

## SiCma

Specially developed for the production of silicon carbide crystals by means of physical vapor transport

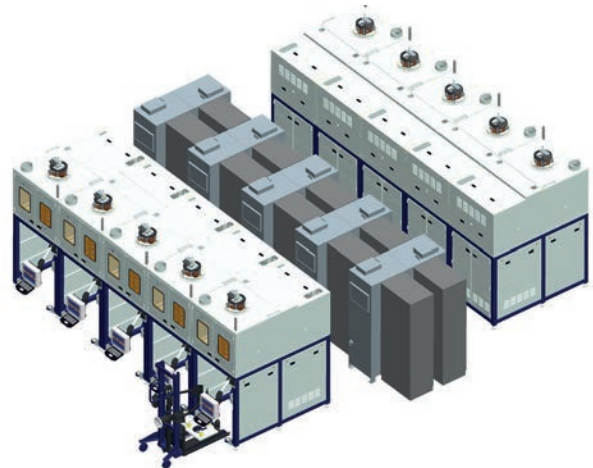


The **SiCma system** was specially designed for the production of silicon carbide (SiC) crystals by means of physical vapor transport (PVT). In this process, the powdered starting material is heated and sublimated at high temperatures and finally deposited on a specially prepared substrate. This is done by inductive heating in the kilohertz range using an induction coil. The design of this coil is optimized for low energy consumption.

The possible size of the substrate is 100 to 150 mm diameter (4" - 6"). Due to a high degree of automation and a compact footprint, the system is optimized for mass production. A mobile system for loading and unloading the system as well as numerous options can be added on a modular basis - for example vacuum pumps and measuring devices.

**Optional Accessories:**

- Loading/ Unloading Cart, mechanical or electrical
- Bottom-Pyrometer, 2-colors, 850 °C - 3,000 °C
- High Vacuum Pumping Unit
- Hotzone Rotation & Lifting Unit, 0.1 mm/h - 460 mm/h stroke
- Upgrade Kit 6"
- VPN-Modem for Remote Support
- Dummy Hotzone for Calibration
- Spare Parts Package



*Compact footprint of e.g. 10 systems*

**TECHNICAL DATA**

|                    |  |               |
|--------------------|--|---------------|
|                    | Designed for Ingot diameter                      | 6"            |
|                    | Inner diameter process chamber of 4" quartz tube | 286 mm        |
|                    | Inner diameter process chamber of 6" quartz tube | 378 mm        |
|                    | Height   | ~ 2,600 mm    |
|                    | Height incl. pyrometer, top                      | ~ 2,800 mm    |
| <b>Puller Data</b> | Width  | ~ 1,200 mm    |
|                    | Depth (incl. operating panel, 2,830 mm)          | ~ 2,330 m     |
|                    | Total weight                                     | ~ 2,000 kg    |
|                    | Frequency  | 6 - 10 kHz    |
|                    | Working pressure                                 | 1 - 900 mbar  |
|                    | Working temperature                              | max. 2,400 °C |

**PVA TePla in Power Electronics Industries**

PVA TePla's equipment solutions for the Power Electronics Industry include also the Floatzone System FZ35 and various CZ-systems for growing Si-crystals with highest purity as well as a vacuum furnace for graphite cleaning and recycling of susceptors after GaN-epitaxy. Different innovative metrology technologies of PVA TePla are available for non-destructive quality inspection.