DATRON
Smart Manufacturing Solutions

DATRON **Accessories** for CNC milling machines

The information in this catalogue was checked with utmost care for correctness. However, no liability can be accepted for any incomplete or faulty information. We reserve the right to make changes for the purpose of further technical development.

This catalogue refers to new machine orders plus accessories. For later accessory orders, the compatibility of accessory components, the retrofittability and any necessary extensions and adaptations / installation work has to be checked. We'll be happy to advise you.

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From practice – for practice

DATRON machine accessories will make your machines more productive!

You save time and money thanks to more effective machining faster programming and shorter set-up times.

The optimum accessories for the respective application will make you even more successful. DATRON delivers them!

This catalogue offers an overview of the available additions and extension components for DATRON CNC machines.

Our experts would be happy to help you with your selection, configuration and how to most effectively use all articles introduced in this catalogue.

We are looking forqard to hearing from you!

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e-mail: info@datron.com

Just get in touch with our experts!

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DATRON – About Us

DATRON AG

Dedicated Employees, Innovative Products
„We develop, produce and distribute innovative CNC milling machines for the processing 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, cost-effectiveness, low power consumption and flexible customization through modular lightweight construction are features in common of our products.
Standard solutions can be configured in a very high degree for individual customer requirements.

Manufacturing and automation processes can be significantly improved due to matching components already designed in the development stages and the resulting technologically superior characteristics of the DATRON products. This does not only lead to higher production quality, but also reduces manufacturing costs!

Our Core Products

CNC processing machines for high speed milling and 3D engraving
Milling, drilling and engraving of aluminium and plastics. High production speeds and excellent results are achieved with rotation speeds up to 60,000 rpm. We are market leader in Germany in the field of front panel and housing processing.

Dental CAD/CAM milling/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 Systems 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 dosing quality and speed of the systems.

Tools for high-speed machining
In high-speed processing, the quality of the tools is essential for processing results.
Our technology and consulting expertise allows our clients to produce more economically than the competition.

Technical Support
Training, service hotline, maintenance, sale of accessories and spare parts: the professional service and expert advice in all fields leads to high customer satisfaction and to the award of the "Deutschlands Kundenchampions 2011" (Germany's Customer Champion 2011) seal.

DATRON **Quality Assurance**

Quality from the Very Beginning!

Dedicated Employees, Innovative Products
At DATRON, high quality is produced in all phases of product development and manufacturing.

The solid and professional design is the basis for the reliability and long life cycle of all components. Careful selection of the raw materials and all supplier parts and the precise manufacturing and adjustment of all machines and accessories result in extraordinarily high quality at DATRON. The manufacturing of all DATRON products and components is carried out completely and exclusively by our experienced personnel at a German manufacturing site.

Quality assurance takes place in all manufacturing steps. An extensive acceptance record documents the completeness and the high quality of the systems and machines we deliver.

DATRON **Machine Overview**

Every application is specific and we provide the perfect solution for your specific needs: Whether 3, 3+2 or 5 axis simultaneous, high-precision or especially cost-effective machining. Our experts will be happy to advise and help you to find the most effective solution for your application.

Powerful and highly accurate

DATRON **M10** Pro

reddot design award winner 2013

iF product design award 2013

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, compact

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

The Technology for your Success!

HF spindles

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

Cooling/Lubrication System

Ecologically and economically optimised processes with minimum quantity cooling lubrication and longer tool life associated with it.

Suction – CleanCut

Almost chip-free work through highly effective chip suction. Time-consuming cleaning of the machine is unnecessary.

CNC Milling Tools

Through many years of experience and intensive communication with our customers we develop tools specifically designed for high-speed machining.

Clamping Technology

Whether pneumatic or vacuum clamping technology: DATRON's systems distinguish themselves by their high flexibility, high ease of use and short changeover times.

Measuring Technology

The XYZ sensor guarantees short setup times and increased accuracy and efficiency by automatically determining the reference edges and measuring the height profile.

CAM Software

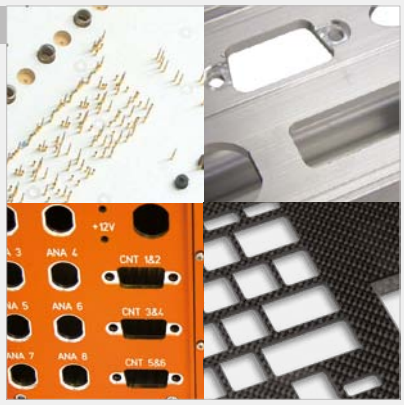
With DIN/ISO standard interfaces, DATRON machines are compatible with all popular 3D-CAD/CAM programs, such as Mastercam, SolidCAM or Pro/E.

DATRON Machine Software

The "DATRON CNCv9" machine software offers convenient functionality for quick setup and CNC programming and acquisitions 3D CNC files of any size.

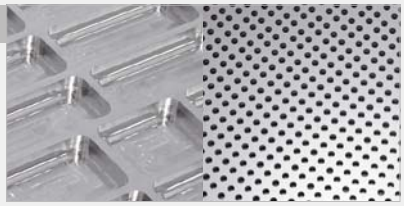
Precision machining with high and highest speeds is being used for an increasing number of applications. High-speed machining with DATRON milling machines is used with great success, among others, in the following industries:

Electronic Industry



- Front panels & Housings
- Panels & Nameplates
- Test Adapter
- 3D Rapid Prototyping
- LED Technology
- Test Control Units
- Soldering Frames
- PCB Depanelling
- Engravings

Aerospace Industry



- Sheet Metal Machining in Aluminium
- Aluminium Extrusions
- Micro Drilling

Forms and Models

- 3D Aluminium Molds
- 3D Rapid Prototyping
- Graphite Electrodes
- Steel Molds

Printing Industry

- 3D Engraving
- Die Making
- Hot Stamping
- Combination Dies

Automotive Supply Industry

- Aluminium Extrusions
- Mold Making
- Intricate CNC Machining

DATRON **Customer Service**

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

DATRON guarantees highly effective machine operation, even many years after purchase, worldwide! By means of practical instruction and training, wou will benefit from the full potential of our machines, right from the start.

The latest diagnostic tools and in-depth know-how of our staff ensure smooth running of your production. Our proven spare parts service and our customer optimized maintenance program 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!

More information on our customer service can be found at:

www.service.datron.com

Decentralization

We are present everywhere where we are needed. With our representatives abroad, you have their service team at your disposal on site. 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 agencies.

Cost-effectiveness

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

Friendliness and reliability

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

Competence

Trained staff and many years of application experience and practice at our own premises guarantee the high quality of the DATRON service worldwide.
The result is that you get sound and competent advice and fast troubleshooting in the event of a malfunction.

DATRON **Technology Centre**

What machine is best for your manufacturing process depends on many individual parameters. Therefore, sound technical advice and the creation of samples are part of our most important services.

The detailed analysis of your production task forms the basis for our expert advice to optimize your entire production process.

We offer:

- Creation of client-customized samples according to drawings (in printed or electronic form)
- Product demonstrations of our CNC milling machines
- Technology consulting for CAD/CAM selection, clamping techniques and high-speed DATRON mini-tools

Profitable milling, drilling and engraving
DATRON offers innovative HSC milling and engraving tools for an even greater success of your production.

Quality made in Germany:
- Development
- Testing
- Production

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

Economy:
- Max. cutting performance
- Max. lifetime
- Max. process safety

DATRON **High Frequency spindles**

DATRON offers the right machining spindle for every application. Perfect precision, durability and a very broad application scope are provided.

The expert selection of the machining spindle appropriate for your application is a particularly important point in the configuration of the CNC machine tool.

Our comprehensive programme allows you to choose the high-frequency spindle that is ideal for your application. You can choose between extremely powerful high-frequency precision spindles or low-cost and robust "work horses". High quality and durability is a feature in common of all DATRON high-frequency spindles.

DATRON milling machines are designed specifically for the most effective cutting with smaller tools. High-quality and at the same time efficient production requires high speeds when using smaller tools for high cutting results. With speeds of up to 60,000 rpm and high-quality precision bearings, DATRON machining spindles provide the solution for challenging precision cutting.

The following high-frequency spindles are available:

EcoS
Direct shank

For plastic and non-ferrous metals:
Very robust high-frequency spindles with automatic direct shank clamping system for milling, drilling and engraving at speeds up to 28,800 rpm.

HighS
Direct shank

For high-speed machining:
HighS high-frequency spindles with automatic direct shank clamping system for milling, drilling and engraving, for easier high-speed machining at speeds up to 60,000 rpm.

HighS
HSK-E 25

HighS high-frequency spindles with automatic HSK-E 25 clamping system. The HighS machining spindles are equipped with HSK-E ConeTool changers for especially precise milling, drilling and engraving.

PowerS
HSK-E 25

Powerful and very precise high speed spindles with automatic HSK-E 25 clamping system. Ideal for high-quality and efficient cutting performance. They offer speeds up to 40,000 rpm and a large cutting performance due to their synchronous motors.

Please note: the following article numbers and information about high-frequency spindles are applicable for orders for new machines. For questions about retrofitting of existing machines or spare parts, please contact our customer service. We will be happy to advise you.
Infoline: +49 (0) 6151-1419-99

DATRON **Spindle Overview**

Spindle type Spindle performance	Speed range (1/min)	Tool clamping technology	Max. shank diameter (mm)	Internal cooling	Cooling/lubrication system
EcoS P1.2 HF Spindle 1.2 kW	5,000–28,800	Direct shank clamping	8	Air	DATRON cooling lubrication system
HighS L0.6 HF Spindle 0.6 kW	6,000–60,000	Direct shank clamping	8	Air	DATRON cooling lubrication system
HighS H2.0 HF Spindle 2.0 kW	6,000–60,000	Direct shank clamping	8	Liquid cooling	DATRON cooling lubrication system, minimum-quantity cooling lubrication system 5l/9l with filling level sensor
HighS M1.8 HF Spindle 1.8 kW	5,000–48,000	HSK-E 25	10	Liquid cooling	Minimum-quantity cooling lubrication system 5l/9l with filling level sensor
PowerS Synchro 3.0 HF Spindle 3.0 kW	1,000–40,000	HSK-E 25	10	Liquid cooling	Minimum-quantity cooling lubrication system 5l/9l with filling level sensor

EcoS P1.2 HF spindle

EcoS P1.2 HF spindles were developed specifically for efficient CNC machining at high speeds. The continuous power of 1.2 kW and speeds of up to 28,800 rpm allow the effective milling and engraving machining of Aluminium, plastics, and also composite materials, for example.

Properties:

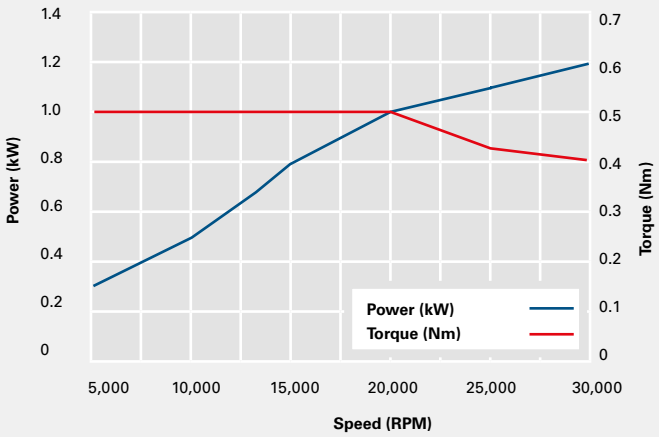
- Very good price/performance ratio
- High performance Aluminium cutting
- Very robust spindle
- Automatic tool change
- Cost-effective since air-cooled (no cooling device required)
- Direct shank clamping system for tool diameter up to 8 mm
- Collet chucks available in Ø 3 mm, 3,175 mm, 4 mm, 6 mm and 8 mm

Scope of Delivery:

- Spindle, set of cables and HF converter, a collet chuck Ø 6 mm

Options/Accessories:

- Collet chucks Ø 3 mm (article No. 0068320D)
- Collet chucks Ø 3,175 mm (article No. 0068330D)
- Collet chucks Ø 4 mm (article No. 0068324D)
- Collet chucks Ø 6 mm (article No. 0068326D)
- Collet chucks Ø 8 mm (article No. 0068328D)
- Tool changing systems



Advantages:

- Very good price/performance ratio
- Very robust spindle

Application:

- Milling and drilling of non-ferrous metals, plastics wood and composite materials

Technical Data	EcoS P1.2
Continuous power	1.2 kW at 28,800 1/min
Torque, max.	0.5 Nm from 9,000 1/min
Speed	up to 28,800 1/min
Tool insert	Direct shank clamping, up to Ø 8 mm
Tool change	automatc

Order Description	Article Number
HF spindle EcoS P1.2	0A01051

HighS L0.6 HF spindle
HighS – High-Speed for high-speed machining:
This high-frequency spindle provides 0.65 kW of continuous power. The maximum speed is 60,000 rpm. Cooling takes place via the spindle insert. This spindle is suitable for easier cutting with tools up to a maximum of 8 mm shank diameter and for engraving applications.

Properties:

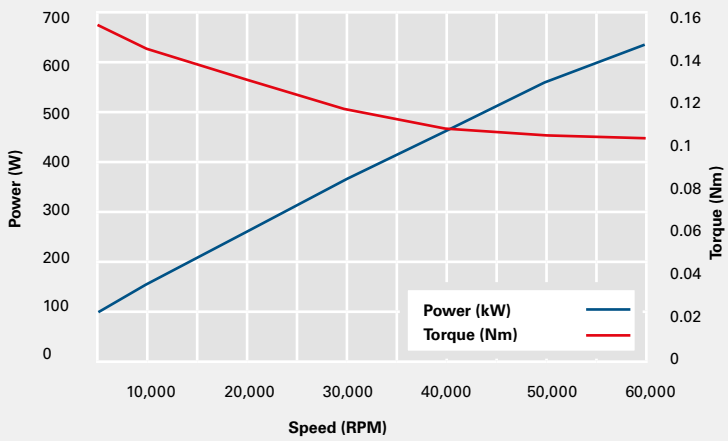
- Machining precision and durability thanks to hybrid ball bearings made out of Steel and ceramics.
- Very high concentricity precision of up to 3 µm (on the inner cone)
- Quiet and low-vibration running thanks to electronic fine-balancing
- No penetration of dirt and dust into the spindle interior thanks to the air purge.
- Automatic tool change
- Cost-effective since air-cooled (no cooling device required)

Scope of Delivery:

- Spindle, set of cables and HF converter, a collet chuck Ø 6 mm

Options/Accessories:

- Collet chucks Ø 6 mm (article No. 0068326D)
- Collet chucks Ø 8 mm (article No. 0068328D)
- Additional collet chuck diameters are available (see page 100)



Technical Data	HighS L0.6
Continuous power	0.6 kW
Torque	0.15 Nm from 60,000 rpm
Speed	up to 60,000 rpm
Tool insert	direct shank clamping up to Ø 8 mm
Tool change	automatic

Order Description	Article Number
HF spindle 0.6 kW, type 2 with converter	0A01053L

Advantages:

- Very good price/performance ratio
- Speed up to 60,000 rpm
- No cooling device necessary
- Upgrade to HighS H2.0 HF spindle possible without high costs

Application:

- Milling and drilling of non-ferrous metals, plastics and wood

HighS M1.8 HF spindle
HighS – High-Speed with HSK-E 25 clamping cone:
The high-frequency spindle with automatic HSK-E 25 clamping system reaches speeds of up to 48,000 rpm and is suitable for especially precise milling, drilling and engraving.

Properties:

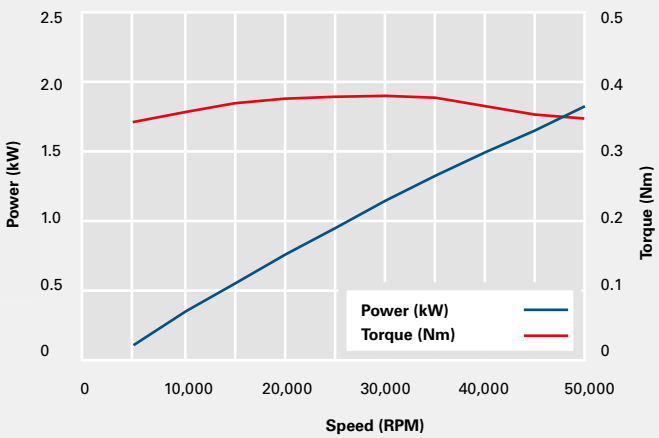
- Machining precision and durability thanks to hybrid ball bearings made out of steel and ceramics.
- Very high concentricity precision of up to 3 µm (on the inner cone)
- Quiet and low-vibration running thanks to electronic fine-balancing
- No penetration of dirt and dust into the spindle interior thanks to the air purge
- Clamping diameters up to 10 mm
- Very high holding forces thanks to the HSK clamping system

Scope of Delivery:

- Spindle, set of cables and HF converter

Options/Accessories:

- Different HSK-E 25 tool inserts are available (see page 100)



Advantages:

- Speed up to 48,000 rpm
- HSK-E 25 tool insert
- High concentricity precision

Application:

- Milling and drilling of non-ferrous metals, plastics and wood
- Steel engraving
- Graphite machining

Technical Data	HighS M1.8
Continuous power	1.8 kW bei 48,000 rpm
Torque	0.37 Nm from 20,000 rpm
Speed	up to 48,000 rpm
Tool insert	HSK-E 25
Tool change	automatic

Order Description	Article Number
HF spindle 1.8 kW, HSK-E 25 with converter, without cooling device	0A01053I

HighS H2.0 HF spindle
HighS – High-Speed for high-speed machining:
The high-frequency spindle with automatic direct shank clamping system for milling, drilling and engraving.

The water-cooled precision high-frequency spindle H2.0 is designed for sophisticated cutting tasks.

This high-speed spindle offers speeds of up to 60,000 rpm with maximum precision and quiet rotation.

Properties:

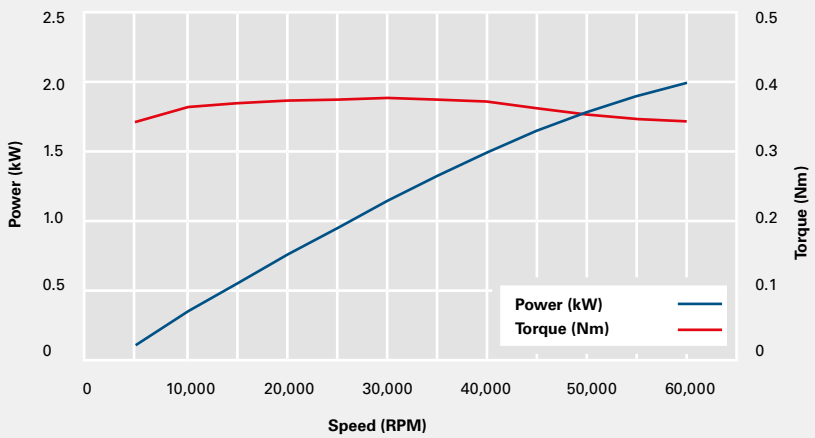
- Machining precision and durability thanks to hybrid ball bearings made of Steel and ceramics.
- Very high concentricity precision of up to 3 µm (on the inner cone)
- Quiet and low-vibration running thanks to electronic fine-balancing
- No penetration of dirt and dust into the spindle interior thanks to the air purge.
- Pneumatically actuated tool-clamping system
- Automatic tool change
- Powerful direct shank clamping

Scope of Delivery:

- Spindle, set of cables and HF converter, a collet chuck Ø 6 mm

Options/Accessories:

- various collet chuck diameters available (see page 100)



Technical Data	HighS H2.0
Continuous power	2.0 kW
Torque	0.37 Nm from 20,000 rpm
Speed	6,000 up to 60,000 rpm
Tool insert	direct shank clamping, max. Ø 8 mm
Tool change	automatic

Order Description	Article Number
HF spindle 2.0 kW (collet chuck 6 mm) with converter, without cooing device	0A01053G

Advantages:

- Powerful direct shank spindle
- Speed up to 60,000 rpm
- Water-cooled

Application:

- Milling and drilling of non-ferrous metals, plastics and wood
- Steel engraving

PowerS Syncro 3.0 HF spindle
Concentrated force, maximum precision, full of innovative technology:
With the powerful PowerS Syncro 3.0 HF spindle, you are all set for the especially sophisticated machining tasks of today and tomorrow.

With this spindle, you can take things to the limit: The robust structure and the high error tolerance with extensive sensors can handle even the highest amount of stress in daily practice.

Properties:

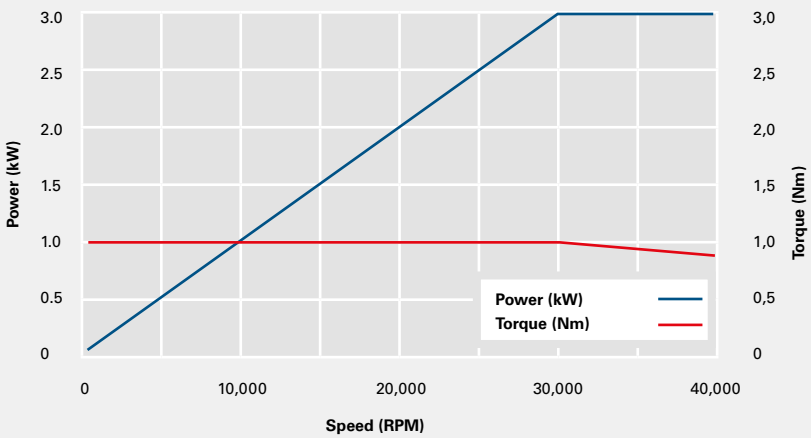
- Synchronous motor with high energy density
- 3 kW output for high chip volumes
- Constant torque, also at low speeds
- Operational safety guaranteed thanks to generous dimensioning and process monitoring
- Very high surface quality thanks to optimum concentricity
- Robust and durable
- Short starting/stopping cycles
- Fast tool change thanks to high acceleration/braking delay

Scope of Delivery:

- Spindle, set of cables and HF converter

Options/Accessories:

- Different HSK-E 25 tool inserts are available



Advantages:

- High-End spindle
- High cutting capacity
- High operational safety thanks to extensive sensors

Application:

- Milling and drilling of non-ferrous metals, plastics and wood
- Milling of Steel
- Graphite machining

Technical Data	PowerS Syncro 3.0
Continuous power	3.0 kW at 30,000 – 40,000 rpm
Torque	approx. 0.95 Nm starting from appr. 1,000 rpm
Speed	1,000 up to 40,000 rpm
Tool insert	HSK-E 25
Tool change	automatic

Order Description	Article Number
HF spindle PowerS Syncro 3.0 with converter, without cooling device	0A01057

The spindle cooling device with its robust industrial design is fit for multi-shift operation.

The control accuracy is ± 1K for load and standby operation.
Process safety is guaranteed by monitoring temperature, filling level and flow.

A spindle tempering device is available on request.

Properties:

- Digital temperature display
- Error status display via error code
- Indication of flow upon pressing the button
- Integrated water filter

Scope of Delivery:

- Cooling device
- Signal cable set
- Filling funnel with hose piece

Options/Accessories:

- Coolant Antifrogen N for M8Cube/M10Pro (article No. 0069266X)
- Coolant additives (article No. 0069260S)
- Additional water filter (article No. 0069259C)

Technical Data	Spindle cooling device HI-KG-Cube
Cooling capacity	1.000 W
Control temperature	25 °C
Pump flow rate	>240 l/h max.
Cooland volume	approx. 9 l

Order Description	Article Number
Spindle cooling device, type HI-KG-Cube	0A01054E

DATRON **Spindle temperature controller** Type TT

The spindle temperature controller, of robust industrial design is suitable for multi-shift operation.

The excellent temperature regulation is ± 0.1 K.

The spindle temperature controller is particularly appropriate for engraving.

Properties:

- High temperature stability
- Reliable operation
- Low noise and vibration
- Low maintentance

Scope of Delivery:

- Temperature controller and signal cable set
- Filling funnel with hose piece

Technical Data	Spindle temperature controller type TT
Cooling capacity	750 W
Control temperature	25 °C
Pump flow rate	>240 l/h max.
Weight	42 kg without water

Order Description	Article Number
Spindle temperature controller type TT	0A01054U

Tool Changer Overview

The automatic tool changers for the DATRON machining systems with high frequency spindles increase the flexibility and efficiency of the machine.

Thanks to the built-in tool length sensor, tools can automatically be checked for wear and breakage and exchanged during machining.

Tool changer types	For machine type					
	M8, M8XL	M85	M7, M75	M10	ML/MV machines	M8Cube
Standard TC-S (direct shank)		■	■		■	
Built-in version TC-E (direct shank)	■	■	■		■	■
Built-in version TC-E (HSK-E 25)	■	■	■		■	■
Built-in version TC-E11 (HSK-E 25)			■	■		

DATRON **Standard tool changer** TC-S

The open tool changer system TC-S is designed for direct shank clamping and is equipped with 10 individual stations. A precise mechanical sensor for tool length measurement is built in (not in TC-S-10-B).

Properties:

- Open tool magazine with 10 tool-changing stations
- Automatic tool check

Scope of Delivery:

- Tool magazine with tool-changing stations
- Software for tool management
- Tool length sensor (not for TC-S-10-B)

Options/Accessories:

- Various tool-changing stations (see DATRON Tools Catalogue)

Order Description	For machine type	Article Number
Tool changer for 10 tools TC-S-10	M75/M85/ML/MV	0A01110
Additional tool changer 10 x – TC-S-10-B	ML/M85/MV	0A01110L

The automatic tool changer accommodates up to 15 tools per magazine with direct shaft clamping or up to five HSK-E 25 tools. A cover protects the tools from dirt and chips and folds up automatically during tool changes.

A tool length sensor (13 mm diameter) for automatic measuring of the tool length is integrated.

Properties:

- Tool magazine with tool-changing stations
- Fold-away cover for protecting against chips
- Automatic tool length measuring and check

Scope of Delivery:

- Tool magazine with up to 15 tool-changing stations with direct shaft clamping or up to five tool-changing stations for HSK-E 25 collet chucks
- Software for tool management
- Tool length sensor (not applicable for additional tool changer)

Options/Accessories:

- various tool changing stations (see tool catalogue)

TC-E-15
Direct shank clamping version

Max. number of magazines per machine	1 magazine	2 magazines	3 magazines
M7	■		
M8 (XL) M8Cube		■	
ML1000-X MV1000-1		■	
ML1500-X / ML1600-5 MV1500-1			■

Order Description	machines		Article Number
Tool changer 15x – TC-E-15	M8/M8Cube/ML	pos. 1 - 15 with length sensor	0A01112
Tool changer 15x – TC-E-15	M8/M8Cube/ML	pos. 16 - 30 without length sensor	0A01112B
Tool changer 15x – TC-E-15	ML	pos. 31 - 45 without length sensor	0A01112E
Tool changer 15x – TC-E-15	M7	pos. 1 - 15 with length sensor	0A01112D
Tool changer 5x – TC-E-5	M8/M8Cube/ML	pos. 1 - 5 with length sensor	0A01113A
Tool changer 5x – TC-E-5	M8/M8Cube/ML	pos. 6 - 10 without length sensor	0A01113B
Tool changer 5x – TC-E 5	ML1500/ML1600 / MV1500	pos. 11 - 15 without length sensor	0A01113K
Tool changer 5x – TC-E 5	M8/M8Cube/ML	pos. 1 - 5 without length sensor	0A01113L
Tool changer 5x – TC - 5	M7	pos. 1 - 5 with length sensor	0A01113J

TC-E-5
Version HSK-E 25

DATRON **Tool changer** TC-E-11

The automatic tool changer accommodates up to 11 HSK-E 25 tools per magazine.

The tools are protected from chips and dirt in a drawer with a lifting device. This moves up automatically during a tool change.

Automatic tool length measurement is made possible thanks to the highly precise integrated probe (diameter 22 mm).

Properties:

- Tool magazine with tool-changing stations
- Drawer system to protect against chips
- Tool length up to 65 mm (length for SchunkTribos HSK collet chucks)
- Tool length from face contact for foreign clamping chuck 105 mm
- Tool diameters up to 20 mm

Scope of Delivery:

- Tool magazine with 11 tool-changing stations
- Software for tool management
- Tool length sensor (not applicable for additional tool changer)

Options/Accessories:

- Changing station for HSK-E 25, (article No. 0690234)

Version 0A01114

Order Description	Machining system		Article Number
Tool changer 11x	M10	pos. 1–11 with length sensor	0A01114H
Tool changer 11x	M10	pos. 12–22 without length sensor	0A01114I
Tool changer 11x	M7	pos. 1–11 with length sensor	0A01114J

DATRON **Tool length sensor** WLS

The DATRON WLS tool length sensor is used for automatic measuring of tool length.

The DATRON CNC software supports the following measuring functions:

- Automatic measurement of the tool length
- Automatic tool length correction
- Tool-breakage detection

Properties:

- Mechanical tool length sensor
- Tracer pin diameter 13 mm
- Suitable for tools with a diameter up to max. 12 mm

Scope of Delivery:

- Tool length sensor
- Software for tool management

Technical Data	Tool length sensor
Repeatability	± 0.01 mm
Min. tool diameter	> 0,5 mm
Max. tool diameter	12 mm
Diameter of the measuring surface	13 mm
Dimensions (W x H x D)	60 x 85 x 30 mm
Weight	0.18 kg

Order Description	Article Number
Tool length sensor, single station, incl. software	0A01114S

Advantages:

- No presetting of the tool length
- High precision
- Small space requirement

Application:

- Tool length measurement
- Automatic correction of length tolerances
- Tool breakage datection

DATRON Z-Nano™ tool probing

The Z-Nano™ precision probing head allows tool lengths to be measured quickly, precisely and automatically, as well as the tool check.

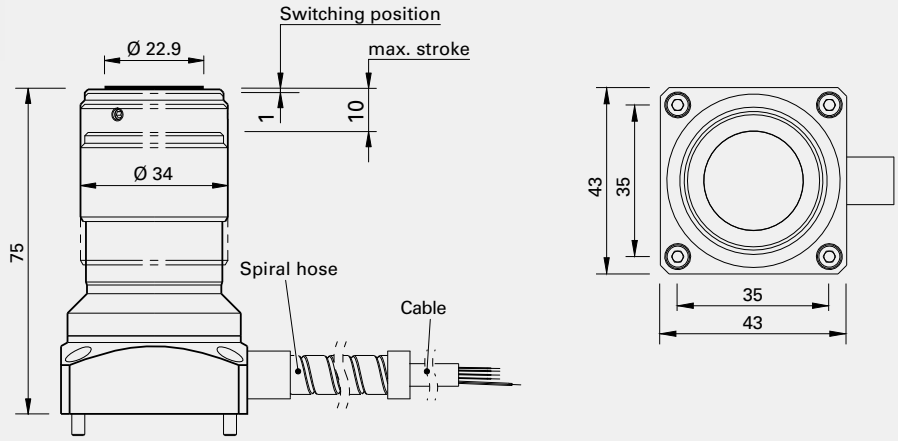
The functional principle with linear guidance is absolutely free of transverse forces, so that even sensitive and very small tools can be measured. The precise tool length sensor Z-Nano™ can be used for the machine systems M8, M8Cube, M7, ML, MV and M10.

The DATRON CNC software supports the following measuring functions:

- Automatic measurement of the tool length
- Automatic tool length correction
- Tool breakage detection

Scope of Delivery:

- Sensor
- Depending on the type of machine, a special mounting plate might be required



Advantages:

- Very low measuring force
- For tools up to 20 mm diameter
- Very high precision

Application:

- Precise tool length measurement
- Automatic correction of length tolerances
- Tool breakage control

Technical Data	Z-Nano™
Device protection	IP68
Repeatability (2 Sigma)	0.5 µm
Min. tool diameter	> 0.1 mm
Max. tool diameter	20 mm
Diameter of the measuring surface	22,9 mm
Parallelism of the measuring surface	± 10 µm
Measuring force	2.2 N
Maximum stroke	10 mm

Order Description	Article Number
Z-Nano tool sensor, M8	0A01115A
Z-Nano tool sensor, with blow-off station, M7, ML, MV	0A01115F
Z-Nano tool sensor, with blow-off station, M8 Cube	0A01115E
Z-Nano tool sensor, with blow-off station, M10	0A01115G

DATRON **cooling/lubrication system** EK-D

The DATRON cooling/lubrication system EK-D for Ethanol is for lubricating and conducting heat away from the milling location.

Ethanol coolant is sprayed through two Venturi nozzles with compressed air near the milling cutter and comes out as a fine mist on the workpiece and tool.

The heat energy which is generated in the milling process is removed from the milling location by means of the evaporation process. In addition, the coolant lubricates the cutting edge of the tool and increases the tool life.

Thanks to the complete evaporation of the Ethanol coolant, it is not necessary to clean the workpiece after machining.

The DATRON cooling/lubricating system is exclusively destined for spindle tpyes 0.6 kW, 1.2 kW and 2.0 kW with direct shank clamping.

Properties:

- Lubrication quantity can be electronically dispensed via hand-held control unit
- Flexible spray nozzle holder
- Direction-dependent spraying behaviour can be programmed
- Program-controlled spray volume
- Coolant consumption 0 - 1 l/h (Ethanol)
- Exclusively for Ethanol

Scope of Delivery:

- 2 micro spray nozzles with holder
- 5-litre storage tank (plastic)
- Software extension for automatic mode

Options/Accessories:

- Storage tank with filling level monitoring VBF (article No. 0A01005E)

Advantages:

- Optimum tool cooling
- Very close to milling cutter
- Directed spray
- Complete evaporation of the coolant Ethanol

Application:

- Workpiece cooling
- Tool cooling
- Lubricating the cutting edge
- Not suitable for HSK spindles

Order Description	Article Number
DATRON cooling/lubrication system for Ethanol	0A01005
DATRON cooling/lubrication system for Ethanol (M75/M85/M8Cube)	0A01005B

DATRON **Storage tank** with filling level monitoring VBF

Storage tank with filling level monitoringVBF
for DATRON EK-D cooling/lubrication system
Robust metal tank for the standard cooling/lubricating system DATRON EK-D. The storage tank with five l capacity is fastened directly to the machine. An automatic filling-level check with a warning message via the control guarantees process safety. A visual filling check is also a component.

Properties:

- Industrial version (metal)
- 5-litre capacity
- Visual filling level control
- Automatic filling-level check with warning message
- 4 mm hose connection

Scope of Delivery:

- 5-litre storage tank
- Funnel tube
- Filling level monitor

Advantages:

- Easy tank filling
- Process safety by means of sensors
- Robust metal design
- Filling level monitor

Application:

- For cooling/lubrication system DATRON EK-D

Order Description	Article Number
Cooling system tank with sensor (DA), industrial design, 5 litre	0A01005E

Basic module cooling/lubrication system

Minimum volume cooling/lubrication system for DATRON CNC machines
With cooling-lubricating systems you can work whenever it is necessary to lubricate with very small amounts of fluid in a targeted, reproducible, and process-reliable manner for milling and engraving.

During the machining process, the cooling-lubricating fluid is forced through capillary tubes extending into the two-fluid nozzles using adjustable pressure. The capillary tube takes over the dosing function, so that the desired amount of fluid is set using the container pressure (read on a pressure gauge). When the pressure changes, the flow rate in the capillaries also changes. Thereby, the amount of fluid can be adjusted reliably and consistently up to a consumption of practically zero.

Please note: Depending on the application, a 2-nozzle or 4-nozzle spraying unit will be required.

Properties:

- Can be switched on and off electronically via the hand-held control unit and control system
- Coolant consumption 0 - 1 l/h
- Various cooling media can be used
- The air jacket can be adjusted via a setting screw
- Automatic filling-level check with warning message

Scope of Delivery:

- 5 l/9 l storage tank
- Software extension for automatic mode

Options/Accessories:

- 4-nozzle spraying unit standard for M10 Pro (article No. 0A01106V)
- 4-nozzle spraying unit for M10 Pro prepared for CleanCut, non-adjustable nozzles (article No. 0A01106W)
- 4-nozzle spraying unit for applications with CleanCut or 11fold tool changer (article No. 0A01106S)
- 4-nozzle spraying unit, adjustable for HSK and dicrect shank spindles (article No. 0A01106U)
- 2-nozzle spraying unit (article No. 0A01106Q)

Advantages:

- Various cooling media can be used
- Finely dispensable spray volume
- Filling level monitor

Application:

- Workpiece cooling
- Tool cooling
- Lubricating the cutting edge

Order Description	Article Number
Minimum quantity cooling/lubrication system, 5 l tank with level switch	0A01106G
Minimum quantity cooling/lubrication system, 9 l tank with level switch	0A01106F
Additional minimum quantity cooling/lubrication system, 5 l tank, 2. tank, two tubings, electronically adjustable	0A01106I
Additional minimum quantity cooling/lubrication system, 5 l tank, 2. tank without additional tubings	0A01106H

Spraying units for minimum quantity cooling/lubrication systems

4-nozzle spraying unit EK-VM-R

Picture 0A01106S

The spray system consists of a spray head with four nozzles. Their setting angles are designed such that the milling cutter is optimally sprayed. The round spray head is only used with HSK-E 25 spindles and is used in connection with CleanCut, the rotary-swivel table and machines of type M7 or M10 with an 11fold tool changer.

Application:

- Used with CleanCut, rotary-swivel table and M7, M8, M8Cube, MI, MV or M10 Pro/Power with 11fold tool changer

4-nozzle spraying unit EK-VM-4

Picture 0A01106U

The spray system consists of four adjustable nozzles with a bundled jet which are arranged 90° apart around the milling cutter. The spray head can be mounted instead of the EK-VM-2 standard head. With this, the coolant/lubricant is optimally distributed. The coolant always gets to the tool cutting edge, independent of the milling direction. In version 0A01106U the tool changer must be equipped with long tool-changing stations (required: 70 mm), (article No. 0690234).

Application:

- Used on all spindles with direct shank clamping and DATRON HSK high-frequency spindles

2-nozzle spraying unit EK-VM-2

Picture 0A01106Q

In the case of the 2-nozzle spraying unit, the cooling jet can be optimally adjusted to the machining task with the flexible jointed hoses. This spraying unit is designed for all spindles with direct shank clamping and with HSK collet chucks.

Application:

- Used for all DATRON HF spindles with direct shank clamping and HSK collet chucks

Properties 2- and 4-nozzle spraying units:

- Can be electronically switched on/off via the hand-held control unit
- Coolant consumption 0–1 l/h
- Various cooling media can be used

Advantages:

- Finely dispensable spray volume
- Better distribution of the coolant/lubricant
- No obstuction of the cooling jet by workpiece edges

Application:

- Workpiece cooling
- Tool cooling
- Lubricating on the tool blade

Order Description	Article Number
4-nozzle spraying unit, nozzles not adjustable, M10Pro standard	0A01106V
4-nozzle spraying unit, nozzles adjustable, M10Pro	0A01107A
4-nozzle spraying unit, nozzles adjustable, M8Cube	0A01106X
4-nozzle spraying unit, prep. f. CleanCut, nozzles not adjustable, M8, ML	0A01106S
4-nozzle spraying unit, prep. f. CleanCut, nozzles not adjustable, M8Cube	0A01106Y
4-nozzle spraying unit, prep. f. CleanCut, nozzles not adjustable, M10 Pro	0A01106W
4-nozzle spraying unit, nozzles adjustable, M7, M8, ML, MV	0A01106U
2-nozzle spraying unit, standard, M7, M8, ML, MV	0A01106Q

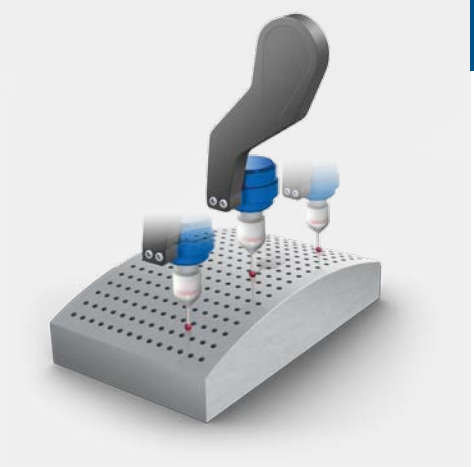
Ingenious in every dimension – sensor XYZ
The XYZ sensor is a three-dimensional tactile sensor. With its help, you can significantly reduce setup times of your milling machine. You increase the accuracy and reliability of your references for the workpiece. Using the XYZ sensor, your production is more cost-effective. Long and tedious setup is a thing of the past.

Advantage:
Also uneven or imprecisely clamped workpieces can be absolutely precisely machined at the right depth.

Application examples:
Finding the centre of cylindrical bodies; apply precise chamfers or radii (e.g. on view windows, for front plates); rough digitalisation of a mould for further processing in the CAD system; engraving on curved surfaces; setting the workpiece zero point on the material surface; milling switch breakouts in curved surfaces; engraving with constant width on materials which have thickness tolerances; exact countersinking, drilling and milling in cylindric surfaces (e.g. raw oboes); introducing screw counterbores, always at the right depth, even on large boards; midpoint determination of an internal rectangle; exact depth machining of acrylics or other plastics with thickness tolerances; machining PCB circuit cards specifically in one layer; engraving stamps or cutting dies on concave surfaces.

Functionality:
Simply swivel into the work area and increase the production quality within seconds, or check the dimensional stability: With the sensor XYZ, you can consistently optimise your method of production.

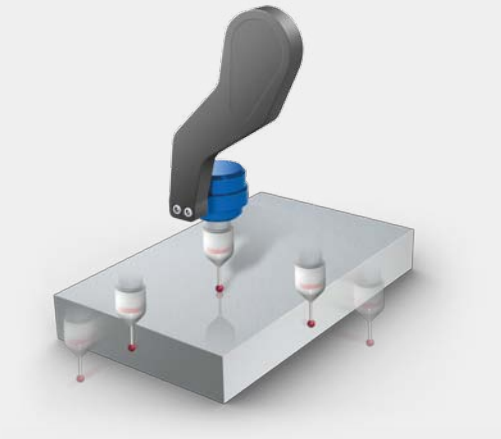
Material surfaces:
The material surface is measured by raster-like scanning. The height profile thus created is corrected immediately by the CNC or engraving programme. Avoid all imponderables quickly, easily and comfortably.



Advantages:

- Finding reference edges of the workpiece
- Exact depth machining even in the case of free-form surfaces or uneven materials
- Automatic compensation of material tolerances
- Clear reduction of set-up times
- Fast and exact material measurement

DATRON 3D (X, Y) extension for Z sensor



The 3D extension allows measurements to also be made in the X and Y directions, so that the milling cutter can be exactly positioned above the centre of a hole or workpiece edge, for example.

Corners and edges
A material edge or the workpiece height can be determined exactly with one measurement. Both the material height as well as the exact position of a right-angle workpiece edge can be determined with three measurements.

Advantage:
The determination of reference points on workpieces can be done much more precisely with the sensor XYZ and in a fraction of the time compared with conventional methods.

Midpoints
Midpoints of circular or rectangular increments or breakouts can be determined automatically.

Advantage:
Centring on the workpiece can be done precisely in a few seconds without a long set-up time. With the measurement of two reference bore holes, for example, a nonangled clamping can also be compensated by rotating the coordinate system.

Order Description	Article Number
3D (X,Y) extension for X, Y, Z sensors	0A01121B

DATRON **Sensor Z** TP-D

Type TP-D is for more simple measurements, e.g. in the case of engravings, designed for achieving constant engraving depths. It provides a measuring accuracy of ±0.05 mm. The type TP-D is characterised by its especially low probing forces and is therefore also suitable for soft and sensitive surfaces.

To avoid damage to the probing head, the probe tip has an intended breaking point, where it breaks if it is overloaded, and it can be easily exchanged.

Properties:

- Complete software control

Scope of Delivery:

- XYZ probing head, complete with swivel arm
- User software
- Installation and alignment (for new machines)

Options/Accessories:

- 3D (X,Y) extension (article No. 0A01121B)
- Special probe tip (article No. 0690219J)
- Replacement probe tip (article No. 0690219H)

Advantages:

- High precision in all dimensions
- Reduction in set-up times
- Automatic compensation of surface tolerances

Application:

- For highly precise engraving
- Fast setup of workpieces
- Determination of reference points on workpieces

Technical Data	Sensor Z TP-D
Measurement precision	+/- 0.05 mm

Order Description	Article Number
Sensor Z TP-D	0A01121

DATRON **Probe tip for probing head** TP-D

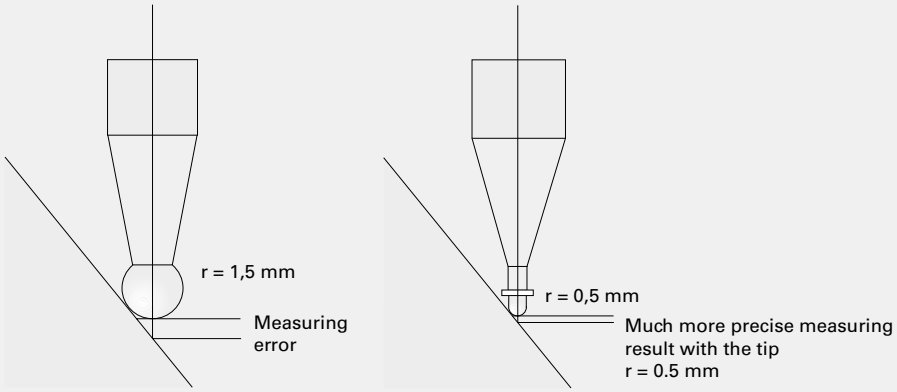
Special probe tip for DATRON probing head TP-D
For surfaces which are even more curved, small workpieces or workpieces with small geometries, a probe tip with a radius of 0.5 mm is available. Bore holes from 1.2 mm in diameter can be measured with the special probe tip. The special probe tip has higher precision for workpieces with inclines. Sensitive surfaces should be measured with the standard probe tip, since the load per unit area is lower here due to the larger radius.

Properties:

- Tip radius 0.5 mm
- Even higher probing precision for curved surfaces
- For sensor ZTP-D

Scope of Delivery:

- Three probe tips
- Special keys
- Mounting material



Standard

Special probe tip

Advantages:

- Very high precision in all dimensions
- Reduction in set-up times
- Automatic compensation of surface tolerances

Application:

- For highly precise engraving
- Fast setup of workpieces
- Determination of reference points on workpieces
- Measurement of inclined surfaces
- Measurement of small recesses

Order Description	Article Number
Exchange kit for special probe tip sensor ZTP-D-2, red probing head	0A01121T

DATRON **Precision sensor Z** TP-R

The TP-R sensor, as opposed to the TP-D sensor, is characterised by its higher measuring precision of +/- 0.01 mm. The process safety is increased with the TP-R sensor since the probing head is fastened to the swivel arm with a magnetic coupling, which disengages if the horizontal forces are too high before damage can occur. The TP-R sensor also reacts exactly and measures exactly to the point, even when the mechanics have increased vibration behaviour.

Various probe tips are available as accessories for the TP-R precision sensor.

Properties:

- Complete software control

Scope of Delivery:

- XYZ probing head complete with swivel arm
- Probing tip (length: 13.5 mm, diameter: 3 mm)
- User software
- Installation and alignment (for new machines)

Required accessories:

- 3D (X, Y) extension (article No. 0A01121B)

Option:

- Additional probe tip (length: 20 mm, diameter: 1 mm) for probing small geometries (article No. 0049005F)
- Cylindric probing tip

Advantages:

- Very high precision in all dimensions
- Reduction in set-up times
- Automatic compensation of surface tolerances

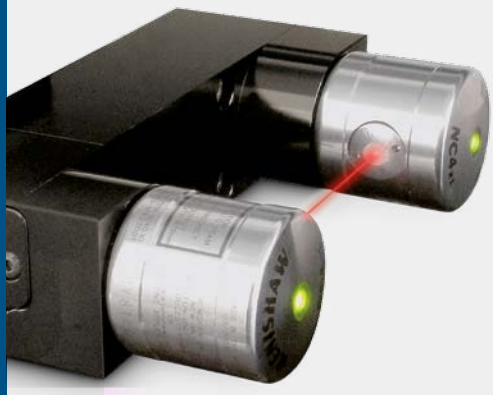
Application:

- For highly precise engraving
- Fast setup of workpieces
- Determination of reference points on workpieces

Technical Data	Precision sensor Z TP-R
Measurement precision	+/- 0.01 mm

Order Description	Article Number
Precision sensor Z TP-R	0A01121R
Precision sensor Z TP-R for M10 Pro/M8Cube	0A01121S

DATRON **Renishaw** NC4-R115 Contact-free tool control system



Compact laser module with integrated transmitter and receiver. Fast, precise and automatic, contact-free tool measurement and breakage detection on turning tool.

The times for tool measurement can be reduced by up to 90%. The automatic tool breakage control ensures reliable manufacturing in fully automatic operation.

The minimum tool length depends on the spindle, spray system, other attachments and the installation location.

Properties:

- Measurement of tool lengths and diameters on turning tool
- Contact-free measurement of tools

Scope of Delivery:

- Sensor and attachment parts, software option
- Depending on the type of machine, a special mounting plate might be required

Kompatibilität:

- Starting from software version V8.xx

Note:
With this sensor, relative measurements of the flute (diameter and length) can be made, allowing detecting the wear of the flute. To perform absolute measurements, a correction value has to be determined for each type of tool.

Advantages:

- Measurement of the effective tool diameter
- contact-free, and therefore no measuring forces on sensitive tools
- Integrated in the software
- Very exact
- Fast measurement

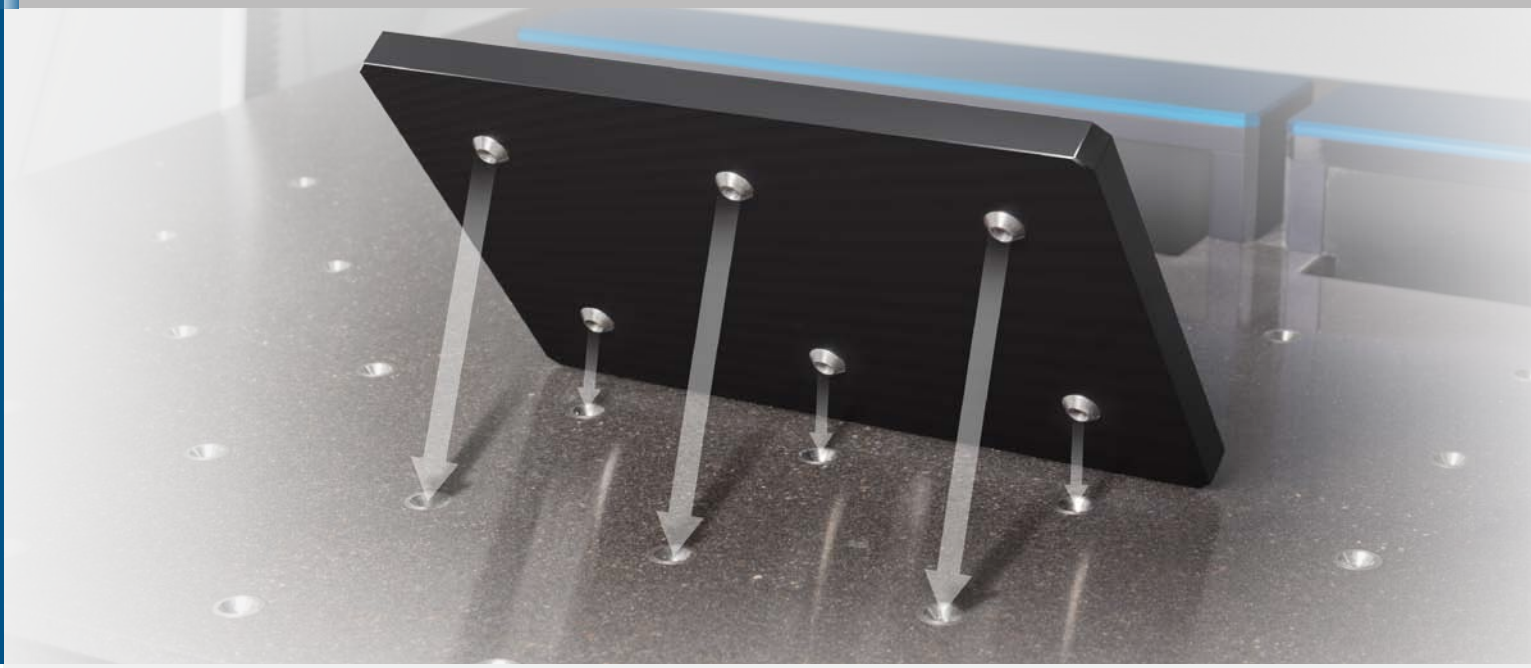
Application:

- Measurement of tool length and diameter
- Monitoring of tool wear and tool breakage
- Increase in machine reliability by means of tool control in the machining process

Technical Data	Renishaw NC4-F115
Measurement precision	< +/- 10 µm (according to milling cutter calibration)
Minimum tool diameter	type 0.2 mm (measurement), 0.1 mm (breakage detection)
Maximum tool diameter	< 20 mm
Type of protection	Protection in accordance with IPX 8 (air purge and mechanical shutter)
Laser type	Visible red laser light (670 nm), < 1 mW

Order Description	Article Number
Tool control system Renishaw NC4-F115	0A01116A
Tool control system Renishaw NC4-F115 for M10	0A01116B
Tool control system Renishaw NC4-F115 for M7, ML	0A01116C

DATRON **Module Clamping Technology – Description**



The DATRON module clamping technology makes a high degree of flexibility possible with a considerable reduction in the set-up times.

Module clamping plates with conical centring sleeves can either be screwed on or be suctioned directly on the machine table or on a base plate with a vacuum. The clamping modules can be exchanged extremely quickly this way, and the reproducibility of the clamping position is only a few hundredths of a millimetre.

When fastening by means of a vacuum, the module plates are suctioned and are pressed to the machine table or base module with a pressure of 7 N/cm². For a small clamping module of only 200 mm x 200 mm, for example, holding forces of over 2,800 N are generated. If no vacuum table upgrade is available, the module clamping plates can also be screwed on.

DATRON offers a multitude of ready-made module clamping solutions. Customised applications can be developed upon request.

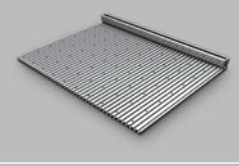
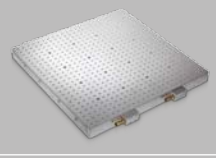
Advantages:

- Flexible take-up options
- Fast set-up times
- Precise positioning < 0.03 mm
- Reduction of non-productive times

Application:

- Module clamping plates, vacuum
- Module clamping plates, T-slots (optional with short-stroke clamping elements)
- Module clamping plates with clamping chuck
- Module clamping plates with vice
- Module clamping plates with customised pallet changing system

DATRON **Module Clamping Technology Overview**

Module clamping plate types	For machine types				
	M10 Pro/M8Cube	M8/M85	M7/M75	ML machines	MV machines
Module clamping plate MS-P		650 mm x 450 mm			
T-slot module clamping plates MS-TN		460 mm x 250 mm 760 mm x 250 mm	460 mm x 250 mm	500 mm x 250 mm 700 mm x 250 mm 1,000 mm x 250 mm	500 mm x 250 mm 700 mm x 250 mm 1,000 mm x 250 mm
T-slot table upgrade MS-TNA 	1,000 mm x 700 mm	1,000 mm x 760 mm			
Vacuum module clamping plate MS-VP-A 		500 mm x 500 mm	500 mm x 500 mm		
Vacuum module clamping plate MS-VP-B	500 mm x 500 mm 1,000 mm x 500 mm	500 mm x 500 mm 1,000 mm x 500 mm 1,000 mm x 700 mm		500 mm x 500 mm 1,000 mm x 500 mm	500 mm x 500 mm 1,000 mm x 500 mm
VacuPlate™ clamping plates	500 mm x 200 mm 1,000 mm x 200 mm	500 mm x 200 mm 1,000 mm x 200 mm	500 mm x 200 mm	500 mm x 200 mm 1,000 mm x 200 mm	500 mm x 200 mm 1,000 mm x 200 mm
Vacuum plate with meandering gooves for M10 and M8Cube	500 mm x 700 mm 1,000 mm x 700 mm				

DATRON **Module clamping plates** MS-P

The MS-P module clamping plates are flat-milled aluminium plates with conical centering sleeves in 100 mm increments. Any clamping means such as bench vices or workpieces can be screwed onto the module clamping plates. The clamping plates are secured either by screwing or vacuum suction onto the machine table.

Scope of Delivery:

- Module clamping plate complete with centring sleeves and seal

Options/Accessories:

- 4-jaw clamping chuck
- Rotary axis

Advantages:

- Flexible take-up options
- Fast set-up times
- Precise positioning
- Reduction of non-productive times

Application:

- Accommodates customised clamping fixtures

Technical Data	MS-P-1	MS-P-2	MS-P-3
Length	280 mm	380 mm	500 mm
Width	180 mm	280 mm	500 mm
Height	15 mm	15 mm	15 mm
Weight	approx. 2.0 kg	approx. 4.3 kg	approx. 10.5 kg

Order Description	Article Number
Module clamping plate 280 mm x 180 mm x 15 mm, MS-P-1	0A01620A
Module clamping plate 380 mm x 280 mm x 15 mm, MS-P-2	0A01620B
Module clamping plate 500 mm x 500 mm x 15 mm, MS-P-3, M7	0A01621D

T-slot module clamping plate MS-TN for M8 and M85
The T-slot module clamping plate offers room for application-specific fastening solutions or the combination of a short-stroke clamping element and fixed clamping jaw.

The modules are fastened on the machine table either with a screw connection or with the vacuum suctioning system. If several T-slot module clamping plates are arranged next to each other, the two- and three-row ones must alternate, or a gap of 50 mm will be formed. If you would like to completely fit your machine with a table cut-out with 760 mm T-slot plates, please select the table upgrade MS-TNA.

Properties:

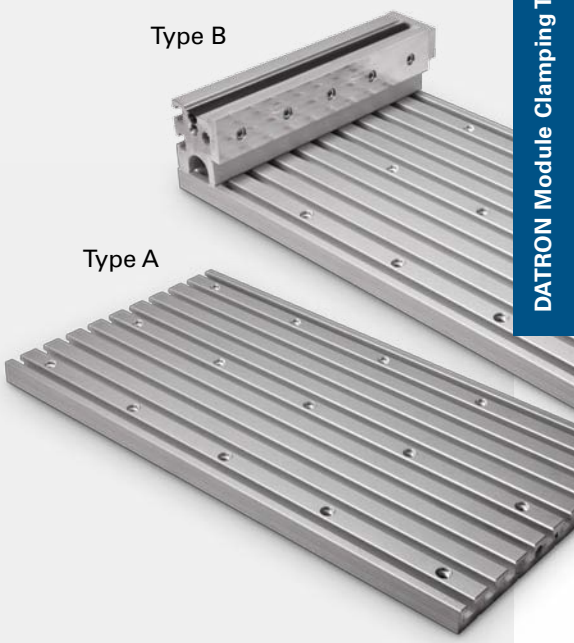
- Top side 10 x T-slots 8.1 for T-nut M6 DIN 508, 25 mm grid size in longitudinal direction.
- Contact pressure: 6 N/cm² at -0.6 bar vacuum suction
- By combining two- and three-rows of T-slot plates it is possible to completely cover the table with T-slot plates

Scope of Delivery:

- T-slot module clamping plate complete with centring sleeves and seal

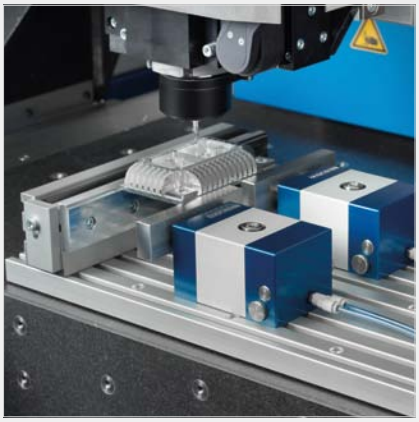
Options/Accessories:

- Short-stroke clamping elements, (article No. 0A01084A)



Technical Data	MS-TN two-rowed 460	MS-TN two-rowed 760	MS-TN three-rowed 460	MS-TN three-rowed 760
Length	460 mm	760 mm	460 mm	760 mm
Width	250 mm	250 mm	250 mm	250 mm
Height (Type A)	20 mm	20 mm	20 mm	20 mm
Height (Type B)	83 mm	83 mm	83 mm	83 mm
Weight (Type A)	approx. 5.0 kg	approx. 7.5 kg	approx. 5.0 kg	approx. 7.5 kg
Weight (Type B)	approx. 6.0 kg	approx. 8.5 kg	approx. 6.0 kg	approx. 8.5 kg

Order Description	Article Number
T-slot module clamping plate (without fixed clamping jaw), three-rowed 460 Type A	0A01623
T-slot module clamping plate (with fixed jaw), three-rowed 460 Type B	0A01623M
T-slot module clamping plate (without fixed clamping jaw), three-rowed 760 Type A	0A01623A
T-slot module clamping plate (with fixed jaw), three-rowed 760 Type B	0A01623N
T-slot module clamping plate (without fixed clamping jaw), two-rowed 460 Type A	0A01622
T-slot module clamping plate (with fixed jaw), two-rowed 460 Type B	0A01622M
T-slot module clamping plate (without fixed clamping jaw), two-rowed 760 Type A	0A01622A
T-slot module clamping plate (with fixed jaw), two-rowed 760 Type B	0A01622N



Advantages:

- Fast changing times
- Precise reproducibility

Application:

- Type A – for customised clamping devices
- Type B – with fixed jaw for DATRON short-stroke clamping elements

DATRON **T-slot module clamping plate MS-TN**

T-slot module clamping plate MS-TN for ML, M7, MV, M8Cube and M10
Thanks to the use of T-slot module clamping plates, the milling machines M7, M10, ML M8Cube and MV can also profit from the versatile fastening options of module clamping technology.

Scope of Delivery:

- T-slot module clamping plate complete with centring sleeves and seal

Options/Accessories:

- Short-stroke elements (article No. 0A01084A)

	T-slot module clamping plate without fixed jaw			T-slot module clamping plate with fixed jaw		
Technical Data	**Version 0A01622Q**	**Version 0A01622R**	**Version 0A01622S**	**Version 0A01623Q**	**Version 0A01623R**	**Version 0A01623S**
Length	500 mm	700 mm	1,000 mm	500 mm	700 mm	1,000 mm
Width	250 mm	250 mm	250 mm	250 mm	250 mm	250 mm
Height	20 mm	20 mm	20 mm	83 mm	83 mm	83 mm
Weight	approx. 4.9 kg	approx. 6.9 kg	approx. 9.8 kg	approx. 6.5 kg	approx. 8.5 kg	approx. 14.3 kg
Max. clamping length with short-strock clamp	-	-	-	263 mm	460 mm	760 mm

Advantages:

- Fast changing times
- Precise reproducibility

Application:

- Clamping of large workpieces
- Clamping of several small workpieces at the same time

Order Description	Article Number
T-slot module clamping plate (without fixed clamping jaw), length 500 mm	0A01622Q
T-slot module clamping plate (without fixed clamping jaw), length 700 mm	0A01622R
T-slot module clamping plate (without fixed clamping jaw), length 1,000 mm	0A01622S
T-slot module clamping plate (with fixed jaw), length 500 mm	0A01623Q
T-slot module clamping plate (with fixed jaw), length 700 mm	0A01623R
T-slot module clamping plate (with fixed jaw), length 1,000 mm	0A01623S

DATRON **Additional fixed clamping jaw** ZFB

Additional fixed clamping jaws are suitable for retrofitting existing T-slot plates without fixed jaw or for upgrading the machining surface with more clamping options.

The fixed clamping jaw is screwed with the T-slot plates and thus forms the counterpart to the movable short-stroke clamping elements. The fixed clamping jaw is equipped with a lateral stop, which can easily be swivelled out of the work area, if necessary.

Scope of Delivery:

- 1 fixed clamping jw, including mounting material
- Lageral stop

Options/Accessories:

- Short-stroke clamping elements (article No. 0A01084A)
- T-groove cover (article No. 0069420)

Technical Data	Fixed jaw			
Length	250 mm	1,000 mm	1,250 mm	2,500 mm
Height	63 mm	63 mm	63 mm	63 mm
Weight	approx. 1.6 kg	approx. 5.6 kg	approx. 7.0 kg	approx. 14.0 kg

Technical Data	Fixed jaw with back edge			
Length	250 mm	1,000 mm	1,250 mm	2,500 mm
Height	63 mm	63 mm	63 mm	63 mm
Weight	approx. 1.6 kg	approx. 6.7 kg	approx. 8.4 kg	approx. 16.7 kg

Order Description	Article Number
Fixed jaw, L = 250 mm, accessory for module clamping plates	0A01625
Fixed jaw, L = 1.000 mm	0A01625A
Fixed jaw, L = 1.250 mm	0A01625B
Fixed jaw, L = 2.500 mm	0A01625C
Fixed jaw mit Rückenleiste, L = 250 mm	0A01625E
Fixed jaw mit Rückenleiste, L = 1,000 mm	0A01625F
Fixed jaw mit Rückenleiste, L = 1,250 mm	0A01625G
Fixed jaw mit Rückenleiste, L = 2,500 mm	0A01625H

Advantages:

- Extension of the clamping options for small workpieces

Application:

- Additional stop for short-stroke clamping elements

DATRON Vacuum Clamping Technology - Description

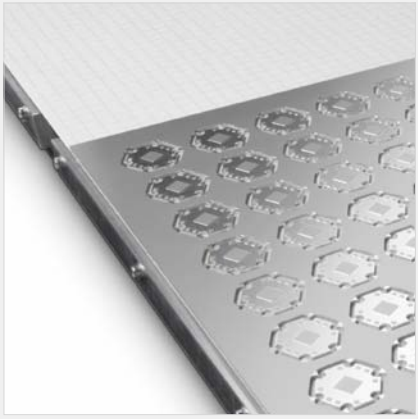
DATRON vacuum clamping technology is especially suited for clamping workpieces which have a large surface area and plate materials. Several identical or different workpieces can be set up.

Thanks to the additional use of micro-perforated special cardboard - the VacuCard™ - the workpiece must only cover about 2/3 of the clamping surface, depending on its size; this way, the vacuum clamping plate can be used very flexibly for a variety of parts. Dealing with sealing strips is not necessary. The special cardboard serves as a "sacrifical layer" at the same time and protects the vacuum clamping plates from damage.

Depending on the machine type, several vacuum clamping plates can be combined to form a large-format plate.

Vacuum clamping technology is especially suitable for

- PCB machining when one wants to produce many individual parts from one plate
- Plate machining, for the safe and vibration-free set-up of large and also thin plates
- Finishing of machined parts, since the parts can be completely milled around using the sacrificial layer.



All DATRON machines can be equipped with the DATRON vacuum clamping technology. It allows very high holding forces due to its especially developed sandwich construction, even for shapes difficult to be clamped otherwise and thinnest plate materials. The vacuum clamping plates available in different sizes are divided into segments that 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.

This way, highest machine utilization can also be achieved.

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:

- Simple and secure clamping of plate materials
- Complete milling around the workpieces possible
- Deformation-free clamping

Application:

- Clamping of plate materials
- Clamping of flat housings

DATRON **Vacuum clamping plate** MS-VP-A

Take advantage of the vacuum force! DATRON vacuum module clamping plates offer maximum clamping force and simplest handling.

The vacuum module clamping plates are available in different sizes. They are divided up into segments which can be operated separately from each other with a vacuum distributor.

Several identical or even different workpieces can be set up simultaneously. The special DATRON cardboard VacuCard™ distributes the vacuum under the workpiece and also acts as sacrificial layer.

All vacuum plates are equipped with the DATRON modular clamping system. The MS-VP-A vacuum plates can both be screwed down or be suctioned to the table with a vacuum.

Scope of Delivery:

- Vacuum module clamping plate, complete
- Vacuum connections
- 10 pieces VacuCard™ special cardboard

Options/Accessories:

- Vacuum pumps
- Vacuum distributor
- VacuCard™ special cardboard
- VacuCard++ special cardboard

Technical Data	Vacuum clamping plate MS-VP-A snd MS-VP-A-3
Length	500 mm
Width	500 mm
Height	40 mm
Weight	approx. 20.8 kg

Order Description	Article Number
Vacuum clamping plate 500 x 500 mm, 2 connections, M8, MS-VP-A-3	0A01621B
Vacuum clamping plate 500 x 500 mm, 2 connections, M7, MS-VP-A	0A01621C

Advantages:

- Simple and secure clamping of plate materials
- Complete milling around the workpieces possible
- Deformation-free clamping

Application:

- Clamping of plate materials
- Clamping of flat housings

DATRON **Vacuum clamping plate** MS-VP-B

The DATRON vacuum module clamping plate is divided into two clamping areas. These can be activated separately from each other with a vacuum distributor.

All vacuum plates are equipped with the DATRON modular clamping system. The vacuum plates must be screwed onto the table. To achieve the highest possible accuracy, the vacuum plates are milled over by our experts before delivering new machines.

Scope of Delivery:

- Vacuum module clamping plate, complete
- Fastening set
- Vacuum connection
- Stop bars

Options/Accessories:

- Vacuum pumps
- Vacuum distributor
- VacuCard™ special cardboard
- VacuCard++ special cardboard

Advantages:

- Simple and secure clamping of plate materials
- Complete milling around the workpieces possible
- Deformation-free clamping

Application:

- Clamping of plater materials
- Clamping of flat housings

Technical Data	MS-VP-B-1 (M8/M85)	MS-VP-B-2 (M8/M85)	MS-VP-B-3 (M7/ML)	MS-VP-B-4 (ML/M10/ M8Cube)
Length	1,000 mm	1,000 mm	500 mm	1,000 mm
Width	500 mm	700 mm	500 mm	500 mm
Height	60 mm	60 mm	60 mm	60 mm
Weight	approx. 42.0 kg	approx. 58.0 kg	approx. 19.5 kg	approx. 39.0 kg
Segments	2	2	1	2

Order Description	Article Number
MS-VP-B-1 Vacuum plate sandwich	0A01672D
MS-VP-B-2 Vacuum plate sandwich	0A01672E
MS-VP-B-3 Vacuum plate sandwich	0A01672P
MS-VP-B-4 Vacuum plate sandwich	0A01672Q

DATRON **Vacuum plate** with meandering grooves for M10

The vacuum plate with meandering groove is for vacuum-clamping plate materials. The special cardboard VacuCard™ serves as sacrificial layer.

Properties:

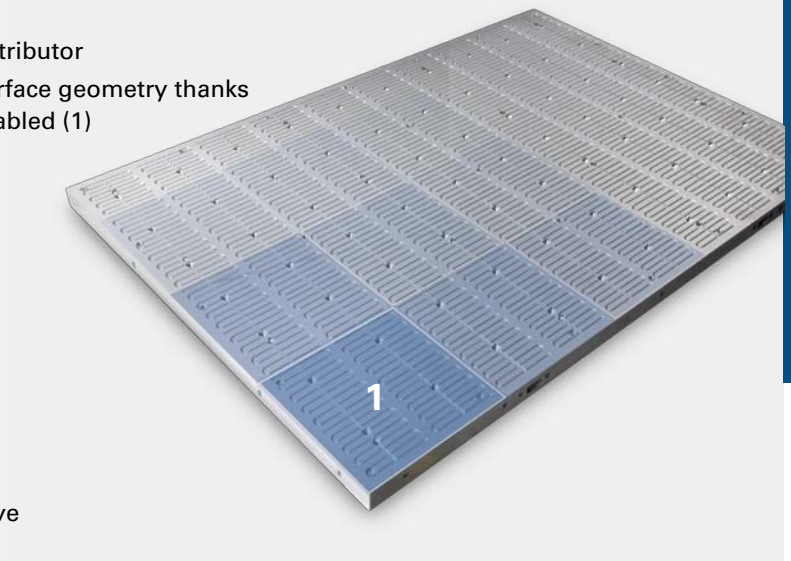
- The vacuum is distributed via meandering grooves
- Vacuum plate has stops which can be folded away
- Two fields which can be activated by the vacuum distributor
- Minimum leakage currents and optimal clamping surface geometry thanks to 100 x 100 mm fields which can be individually disabled (1)
- To be screwed onto the machine

Scope of Delivery:

- Vacuum hoses
- Grounding cable

Options/Accessories:

- Vacuum pumps
- Vacuum distributor
- VacuCard™ special cardboard
- VacuCard++ special cardboard
- Spare seal for vacuum plates with meandering groove (article No. 07010148)



Order Description	Article Number
Vacuum plate with meandering grooves; 1,000 mm x 500 mm, for ML	0A01672V
Vacuum plate with meandering grooves; 1,000 mm x 700 mm, for M10/M8Cube	0A01672R
Vacuum plate with meandering grooves; 700 mm x 500 mm, for M10/M8Cube	0A01672S
Vacuum plate with meandering grooves; incremented for CleanCut, 1.000 mm x 700 mm, for M10	0A01672T
Vacuum plate with meandering grooves; incremented for CleanCut, 700 mm x 500 mm, for M10	0A01672U

Advantages:

- Good distribution of the vacuum on the plate

Application:

- Clamping of plate materials

DATRON **Vacuum clamping plate VacuPlate™**

The DATRON VacuPlates™ are the result of many years of experience in vacuum clamping technology.

Properties:

- Individual plates which can be strung together and cascaded, which makes it easier to handle thanks to low weight and flexible clamping surface arrangement
- Optimised for effective vacuum distribution, which increases holding forces; individual segments can be blocked
- Especially high holding forces thanks to: Microperforated special cardboard – **VacuCard™**

Scope of Delivery:

- Vacuum module clamping plate VacuPlate™

Options/Accessories:

- Vacuum pumps
- Vacuumdistributor
- VacuCard™ special cardboard
- special cardboard

Advantages:

- Drastically shortened clamping times
- Vibration-free machining
- Easy milling of breakthroughs
- Individual segments, lockable

Application:

- Clamping of non-magnetic workpieces
- Clamping of thin-walled work pieces and foils
- Especially for machining plates and sheet metal

Order Description	Article Number
Module claping plate VacuPlate 1000, 1,000 mm x 200 mm	0A01680A
Module claping plate VacuPlate 1000-AS, 1,000 mm x 200 mm, over cut-out	0A01680C
Module claping plate VacuPlate 500, 500 mm x 200 mm	0A01681A

DATRON **VacuCard™**

The use of the special cardboard, DATRON VacuCard™, drastically simplifies the application of vacuum clamping technology.

Thanks to this microperforated special cardboard, the time-consuming and tedious covering of unused clamping areas is no longer necessary. The tedious handling of sealing strips is now a thing of the past!

The VacuCard™ also serves as sacrificial layer. This way, your vacuum clamping plate will be effectively protected from damage.

Properties:

- Even distribution of the vacuum over the entire clamping surface
- Microperforated special cardboard VacuCard™
- Serves as sacrificial layer

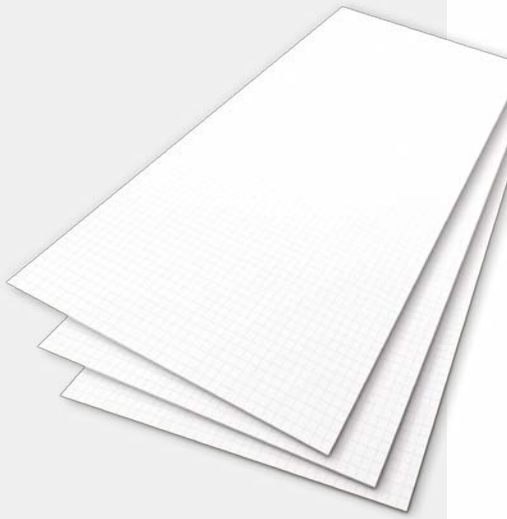
Scope of Delivery:

- 50 VacuCards™ per packaged unit

DATRON **VacuCard++**

– Patent pending –

The VacuCard++ is an especially well-adhering piece of cardboard, which is used as a sacrificial layer between the workpiece and the vacuum plate. It has an additional grid-like sealed adhesive layer which considerably improves the adhesive properties during vacuum clamping and drastically reduces the vacuum loss. VacuCard++ is especially suitable for milling out small parts.



Properties:

- Combination of adhesion and vacuum clamping
- Holds workpieces with a rough or structured surface since the drawing of ambient air is prevented by the sealing effect of the sealed adhesive layer.
- Prevents raising of edges in soft and flexible workpiecess

Order Description	Article Number
50 VacuCards 500g/qm, 650 mm x 450 mm x 0.7 mm	0A01616
50 Vacu Cards 500g/qm, 1.000 mm x 500 mm x 0.7 mm	0A01617
50 Vacu Cards 500g/qm, 1.000 mm x 700 mm x 0.7 mm	0A01617A
10 Vacu Cards++, 650 mm x 450 mm x 0.7 mm	0A01618G
50 Vacu Cards++, 650 mm x 450 mm x 0.7 mm	0A01618D
10 Vacu Cards++, 1,000 mm x 500 mm x 0.7 mm	0A01618H
50 Vacu Cards++, 1,000 mm x 500 mm x 0.7 mm	0A01618E
10 Vacu Cards++, 1,000 mm x 700 mm x 0.7 mm	0A01618I
50 Vacu Cards++, 1,000 mm x 700 mm x 0.7 mm	0A01618F
100 Vacu Cards++, 1,000 mm x 700 mm x 0.7 mm	0A01618K
50 Vacu Cards++, 1,000 mm x 700 mm x 0.7 mm	0A01618L

Advantages:

- Homogeneous vacuum
- Protects your vacuum plate
- Optimum holding force

Application:

- Milling through, milling out and drilling through on the vacuum plate
- Clamping of filigree parts

DATRON **Vacuum pumps** VP

VP-B-1

VP-B-2

VP-B-3

DATRON offers the right vacuum pump for every application. The required pump size is mostly dependent on the clamping surface of the used vacuum plate.

Scope of delivery VP-B-1/2:

- Rotary slide vacuum pump
- Double-sided rotor bearing
- Oil/air cooler
- Suction filter
- Suction side check valve
- Gas ballast valve
- Oil mist separator
- Motor protection switch
- Connection hose
- Three-phase current contactor

Scope of delivery VP-B-3:

- Rotary slide vacuum pump
- Pressure difference switch
- Vacuum reservoir
- Motor protection switch
- Overcurrent relay
- Gas ballast valve
- Suction filter
- Three-phase current contactor

Options/Accessories:

- Electr. activation via the machine control, (article No. 0A02660T)
- Connecting cable extension, 10 m (Article No. 0075075F)

Advantages:

- High suction capacity

Application:

- Reliable vaccum supply

Technical Data	VP-B-1	VP-B-2	VP-B-3
Suction capacity	100 m³/h	200 m³/h	250 m³/h
Clampint surface	up to 1,000 x 1,500 mm	from 1,000 x 1,500 mm	up to 1,600 x 2,500 mm
Type	Rotary slide	Rotary slide	Rotary slide
Lubrication	Oil sump	Oil sump	Oil sump
End pressure	20 mbar	10 mbar	10 mbar
Vacuum reservoir	–	–	
Motor rated power	3,0 kW	5,5 kW	5,5 kW
Operating voltage	3 x 400 V	3 x 400 V	3 x 400 V
Sound pressure level	67 db (A)	72 db (A)	72 kb (A)
Dimensions	748 x 433 x 310 mm	776 x 582 x 420 mm	922 x 535 x 418 mm
Weight	70 kg	150 kg	195 kg
Oil filling volume	2 l	6 l	6,5 l

Order Description	Article Number
VP-B-1 Vacuum pump, 100 cbm/h, 3 x 400 V including three-phase current contactor	0A01633A
VP-B-2 Vacuum pump, 200 cbm/h, 3 x 400 V including three-phase current contactor	0A01633F
VP-B-3 Vacuum pump, 250 cbm/h, 3 x 400 V including three-phase current contactor	0A01633G

DATRON **Vacuum distributor** VV

The distributor stop cocks allow the specific actuation of suction surfaces with negative pressure. The stop cock with deaeration is used for clamping or venting without influencing the distribution of the individual cocks. By venting, the suction pressure is immediately removed. To save space, the vacuum distributor is installed under the machine table. Special sizes are available upon request.

Properties:

- Input connection: 1 ¼" hose
- Distributor connection: ½" hose

Scope of Delivery:

- Shut-off valves
- Additional stop cock with deaeration
- Passage through the cabin wall
- All hose lines
- Mounting material, complete

Please note: When retrofitting existing machines, it might be necessary to connect a pressure monitor/manometer, as well as to use special hose lengths. If need be, contact our Customer Service. We'll be happy to advise you.

Infoline: +49 (0) 61 51 - 14 19 - 99

Order Description	Article Number
Vacuum distributor 3-fold, VV-3 M8	0A01673C
Vacuum distributor 3-fold, VV-3 M8Cube	0A01673O
Vacuum distributor 3-fold, VV-3 M10 Pro	0A01673M
Vacuum distributor 6-fold, VV-6 ML	0A01673D
Vacuum distributor 6-fold, VV-6 ML 1500-2c	0A01673I
Vacuum distributor 8-fold, VV-8 ML	0A01673B
Vacuum distributor 3-fold, VV-3 M7/M10 Power	0A01673H
Other sitzes available upon request	

Advantages:

- Fast interruption of the vacuum by means of main stop cock
- Individual actuation of the vacuum plate segments
- Better suctioning of the individual workpieces

Application:

- Actuation for several vacuum plates

DATRON **Short-stroke clamping element** pneumatic-hydraulic KSE-PH

The DATRON short-stroke clamping element is a smart high-tech timesaving element. It is used everywhere where high flexibility, high operating comfort and short conversion times are required.

The clamping element is designed for operation on a T-slot plate, but can also be used stationary.

Properties:

- Clamping jaw as easy-to-exchange wear part
- Variable clamping jaw design possible
- Horizontal clamping movement
- Functions "Release clamping", "Clamp" and "Retract clamping jaw"
- Safe one-hand operation via push-buttons; with this, minimised reclamping times
- Reliable clamping by means of pneumatic/hydraulic solution with integrated pressure intensifier
- Can be continuously shifted in the T-slot
- Clamping jaw can be easily exchanged
- Chip-tight

Scope of Delivery:

- Short-stroke clamping element
- Compressed air hose

Options/Accessories:

- Fixed clamping jaw (article No. 07007528)

Advantages:

- One-hand operation
- Fast conversion
- Adjustable clamping pressure
- Compact design

Application:

- Flexible clamping of different workpieces

Technical Data	Pneumatic/hydraulic short-stroke clamping element KSE-PH
Dimensions (L x W x H)	130 mm x 110 mm x 65 mm
Weight	1.6 kg
Operating pressure	1 to 6 bar
Clamping force	100 – 700 N
Clamping path	4 mm
Range of rotation	360°

Order Description	Article Number
Pneumatic/hydraulic short-stroke clamping element KSE-PH	0A01084A

The short-stroke clamping element KSE-AS allows for automatic clamping operation. The clamping element is designed for operation on a T-slot plate, but can also be installed in devices so that it is fixed.

Properties:

- Clamping jaw as easy-to-exchange wear part
- Variable clamping jaw design possible
- Chip-tight
- An external valve is necessary for activation (e.g. pneumatic activation unit)

Scope of Delivery:

- Short-stroke clamping element
- Compressed air hose

Options/Accessories:

- Fixed clamping jaw (article No. 07007528)
- Pneumatic control unit PA-B (article No. 0A01604P)

Technical Data	Short-stroke clamping element for automatic clamping operation KSE-AS
Dimensions (L x W x H)	125 mm x 110 mm x 65 mm
Weight	1,2 kg
Operating pressure	1 bis 6 bar
Clamping force	100 – 700 N
Clamping path	4 mm

Order Description	Article Number
Short-stroke clamping element for automatic clamping operation KSE-AS	0A01084B

Advantages:

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

Application:

- Flexible clamping of different workpieces
- For small batch and series production

DATRON **Pneumatic control unit** PA-B

The pneumatic control unit is suitable for controlling the short-stroke clamping elements in automatic clamping mode, for example. Up to eight elements can be controlled individually from the program or via the handheld control unit or keyboard.

Properties:

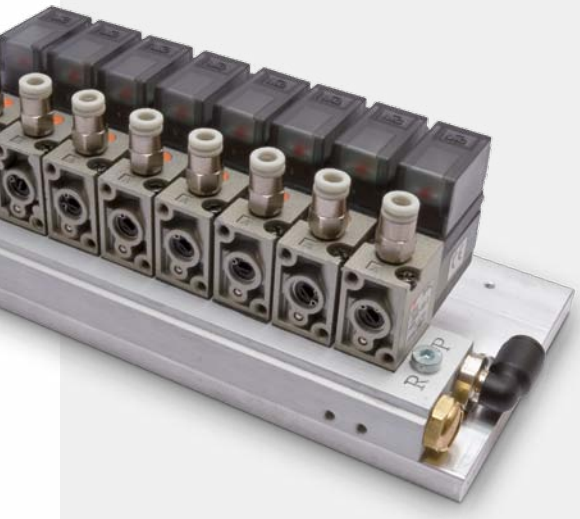
- Up to 8 valves can be individually actuated
- „Pressure on", „Pressure off" controllable via
  – Programme
  – Keyboard
  – Hand-held control unit

Scope of Delivery:

- 8x pneumatic control unit
- Digital in-/output Module

Options/Accessories:

- Short-stroke clamping element for automatic clamping operation KSE-AS (article No. 0A01084B)



Advantages:

- 8 valves can be individually actuated
- Controllable from the proramme
- Controllable froom the hand-held control unit

Application:

- Control of automatic short-stroke clamping elements
- Control of customised clamping fixtures

Technical Data	Pneumatic control unit PA-8
Dimensions (L x W x H)	170 mm x 80 mm x 60 mm
Weight	1.0 kg
Operating pressure	1 to 6 bar
Flow per connection	70 l/min at 6 bar

Order Description	Article Number
Pneum. control unit 8-fold, including digital I/O module 8 in/8 out	0A01604P
Pneum. control unit 8-fold, including digital I/O module 16 in/16 out	0A01604Q

DATRON **Wedge clamping element** KSE

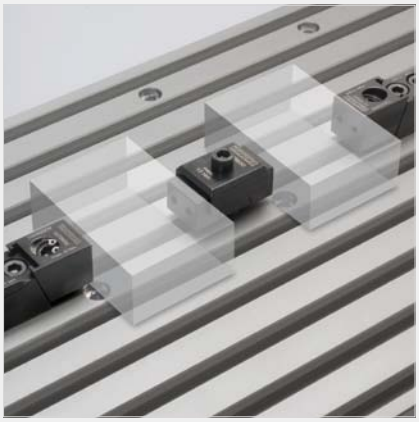
The wedge clamping elements can be configured for single as well as for multiple clampings. Due to their clamping screw and the T-nut, they can be flexibly used on the DATRON T-slot plate.

The compact design allows the work area to be optimally used.

KSE 21-8

KSE 21-G8

KSE 21-FBA



Technical Data	KSE 21-8, glatt	KSE 21-G8, rippled	KSE 21-FBA
Jaw width	21 mm	21 mm	21 mm
Clamping force	15,000 N for 25 Nm	15,000 N for 25 Nm	4 kN for 7 Nm
Clamping screw	M6	M6	M6
L min-max (mm)	40 - 44.5	35 - 39.5	49.1 - 51.9
Total height (mm)	29.5 - 33.5	29.5 - 33.5	20 - 28
Feed stroke (mm)	0 - 4	0 - 4	0 - 8

Order Description	Article Number
Wedge clamping element KSE 21-8 with smooth clamping surface	0078930
Wedge clamping element KSE 21-G8 with rippled clamping surface	0078931
Wedge clamping element KSE 21-FBA	0078932

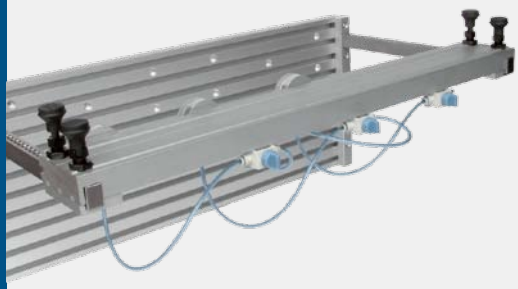
Advantages:

- Simple handling
- Pull-down clamping
- Flexible
- Fast conversion
- High clamping force
- Stable design thanks to special guides

Application:

- Clamping of mechanical parts

DATRON **Pneumatic vertical clamping system** PV



Version 0A01087B

The pneumatic short-stroke clamping system for DATRON machines with table cut-out is especially suited for the fast and easy clamping of housings. The clamping plate equipped with T-slots is vertically fastened in the cut-out of the machine table. Fitted with several pneumatic short-stroke cylinders, the vertical clamping beam is easily held via groove wedges. The adjustable cylinders are continuously actuated individually via pneumatic valves.

Properties:

- The clamping force changes linearly with the operating pressure

Scope of Delivery:

- Clamping fixture
- Short-stroke cylinders according to table below
- Compressed air hose
- Pneumatic valve

Options/Accessories:

- Short-stroke cylinder

Article designation	Article Number	Clamping range in X and Y	Number of short-stroke cylinder	Height stop	Operating pressure	Clamping force per cylinder
Pneumatic vertical clamping system for M8/M85/M10 Power/ M8Cube	0A01087B	X = 575 mm Y = 215 mm	3	–	1–6 bar	750 N at 6 bar
Pneumatic vertical clamping system for M8/M85	0A01087C	X = 610 mm Y = 215 mm	3	–	1–6 bar	750 N at 6 bar
Pneumatic vertical clamping system for M8, M85 with height stop	0A01087D	X = 610 mm Y = 207 mm	8	yes, adjustable	1–6 bar	750 N at 6 bar
Pneumatic vertical clamping system for M8, M85 with height stop	0A01087E	X = 610 mm Y = 207 mm	3	yes, adjustable	1–6 bar	750 N at 6 bar
Pneumatic vertical clamping system for M8, M85 with height stop, tiltable by 3 degrees	0A01087F	X = 610 mm Y = 207 mm	3	yes, adjustable	1–6 bar	750 N at 6 bar
Pneumatic vertical clamping system for MV	0A01087G	X = 660 mm Y = 310 mm	4	–	1–6 bar	750 N at 6 bar
Pneumatic vertical clamping system for M10 Pro/ M8Cube, with height stop	0A01087H	X = 575 mm Y = 207 mm	3	yes, adjustable	1–6 bar	750 N bei 6 bar

Advantages:

- Quick and easy clamping
- Vertical clamping of long parts
- Short-stroke cylinders which can be continuously shifted
- Minimisation of the danger of injury

Application:

- Front-sided machining of workpieces
- Clamping of housings

Order Description	Article Number
Pneumatic vertical clamping system for M8/M35/M10 Power/M8Cube	0A01087B
Pneumatic vertical clamping system for M8, M85 , clamping width Y = 215 mm	0A01087C
Pneumatic vertical clamping system for M8, M85 with height stop	0A01087D
Pneumatic vertical clamping system for M8, M85 with height stop	0A01087E
Pneumatic vertical clamping system for M8, M85 with height stop, tiltable 3 degrees	0A01087F
Pneumatic vertical clamping system for MV	0A01087G
Pneumatic vertical clamping system for M10 Pro/M8Cube, with height stop	0A01087H

DATRON Compact centric clamp KZS

The encapsulated DATRON compact centric clamp is completely protected from dirt. Thanks to its specially developed slide geometry with a guide length of 150 mm, the KZS is the first fully encapsulated centric clamp.

Malfunctions due to dirt and stuck chips are now a thing of the past.

Options/Accessories:

- Spare aluminium clamping jaw (article No. 0078936C)

max. Clamping range Compact centric clamp KZS	Single clamping
Clamping deptch (max. 14 mm)	0 – 160 mm
Clamping depth (max. 32 mm)	0 – 75 mm

DATRON Multifunctional clamp MFS

The multifunctional clamp can be used for single or double clamping for small and large work pieces.

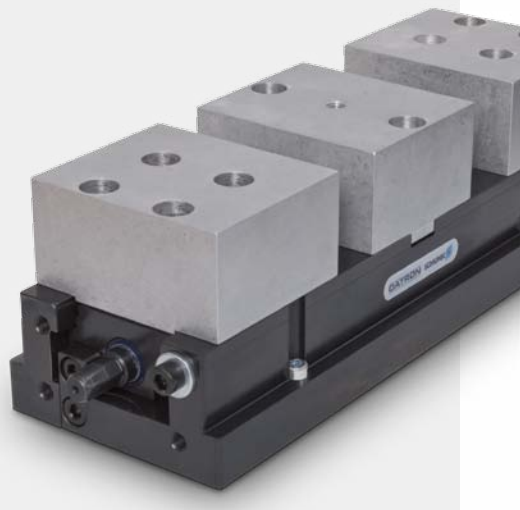
By individually working in the clamping contour in the aluminium clamping jaws, quick, work piece-optimised clamping is achieved. Fast, precise positioning and clamping on the machine is possible thanks to the integrated DATRON zero-point clamping system.

Options/Accessories:

- Aluminium middle jaw, fixed (article No. 0078936B)
- Aluminium side jaw, movable (article No. 0078936A)

max. Spannbereich Multifunctional clamp MFS	Single clamping	Double clamping
Clamping depth (max. 32,5 mm)	0–310 mm	0–145 mm
Clamping depth (max. 49 mm)	0–207 mm	0–103 mm

Technical Data	DATRON Compact centric clamp KZS	DATRON Multifunctional clamp MFS
Jaw width	100 mm	100 mm
Clamping force	20 kN at 65 Nm torque (total)	20 kN (per jaw)
Weight	9 kg	16 kg
Basic body length	150 mm	330 mm
Basic body width	140 mm	118 mm
Basic body height	105 mm	109,5



Order Description	Article Number
DATRON Compact centric clamp KZS	0A01088D
DATRON Multifunctional clamp MFS	0A01088C

Overview DATRON CNC rotary axes

Economic multi-side machining with DATRON CNC rotary axes
Fine-mechanic parts can be precisely machined on multiple sides with the DATRON rotary axes. Small electrodes, round engraving or even jewellery moulds are typical applications. All DATRON rotary axes are delivered with integrated servo-positioning units and additional software. They can also be installed easily at a later time.

Precision rotary axis PDA360
Suitable for applications where workpieces must be turned during machining or for multi-side machining with high demands on precision. Robust gears running in an oil bath allow for low-friction operation and provide long-term reliability. The axis is characterised by top precision and has a resolution of 864,000 steps/revolution. Its dimensions are 352 mm x 185 mm x 148 mm (L x W x H).

Rotary swivel table DST
Five workpiece sides can be machined in one set-up. The DATRON control also supports complex five-axis simultaneous machining here. Centring sleeves ensure that the rotary/swivel table can be reproducibly inserted in the cut-out of the machine.

DATRON **Precision rotary axis** PDA360

This DATRON rotary axis is characterised by an especially high-quality structure, very high resolution and a maximum of backlash freedom. It offers high holding forces, e.g. for taking up clamping fixtures. Available in a single-turn or multi-turn design.

Robust gears running in an oil bath allow for low-friction operation and provide long-term reliability.

For DATRON milling machines with lower portal passage, the traverse path must be adapted.

Properties:

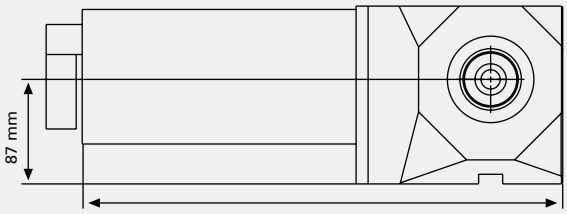
- SK40 insert
- Resolution: 864,000 steps/revolution
- Multi-turn version: Axis can be freely rotated, reference point can be freely selected
- Single-turn version: Fixed zero point of the axis, only one revolution possible

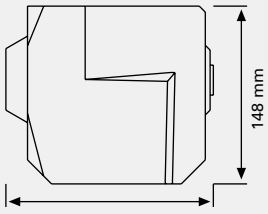
Scope of Delivery:

- Rotary axis
- Connection cable
- User software
- Collet chuck 20 mm (article No. 0068380)
- SK40 collet chuck holder for collet chucks ER32 (article No. 0069783)
- Reference switch (article No. 0690223H)
- Module clamping place (article No. 0690211G)

Options/Accessories:

- Collet chuck set ER32, inner diameter 3 mm to 20 mm (article No. 0068360)
- Three-jaw chuck (article No. 0A01123M)
- Four-jaw chuck, (article No. 0A01123N)





Technical Data	Precision rotary axis PDA360
Dimensions (W x D x H)	425 mm x 185 mm x 148 mm
Resolution	864.000 steps/revolution
Speed	30 1/min
Centre height	102 mm
Max. tool diameter	195 mm

Order Description	Article Number
Precision rotary axis PDA360, multi-turn	0A01125
Precision rotary axis PDA360, single-turn	0A01125E

DATRON **Precision rotary axis with tailstock** PDARS360

This rotary axis is especially suited for all-round machining of long workpieces or for drilling in the radial direction.

The rotary axis with tailstock is available with module clamping technology.

Properties:

- SK40 insert

Scope of Delivery:

- Precision rotary axis PDA360
- Connection cable
- User software
- Collet chuck 20 mm (article No. 0068380)
- SK40 collet chuck holder for collet chucks ER32 (article No. 0069783)
- Reference switch (article No. 0690223H)
- Linear guide with tailstock
- Module plate

Options/Accessories:

- Collet chuck set ER32, inner diameter 3 mm to 20 mm, (article No. 0068360)

Advantages:

- Stop-free rotary axis
- Counterbearing of long workpieces
- High precision
- High twisting rigidity
- Variable clamping length thanks to modular clamping system

Application:

- Multi-side machining of long, rotationally-symmetrical workpieces
- Round engraving (skales etc.)
- Turning and milling

Technical Data	Precision rotary axis with tailstock PDARS360
Dimensions (W x D x H)	1,050 mm x 430 mm x 161 mm
Resolution	864.000 steps/revolution
Speed	30 1/min
Centre height	max. 69 mm
Max. tool diameter	135 mm
Max. workpiece length	650 mm

Order Description	Article Number
Precision rotary axis with tailstock PDARS360, multi-turn, M8/M85	0A01125A
Precision rotary axis with tailstock PDARS360, multi-turn, M10 Power, ML	0A01125G

This DATRON rotary axis is characterised by an especially high-quality structure, very high resolution and a maximum of backlash freedom. It offers high holding forces, e.g. for taking up clamping fixtures.

Robust gears running in an oil bath allow for low-friction operation and provide long-term reliability.

For DATRON milling machines with lower portal passage, the traverse path must be adapted.

Properties:

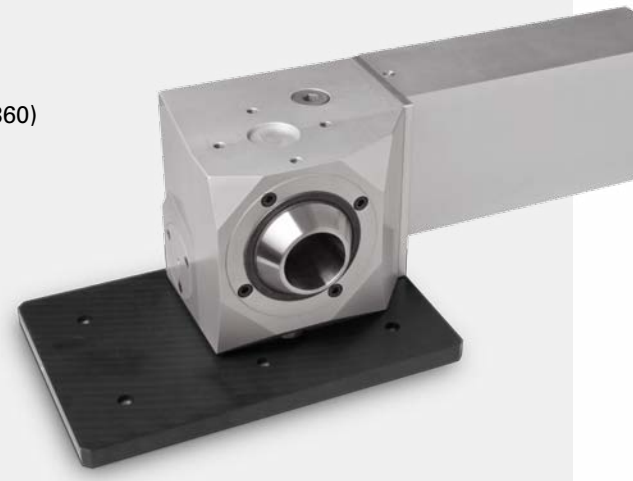
- SK40 insert

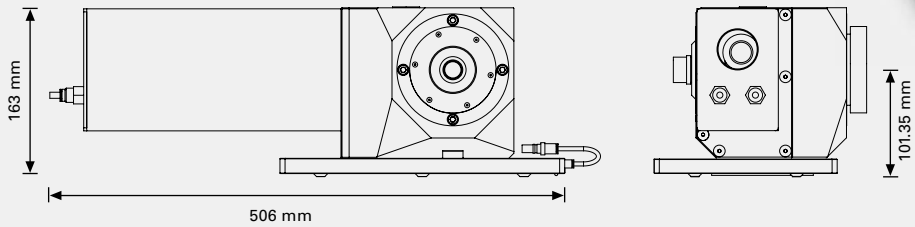
Scope of Delivery:

- Rotary axis
- Connection cable
- User software
- Collet chuck 20 mm (article No. 0068380)
- SK40 collet chuck holder for collet chucks ER32, (article No. 0069783)
- Module clamping plate (article No. 0690211G)

Options/Accessories:

- Collet chuck set ER32, inner diameter 3 mm to 20 mm (article No. 0068360)
- Three-jaw chuck (article No. 0A01123M)
- Four-jaw chuck (article No. 0A01123N)





Technical Data	Precision rotary axis PDApro
Dimensions (W x D x H)	507 mm x 209 mm x 163 mm
Resolution	0.0001°
Max. speed	33.3 1/min
Centre height	max. 101 mm
Max. tool diameter	195 mm

Order Description	Article Number
Precision rotary axis PDApro, moduloaxis and absolute encoder, M10 Pro	0A01125H
Precision rotary axis PDApro, moduloaxis and absolute encoder, M8Cube	0A01125L

DATRON **Precision rotary axis with tailstock** PDARSpro

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

Properties:

- SK40 insert

Scope of Delivery:

- Rotary axis PDA360
- Connection cable
- User software
- Collet chuck 20 mm (article No. 0068380)
- SK40 collet chuck holder for collet chucks ER32 (article No. 0069783)
- Reference switch (article No. 0690223H)
- Linear guide with tailstock
- Module plate

Options/Accessories:

- Collet chuck set ER32, inner diameter 3 mm to 20 mm, (article No. 0068360)

Advantages:

- Stop-free rotary axis
- Counterbearing of long workpieces
- High precision
- High twisting rigidity
- Variable clamping length thanks to modular clamping system

Application:

- Multi-side machining of long, rotationally-symmetrical workpieces
- Round engravings (skales etc.)
- Turning and milling

Technical Data	Precision rotary axis with tailstock PDARSpro
Dimensions (W x D x H)	1,098 mm x 536 mm x 196 mm
Resolution	0.0001°
Speed	33.3 1/min
Centre height	max. 60 mm
Max. tool diameter	120 mm
Max. workpiece length	650 mm

Order Description	Article Number
Precision rotary axis PDARSpro, moduloaxis and absolute encoder, M10 Pro	0A01125K
Precision rotary axis PDARSpro, moduloaxis and absolute encoder, M8Cube	0A01125M

The massive unit consists of a horizontally aligned swivel axis in a U design, which supports the compact rotary table with a face plate diameter of 135 mm. Centring sleeves ensure that the rotary/swivel table can be reproducibly inserted in the cut-out of the machine. Included in the scope of delivery is a zero-point clamping tower, which allows the pneumatic clamping of workpiece carriers with a repeat accuracy of 1/100 mm.

Application-specific workpiece carriers can be set up on the empty module clamping plate (available as an option), which then can be used as a changing system without additional set-up work. Five workpiece sides can be machined in one set-up. The DATRON control also supports complex five-axis simultaneous machining here.

Scope of Delivery:

- Rotary swivel table with zero-point clamping system and vise
- Adapter plate (article No. 0069080Y)
- Mounting flanges for inserting in the machine
- Connection cable
- User software

Options/Accessories:

- Centring clamp on adapter plate (article No. 0069080X)
- Torque wrench (article No. 0069080W)
- Stepped jaw (article No. 0069080U)
- Raw jaw (article No. 0069080V)
- Equipment carrier (article No. 0069080T)
- 3-jaw chuck on adapter plate for zero-point clamping system (article No. 0A01123A)
- 4-jaw chuck on adapter plate for zero-point clamping system (article No. 0A01123B)
- Collet chuck ER32 for zero-point clamping system (article No. 0A01123C)

Compatibility:

- Starting from software version V8.03 O

Technical Data	Rotary/swivel table DST
Dimensions (L x W x H)	170 mm x 600 mm x 285 mm
Weight	approx. 38 kg
Type of protection	IP65
Swivel range (swivel axis)	110°
Turning range without stop (rotary axis)	360°
Axial running	< 0,01 mm
Concentricity	< 0.01 mm
Positioning error (absolute)	< = ± 50"
Repeatability	< = ± 25"

Order Description	Article Number
CNC rotary/swivel table DST, M10 Power cpl. with zero-point clamping system	0A01126K
CNC rotary/swivel table DSTpro, M10 Pro cpl. with zero-point clamping system	0A01126M
CNC rotary/swivel table DST, M8 cpl. with zero-point clamping system	0A01126L
CNC rotary/swivel table DST, M8Cube cpl. with zero-point clamping system	0A01126N

Advantages:

- Precise 5-side machining in one set-up
- Integrated zero-point clamping system
- Extensive software support with automatic set-up function and zero-point tracking
- Automatable

Application:

- Multi-side machining
- Suitable for workpiece sizes from 60 x 60 mm to 150 x 150 mm, larger workpieces on request

DATRON **Graphite dust suctioning M7** GSA

The specially powerful graphite dust suctioning for the machining system M7 offers the greatest possible protection from fine graphite dust for the machine and its surroundings.

A round suction nozzle on the machine table encloses the workpiece and the clamping fixture. In connection with the high suction power of the suction unit, there are eddy currents in the nozzle which surround the workpiece and effectively suction any dust created during machining. Larger particles remain in the nozzle and can be vacuumed up with the manual suction nozzle present on the suction unit after machining.

Properties:

- In stage one, course particles are separated from the rest of the dust in the "cyclone" and are caught in a 50 l tank.
- In stage two, graphite dust is separated from the suctioned air in the main filter element. The filter element is cleaned by means of a mechanical device.

Scope of Delivery:

- Industrial vacuum cleaner on rollers
- Back wall with hose connection (Ø 70 mm)
- Suction nozzle Ø 225 mm
- All necessary connections
- Tubing approx. 4 m
- Additional manual suction nozzle
- Collection tank with PE sack for dust-free emptying
- Three-phase current contactor

Table nozzle

Application:

- Dust suctioning
- Graphite dust suctioning
- Green ceramic dust suctioning

Technical Data	Graphite dust suctioning M7 GSA
Nominal power	3.0 kW
Nominal capacity	520 m³/h
Operating voltage	3 x 400 V (32 A), max. permitted fuse on part of the constuctor 20 A, 50 Hz
Sound pressure level	68 dB (A)
Main filter area	1.75 m² category „M" according to DIN EN 60335-2-69
Dimensions (L x W x H)	850 mm x 760 mm x 1,820 mm
Weight	161 kg (suction unit only)

Order Description	Article Number
Graphite dust suctioning M7 with accessories	0A01179B
Table nozzle for graphite dust suctioning M7 with accessories	0A01179C

DATRON **Safety suctioner Alto Type 22**

Here you will find the ideal wet/dry vacuum cleaner for working in environments with potentially explosive dusts in accordance with ATEX Zone 22.

The vacuum cleaner has a 70 l Stainless Steel tank, which can be tilted or can be lifted out of the frame for emptying. A robust steel chassis and large wheels ensure its mobility and durability, while the automatic switch-on function increases the working efficiency.

Properties:

- Approved for environments with explosive dusts in accordance with ATEX Zone 22

Scope of Delivery:

- Filter bag
- Suction hose (Ø 50 mm, length 4 m)
- Suction hose (Ø 27 mm, length 3.5 m)
- Bushing

Options/Accessories:

- Filter element "M" (article No. 0069655B)
- Filter bags, 5 x (article No. 0A01180K)
- Safety filter sack (article No. 0069655A)

Technical Data	Safety suctioner SAS-WAP
Air volume	3,400 l/min
Power	1.5 kW
Operating voltage	230 V
Working noise	59 dB (A)
Tank volume	70 l
Dimensions (L x W x H)	605 mm x 580 mm x 970 mm
Weight	26 kg

Order Description	Article Number
Safety suctioner Alto Typ 22 with suction hose	0A01180A

Advantages:

- Chip-free milling
- Suitable for dangerous dusts in accordance with ATEX Zone 22
- antistatischer Saugschlauch

Application:

- Graphite machining
- Plastic machining

DATRON **Industrial vacuum cleaner** RI 331 **for CleanCut**

The RI 331 industrial vacuum cleaner is particularly suitable for use with the DATRON CleanCut suction system. A large volume pre-separator allows the vacuum cleaner to be operated for a long time. The sound-insulated and splash-proof housing is made of painted Steel. The vacuum cleaner is also equipped with a pressure manometer for volume flow monitoring.

Pre-separator:
The pre-separator has a collection vessel volume of 160 litres with a tilting undercarriage which can be tilted by a forklift or a crane. The pre-separator can be rolled with two steering and fixed rollers.

Properties:

- For metallic chips and general dust
- Suitable for use in the dust EX area
- For toxic substances and dusts
- Longer filter service life since the pocket filter can be washed out

Scope of Delivery:

- Industrial vacuum cleaner on rollers
- All necessary connections
- Tubing approx. 3 m
- 160 litre pre-separator (version 0A01177)
- Vacuum cleaner control
- Three-phase current contactor

Pre-separator

Advantages:

- Large collection volume
- Chips can be emptied easily

Application:

- Optimised for the DATRON CleanCut suction system

Technical Data	Industrial vacuum cleaner RI 331 for CleanCut
Nominal power	3.0 kW
Nominal capacity	320 m³/h
Operating voltage	400 V
Sound pressure level	60 dB (A)
Main filter area	1.75 m² category „M" according to DIN EN 60335-2-69
Dimensions (L x W x H)	850 mm x 760 mm x 1,700 mm
Weight	142 kg

Technical Data	Pre-separator for industrial vacuum cleaner RI 331
Volume	160 l
Dimensions (L x W x H)	720 mm x 820 mm x 1,360 mm
Weight	87 kg

Order Description	Article Number
CleanCut industrial vacuum cleaner with pre-separator station	0A01177
CleanCut industrial vacuum cleaner without pre-separator station	0A01177E

With the DATRON CleanCut System, chips can be removed very efficiently. Nearly chip-free working is possible thanks to this suctioning technology developed especially for plate machining. Time-consuming machine cleaning is no longer necessary.

Due to non-contact removal of chips, CleanCut suctioning is also suitable for highly sensitive surfaces. The automatic extension/retraction of the suction head also saves time.

Tool measurement and 3D measurement can be performed without any restrictions. If the suction funnel disturbs during machining, it can remain fixed in the retracted position or be dismantled. With the optionally available four-nozzle cooling lubrication head, you can remove chips and effectively cool the machining tool at the same time. This combination of suction and minimum quantity cooling leaves almost no residue.

Note:
The portal passage is reduced by CleanCut from 200 mm to 160 mm. CleanCut must be operated with suitable minimum lubrication.

Properties:

- Program-controlled extension/retraction
- Distance to the surface can be precisely set
- Non-contact suction
- Compatible with tool changing station and precision sensor
- Automatic swinging in and out with parking function
- Can be used for spindles with HSK-E 25 insert
- Minimum quantity lubrication is necessary

Scope of Delivery:

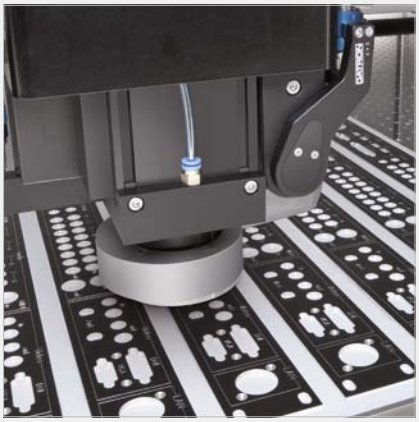
- CleanCut basic module and suction funnel

Options/Accessories:

- CleanCut industrial vacuum cleaner with pre-separator station (article No. 0A01177)
- CleanCut M8/M85 hose connection (article No. 0A01177B)
- CleanCut M8XL hose connection (article No. 0A01177C)
- CleanCut M10 Pro hose connection (article No. 0A01177L)
- Four-nozzle lubrication system for CleanCut (article No. 0A01106S)
- Four-nozzle lubrication system M10 Pro (article No. 0A01106W)

Technical Data	CleanCut CC
Max. distance to the table surface	98 mm
Max. distance to vacuum module clamping plate MS-VP-A and sandwich vacuum plate VSP	40 mm
Max. distance to vacuum module clamping plate MS-VP-B	38 mm
Max. distance to vacuum module clamping plate VacuPlate ™	58 mm

Order Description	Article Number
CleanCut basic module with suction funnel M8/M85	0A01177A
CleanCut basic module with suction funnel M10 Pro	0A01177K
CleanCut basic module with suction funnel M8Cube	0A01177M



Advantages:

- Chip-free machining
- reduction of non-productive time
- Clean CNC machine

Application:

- Plate material made of Non-Ferrous Metal, Plastic, Graphite and Wood

DATRON **Suctioning** SAS

Suctioning SAS

Combining SAS and SAS-SH makes a variable system which makes it possible to quickly and easily convert between cool-spraying mode and suctioning.

The DATRON suctioning system SAS is used in order to dispose of any accumulated chips and dust which form during sheet-metal machining.

A brush which surrounds the milling cutter keeps chips and dust in the drawing area of the suction.

SAS suctioning is suitable for spindles with direct shaft clamping.

Scope of Delivery:

- Suction head
- Basic module for brush
- Brush
- Suction hose Ø 36 mm including splice 58 mm for vacuum cleaner
- Cabin wall passage
- Spray nozzle holder for basic suction module 0.6 to 2.0 kW

Spray nozzle holder for basic suction module SAS-SH

If spraying equipment is used, this can be fastened to the machine as an alternative to the brush head. The spray nozzle holder for the basic SAS-SH suction module makes installation work easier, since the SAS suctioning does not have to be completely dismantled when it is used.

Limitations:
It is not possible to suction chips in spray mode.

When the brush and the closed 15fold tool changers are used, tool positions 1, 15 and 16 cannot be used.

Depending on the machine type, limitations in the machining area are to be expected.

Advantages:

- Chip-free working
- No scratches due to chips
- No cleaning up läter

Application:

- Graphite machining
- Plastic machining
- GRP machining
- For sheet metal machining only

Order Description	Article Number
SAS suctioning for spindles with direct shaft clamping, for M7/M8	0A01173F
Suctioning for spindles with direct shaft clamping, for ML machines	0A01173M
Spray nozzle holder for basic suction module SAS-SH	0A01175B

DATRON **Brush HSK-E 25**

The DATRON suctioning can be used to dispose of dusts and chips which accumulate during plate machining.

The brush surrounding the milling cutter prevents chips and dusts from getting out of the drawing area of the suction.

The HSK-E 25 brush is designed for M8 and M8XL-1600 machines. It can also be used on other types of machines (ML, MV and M7). Limitations can also result in the travel path. As an alternative to the brush head, a microjet spray head can be attached.

Scope of Delivery:

- Suction head
- Brush
- Fixture
- Blow-off device
- Extended fixture for the precision sensor
- Suction hose Ø 36 mm
- Cabin wall passage
- Submacro "Abblasen.mcr"

Properties:

- Brush for HSK-E 25 spindles
- Brush pushes itself upward during a tool change
- Automatic blowing off of chips via submacro

Advantages:

- Chip-free working
- No scratches due to chips
- No cleaning up lager

Application:

- Plastic machining
- GRP machining
- For sheet meal machining only
- (Graphite machining)

Order Description	Article Number
Suctioning with HSK-E 25 spindle suction connection 0A01173L	0A01173L

DATRON **Chip conveyor** M10-NL

The robust and durable design of the DATRON chip conveyor, made of anodised Aluminium extrusions, allows dry and slightly moist chips to be transported out of the machine. In addition, chips can be conveyed up to 60° upward and are conducted directly away into a container.

Properties:

- Programmable drive with constant or cyclical belt movement
- Continuous adjustment of the belt bend between 0 and 60°

Scope of Delivery:

- Chip conveyor with cycle switching device

Advantages:

- Automatic removal of chips from the machine
- High working safety

Application:

- Suitable for M10 Pro and M10 Power machines

Technical Data	Chip conveyor M10–NL
Flat belt length L1	1,250 mm
Inclined belt length L2	1,000 mm
Nominal belt width	450 mm
Max. conveying height up to top edge of the chip container	650 mm
Running cover	Polyester
Supply/power	400 V; 0.18 kW

Order Description	Article Number
Chip conveyor M10-NL	0A01170

DATRON Ion spray gun with filter pressure controller

Ionised compressed air is given off with the ion spray gun. This way, electrically charged chips, which adhere to the machine after machining plastics or other materials, are discharged. The chips hit by the ionised air discharge and fall to the floor.

This drastically reduces the time for the tedious cleaning of workpieces and machine walls.

The ion spray gun can be retrofit on any machine. All that is needed is a connection for the compressed air supply and a 230 V electrical socket.

Scope of Delivery:

- Pressure reducer
- Ion gun
- Power supply
- Compressed air hose extension

Technical Data	Ion spray gun with filter pressure controller
Compressed air connection	At least 2 bars, max. 10 bars
Weight	6 kg
Supply	230 V

Order Description	Article Number
Ion spray gun with filter pressure controller and power supply	0A01182
Ion spray gun with filter pressure controller, power supply and nozzles	0A01182A
Ionising nozzles for mounting on the Z-axis	0A01182B
Ionising nozzles for mounting on the Z-axis, M10 Pro	0A01182D

Advantages:

- Considerably simplifies machine and workpiece cleaning
- Shortens the machine-cleaning time

DATRON **Membrane dryer unit** MTE

The membrane air dryer with maintenance unit protects the high-frequency spindle and pneumatic valves from damage due to moist compressed air.

The air dryer is pneumatically operated and requires no connections of its own. It is simply inserted in the compressed air line. For this reason, the air dryer is especially suitable where no other connection option exists.

Function:
The membrane draws the moisture out of the compressed air and releases it again on the atmosphere side. To keep the membrane safely dry, a part of the dried air is branched off and conducted to the outside via the membrane.

This results in air consumption of about 10% of the nominal flow rate.

Properties:

- For max. 15 m³/h volume flow
- No other connections are required
- Max. air consumption approx. 1.5 m³/h

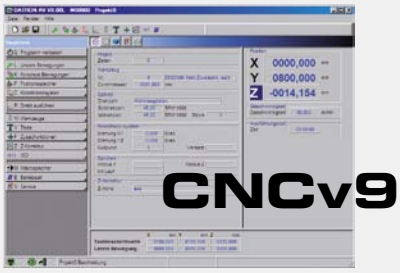
Scope of Delivery:

- Membrane dryer unit for one machine
- Stop cock
- Fastening material
- Connection material

Order Description	Article Number
Air dryer unit 15 m³/h + 1/2" (13 mm) hose	0A01183

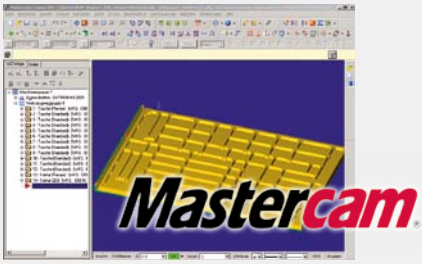
DATRON **Machine software CNCv8/v9**

The DATRON CNC software offers high performance with easiest handling for the operator at the same time. This is reached by means of a clearly structured user interface based on Windows®, intuitive user guidance and the programming of plain language commands. Already existing data is used via CAD interfaces.



DATRON **CAM modules**

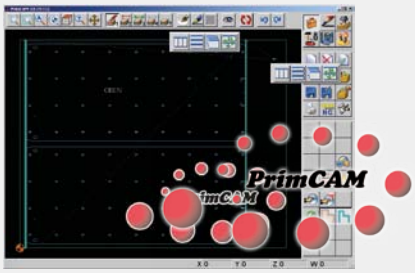
The DATRON CNC control is compatible with all common CAD/CAM programmes on the market. The following programmes are used at DATRON and can therefore be especially recommended by us:



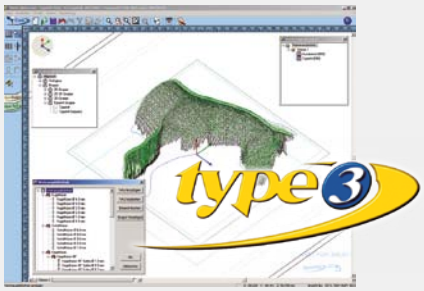
The 2.5D CAD/CAM system **PrimCAM** implements the philosophy of DATRON machine software consistently for the CAD/CAM area: Easy to learn, easy to operate, but still powerful. The clearly structured menu guidance allows even CAM beginners to create their own CNC programmes within a minimum amount of time. Many special functions of the DATRON CNC control are directly integrated in **PrimCAM**.

Mastercam offers a wide range of complete machining software for 2- to 5-axis milling. Thanks to the modular structure, **Mastercam** can be tailored to special applications (**Mastercam**, milling entry, Level1, Level2, Level3). **Mastercam** is the most frequently used PC-based CAD/CAM software of the world today with more than 85,000 installations.

SolidCAM is the complete manufacturing solution for efficient NC programming in SolidWorks. **SolidCAM** in successfully used in many industrial applications (mechanical manufacturing, electronics, automobile and aerospace industry).

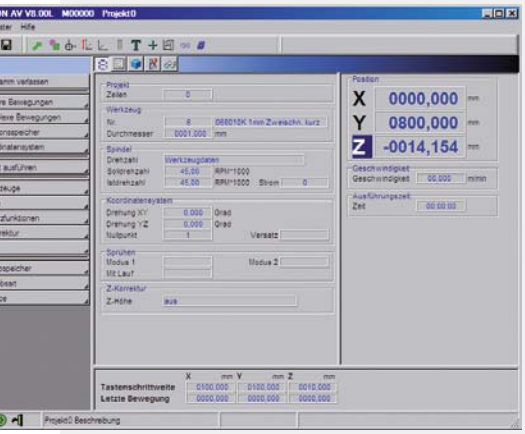


Type3 from Vision Numeric is a specially perfected software solution for 3D CNC machining in the artistic and creative area. 3D engraving, complex dies, coins, jewellery elements and many other — more artistic — applications can be effectively realised and manufactured on the DATRON machine. Further powerful software solutions in this application area are also provided by AH-Soft (**HCAM**) and Delcam (**ArtCAM**).



The DATRON CNC software offers high performance with simplest handling for the operator at the same time. This is achieved by means of a clearly structured user interface based on Windows and programming with plain language commands. The menu guidance is intuitive, so that even complex applications can be easily programmed. There are many simple and complex commands available for milling, drilling and engraving. Also, existing library functions can be used, or new ones created by the operator. Already existing data is used via CAD interfaces.

The DATRON CNC software has extensive software help and is also available as a work preparation version.



CNCv9

Properties:

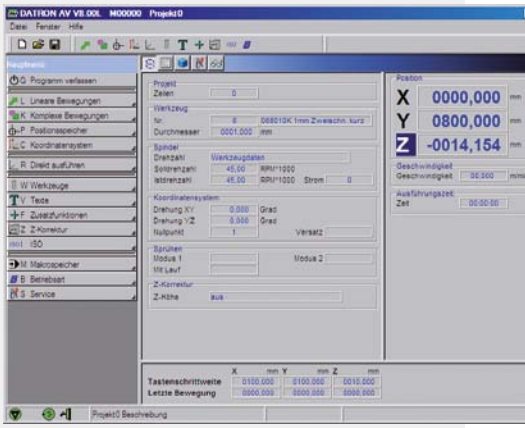
- Very simple programming by means of menu guidance and powerful macro functions
- Easy to learn, easy to operate
- Very fast programming: With two presses of a button, you can reach most basic functions.
- Macro programming system with plain language commands
- Library of basic elements; e. g. DSUB, BNC, Lemosa
- Many “ready-to-use” commands, e.g. thread, counterbore, rectangles, circles and pocket cycles
- Automatic tool radius correction
- Powerful engraving commands
- Extensive font libraries available
- Graphic display of the machining paths in several display modes
- Machining simulation with display of the actual tool diameter
- Measuring function on the screen
- Simple pre-calculation by specifying machining duration and machining path
- Fast and simple interfaces for CAD/CAM programs: Data converters are available for the following formats: HPGL, DXF, DIN 66025, drilling data, CL data, customer-specific formats

Options/Accessories:

- Partial measuring field

Upgrading the machine software from CNCv8 to v9 offers the following new functions:

- Extension of "Condition" macro
- Order of submacros
- Deviations in Z correction
- Tool data, Position data
- Macro command "Environment"
- New macros "ArcA" und "Arcl"
- New macro parameters
- "Mload" (execution of external files MCR and ISO)
- "Checktool"
- "Tcheck" extended
- Text in the macro
- Execute macro project in nesting mode
- Order displayed in libraries
- "Mservice" macro
- "Dynamic" macro
- Revision and extension of the "Thread" command
- Extension of "Repeat" macro



CNCv9

Order Description	Article Number
Machinen software CNCv9 upgrade v8 → v9	0A01357

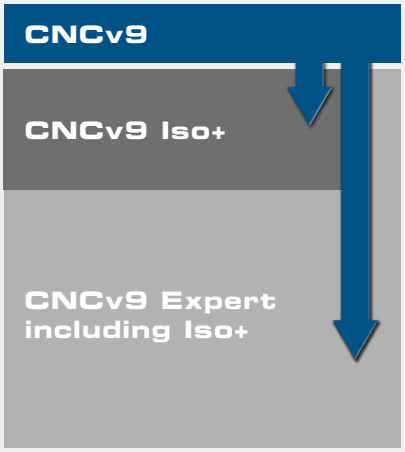
DATRON **Software options**

The software option v9 Iso+ includes the following functions:

- Protected areas (Protecting certain areas of parts and components to avoid damages)
- Tool monitoring path and time (automatic replacement of milling cutters after a defined time or a defined path)
- Iso In/Out (permits the importing and exporting of Iso formats)
- Smoothing (milling data can be smoothed, to avoid corners and edges and to compensate for outlier values)

In addition to the functions of software option v9 Iso+,
v9 Expert with Iso+ includes the following functions:

- HPGL In (permits the importing of HPGL formats)
- Drilling data In (permits the importing of drilling data)
- CL-Print In (permits the importing of CL print files)
- Menu items can be deactivated/enabled (rights can be limited or enabled for certain operators)
- Libraries (programme sequences which often repeat can be put together)
- ZHK-Polygon (definition of complex areas for the Z height measurement)
- Import/Export tool data/position data
- Macros “ArcA” and ArcI” (permits to carry out circular movements in a space)
- Execute in nesting mode (execute loaded macros multiple times)
- User-defined thread tables
- "Dynamics" macro (Adaptation of the dynamic parameters to the machine)
- Tool type management (administration of tool types, to be arranged in the tool changer into respective positions)
- Variable angle measurement programme for all four corners (variable approaching of workpiece edges in length and orientation)
- Two-hole rotation macro (measurement programme for variable probing of two drilled holes in any position)
- DATRON engraving fonts 22 fonts



Advantages:

- Reduction of programming time
- Cost and time savings
- Improvement of workpiece quality
- Reduction of rejection rate

Order Description	Article Number
Software option v9 Iso+	0A01381
Software option v9 Expert including Iso+	0A01382E

DATRON PerfectCut smoothing and dynamics combination for HSC milling machines (M8Cube, M10 Pro, C5) offers numerous advantages in terms of production efficiency and machining quality.

With PerfectCut you reduce tool wear of your machine, increase surface quality and shorten the machining time of your workpieces. Added to the extremely fast dynamic switching ("Expert" V9), which contains 5 different modes, the individual functions of the contour smoothing filter and the high batch rate you get the opportunity to adjust the machine perfectly for a big range of different machining tasks. This way you can get the maximum performance out of the mechanics!

The PerfectCut package includes the following new options:

- Contour smoothing
- Jerk monitoring (the machine runs smoother and with less vibration)
- More decimal places (previously 3, now 5 for higher resolution, thus less rounding errors and more precise surfaces)

Advantages:

- Significant improvement in surface quality with shorter run times
- Quieter running with less vibration
- Faster programme loading times

Order Description	Article Number
DATRON PerfectCut Option	0A01009A
DATRON PerfectCut Retrofitting	0A01009B

DATRON **Machine signal lights**

DATRON signal lights allow you to see the status of your milling machine at a glance.

The standard two-coloured signal lights (red and green) can be equipped optionally with two additional signal colours (yellow and white) for user defined functions.

The signal lights can be attached variably to the machine by means of a stable magnetic base.

Function description:

- Green - machine in motion (supported by control)
- Red - engine fault (supported by control)
- Yellow – freely assignable function (prerequisite: Digital I/O module)
- White – freely assignable function (prerequisite: Digital I/O module)

Technical Data	Machine signal light
Diameter	70 mm
Operating voltage	24 V
Beam angle	360°

Order Description	Article Number
Machine signal lights red, green	0A01575
Machine signal lights yellow, red, green	0A01575A
Machine signal lights yellow, red, green, white	0A01575B

DATRON **Coolant for plastics**

This coolant is specially designed for cooling of soft plastic workpieces (e.g. thermoplastics), which tend to smearing or feathering. Due to cooling the workpiece by means of the coolant-cold-air nozzle, the material gets stiffer and can therefore be processed more efficiently. Especially for thin-walled workpieces, the benefits of cooling with the coolant are particularly evident.

Properties:

- Cooling system for smear and feathering-free machining of soft plastic workpieces (e.g. thermoplastics)
- Ideal for thin-walled workpieces made of plastic

Scope of Delivery:

- Air preparation for supplying the cold air nozzle
- Valve to be controlled using DATRON control
- Fastening material for attaching to the Z axis
- Adjustable blowing nozzle

Order Description	Article Number
Coolant for plastics	0A01175

DATRON **Two-fold control unit** with sensor switch andemergency stop

This console is for continuing programme sequences when these are interrupted by messages.

Thanks to the external placement of the W sensor, user-friendliness is enhanced, since the use of the W key on the terminal keyboard can be avoided.

Thanks to the contactless sensor switch with LED display, up to four operating states can be displayed.

The two-fold control unit makes operation especially ergonomic since it is not necessary to mechanically actuate switches.

The two-fold control unit is fastened to the machine via magnetic clamp plates on the bottom or the housing.

Scope of Delivery:

- Small housing with emergency stop button and sensor switch

Note:
If it is installed later, additional measures must be taken on the machine wiring.

Advantages:

- User-friendly external arrangement
- Clearly structured machine operation
- Sensible use for limited user management
- Ergonomic operation of the machine
- Flexible position on the machine
- Optical display of operating states
- Additional emergency stop

Application:

- Continuation of programme sequences

Technical Data	Two-fold control unit with sensor switch and emergency stop
Dimensions (L x W x H)	153 mm x 80 mm x 98 mm
Weight	approx. 1.0 kg
Sensor switch principle	Capacitive proximity sensor

Order Description	Article Number
Two-fold control unit with sensor switch and emergency stop	0A01571V

DATRON **W switch**

The W switch is a re-start-up button. It is used to continue programme sequences when they are interrupted by messages.

Thanks to the external placement of the W sensor, user-friendliness is enhanced, since the use of the W key on the terminal keyboard can be avoided.

Scope of Delivery:

- Sensor in the housing
- Cable, length 5 m

Note:
If it is installed later, additional measures must be taken on the machine
wiring.

Advantages:

- User-friendly external arrangement
- Clearly structured machine operation
- Sensible use for limited user management

Application:

- Continuation of programme sequences

Order Description	Article Number
W switch (external actuation button) for CNC machines	0A01571W

DATRON **CNC Hand-held control unit** HBE

The CNC hand-held control unit makes it easier for the user to set up the CNC machine. Thanks to the dust-protected keyboard and robust structure, the hand-held control unit is ideally suited for hard workshop use.

Properties:

- Emergency Stop switch
- Axis pre-selectio for up to six axes
- Handwheel for machine movements in steps of 0.1 or 0.01 mm
- speed regulator for feed and positioning feed
- Setup confirmation button (B6)
- Set zero point
- Z height measurement
- Cooling agent select key
- Volume controller for coolant
- Eight freely assignable function keys
- "Stop" switch
- "Continue" switch
- Macro execute
- Enter switch
- Cancel switch
- Go to parking position
- Spindel on/off

Scope of Delivery:

- Hand-held control unit
- Magnetic holder

Options/Accessories:

- Reinforced cable, length 2 m füo B5 (article No. 0075073D)
- Reinforced cable, length 4 m for B5 (article No. 0075073E)
- Connecting cable, length 3 m for B6 (article No. 0075086E)

Version 0A01003A

Advantages:

- Quick and easy positioning
- Calling and controlling of special functions
- Freely programmable keys

Application:

- Set-up of workpieces

Order Description	Article Number
CNC Hand-held control unit B5	0A01003
CNC Hand-held control unit B6 with setup confirmation button	0A01003A
4-button additional operator panel for C Box (as of 04/12) and HSCpro control	0A01571Z

DATRON **CNC Hand-held control unit HSCpro**

The handheld control unit for machines of the Pro Series is characterised by its ergonomic design and intuitive operation.

Properties:

- Dust proof membrane keyboard with 17 keys
- Frequently used functions on symbol keys
- 6 programmable function keys for special functions
- Visual function feedback by means of integrated LEDs
- Electronic hand wheel for fine positioning
- Feed regulator
- Coolant control with programme-controlled fine dosing
- Integrated emergency stop button
- Confirmation key for setup operation
- Magnetic holder for easy docking to the machine

Scope of Delivery:

- Hand-held control unit
- Cable, length 3 m

Options/Accessories:

- Connecting cable, length 3 m (article No. 0075086E)

Order Description	Article Number
CNC Hand-held control unit B10 for HSCpro	0A01003P

DATRON **Protective keyboard membrane** TS

The protective keyboard membrane protects the keyboard of the operating terminal from the usual contamination one finds in workshops. The touchpad function is not impaired by the protective membrane.

Properties:

- Protects the keyboard against contamination and moisture
- No impairment in operability

Scope of Delivery:

- Protective membrane for the keyboard

Advantages:

- Protection against damage
- Prolongation of lifetime
- Exchangeable

Application:

- Terminal keyboard cover

Order Description	Article Number
Protective membrane for the TS keyboard which fits USA 615-5142	0048282Y
Protective membrane for TS keyboard which fits D, GB, F und I 615-5141	0048282Z

DATRON **GSM modem**

Status messages via SMS can be sent to up to 10 mobile phones using the GSM module. “Machine fault monitoring” and “Project end monitoring are supported by the software (also useable with iPad).

An output "Machine fault monitoring” is launched

- as soon as an interruption is triggered
- when a stop event has occurred continuously for one minute, so that for example, a short-term spindle overload” doesn’t lead to a message
- The output is withdrawn as soon as the “Interruption” or “Stop” statuses have been quitted successfully.

An output “Project end monitoring” is launched as soon as a macro or all active jobs have been processed successfully. The output is not is not launched in case an interruption was triggered. It is withdrawn as soon as a macro or job is started.

Retrofitting for the module is insignificant and can be offered by our service.

The GSM module operates in all major networks worldwide.

A standard SIM card in the mini-SIM format is required from the customer for operation.

Scope of Delivery:

- Modem with antenna and installation material
- Programming cable and software CD

Order Description	Article Number
GSM modem with 2 input sockets and antenna M10Pro	0A01920B
GSM modem with 2 input sockets and antenna M8Cube	0A01920C
GSM modem with 2 input sockets and antenna C5	0A01920D

DATRON **Conversion cabin for large machines**

The base frame of the conversion cabin consists of a folded sheet metal construction. The individual units are screwed together and therefore they can be aligned perfectly.

The cabin segments are made of steel plates and screwed to the base frame according to the customer's wishes. The individual segments are connected together over reinforcing profiles.

- 750 mm or 1,000 mm segments
- 300 x 300 mm corner posts are also used as wall mounting
- Standard segmente with and without inspection window
- Sliding doors with 1,300 mm opening (2 segments) or 2,650 mm opening (4 segments)

Scope of Delivery:

- Complete cabin, depending on the customer's wishes, in U- or L-form
- Doors equipped with safety switch and security-fechnology integrated
- On-site assembly

Advantages:

- CE compliant protective cover of DATRON large-format machines

Order Description	Article Number
Conversion cabin for large machines	auf Anfrage

DATRON **Coolant additives**

When used regularly, the coolant additives protect the spindle cooling system from corrosion, uncontrolled growth of algae and calcification, and therefore prolong the lifetime of all coolant-circulated components.

DATRON **Coolant additives KMZ**

Properties:

- Protects the spindle and cooling system from corrosion, uncontrolled algae growth and calcification
- Six-months protection for each maintenance package

Scope of Delivery:

Sufficient for six months:

- One bottle AO-100 Anti-Oxidation, 100 ml each
- Six bottles B-100 Biozid, 100 ml each

Order Description	Article Number
DATRON Coolant additives, 7 x 100 ml	0069260S

Antifrogen® N

Properties:

- Protects spindle and cooling system from corrosion, algae growth and calcification
- Replacement interval 12 months
- Easy to use, comes with ready-to-use mixture
- For machine of the types M8Cube, C5 and all new machines as of 1 April 2013
- Conversion of existing machines is feasible, instructions and necessary parts available from DATRON Service
- No topping up

Scope of Delivery:

- Plastic container, ready-to-use mixture, 10 litres

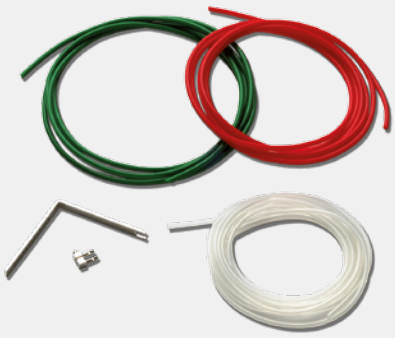
Advantages:

- Prolongs the lifetime of the spindle cooling system
- Increases the cooling water quality

Order Description	Article Number
Antifrogen N spindle coolant - water mixture 10 l	0069266X

DATRON **Expendable Material**

DATRON **Spraying nozzles and securing brackets**



Order Description	Article Number
Spraying nozzle incl. securing bracket	0A01501S
Securing bracket	07004461
Spraying nozzle	07004462
PVC tube red 1 m	0069725
PVC tube blue 1 m	0069725B
PVC tube green 1 m	0069725G
PVC tube white 1 m	0069726
Silikon tube 1 m	0069727

DATRON **Slide nuts and centering sleeves**

Order Description	Article Number
Centering sleeve for module clamping plates	07009360
Centering sleeve counterpart	07009374
Slide nut M6, 45 mm x 10 mm x 3.5 mm	0069922
Slide nut M6, 45 mm x 13 mm x 6 mm	0069922A
Slide nut M6, 25 mm x 10 mm x 3.5 mm	0069926
Slide nut M6, 25 mm x 13 mm x 6 mm	0069926A

DATRON **Cleaner**

Order Description	Article Number
Metal cleaner, 500 ml can	0077105
Foam cleaner, 500 ml can	0077105A

Cooling lubricants for minimum lubrication
Beyond CNC machines and tools, DATRON is now also offering the appropriate cooling lubricants (KSS). This new generation of cooling lubricants, called ProCut, is only appropriate for minimum lubrication (MMS). The ProCut KSS are characterised by very low consumption. In addidion, operating and personnel costs for the machine and part cleaning are saved to a great degree, as well as, for example, changing the lubricant. DATRON ist still offering minimum lubrication systems for Microjet, which optimally moisten the workpieces with their flexibly adjustable spray nozzles.

DATRON **ProCut 56**

ProCut 56 serves as an ethanol substitute and is ideal for handling the plexiglass. Thus, this provides lubricant to MM - especially for companies or divisions, where the use of ethanol is not permitted, and for working materials, which tend to swell when in contact with ethanol.

Consumption without CleanCut: **95 ml/hour**
(about 30 % of ethanol consumption)
Consumption with CleanCut: **200 ml/hour**

Order Description	Article Number
ProCut 56, 10 litre	0069266

DATRON **ProCut 56-2**

When machining workpieces made of aluminum and plastic playing 56-2 ProCut its strengths - especially in connection with the chip suction system DATRON CleanCut. The lubricant provides a burr-free machining of the workpieces. In addition, it prevents the emergence of material deposition (built-up edge) on the tool. When vacuuming no explosion protection is required. ProCut 56-2 is almost completely volatile and leaves very little residue on the workpiece.

Consumption without CleanCut: **80 ml/hour**
Consumption with CleanCut: **250 ml/hour**

Order Description	Article Number
ProCut 56-2, 10 litre	0069266A

DATRON **Expendable Material**

DATRON **ProCut 200**

Especially for steel processing, the lubricant ProCut 200 was developed. Also the cleaning of machined parts can be omitted in most cases.

Consumption: **20 ml/hour**

Order Description	Article Number
ProCut 200, 5 litre	0069266

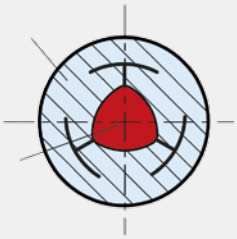
The HSK-E polygon collet chucks have been developed for precise and safe cutting, also at high speeds.

The stable, rotation-symmetrical design has an excellent concentricity of less than 3 µm. This permits high quality milling results at a speed of up to 60,000 RPM.

With passive vibration damping, the life of the high frequency spindle and the cutting tool is significantly improved.

TRIBOS-RM Toolholder

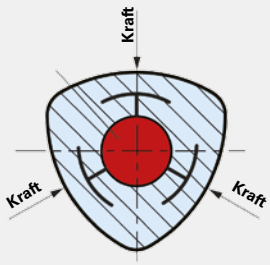
Clamping diameter polygonal



1. Before clamping

The polygon-shaped geometry of the shank insert can be clearly seen in the unloaded, relived state.

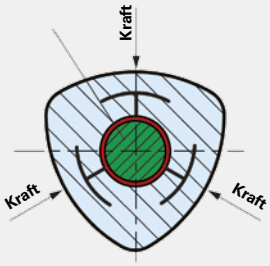
Clamping diameter is round



2. In the clamping fixture

Force is applied at three points by means of the hydraulic clamping fixture. This makes the shank insert circular.

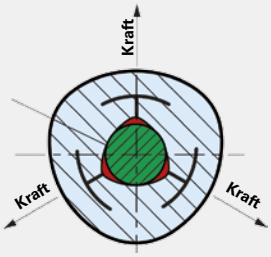
Joining shank



3. Inserting the tool shank

Now the tool shank can be easily and quickly mounted in the insert.

Clamping diameter shrinks



4. The tool is clamped

The pressure of the clamping fixture and the force transmission are reduced. The elastically deformed collet chuck comes back to its polygon shape. Now the tool is firmly and centrically clamped.

DATRON/Schunk **HSK-E Collet chucks**

The HSK-E inserts developed by DATRON and Schunk are solidly built and come with a concentricity of < 3 µm and guarantee highest precision during the machining process.

D1 (mm)	D2 (mm)	Typ	L1 (mm)	L2 (mm)	Article Number
3.0	20.0	HSK-E 25	40.0	25.0	0068300G
4.0	20.0	HSK-E 25	40.0	25.0	0068301G
5.0	20.0	HSK-E 25	40.0	25.0	0068302G
6.0	20.0	HSK-E 25	40.0	25.0	0068303G
8.0	20.0	HSK-E 25	40.0	25.0	0068304G
10.0	20.0	HSK-E 25	40.0	25.0	0068305G
3.0	25.0	HSK-E 32	55.0	44.0	0068306D
6.0	25.0	HSK-E 32	55.0	44.0	0068307D
8.0	25.0	HSK-E 32	55.0	44.0	0068308D
10.0	25.0	HSK-E 32	55.0	44.0	0068309D
12.0	25.0	HSK-E 32	55.0	44.0	0068310D
3.175	20.0	HSK-E 25	40.0	25.0	0068311D

DATRON/Schunk **Clamping devices**

The hydraulic Tribos clamping fixture for polygon clamping technique, equipped with hand pump and manometer, does not require any source of energy and can therefore be used in a very flexible manner. Just a few steps are required for the clamping process. Clamping is completed within 20 seconds.

Compared to the shrink technique, this wear-free process does not require any heating up or cooling down phases.

DATRON/Schunk **Reduction inserts**

This clamping device is used to insert the DATRON/Schunk adapters in the clamping device.

Order Description	Article Number
Clamping device	0068340
Reduction insert HSK-E 25	0068341D
Reduction insert HSK-E 32	0068341E

We will be happy to provide you with detailed information at:
+49 (0) 61 51 - 14 19 - 0

by E-mail:
info@datron.de

or online at:
www.datron.de

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The information in this brochure contains current descriptions or performance features which are subject to change due to further development of the products. The descriptions and performance features are binding only if they are expressly agreed in writing at the time of conclusion of the contract.

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