

# DC3™



# DC3™ MODULAR SYSTEM - FLEXIBLE IN THE FUTURE

The DC3™ machine concept is a clear advantage for the modern user and allows for system customization throughout the lifetime. DC3™ systems can be purchased in the basic version and adapted to their needs, many years after purchase.

Depending on the growing task areas and required production capacity, additional modules can be added later. A system which can grow with ever new dental requirements and thus ensures a lasting competitiveness.



**5 - AXIS  
SIMULTANEOUS MACHINING**



**20-POSITION TOOL CHANGER  
WITH MAGAZINE SYSTEM**



**SPINDLE WITH  
HIGH CLAMPING FORCE**



**PRECISE GRINDING  
OF CERAMIC MATERIALS**



**MULTI-BLANK CHANGER  
WITH AUTOMATION**



**COOLANT PORT  
FOR WET PROCESSING**



**SPINDLE SHAPE ENABLES  
LARGE SETTING ANGLE**



**SECURE ABUTMENT MANUFACTURING  
IN THE 7-DISC CHANGER**



**ALSO AVAILABLE WITH  
WORK NC® CAM-SOFTWARE**



**INTELLIGENT OPERATION  
USING DC CONTROL SOFTWARE**



**MACHINE CALIBRATION  
FOR HYBRID MACHINING**





## **DC3™ - For a targeted investment**

Like all systems in the DCS family of devices, the DC3™ is not only a comprehensive system for permanent and safe production, but also offers users great convenience in terms of user-friendly operation and flexibility. Despite immediate entry into the upper class, the system can adapt to the current requirements and allows the purchase of a larger stand device without limiting the future possibilities with manageable investment. The illustration in this brochure corresponds to the DC3™ basic version, which is already geared to the applications in a large production. Modern applications for hybrid and prosthetic technology are already included.



## **DC3™ - Modules ensure progress**

Depending on the customer's requirements, DC3™ systems can be put together individually, both when acquiring the milling machine and years later, in terms of the user. The assortment of DC3™ modules includes a wide variety of variants and will be expanded in the future. Extensions of the control and CAM software enable expansion up to the level of the extensive DC7™ system. Depending on the philosophy, the customer, when purchasing the system, e.g. whether the DC3™ should be operated by a separate computer and monitor or extended by a module with integrated computer system and touch monitor. Subsequently, various modules such as the expansion of workpiece automation, automation measurement, motor spindle, cooling and extraction techniques are possible.





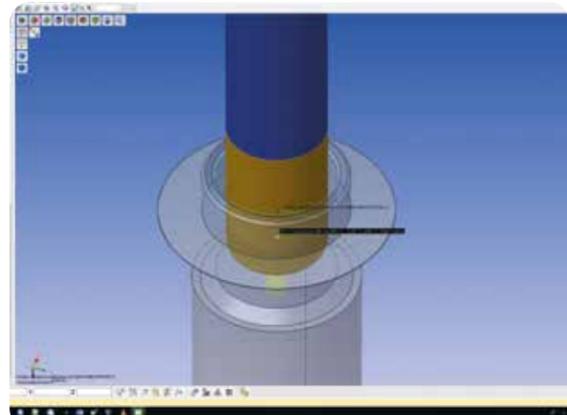
### **A special challenge**

The machining of implant-supported superstructures in metal and the resulting precession for all production steps poses a particular challenge to CAD/CAM systems. The DC3™ system was developed for this type of application and allows for a great deal of flexibility with a full range of materials. The DCS family of devices is known for its long-lasting performance and is valued by users around the world for its ability to produce bridge and telescope supplies



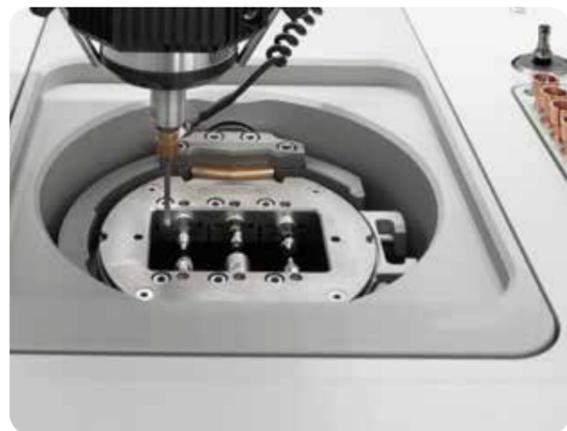
### **Motor spindles for the future**

A motor spindle may not be too small or too big in a system! Any weight that is accelerated must also be braked again. Anyone who wants to mill and even drill with high dynamics, precise and low-resonance requires a well thought-out system. For the DC3™ a special kind of motor spindle could be developed. An increased clamping force for all tools and the largest possible angle of attack for deep cavities were important points besides a design that was as light as possible.



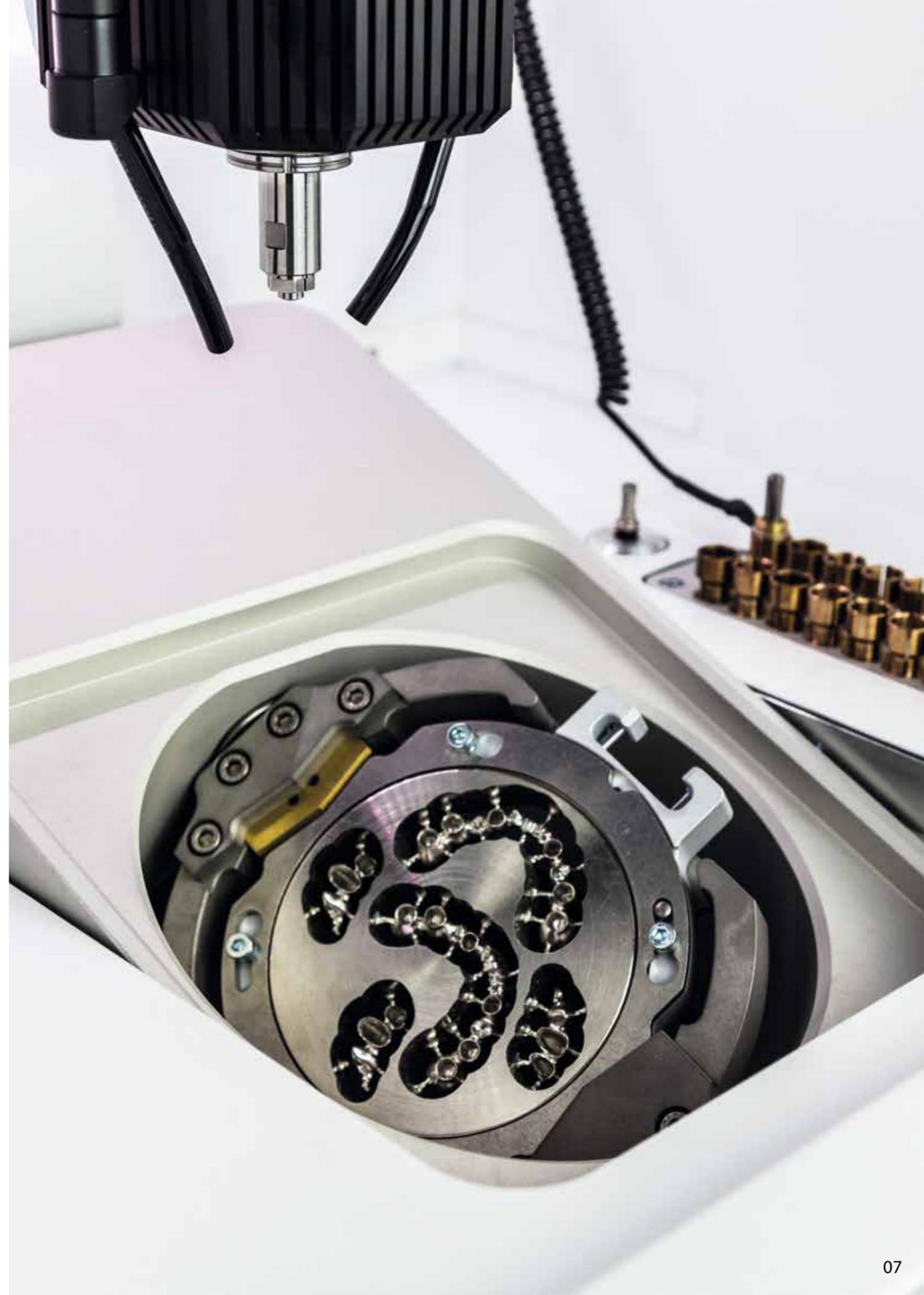
### **Training program for high demands**

In addition to the normal range of dental work, the system can produce high-quality and sophisticated restorations according to the latest requirements. The safe fabrication of implant-supported supra-constructions and abutments allows dental laboratories to fully amortize their DC3™. Despite the great complexity, DC3™ users quickly become experts in the Bredent Academy and can safely apply and expand the diversity of new requirements.



### **Precise Abutment manufacturing**

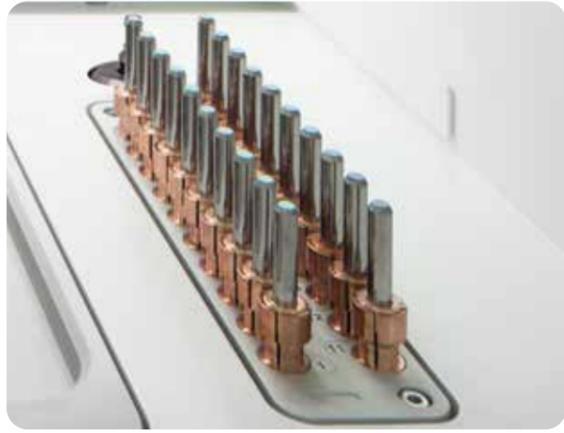
The production of abutments can be done by pre-milling in the DC3™. For the processing different holder systems are available. In addition to the ability to process blanks made of metal, the system is particularly suitable for processing aesthetic Bio HPP™ prefabs. In addition, all other commercial materials can be processed in the DC3™, wet or dry. For fully automatic measurement in blank automation, an additional module is available.





**System diversity!**

The milling systems of Dental Concept Systems provide dental laboratories all over the world a wide variety of options through intelligent composition. Devices can be controlled and organized together utilizing the control software. Used successfully by many, observant dental technologists all over the world have benefited from the use of these systems in their modern laboratories.



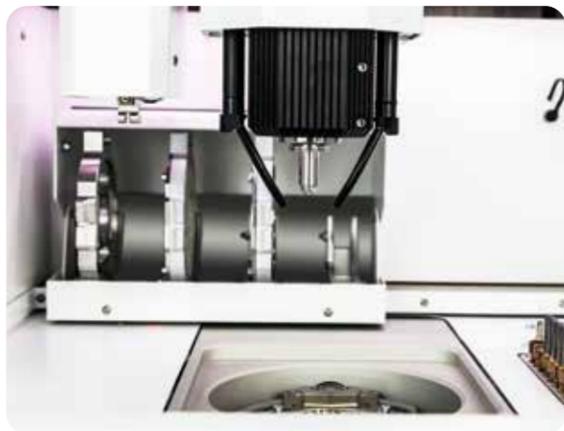
### Extensive tool management

Due to complex requirements in the manufacturing of abutments and implant-supported superstructures, more and more milling tools are needed. The DC3™ milling system has an intelligent tool change system. The interchangeable tool magazines can each accommodate 20 tools and are automatically recognized by the system. Pick-Up sleeves for holding the tools and stop rings are manufactured uniformly and therefore have the same high precision.



### Sophisticated machine control

The DC3™ milling system has a separate computer system with a large monitor for a comprehensive overview. The control software is tuned directly to the CAM software and thus enables full functionality. The Dental Concept Systems has a control concept, which was developed by in-house developers and thus always adapted to modern requirements. The device is a modular split CNC industrial hardware control.



### More precision through a clean workspace

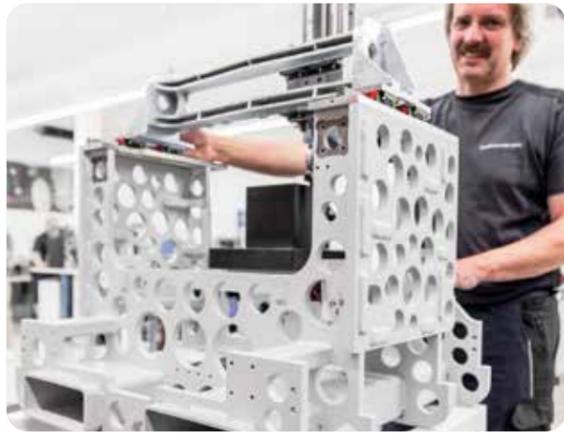
The DC3™ workspace contains all relevant components. Machining table with blank holder, spindle and tool magazine as well as workpiece changer with automation. The workpiece magazine moves into the rear wall of the machine during processing and protects finished restorations and blanks from unnecessary contamination. The shape of the interior allows complete cleaning in just a few minutes and provides the user with production without long and unnecessary interruptions.



### Dry and wet processing

The DC3™ can process a variety of materials. Dry processing has the advantage that the user can observe the milling process clearly and his view is not affected by a coolant. So it is an advantage that in the DC3™ system most materials can be dry-worked. During dry machining, the extraction technology can keep the area to be processed more accurately and prevents damage to the milling objects.





### Low-resonance machine frame

The DC3™ milling system also has a low resonance machine frame which is unique due to its special design. The DC3™ frame captures vibrations and enables a machine design that is in the precision of industrial machines despite its low overall weight. Frame and portal can be converted by an additional module for motor spindles of different design. The resulting flexibility for future adjustments to a future even more extensive production is a clear advantage.



### Large setting angle for deep cavities

Due to the large angle of the Z-axis, the DC3™ milling system is particularly good at producing bite splints and prostheses. Deep cavities and undercutting areas can be reliably milled. The workpiece changer allows a permanent use. With the help of blank measurement, the exact positioning can be determined. Due to the special construction of the chip tray, even in wet operation, large quantities of residual material can be intercepted and easily disposed of.



### Expandable components in the substructure

All components are integrated in the lower part of the floor unit. In addition to the suction system, the fluid and material drawer, cooling and abrasive system as well as the regulation of pneumatic and flow control are housed. The system has a controlled cooling system with tank, pump and fine filter and allows wet processing in the working space. If necessary, the fluid system can be extended to a further complete cooling circuit.



### Efficiency with system

All components integrated in the DC3™ system are used intelligently by the DC ConceptCONTROL control and are well thought out by the user. The DC3™ system is energy-efficient and quiet thanks to demand-based extraction. The device is connected to a 230 Volt socket and only needs to be protected by a commercially available fuse. The low power consumption and the always refillable fluid system permanently save high costs.



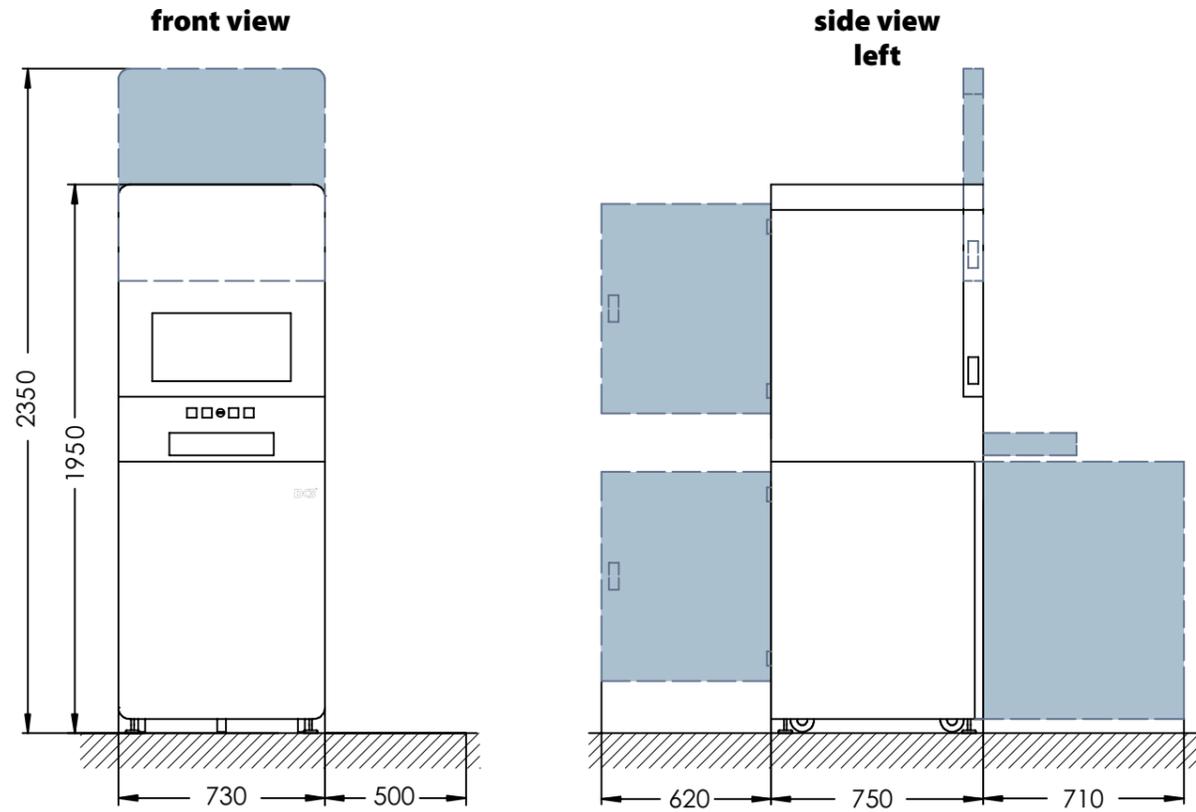
### German engineering quality

DCS systems are manufactured according to the rules of German engineering quality in solid construction. Durability is the primary objective. Therefore, we continuously support our customers to maintain the value of their systems by periodically offering updates to their systems. This is just one of the ways we provide stable a value.

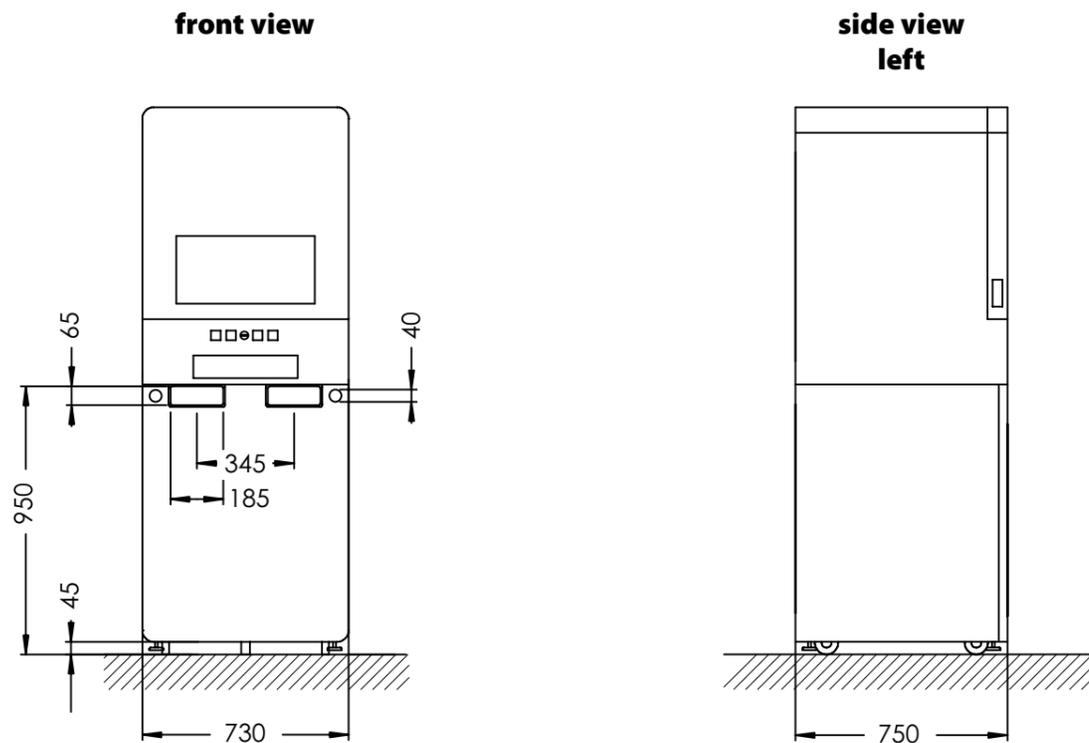
### In-house production

Dental Concept Systems products are designed and manufactured In-house, therefore, we always have a clear overview of all the technical aspects of our products. Service operations are carried out exclusively by staff who have full knowledge of production. We are the manufacturer and know our products completely.

## Installation plan DC3™



## Transport plan DC3™



Scale: 1:25  
Data in mm

**DENTAL**  
Concept Systems

## Technical data for the DC3™

Measurements in cm (W x H x D)	73 x 195 x 75
Packing dimensions in cm (W x H x D)	120 x 100 x 219
Weight in kg	630 (mit Absaugsystem)
Motor spindle	High-frequency spindle with high clamping force and tuning of power/torque for continuous load. Max. rotary speed: 60.000 rpm
Tool holder	Pneumatic collet chuck for milling bits with 6 mm shaft with clamping force boost
Angle of inclination in the rotary axes	360° tilt angle (B-axis) ± 30° milling angle (A- and B-axis)
Repeatability	± 0.01 mm
Blank changer	4-disc
Compressed air connection	min. 7 bar
Voltage/frequency	230 V / 50 Hz
Transport system	mounting rails, forklift, lift truck, crane

## Machine comparison



	DC1™	DC3™	DC5™	DC7™
Milling system for all materials for milling, grinding, drilling, cutting	✓	✓	✓	✓
5-axis milling system, simultaneous	✓	✓	✓	✓
Individual Abutment manufacturing	✓	✓	✓	✓
Precise grinding of ceramic materials	✓	✓	✓	✓
Automatic machine calibration system	✓	✓	✓	✓
Milling System as a desktop device	✓	○	○	○
Milling System as a floor-standing device	○	✓	✓	✓
1 coolant port for milling and grinding	✓	✓	○	○
2 coolant ports for milling and grinding	○	○	✓	✓
Integrated, fully automatic extraction system	○	✓	✓	✓
Integrated computer and touch screen	○	○	✓	✓
Exchangeable 11-tool magazine	○	○	✓	○
Exchangeable 20-tool magazine	○	✓	○	✓
18-tool magazine with automatic carousel	✓	○	○	○
Spindle with high clamping force	✓	✓	✓	○
Heavy duty industrial spindle with high clamping force	○	○	○	✓
Solid machine frame for low-resonance continuous production	○	○	○	✓
Manual blanc-measuring system in the 4-fold changer	○	✓	○	○
Automatic blanc-measuring system in the 7-fold changer	○	○	○	✓
Spindle shape enables large setting angle	○	✓	○	✓
Extension by additional hardware modules possible	○	✓	○	○



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