PEO-601
PEO-603
PEO-604
MULTIPURPOSE FAST RAMPING FURNACE

THERMAL PROCESSING
TECHNOLOGY.
INNOVATION.
MADE WITH PASSION.
Since 1982 ATV is manufacturing the multipurpose fast ramping furnaces PEOs series with single quartz tube. It was initially developed for thick film paste firing. Since that a large variety of new and different processes and applications was and is still being added. ATV applies its PEO series successfully also in semiconductor market segment.

The PEO series is ideal tool for R&D purposes. It can be applied easily for new unique and sophisticated process development as well low to medium volume production applications. This multipurpose furnace has several key aspects integrated and can handle wafers up to 200mm.

Next to floor space saving advantages the PEO also has Zero energy usage in ambient stand-by. Another unique aspect of the system is the multi process capability when using our easy exchangeable Liners.

To reach the optimal temperature uniformity ATV uses 14 Kanthal heating elements which are positioned around, at the front and on back side the process tube and are PID controlled.

Finally, ATV’s enormous experience and process know-how underlines our philosophy offering premium services to the semiconductor and microelectronics industry. Our scientists and support team are dedicated to help our users getting the best return from investment of the ATV equipment.

It is ATV’s goal always achieving best process results using its worldwide proven concepts as its core competence from nearly 40 years.
FEATURES

FLOOR SPACE SAVING BY SMALL FOOT PRINT
ENERGY SAVING BY ZERO AT AMBIENT STANDBY
MAX 100 WAFER/PROCESS RUN
UP TO 200MM WAFERS
EASILY EXCHANGEABLE QUARTZ IN LINERS
TEMPERATURE RAMPING:
- UP TO 1,000°C WITHIN 15 MINUTES
- DOWN TO < 100°C IN LESS THAN 60 MINUTES
- 1K PER 100 MINUTES (SLOWEST RAMPING SPEED)
MAX. 1,100°C CONTINUOUS PROCESSING
TEMPERATURE RANGE 150°C TO 1,100°C
LOW TEMPERATURE PROCESSING BY GAS PREHEATING
ULTIMATE VACUUM < 5 X 10⁻⁶ MBAR
He LEAK RATE: < 5 X 10⁻⁹ MBAR L/S
O₂ < 0,1 PPM
100 STEPS/PROGRAM

Technical Data

PEO-601
- Dimensions: 710 x 650 x 450mm (LxWxH)
- Weight: 47 kg
- Inner Quartz tube: 112 mm (4-1/2”)
- Standard Product temperature: 1,000°C/1,100°C continuously
- Flat Zone: 15 wafers, 100 mm diameter
- Power connection:
  3Phases, 230/400V, 16A, max. 7kW

PEO-603
- Dimensions: 1,000 x 710 x 800mm (LxWxH)
- Weight: 270 kg
- Inner Quartz tube Ø: 230 mm (9”)
- Standard Product temperature: 1,000°C/1,100°C continuously
- Flat Zone: 50 wafers
- Power connection:
  3Phases, 230/400V, 32/63A, 21/42 kW

PEO-604
- Dimensions: 800 x 1,900 x 1,400mm (LxWxH)
- Weight: 475 kg
- Inner Quartz tube Ø: 230 mm (9”)
- Standard Product temperature: 1,000°C/1,100°C continuously
- Flat Zone: 50 wafers
- Power connection:
  3Phases, 230/400V, 32/63A, 21/42 kW

Common Applications

- CVD, PVD, LPCVD, MOCVD
- Si₃N₄, Poly Si
- Si Epitaxy
- TEOS, LTO
- Carbon Nanotubes, Si Nanowires, Graphene
- Gas/Solid Source Diffusion
- Wet/Dry Oxidation
- Al Oxidation for VECSEL
- Trans LC
- SiAl/SiAu/SiMo alloying
- Annealing: Inert/Atmosphere
  - Hydrogen
  - High vacuum
- Post Implant Annealing
- Low K
- Polyimide, Curing/Baking
- LTCC Sintering, Thick film paste sintering
ATV Headquarter Europe
Germany, Vaterstetten/Munich

ATV Sales and Service Partners Europe
France
Ireland
Italy
Poland
Russia
Spain
Scandinavia
Switzerland
UK

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