

| Void Less. Flux Less. Ultra Clean.

**centrotherm**

equipment  
process  
solutions

## VLO 180 | VLO 300 Vacuum Soldering Systems

### | Designed for High Volume Production

The vacuum soldering systems VLO 180 and VLO 300 are ideal for high volume production facilities with various materials at up to 650 °C. They are equipped with integrated heating and cooling plates, which can be individually controlled. With the VLO 180 or VLO 300, 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 (N<sub>2</sub>, H<sub>2</sub> 100, N<sub>2</sub>/H<sub>2</sub> 95/5). It can also provide wet chemical activation with HCOOH and dry chemical activation with MW plasma for ultra clean soldering joints. VLO 180 and VLO 300 also support soldering processes using flux or paste.

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

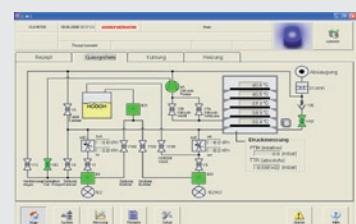
- ▶ process temperature up to 650 °C
- ▶ excellent temperature uniformity
- ▶ heating ramp up to 25 K/min
- ▶ cooling rate up to 180 K/min
- ▶ vacuum level up to 10<sup>-1</sup> mbar
- ▶ very high throughput



**centrotherm VLO300**  
with automatic door



**centrotherm VLO300**



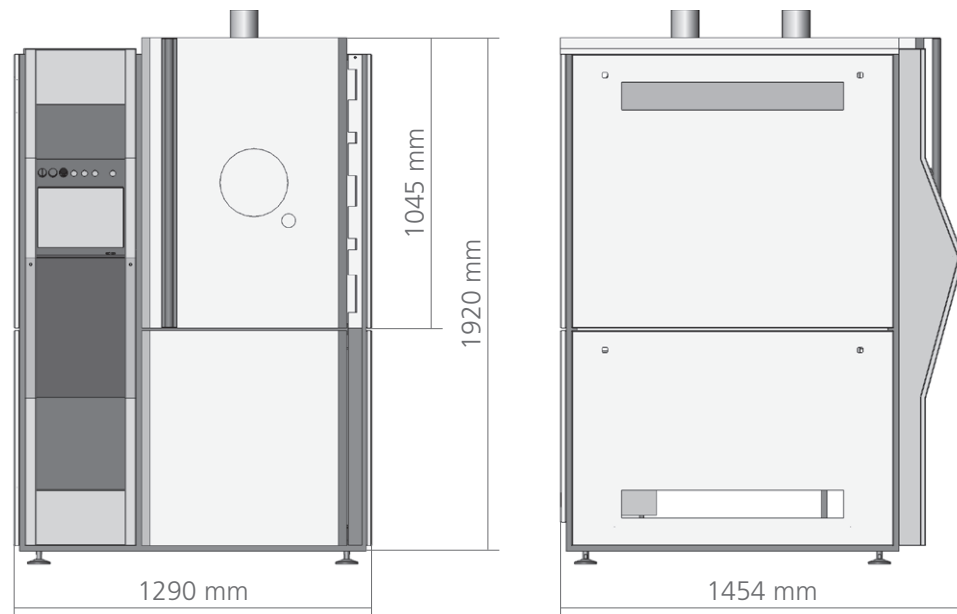
The VLO Systems provide simple operation via touch screen operated process control computer

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**VLO 180 | VLO 300 Vacuum Soldering Systems**

Dimensions



Technical Data

Model	VLO180	VLO300
Field of application	High volume production	
Plate size [L x W]	410 x 540 mm; 16.1 x 21.2 in.	
Heating system	3 heating plates	5 heating plates
Max. substrate height	100 mm; 4 in.	
Chamber volume	180 l; 6.3 ft <sup>3</sup>	300 l; 10.5 ft <sup>3</sup>
Dimensions	1290 x 1456 x 1920 mm; 50.8 x 57.3 x 75.6 in. base feet adjustable from 40 - 110 mm; 1.6 - 4.3 in.	
Possible process gases	N <sub>2</sub> ; H <sub>2</sub> up to 100 %; N <sub>2</sub> /H <sub>2</sub> 95/5 %	
Power supply	400 V / 80 A; 40 kW peak*	
Cooling water	15 l/min; 3.75 GPM @ 15–25 °C	
Heat up/cool down	max. 25 K/min / max. 180 K/min	
Max. load per plate	15 kg; 33 lbs	
Weight	1200 kg; 2650 lbs	
Vacuum level	max. 10 <sup>-1</sup> mbar; 7.5 x 10 <sup>-2</sup> torr	

\* system will be modified to country-specific power supply

**Options**

- | 100 % H<sub>2</sub> gas line with safeguards
- | HCOOH bubbler with safeguards
- | up to 6 thermocouples for surface temperature recording per plate
- | automatic door for handling system and cluster positioning
- | handling system

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thermal solutions

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