

RIE

Reactive Ion Etching system



Our Reactive Ion Etching system (Ion Etch 150) is a compact system for use in nanofabrication applications. RIE combines both physical sputtering, and chemical activity of the reacting species to ensure high etch anisotropy as well as greater material selectivity. This technique can be used to etch silicon based materials such as Polysilicon, Amorphous Silicon, Silicon Oxide, Nitrides, etc., III-V materials, various dielectrics, sputtered metal films, photoresists and polymers. The small footprint, low cost, ease of use and superior performance makes the tool ideal for a wide range of applications for R&D and low volume production.

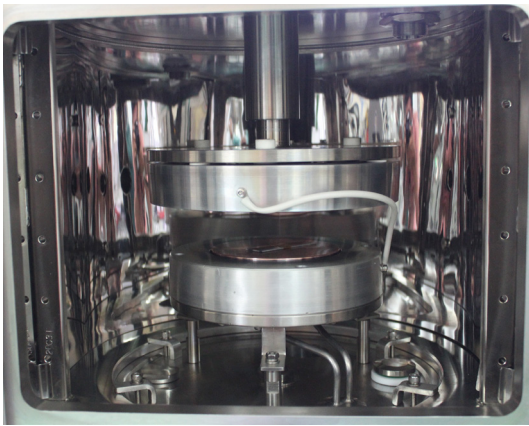
CHAMBER CONFIGURATIONS



System configuration with external gas manifold and pumping



System configuration with integrated gas manifold



Electrode with gas showerhead



Gas Manifold

SPECIFICATIONS

CHAMBER SIZE	400 mm (Ø) x 350 mm (h)
SUBSTRATE SIZE	6" diameter circular wafer
SUBSTRATE TEMPERATURE	Up to 300° C. Substrate cooling option available
POWER SUPPLY	RF - 13.56 MHz for plasma generation
PUMPING	Rotary and Roots. Turbo molecular pump option
MFC CONTROLLED GAS LINES	4 to 8 lines
ADDITIONAL OPTIONS	Wet/Dry Scrubber and process gas lines from gas bank to chamber

CONTROL OPTIONS



Manual operation



Auto operation

01 Oct 2020 14:26:37 PM **MIHIC** USER: ENGINEER

LOGOUT MANUAL SERVICE IO STATUS ANALOG DIAGNOSIS ALARM

01 Oct 2020 17:42:51 PM **PROCESS** USER: ENGINEER

LOGOUT MANUAL SERVICE IO STATUS ANALOG DIAGNOSIS ALARM

MFC-1 SF6 SV: 0 SCCM PV: 0 SCCM	MFC-3 O2 SV: 0 SCCM PV: 0 SCCM	MFC-5 N2 SV: 0 SCCM PV: 0 SCCM
MFC-2 CF4 SV: 0 SCCM PV: 0 SCCM	MFC-4 Ar SV: 0 SCCM PV: 0 SCCM	RF POWER ON VACUUM READING PR1: 0.0E+0 mbar

01 Oct 2020 14:27:26 PM **INPUT STATUS** USER: ENGINEER

LOGOUT MANUAL SERVICE IO STATUS ANALOG DIAGNOSIS ALARM

%B001 EMERGENCY STOP	%B0013 RF ELECTRODE WFS	%B0015
%B002 SINGLE PHASE PREVENTER	%B0014 SPARE	%B0016
%B003 AIR PRESSURE SWITCH	%B0015 ROTARY PUMP MPCB TRIP	%B0017
%B004 ACCESS DOOR CLOSE	%B0016 ROOTS PUMP MPCB TRIP	%B0018
%B005 RACK DOOR CLOSE		%B0019
%B006 VACUUM SWITCH		%B0020
%B007 ROUGHING VALVE CLOSED		%B0021
%B008 VENT VALVE CLOSED		%B0022
%B009 THROTTLE VALVE CLOSED		%B0023
%B010 ROTARY PUMP ON STATUS		%B0024
%B011 ROOTS PUMP ON STATUS		%B0025
%B012 RF POWER SUPPLY ON STATUS		%B0026

01 Oct 2020 17:43:19 PM **OUTPUT STATUS** USER: ENGINEER

LOGOUT MANUAL SERVICE IO STATUS ANALOG DIAGNOSIS ALARM

%Q0001 ROTARY PUMP ON	%Q0013 MFC-3 POWER ON
%Q0002 ROOTS PUMP ON	%Q0014 MFC-5 POWER ON
%Q0003 SAFETY INTERLOCK STATUS	%Q0015 MFC-4 POWER ON
%Q0004 ROUGHING VALVE OPEN	%Q0016 MFC-5 POWER ON
%Q0005 VENT VALVE OPEN	
%Q0006 THROTTLE VALVE OPEN	
%Q0007 SPARE	
%Q0008 SPARE	
%Q0009 GAS VALVE OPEN	
%Q0010 RF PS POWER ON	
%Q0011 RF ENABLE	
%Q0012 MFC-1 POWER ON	

01 Oct 2020 14:26:47 PM **ALARMS** USER: ENGINEER

LOGOUT MANUAL SERVICE IO STATUS ANALOG DIAGNOSIS ALARM

Time	Description
01/10/20 - 02:25:29 PM	EMERGENCY STOP PRESSED
01/10/20 - 02:25:29 PM	AIR PRESSURE LOW
01/10/20 - 02:25:29 PM	ACCESS DOOR OPEN
01/10/20 - 02:25:29 PM	RACK DOOR OPEN
01/10/20 - 02:25:29 PM	ROTARY PUMP TRIPPED
01/10/20 - 02:25:29 PM	ROOTS PUMP TRIPPED
01/10/20 - 02:25:29 PM	RF ELECTRODE WFS LOW

01 Oct 2020 17:43:19 PM **DIAGNOSIS** USER: ENGINEER

LOGOUT MANUAL SERVICE IO STATUS ANALOG DIAGNOSIS ALARM

ROTARY PUMP ON	MFC-1 SF6
ROOTS PUMP ON	MFC-2 CF4
ROUGHING VALVE OPEN	MFC-3 O2
VENT VALVE OPEN	MFC-4 Ar
GAS VALVE OPEN	MFC-5 N2
RF POWER ON	

Auto mode screens

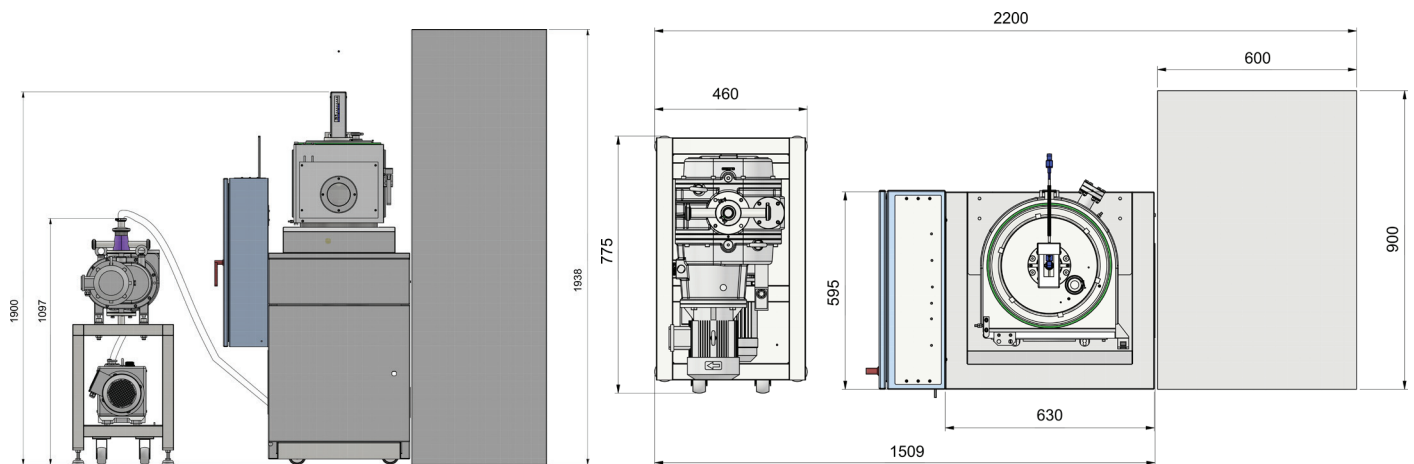
FEATURES

- Low cost of ownership
- Optimized showerhead design for uniform gas distribution
- Adjustable source to shower head distance
- Fluorine and Chlorine based chemistry offered
- User friendly interface
- Fully interlocked for operator and machine safety

APPLICATIONS

- Semiconductor devices
- Micro and Nano fabrication
- MEMS and NEMS
- Sensors
- Solar cells
- Energy devices

LAYOUT



All dimensions in mm



ADVANCED
Technologies

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