

Horizontal Furnace for High Process Performance

centrotherm

equipment
process
solutions

Processes

Features and Benefits

E 2000 Horizontal Production Furnace

Designed for low cost productivity and furnace platform flexibility

The design of the centrotherm E2000 system supports the multiple process capability needs of a maximum capacity, high process performance user and provides all the features of full production in a full size, easy-to-maintain, safe and reliable horizontal furnace platform.

The centrotherm design is outstanding for high performance, small footprint and low cost of ownership while offering high process flexibility required for multiple applications.

► Atmospheric Processes

Diffusion	Curing
BBr ₃ -, B ₂ H ₆ -Doping	Activation Annealing
POCl ₃ -Doping	Silicidation
H ₂ -, N ₂ -Annealing	Nitridation
Wet-, Dry-Oxidation [Option: DCE, HCl]	Contact Sintering

► LPCVD Processes

Polysilicon	TOMCAT
Polysilicon-Doping	LTO
Silicon Nitride	HTO
Oxinitride	SIPOS
TEOS	Low pressure deposition of passivation

► PECVD Processes

PECVD-Oxide	PECVD-Nitride	PECVD-Oxinitride
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- up to 4 stacked quartz or SiC tube reactor chambers [up to 300 mm 4 stack possible]
- process selectable chamber options available
- fully automated cassette-to-cassette loading for processing up to 200 mm wafers
- advanced water cooling system: no thermal interference between different tubes, no consumption of clean room air
- clean automated boat loading for premium processing of up to 200 mm wafers
- modular component design for ease of installation and start up in clean room facilities



centrotherm E2000



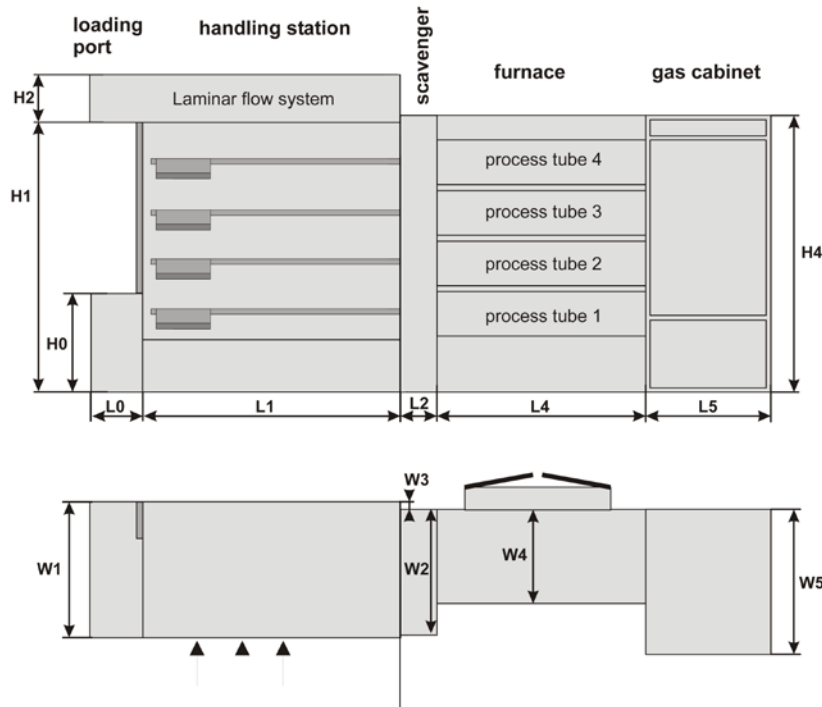
Fully automated cassette-to-cassette production up to 200 wafers per tube

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E 2000 Horizontal Production Furnace

Dimensions



L0:	500 mm [19.7"]	H0:	950 mm [37.4"]
L1:	2520 mm [99.2"]	W1:	1310 mm [52.8"]
L2:	350 mm [13.8"]	W2:	1225 mm [48.3"]
		W3:	145 mm [5.7"]
L4:	2000 mm [78.7"]	W4:	800 mm [31.5"]
L5:	1200 mm [47.2"]	W5:	1400 mm [55.1"]
		H1:	2680 mm [105.5"]
		H2:	520 mm [20.5"]
		H4:	2650 mm [104.3"]

Preliminary size | real dimensions in customized layout | customized dimensions upon request

Technical Data

Wafer sizes	150 mm [max. 200 wafers] 200 mm [max. 150 wafers] 300 mm [max. 75 wafers]
Heating system	3 or 5 zone 900 mm to 1000 mm flat zone ± 0.5 °C across flat zone
Process temperature	200 °C to 1300 °C
Possible process gases	H ₂ , Ar, O ₂ , N ₂ O, N ₂ , SiH ₄ , NH ₃ , B ₂ H ₆ , PH ₃ , SiH ₂ Cl ₂
Power consumption	95 kW [heating cassette with Ø 290 mm at 1000 °C]
Power supply	400 V, 140 A [system will be modified to country-specific power supply]
Dry air	600 – 1000 kPa
Cooling water	50 – 70 LPM
Exhaust	200 m ³ /h per tube

centrotherm
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Options

| boat elevator and wafer handling automation