

Adixen Pod Regenerator



A SOLUTION TO ENHANCE THE YIELD AND TO REDUCE DEFECTS

Adixen POD Regenerator (APR)* for <130 nm nodes decontaminates wafers and their carrier providing molecular decontamination and active protection as well. It is an ultimate solution against Airborne Molecular Contamination (AMC).

- Yield improvement in the Fab
- Easier Queue Time Management
- Low cost of ownership

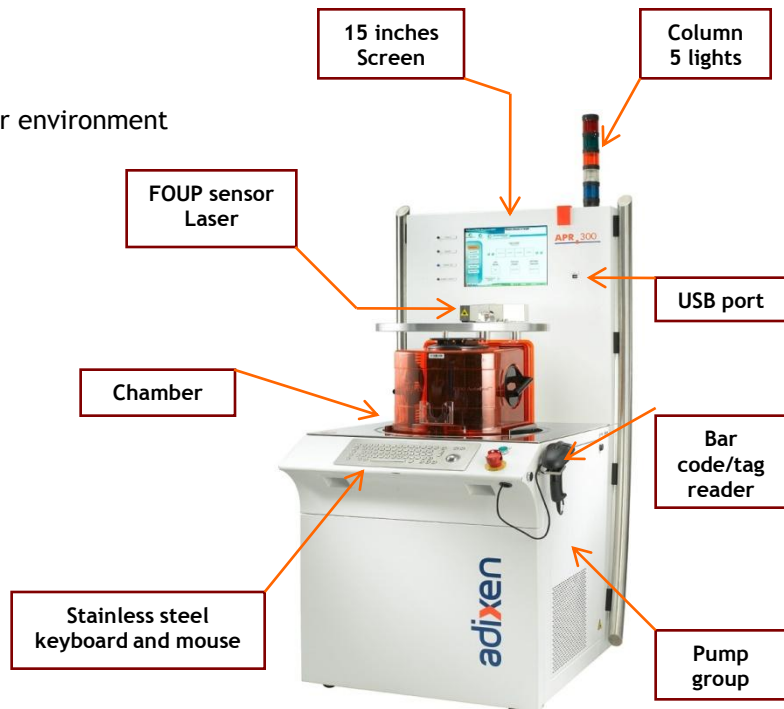
APR Stand alone version**
(FOUP / SMIF/ FOSB)
300/200 mm

Actions:

- Stops crystal growth / Corrosion
- Removes Air & Halogen & organic compounds
- Suppresses fab cross contamination risks
- Eliminates AMC such as HF, HCl, VOC in carrier environment and on the substrate
- Protects carrier and substrate within from contaminated environments during days

The system

- ▼ Simple user interface
- ▼ Without opening the Pod
- ▼ Small foot print
- ▼ Manual loading



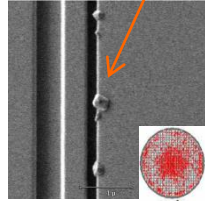
**An automatic multi podsersion is coming soon

Airborne Molecular Contamination : an example - crystal growth on wafer

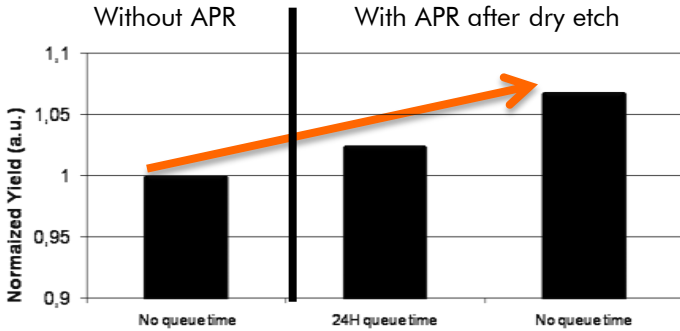
Airborne Molecular Contamination is known to decrease the yield and quality in IC fabrication < 130 nm.

- Acids: Interconnect corrosion, haze effect,
- NH3, amines: Photo resist "T-topping", Critical Dimension modification (CD), haze effect,
- Solvents: Gate oxide issues, etch rate decrease, epitaxy issues

Examples of Crystal growth induced by AMC. Post-etch crystals can appear before or after wet clean. Main factor for crystal growth are Queue time, halogen (F, Cl, Br) and Moisture.



Yield enhancement results



The APR system's functionality:

The amount of adsorbed contamination on surface C can be given in the form of :

- $\Theta = CP / (1 + CP)$ the Langmuir adsorption Equation
- therefore when pressure P tends to 0 (=vacuum), Θ tends to 0
- no more contamination molecules adsorbed on the surface, then no possible reaction to generate defects.

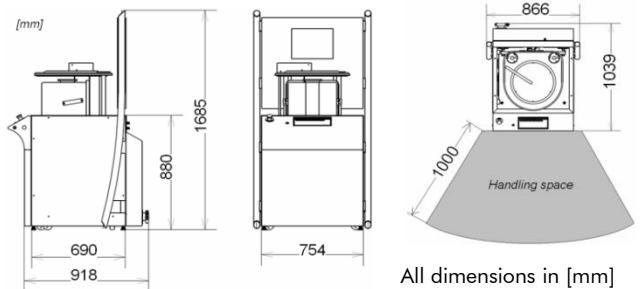
Parameters	Specifications
Dimensions : H x L x D	1740 x 900 x 1025 mm
Power supply	110 -240 Vac, 50-60 Hz / 20A / 9A
Maximum power consumption	~ 2 kW
Purified N2 (process)	5 Bar to 10 Bar
Enclosure Exhaust	NW40 isoKF
Process Exhaust	NW40 isoKF
Software Operating System	Windows XP
Operating temperature	20 - 25 °C
Humidity	20 - 50% HR
Noise level	< 70 dBA
Weight	~350 kg
N2 consumption	< 90 NL/cycle
Operating Cycle Time	15 to 60 min

Images and dimensions may change without notice

Adixen's integrated system

- Automatic and user friendly interface
- POD identification entry by bar code/tags
- POD fingerprint
- Data logging, saving, and exporting
- Ethernet networking capability and HSMS ** communication

APR General specifications



Alcatel Vacuum Technology France
 98, avenue de Brogny - BP 2069 - 74009 ANNECY CEDEX - France - Tel: (33) (0) 4 50 65 77 77 - Fax: (33) (0) 4 50 65 77 89
www.adixen.com

An Alcatel-Lucent Company

China
 Alcatel Vacuum
 Technology Shanghai
 Tel: (8621) 5027 0628
 Fax: (8621) 3895 3815

France
 Alcatel Vacuum
 Technology France
 Tel: (33) 04 50 65 77 77
 Fax: (33) 04 50 65 77 89

Germany
 Alcatel Hochvakuum Technik
 GmbH
 Tel: (49) 9342 96 10 0
 Fax: (49) 9342 96 10 30

Italy
 Alcatel Vacuum Systems S.p.A
 Tel: (39) 039 686 3855
 Fax: (39) 039 667 125

Japan
 Alcatel Japan
 Tel: (81) 44 797 5920
 Fax: (81) 44 797 5932

Korea
 Alcatel Vacuum Technology
 Korea
 Tel: (82) 31 206 62 77
 Fax: (82) 31 204 62 79

Netherlands
 Alcatel Vacuum
 Technology Netherlands
 Tel: (31) 345 478 400
 Fax: (31) 345 531 076

Singapore
 Alcatel Singapore Pte Ltd
 Tel: (65) 6254 0828
 Fax: (65) 6254 7018

Sweden
 Adixen Sensor AB
 Tel: (46) 13 35 59 00
 Fax: (46) 13 35 59 01

Taiwan
 Alcatel Vacuum Technology
 Taiwan
 Tel: (886) 3 5599 230
 Fax: (886) 3 5599 231

United Kingdom
 Alcatel Vacuum
 Technology (U.K.)
 Tel: (44) 1 506 418 000
 Fax: (44) 1 506 418 002

USA
 Alcatel Vacuum Products
 Tel: (1) 781 331 4200
 Fax: (1) 781 331 4230