

Standard System Manufactured by A-Tech System

Up or Down Types of DC & RF
Magnetron Sputter with 4x3" or 3x4" Guns
for R&D to Various Fields



Flexlab System 100

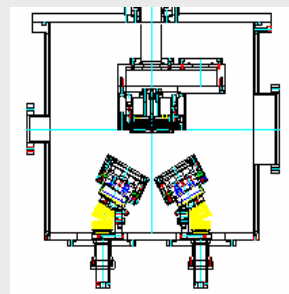


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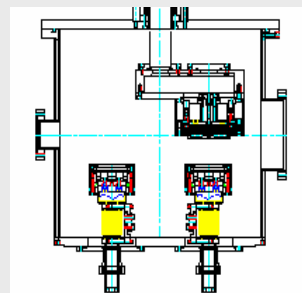
The standard system was functionally designed for researchers studying in many thin film related fields. It was also considered for beginners to conveniently approach deposition process and equipment maintenance.

Features

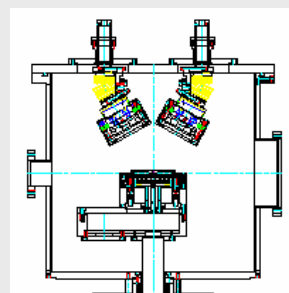
- Deposition of metallic and inorganic layers is not only available, but partially applicable to organic materials deposition by adopting both rf and dc sources
- Multilayer and codeposition in up- or down-sputtering mode can be selectively chosen
- Automatic loadlock system, which is compactly designed for space saving
- Optimized configurations of sputter gun and shutter for minimizing cross-contamination between installed targets
- Typical process data of various materials can be delivered on request



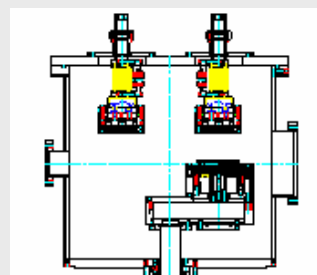
Up-sputtering for codeposition



Up-sputtering for multilayer deposition



Down-sputtering for codeposition



Down-sputtering for multilayer deposition

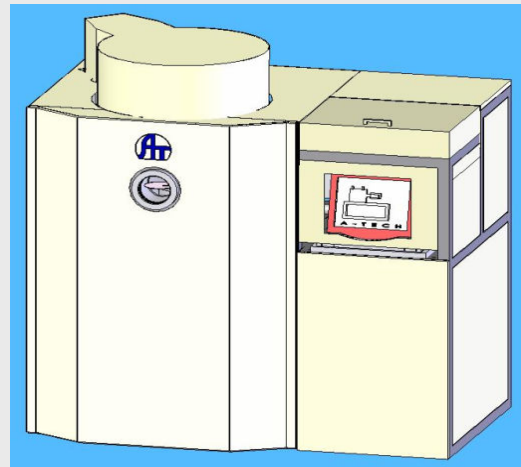
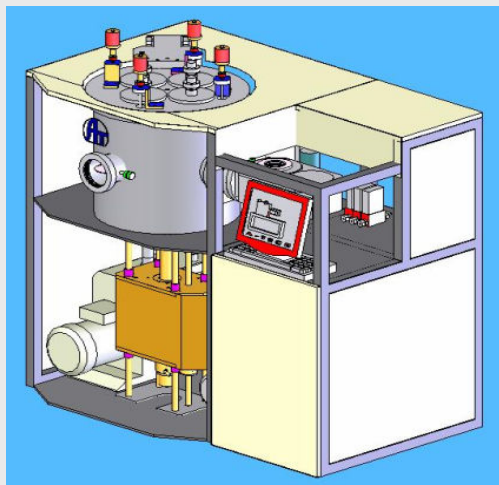


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System Specifications

Chamber

Chamber Body (stainless steel 304)	Φ500 x 460H
Pumping Port	R135 x 100H
View & Loading Port	6in
Shutter for View Port	manual
Sensor Port	ICF070
Gas Feeding Port	ICF070
Spare Port	ICF070
Spare Port	ICF114
Load Lock Spare Port	ICF203
Door Opening	pneumatic
Gun Port	4in
Sealing of Gun Port	O-ring
Shutter for Gun	pneumatic
Sealing of Shutter	O-ring
Protection Shield	SUS304
Water cooling	water jacket type
Electrical Polishing	
Leak Rate	1 x 10 ⁻⁹ mbarl/sec

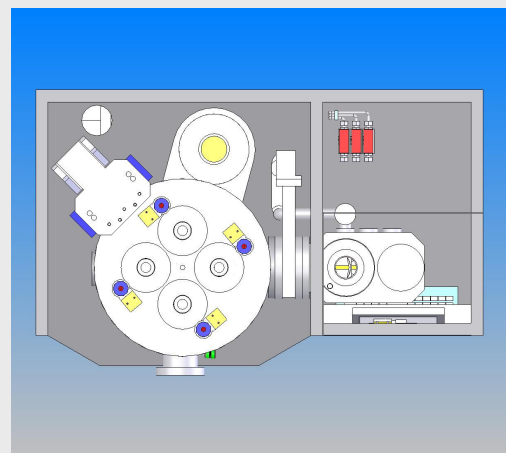


Substrate

Size	6in
Substrate Rotation	25W, break motor
Rotation Seal	magnetic ferro seal
Rotation Speed	10-60 rpm
Position Sensor	4 point photo sensor
Substrate movement	25W, reversible motor
Moving Part Sealing	welded bellows
Moving Speed	2.5 mm/sec
Distance between Substrate and Target	70-150 mm
Position Sensing	5 point photo sensor
Substrate Heater	6in SiC
Max. Temperature	650°C
Heating Block	water cooling
Bias	rf or dc
Bias Feedthrough	coaxial type
Thermocouple	K-type with Al ₂ O ₃ shield
Port	3in

Gas Delivery System

Mass Flow Control	Tylan, Ar, O ₂ , N ₂
MFC Readout	Touch Screen
Gas Bellows Valve	1/4in VCR, pneumatic
Gas Mixing Tank	Φ15 x 150L
Male Nut	1/4 in VCR
Female Nut	1/4 in VCR
Tube	1/4in, electropolished
Fittings	VCR type



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■ Pumping System

Turbo Pump	800l/sec, Osaka Vacuum
Inlet Flange	ICF203
Exhaust Flange	KF40
Ultimate Pressure	< 5 x 10 ⁻⁸ Torr
Main Valve (Gate)	ICF203, pneumatic
Roughing Valve	KF40, pneumatic
Forline Valve	KF40, pneumatic
Vent Valve	1/4in VCR, pneumatic
Release Valve	3/4in solenoid
Pressure Control Valve	ISO160, automatic
Drive Chamber	6in x 160H
Oil Rotary Pump	970l/min, Woosung
Flexible Tube	KF40 x 1500L
Flexible Tube	KF40 x 500L
Line Fitting	KF40, Q-clamp fittings

■ Electric Parts

Vacuum Gauge Control	GP307
RF Power Supply	YS 600W
Auto Matching Box	
DC Power Supply	PJ 2kW
Power Select Switch	N type
System Control	PC based, 15in LCD monitor (or touch screen optionally)

Controlled Parts

Main Power	
Substrate Heating	
Substrate Position	
Substrate Rotation	
Target & Shutter	
Gas Delivery	
Safety Lock Control	

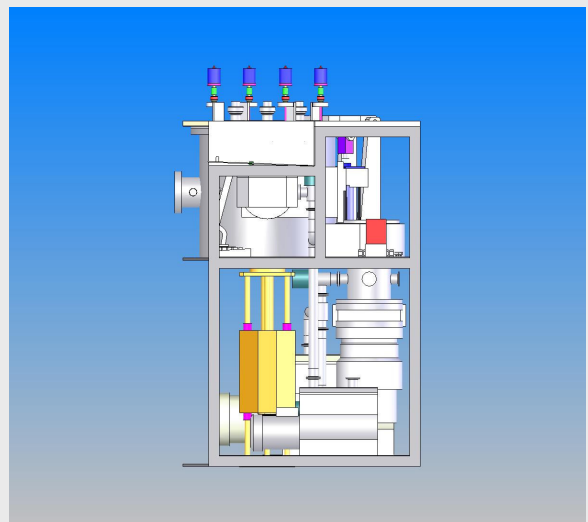
Main Frame	19in STD Rack
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■ Utility Requirements

Power	220VAC, 3 phases
Ground	dedicated D ground
Cooling Water	3-4 liters/min
Exhaust Ducts	For ratary pumps

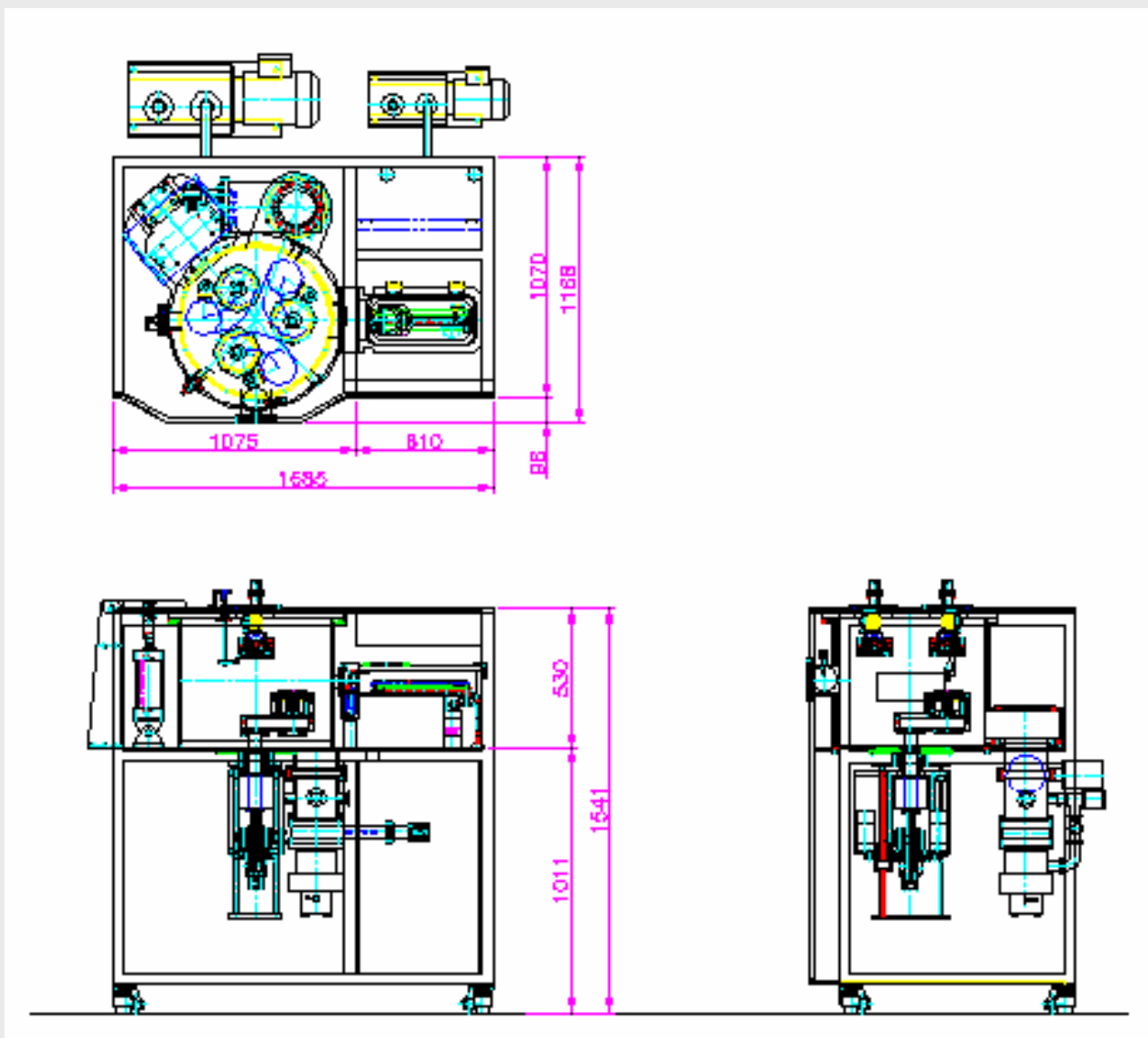
■ Load Lock System

Size	250W x 250D x 60H
Chamber Body	SUS304, electropolished
Pumping Port	KF25
Sensor Port	KF25
Spare Port	KF25
H/V Spare Port	6in
Loadlock Bar Port	ICF070
View Door	5in
Door Hinge	manual
Sliding Seal	bellows
Slide Unit	ball bush
Ball Screw	THK
Screw Shaft	L5
Driving Motor	25W, reversible type
Position Sensor	magnet limit
Isolation Valve (Gate)	ICF203, pneumatic
Roughing Valve	KF25, pneumatic
Vent Valve	1/4in, VCR pneumatic
Release Valve	3/4in, solenoid
Oil Rotary Pump	300 l/min
Flexible Tube	KF25 x 1500L
Convectron Gauge	GP375



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Dimension



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