



Ultrasonic machining center USG

For the machining of glass, ceramic, other hardbottle materials and composites

The ultrasonic-assisted machining center USG was developed in order to fully benefit from the ultrasonic grinding and machining technology. The machine is based on the modulare design from dama grinding machines. It can easily be expanded by adding axis or spindles to fulfil specific requirements.

The basic machine consists of 3 linear axes which are driven by servo motors through precision ball screws or optionally (X and Y) by linear motors. The high precision linear roller guides ensure a smooth movement. These axes are separated from the working area in order to perfectly protect them from grinding swarf. A strong grey cast iron machine frame is the basis of a stable and vibration free grinding process.

Options as swivel- and indexing axis, work piece spindles, automatic tool changing, work piece fixation devices, 3-d touch probes, tool probes etc. complete the offer to supply full solutions.

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Different spindle types as well as a broad range of tools and tool holders are available for a wide range of application. The offered internal flushing with up to 40 bars and pressure control provide an excellent support to work with micro grinding pins. The force measurement system with automatic feed rate adjustment supports for process optimisation and guarantees a high repetition accuracy.

The B&R CNC control system offers an easy to work environment. Specific dialogues for drilling, trepanning, slicing, flat or lens grinding simplifies the set up and shortens the programming. Individual designed dialogues for specific parts lead to a significant competitive edge. The touch screen gives a good process overview and is a comfortable interface.

The ISO programming possibility sets nearly no limits on complex geometries – especially in combination with a CAM solution. Different accessories – such as centrifugal separators, high pressure pumps, vision systems – support the solution to your production problems.

Technical data USG

| | | |
|---------------------------------|-----------------|------------------------------|
| X-Axis | travers path | 460 mm |
| | digital display | 0.001mm |
| | feed rate | 0 – 3000 mm/min |
| Y-Axis | travers path | 200 mm |
| | digital display | 0.001mm |
| | feed rate | 0 – 3000 mm/min |
| Z-Axis | travers path | 400 mm |
| | digital display | 0.001mm |
| | feed rate | 0 – 1000 mm/min |
| B-/C-Axis (optional) | range | depends on execution |
| | digital display | 0.001° |
| Force measuring system (Z-axis) | | |
| 1. range | | 0 – 50 Newton |
| 2. range | | 0 – 500 Newton |
| Electrical connection | | 3 x 400V, 50Hz, L+N+PE / 32A |
| Compressed air connection | | 6 bar |
| Dimension | L x T x H | 1800 x1800 x 2400mm |
| Weight | | 4000 kg |

Technical alterations subject to change.

