

Corial 200ML

Microwave High Density Plasma Etcher

For II-VI Compounds



Corial 200ML



Compact HDP System

Magnetron

Isolator

Load-lock

RF Match Box

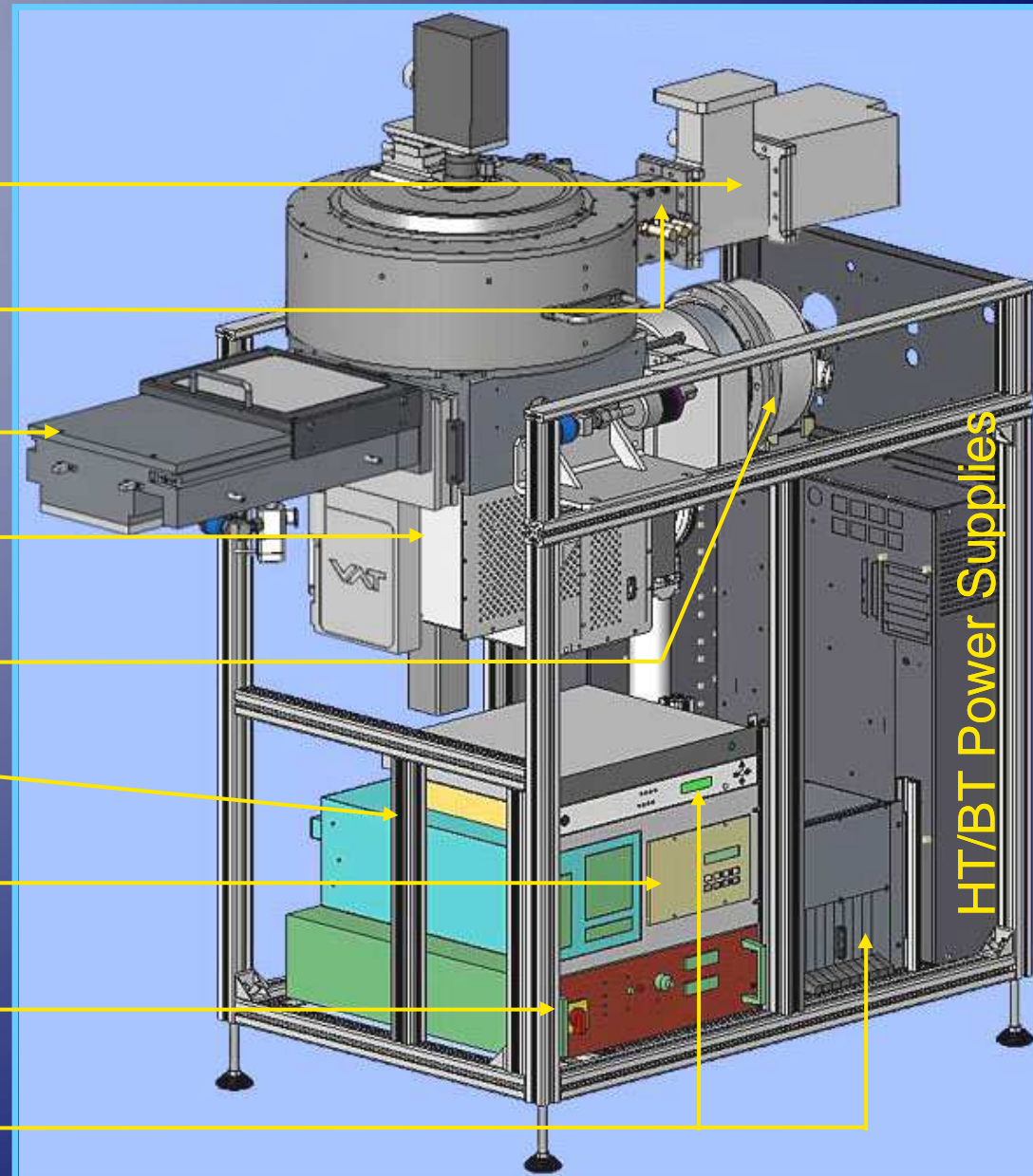
Magnetically Levitated TMP

RF Generator

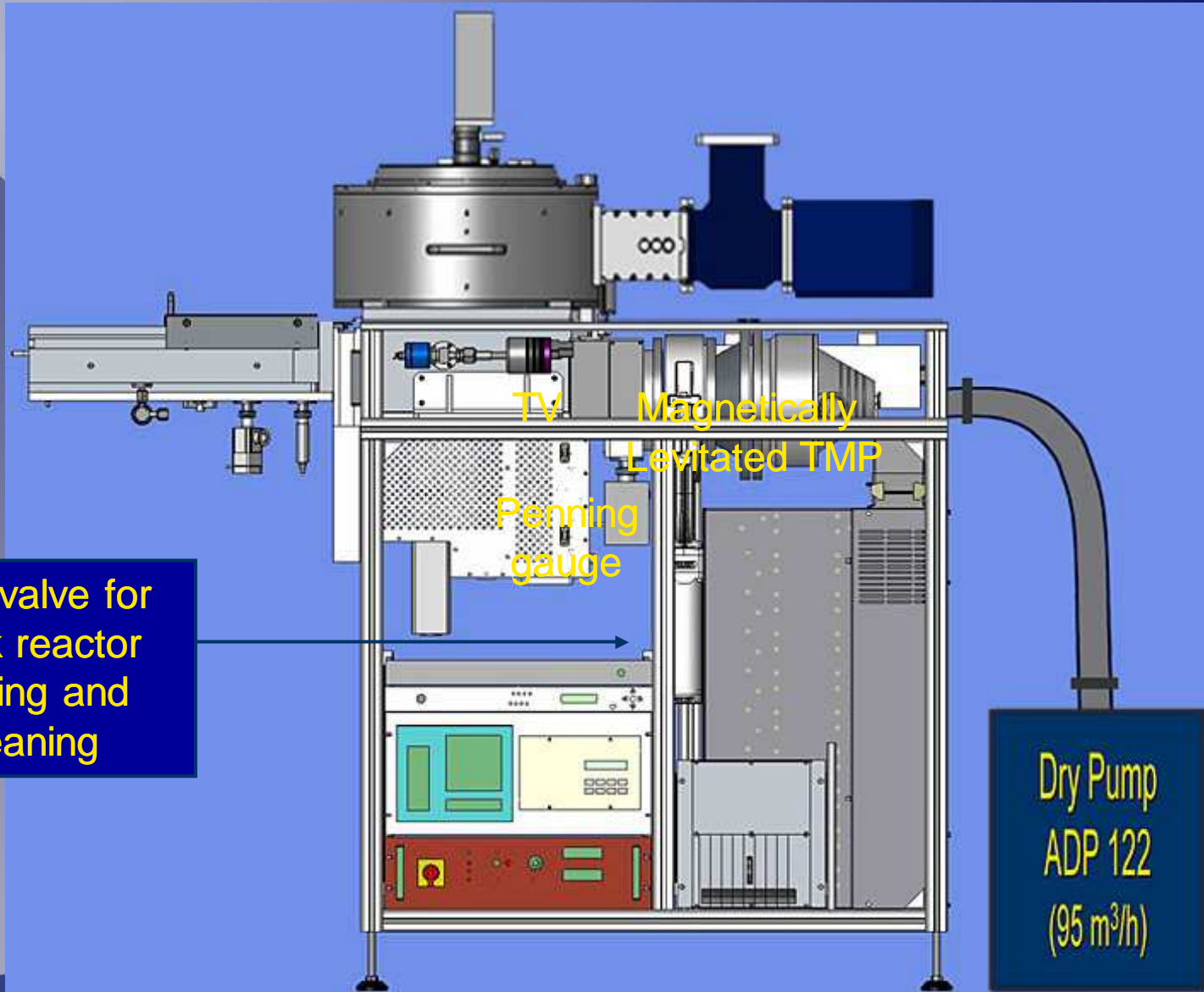
TMP Controller

UHF Generator

Electronic Control



High Rate Pumping System



Reactor Features (1)

- New microwave (2.45 GHz) plasma source with hot walls to reduce polymer condensation and to enhance plasma cleaning. It produces High Density Plasma in a wide working pressure range (5 to 100 mT) for fast etching of up to Ø200 mm wafers,
- Helium assisted heat exchange between cathode, shuttle and wafer with mechanical clamping to maintain wafer temperature below 100°C,

Numerous plasma modes accessible in the same process:

- Microwave High Density Plasma + RF biasing
- Reactive Ion Etching
- Microwave High Density Plasma for ultra-soft etching.

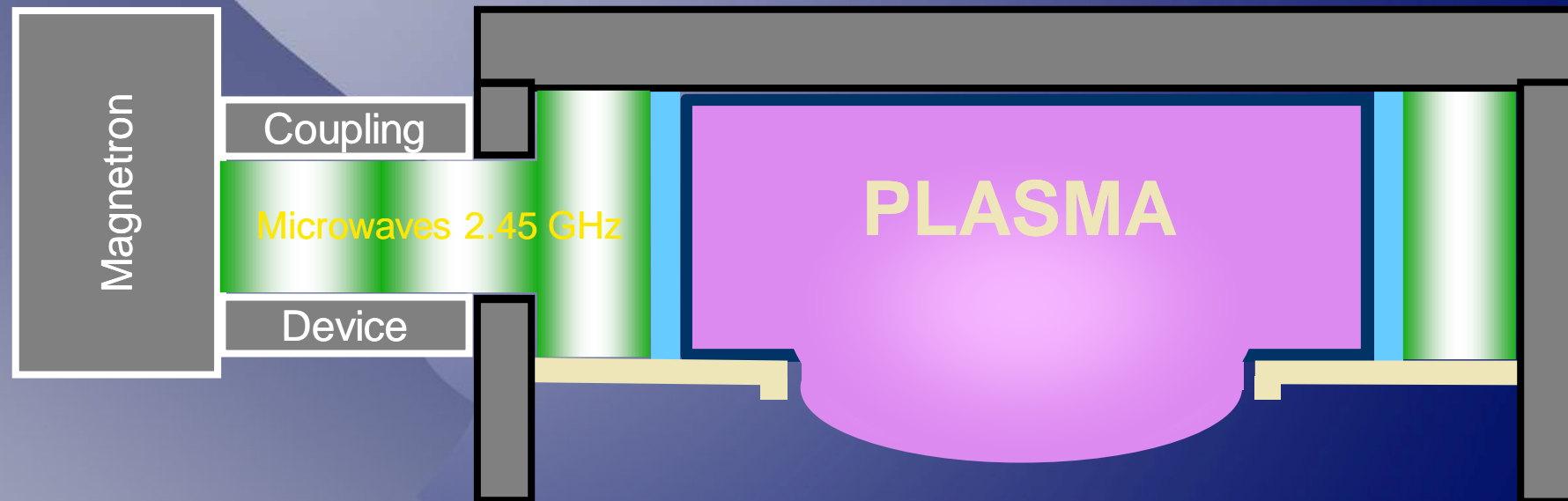


Reactor Features (2)

- Reactor with hot walls enables:
 - **Selective processes using highly polymerizing gases** (Polymers condensate only on the wafer which is the coldest part of the system, giving rise to high selectivity),
 - **Low contamination of process chamber** which allows to etch different materials using **fluorinated and chlorinated chemistry with minimum memory effect**.
- Very low plasma potential (**< 2 Volts**) and automatic self bias regulation giving rise to precise control of low ion energy levels (**< 15 eV**),
 - **Enable low damage etching,**
 - **Minimum sputtering of metal lines,**
 - **Isotropic and anisotropic etching.**



High Density Plasma Source



Electron density : 10^{11} to 10^{12} e/cm³



Microwave Plasma Source

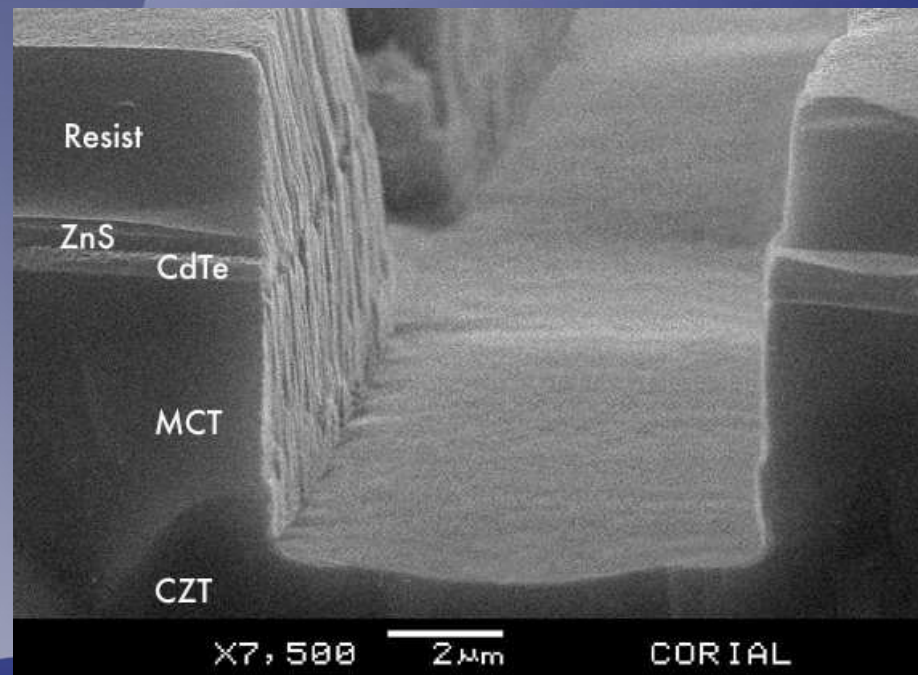


Electron density : 10^{11} to 10^{12} e/cm³



II-VI Compounds ICP Etching

Material	Etch Rate	Uniformity
ZnS	150 nm/min	±3%
CdTe	350 nm/min	±3%
MCT	600 nm/min	±3%



A Communicant tool

