ULVAC

Etching system

ULVAC has a large portfolio of etching systems.

NE-5700

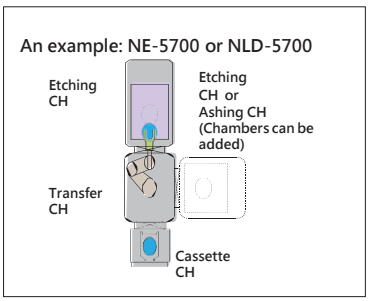
Dry Etching System for Production

NE Series

Wafer size: Up to 200mm

Features

- 600 systems are sold.
- Low Pressure with High density plasma.
- Standard STAR Electrode (ULVAC Patent), can avoid re-deposition to the top lid which extends the lifetime of the shields.



Plasma Source	Inductively Super Magnetron	Conventional ICP
Uniformity	Optimized Magnet Layout	Determined by Chamber Structure
Plasma Density (cm^{-3}) @0.1Pa/Ar	5E10~1E11	5E10
Te(eV)	3~5	5~10
Operating Pressure(Pa)	0.07 < Pa < 13.3	0.5< Pa< 50
Prevent Re-deposition to Top Plate	Star Electrode (ULVAC's Patent)	No

Plasma type	Low pressure・High density		
Plasma source	ISM(ICP with magnetic field) or RIE		
Model	NE-550EX	NE-5700 ②	NE-7800
Config.		1C/LL / 1E ~ 2E	max ~ 2C2E1A
Wafer size	~φ 230mm	~φ 200mm	~φ 200mm
Chuck type	ESC or Mechanical chuck	ESC or Mechanical chuck	ESC or Mechanical chuck
Suitable market	Small production and sampling for corporate R&D	Medium volume production	High volume production
Etching materials	Compounds, dielectrics, resin (polymer), metal (Al Al alloy, Mo, Ti, Ta, W, Cr), precious metal (Pt, Ir, Au), ferroelectrics (STO, PZT, BST etc.), ITO, Alumina (sapphire), SiC, Diamond		

① Cassette chamber is available as option (25 wafers, tray transfer is available).

② Max. 2 chambers can be equipped to NE-5700.

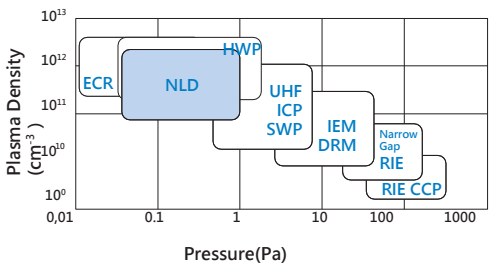
Dry Etching System for R&D and Production

NLD Series

Wafer size: Up to 200mm

Features

- 100 systems are sold.
- A wide range of etch process applications are possible. (Quartz, Pyrex, Crystal, LN/LT and more.)
- Equipped with NLD (magnetic neutral loop discharge) plasma source.
- With a low temperature, high density plasma, the NLD system is capable of etching quartz and other glass types in a high-speed precise manner.
- For the deep silicon etching process.



NLD-5700

Dry Etching System

INE-3085

Tray size: φ400

Features

- Electrostatic chuck tray (ULVAC patented) adopted board cooling improvement, productivity 30% higher than previous machines excellent substrate temperature controllability and workability improvement (screwless, just placing) consumables cost significantly improved compared to special trays
- By adopting large size TMP, wider process margin possible

INE-3085

Device configuration	1C + 1LL (transport room) + 1E room
Tray size	Φ400mm
Tray mounting board number φ 50mm	42sheets・37sheets
φ 100mm	10sheets・9sheets
φ 150mm	4sheets・4sheets
RF Power Supply	Antenna 2 kW / Bias 1 kW *Supply Capacity Various, Low Frequency Power Supply Acceptable
Substrate cooling	mechanism chuck + He cooling *electrostatic attachment tray compatible
top window stain prevention	star electrode *ULVAC patent
Process Reproduction Stability	Surface Treatment + Various Temperature Control Functions + Process know-how
Etching operation pressure	0.07Pa ~ 13.3Pa
TMP displacement capacity	2500 L / s High conductance exhaust structure
Substrate temperature (heating / cooling)	0℃~ +40℃ * -20 ℃ ~ + 70 ℃ compatible with Option
Gas introduction system	4 lines (1 line with internal bypass) * Max 8 lines (3 lines with internal bypass)
Operating system	PLC + PC (Windows7)
Device body size	W1000 × D3050 × H1720

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