

Tool information
Modification history :
Equipment Configuration (SCCM-Oxide)

Item		Specification
(1) Unit configuration		
	1. Main Frame	
	1) Loader Module	1
	*Load Port Unit	3
	2) Process Ship (PM + LLM +GB)	2
	*Process Module	2
	*Load Lock Module	2
	*GAS BOX	2
	*Water Leak Detector	3
	2. Support Equipment	
	1) Power Rack(AC Power)	1
	*RF Generators	4
	*AC Power BOX	1
	*TMP Controller	2
	*I/O BOX	2
	*Water Leak Detector	1
	2) Chiller	4
	3) PM Dry Pump	2
	4) LLM Dry Pump	2

Interface

Item		Specification
(1) Loadport and Carriers		
	1. Type of carrier	FOUP (Comply with SEMI E47.1 (25 wafers)
	2. Posture of set carrier	Wafers are Horizontal
	3. Number of carrier stage	3
	4. Sender/Receiver	Used as both Sender and Receiver
	5. Carrier operation	
	6. Lot operation	Continuous operation of next lot is possible
	7. Number of waiting lot	1
(2) Dummy wafer		0 (not limited for one port)
(3) Online connection		GEM / CIM GJG
		Hardware I/F : Ethernet 10Base-Tx

Loader Module

Item		Specification
(1) Load Port Unit		
	1. Automation	for OHT
	2. POD	SEMI E47.1
	3. Carrier ID Reader	E99-Interface(Software)
	4.Parallel I/O Sensor(1/LP)	Carrier ID Device(Hardware)
		Yes
(2) Mini-Enviroment		
	1. Fan Filter Unit	ULPA Filter, 0.3m/s air speed, 10 - 100Pa
(3) ROBOT		
	1. Driving Motor	x axis:Linear Motor
		y axis,z axis,theta axis:AC Servo Motor
	2. Pick	2
	3. Wafer Contact	Kairez O-ring, 80degC or less
(4) Orienter		1
	1. Sensor	CCD linear image sensor
	2. Driving Motor	AC servo motor (theta axis)
	3. Wafer Contact	Kalrez O-Ring
(5) Utility Box		
	1. Regulator	Air:AR2500 (SMC)
		N2:SQ-420E (VERIFLO)
		He:SQMICRO (VERIFLO)
	2. Manual Valve	MEGA-ONE (FUJIKIN)
3.Pressure Gauge	Digital Gauge (Sensor + Display)	
(6) A Countermeasure of Corrosion		SUS Parts:PTFE Coating (Under Mapping Position)
		Ball Screw & Linear Guide: PTFE Coating

Process chamber

Item		Specification
(1) Specifications		New1 -> SE (modification)
1. Chamber		Y2O3 Chamber
	Material	Aluminum Alloy (A6061)
	Surface finish	Hard Sulfuric Acid Anodizing
2.RF Connection		
	Chamber Classification	SCCM Type (Reactive Ion Etch)
3. Temperature control		
	Upper electrode	Temperature regulated re-circulating coolant
	Lower electrode	Temperature regulated re-circulating coolant
	Side wall	Electrical Heater Element
4. Upper electrode		CEL(RES) Si
5. Insulator lower		
6. Lower electrode		Ceramic coated Electrostatic chuck
	Thermometer in lower electrode	Yes
	Wafer holding method	Electrostatic force mechanism
7. Lifter		Resin tipped
8. Focus ring		Si
9. Exhaust Ring		Aluminium Alloy with Y2O3 (Ceramic Spray)
10. Cover ring		Quartz
11. Distance between electrodes (Gap)		35mm fixed
12. Pressure monitor		NOTE: Each chamber has 3 different pressure monitors, *Capacitance Manometer Purpose: Monitor Press. During processing Model:627BRETDD2P (MKS) Heater:45 degC ,Range:30 Pa (250mTorr) *Capacitance Manometer Purpose: for Gas Box Self Check Function Model:627B11TDC2P(MKS) Heater:45 degC,Range:1330 Pa(10Torr) *Pressure switch Purpose: Confirm atmosphere Model: 51A13TGA2AA720 (MKS) Interlock for protection valve of capacitance manometer Range: 10Torr NOTE:for H2, Fluoro gases Moodel:51A11TGA2BA010 is used *B.A. gauge , IR090 (LEYBOLD) Indicate achievable vacuum in monitor screen Measuring pressure : 2.0×10-5 ~ 0.1Pa (1.5×10-4Torr) Measurement is screen.
13. He B.P UNIT		Purpose: Wafer cooling durring processing
	1. Pressure Control	PCV
	2.Number of lines/ Pressure Range	Two lines (Center/Edge):0~7980Pa(0~60Torr)
	3.He monitor	Leakage monitor
	4. Valve open / close detector	VALVE ON/OFF sensor
14. End point detection		EPD-302
15. Confirmation of luminescence		Yes
16. WINDOW		Orifice Type (Quartz)
17. Deposition shield		User Removable for easy cleaning
	Material	Aluminium with hard anodlzing
18. Shutter		
	Plate	Aluminium with Y2O3 (Ceramic Spray)
	Drive	Pneumatic Air Cylinder
19. Final Valve		Valve:Diaphragm Type MEGA-ONE (Fujikin)
20..APC		Pendulum motion, Diameter 250mm (VAT)
21. Manifold		Aluminium Alloy with Hard Sulfuric Anodization
22.Chamber O-Ring Type		Armorcrystal
(2)Specifications for performance		
	1. Ultimate Vacuum	1.0E-2 Pa(7.5E-5 Torr) or less
	2.Leak Back	0.133 Pa/min(1E-3 Torr/min) or less

Tool Type
Telius 3055SS
PUMP(Exhaust system)

Item	Specification
(1)PM	
1. Turbo Molecular Pump	FT-3301(MITSUBISHI) No internal battery replacement No adjustment of axis required
2. Dry Pump	Customer Provide
(2)LLM	
1. Turbo Molecular Pump	None
2. Dry Pump	Customer Provide
(3) Pressure monitor	*Pressure SW TMP back pressure 399Pa(3Torr) Model: 51A11TGA2BA003(MKS)

RF Generator

(1) Upper Electrode	
1. Manufacturer	Daihen Co.Ltd.
2. Frequency	60MHz, Filter, Monitor(Z, C1/C2)
3. Power Supply Model	AGA-50B1:5000W
4. Matching Unit Model	AMN-50B:5000W
(2) Lower Electrode	
1. Manufacturer	Daihen Co.Ltd.
2. Frequency	2MHz, Monitor(Vpp, Z, C1/C2)
3. Power Supply Model	WGA-50D1:5000W
4. Matching Unit Model	WMN-50C:5000W

Chiller

Description and Purpose		
(1) Configuration	Lower Electrode	Upper Electrode
1. Manufacturer	Daikin Co.	
2. Model	UBRP 4CTL	UBRP 4CTH
3. Coolant	Low temperature: FC3283	High temperature: FC40
4. Temp. Control Range	-10~ +60 degC	+30~+100 degC
5. Cooling capacity	4.5 kW@-10 degC	4 kW@+30 degC

Tool Type

Telius 3055SS

Gas Box

Item		Specification		
(1) Piping method		Integrated valve(Fujikin)		
(2) Number of gas lines		12 lines		
(3) Gas Line Details				
1. Type		[MFC] FC-D985CT-BF(AERA)		
2. Joint Type		W-seal(UPG type)		
3. Internal Finish		Up		
4. Line name				
	*P/C1	Gas	MFC Model	Maximum flow rate (SCCM)
	GAS-1	Ar	FC-D985C	1500
	GAS-2	Ar	FC-D985C	500
	GAS-3	C4F8	FC-D985C	100
	GAS-4	CF4	FC-D985C	400
	GAS-5	CHF3	FC-D985C	300
	GAS-6	CO	FC-D985C	500
	GAS-7	O2	FC-D985C	50
	GAS-8	N2	FC-D985C	500
	GAS-9	C5F8	FC-D985C	50
	GAS-10	CH2F2	FC-D985C	100
	GAS-11	Spare		
	GAS-12	Spare		
*P/C2,P/C3 is the same as P/C1				
5. Purge (N2) (Process Grade N2 required)		One line serves up to 12 lines per box		
(4) Piping material				
	1. Special gas	SUS 316L		
	2. General gas	SUS 316L		
(5) Connections		UJR (Fujikin)		
	1. Facility Connection on Tool	Male, 6.35mm(1/4") UJR		
(6) Filter		CNF1004USG4(Nihon Pall)		
(7) Exhaust		76.3mm duct port from bottom		
(8) Regulator		Process, N2-Purge : SQMICRO (Veriflo)		
(9) Valve		*Primary Side(Utility - MFC) : Mega mini (FUJIKIN) *Secondary Side(MFC - PC) : Mega One (FUJIKIN)		
(10) Dual piping (for Gas Leak containment)		Employ dual piping at gas line from gas box to Final Valve, and exhaust through gas box		
(11) Gasket material		SUS 316L		
(12) Welding Pipe Point		None on Integrated Valves.Have Vending Pipe, other Welding pipe and Elbow Welding pipe.		
(13) Gas Leak detection		No gas detection {Port available:6.35mm swagelok(PTFE)}		
(14) Gauge		Digital (Pressure transducer)		
(15) Final pressure switch		51A(MKS)		
(16) Process Gas Connection Point		Bottom Feed Single Line Drop		

Tool Type

Telius 3055SS

Others

Item	Specification
(1) Maintenance controller [Flat Panel Display Touch Screen type]	3
(2) High voltage warning light	One light at LM panel (on maintenance side)
(3) Signal Tower	
1. Color Order	Red,Yellow, Green, and Blue
2. Mounting Position	Upper Right Section of Loader Module of the Front:1
3. Lamp Specifications	Red: In the event of alarm/warning Yellow: Waiting for loading/unloading (Request) Green: During Processing (Busy) Blue: During Processing (Busy)
(4) Number of service outlets	None
(5) Analog Test Connector box	Ready a connector
(6)RF odometer	Indicated in maintenance screen (MAX:16666 hours and 40 minutes)
(7) Automatic handling system	OHT
	Carrier ID reader/writer system
(8) EPD recording method	Main Controller Hard Drive
(9) Front panel	SUS hair-line finish
(10) Color of frame	LM Frame:Purple/Ivory (White) PS Frame:Ivory (White)
(11) Hose for coolant	Tellon,outside SUS mesh
(12) System Voltage/Ampare requirements	200VAC/175A(2Lines)
(13) Data Back Up(1system)	FDD
(14)Facility Connections	
1.Chiller	Bottom Feed
2.Vacuum	Bottom Feed
3.Exhaust	Bottom Feed
4.Gas Panel/Connection Point	Bottom Feed
(15) EMO (3PS SYSTEM)	5(Front:2 , Rear:3)
(16)Safety Labels	Chinese
(17)Gas Measurement	None -> Portabule GBROR (modification)