

DF SERIES

BATCH TYPE FURNACE

HORIZONTAL TUBE

MASS PRODUCTION



Semco **DF-Series** are ECM Greentech batch-type, **horizontal tubular** furnaces for mass-production. Key characteristics of this furnace line are: **precision semiconductor processing** combined with industrial process control, integration modularity, and a user-friendly interface. Each populated chamber can be independently configured and operated in a large range of **atmospheric, sub-atmospheric or low pressure processes**. The DF furnaces can also handle multiple gases and liquid precursors with a temperature range from 200 to 1300°C. Its modular design allows to meet a large range of clean **thermal treatment for industrial facilities**.



SUBSTRATE DIMENSIONS

100-150-200 MM

- Microelectronics
- Power devices (SiC, GaN)
- Sensors (MEMS)
- Optoelectronics
- Aeronautics
- Medical

AN ECM GROUP OFFER

ECM Lab Solutions helps laboratories to develop innovative products and processes by offering advanced furnace technologies under one ECM Group brand. This offer gathers all laboratory furnaces from the ECM Group. Its expertise includes the heat treatment of steels, ceramics and silicon. As well as crystal growth applications, coatings and melting processes for a wide range of research fields.



FEATURES

Modular, Flexible & compact footprint

1 to 4 independent process chamber

Reactors from 4" up to 8" wafer size

Configurable up to 400 wafers

Manual or automatic boat loading

Reactor design:

Excellent process precision and repeatability

High performance and life-time process technology

External, internal, cascade advanced and selectable

PID temperature control

Machine:

All furnace components Hub connected

Industrial Process PLC

Windows® based Mycore supervision

CE certified & SEMI S2 compliant

Process Flexibility:

Atmospheric, reduced and low pressure (LYDOP, LPCVD)

Gas Cabinet for up to 13 gases

Liquid precursor cabinet, vaporization, DLI & ALD compliant



OPTIONS

- Process related pump package
- Laminar Flow class 1 (vertical or horizontal)
- Furnace roof top with exhaust ducts or water cooled heat exchanger
- SECS/GEM compliant with SEMI E30, E37
- Full traceability of processed products
- Dedicated additional process features upon request
- Integrated robotic automation

MATERIAL

- | | |
|------------|-------------------|
| ■ Silicon | ■ Glass |
| ■ SiC | ■ Metal |
| ■ GaN | ■ III - V |
| ■ Sapphire | ■ II - VI |
| ■ Quartz | ■ Superconductors |

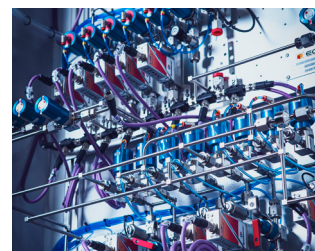
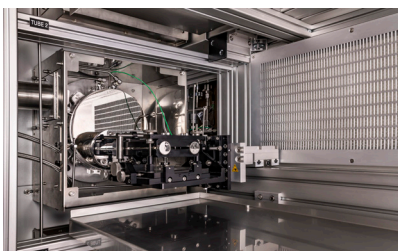


MORE THAN JUST AN EQUIPMENT

Robotization and compatibility with automation

Process integration with dedicated expertise

Technology support upon customer needs



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