centrotherm

c.VACUNITE

HCOOH

H_2 100%
HYDROGEN CAPABILITY

100% PASTE & FLUX

650°C
HIGH TEMPERATURE

AUTOMATED OPERATION

The centrotherm c.VACUNITE contact heat system platform covers a wide range of thermal vacuum applications from process performance-based R&D processing up to high-volume production. In the field of vacuum soldering the systems meet highest requirements of voidless soldering for Advanced Packaging and Power Semiconductor applications. The void-affected area can be reduced to less than 1% whereas common reflow soldering systems range at 5%.

Depending on the field of application c.VACUNITE systems are available with single and multiple heating plates ensuring fast heat-up and cool-down rates for short cycle times and large processed area per hour while reaching temperatures up to 650 °C.

c.VACUNITE vacuum soldering systems allow processes under pure and oxygen-free atmospheres and provide surface activation with 100% hydrogen (H_2), formic acid (HCOOH), forming gas (N_2H_2) and/or additional MW plasma. All systems are suited for 100% paste and flux.

The process control computer is equipped with a user-friendly touch screen for operating, process profile editing and recipe storing. Accessibility through Ethernet and USB interfaces allows connection with printers, external storage devices and remote access.

At its german headquarters, centrotherm is operating a laboratory for soldering tests and customer demos.

C.VACUNITE

centrotherm

TYPICAL APPLICATIONS

- Power Semiconductors
- Advanced Packaging
- Hybrid Microelectronic Assemblies
- Optoelectronic Packaging
- Hermetic Package Sealing
- Wafer Level Packaging
- UHB LED Packaging
- MEMS Package Sealing
- Glass Bonding
- Copper Annealing
- Thermal processes in various atmospheres
- Inert gas | Annealing | Oxidation

FEATURES & BENEFITS

- Excellent temperature uniformity ±0.5%
- 100% suitable for paste and flux
- Independent and separately controllable gas lines
- Flux management
- Remote access for service
- Cooling water supply by open water cooling system or domestic water supply
- Safety PLC
- Maintenance friendly design for high uptime

OPTIONS

- Pure hydrogen (H_2)
- Formic acid (HCOOH)
- MW plasma gases: H_2, N_2H_2, ArH_2, Ar, O_2
- Process temperatures up to 650 °C
- Vacuum level up to 10^{-5} mbar
- Vacuum system with dry pump
- Customized MES interface
- Automation

KEY DATA

	C.VACUNITE6 C.VACUNITE12 C.VACUNITE24	C.VACUNITE180 C.VACUNITE300
Field of application	R&D, pilot production	High-volume production
Plate size	200x200 mm² (6) | 300x300 mm² (12) 410x230 mm² (24)	540x410 mm²
Max. substrate height	120 mm (6) | 160 mm (12 | 24)	100 mm
Max. load per plate	4 kg (6) | 7.5 kg (12) | 15 kg (24)	25 kg
No. of heating plates	1	3 (180) | 5 (300)
Possible process gases	N_2, H_2 (100), N_2H_2 (95/5), HCOOH, MW plasma gases	N_2, H_2 (100), N_2H_2 (95/5), HCOOH
Vacuum level	0.1 mbar (option: 10^{-5} mbar)	0.1 mbar (option: 10^{-5} mbar)
Vacuum pump (oil sealed)	25 m³/h	40 or 65 m³/h
Heat-up rate	80 K/min (6 | 12) | 50 K/min (24)	40 K/min
Cool-down rate	120 K/min (6 | 12) | 140 K/min (24)	150 K/min
Process temperatures	up to 450 °C	up to 450 °C (option: 650 °C)
System weight*	400-420 kg (6 | 12) | 420-480 kg (24)	1200 kg
Dimensions (L x W x H)*	1332 x 746 x 2000 mm³	1463 x 1460 x 2396 mm³

* standard version without suction hood.

centrotherm international AG
Württemberger Str. 31
89143 Blaubeuren, Germany

T +49 7344 918 6794
F +49 7344 918 6387
semi-sales@centrotherm.de