JSWAFTY

Atomic Layer Deposition System AFALD-8

Superior Step Coverage

Precise Thickness Control

Pinhole -free

Low Damage

ALD method is a thin film deposition method realizing superior step coverage and film-thickness controllability. Even in the structure having high aspect ratio or complex 3D configuration, it is possible to form thin films controlled at the atomic level. In addition to the conventional benefit of ALD, AFALD ensures the deposition of high-density and high-quality films by enhancing the reactivity using a plasma precisely controlled in milliseconds order. This system can accommodate max. four metal precursors and max. three reactive gases, and by combining it with a proper transfer module, all your needs from R&D to massproduction can be met.

System Features

- **Standard mounted CCP plasma source**
  Controllable in milliseconds for low-damage and stable deposition.
- **Wide range of option selection**
  Transfer system can be selected from manual loader to cluster module type loader.
  The number of material vaporizers and reactive gases are selectable.
- **Software that is powerful and easy to operate**
  Interface enabling the intuitive operation
  Configuration function which can be set arbitrarily
  Standard installed abundant log functions.
- **Designed for lower material cost**
  A unique patented vaporizer having excellent material consumption efficiency by controlling the feeding pressure is adopted.

Deposition Characteristics

Superior step coverage

By the self-limiting function of surface reaction on a wafer, AFALD ensures superior step coverage.

Precise thickness control

Thickness can be controlled at the atomic level by the number of ALD cycles.

Excellent electrical properties

By using plasma enhancement, high break down voltage and low leak current property can be achieved even at lower temperature

Superior water vapor barrier property

In comparison with CVD, etc., a thinner film can achieve the equivalent water vapor barrier property.

AFALD-8

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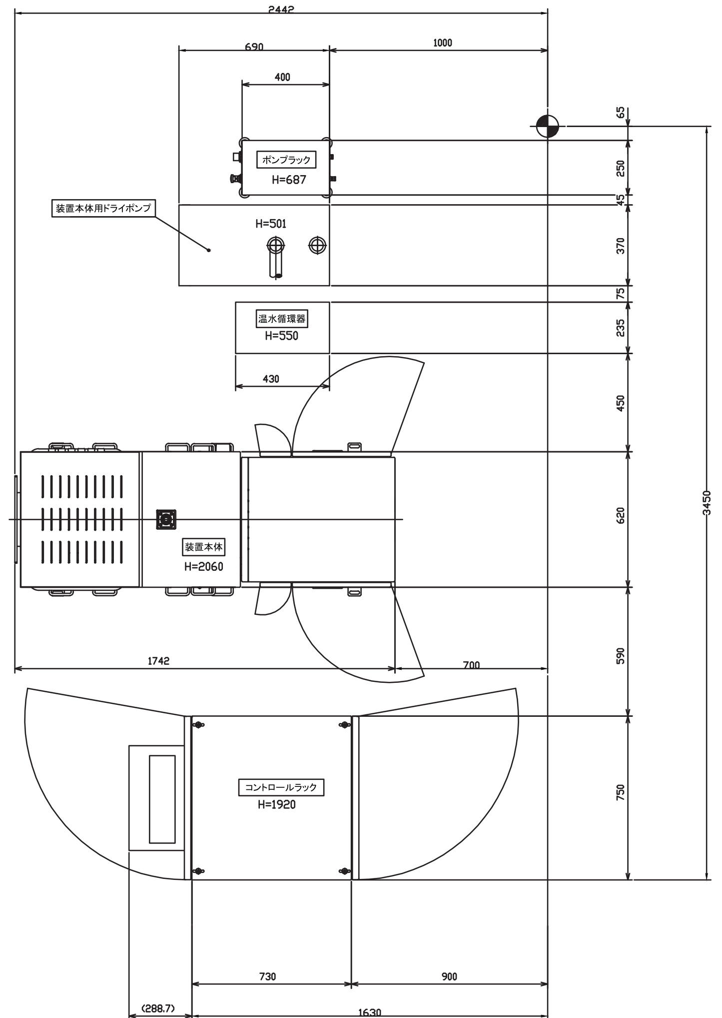
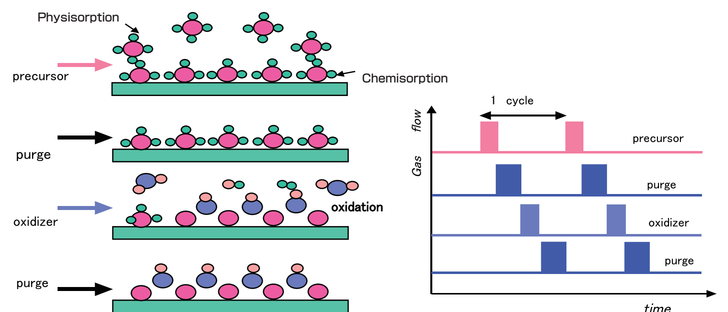
AFALD-8 (Standalone type) Standard Specifications

Item	Specification
Maximum substrate size	Φ200 mm
System dimensions (W×D×H)	600 × 1700 × 2060 mm
System weight	Approx. 700kg
Reactor type	Plasma, Thermal
Plasma generation method	CCP 13.56MHz Max.1000W
Number of metal precursors	Max. 4
Number of reactive gases	Max. 3 (Mass flow controller)
Maximum substrate temperature	400℃ (Set value)
Vacuum pump	Dry Pump (Suitable for chemicals)
Hot wall	Standard feature
Piping heating	Standard feature (Individually controllable)
Pressure control	Auto Pressure Control valve (APC) (Pressure in each room can be controlled individually.)
Process gas trap	Standard feature
User interface	PC/AT (Personal computer)
Module controller	PLC
Utilities	Electrical supply: 3-phase 200VAC 50/60Hz 150A P-N2: 0.3~0.6MPa 10SLM P-O2: 0.3~0.6MPa 6SLM N2: 0.3~0.6MPa 65SLM Compressed air: 0.5~0.7MPa 15SLM Cooling water: 0.1~0.3MPa 5L/min 0.5MPa 5L/min

Dimensional Drawing



Reaction Sequence of Gases



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