CORiTEC® 650i PRO Series

24/7 Production

With Absolute Precision

imes-icore®
Dental & Medical Solutions

5 AX
5-axis Machining

DRY / WET
Wet/dry Milling

Automated Cleaning

Integrated Camera

Industrial ZPCS

Variety of holder systems

Maximizing performance

WITH FUTURE-ORIENTED TECHNOLOGY

In the field of PREMIUM machines for PREMIUM demands, the CORiTEC 650i PRO and CORiTEC 650i Loader PRO machine systems were developed. These systems are equipped with the highest-quality industrial technology. The machine concept stands out with its precise, vibration-free, and dynamic motion sequences, ensuring exceptional performance in demanding and complex metal processing. Additionally, all other relevant materials can also be milled or ground with high precision and quality on this machine system.

The CORiTEC 650i Loader PRO features a fully integrated automatic 16-fold blank changer. This allows the machine system to operate at full capacity around the clock without supervision while maintaining consistently high precision. The system is ideal for large laboratories or milling centers that demand high quality standards and produce in large quantities.

CORiTEC 650i PRO

CORiTEC 650i Loader PRO

Technical data		
Fully automatic workpiece changer	Manual	16-fold
Blank holder	1	4
Materials		
Ceramics and hybrid materials	✓	✓
Metals and alloys	✓	✓
Polymers and plastics	✓	✓
Indications		
All common indications	◉◉◉	◉◉◉

Wet & Dry Milling

FOR EVERY MATERIAL REQUIREMENT

✓ Wet machining with integrated filter / cooling lubrication system ensures precise results with outstanding surface quality – ideal for glass ceramics, composites and titanium.

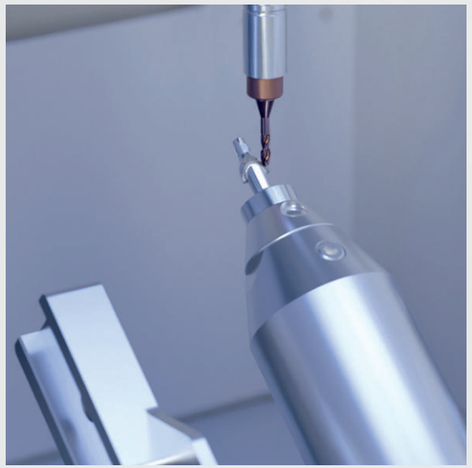
✓ Dry machining is particularly used for zirconia, PMMA, and CoCr. During dry machining, the resulting chips and dust are optimally extracted by the integrated suction system.

Exclusive Features

ALL ADVANTAGES AT A GLANCE

FULLY INTEGRATED TURNING AND MILLING PROCESSING

State-of-the-art turning and milling processes produce premilled abutments with maximum precision, perfect fit, and aesthetics. Thanks to the high rotational speed and special milling tools perfectly matched to the application, abutments can be manufactured in just **4 minutes**.



360° rotating A-axis and a B-axis with an angle of up to 90° for maximum degrees of freedom and efficiency during processing.

Simultaneous processing ensures excellent surface quality and reproducible precision at the micrometer level. This results in abutments that are produced with maximum speed and cost-effectiveness to perfection!

FOR MAXIMUM SUCCESS AND EFFICIENCY

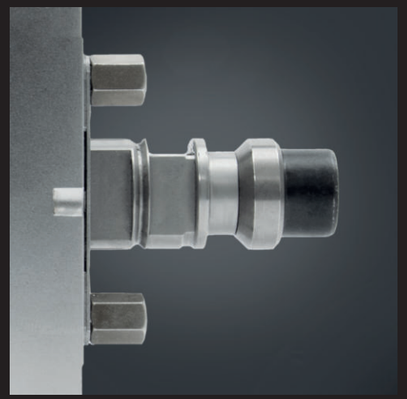
Benefit from increased productivity and enhanced quality.

- ✓ Excellent surface quality
- ✓ Extended tool life thanks to optimized smooth running and improved system stability
- ✓ Absolute encoders with a 0,05 µm resolution ensure maximum precision and surface finish

MAXIMUM SMOOTHNESS AND PRECISION

The water-cooled HF spindle impresses with its exceptionally smooth operation, significantly extending the lifespan of both the spindle and milling tools. At the same time, it delivers outstanding performance when using 6 mm shank tools with HSK-E25 holders.

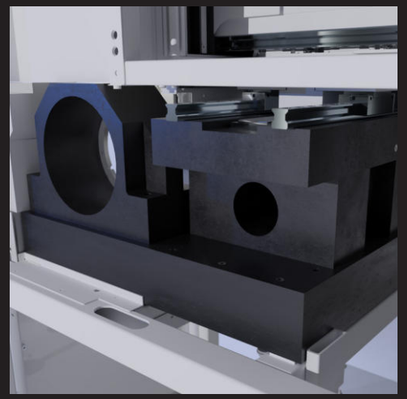
- ✓ Powerful 5,7 kW spindle with up to 50,000 rpm
- ✓ 4-fold hybrid ball bearing for precision and stability
- ✓ Maximum tool life through high torque, even at low rotational speeds



BLANK/ADAPTER CHANGE WITHOUT POSITION LOSS

The fully integrated, automated 16-position blank changer, in combination with the highly precise zero-point clamping system from EROWA, enables fully autonomous production with the CORiTEC 650i Loader PRO. This ensures maximum machine utilization, outstanding efficiency, and the highest precision.

- ✓ Clamping force up to 5000 N
- ✓ Versatile adapter integration
- ✓ Maximum flexibility for diverse milling applications



PERFECT STABILITY FOR TROUBLE-FREE MANUFACTURING

The unique combination of a robust steel and granite base gives this high-end machine system exceptional stability and precision. It is the perfect solution for the most demanding applications in dental technology, where the highest accuracy and reliability are required.

- ✓ Maximum stability
- ✓ Effective vibration damping
- ✓ Enhanced precision
- ✓ Extended tool lifespan

FULLY AUTOMATIC TOOL CHANGER

The fully automatic tool changer, with a capacity of up to 32 tools, optimizes the loading process and significantly increases efficiency. This feature ensures a smooth operation, thereby maximizing productivity.

- ✓ 32-fold tool changer
- ✓ Automatic changeover routines
- ✓ Easy loading

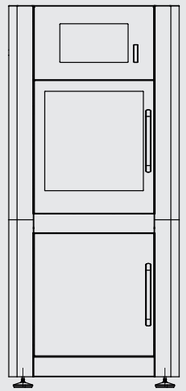
POWERFUL AND VERSATILE OPERATION

The machines of the CORiTEC 650i PRO series offer powerful and versatile operation – the CNC control system iNC – specifically designed to meet the needs of experienced users. The smart touchscreen and intuitive user interface enable efficient control of even the most complex applications. Intelligent assistants, such as cleaning and auto-calibration features, support users in their daily workflow.

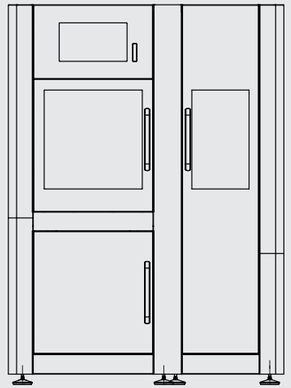
Perfect Dimensions

SOPHISTICATED, EFFICIENT DESIGN FOR MAXIMUM STABILITY

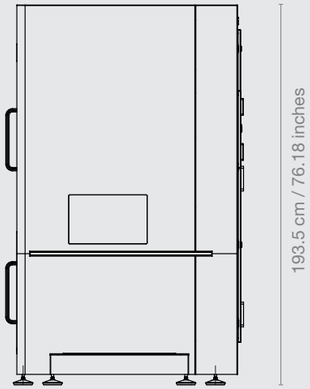
The CORiTEC 650i PRO series stands out with its robust and well-engineered design, allowing installation without the need for an additional machine table. Its intelligent construction ensures maximum stability and efficiency while seamlessly integrating into demanding production environments.



86.4 cm/ 34.02 inches



144.5 cm / 56.89 inches

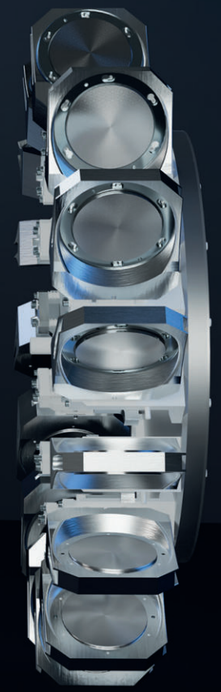


193.5 cm / 76.18 inches

112.4 cm / 44.25 inches

24/7 Automation for your laboratory

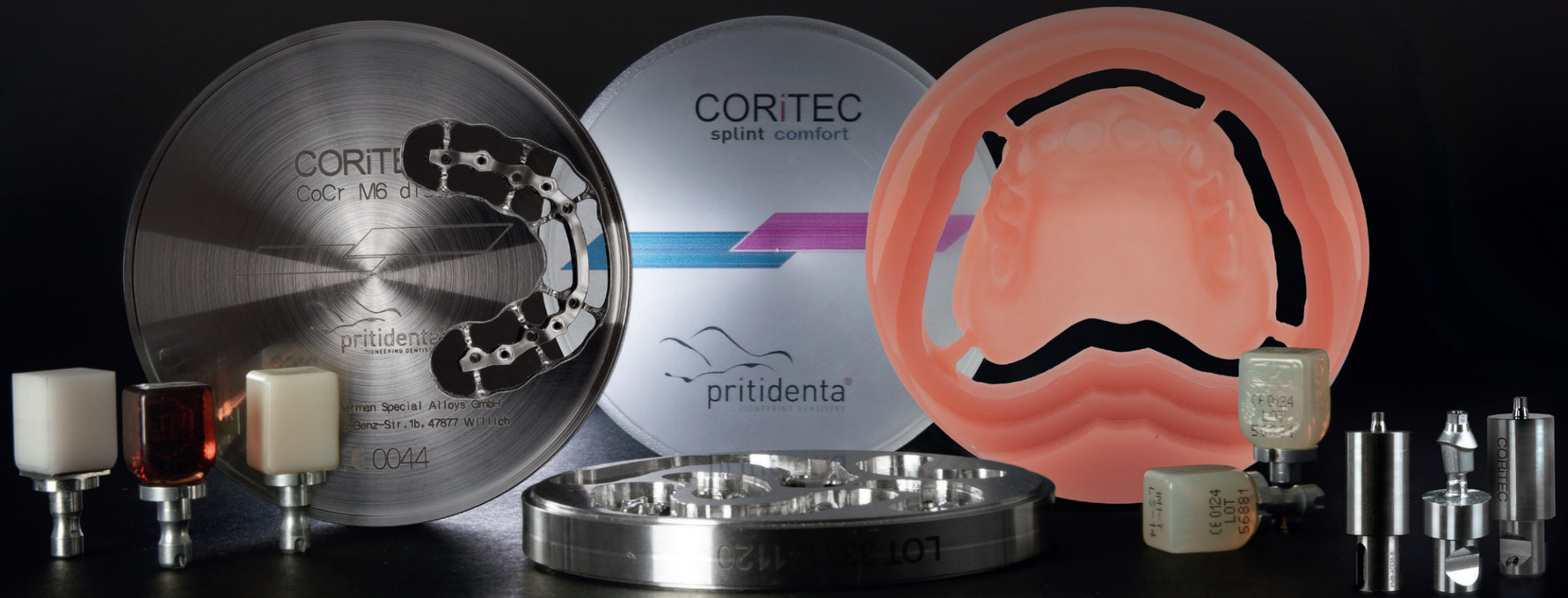
CORiTEC® 650i LOADER PRO WITH 16-FOLD AUTOMATIC BLANK CHANGER



The CORiTEC 650i Loader PRO includes a blank changer for up to 16 blanks. With the option to run production fully autonomously around the clock, your laboratory can continuously achieve peak performance. This fully automated operation not only significantly increases efficiency and productivity but also contributes to a substantial reduction in operating costs. This allows you to optimize your resources and ensure that your laboratory operates at the highest level at all times—without compromising on quality or performance.

Freedom in Materials & Applications

FROM CERAMICS TO METALS – PRECISE
SOLUTIONS FOR EVERY APPLICATION



PMMA	WAX
Zr	COMPOSITE
PEEK	SINT
Glass ceramics	Pre-Milled Abutments
CoCr	Ti

Standard	PreMilled Abutment	Full Dentures
C-Clamp	Block	Zero Point Clamping System

Crown, Bridge	Inlay, Onlay, Veneer	Hybrid Abutment	Splint
Full Denture	Model	Drilling Template	Model Casting
Bar	Telescope Technology	Abutment	Hybrid Processing

Maximum flexibility

HOLDERS UND ADAPTERS

The proven and versatile zero-point clamping system from EROWA enables precise positioning of holders while ensuring high retention force. This interface guarantees a durable connection, while vibration-free milling ensures excellent machining accuracy and surface quality—ideal for demanding, high-precision applications where machine stability plays a crucial role.

1 BLANK HOLDER

The sealed stainless steel Blank Holder offers high stability and is ideal for the precise machining of all common disc-shaped materials.

2 HYBRID HOLDER

The hybrid holders enable milling in combination with a 3D metal printing system such as the CORiTEC AM100. Printed restorations can be directly clamped into the holder and precisely re-milled. This allows the CORiTEC 650i PRO to combine the cost-effective production of restorations using 3D printing technology with high-precision milling fabrication.

3 C-CLAMP HOLDER

The half-open Blank Holder enables 5-axis machining up to 90° and opens up new possibilities for complex geometries and precise post-processing. This flexibility is particularly suitable for complex geometries that require high approach angles and for machining high undercut angles. Its design guarantees exact positioning for the best results.

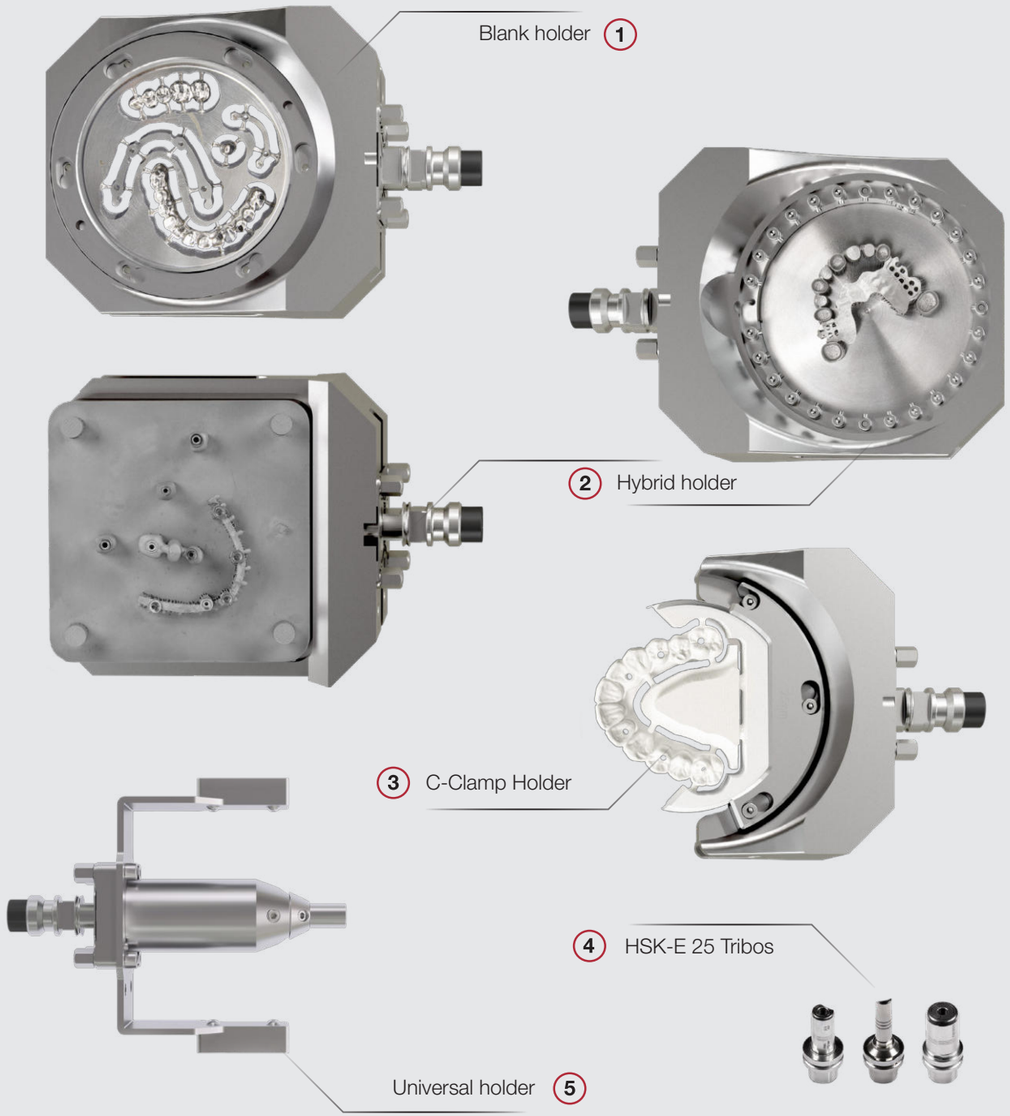
4 UNIVERSAL HOLDER

The newly developed universal adapter for rotational milling of PreMill enables precise and efficient processing. Specifically designed for rotational machining, it is loader-compatible, allowing seamless integration into automated manufacturing workflows.

Thanks to its flexible design, the adapter accommodates various block materials and premilled abutment systems. It ensures high-precision milling and grinding with maximum speed, delivering flawless, seamless surfaces.

5 HSK-E 25 TRIBOS

Our machine is equipped with the high-precision HSK-E 25 Tribos tool holder, ensuring maximum stability and concentric accuracy. Its innovative polygonal clamping technology enables low-vibration operation, making it ideal for high-speed machining in micro-cutting applications.



Versatile Possibilities

INDICATIONS AND APPLICATIONS

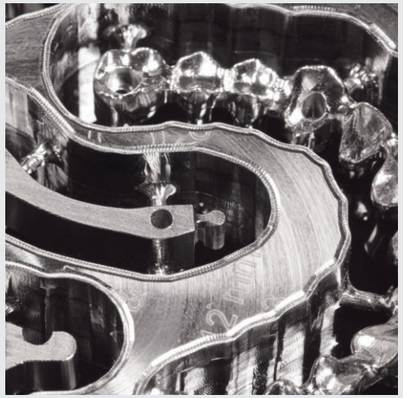
METAL PROCESSING

The machine guarantees high stability and therefore excellent surface quality when processing bars and bridges made of CoCr and titanium. Its precise processing ensures a perfect fit for long-lasting dentures - ideal for demanding dental applications.

- ✓ High sturdiness & stability
- ✓ Machining of CoCr and titanium discs
- ✓ Perfect surface quality and precision

MILLING OF FULL DENTURES

The milling process for full dentures combines time and cost cost efficiency with maximum precision. It guarantees exact results through perfect accuracy of fit and offers flexible design options for base and occlusal surfaces – ideal for Individual and highly esthetic prostheses.



IMPLANT-SUPPORTED BRIDGES AND BARS / ONE-PIECE ABUTMENTS

With our milling machine, you can produce highly precise and stress-free bridges, bars, and CORiTEC abutments, even for large spans. The ReFit-CAM technology and high level of automation enable a simple and efficient manufacturing process.

- ✓ Maximum fitting accuracy with ReFit-CAM technology
- ✓ Simple & efficient production through automation

GRINDING OF CAD/CAM BLOCKS

By using a 3-fold, 6-fold, or universal adapter, the CORiTEC 650i PRO can process block materials such as lithium disilicate.

Most indications made from block materials are manufactured using wet processing, for which the CORiTEC 650i PRO is perfectly suited.

- ✓ Crowns and bridge frameworkse
- ✓ Onlays, inlays and veneers

THERAPEUTIC SPLINTS

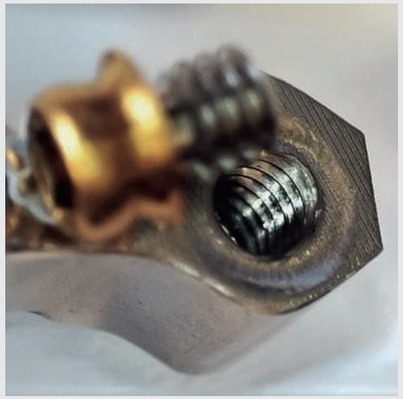
CORiTEC machines enable the precise manufacture of therapeutic splints. They guarantee a precise fit and comfort thanks to flexible production options and meet the highest demands in laboratories and practices.

- ✓ Bite splints, bleaching splints
- ✓ Sleep apnea splints and Aligner

HYBRID PROCESSING – SINTERING AND FINISH MILLING

The post-processing of printed restorations combines precise milling with cost-efficient manufacturing. With the optional Hybrid Holder, the CORiTEC 650i PRO can be expanded to include hybrid manufacturing applications.

- ✓ High precision
- ✓ Cost-efficient manufacturing
- ✓ Compatible with CORiTEC AM100



THREAD MILLING

With our CORiTEC 650i PRO, M2 threads are produced precisely and efficiently. After milling a blind hole, the thread is then milled to its final size using an M2 thread milling cutter. Following this, the attachment can be easily screwed in.n.

- ✓ Exact, uniform threads
- ✓ Durable and more efficient production

SKELETONIZED FRAMEWORKS

With our milling machine, you can manufacture skeletonized frameworks from burn-out materials, PEEK, or directly in CoCr – allowing for allergy-free, lightweight skeletonized frameworks with PEEK, as well as precise and cost-efficient production.

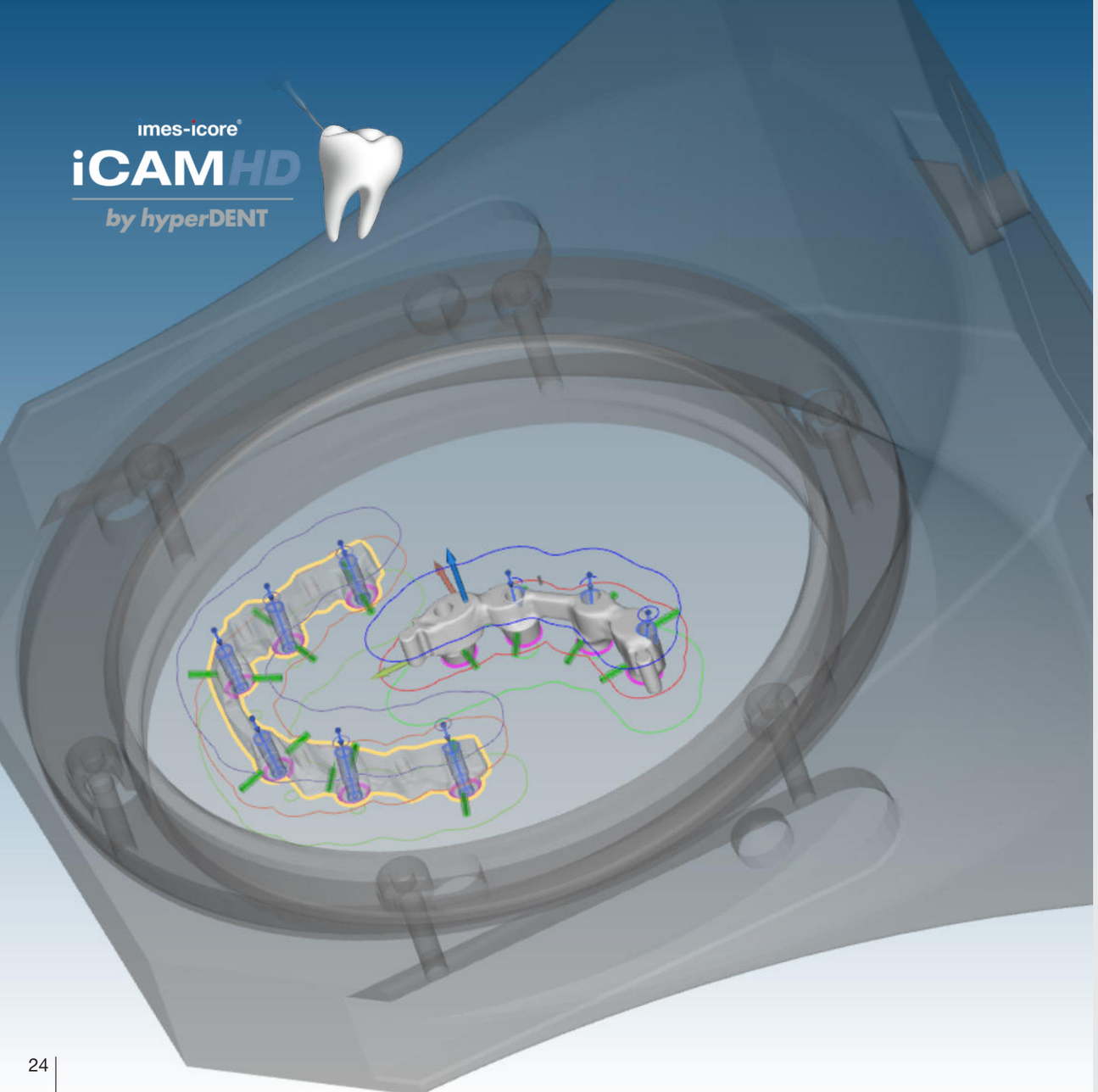
- ✓ Allergy-free & lightweight casting
- ✓ Precise and cost-efficient manufacturing

iNC | Easy-to-use

INTUITIVELY OPERABLE USER SOFTWARE

The iNC control software of the CORiTEC 650i PRO series enables intuitive operation – from job selection to monitoring the machine status. It offers powerful and versatile functionality, specifically designed to meet the needs of experienced users. Thanks to the smart touchscreen and intuitive user interface, even complex applications can be efficiently managed. Intelligent assistants, such as those for cleaning and auto-calibration, support the user in daily operations.

- ✓ Intuitive and user-friendly interface
- ✓ Easy tool management
- ✓ Automation and process monitoring
- ✓ Intelligent assistants
- ✓ Machine data analysis



Smart High-End Solution

PERFECTLY INTEGRATED CAM SOFTWARE FOR ALL CORiTEC MACHINES, MATERIALS AND INDICATIONS

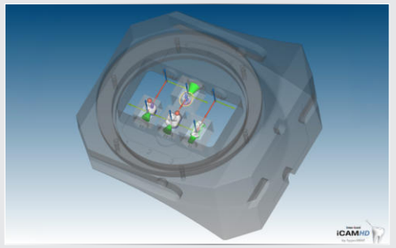
CORiTEC® iCAMHD

The CORiTEC iCAMHD software combines a high level of automation with efficient order management. Thanks to the intuitive workflow, familiarization is quick and easy, while processing options can be managed individually. Automatic updates keep the software up to date at all times. Validated strategies ensure precise results and excellent surface quality, while integrated collision monitoring guarantees maximum safety in process control.

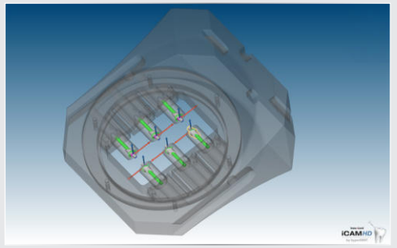
- ✓ hyperDENT based CAM software
- ✓ 3-month free trial and flexible payment model (purchase or subscription)
- ✓ CAM templates for fast and precise results

iCAM HD advantages at a glance:

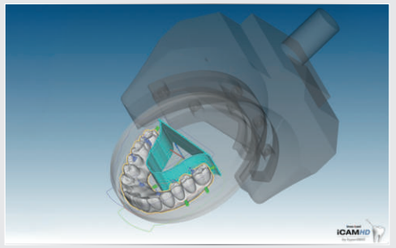
- ✓ High level of automation for more efficient production
- ✓ Intuitive workflow that enables fast familiarization
- ✓ Automatic updates that always keep the software up to date
- ✓ Tool path strategies for perfect surface quality
- ✓ Collision monitoring for maximum safety and reliability



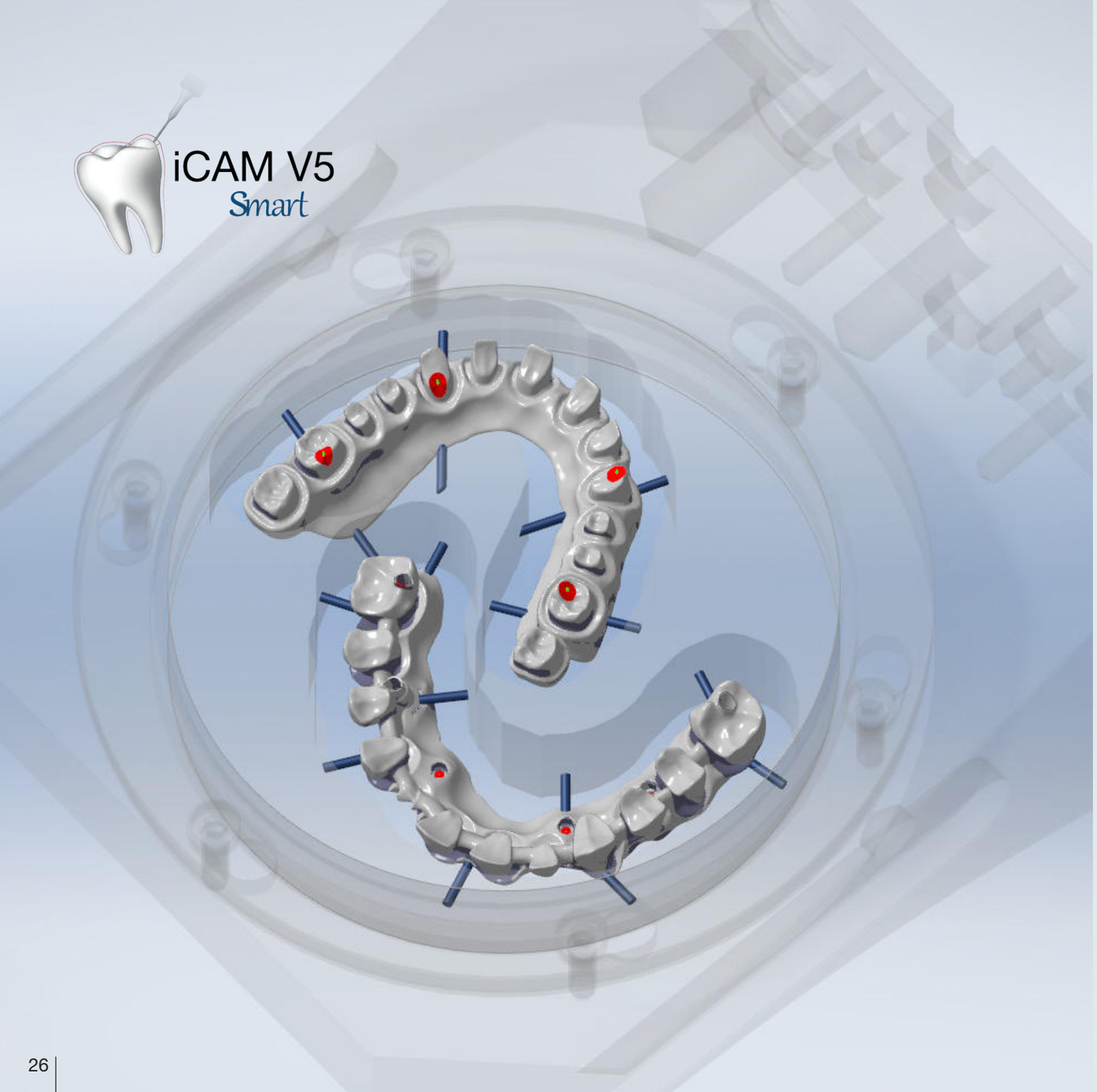
6-fold holder for ceramic blocks



6-fold CORiTEC preMill holder



Various applications with the C-Clamp holder



Flexible and Smart

PERFECTLY INTEGRATED CAM SOFTWARE FOR ALL CORiTEC MACHINES, MATERIALS AND INDICATIONS

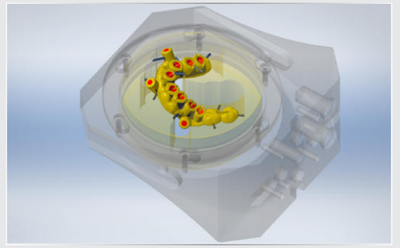
CORiTEC® iCAM V5 smart

The CORiTEC iCAM V5 stands for exceptional surface quality and maximum accuracy of fit - ideal for all common dental materials. Optimized tool strategies reduce machining time, extend tool life and ensure particularly smooth machine operation. This ensures precise results in 5-axis machining and maximum efficiency of your CAD/CAM system.

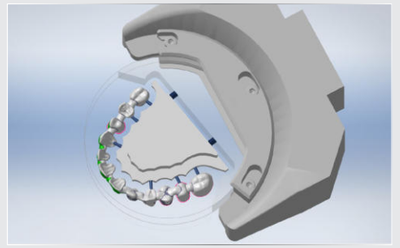
Advantages at a glance:

- ✓ **5-axis simultaneous processing:** Precision even with undercuts
- ✓ **No enforced annual fees:** Maximum cost efficiency
- ✓ **Wizard workflow:** Fully automatic, intuitive operation
- ✓ **ReFit function:** Flexible exchange of abutment geometries
- ✓ **Retaining bars:** Securely positioned for optimum results

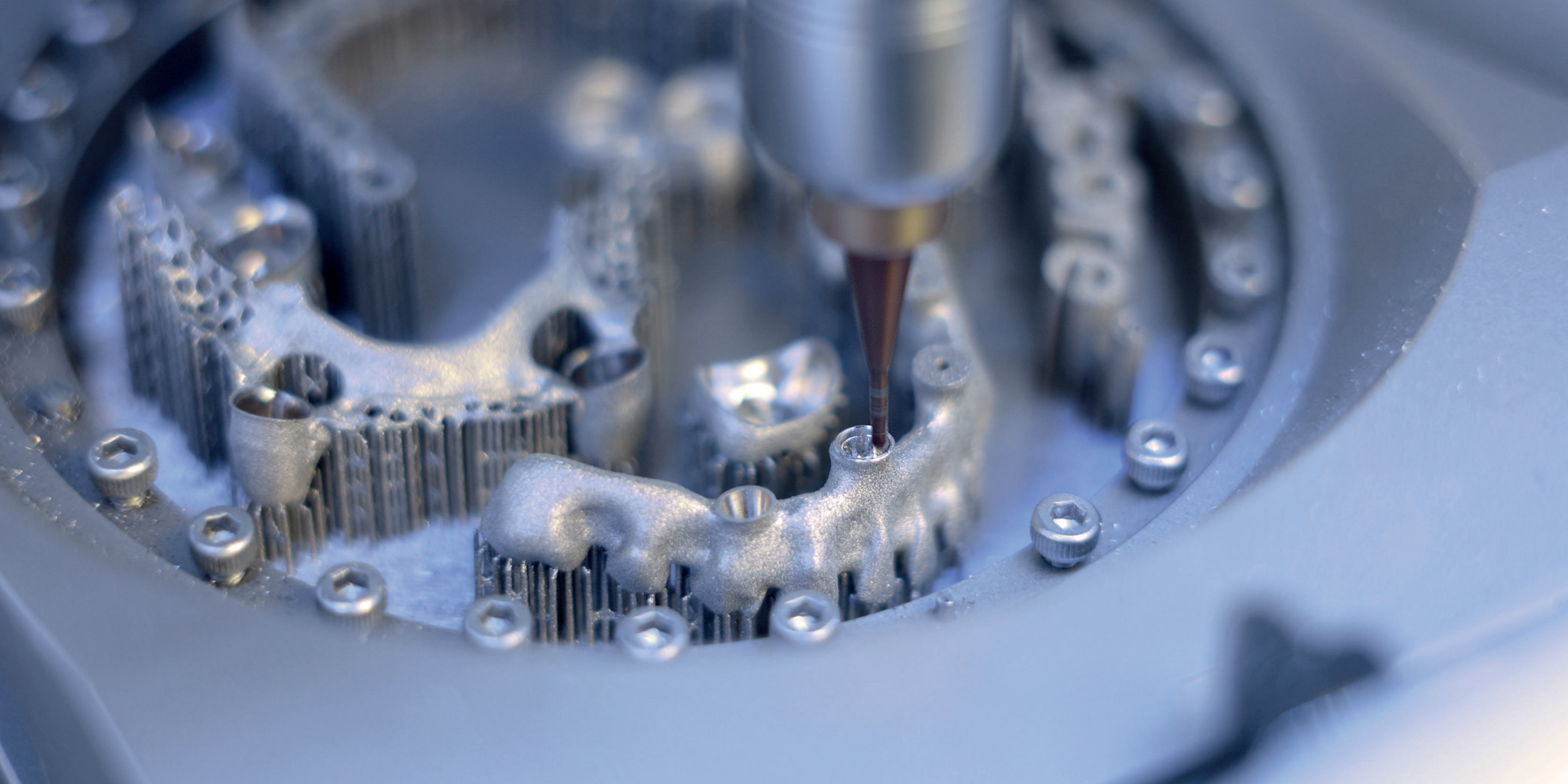
Various applications in metal



Surgical guide in the blank holder



Various applications with the C-Clamp holder



The Hybrid Process

...FOR WORKFLOW-BASED 3D METAL PRINTING

In combination with the CORiTEC 650i PRO series, re-milling of LPBF units sets new standards in hybrid technology for high-quality dental restorations. Coordinated hardware and software, along with automated measurement functions, enable precise and easy handling. The process combines the cost-effective 3D printing of complex bars with precise post-processing using CORiTEC milling machines – ensuring perfect fit and surface quality in an optimized workflow.

The Final Process

...USING MILLING SYSTEMS OF THE CORiTEC 650i PRO SERIES

In LPBF technology, constructs are post-processed with high precision on the CORiTEC 650i PRO milling machines. This process enables cost-efficient production of complex bars using the additive method, while subsequent milling ensures perfect fit and surface quality. A specialized workflow with integrated 3D measurement technology and modified holders ensures precise positioning of the LPBF build plate and accurate milling. The CAM software defines positions, clamping geometries, and interface areas, then transfers them to the slicing module.

Specialized solution for hybrid processing

CORITEC 650I PRO
FOR LPBF POST-PROCESSING

The highly precise CORiTEC 650i PRO is the perfect milling system for post-processing 3D printed parts made using the LPBF process. The process, developed in collaboration with technology partners, covers the entire workflow from design and 3D printing to re-milling and polishing. Crowns, bridges, and even highly complex bar structures can be cost-effectively produced using the additive method. The interfaces are post-processed in the subsequent milling step to ensure perfect fit and surface quality.

The subtractive post-processing procedure is implemented in a special workflow with integrated 3D measurement technology within the CORiTEC 650i PRO. Optimized holders with a proven zero-point clamping system are used to hold the build plates in the machine. The orientation and positioning of the plates are determined using defined geometries and 3D measurement functions. This process can generally be applied with any LPBF systems and various CAM software in combination with the CORiTEC 650i PRO.

1 CAM-Software

2 LPBF System

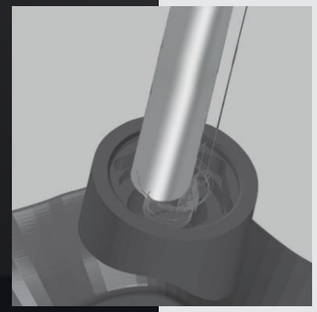
3 CORiTEC 650i Pro Machine

Compatibility

LPBF Systems	CAM Systems
sisma	worknc Dental
CONCEPTLASER	FOLLOW-ME! TECHNOLOGY GROUP
H3D	
TRUMPF	

PRECISE 3D MEASUREMENT

Through 3D measurement of predefined reference bodies, positional shifts and rotations are determined. The calculation of correction values takes place in the background and is then transmitted to the CAM software.



OPTIMIZED CAM STRATEGIES

The precisely determined positions of the reference bodies and the resulting correction values are transmitted to the CAM software. These data serve as the basis for the subsequent calculation of the milling files. The CAM software takes the shift values into account to optimally adjust the milling paths, ensuring high accuracy during the machining process.

HIGHEST QUALITY STANDARDS

Hybrid processing is characterized by exceptionally high surface quality and precise fit. The perfect coordination of the entire process chain enhances the efficiency of the manufacturing process. The outstanding results are the result of careful planning, precise measurement technology, and continuous monitoring of the machining process.

Perfect Synergy

Between Machine, Milling Tools, iCAM and Materials

CORiTEC® CoCr M6 disc

CORiTEC CoCr M6 disc is a NPM-disc based on Cobalt free from Nickel, Cadmium, Beryllium and Lead. Restorations can be veneered wit all common metal-ceramics with a suitable coefficient of linear thermal expansion (CLTE).

✓ Available in 10, 12, 13.5, 15, 16, and 18 mm

IRONBITER

T71 - 3.0 I 6.0 mm
Ironbiter, Milling Tool (l = 15 mm)
Art.-No. 530025 3006

✓ New ultra-smooth, high-temperature-resistant TINox coating

Milling and grinding tools

CORiTEC® TOOLS

CORiTEC milling tools ensure precision and efficiency. Perfectly tailored to our machines, they deliver top performance, durability, and optimal results – combined with the right materials for your applications.

- ✓ High-speed milling tools
- ✓ Torus milling tools
- ✓ End mills
- ✓ Drilling tools
- ✓ Thread milling tools
- ✓ Aligner milling tools
- ✓ T-milling tools
- ✓ Standard milling tools

ALL TOOLS
AT A GLANCE

To the milling tool brochure

CAD/CAM materials

CORiTEC® MATERIALS

Our specially developed materials are perfectly matched to CORiTEC machines, ensuring the highest precision and quality. Made in Germany and validated for a wide range of applications, they meet the highest standards for the best results.

- ✓ priti®multidisc
- ✓ CORiTEC® splint comfort polymers
- ✓ CORiTEC® splint basic polymers
- ✓ CORiTEC® temp PMMA disc
- ✓ CORiTEC® gum PMMA disc
- ✓ CORiTEC® Titan Grade 5 disc
- ✓ CORiTEC® CoCr M6 / W8 disc
- ✓ GC® Initial LiSi Block
- ✓ GC® cerasmart270
- ✓ VITA ENAMIC® multiColor
- ✓ VITA VIONIC® BASE DISC HI
- ✓ VITA CAD-Temp®
- ✓ VITA YZ HT / VITA YZ T
- ✓ VITA YZ ST / VITA YZ XT
- ✓ VITA BLOCS® Mark II
- ✓ VITA SUPRINTITY® PC
- ✓ VITA ST, TriLuxe forte
- ✓ VITA YZ MULTITRANSLUCENT

ALL MATERIALS
AT A GLANCE

To the CORiTEC Materials
www.pritidenta.com

Suction Systems

DUST PROTECTION AND AIR CLEANING

	iVAC silent PRO	iVAC eco+
Technical data		
Volume flow	240 m^3/h	260 m^3/h
Power	1610 W	1200 W
Filter system	Teflon filter cartridge, automatic cleaning	Filter bag, HEPA filter
Filter flow	18 l/min / 4.76 gpm	25 l/min / 6.6 gpm
Compatibility		
CORiTEC 650i PRO Series	◉◉◉	◉◉◉

Scanner

DIGITAL IMPRESSION

CORiTEC® i3Dscan color HR

- ✓ Enormously high scanning efficiency and precision
- ✓ Color texture scan
- ✓ Blue-light LED & high-resolution camera (3.2 MP)
- ✓ All modules included in the scope of delivery

CORiTEC® i3Dscan color

- ✓ Automatic object guidance into the measuring field
- ✓ Modern touch operation
- ✓ Easy to work with 180° opening

Sintering Furnaces

SINTERING PROCESS FOR ZIRCONIA

iSINT eco

The iSINT eco combines high-quality technology with a space-saving design and a fair price. With a sintering dish of Ø 100 mm, it offers capacity for up to 25 units. The door hinge can be flexibly mounted on the right or left – ideal for a versatile laboratory environment.

iSINT PRO

The iSINT PRO enables the sintering of up to 80 individual crowns. With four MoSi2 heating elements, it offers both long-term sintering and SPEED sintering at up to 120°C/minute. A 4-line LCD display simplifies program control. Additional functions such as timer and service programs as well as a pre-drying program make the iSINT PRO a flexible solution for modern laboratories.

	iSINT eco	iSINT PRO
Technical data		
Heating elements	4	4
Program memories	9	30
Combustion chamber capacity	1 x 100 (approx. 25 units)	2 x 120 (approx. 80 units)
Max. Heating rate	25 °C/min / 77 °F/min	120 °C/min / 248 °F/min
Power	1720 W	3200 W
Lift function	-	✓
Speedsintering	-	✓

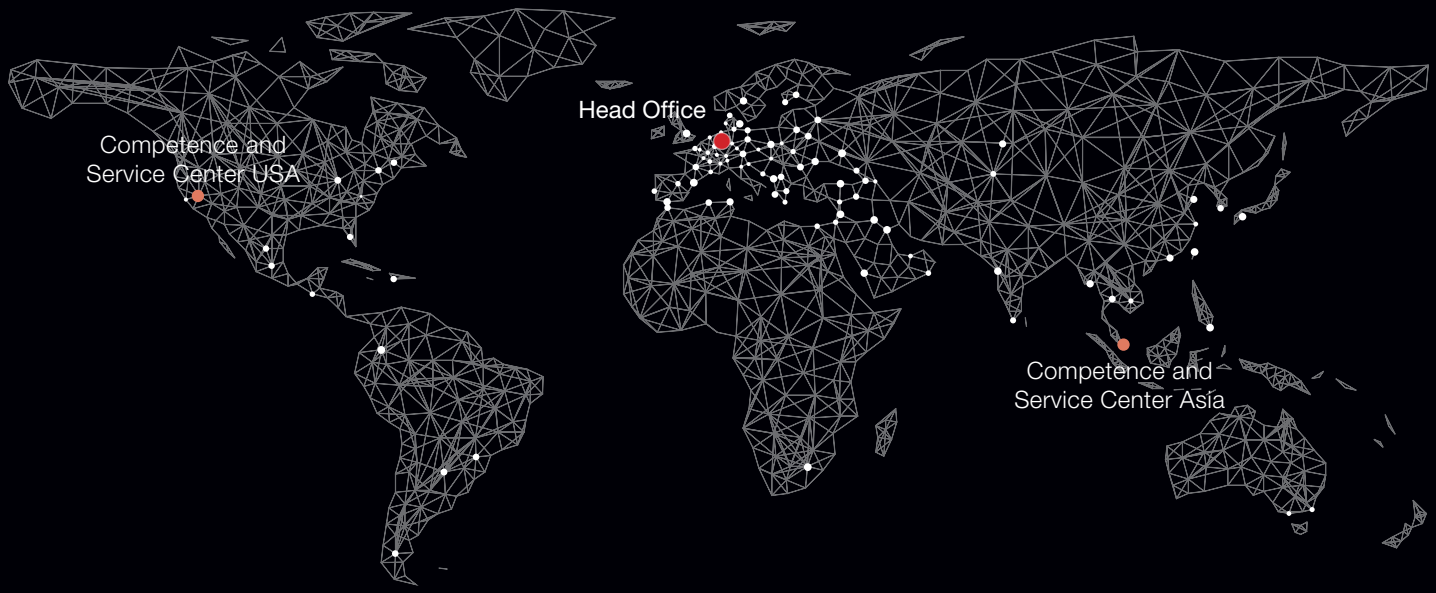
Everything at a glance

CORiTEC® 650i PRO SERIES IN NUMBERS

	CORiTEC 650i PRO	CORiTEC 650i Loader PRO
Mechanics / electronics		
Number of axes and operation type	5 axes, simultaneous machining	
Rotation angle	A-axis 360°, B-axis 130°	
Spindle / power	High-frequency spindle / 5.7 kW	
Spindle cooling	Water cooled	
Maximum spindle speed	50.000 rpm	
Tools	HSK-E 25 Tribos	
Tool changer	32-fold	
Blank changer	-	Up to 16 blanks
Tool length control	≤ 0.002 mm precision	
Integrated computer hardware	Windows based	
Monitor	Integrated 15,6“ touch screen	
Illumination	3 LED status colors	
Air pressure	6.5-9 bar / 94-130 PSI constantly supply, 150 liters/min / 567.75 gpm/min	6.5-9 bar / 94-130 PSI constantly supply, 160 liters/min / 605.60 gpm/min
Cooling liquid	19 liter / 71.92 gpm integrated	
Connecting requirements		
Weight	ca. 650 kg / 1,433 lbs	1,000 kg / 2,205 lbs
Width x depth x height	864 x 1124 x 1935 mm 34.02 x 44.21 x 76.18 inches	1404 x 1124 x 1935 mm 55.31 x 44.21 x 76.18 inches
Line voltage / frequency	400 V - 3 stages / 50/60 Hz	

Global Support

SALES AND SUPPORT PARTNERS IN OVER 100 COUNTRIES



Since 2002, imes-icore® has been a leader in CAD/CAM systems for the dental industry. With tailored solutions for laboratories, milling centers, and dental practices of all sizes, we offer powerful milling and grinding systems. Our open-system philosophy ensures seamless integration into existing workflows.

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Directly configure the machine

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