



Horizontal PECVD Furnace for High Process Performance

Designed for efficient and economic production with a high process flexibility

INTRO

The design of the SVCS Plasma Enhanced Chemical Vapor Deposition furnaces combines the multiple process capability with the needs of a maximum capacity for full-production system (SVpFUR-FP) as well as high flexibility for small-scale versions to be used for research and pilot production (SVpFUR-RD). It provides an easy-to-maintain, safe and reliable horizontal furnace platform. The SVCS design is outstanding for high efficiency, minimised footprint and low cost of ownership while offering high process flexibility.

PROCESSES

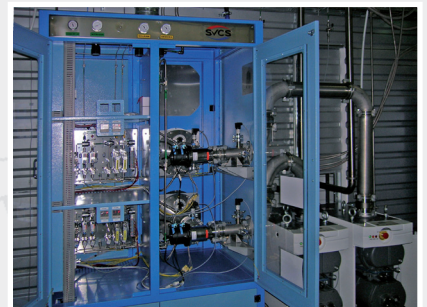
PECVD Processes

- Silicon nitride
(including anti-reflective SiN solar cell coating)
- Silicon oxide
- Oxinitride

FEATURES

Features and Benefits

- State-of-the-art modular control system; in-house designed, highly tailored and in-house manufactured
- Top notch components always selected for excellent results and trouble free long life of the furnace equipment
- Up to 4 stacked quartz tube reactor chambers for various processes
- Multiple methods of vacuum control, heated or unheated
 - Throttling Butterfly Valve – TBV
 - N₂ ballast
 - Vacuum pump control with frequency converter
- Integration of vacuum pump system in cooperation with leading vacuum pump manufacturers
- Advanced water cooling system at tube-level: no thermal interference between adjacent tubes
- Proprietary designed water cooled flanges
- Proprietary in-house manufactured RF generators
- On request integration of RF generators in cooperation with leading manufacturers
- Proprietary designed in-house assembled graphite wafer carriers
- Contactless fully automated boat-in-tube loading cantilever with proprietary ceramic encapsulated twin rod system
- Contactless fully automated boat-in-tube loading SiC paddle cantilever with softlanding
- Maintenance-friendly mechanical design





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Technical Data

| | |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wafer size | 150 mm, 200 mm or any custom size |
| Wafer load | FP: up to 120 RD: 25 (typical) |
| Heating system | 3 or 5 zone |
| Flat zone | FP: up to 1067 mm (42") RD: down to 300 mm (12") ± 0.5 °C across flat zone |
| Process temperature | 200 °C to 800 °C |
| Power consumption | 80 kW – 150 kW depending on tube configuration |
| Power supply | 150 mm: 3-phase, 400 or 480 VAC, 140 A, 50 or 60 Hz 200 mm: 3-phase, 400 or 480 VAC, 160 A, 50 or 60 Hz (system is always adapted to country - specific power supply network) |
| Clean dry air | 70 – 110 psig (4,8 to 7,6 bar) |
| Cooling water | 40 - 60 LPM |
| Exhaust | 210 m³/h per tube |

Options

Boat elevator and wafer handling automation

DIMENSIONS

