vhf E5

5-Axis Dry Dental Mill

The vhf E5 is the latest in 5 Axis Dry Mills. The E5 is a dry only single disc mill that does not require compressed air.

- **Innovative**
  No compressed air required with the patent-pending AIRTOOL
- Machine design optimized for **minimal weight**
- **C-holder for 90° machining of anterior teeth** (coming soon)
- **Modular machine design** to optimize servicing and maintenance
- **Reliable**
  100% developed and manufactured in Germany
- **Optimum manufacturing results and high durability** with only premium-quality industrial components
- **24-month warranty**
- **Fast & precise**
  800 W 60,000 rpm spindle
- **3 µm repetition accuracy**
- **Cast aluminum body** for low vibration in operation

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ARGEN®

MKT-19094-Ver1-05/23

E5 SPECIFICATIONS

GENERAL

Fields of application	Dry machining
Materials	Composites, plastics/wax, zirconia, CoCr sintered metals • Discs, height 10–40 mm, diameter 98.5 mm • Blocks up to 40 × 20 × 20 mm (block holder required)
Indications	Crowns, bridges, inlays, onlays, veneers, occlusal splints, full dentures, denture frameworks, implant bars, abutments, screw retained crowns, screw retained bridges, surgery guides, primary crowns, secondary crowns, model plates, model tooth dies
Holder systems	• Holder for 98.5 mm discs (integrated) • Holder for 110 mm discs (optional) • Block holder (optional) • Ivotion[1] accessory kit (optional)

BASE SYSTEM

Construction	Machine bed made of solid cast aluminum body
Housing	• White high-gloss lacquer finish • Upward opening lift door to the workroom
Number of axes	Five (5)
Linear axes	• Precision ball screws • Motors with resolution < 1 µm • Ground precision guides made of high-alloyed steel • Repetition accuracy
X-/Y-/Z-axis	± 0.003 mm
Rotary axis A-axis	• Backlash-free tension shaft gear with highest angular accuracy • Rotation angle: 360°, infinite
Rotary axis B-axis	• Backlash-free tension shaft gear with highest angular accuracy • Rotation angle: ± 35°
Control unit	• Control electronics with continuous path progression and dynamic pre-calculation • Hardware-based real-time operating system with stan-dardized instruction set • FPGA-integrated processor • Updateable hardware • Real-time path and ramp calculation via dedicated hardware engines in the FPGA • Four-quadrant control of the motors for particularly smooth running • Multiple digital I/Os for controlling the periph-erals • Integrated inverter for synchronous and asynchronous motors, electronic gate detection • Ethernet and USB interface
Lighting	RGB LED lighting with status indication

SPINDLE

General	High-frequency spindle with electromechanical tool change
Speed	Up to 60,000 rpm
Power	• Peak power (Pmax): 800 watts • nominal power (S6): 400 watts • continuous power (S1): 300 watts
Bearing	2-fold hybrid ceramic ball bearing
Collet	For tools with 3 mm shank diameter and max. 40 mm total length

[1] Ivotion is a brand of Ivoclar Vivadent

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AUTOMATION

Tool change	• Tool magazine for 16 tools plus one AIRTOOL • Length measurement and tool breakage monitoring via precision measuring key • Access via front-door, safety-locked

PROCESSING MODES

Dry	• Compressed air-free operation through use of AIRTOOLs • Hose connection for external suction unit on the back of the housing • 24 V switch output for controlling suction units

CONNECTION REQUIREMENTS

Compressed air	—
Power supply	• 100–240 volts • 50/60 Hz, 500 watts
Extraction system	Extraction filter class M, 2,500 l/min extraction capacity at 200 hPa
Data	10/100/1000 MBit/s BaseT port (auto-sensing) Ethernet via RJ-45

ENVIROMENTAL CONDITIONS

Operating temperature	Between 10 °C and 35 °C
Air moisture	Max. 80 % (relative), non-condensing

APPROVALS

All models	CE
North America model	UL 61010-1, CAN/CSA C22.2 No. 61010-1

DIMENSIONS & WEIGHTS

Dimensions (W/D/H)	• 472 × 484 × 734 mm with closed door • 472 × 567 × 734 mm with open door
Footprint (W/D)	387 × 370 mm
Weight	43 kg

SCOPE OF DELIVERY

CAM Software	DENTALCAM software included
Accessories	• Spindle service set • Calibration set incl. stirrup measuring screw • Tool magazine insert (1 piece) • Torx wrench set • Torque driver 1.5 Nm • AIRTOOL for PMMA/wax • Drill bit (tool positions) • Cleaning brush and microfiber cloth • Administrated Tool Board (ATB) for tool storage • Power cable • Ethernet network cable

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