
	MTTR	≤ 2 hrs/system

UAC-812-A



Contents		Specifications
Carrying Object		200/300mm Wafer (Size Can Be Changed by command)
Probe	Sensor Type	Line CCD Sensor
Performance	Off – Center Limit	Within $\pm 5\text{mm}$
	Positioning Time	$\leq 4 \text{ sec}$
	Centering accuracy	$\pm 0.1 \text{ mm}$
	Rotating accuracy	$\pm 0.1 \text{ deg}$
H/W Config	Drive Method	2 Phase Stepping Motor (3 Axes)
	Holding Method	Vacuum Chuck
Cleanliness		ISO Class 1
Utility	Power Source	DC24V $\pm 10\%$ 3A
	Vacuum	-80kPa Less
Others	Weight	Approx. 6kg
	User Interface	RS232C

ULF-AST



Contents		Specifications
Carrier Type		FOUP (SHIN-ETSU, ENTERGRIS, ETC...)
Door Open Method		Horizontal Open
Door Elevation Method		Ball Screw Drive (2 Phase Stepping Motor)
Performance	Cycle Time	15 sec
	Repeatability	±0.1 mm
	MTBF	20,000 hour
	MTTR	≤ 1 hour
	Noise Level	< 70 dB
Utility	CDA	≥ 0.5 MPa
	Vacuum	≤ 80 kPa
	Power Source	DC24V±10% 3A
Environment	Temperature	10 ~ 40 °C
	Humidity	35% ~ 85%
	Cleanliness	ISO Class 1
Communication		RS-232C, Parallel I/O
Option		RFID Sensor
		PIO Sensor
		Teaching Pendant



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ASTO Co., Ltd.

Head Office and Factory

24, Sureteo 1-gil, Seobuk-gu, Cheonan-si, Chungcheongnam-do, Republic of Korea | Tel. 041-588-8852 Fax. 041-588-8853

Asan Office

2nd floor, 192-114, Wolsan-ro, Eumbong-myeon, Asan-si, Chungcheongnam-do, Republic of Korea | Tel. 041-532-5804 Fax. 041-531-5805

Dongtan Office(R&D)

#604 DNC Plaza, 42, Metapolis-ro, Hwaseong-si, Gyeonggi-do, Republic of Korea | Tel. 031-8015-2831 Fax. 031-8015-2832

ASTO Eng Shanghai Branch

Room 612, Xinghui Building, 1197, Husong-highway Rd., Songjiang District, Shanghai, China | Tel. +86-186-1695-7229