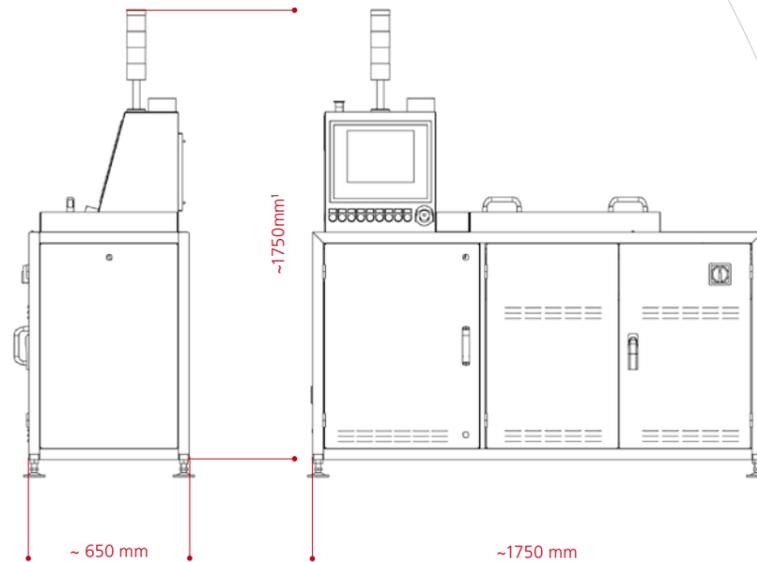


# VLO 20

Vacuum Soldering System  
for R&D and small volume production

## Dimensions



<sup>1</sup> H<sub>2</sub> version torch height: ~2230 mm

## Key Data

Model	VLO 20
Field of application	R&D & small volume production
Plate size	230 x 410 mm <sup>2</sup>
Heating system	1 heating plate
Max. substrate height	100 mm
Max. load per plate	7.5 kg
Possible process gases	N <sub>2</sub> , H <sub>2</sub> up to 100%, N <sub>2</sub> /H <sub>2</sub> 95/5, HCOOH
Plasma option	MW Plasma [2,45 GHz] [gases: H <sub>2</sub> , N <sub>2</sub> H <sub>2</sub> , ArH <sub>2</sub> , Ar, O <sub>2</sub> ]
Power supply*	3~/N/PE 230/400V 50 Hz
Cooling water	15 l/min @ 15 – 25 °C
Max. heat up ramp	50 K/min
Max. cool down ramp	140 K/min
Vacuum level	0,1 mbar [opt. 10 <sup>-5</sup> mbar]
Vacuum pump	16 m <sup>3</sup> /h
Process temperature	up to 450 °C
System weight	400 kg

\* optional: 3~/N/PE 277/480V 60Hz or 3~/N/PE 120/280V 60Hz

## Options

- 100% H<sub>2</sub> gas line with safeguard level 2
- Integrated HCOOH bubbler with safeguard level 1
- In-situ microwave plasma
- 6 thermocouples for surface temperature recording
- Substrate height up to 100mm

centrotherm thermal solutions GmbH & Co. KG reserves the right to make changes in the product specifications at any time and without notice | Z | H | VLO 20 | 03 | E | 11 | 03 | © centrotherm 2011

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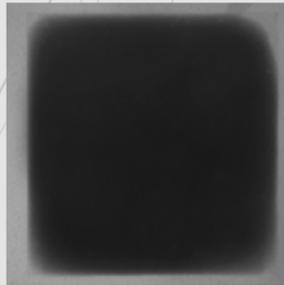


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Equipment  
Process  
Solutions

# VLO 20

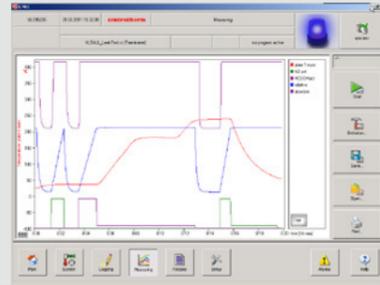
Vacuum Soldering System  
for R&D and small volume production



Void rate below 2%



Door with viewport



User-friendly software

# VLO 20

Vacuum Soldering System  
for R&D and small volume production

## Description

The centrotherm 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 voidless soldering joints.

With VLO 20, the soldered area affected by voids can be reduced to less than 2% while typical reflow soldering systems range at 20%.

This system is ideal for production facilities which run fluxless and voidless 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]. The centrotherm VLO 20 optionally provides chemical activation with HCOOH or dry activation with 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. Accessibility through Ethernet and USB interfaces allows connection with printers, external storage devices and remote access.



## Typical Applications

- Power Semiconductors
- Advanced Packaging
- Hybrid Microelectronic Assemblies
- Optoelectronic Packaging
- Hermetic Package Sealing
- Wafer Level Packaging
- UHB LED Packaging
- MEMS Package Sealing

## Customer Benefits

- Process temperature up to 450 °C
- Excellent temperature uniformity
- Vacuum level up to 10<sup>-5</sup> mbar
- Very short cycle times
- centrotherm-soldering laboratory for soldering tests
- Remote access for service