



Horizontal LPCVD Furnace for High Process Performance

Designed for efficient and economic production with a high process flexibility

INTRO

The design of the SVCS Low Pressure Chemical Vapor Deposition furnaces combines the multiple-process capability with the needs of a maximum capacity for full-production system (SVcFUR-FP), as well as high flexibility for small-scale versions to be used for research and pilot production (SVcFUR-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

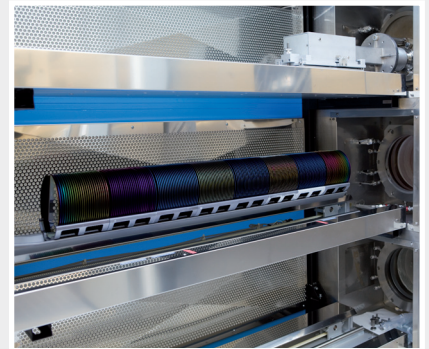
LPCVD Processes

- Silicon nitride
- Low Temperature Oxide (LTO)
- High Temperature Oxide (HTO)
- TEOS oxide
- Polysilicon, both with tilt and flat temperature profile
- Doped polysilicon
- 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
 - N_2 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
- Contactless fully automated boat-in-tube loading both cantilever or softloading configurations
- Maintenance-friendly mechanical design





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Process Innovation

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TECHNICAL DATA

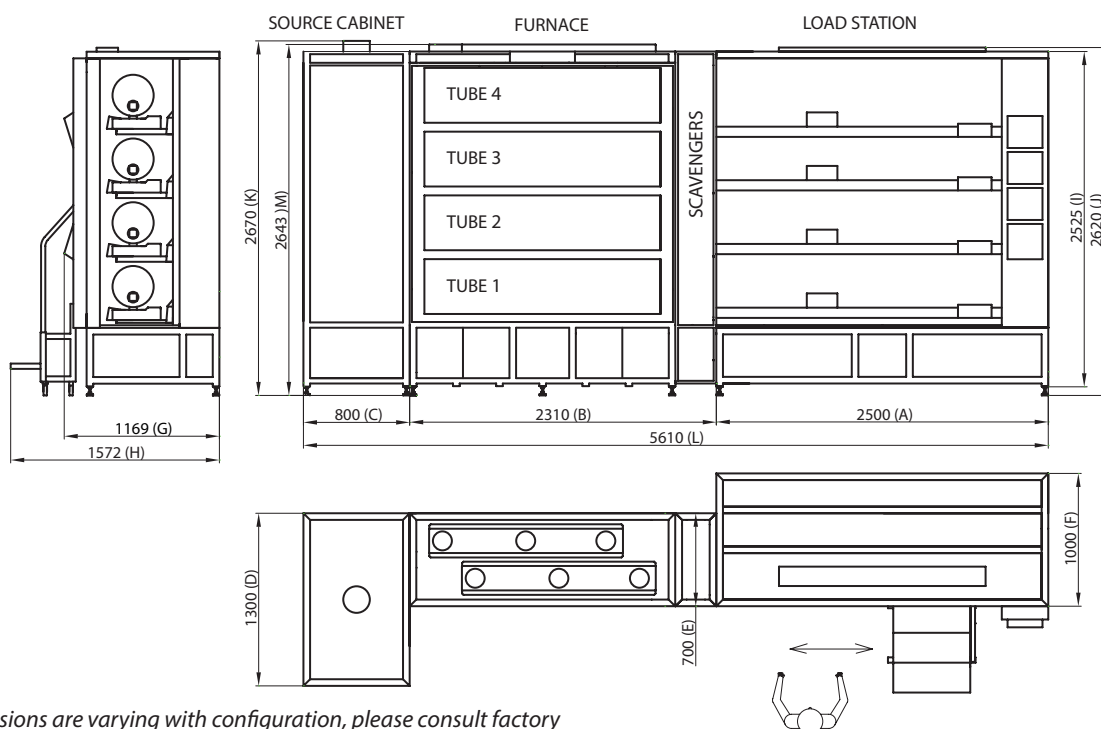
Technical Data

Wafer size	150 mm, 200 mm or any custom size
Wafer load	FP: 100+ 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 1200 °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



Dimensions are varying with configuration, please consult factory



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