

High Vacuum Sealer with 2 heating zones (with getter activation)



2Z-HVS-Series 2Z-HVS-100, 2Z-HVS-200

- For sealing of MEMS
- 2 models:
 - 2Z-HVS-100 (6 adapters 16 mm dia.)
 - 2Z-HVS-200 (6 adapters 42 mm dia.)
- Temperature up to 450 °C
- Top and bottom heating
- Ramp up rate up to 20 K/min (in vacuum)
- Ramp down rate up to 20 K/min (dto.)
- Horizontal automatical open/close

Application

- Sealing and thermic encapsulation of MEMS (Micro-Electro-Mechanical Systems)
- Getter activation (Deposition of reactive material that is placed inside a vacuum system)
- Component separation during thermal processing in 2 temperature zones

Features

- Bottom and top heating
- Up to 4 internal gas lines
- Data logging
- Vacuum up to 10^{-6} hPa
- SIMATIC® Controller
- Optical process control by 360 °C

2Z-HVS

- High Vacuum Sealer for MEMS
- Programmable temperature profiles
- Record of process data
- Getter activation
- 2 temperature zones

Application

The 2Z-HVS is a high vacuum sealing unit which allows the hermetically sealing of MEMS.

An electronic component can be processed before sealing in 2 heating zones with different temperatures up to 450 °C. This allows also the getter activation. Up to 6 packages can be processed in parallel. A key feature is the automatical positioning and sealing of the parts, where both components must have the same temperature. The control of different heat-up ramp rates and /or ramp-down rates has been a huge task which was excellent solved.

Process Gases

The system can be used with standard process gases, like Nitrogen, Oxygen, Forming Gas.

Flow meter

One gas line with a Mass Flow Controller (MFC) is default, three more gas line (Option: MFCs) are possible.

Vacuum

The system is vacuum capable of up to 10^{-6} hPa.

Temperature

The maximal achievable temperature is 450 °C.

Temperature distribution

The hot plate allows an excellent temperature distribution and homogeneity.

Programming

The 2Z-HVS is equipped with a SIMATIC® Controller which allows the programming directly on the unit or by using the USB interface and comfortable programming on a PC. It is possible to store 20 programs with 100 steps each.

Cooling process

The bottom hot plate is active water cooled. For chamber housing cooling and external cooling is required (we recommend a closed loop water cooling system).

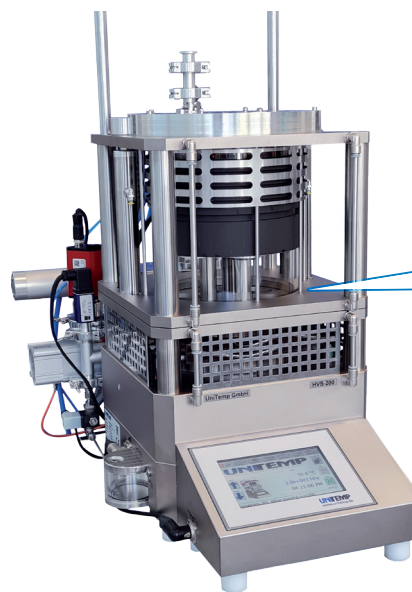
(Accessories: WC-I)

Special

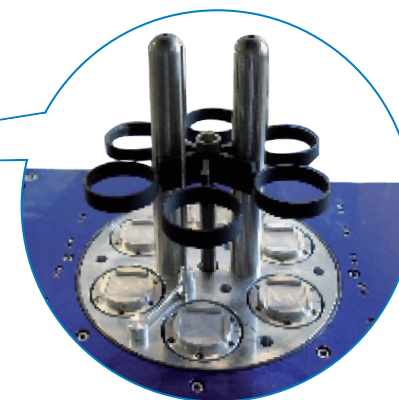
The process can be watched as the process chamber is surrounded by a 360 ° glass cylinder.



2Z-HVS-100: 6 Adapters with 16 mm dia each



2Z-HVS-200



2Z-HVS-200: 6 Adapters with 42 mm dia each

Specification

	2Z-HVS-100	2Z-HVS-200
Heated area	100 mm diameter	200 mm diameter
Adapter (Qty)	max. 6 pcs	max. 6 pcs
Max. substrate size	16 mm dia. (max. size)	42 mm dia. (max. size)
Vacuum capability	10 ⁻⁶ hPA (pump included)	10 ⁻⁶ hPA (pump included)
Temperature max.	bottom: 450 °C top: 200 °C	bottom: 450 °C top: 200 °C
Temp. uniformity		
Ramp up rate	20 K/min (in vacuum)	20 K/min (in vacuum)
Ramp down rate	20 K/min (in vacuum)	20 K/min (in vacuum)
Flow Controller	Mass Flow Controller	Mass Flow Controller
Cooling Chamber	Water cooled	Water cooled
Cooling Hot Plate	Water cooled	Water cooled
Controller	SIMATIC®	SIMATIC®

Technical Data

Dimension oven	200 x 500 x 470 mm	805 x 500 x 820 mm
Weight	24 kg + Pump	105 kg + Pump
Installation	230 V AC, 1P, 50 - 60 Hz max. 16 A, 3,2 kW	230/400 V AC, 3P, +N, 50 - 60 Hz, max. 3 x 16 A, 9 kW

Options

HVS-FM-EL	Additional gas line with manually adjustable flow meter and digital display (max. 4) (additional flow meter on request)
HVS-MFC	Additional gas line with Mass Flow controller (total: max. 4 gas lines)
TC	Additional thermocouple to measure on device (plugged in chamber)

Accessories

WC I	Closed loop water cooling system (stand alone)
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Other options and accessories on request.

