DATRON
Smart Manufacturing Solutions

DATRON D5

reddot design award
winner 2010

Designpreis
Deutschland
2011
NOMINEE

Made in Germany

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We Understand Dental

Because of Our Dental Technical Know-How

Besides being experts in machine construction, we are also experts in the dental field: An in-house team of dental technicians and dental engineers exclusively cares for the needs of our customers in the dental technology sector.

With many years of CAD/CAM expertise and dental technical know-how, we have designed our DATRON D5 to cater to the particular needs of dental laboratories and dental production centres.
We anticipate technological trends and implement their aspects into a validated CAD/CAM process at our own application technology. This way, our customers today can apply the technologies of the future!

We are at our customers's full disposal regarding the operation and implementation of new dental applications, offering expert guidance via our CAD/CAM hotline.

Decades of Expertise
in Building Milling Machines

Since the company was founded in 1969, we have been a leading innovator among SMEs and for over 25 years we have also been the leading technology experts for high-speed milling machines. All products are manufactured exclusively in Germany and represent highest quality "Made in Germany".

In order to continuously develop and enhance our machines and to provide customers with the latest machining technology, 25% of our staff work in R&D. DATRON is committed to numerous research projects concerning efficiency improvements and production technologies of the future, working in close cooperation with universities and selected technology partners.

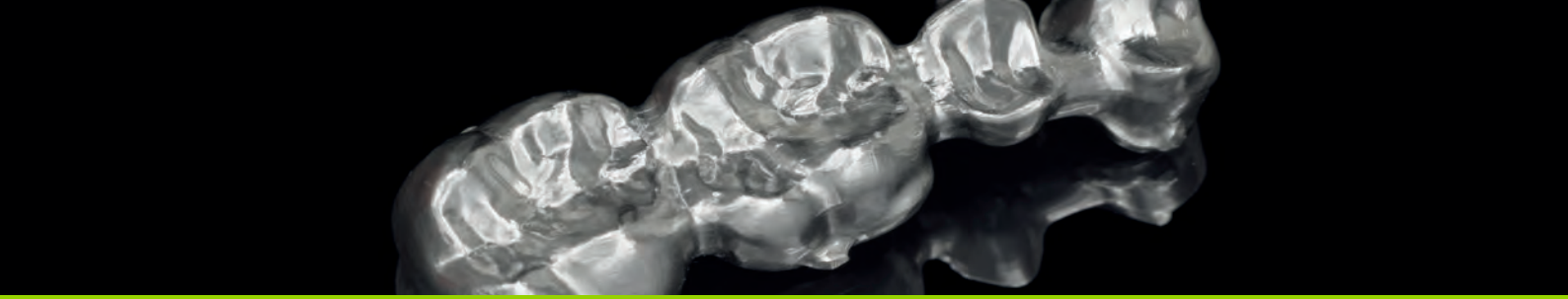
More than 3,000 DATRON machine systems are in operation worldwide, and our customers in the dental field benefit from this extensive and long-standing expertise. The D5 reflects this encompassing know-how, being a mature and proven system that can also fulfill future technical requirements.

Models

Directly Screwed-Retained Indications

Individual Abutments

Telescopic and Conical Crowns and Attachments



Crowns and Bridges

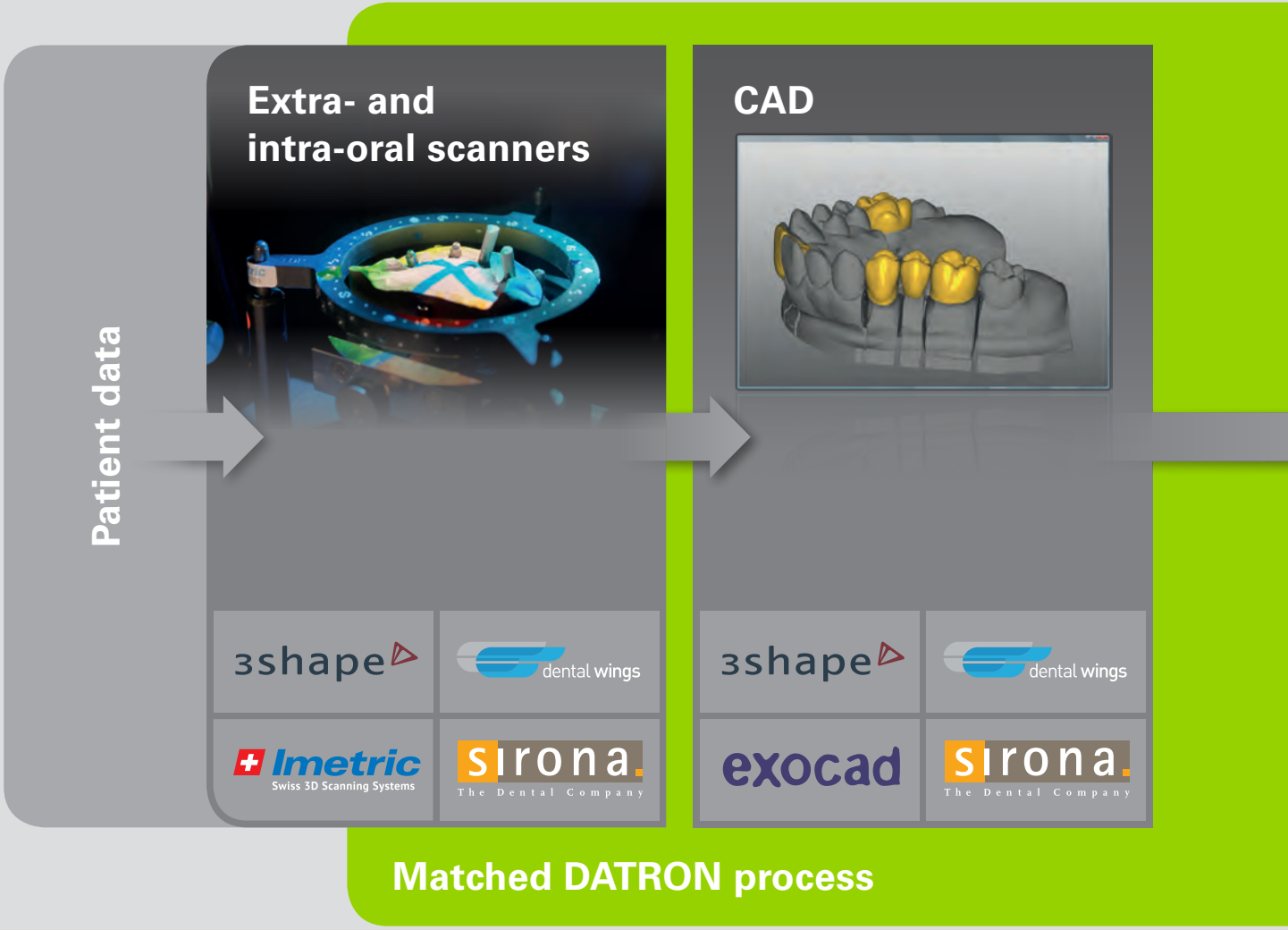
Inlays, Onlays, Veneers and Partial Crowns

Temporary Dentures

Occlusal Splints

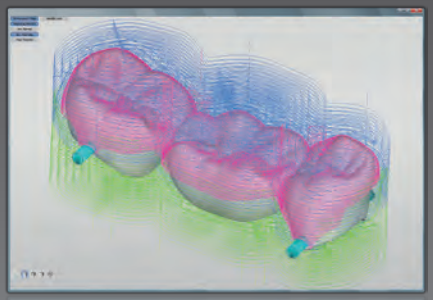
Fully in the hand of experts –
The Validated DATRON Workflow

In cooperation with technology partners leading in the industry, DATRON offers the entire CAD/CAM process from a single source. A full range of scanners, CAD and CAM software solutions meeting individual customer requirements are available and allow us to offer high flexibility and utmost process reliability at the same time! With the components, configurations and templates released by us you get higher safety in your lab because



everything is optimally matched. We are your central point of contact if you need further help along the way.

CAM



DATRON DentalCAM

DentMILL
Dental CADCAM Suite

hyperDENT

sum3d DENTAL

worknc
Dental

5-axis simultaneous machining

Dental materials and dental end mills

Postprocessing

Perfectly Coordinated
and Open to Innovations!

Scanner

3shape

dental wings

Imetric
Swiss 3D Scanning Systems

sirona
The Dental Company

Whether intra- or extra- oral scanners, with light strip technology or laser-cutting techniques:
Determining the best scanner for you depends on your individual requirements.
This is why we collaborate with renowned scanner manufacturers to always offer our customers the best solutions to their needs.

CAD

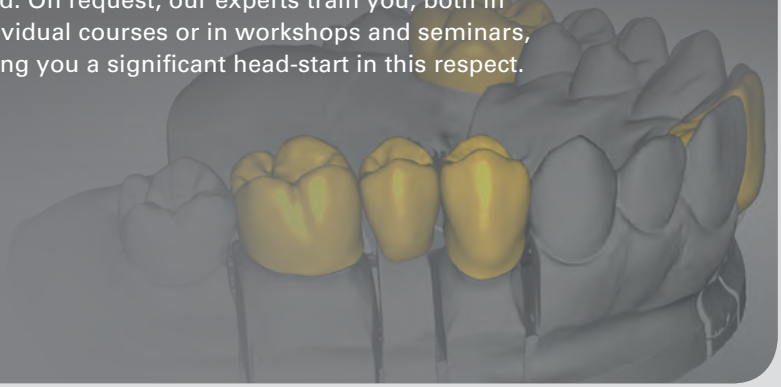
3shape

dental wings

exocad

sirona
The Dental Company

Whatever you require to mill:
First, it needs to be designed in 3D with a CAD software. Depending on the scanner in use and the customer's requirements, we provide a perfect solution for every need. On request, our experts train you, both in individual courses or in workshops and seminars, giving you a significant head-start in this respect.



CAM software is used to calculate the milling paths for the DATRON D5, to determine the milling tools needed and to nest the restorations within the virtual blank.
This information is then passed on to the machine, resulting in high-precision machining.
We offer an extensive assortment of software tools from renowned manufacturers, from the most cost-effective variant to the high-end software solution in the field of implant-supported indications.

CAM

DentMILL Dental CADCAM Suite

hyperDENT

sum DENTAL

worknc Dental

DATRON DentalCAM

The DATRON D5 is always the best choice for milling all common restorations made of most denture materials!
The milling tools and materials also have a major impact on the quality of the final products.
We assist you in selecting the right materials and with our DATRON dental milling machines provide you with highest precision at maximum durability.

5-axis simultaneous machining

DATRON D5 –
The Right Choice for Everybody

DATRON D5 Entry

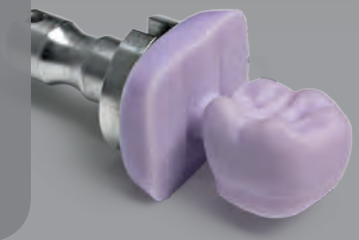
To machine soft materials, such as zirconium, composite, PMMA, polyurethane and wax.

D5 Metal

To machine NPM
...and soft materials.

D5 Universal

To grind glass ceramics
...and mill NPM and soft materials.



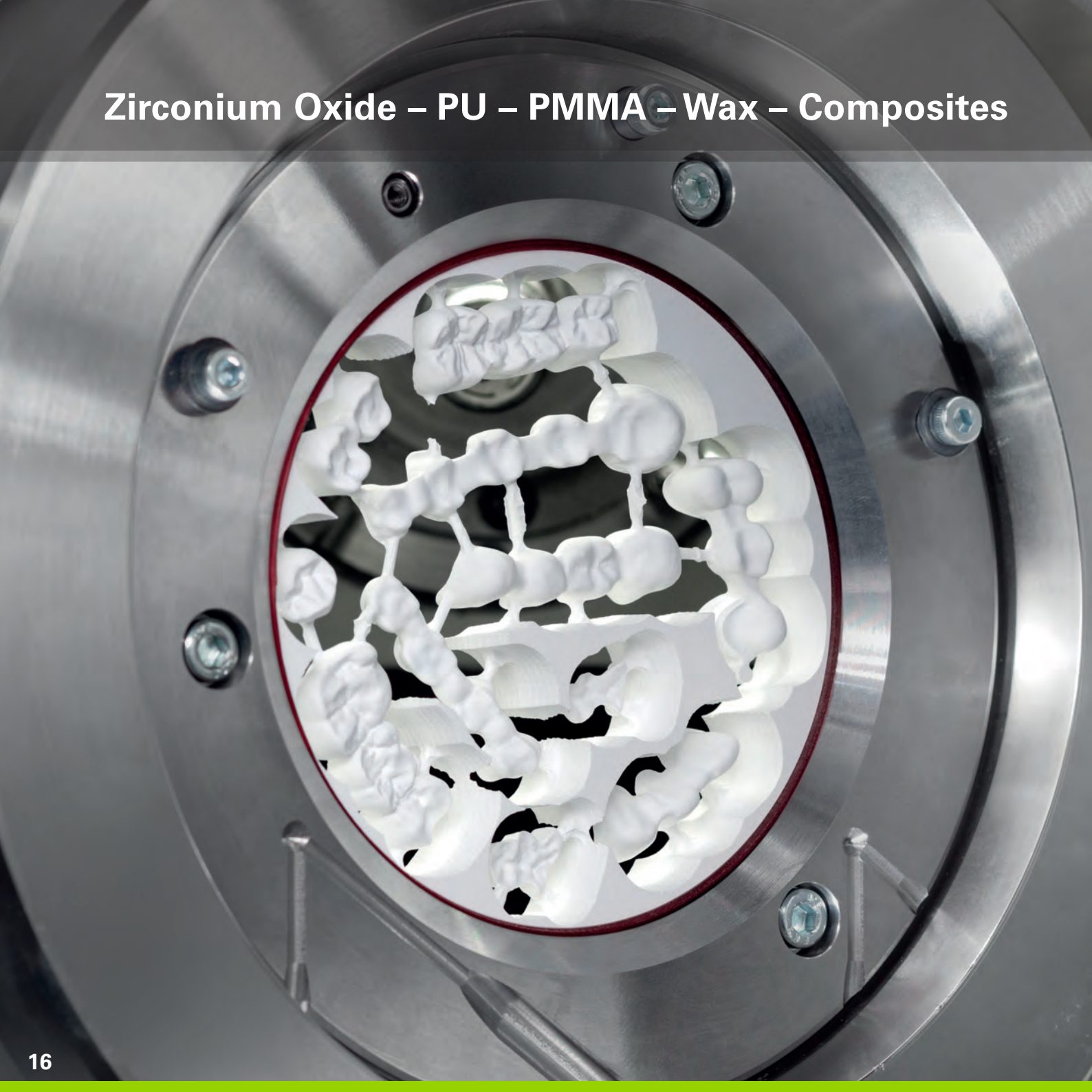
With linear Scales

DATRON D5 Linear Scales

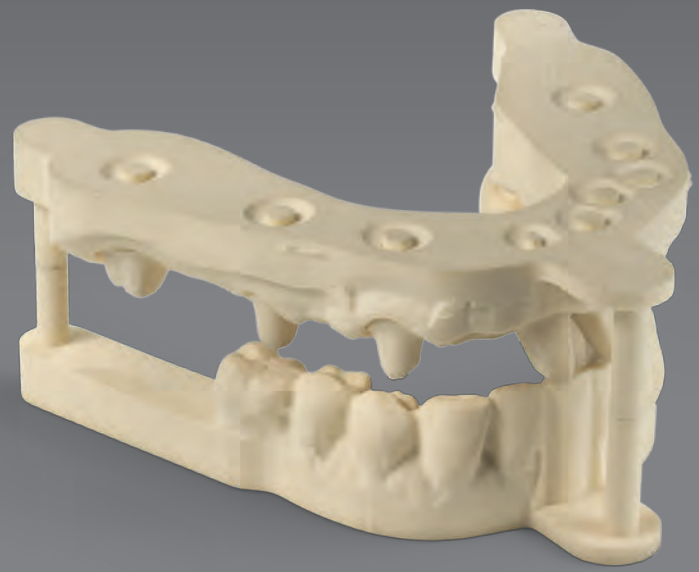
To machine implant-supported work in grade 5 titanium

Equipped with linear scales, the D5 Linear Scales offers maximum process reliability and meets the highest demands concerning precision, e.g. for large-span work.

Zirconium Oxide – PU – PMMA – Wax – Composites



DATRON D5 Entry –
For Soft Materials



Soft materials such as zirconium oxide, PMMA or PU can be machined with most dental milling machines.

If you also want to manufacture complex geometries accurately, the DATRON D5 is the one and only solution! Undercuts and complex shapes, such as a full jaw model, require 5-axis simultaneous milling combined with high degrees of freedom in the 4th and 5th axis.

The D5 Entry is an affordable solution for those who specifically machine soft materials without the need for further capabilities. You pay only for the machine you need. Do you also intend to machine metals in the future?

No problem! The D5 Entry can be easily expanded and evolves with your needs and your success. This way, you have a future-proof system right from the start.

Cobalt-Chrome – Titanium

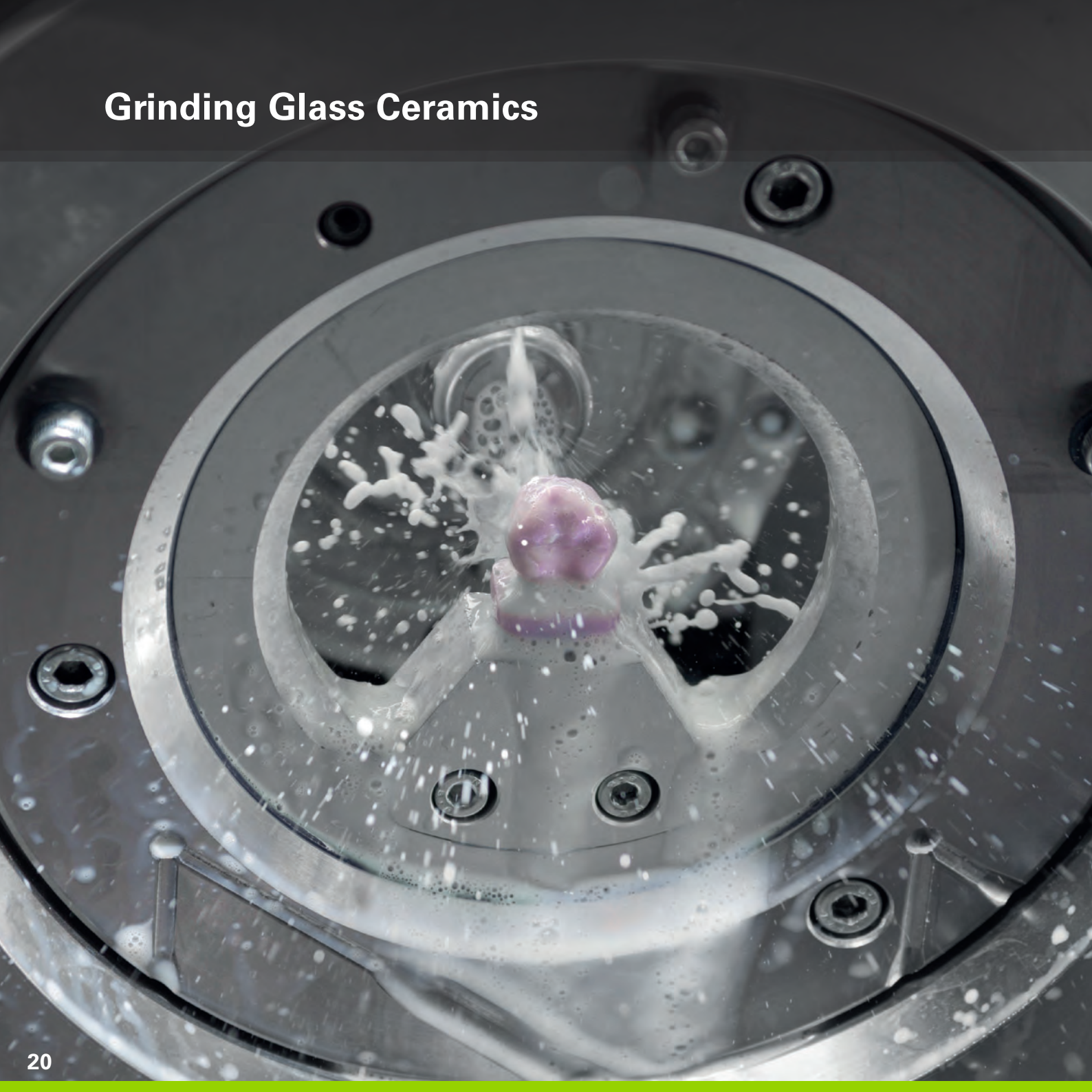
DATRON D5 Metal –
For Hard Metals

To machine metals cost-effectively and accurately, a rigid, low-vibration machine design is essential, as well as a high-precision tool holder, as the HSK clamping system used by DATRON.

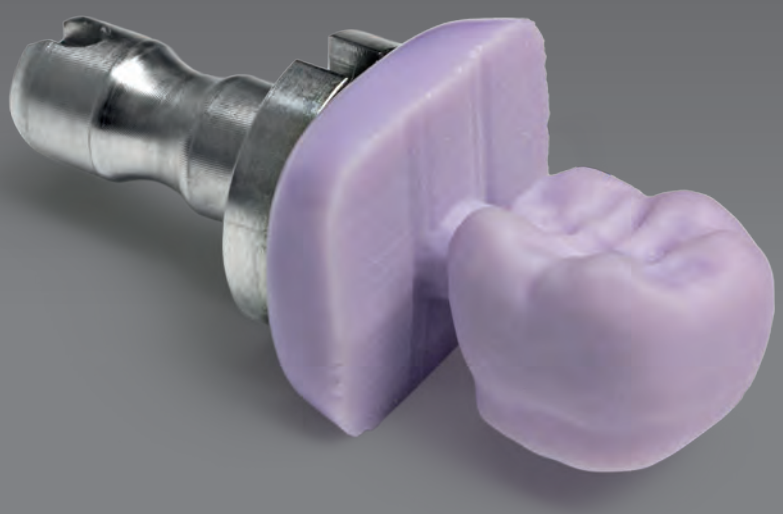
Equipped with a minimum quantity cooling lubrication system and a 13-station tool changer, your D5 Metal will enable you to machine the largest possible range of indications made of cobalt-chrome and titanium.

Integrated automation (up to 8x) enables unmanned overnight or weekend operation[2], providing you and your customers with a significant cost advantage.

Grinding Glass Ceramics



DATRON D5 Universal –
The All-Rounder With the Perfect Finish



The D5 Universal offers best quality machining of all current materials due to its comprehensive range of functionalities.

Equipped with a wet-cutting option, the D5 Universal can also machine glass ceramics, to many the material of the future.

The D5 Universal is the only machine capable of handling the widest possible range of materials and indications.

High Accuracy Guaranteed

DATRON D5 Linear Scales –
More than Accurate

The D5 Linear Scales is equipped with high-precision linear scales and was especially designed for applications with highest demands on accuracy.

Due to its increased thermal stability it provides consistent and highest quality machining, even in case of temperature fluctuations.

For this reason, this machine system is perfect for all directly screwed-retained indications such as bars, individual abutments or Toronto bridges.

Full Control with Just One “Touch”

The DATRON D5 was the first industrial machine worldwide to be controlled via an Apple iPad Tablet. This was, simple and intuitive operation is possible and to our experience can be learned in just two days without any prior knowledge. No matter whether you wish to load or activate new milling jobs, manage material blanks or define different types of tools, all is managed using simple touch functions.

The iPad is removable, and allows you to monitor all major machine functions and manage jobs also remotely. Using the “Live View” function, the operation inside the machine is transmitted to the iPad. No need to look in the machine to see what is being milled, but rather do so i.e. from your office.

The D5 control software includes, among other features, the following functionalities:

- Sister tool management
- End mill, blank and job management
- Machining path supervision
- Machine status display
- SMS status notification (optional)

and much more.

Technology – Aesthetics Meets Power!

Massive Double-Side Mounted Rotary Swivel Axis

In order to be able to machine complex shapes accurately in dental technology, 5-axis simultaneous machining capabilities are a prerequisite. The DATRON D5 provides extremely high rigidity and consequently very high precision, achieved by the rotation centre point of the axis situated at the centre of the material blank.

The DATRON D5 was developed specifically for the field of dental technology. The entire machine geometry, its rigidity, and all traverse paths are designed precisely to machine dental material blanks. When machining, the blank is at the centre of the machine, ensuring an optimal power flow. Powerful servo motors and torque motors ensure high machining dynamics and speed. The linear scales of the D5 Linear Scales provide maximum process reliability and precision.

High-Precision Machining Spindle

With speeds up to 50,000 rpm and a concentricity better than 2 µm, the machining process results in a very high-quality surface finish. Due to the high cutting speed, only low cutting forces are required, allowing accurate machining of very thin-walled indications and thin, delicate crown edges

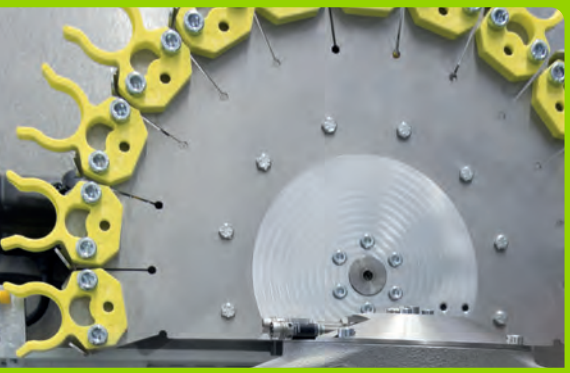
Precision Ball Screws and Guides

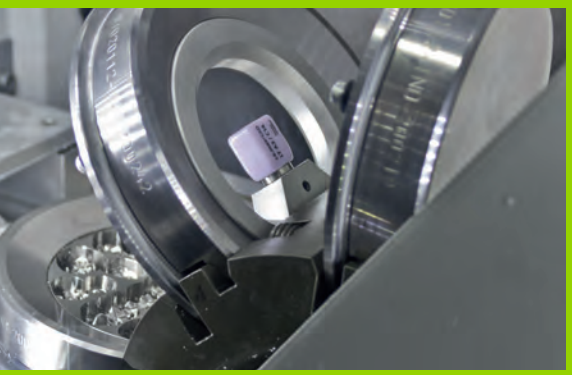
Highest quality components from renowned manufacturers offer high accuracy and are the prerequisite for high machine availability and low maintenance costs.

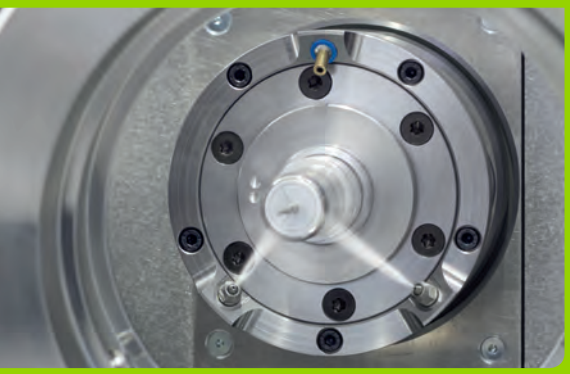
Rigid and Low-Vibration Construction

A cast steel machine bed, cast aluminium structural parts, brushless servo and torque motors, optimised leverage ratios and traverse paths provide a rigid, vibration-free construction and high dynamics. This allows for high machining forces and accelerations necessary for the cost-effective machining of metals.

Productive Right From the Start –
Using Intelligent Accessories







1 Integrated Tool Changer

The integrated automatic tool changer (6 and 15 stations depending on the configuration) with tool length measurement, tool breakage monitoring and sister tool management ensures high process reliability.

2 Automation

Integrated automation (optional) ensures high production capacity and enables unmanned overnight and weekend operation[2]. You can start with the 2-fold version and expand it at any time to an 8-fold automation.

3 Minimum Quantity Cooling Lubrication System (MMKS)

The MMKS system used for metal machining ensures optimum milling result, long tool durability and minimum consumption of only 10 ml/hour approximately. The filling capacity is monitored on the Apple iPad, refilling is quick and easy. In contrast to flood cooling, neither a water circuit nor special filters are necessary; the cooling lubricant is removed by the chips, and collected in a chip drawer.

HSK Tool Clamping System

The HSK clamping system offers highest concentricity of the end mill tip and maintains full clamping force even at high speeds. This leads to high accuracy and high durability. By means of the HSK clamping system, 6mm-shank tools can also be used, resulting in much higher durability with better milling results at the same time.


1
3
2
DATRON

Worldwide references –
The World Mills with DATRON

Dental laboratories and milling centres in 20 countries rely to date on the high quality and precision of DATRON's dental CAD/CAM systems:

North America

WhiteCap Institute – Center For Dental Implant Training
www.whitecapinstitute.com

IMILLING
www.imilling.com

Europe

Germany

SCHOLLMEIER DENTAL
www.dentallabor-schollmeier.de

DT&SHOP
www.dt-cadcam.com

GLIDEWELL EUROPE
www.glidewelldental.com

Dental Labor Kock
www.kock.net

ZAHNWERK Frästechnik GmbH
www.zahnwerk.eu

France

ARTDENTECK
www.prothesiste-artdenteck.com

The Netherlands

blijdent
www.blijdent.nl

Austria

SPEYL MILLING TECHNOLOGIES
www.s-m-t.at

Poland

DentalTechnics laboratorium
www.dentaltechnics.pl

Sweden

EXPODENT
www.expodent.se

Teknodont
www.teknodont.se

Switzerland

Seiler-Scheidegger DENTAL TEAM
www.seiler-scheidegger.ch

Czech Republic

microdent
www.microdent.cz

Asia

China

少蝶齿科 WWW.SHADIE.CN	Beijing 龙根 MasterDental 牙科	齿研科技
www.shadie.cn	www.masterdental-bj.com	www.trueshinelab.com

Korea

(주)한진덴탈 www.hanjindental.com	WE Dental Provider DENTAL	(주) 프 리 덴 Free Dental
hanjin-dental.com	www.wedental.com	dental-agencies.datron.com

Saudi Arabia

Smile Design Dental Pro-lab
dental-agencies.datron.com

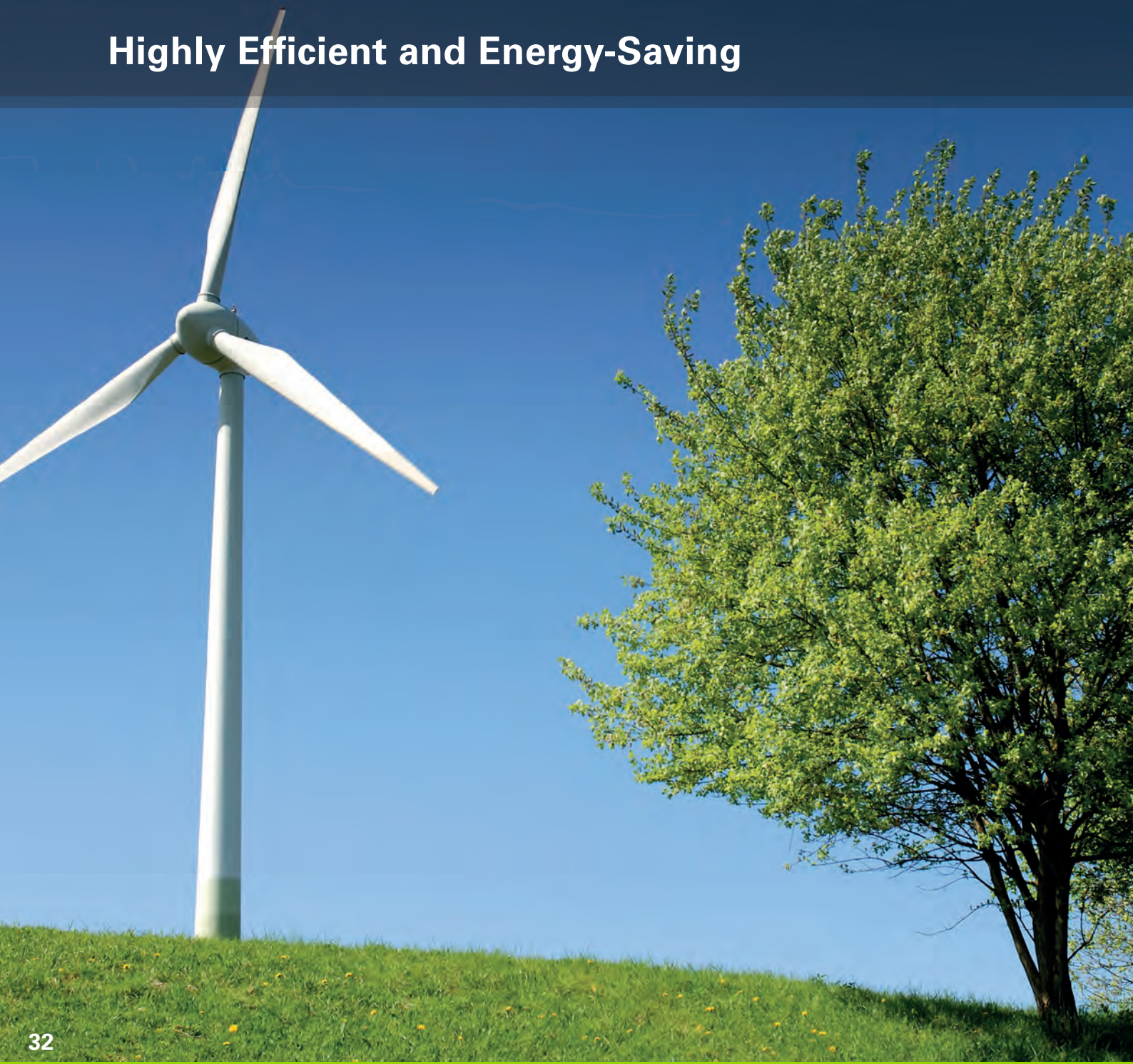
Russia

OPTOC
www.ortos.biz

UAE

DR.MUNIR SILWADI DENTAL CENTER
dental-agencies.datron.com

Highly Efficient and Energy-Saving



Low energy consumption and a careful use of resources are taking an increasingly important role, also in view of rising energy prices.

Through their innovative design and their very economical drive technology, DATRON's milling machines use significantly less energy than comparable products.

If DATRON machines are not used over a certain period of time, they automatically switch off their power, thus reducing their already low power consumption still further.

The minimum quantity cooling lubrication technology used in metal machining is an extremely reliable and cost-effective solution. Without any hazardous waste, it is also extremely environmentally friendly compared to flood cooling.

The electricity consumption of our machines is on average less than 550 watts.

DATRON Dental End Mills – Meeting the Highest Demands

Improve Quality and Reduce Costs –
DATRON Tool Technology

DATRON has been developing milling tools of the highest quality "Made in Germany" for over 20 years. Because high-quality products can only be manufactured with high-quality tools.

Through the use of premium carbides in ultra-fine grain quality and state-of-the-art coatings, our customers can be sure of getting extraordinary high durability. And this while keeping a very good price-performance ratio. For this reason, more than 10,000 tool customers worldwide rely on DATRON quality!

Even if you do not yet own a DATRON milling machine, you can still benefit from our tool technology. We also offer milling tools for all major CAD/CAM systems such as 3M Espe, DMG, imes-icore, Roland, Röders, Wissner, Wieland and many more.

Or do you need a special tool?
We custom-make special and individual tools starting from batch size 1 in a very short time.

Made in Germany

DATRON Service – The Team for Your Success

Just In Case Something Does Not Work According to Plan: Fast Help From DATRON Service

The most advanced diagnostic tools, a competent and experienced staff, fast response times worldwide and a comprehensive spare parts inventory guarantee the fastest possible troubleshooting in the event of a failure.

Individually tailored maintenance contracts significantly minimise downtimes and guarantee high machine availability. This way, you can achieve your production targets timely and reliably!

With the purchase of a DATRON D5 you purchase more than just a machine: you get a team of experts to support you comprehensively!

Our Service Hotline:
+49 (0)6151-1419-153

Custom Application Advice

Just for you:
Our Dental Experts and Our Know-How

In close cooperation with universities and technology partners in the field of dental manufacturing technology, our team of dental technicians, software, machine and application experts continually enhances the digital process chain. We invest in this know-how so as to make our customers even more successful.

Are you already an expert in dealing with the CAD/CAM process of the D5, and do you wish to optimise your entire current manufacturing process? Or do you intend to integrate new techniques in order to be already today fit for the future?
Our dental experts will be happy to visit you and advise you on how to optimise your individual processes or how to expand your product portfolio.

We share our knowledge required to use our dental systems efficiently and economically. Additionally, we also offer product training for scanners, CAD and CAM software.


79 cm
119 cm
191 cm
DATRON

DATRON D5 –
Facts and Figures

The D5 was developed specifically for the needs of dental laboratories. As small as possible - as heavy as necessary: With a width of only 79 cm, the D5 fits through any standard doorway. Its weight of only 880 kg usually requires no building alterations concerning the floor load capacity. For this reason, the D5 can be installed in virtually every dental laboratory*.

Technical Specifications

The machine includes, among other features:

- Apple iPad for complete machine control
- Rotary swivel axis for 5-axis simultaneous machining
- Cooling device for spindle and drive
- 6, 13 or 15 station tool changer with tool length sensor and tool breakage detection
- Chip container and connection nozzle for suction
- Integrated automation with 8x blank changer (optional)
- Minimum Quantity Cooling Lubrication System for metal machining (optional)
- Flood cooling for glass ceramics grinding (optional)

Dimensions (W x H x D)	79 cm x 191 cm x 119 cm
Weight	Approx. 900 kg
Precision spindle	1.8 kW, 50,000 rpm, HSK-E 25 tool insert
Tool changer	Up to 15 tools with tool length sensor and tool breakage recognition
Automation	Up to 8 blanks
Angle ranges Rotary swivel axis	A: up to ± 25°; B: up to ± 45° (both sides)
Workpieces	Standard dental blanks with shoulder; ø 98,5 mm
Pneumatic connection	7 bar
Supply voltage	3 x 400 VAC/16 A
Power rating	4,000 VA (max. fuses 3 x 16A)
Air consumption	200 l, dry

*Please refer to the instructions in the Installation Guide

Notes

DATRON D5_101014_EN_V20

www.dental.datron.com

[1] with “wet processing” option

[2] Concerning this topic, please take into account our “Safety requirements when operating the machine”. They can be requested from DATRON or viewed online at www.safety.datron.de.

The information in this brochure includes current descriptions and/or performance features that may change due to the ongoing development of our products. Descriptions and performance features are only binding if expressly agreed on in writing upon conclusion of the contract.

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