



Epitaxial Reactor PE3061 D

EPI REACTOR PE3061 D





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EPI REACTOR PE3061D

- wafer quality comparable to SWR (application overlaps)
- COO comparable to batch reactors
- thick film deposition capability.



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- New generation discrete devices :
 - ✓ Low Voltage (up to 200 V)
 - ✓ Medium Voltage (up to 800 V)
 - ✓ High Voltage (> 800 V)
- IGBT devices
- Sensors New Generation
- Thin films Epi applications.



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	SWR	PE 3061D	Batch
Wafer quality			
UPH Thin			
UPH Thick			
COO			
Design			
Process flexibility			
Reduced pressure			



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Specific LPE' characteristics :

- long term expertise in inductive heating and severe epi applications
- need for diversification
- traditionally low COO and ease of use / maintenance
- avoid patent conflicts ,

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- small batch
- short cycle time
- Cassette-to-cassette.





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Batch load per run

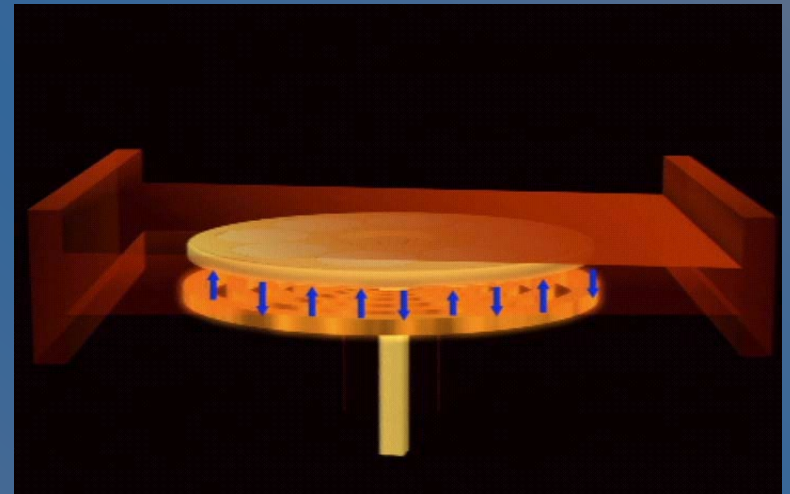
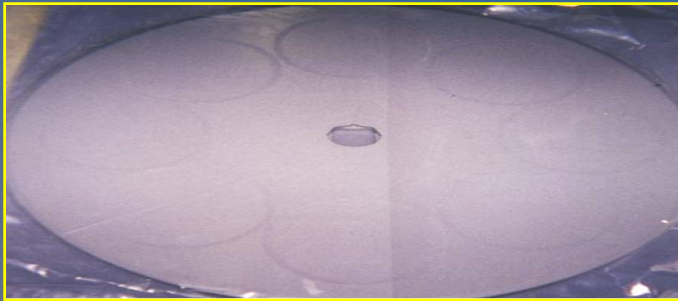
- 125 mm : 10 wafers
- 150 mm : 8 wafers
- 200 mm : 5 wafers.

BATCH LOAD

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HEATING SYSTEM

- Low frequency inductive heating with built-in devices for radiation reflection
- One pass gas flow



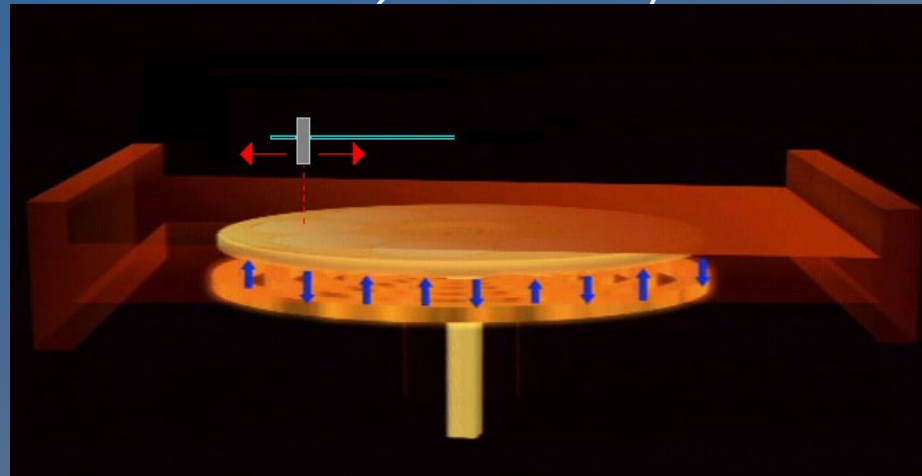


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HEATING SYSTEM

Optical pyrometer

Reflecting chamber



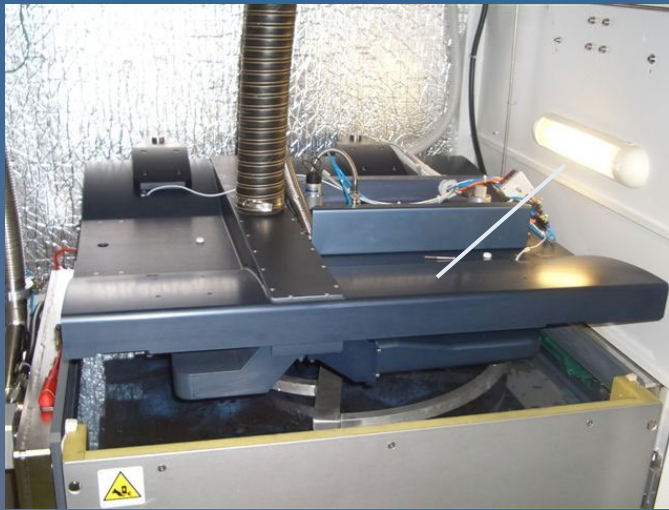
Rotation group



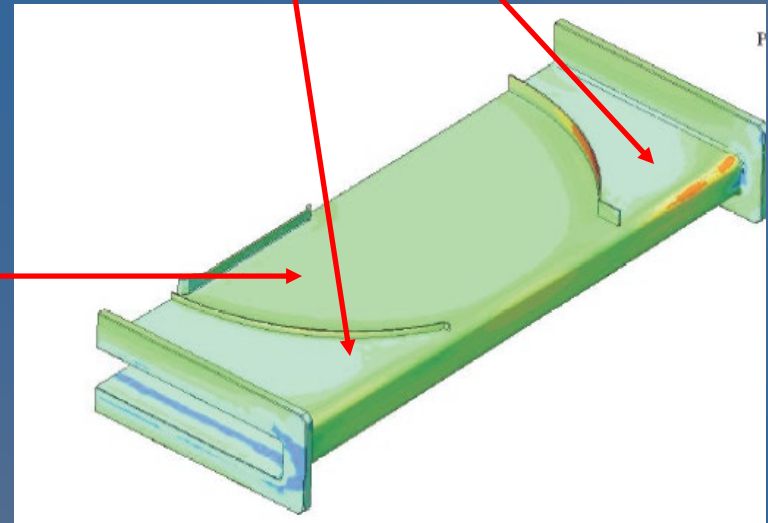
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Selective Cooling System

- Cooling Air



- Cooling Water



COOLING SYSTEM



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- Load - lock operation
- Single station configuration
- Side-by-side layout
- Small footprint
- (42" x 124" or 105 cm x 310 cm)
- Through-the-wall configuration .



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- Remote IGBT power generator (up to 50 ft / 15 mt standard cables length)
- Optimized ratio wafer quality / wafer cost for 150 - 200 mm substrates
- Low power consumption (radiation reflection + high efficiency)



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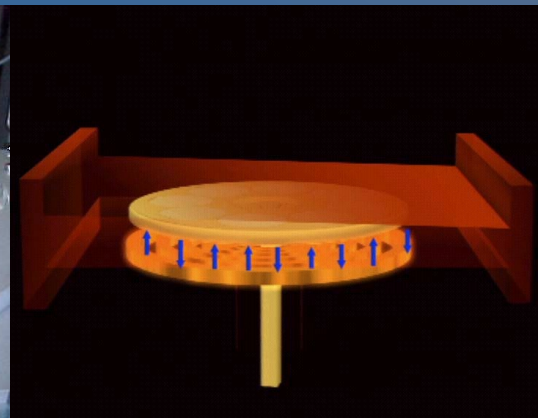
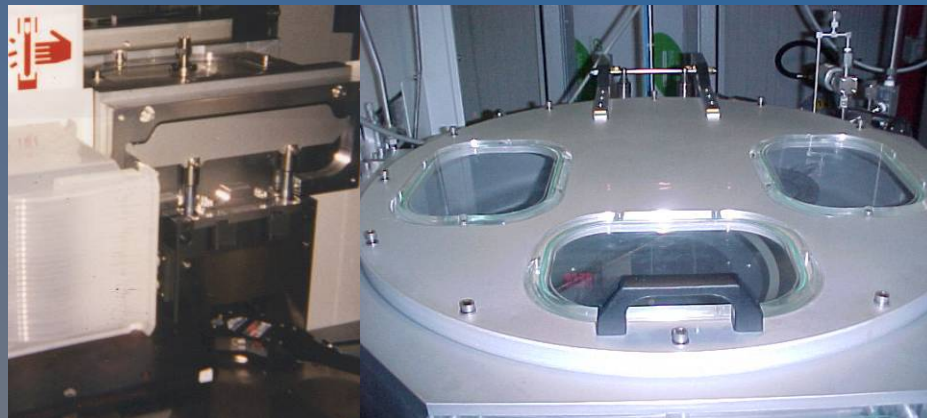
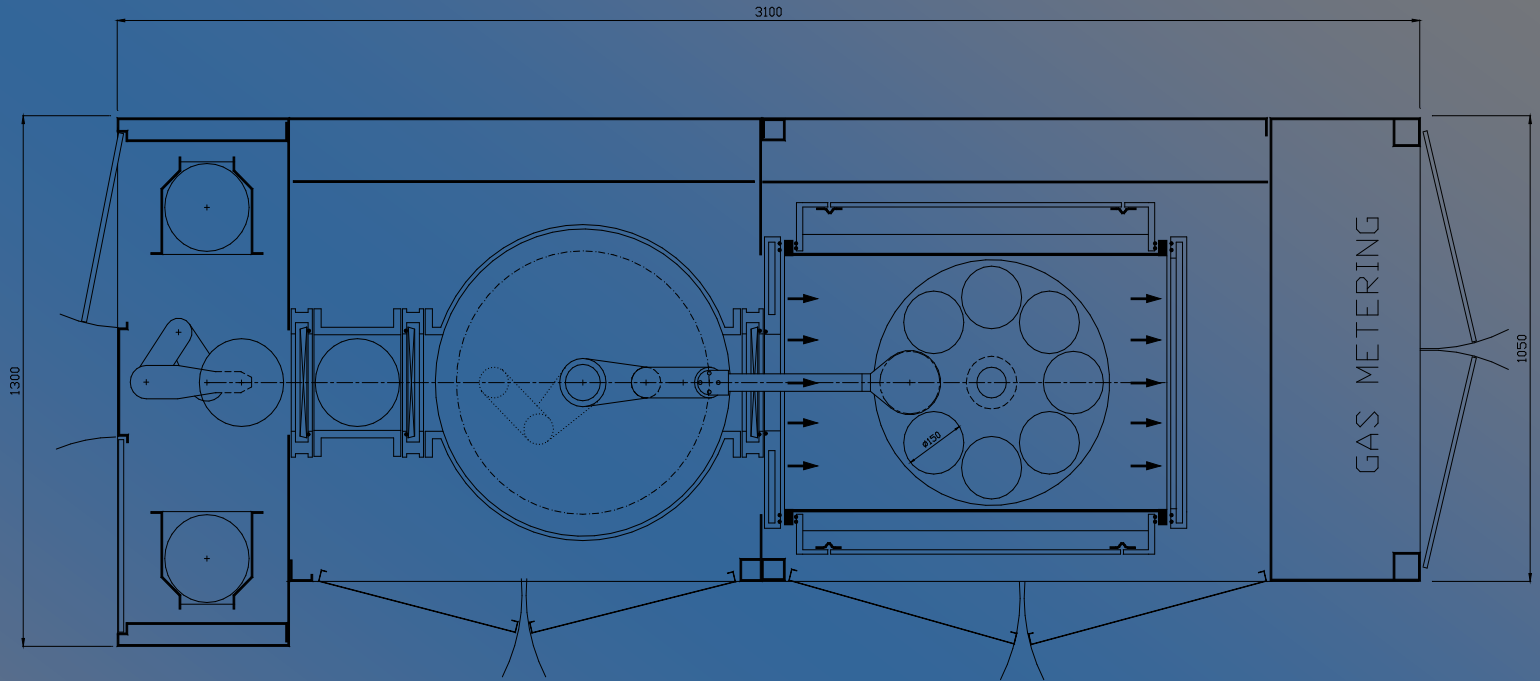
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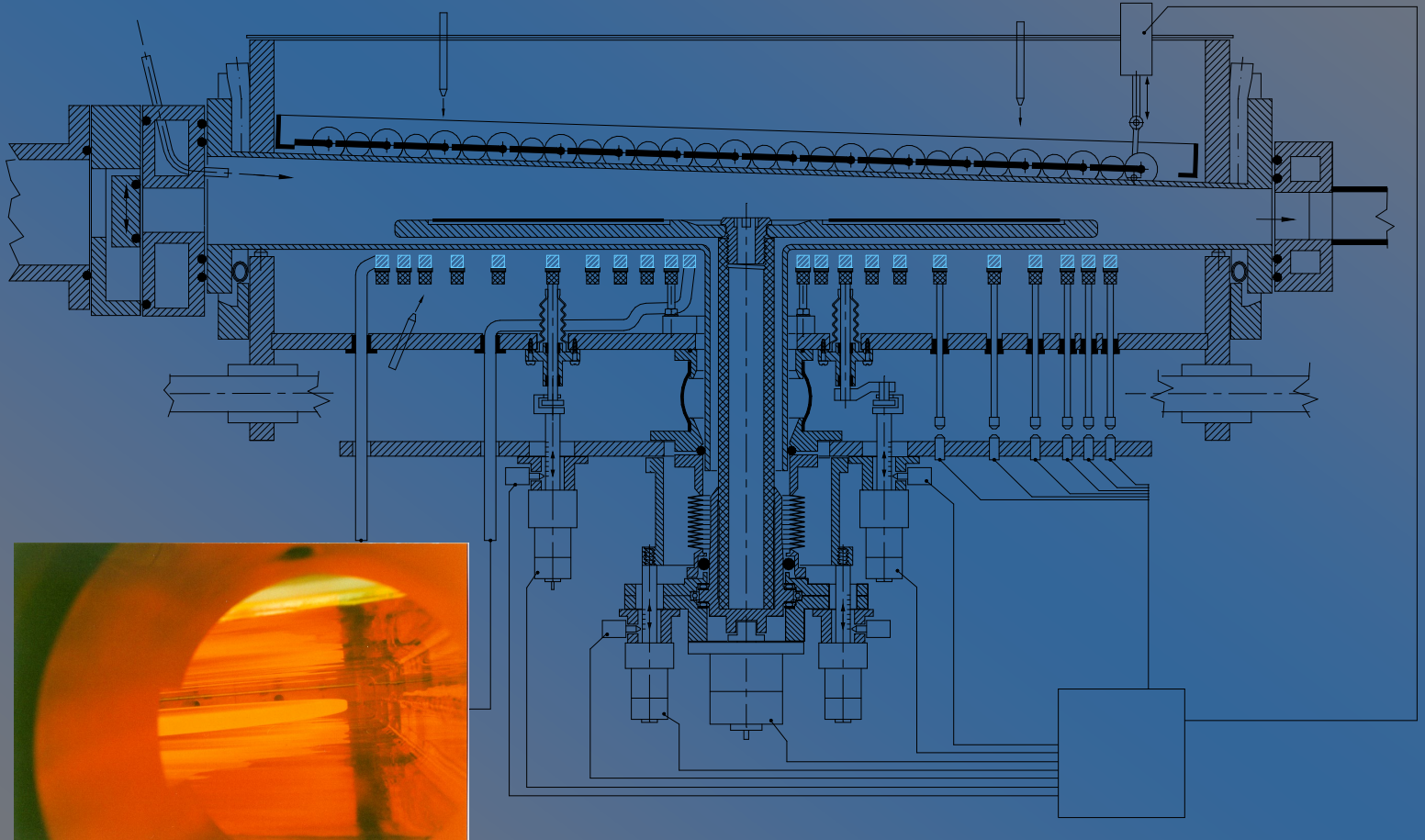
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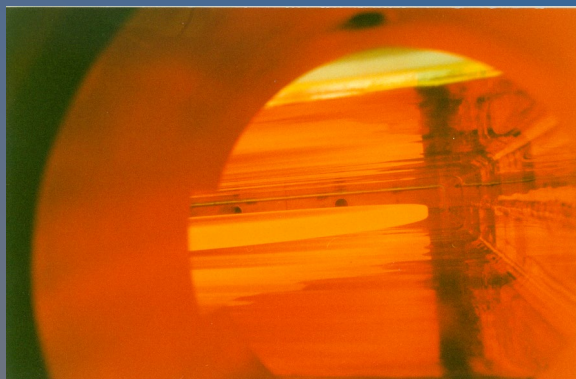




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PERFORMANCES

Uniformity	Thickness	Resistivity
Within Wafer	+/- 1%	+/- 2%
6 sigma	+/- 3%	+/- 5%





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PERFORMANCES

Intrinsic	> 1.000 ohm-cm	
Transition width	< 10% epi thickness	
Lifetime	> 100 micro sec.	N layer



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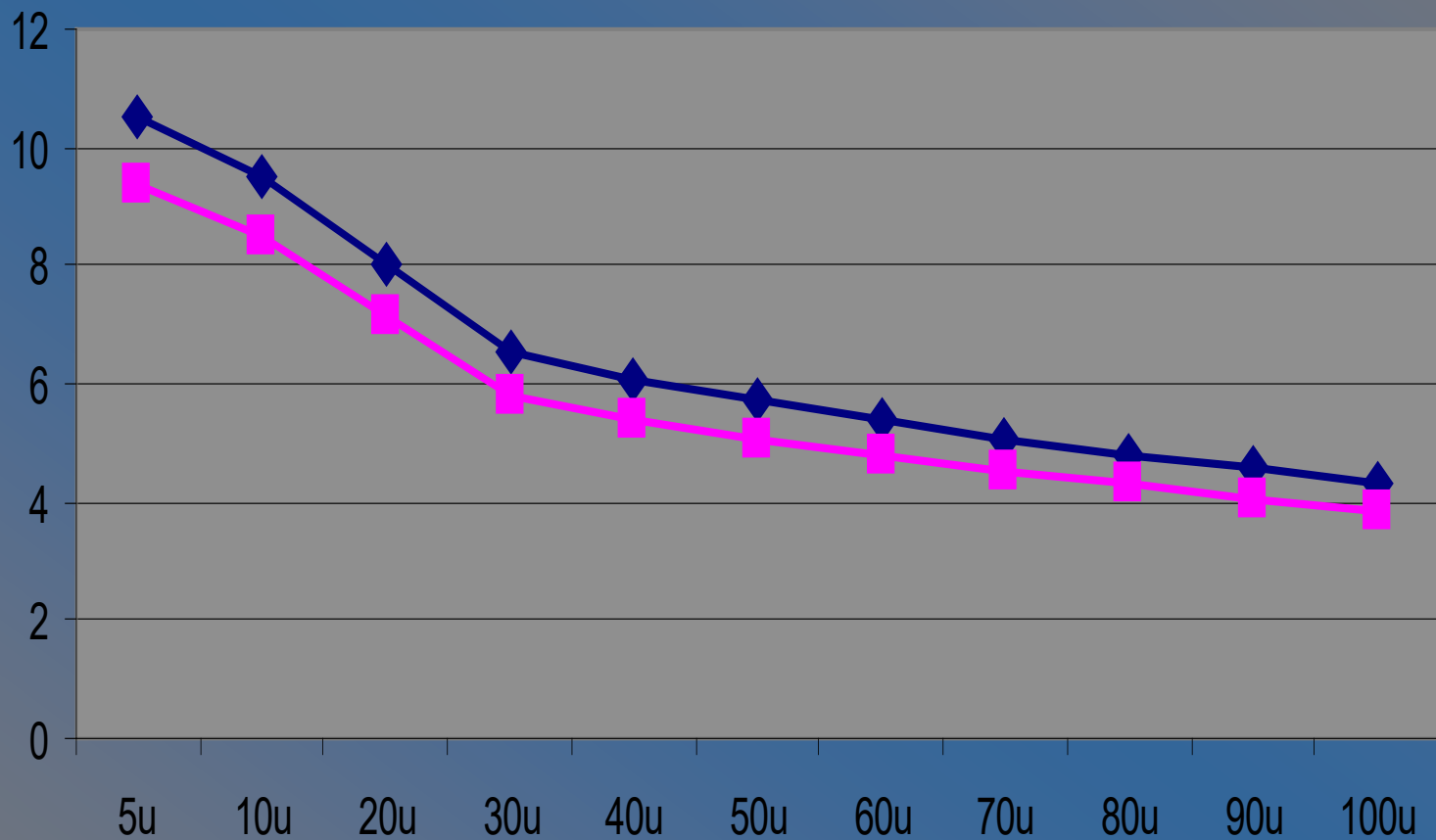
PERFORMANCES

DEFECT	VALUE	TEST METHOD
LPD		Surfscan
0.12 micron	< 50	
0.3 micron	< 10	
SLIP		Microscope
Epi < 20 micron	Free	EE 0 mm
Epi > 20 micron	Free	EE 5 mm



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THROUGHPUT





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PROCESS CYCLE

Load/Unload Temperature :	400 °C
Time to load 1 wafer :	45 secs.
Time to unload 1 wafer :	45 secs.
Ramp up (@1100°C) :	13 minutes
Ramp down :	10 minutes.
Growth rate / min :	2,2u / 3u micron



Thank You

for More Information :

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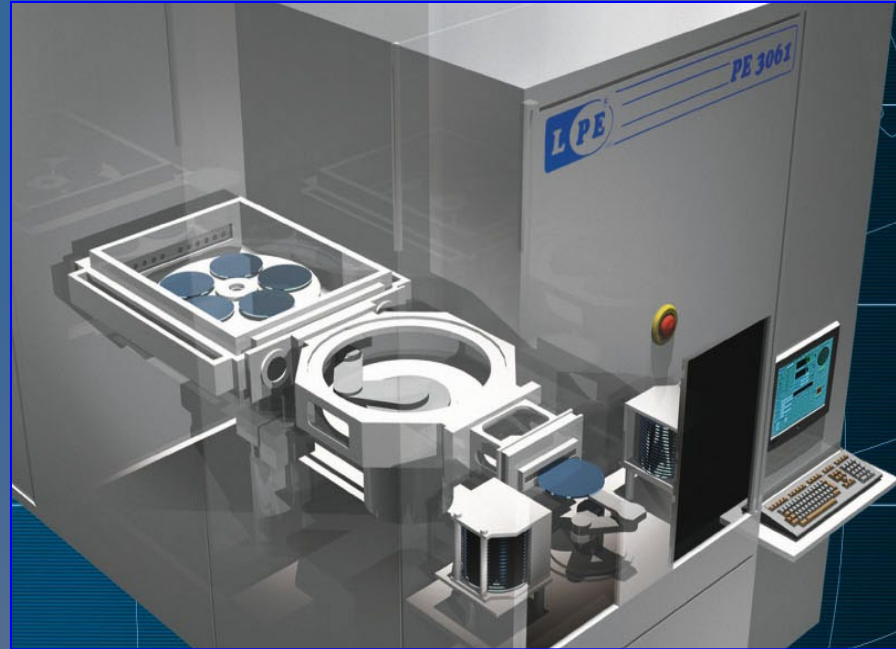
Corporate Profile





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Corporate Profile





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Profile

