

HIGH PRECISION VERTICAL GRINDING MACHINES

The HVG Series of vertical grinding machines is designed to grind materials with exceptional flatness and surface quality, often eliminating the need for further lapping or other post-processing.

The compact design, equipped with advanced controls and process monitoring capabilities, is ideal for research and development or pilot-scale production of critical components.

Ideal Applications for the HVG Series:

- Wafer grinding or back-thinning (SiC, GaAs, Sapphire, Si, GaN, AlN, InP)
- Semiconductor equipment components (ceramic chucks, glass ceramics)
- Substrates for semiconductor advanced packaging including MEMS (ceramics, polyimide)
- Hard materials such as sintered carbide, alumina, silicon nitride, and zirconia
- Components such as seals, wafers, plates, windows, wear materials



The HVG models are available in three different sizes; customized models upon request.

Model	HVG-200	HVG-250	HVG-300
Worktable Chuck Size	φ200	φ250	φ300
Wheel Size	φ205	φ255	φ305
Interface	Programmable Logic Controller		
Worktable Speed	400 RPM max., CW & CCW rotation		
Wheel Speed	2000 RPM max., CW & CCW rotation		
Min Feed Speed	6μm/min (0.1μm/sec) optional: 0.6μm/min (0.01μm/sec)		
Max Feed Rate	600μm/min. (10μm/sec)		
Worktable Chuck	Vacuum Chuck		
Wheel Spindle Bearing	Angular Contact Bearing		
Wheel Spindle Motor	2Kw	5Kw	
Worktable Motor	400W*4P	1.5Kw*4P	
Coolant Tank/Pump Flow	50L / 8L/min		
Air-Pressure	0.5~0.8Mpa		
Operating Voltage	AC200V+/-10%,3phase,50/60Hz		
Dimension	800x800x1900	900x900x1900	1050x1050x2020
Weight	1000kg	1100kg	1200kg

ADVANCED CONTROL OPTIONS

The HVG-AD and HVG-ADM models are equipped with controls that provide automated grinding wheel dressing, automated positioning of the grinding wheel relative to the workpiece and workpiece thickness measurement. For maximum control, an upgrade to in-process thickness measurement with feedback to the grinding cycle in real-time, is available. The ADM model offers automated thickness options: multi-point contact probing for multiple wafer grinding or a choice of contact in-process measurement for single wafer.

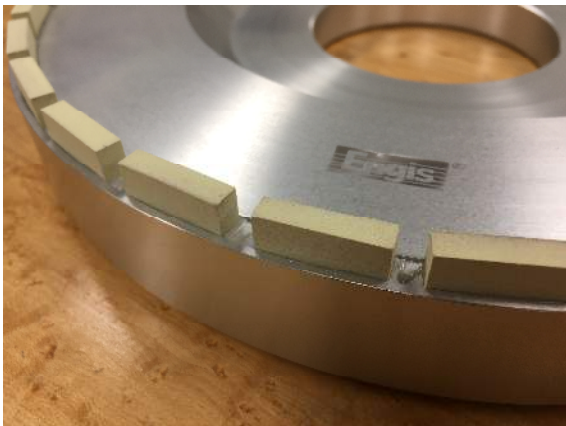
	BASIC	-AD	-ADM
Wheel Dressing	Manual	Auto	Auto
Wheel Positioning	Manual	Manual	Auto
Thickness Measurement Options	N/A	N/A	Contact Probe Cantilever Contact Probe*

*Continuous measurement (only for single wafer)

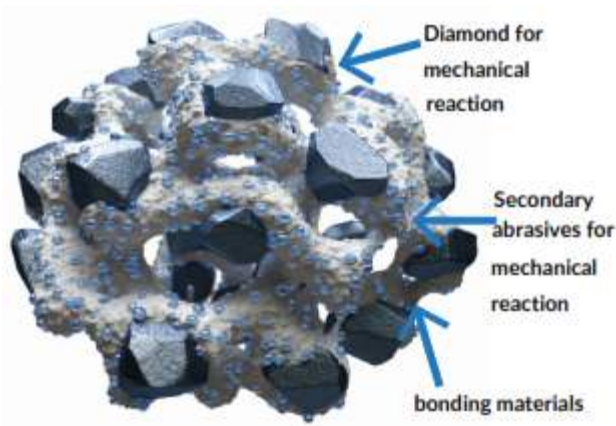
GRINDING WHEEL TECHNOLOGY

The HVG machines are equipped with Engis grinding wheels formulated with MAD Wheel (Mixed Abrasive Diamond) technology, which tailors the wheel to the material being processed. Consult your Engis application engineer for specific process recommendations for your material.

MIXED ABRASIVE DIAMOND WHEEL



ABRASIVE STRUCTURE IMAGE



Engis is a global leader in the design and manufacture of complete lapping and polishing systems that offer the highest quality finished components, processed in the quickest cycle times, while minimizing manufacturing costs. What really sets us apart from the competition is our unique ability to provide Process Development and Customer Support that is second to none. Our systems are suitable for processing a vast range of materials. We have developed solutions for many industries, improving quality, efficiency, and cost.