

| Void Less. Flux Less. Ultra Clean.

centrotherm

equipment
process
solutions

VLO 20 Vacuum Soldering System

| Designed for R&D and Small Volume Production

The VLO 20 vacuum soldering system meets the highest demands of R&D departments as well as the needs of small production facilities which use vacuum to achieve void less soldering joints. With the VLO 20, the soldered area affected by voids can be reduced to less than 2 %, typical reflow soldering systems range at 20 %.

This system is ideal for production facilities which run flux less and void less soldering processes with various gas atmospheres (N₂, H₂ 100, N₂/H₂ 95/5). It can also provide wet chemical activation with HCOOH and dry chemical activation with RF or MW plasma for ultra clean soldering joints.

Even lead free paste or pre-forms can be used without additional flux.

The process control computer comes with a user-friendly touch screen for operating, process profile editing and recipe storing. A serial interface lets you transfer data to PCs for offline programming and remote service monitoring.

Typical Applications

- ▶ Power Semiconductors
- ▶ Hybrid Microelectronics Assemblies
- ▶ Optoelectronic Packaging
- ▶ Hermetic Package Sealing
- ▶ Wafer Level Packaging
- ▶ UHB LED Packaging
- ▶ MEMS Package Sealing

Features and Benefits

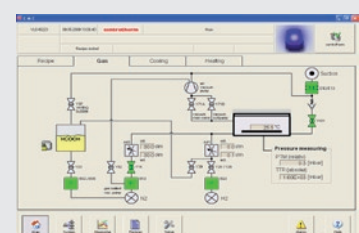
- ▶ process temperature up to 450 °C
- ▶ excellent temperature uniformity
- ▶ heating ramp up to 50 K/min
- ▶ cooling rate up to 180 K/min
- ▶ vacuum level up to 10⁻⁵ mbar
- ▶ very short cycle time



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Optional with lamp heating



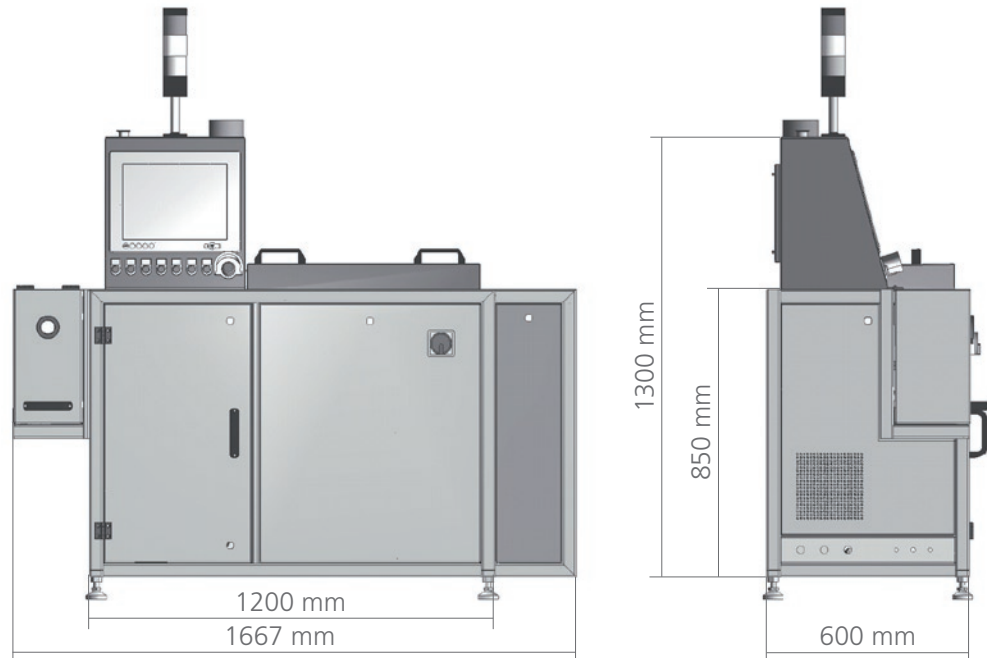
The VLO Systems provide simple operation via touch screen operated process control computer

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VLO 20 Vacuum Soldering System

Dimensions



Technical
Data

Model	VLO20
Field of application	R&D and small volume production
Plate size [L x W]	230 x 400 mm; 9 x 15.7 in.
Heating system	1 heating plate
Max. substrate height	100 mm; 3.9 in.; with plasma option 50 mm; 1.95 in.
Chamber volume	20 l; 0.7 ft ³
Dimensions	1200 x 600 x 1300 mm; 47.2 x 23.6 x 51.2 in. base feet adjustable from 40 - 110 mm; 1.6 - 4.3 in.
Possible process gases	N ₂ ; H ₂ up to 100 %; N ₂ /H ₂ 95/5 %
Power supply	400 V / 30 A; 12 kW peak*
Cooling water	15 l/min; 3.75 GPM @ 15–25 °C
Heat up/cool down	max. 50 K/min / max. 180 K/min
Max. load per plate	7.5 kg; 16.5 lbs
Weight	400 kg; 882 lbs
Vacuum level	max. 10 ⁻⁵ mbar; 7.5 x 10 ⁻⁶ torr
Vacuum speed	max. 18 m ³ /h; 635.18 ft ³

* system will be modified to country-specific power supply

Options

- | 100 % H₂ gas line with safeguards
- | integrated HCOOH bubbler with safeguards
- | plasma supported solder process
- | up to 6 thermocouples for surface temperature recording
- | lamp heating with radiation heat transfer

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