

Sintering System SIN 200+

Flexible sintering system for extraordinarily reliable, highly thermally conductive bonds



Fig. 1



Fig. 2

Fig. 1: Automated Inline system SIN 200+ modular with preheating, sintering and cooling module. Fully automated handling system for loading and unloading on PINK carriers as well as with transfer system with underfloor return and lifting units.

Fig. 2: Example of a sintering carrier for single substrates.

The sintering system SIN 200+ modular is a highly flexible system, which is suitable for various production demands from laboratory up to series production, as the system is modular designed and can be operated as a batch system or an automated inline system with additional preheating and / or cooling modules. The substrate temperature, the atmospheric pressure and gas composition during the entire heating, sintering and cooling procedure within the vacuum chambers are exactly controllable at any time. This enables the in-situ reduction of the products' surfaces before and after the sintering process. In combination with the dynamic adaptability of the pressing force the system provides a wide array of novel process and production possibilities. Thereby sintering connections can be achieved, which are characterized by reliable, resilient and highly temperature resistant bonds.

System features

- Dynamic adaptability of the pressing force: up to 2,000 kN (200 t)
- Dynamic controlled and monitored pressure ramps
- Process area: ≤ 280 mm diameter
- Press tool exchangeable (e.g. for customer specific tool)
- Exact control of inherent gas atmosphere (N_2 , N_2/O_2 , N_2/H_2 , $HCOOH$)
- Atmospheric pressure range: 1-1,200 mbar
- Temperature range: up to 350 °C
- Integrated heating technology
- Programmable, controlled and monitored temperature profiles
- Constant process control and traceability
- Easy operation by touch screen panel
- Integrated interface to MES (e.g. SECS/GEM)
- Modular design with flexible expandability
- Hermetically sealed process chambers
- Manual or automated loading and unloading
- Patented system

Options

- Connection of preheating and / or cooling modules
- Customer specific automation by addition of handling / transfer systems
- Workpiece heating optional from top and / or bottom side
- Other dimensions of the process area on request