

 E3



ENJOY

TRIMMING



3+1
Axes

Occlusal
appliances

Aligners
< 60 sec.

Dry

Mill

Software
incl.



OUR SPECIALIST FOR THE PROCESSING OF OCCLUSAL APPLIANCES.

The new E3 enables you to automate the precision trimming of occlusal appliances. You can expect the very best results in the shortest time with no arduous reworking. The machined fabrication also ensures a consistently high quality.



E3

AUTOMATE YOUR WORKFLOW.

The E3 is simple to commission and operate, and fits seamlessly into your workflows. Our in-house developed TRIMCAM software automatically recognizes the trimline on which the occlusal appliance is milled out from the available planning data. So, you'll get started right away. True to the motto: unpack, connect, start milling!



With the E3, entire aligner series can be produced in a very short time. Thanks to automatic trimline recognition and perfect milling quality without any significant preparation or reworking.



Lucas Kehl
Head of Product
vhf camufacture AG

FOR MORE COMFORT IN ALIGNER AND SPLINT PRODUCTION.

With a machine weight of only 25 kg and no use of compressed air, the compact E3 offers maximum flexibility in terms of the installation site. Meticulous attention has been paid to the details: for example, no separate extraction system is required – thanks to the practical collection tray for chips.

100% developed and manufactured in Germany, the E3 impresses with its precise results and outstanding reliability – not only for aligners, but also for bite splints, grinding splints and other splints, including sports mouthguards. Despite its compact design, the interior of this machine contains only high-quality industrial components.



MATERIAL. INDICATION.

Plastics



Occlusal appliances

Be sure to review local and/or national regulations and/or regulations by other authorized organizations or entities (e.g. professional associations, health authorities).

SAVES TIME AND WORK.

Benefit from the machining of aligners in under 60 seconds. This saves you a lot of time compared to manual production – and on top of that you gain the high precision of CNC production.



The tool-free clamping system further simplifies your work processes. This quick workpiece change enables you to produce entire series of aligners quickly and easily.



SERVICE? EASY!

If your machine requires servicing, the central components, e.g. the spindle, are easy to replace and you can even service the machine yourself in just a few steps. In addition, the lightweight and service-optimized design saves transport time and resources.



THE ADVANTAGES? THERE ARE SO MANY!



Innovative

Tool-free fixation of the thermoforming sheet in seconds

Automatic trimline recognition

Machine design optimized for low weight

Modular design for service-optimized maintenance



Reliable

100% developed and manufactured in Germany

Optimum manufacturing results and high durability with only premium-quality industrial components

24-month guarantee



Fast & precise

Powerful 800 W spindle with 60,000 RPM

Sturdy aluminum construction

Complete processing of aligners in under 60 seconds



Independent

Quickly and easily cut out occlusal appliances from different material manufacturers

TRIMCAM software with open interface to planning software



Cost-effective

Sustainable operation with no compressed air

Environmentally friendly shipping due to low weight of machine

The excellent price-performance ratio ensures a cost-effective entry into CNC production

Extremely simple operation via provided software TRIMCAM – no license fees

TECHNICAL DATA

GENERAL

Fields of application	Dry machining
Materials	Thermo-formed plastic foil
Indications	Aligners and other splints
Holder systems	Holder for tool-free clipping in of the aligners

BASIC SYSTEM

Construction	Sturdy aluminum structure
Housing	White high-gloss lacquer finish · upward opening lift door to the workroom
Number of axes	3+1
Linear axes X-/Y-/Z-axis	X-axis: rack and pinion drive · Y-/Z-axis: trapezoidal screw spindles · motor resolution 10 µm · max. axial backlash 0.06 mm
Rotary axis B-axis	Rotation angle: 360°, infinite
Control unit	Control electronics with continuous path progression and dynamic pre-calculation · hardware-based real-time operating system with standardized 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 peripherals · 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 mechanical tool change
Speed	Up to 60,000 RPM
Power	Peak power (P_{max}): 800 watts · continuous power (S1): 450 watts
Bearing	2-fold hybrid ceramic ball bearing
Collet	Collet type ER8 for tools with 3 mm shank diameter

PROCESSING MODES

Dry	Compressed air-free operation without suction
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CONNECTION REQUIREMENTS

Compressed air	–
Power supply	100–240 volts · 50/60 Hz, 320 watts
Extraction System	–
Data	10/100/1000 MBit/s BaseT port (auto-sensing) Ethernet via RJ-45 socket

ENVIRONMENTAL 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

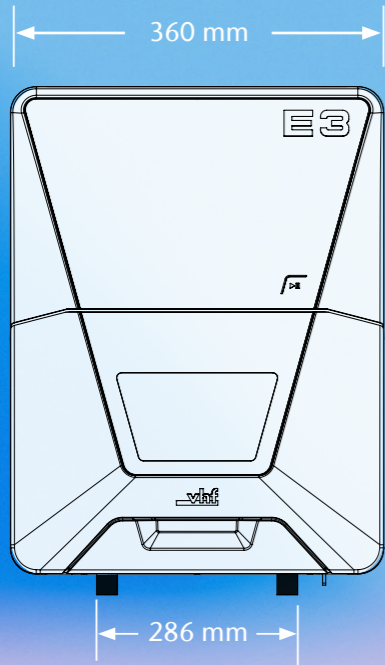
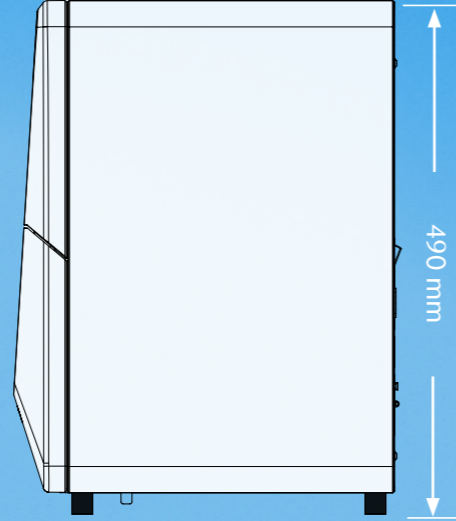
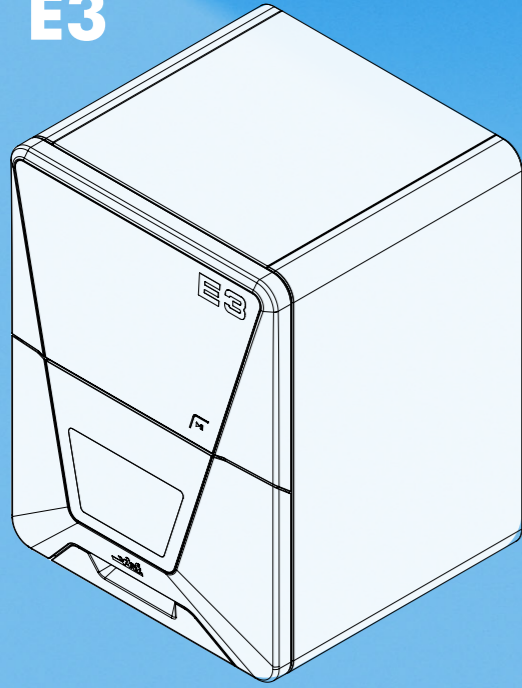
Dimensions (W/D/H)	360 × 370 × 490 mm with closed door · 360 × 420 × 490 mm with open door
Footprint (W/D)	286 × 268 mm
Weight	25 kg

SCOPE OF DELIVERY

CAM Software	TRIMCAM software for aligner production included in the scope of delivery
Accessories	Calibration set incl. stirrup measuring screw · Torx driver · torque driver 1.5 Nm · cleaning brush · cleaning scrubber and microfiber cloth · radius cutter (2 pcs.) · clamping wrench · open-end wrench · power cable · Ethernet network cable



E3



The E3 workflow automates much of the aligner production process, eliminating repetition and the tedious tasks associated with conventional aligner fabrication.

Chris Silvoy, DDS
Dentist
Durham, NC



EASE CLASS



MEET THE ENTIRE

EASE

CLASS



E5

E4

E3



The innovative
milling machine for digital
dental technology in the practice
lab and the laboratory.



The perfect machine
for the easy entry
into same-day dentistry.



Our specialist for
processing
occlusal appliances.

E5

- 5 Axes
- 1 Disc
- 6 Blocks
- 17 Tools
- Dry
- Mill
- CAM Software incl.



ENTER A NEW ERA OF MILLING

With the new E5 you will optimize your digital workflow, enjoy maximum freedom and achieve perfect results with optimum efficiency.



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E4

- 4 Axes
- 1 Block
- 7 Tools
- Wet Dry
- Mill Grind
- CAM Software incl.



SAME-DAY DENTISTRY: EASY

Digitize your practice with the new E4. You and your patients can benefit from restorations in just one session of treatment.



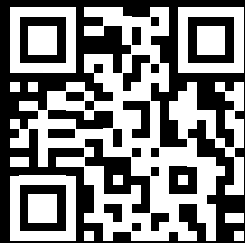
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Creating Perfection.

With more than 30 years of experience, vhf is a leading manufacturer of dental milling machines. As a CAM full-service provider, vhf meticulously develops and produces each individual milling machine and the perfectly matched tools and software all in-house. Everything from a single source. Made in Germany.

Service. We are passionate about what we do.

Our products are extremely low-maintenance and highly durable, but the servicing of your machine is important to us. We provide customer support with our user-friendly DentalPortal, numerous online tutorials and personal assistance through our international service network.



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WE LOOK FORWARD TO HEARING FROM YOU.

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