NEW!



10 0 0 0 0 DATRON DATRON **M8**Cube

milling, drilling and engraving faster – more dynamic – more cost-effective



DATRON **M8**Cube

Highly dynamic machining of aluminium and other high-tech materials

The DATRON M8Cube is the best choice for efficient machining of housings, profiles and panels made of aluminium.

But other nonferrous metals or composite materials can also be machined most efficiently with the M8Cube. Short setup times, very low power consumption and excellent value for money allow high cost-effectiveness, even at low volumes.

Your benefits at a glance:

- You save space!
 Very large machining surface with a small footprint.
- You save money! The M8Cube is accessible to buy and has extremely low operating costs.
- You get new opportunities in milling, drilling and engraving! The M8Cube has been developed for machining high-tech materials with small tools (Ø 0.1 mm to 20 mm).

Innovative "Made in Germany" milling technology for your success.



M8Cube Highlights

You have special tasks to perform – we have the solution for you

- High dynamism through optimised control and mechanical structure designed for speed and stiffness
- Very high clamping performances with the smallest tools by means of high-speed precision spindles with up to 60,000 rpm and 0.6 kW to 3.0 kW output
- Stiff, vibration-free design of the machine allows excellent surface finishes when machining
- High precision due to high-quality linear guides, ball screw spindles, HSK-E 25 tool inserts (optional) and precision-crafted structural elements







1 Operating terminal with portrait monitor (optional)

- A Chip-proof IP68 fatigue-proof short-travel keyboard and integrated touch pad.
- B Easily accessible controls with extra quick-start keys for "open door," "spindle on/off" and "run macro", as well as USB 2.0 port.
- C Chip-proof monitor with highresolution portrait display for optimal viewing.
- D Ergonomic hand-held control unit
- E Signal lamps integrated into the portal and the side of the oper ating terminal to display machine status (optional).

2 Mechanical system optimised for dynamism

The M8Cube owes its high dynamism and quality to its completely new mechanical structure characterized by an optimum stiffness to weight ratio. The mechanics for highly dynamic cutting could be further optimised by means of intensive FEM calculations.

A massively reinforced polymer concrete table allows optimum vibration damping, leading to perfect milling results.

3 Improved door concept

The innovative door concept is the result of further development and optimisation of the previous DATRON M8 door. Much improved ergonomics allow working with comfort.

Spacious chip carriage

The spacious chip carriage is optimally designed for mass production.

It can be easily moved with little effort -even when full- due to its low-resistance wheels.

DATRON M8Cube



Energy-saving:

Very low power consumption at high cutting rates due to the use of energy-efficient aggregates.



Money-saving:

Accessible to purchase and to run.



Space-saving:

Great operating range with an exceptionally small footprint.











Traverse paths





Status display by means of signal LEDs integrated into the operating terminal and the portal to display machine status (optional).

Precision spindle with a concentricity better than 2 µm and HSK-E 25 tool insert (optional).



XYZ measuring system integrates measuring functions and foolproof material tolerance compensation (optional).

Resource-saving:



High cutting performance with small tools. Highly dy-



swivel table for precise multisided machining of small parts (optional).



Precision ball screw spindles and linear guides from leading vendors. Brushless direct drives in all axes.

Technical Data	DATRON M8Cube
Machine table	Solid polymer concrete table with steel frame, extremely stiff portal structure with double-sided Y drive with concealed guides
Traverse path (X x Y x Z)	1,020 mm x 830 mm x 245 mm; with 720 mm tool changer in Y
Portal passage	200 mm
Dimensions without operating terminal (W x D x H)	1,740 mm x 1,740 mm x 1,950 mm
Taper chuck integrated into the table	\checkmark
Fast digital servo control with Microsoft® Windows® control computer	\checkmark
Comfortable hand-held control unit	\checkmark
Drive system: Brushless servo motors with absolute encoders, ball screw spindle for each axis	\checkmark
Minimal quantity lubrication	\checkmark
Machining spindle	Precision high-frequency spindles from 0.6 kW to 3.0 kW with up to 60,000 rpm
Tool changer with integrated length sensor	Precision high-frequency spindles from 0.6 kW to 3.0 kW with up to 60,000 rp5- fold tool insert with HSK-E 25 (optional 10- fold), 15-fold tool insert with direct shank (optional 30-fold)
Feeds	Up to 22 m/min
Positioning feeds	Up to 22 m/min
Weight	Approx. 1300 kg
Article Number	0A03200A/B



namic HSC control. 5-axis milling with rotary/



The Technology for Your Success!



HF spindles

High frequency spindles with speeds up to 60,000 rpm and high concentricity guarantee high cutting performance and perfect machining results when using small tools.



Cooling/lubricating system

Ecologically and economically optimised processes with minimum quantity cooling lubrication and correspondingly increased durability.



Suction - CleanCut

Nearly chip-free work by means of highly-effective chip suction. No more time-consuming machine cleaning (optional).



CNC milling tools

Due to years of experience and intensive communication with our customers, we develop tools especially designed for highspeed machining.



Clamping technology

Whether pneumatic or vacuum clamping technology: DATRON systems feature high flexibility, high comfort of use and short changeover times.



Measuring technology

The XYZ sensor guarantees short setup times, increased precision and cost-effectiveness by automatically measuring reference edges and height profile.



CAM software

All DATRON machines have DIN/ ISO standard-complying interfaces compatible with all common 3D-CAD/CAM programmes such as Mastercam, SolidCAM or Pro/E.





DATRON Machine software

"DATRON CNCv9" machine software offers convenient functions for setup, fast CNC programming and import of Grover 3D CNC files.

Fields of Application of the M8Cube

The high-speed milling technology of the DATRON M8Cube provides outstanding results in the following industries and applications:

Electronics

- Front panels and housing
- Membrane keyboards
- Test adapter drilling
- 3D rapid prototyping
- Drilling and milling of test devices
- Milling of solder frames
- PCB milling

Aerospace

- Machining of aluminium plates
- Machining of aluminium profile
- Precision drilling

Mould and model construction

- 3D aluminium moulds
- 3D rapid prototyping
- Graphite electrodes
- Small steel moulds

Printing

- Engraving of 3D stamps
- Construction of stamping dies
- Hot stamping dies
- Stamping tools

Automotive supply

- Machining of aluminium profiles
- Small steel moulds
- Precision CNC machining











DATRON Module Clamping Technology

The end of tedious and long screwing and setup times!

Cost-effective production by clamping within seconds:

Setup times can be often reduced significantly with DATRON's modular clamping technology. The module plates are clamped directly onto the machine table using conical centring sleeves. This applies to all machines with integrated cone clamping systems and allows very fast changing of clamping modules. Clamping position reproducibility is only a few hundredths of a millimetre. DATRON offers a variety of ready-made module clamping solutions: module clamping plates with vacuum, T-slots with short-stroke clamping elements, clamping chucks or vices. We will also be happy to design the custom clamping solutions you may need. Benefit from our experience of hundreds of machines installed.





Module Clamping Technology

Module clamping plates



T-slot module clamping plates e.g. for short-stroke clamps



Vacuum module clamping plates



DATRON/Schunk Compact centric clamps and



Rotary axis with tailstock



Description

Clamping elements such as vices can be fastened onto the module clamping plates. The modules are fastened to the machine table by screwing. Recurrent clamping stations can be installed on these base plates and set up when required.

T-slot module clamping plates offer room for application-specific clamping solutions or the combination of short-stroke clamping elements and fixed clamping jaws. The modules are mounted onto the machine table either by screwing or by vacuum suction.

DATRON's vacuum clamping technology is particularly suitable for clamping flat workpieces and sheet materials. It allows clamping several similar or different workpieces at the same time. DATRON's VacuCard[™] special cardboard is used to distribute vacuum under the workpiece and as sacrificial layer. Vacuum module clamping plates are available in different sizes.

Encapsulated DATRON compact centric clamps are 100% protected against soiling. Due to their especially developed slider geometry with a guide length of 150 mm, they are the first fully encapsulated compact centric clamps. Malfunctions due to soiling and jammed chips are something of the past.

The rotary axis is particularly suitable for multisided machining of long workpieces, for circular engravings or for drilling in radial direction. Clamping is done using DATRON's module clamping technique, allowing a variable clamping length. The rotary axis is impact-free and provides high precision and torsional stiffness.

DATRON Vacuum Clamping Technology

It can't be clamped? - Not any more!

Even the smallest pieces can be clamped using the high clamping forces of DATRON's sandwich vacuum plates. The patented VacuCard++ special cardboard is the perfect sacrificial layer. Extremely simple and easy to use. Just set up the pieces and... you are done! All DATRON machines can be equipped with DATRON's vacuum clamping technology. It allows very high clamping forces due to its especially developed sandwich construction, even in case of shapes and thinnest plate materials difficult to clamp otherwise. Module vacuum clamping plates, available in different sizes, are divided into segments which can be operated separately from each other with a vacuum distributor. Several different workpieces can also be clamped simultaneously.

Time-efficient optimum utilization machining, which allows manufacturing several individual pieces from a single plate, is also possible thanks to the vacuum clamping technology. Highest machine utilization can also be achieved this way.

DATRON's VacuCard special cardboard is used to distribute the vacuum below the workpiece and as a sacrificial layer, allowing complete milling around workpieces and separating them.

The new "VacuCard++" even allows machining small and delicate workpieces due to its self-adhesive surface.

Advantages:

- Very short setup times
- Allows time-efficient optimum utilization machining
- Deformation-free and vibration-free clamping of thin plates
- Allows complete milling around workpieces and separating them

Application:

- Clamping of sheet materials
- Clamping of flat housings
- Clamping of materials and shapes difficult to clamp otherwise

Vacuum module clamping plate MS-VP-B

DATRON Short-Stroke Clamping Elements

One-handed fast setup!

Brilliantly simple to use with the light touch of a button, yet they boast clamping forces of up to 750 N. DATRON's short-stroke clamping elements can be used wherever high flexibility, ease of use and short setup times are required.

The clamping elements are designed for operation on a T-slot plate, but can also be used in a stationary manner.

Short-Stroke Clamping Elements Overview

KSE-AS

Short-stroke clamping element for automatic clamping operation

Advantages:

- Automatic opening and closing
- Fast changeover
- Adjustable clamping pressure
- Compact design

Application:

- Flexible clamping of different workpieces
- Mass production

KSE-PH

Pneumatic-hydraulic short-stroke clamping elements

Advantages:

- One-handed operation
- Fast changeover
- Adjustable clamping pressure
- Compact design

Application:

- Flexible clamping of different workpieces
- Batch production





DATRON XYZ Sensor

More than just an integrated "measuring machine": the XYZ sensor measures and compensates in "real time".

Awesome in every dimension: the XYZ sensor

The XYZ sensor is a three-dimensional touch sensor. With its help you can considerably reduce setup times of your milling machine. You increase accuracy and reliability when referencing your workpiece. By using the XYZ sensor, your production attains higher cost-effectiveness. Time-consuming setups are something of the past. The special feature is automatic compensation, even height tolerances of materials, for example for perfect bevels even of large components, precision depth-machining, and much more. It is amazing how easy machining of some components can get

How it works:

with measuring sensor.

Just swing it into the machining area to increase production quality within seconds or to check dimensional accuracy: The XYZ sensor allows you to consistently optimise your production.

Material surfaces

The surface of the material is measured by grid scanning. The altitude profile created this way is corrected immediately by the CNC programme or the engraving programme. Navigate away from any uncertainties quickly, easily and comfortably.



2 - Corners and edges

The edge of the material or the height of the workpiece can be calculated precisely with just one measurement. Three measurements allow determining both the height of the material and the exact position of a rectangular edge of a workpiece.

Advantage:

The determination of reference points on workpieces is achieved much more accurately with the XYZ sensor and within a fraction of the time of conventional methods.

3 - Centres of workpieces

The centres of circular or rectangular islands or cut-outs can be determined automatically.

Advantage:

The centre of the workpiece can be precisely determined within just a few seconds, without needing long setup times. For example, by measuring two holes drilled for reference, a nonangular clamping can be compensated by rotating the coordinate system.



DATRON CleanCut

Save time and work cleanly: the CleanCut suction system is highly effective.

DATRON's CleanCut system (available as an option for M8Cube as of 2013) provides highly effective chip suction. By means of this suction technology especially developed for plate-machining, almost chip-free working is achieved. Time-consuming machine cleaning is no longer necessary.

Perfect for sensitive surfaces: chips are vacuumed off without any contact. Automatic extension and retraction of the suction head represent a further saving of time.

Properties:

- Programme-controlled swinging in and out
- Precise adjustment of surface distance
- Contact-free suction
- Compatible with tool-changing station and XYZ sensor
- Automatic swinging in and out with parking function activated
- Available for spindles with direct-shank and HSK-E 25 inserts
- Possibility of minimum quantity lubrication

DATRON CNC Milling Tools

Profitable milling, drilling, and engraving

DATRON offers innovative HSC milling and engraving tools for even greater success in your production.







"Made in Germany" quality:

- Developmen
- Testing
- Production

Precision

- Drilling from 0.1 mm
- Milling from 0.2 mm
- Thread milling from M1

Cost-effectiveness:

- Maximum cutting performance
- Maximum durability
- Maximum process safety

Milling Tools for **Aluminium / Nonferrous Metals**



Milling Tools for **Plastics/Composites**

High Performance

High cutting performance, quiet operation and smooth surfaces: milling tools such as the patented single flute end mill with counterbalanced cut, DATRON'S two flute end mills for smoothing and planing or our threading tools, support you in profitable machining of light metals.



Wear-resistant

Due to optimal chip removal, extremely fast feed rates without melding and burr-forming are also possible with plastics

Long durability of micro-toothed tools and innovative CVD diamond tools, even with highly abrasive materials.

The generation of one flute end mills with polish grinding for machining plastics, allows highest-quality surface-finishing.







DATRON Customer Service

From installation to many years of product support: You can count on us!

DATRON guarantees maximum effectiveness in the operation of the machines, even many years after purchase – worldwide! By means of practical instruction and training, you will benefit from the full potential of our machines, right from the start.

The latest diagnostic tools and the in-depth expertise of our staff ensure smooth running of your production.

Our proven spare parts service and our customer- optimised maintenance programme minimize downtimes significantly. When you purchase a DATRON system, you receive much more than just a machine with controls: you get a team of experts that fully supports you!

For more information about our Customer Service, please visit:

www.service.datron.de

Decentralised

We are represented wherever we are needed. The local service team of our representatives abroad is at your disposal. Closeness saves time and money: for this reason, DATRON offers several service centres in Germany and worldwide at many of our more than 20 representative offices and agents.



Cost-effective

Teleservices, e-Messenger, remote maintenance: we offer the latest information technologies for the fastest possible diagnoses and cost effective service.



Friendly and Reliable

Our hotline will help you to find solutions and solve problems, even with software and programming issues. A comprehensive stock of spare parts guarantees shortest delivery times.



Competence

Trained staff and many years of application experience and in-house practice guarantee the high quality of DATRON's service worldwide. As a result you get sound and competent advice and fast troubleshooting in the event of any malfunctioning problem.





DATRON Technology Centre

Which machine is best for your manufacturing process depends on many individual parameters. Sound technical advice and the creation of samples are therefore part of our most important services.

Accurate analysis of your production task forms the basis for our expert advice to optimise your entire production process.

We offer:

- Creation of client-customised samples accord ing to drawings (in printed or electronic form)
- Product demonstrations of our CNC milling machines
- Technological advice on CAD/CAM selection, clamping technology and DATRON's high-speed mini-tools

DATRON About Us

DATRON AG

Dedicated staff and innovative products

We develop, produce and distribute innovative CNC milling machines for the machining of future-oriented materials such as aluminium and composite materials, dental milling machines for the efficient processing of all common denture materials in dental laboratories and high-performance dosing machines for industrial sealing and bonding applications.

Strong focus on customer value, a very good priceperformance ratio, low power consumption and flexible adaptation through modular lightweight construction are a common feature of all our products. Standard solutions can be adapted to a very large extent to individual customer requirements.

Production and automation processes can be improved significantly due to components matched already during their development and the resulting superior technological features of DATRON's products,. This not only leads to higher production quality, but also to lower manufacturing costs!

DATRON's core products are:

CNC milling machines for high-speed milling and 3D engraving

Milling, drilling and engraving of aluminium, stainless steel, plastics and composites. High production speeds and results are achieved with speeds of up to 60,000 rpm.

We are the market leaders in Germany in the field of front panel and housing machining.

Dental CAD/CAMmilling/grinding machines

The ultracompact 5-axis milling/grinding machines are suitable for machining all common dental materials. Equipped with 8-fold automation and 12-fold tool changer, DATRON's machines are the best choice for industrial dental mass production with high reliability, speed and precision.

VDispenser[®] - Dispensing machines for precise and rapid bonding and sealing

Our precise-volume dispensing technology is available and patented worldwide. Strong cost advantages result in mass production due to the high dispensing quality and speed of our systems.

Tools for high-speed machining

The quality of the tools is essential to determine machining results In high-speed machining. Our technological and advising expertise enables our customers to produce more economically than their competitors.

Technical customer support

Training, service hotline, maintenance, accessories and spare parts sales: Our professional service and expert advice in all fields leads to high customer satisfaction and to the "German Customer's Champion 2011" award.



DATRON Machine Overview

DATRON'S CNC milling machines and DATRON'S quality tools are perfectly matched to each other. The combination of machine, tools and accessories ensures highest quality, precision and process reliability for your production.

Powerful and highly accurate

DATRON M10 Pro



Productive and versatile

DATRON **M8**Cube



Large-sized and efficient

DATRON **ML** DATRON **MV**



Productive and cost-effective

DATRON **M8** Datron **M85**

Compact and cost-effective

DATRON **M7** Datron **M75**

5-axis, precise and compact

DATRON **C5** DATRON **D5**





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The information in this brochure includes current descriptions and/or perform due to ongoing development of our products. Some of the depicted machines Descriptions and performance features are only binding if expressly agreed or the contract. DATRON AG In den Gänsäckern 5 64367 Mühltal, Germany

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