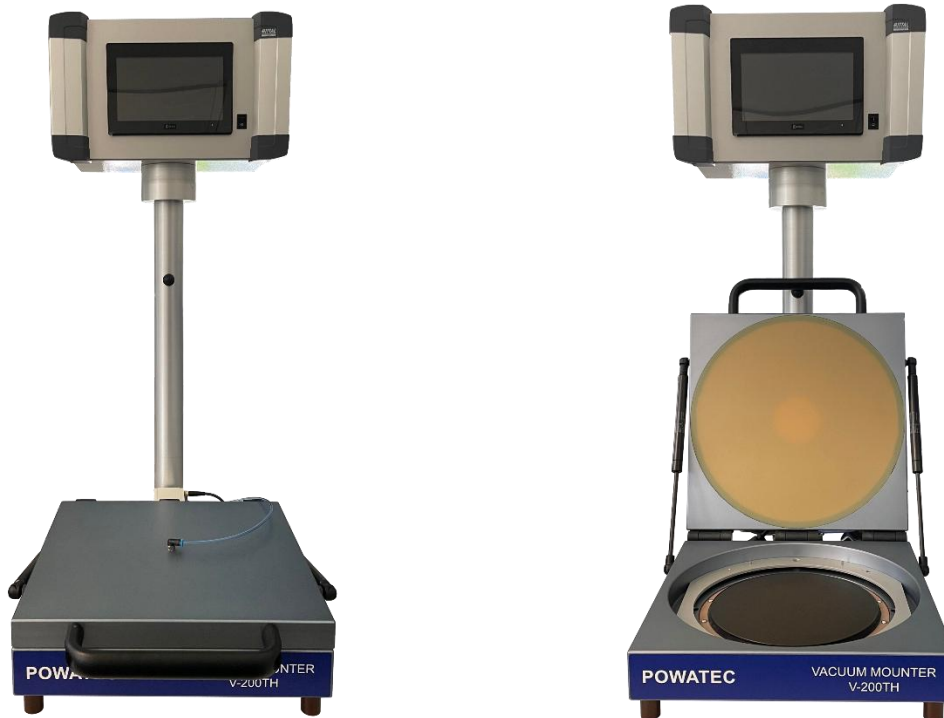


Semi-Automatic Heated TAIKO Wafer Vacuum Mounters

V-200TH & V-300TH



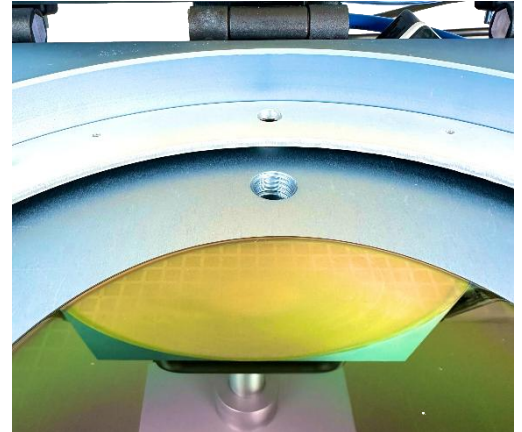
The Powatec V-200TH and V-300TH are semi-automatic heated vacuum wafer mounters specifically designed for TAIKO wafers, sensitive substrates, and structured surfaces. Instead of mechanically lifting the wafer, the V-TH Series uses a membrane-based mounting process that applies the tape from above in a controlled, radially symmetric manner. Combined with uniform heating and a vacuum chamber down to 2 mbar (absolute), this approach enables bubble-free mounting even on uneven wafer surfaces and delicate edge structures.

Description

POWATEC's V-200TH and V-300TH utilize a membrane-assisted mounting principle developed for wafers that cannot tolerate conventional mounting methods. The wafer is placed on a fixed, heated bottom chuck, while the tape-mounted frame is supported above the wafer by a spring-loaded ring. During the automated cycle, a flexible membrane in the upper chamber is pressurized, bringing the tape into contact with the wafer from the center outward under vacuum.

This radially symmetric contact sequence allows the tape to conform naturally to TAIKO edges, surface topography, and local height variations, significantly reducing the risk of air entrapment, stress concentration, and edge damage. Integrated heating further improves adhesive flow and conformity, making the V-TH Series ideal for temperature-activated tapes and wafers with tight process windows.

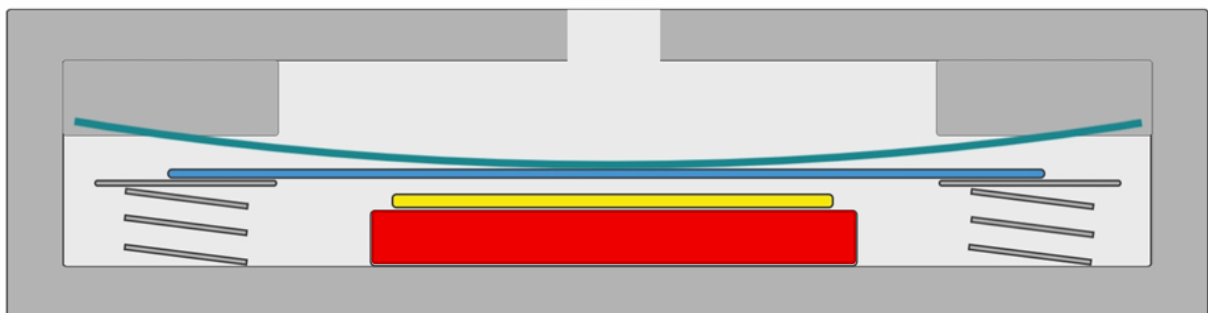
Operation is semi-automatic and optimized for single-operator use, with throughputs of up to 60 mounts per hour. Process parameters can be adjusted during development and secured via password protection for stable production use. As with all Powatec V-Series systems, adhesive tape must be mounted to the frame in a separate preparatory step.



Key Product Features

- ✓ Membrane-based mounting process for TAIKO, sensitive, and curved wafers
- ✓ Tape contact applied from center outward for uniform lamination
- ✓ Heated vacuum mounting with controlled adhesive activation
- ✓ Minimal mechanical force on fragile wafers and substrates
- ✓ 10" touchscreen display
- ✓ Adjustable temperature, vacuum, and mounting speed
- ✓ Password-locked parameters for production runs
- ✓ Designed and manufactured by Powatec GmbH, with over a decade of field use in cleanroom semiconductor applications.
- ✓ Table-top device
- ✓ Clean room application

Visualization of the mounting process in the vacuum chamber



Technical Specification

	V-200TH	V-300TH
Frame size	8"	12"
Frame Type	Disco or K&S, Steel only	Disco or K&S, Steel only
Wafer size	up to Ø 8"	up to Ø 300mm
Wafer Type	Flat, Curved	Flat, Curved
Wafer Thickness	80 µm – 3 mm	80 µm – 3 mm
Maximum Temperature	Up to 100 °C / 212 °F	Up to 100 °C / 212 °F
Mechanical Dimensions		
Width	360 mm (14.2")	470 mm (18.5")
Depth	600 mm (23.6")	750 mm (29.5")
Height	815 mm (32.1")	893 mm (35.2")
Weight	29 kg (64 lbs)	40 kg (88.2 lbs)
Temperature Control Unit (x1 per device)		
Width	260 mm (10.2")	260 mm (10.2")
Depth	240 mm (9.4")	240 mm (9.4")
Height	180 mm (7.1")	180 mm (7.1")
Weight	9 kg (20 lbs)	9 kg (20 lbs)
Power	110V 60Hz, 240V 50 Hz	110V 60Hz, 240V 50 Hz
Required ultimate vacuum (absolute)	2 mbar (1.5 Torr)	2 mbar (1.5 Torr)
Vacuum connection	Festo PUN-10, Ø10 mm	Festo PUN-10, Ø10 mm
Pumping speed (recommended) ¹	19 m ³ /h (11.2 ACFM)	19 m ³ /h (11.2 ACFM)
Required compressed air pressure ²	4-6 bar (60-90 psi)	4-6 bar (60-90 psi)
Compressed air connection	Festo PUN-4, Ø4 mm	Festo PUN-4, Ø4 mm
Input voltage/frequency	100-240 VAC, 50/60 Hz	100-240 VAC, 50/60 Hz
Clean Room Application	Up to ISO 4-5	Up to ISO 4-5
Conformity	CE Certified	CE Certified

¹Pumping speed specified at atmospheric inlet conditions; SCFM and ACFM are equivalent at these conditions.

²Customer to supply dry, oil-free compressed air.