Helitronic Range

CNC grinding and erosion machines

Flexibility, productivity and quality for a sharper competitive edge
The name Helitronic is synonymous the world over with top-class tool grinding and erosion technology. The Helitronic range encompasses innovative CNC technologies for economical complete machining – from one-offs through to large-scale production runs – in automatic multiple-shift operation. By combining flexibility and productivity with outstanding quality, Helitronic provides the assurance of a sharper competitive edge for standard and non-standard tool grinding.

WALTER

The Helitronic Range
Grinding technology tailored to your needs

Achieving flexibility, productivity and quality

Every CNC machine in the Helitronic range has been developed to meet the needs of the marketplace. As soon as the machine is up and running, you will know it immediately. Flexibility, productivity and quality go hand in hand. Our machines are co-ordinated specifically to address the special needs of tool grinding. No matter where your specialist tooling expertise lies – the Helitronic range offers a solution tailored to your specific needs.

+ One-off and small series production
+ Large production runs
+ Single-shift operation
+ Multiple-shift operation
+ Metal cutting tools
+ Woodworking tools
+ Plastic tools
+ PCD tools
+ Rotationally symmetrical production parts

Helitronic Vision

5-axis CNC machine for high-performance production grinding of precision tools and rotationally symmetrical parts. High-tech tool grinding.

Helitronic Power

Proven 5-axis CNC machine for producing and regrinding tools and production parts with complex geometries. Proven thousands of times over around the world.

Helitronic Mini Power

5-axis CNC machine for producing and regrinding tools and rotationally symmetrical production parts with small dimensions.

Helitronic Diamond – two in one

5-axis two-in-one CNC rotational erosion machine and grinder. Combines two underlying machine functions in one: erosion and precision grinding for the production of PCD tools. Designed primarily to address the needs of the metalworking industry.

Helitronic Power Diamond – two in one

5-axis two-in-one CNC rotational erosion machine and grinder for the production and regrinding of PCD tools. Designed primarily to address the needs of the woodworking and plastics processing industries.

Helitronic Vision –
No-compromise productivity and precision

Top-of-the-range version of the Helitronic Vision featuring an integrated grinding wheel changer

Helitronic Vision highlights

- Maximum flexibility and productivity for precision tools
- 5 CNC axes for complete machining of complex tool geometries in a single clamping operation
- Direct drive systems on every axis with integrated cooling – optimum speed and precision
- Direct path measurement system with glass scales on every linear axis for maximum positioning accuracy
- Encoder on the rotational axes
- Automatic measurement sensor for precise workpiece positioning
- Stable gantry design with mineral cast machine bed
- Swivel-mounted coupled-motion control desk featuring a high-resolution touchscreen for outstanding operating convenience
- Modem for remote diagnostics and fast application support

Investing in a Helitronic Vision 5-axis CNC grinder means buying into grinding technology that offers a unique package of attributes. It can be used to produce practically any tool geometry. Compare for yourself:

⊡ WALTER gantry design with mineral cast machine bed

The patented gantry design, heavyweight and the use of mineral casting all add up to optimum vibration damping, insensitivity to temperature fluctuations and, in the final reckoning, grinding precision. The mineral cast bed, developed using the Finite Element Method (FEM), literally provides a solid foundation for outstanding quality and productivity: optimum vibration damping, insensitivity to changing temperatures, resistance to high acceleration and traversing speeds, freedom from corrosion.

⊡ Direct drive systems on every axis

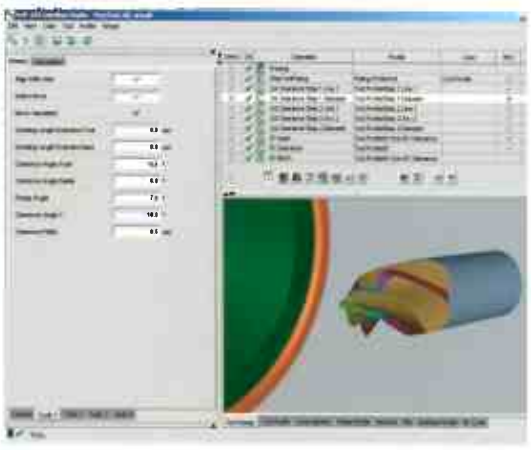
Highly dynamic drive systems plus extremely short response times add up to high grinding output levels and impressive grinding results. This is achieved in the Helitronic Vision using linear motors and glass scales for the X, Y and Z axes, and with gearless torque drives for the rotary axes A and C. The result: maximum positioning accuracy and fast traversing movements. Both ensure optimum quality and maximum productivity.

⊞ "Helitronic Tool Studio"

Helitronic Tool Studio sets whole new standards in the design and production of non-standard tools. This software visualises the effect of any data modification immediately using high-resolution 3D graphics: What you see is what you grind. Thanks to the simplicity of the operating philosophy, tool generation is child's play. For details, see pages 26 and 27. The Helitronic Vision is naturally also equipped with the Walter Window Mode.

Mineral cast machine bed – solid, dependable quality, non-corroding, minimal vibration, temperature stability.

Linear drive systems – fast, dynamic, precise, wear-free.

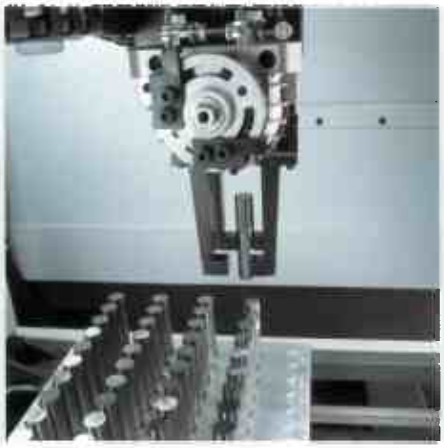


Helitronic Tool Studio: "What you see is what you grind" – superb operating methodology for grinding non-standard tools.

⊞ Important options
to optimise the flexibility and productivity
of your Helitronic Vision.

Grinding wheel changer with
the Helitronic Vision

The grinding wheel set, including coolant feed, can be changed in less than 10 seconds.



Lift loader: The machine can be loaded with up to three pallets stacked with blanks or tools of different lengths and dimensions for automatic machining.

IMS – Rake angle measurement example.

⊞ "Grinding wheel and coolant feed changer" option

This optional feature provides access to as many as 12 wheel sets including coolant feed, or up to 36 individual grinding wheels. This means enhanced flexibility and productivity both for complete machining of highly complex tools and also production grinding in large-scale series.

⊞ "Flexible automation" option

A machine-integrated pallet loader is optionally available for automated grinding operation. The pallet loader permits automatic loading and unloading, details on pages 16, 17.

⊞ "Internal Measurement System – IMS" option

Measures the most important grinding parameters and automatically compensates for them in-process – for enhanced precision and quality.

Helitronic Power –
proven thousands of times over

Helitronic Power with
integrated Disc Loader

Helitronic Power highlights

- High degree of flexibility and productivity in standard qualities
- 5 CNC axes for complex tool geometries
- Direct distance measurement system with glass scales on every linear axis (option)
- Automatic measurement scanner for precise workpiece positioning
- High degree of stability due to patented gantry design
- Swivel-mounted control desk featuring a high-resolution touchscreen for outstanding operating convenience
- Highly convenient operation with industry-standard functionality due to Windows-based user interface
- Modem for remote diagnostics and fast application support

Helitronic Power has gained international acclaim for the complete 5-axis machining of complex tool geometries and the economical processing of small batches and even one-offs. If you attach importance to flexibility and economy, then the Helitronic Power is the solution you are looking for. Depending on your needs, the Helitronic Power can also be equipped with a special "production package". The installed grinding software, WALTER Windows Mode WWM, encompasses both standard programs for all widely-used tool types, and also programs for non-standard tools. And an impressive level of operating convenience makes it easy to get the very best performance from your Helitronic Power.

Important options to enhance the efficiency and capability of your Helitronic Power

⊞ "Cyber Grinding" option

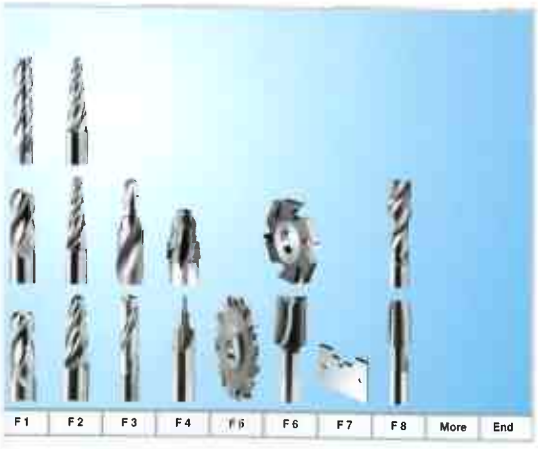
3D simulation software which allows you to program and simulate new tools during a running grinding operation, so maximising machine capacity/utilisation.

⊞ "Internal Measurement System – IMS" option

Measures the most important grinding parameters and automatically compensates for them in-process – for enhanced precision and quality.

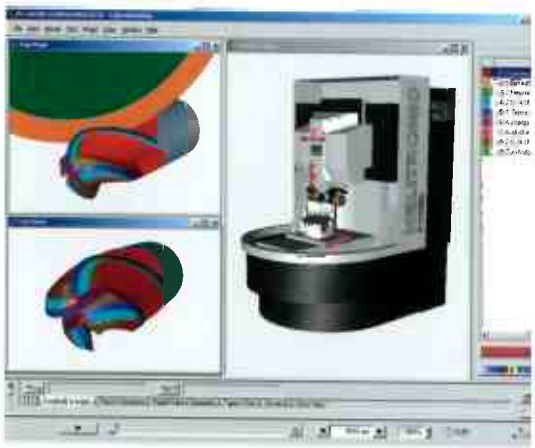
⊞ "Four loading systems for flexible automation" option

Depending on the application, there are several loader systems available for grinding process automation using an automatic tool loading and unloading function. For details, see pages 16 – 21.



WALTER WWM software: Pressing the relevant function key is all it takes to access the required program.

Calibration of the probe in IMS.



⊞ "Cyber Grinding" option – 3D simulation of the grinding process, either at the Helitronic Power itself or parallel to a grinding operation in preparation for the next production sequence.

Helitronic Mini Power – The small tool specialist

Helitronic Mini Power highlights

- Maximum flexibility and productivity for small tool diameters
- 5 CNC axes for complex geometries in a single clamping operation
- Direct path measurement system with glass scales on every linear axis for maximum positioning precision.
- Automatic measurement sensor for precise workpiece positioning
- Patented gantry design offers optimum stability
- Minimal space requirement
- Short traversing paths for short grinding times
- Highly convenient operation with industry-standard functionality due to Windows-based user interface
- Swivel-mounted coupled-motion control desk featuring a high-resolution touchscreen for outstanding operating convenience
- Modem for remote diagnostics and fast application support

The Helitronic Mini Power 5-axis CNC grinding machine offers the same capability as the Helitronic Power, but with smaller dimensions. Helitronic Mini Power is unbeatable as an economical investment for the cost-effective grinding of small tools. The patented gantry design and glass scales ensure optimum precision when working with small tool diameters.

Important options to optimise the flexibility and productivity of your Helitronic Mini Power

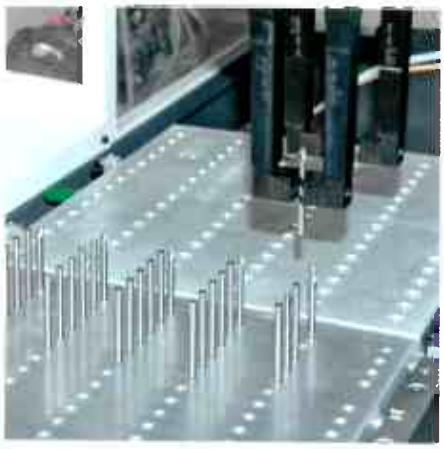
⊞ "Cyber Grinding" option

A 3D simulation software which allows new tools to be programmed and simulated alongside a parallel grinding operation, so maximising machine capacity utilisation. See page 24 for details.

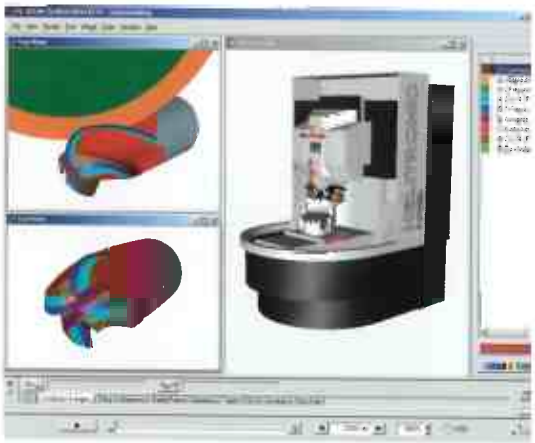
⊞ "Pallet loader" option

To automate your grinding operations.
See page 18 for details.

WALTER WWM software: Pressing the relevant function key is all it takes to access the required program.



⊞ "Pallet loader" option with double gripper for automatic multiple-shift operation.



⊞ "Cyber Grinding" option: 3D simulation of the grinding process, either at the Helitronic Power itself or parallel to a grinding operation in preparation for the next production sequence.

Helitronic Diamond – two in one – outstanding precision for erosion and grinding

Helitronic Diamond highlights

- One machine for rotational erosion and grinding – two-in-one
- 5 CNC axes for complex geometries in a single clamping operation
- Outstanding surface qualities up to RA 0.1
- Direct drive systems on every axis with integrated cooling
- Direct path measurement system with glass scales for maximum positioning accuracy
- Automatic measurement sensor for precise workpiece positioning
- Twin-spindle grinding head
- Sturdy gantry design with mineral cast machine bed
- Highly convenient operation with industry-standard functionality due to Windows-based user interface
- Swivel-mounted coupled-motion control desk featuring a high-resolution touchscreen for outstanding operating convenience
- Modem for remote diagnostics and fast application support

Polycrystalline diamond or PCD tools are making ever increasing inroads into the metal processing industries. The reason is simple: PCD tools can offer up to 500 times the service life of conventional tungsten carbide tools. The new Helitronic Diamond opens up a gateway to this future market by offering dual functionality. Two machines in one – for rotational erosion and precision grinding in the production of PCD tools. The Helitronic Diamond is of similar design to the Helitronic Vision, with the difference that one grinding spindle end can be used as an eroding station, accommodating between one and three different disk electrodes.

In a single clamping operation, PCD tools can be machined using both rotational erosion and grinding operations. To be precise: PCD – 1st clearance angle erosion, carbide – 2nd clearance angle grinding.

Using rotational erosion as a machining method kills several birds with a single stone. Firstly it achieves outstanding surface quality to RA 0.1. It also permits complex geometries with minimal internal radii to be machined. And thirdly, it allows milling cutters featuring several cutting edges to be machined without risk of collision.

⊞ "Flexible automation" option

A lift loader integrated in the machine permits the automation of grinding operations. For details, see pages 16 and 17.

The automatic tool measurement and positioning device helps minimise downtime.

The temperature rises to over 8,000 °C at the surface of the disk electrode during rotational erosion.

The second spindle end can be used to execute all grinding operations in the customary way.

Helitronic Power Diamond – two in one – Rotational erosion and grinding

Helitronic Power Diamond highlights

- Two machines in one: One machine for rotary erosion and grinding of PCD tools and – with just minimal resetting – one machine for tool grinding in production or sharpening environments
- 5 CNC axes for complex geometries in a single clamping operation
- Outstanding surface qualities up to RA 0.2
- Direct distance measurement system with glass scales for maximum positioning accuracy
- Automatic measurement sensor for precise workpiece positioning
- Twin-spindle grinding head
- Patented gantry design offers optimum stability
- Highly convenient operation with industry-standard functionality due to Windows-based user interface
- Swivel-mounted coupled-motion control desk featuring a high-resolution touch-screen for outstanding operating convenience
- Modem for remote diagnostics and fast application support

By equipping one spindle end with up to three disk electrodes, PCD tools can be produced or sharpened for the woodworking or plastics processing industries. And by equipping the twin spindle completely with grinding wheels, metal or woodworking tools can be produced or sharpened. Doubling up your capability means a sharper competitive edge.

This machine, whose basic design is identical to the Helitronic Power, offers a previously inconceivable degree of application flexibility.

A particularly sophisticated technical feature is a new erosion technique for hogging cutter production. The hogging cutter's PCD cutting edges are machined over their whole length using the face side of the electrode, increasing performance and improving surface quality (RA 0.2).

⊞ "Flexible automation" option

There are different loader systems available for grinding automation. For details, see pages 18 and 19.

WALTER WWM software: Pressing the relevant function key is all it takes to access the required program.

Erosion process for hogging cutters with PCD cutting edges.

Surface erosion with all the operating convenience of WWM. Generator values can also be optimised during erosion.

Helitronic Vision

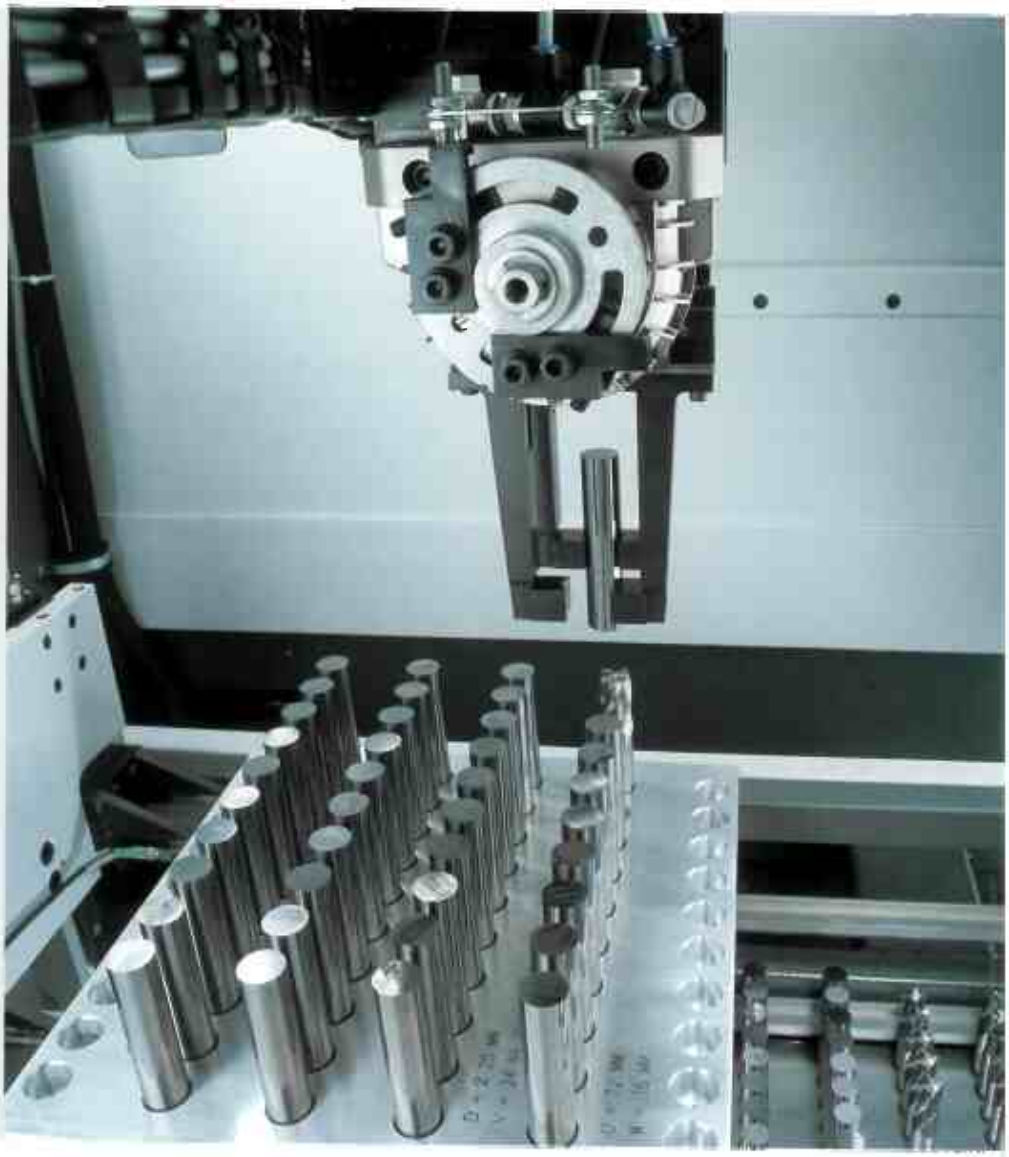
Helitronic Diamond

Lift loader

We have developed a machine-integrated lift loader designed to allow automatic multiple-shift operation. Because the unit is integrated in the CNC grinding machine, distances and changeover times are minimised. All loader movements are controlled and monitored by the HMC 600 machine control system. The loader program can be externally defined at the PC using an Excel spreadsheet or at the machine using the clipboard when creating the ident numbers. The loader offers outstanding flexibility in terms of the tool range. Even tools with different chucking positions can be loaded on a single pallet. The loader features a transport system with servo drive for three cassettes serving as a tool magazine. The number of cassettes used depends on the tool length. Tools of different lengths can also be stored on a single pallet.

Helitronic Vision with machine-integrated lift loader.

The pallets can also be fitted with tools of different lengths.



The double gripper for fast changeover of the blank and finished part helps cut out machine downtimes. The pallets are programmed in-process.

Specifications
For Helitronic Vision, Helitronic Diamond

Min. tool diameter:
3 mm with cylindrical tools

Max. tool diameter:
32 mm with cylindrical tools
70 mm cutting edge diameter
with mushroom-shaped tools

Max. tool weight: 3 kg

Max. workpiece length:
120 mm when using 3 loader cassettes
180 mm when using 2 loader cassettes
300 mm when using 1 loader cassette

Storage capacity per cassette

Cylindrical tools:

3,0 – 10 mm Ø	168 tools
10,1 – 20 mm Ø	90 tools
20,1 – 32 mm Ø	60 tools

To reduce the set-up work required, a standard gripper is optionally available for the diameter range from 6 to 25 mm.

Mushroom-shaped tools:

up to 20 mm cutting edge dia.	72 tools
up to 40 mm cutting edge dia.	28 tools
up to 70 mm cutting edge dia.	12 tools

Helitronic Power

Helitronic Power Diamond

Helitronic Mini Power

Pallet loader

The pallet loader is loaded and programmed in-process. The grinding process takes place automatically. WALTER CNC grinders with loader substantially improve utilisation of the available machine hours and the company's operating capacity. While effective machine productivity is around 1,300 to 1,500 hours p.a. in single-shift operation, with the aid of a loader up to 6,000 low-manned operating hours are achievable.

Specifications
For Helitronic Power, Helitronic Power Diamond

Max. capacity: **280 tools**
Max. tool length: 220 mm
Max. tool diameter: 32 mm

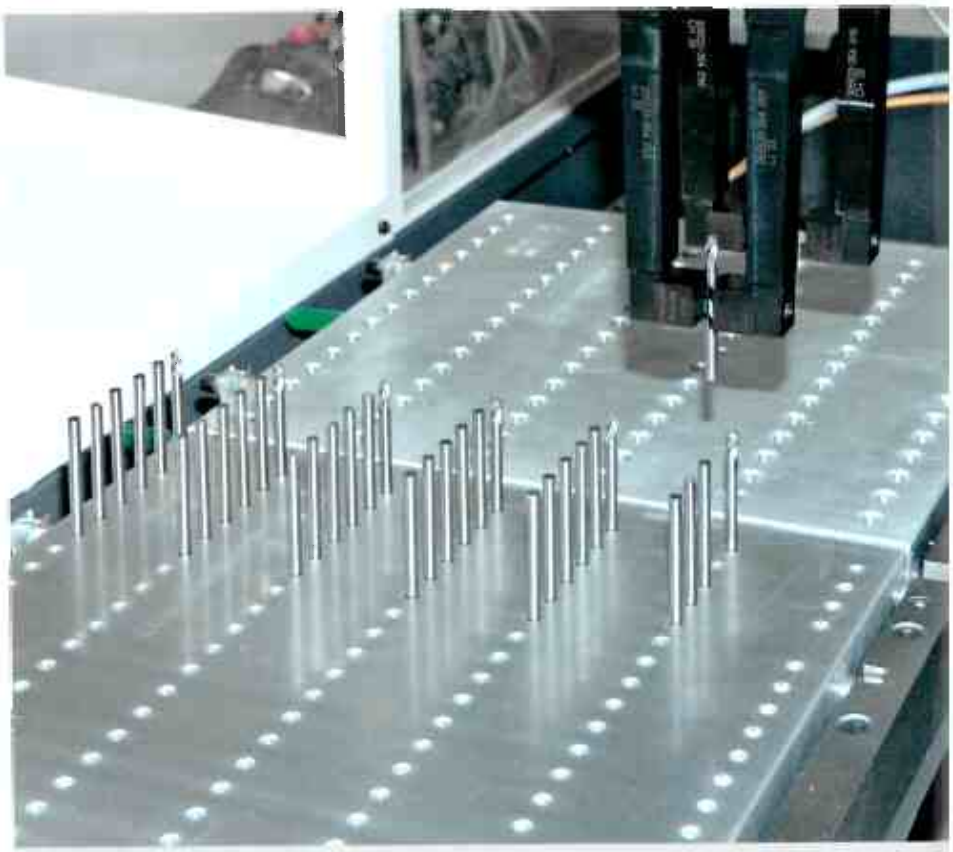
To reduce the set-up work required, a standard gripper is optionally available for the diameter range from 6 to 25 mm.

For tools in which the shank diameter is smaller than the tool diameter, a so-called mushroom loader is available for the Helitronic Power.

Specifications
For Helitronic Mini Power

Max. capacity: **612 tools**
Max. tool length: 160 mm
Max. tool diameter: 12,7 mm

Helitronic Power with with machine-integrated Palett loader.



The double gripper for simultaneous transport of the blank and the finished part helps minimise downtime.

Helitronic Power

Helitronic Power Diamond

Disc Loader

A machine-integrated, extremely compact loader system. A worthwhile investment wherever one-off parts or minimal batch sizes have to be produced or sharpened. Tool programming can take place in-process. For an illustration of Helitronic Power with Disc Loader, see page 8.

Specifications
For Helitronic Power, Helitronic Power Diamond

Max. capacity: **40 tools**
(optionally upgradeable depending on the tool diameter)
Max. tool length: 160 mm
Max. tool diameter: 32 mm

Helitronic Power with Disc Loader – using the Disc Loader to store different tool types substantially enhances grinding efficiency. This allows the available grinding capacity to be flexibly utilised to optimum effect.

Helitronic Power

Eco Loader

A loader system without supplementary space requirement to enhance machine efficiency in small-scale operations. The tool magazine is screwed to the toolholder, and the gripper is integrated with the grinding head. This degree of proximity to the grinding unit reduces down-times. All loader functions are co-ordinated by the HMC 600 WALTER CNC machine control system.

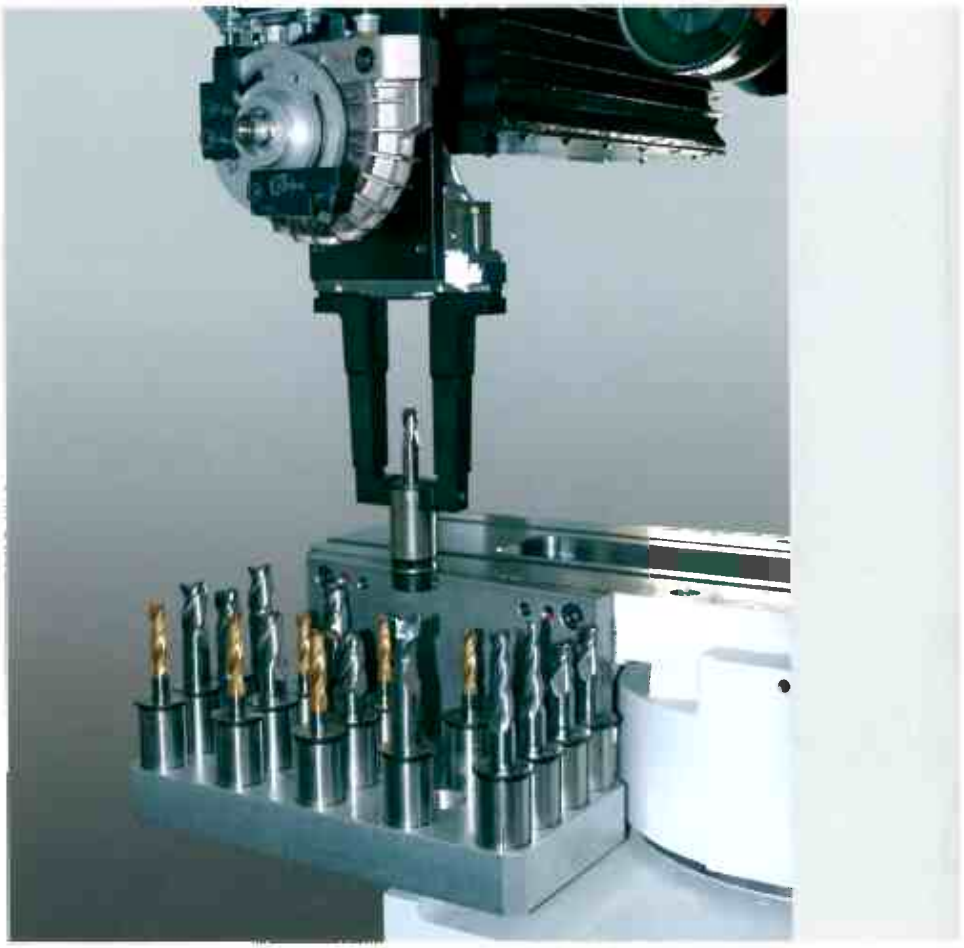
Specifications
For Helitronic Power

Max. capacity: **20 tools**
Max. tool diameter: 3 bis 32 mm

Highlights

- Productive, efficient machine capacity utilisation
- Convenient loading and unloading
- Optional equipment
- In-process programming
- Minimal downtimes due to short distances

The direct proximity of the tool magazine to the grinding unit minimises machine downtime.



The Eco Loader opens up scope for automation even for minimal production runs of up to 20 tools.

Helitronic Power

Profile blade loader

This flexible loader system opens the door to the niche market of profile blade grinding. The Helitronic Power can be reset from being a disk loader to a profile blade loader in minimum time by mounting the loader system on the machine's upper table. This equips the tool carrier axis with a clamping fixture for profile blades. The loader automates the grinding of profile blades of the type used in woodworking machines.

Specifications
For Helitronic Power

Max. capacity: **76 profile blades**

Highlights

- Simple resetting
- Convenient loading and unloading
- Optional equipment
- In-process programming
- Minimal downtimes due to short distances

The profile blade loader can be combined with the disk loader or the ECO loader.

Profile blade loader mounted on the machine's upper table, tool carrier with clamping fixture for profile blades.

CNC control system HMC 600

The digital control and drive system HMC 600 is the nerve centre of every Helitronic machine. It transforms the highly dynamic response of the digitally controlled linear and servo motors into high grinding outputs and high grinding precision without delay, keeping machine downtimes to a minimum.

- Control unit with swivel-mounted control panel, PC keyboard and 15" TFT touchscreen monitor
- PC control unit featuring PC Pentium 4 with 2.4 GHz or higher and WINDOWS XP operating system
- Data input optionally via the touchscreen, control unit or PC keyboard

Internal Measurement System IMS – Automatic compensation in series operation

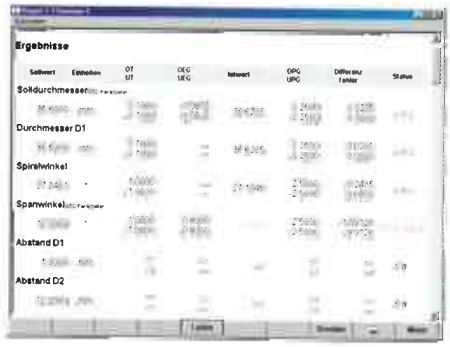
⊞ "IMS Software" option

This option in conjunction with the integrated measurement sensor measures the five most important quality parameters of cylindrical tools in series operation and automatically compensates in case of non-conformance. To be precise:

+ Diameter 1
+ Diameter 2 (taper)
+ Flute depth (core diameter)
+ Rake angle
+ Helical angle / helical pitch

The frequency of measurements – every 2nd to nth part - is stipulated by the operator on the basis of empirical values, as are the tolerances. If a measurement result is above or below the set tolerance range, the system automatically compensates to centre tolerance. All measurement results are displayed in a test record on screen – meaning you are always in the picture about production quality.

IMS – Diameter measurement.



IMS – Measurement record on the TFT display.

IMS – Rake angle measurement.

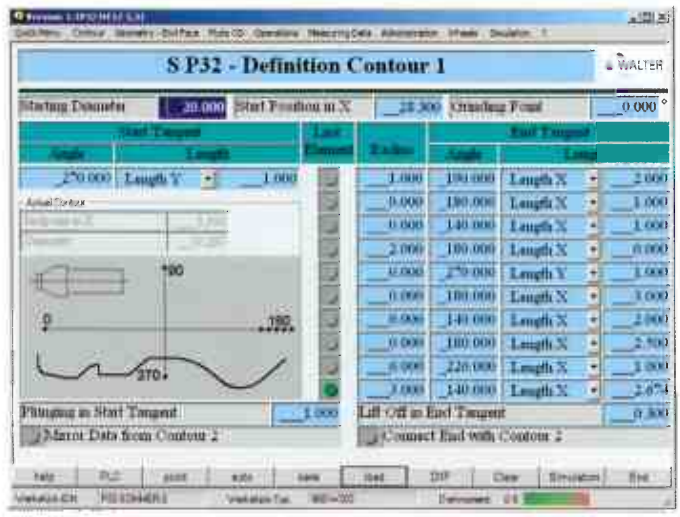
WALTER Windows Mode WWM
Concentrated grinding intelligence for standard and non-standard tools

There are thousands of practising grinding specialists around the world using the intelligent operator software WALTER Windows Mode WWM hands-on in both small workshops and large production environments. WWM encompasses software programs for all customarily used tool types, based on practical grinding expertise gathered over many years in both production and sharpening. With its many decades of experience, WALTER is able to draw on a unique pool of expertise. Even the standard versions of all Helitronic machines are equipped with wide-ranging grinding software for both cylindrical and conical tools as well as drills and step drills. As a practical grinding specialist, this is a benefit you are certain to appreciate.

Offering operator guidance in plain text, supported by meaningful graphic displays, WALTER Windows Mode has set the standard for convenience and security for many years. This is a system which stands for wide-ranging application possibilities, both with standard and non-standard tools.

Package 1 – "Cylindrical tools"
Only operation-relevant data is displayed.

"Tool grinding" starting mask: Use function keys F1 to FX to select the required program: P1 Cylindrical milling cutters, P2 Tapered helical milling cutters, P3 Drills and step drills, P4 Multi-step tools, P5 Side milling cutters, P6 Woodworking tools, P7 Profile tools, P8 Thread taps. Using the "Continue" key, additional programs can be accessed, e.g.: P11 Crest-cut milling cutters, P13 Reamers.



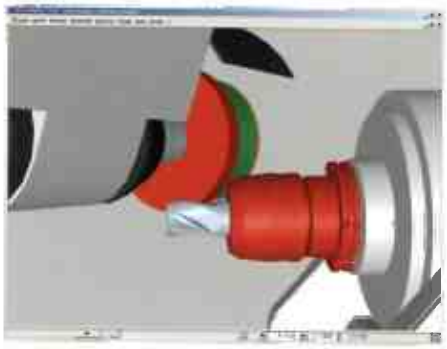
Package 32 – "Definition contour 1".

"Cyber Grinding" simulation software saves set-up times and enhances safety

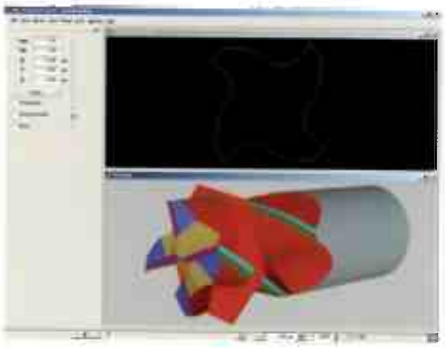
⊞ "Cyber Grinding" option

The "Cyber Grinding" simulation software takes your Helitronic to the PC. The next tool is prepared alongside the in-process grinding operation, so maximising grinding efficiency. Cyber Grinding allows tools to be designed on-screen and modified until the required result is achieved – without sacrificing valuable machine time. Any collision risk is displayed and prevented in advance.

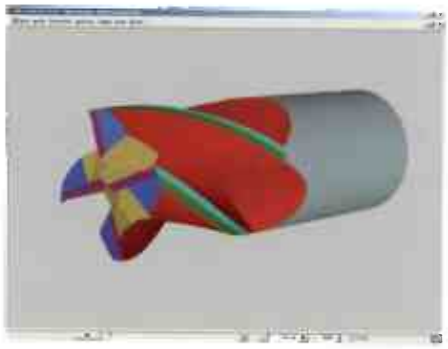
While you are working with Cyber Grinding, your grinding machines can concentrate on what they do best: Grinding.



Collision test during the virtual grinding process.



Precision verification. Cutting planes for the measurement of all important parameters.



Colour coding for fast result checking.

⊠ Cyber Grinding highlights

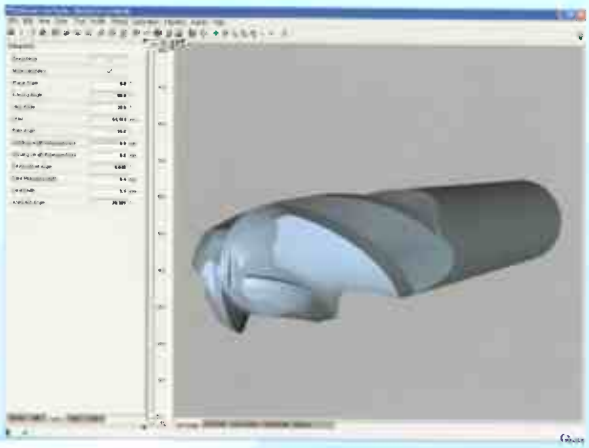
- No loss of machine time
- No unnecessary wastage of costly blanks through test grinding
- All WWM tooling data in 3D
- Grinding operations in 3D
- Tool parameter check
- Simulated collision testing
- Real grinding time for simple calculation

Helitronic Tool Studio – Efficient software for all your design and grinding needs

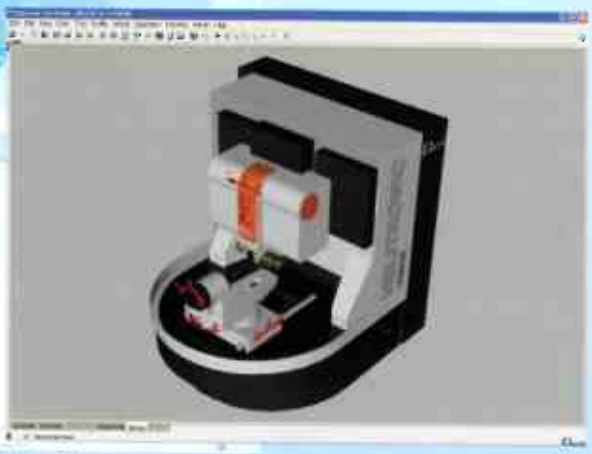
Helitronic Tool Studio works according to the proven "What you see is what you grind" method. This software can be used to develop and if necessary optimise machining and movement sequences for highly complex non-standard tools with minimal time, labour and cost outlay. Helitronic Tool Studio conceives the machine as an integral unit comprising software and hardware. The new software implements its functions from three different viewpoints: Beginner, Advanced user, Expert.

Helitronic Tool Studio highlights

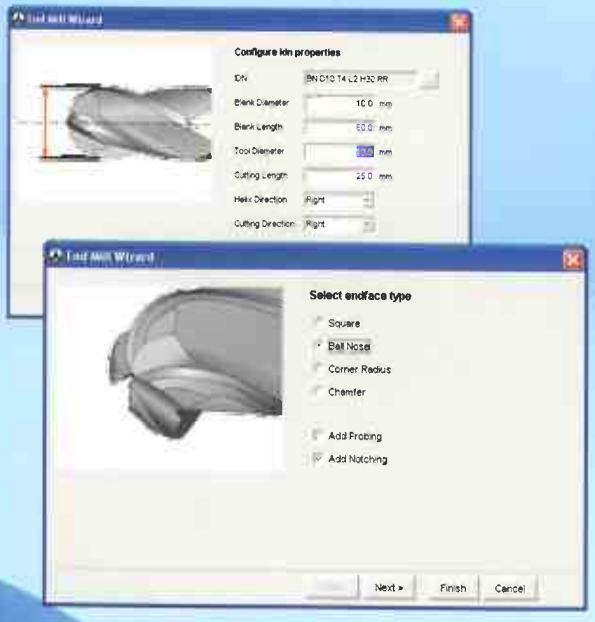
- "What You See Is What You Grind" indicates the repercussions of every data modification immediately in high-resolution 3D graphics.
- Unlimited flexibility through the use of software tools which allow any tool, right through to the non-standard bespoke tool, to be generated using only a few parameters.
- The number of grinding operations per tool is unlimited, i.e. your operator is able to add new operations and so generate tools of any optional complexity.
- The operator is able to keep control of all important information – grinding parameters, grinding operations, 3D simulation – on-screen.
- By breaking down the grinding operations into separate modules, Helitronic Tool Studio ensures at-a-glance transparency, including individual and overall grinding times for calculation purposes.
- 3D simulation provides a scaled indication of grinding processes and of the "ground" tool as produced by the simulation. This allows any errors to be detected and remedied before actual grinding begins.
- The Wizard technology used by the new software guides the user quickly and reliably in the required tool, as exclusively relevant information is displayed. After starting the ToolWizard, the operator is asked to specify the tool family and the characteristic data of the chosen tool. Using these inputs, the software quickly generates the grinding program.



During input of the tool geometry data, the operator is able to view the grinding process as a 3D simulation.



The grinding process is also displayed at the machine.



The Tool Wizard guides the operator quickly and reliably to the required tool family.

Automated Toolroom – Automatic grinding, measurement, optimisation. Up to 50% lower set-up times.

WALTER is the world's only tool grinding machine manufacturer to offer the whole range of technologies required for seamless automation of production processes for tools and rotationally symmetrical production parts – from the first setting through tool grinding, wheel wear compensation through to tool monitoring. WALTER is also unique in supplying both grinding and measuring machines from a single source. This exclusive range of products and services goes by the watchword "Automated Toolroom".

The Automated Toolroom reduces set-up times by up to 50 per cent:

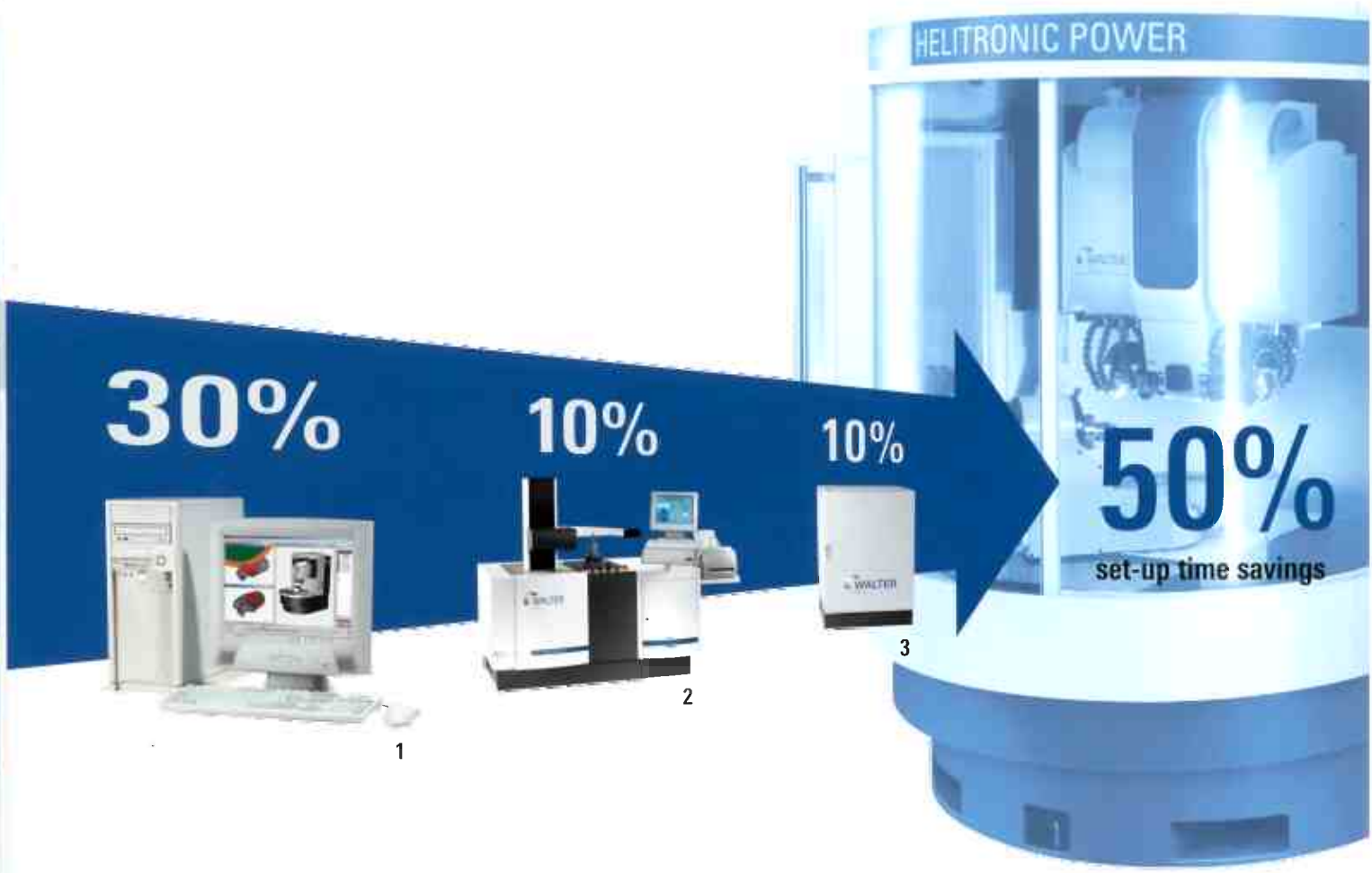
- The integrated simulation software "Cyber Grinding", which simulates the entire grinding process from the first setting with a blank through to the finished tool, helps cut set-up time by up to 30 per cent.
- Automatic grinding wheel and tool measuring using WALTER measuring machines means a further 10 per cent reduction in set-up time.
- The network for fast data exchange can cut set-up time by a further 10 per cent.

1 PC workstation with Cyber Grinding, time-saving tool programming and 3D real-time simulation.

2 Heli Toolcheck-4-axis CNC measuring machine for non-contact complete measurement using 3 CCD cameras in a single clamping operation.

3 File server.

4 Helitronic tool grinding machine.

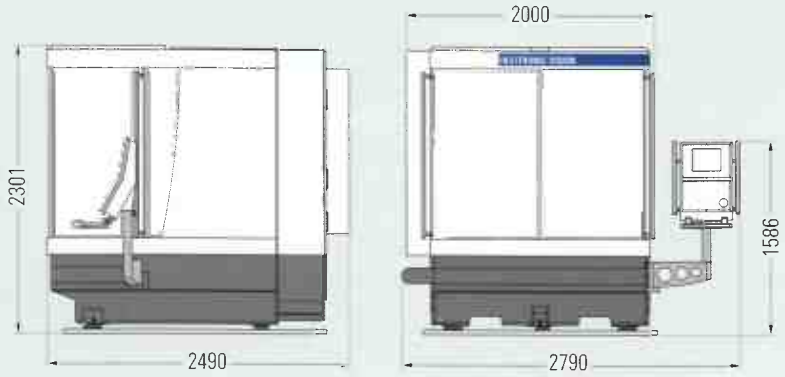


Specifications

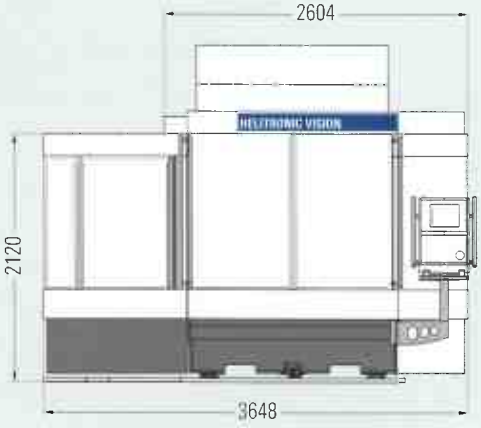
	Helitronic Vision	Helitronic Diamond	Helitronic Power	Helitronic Power Diamond	Helitronic Mini Power
Paintwork	RAL 9003/7011	RAL 9003/7011	RAL 9003/7011	RAL 9003/7011	RAL 9003/7011
Axes					
X axis	480 mm	480 mm	470 mm	470 mm	350 mm
Y axis	320 mm	320 mm	320 mm	320 mm	200 mm
Z axis	700 mm	700 mm	660 mm	660 mm	470 mm
Rapid traverse X,Y, Z	50 m/min	50 m/min	15 m/min	15 m/min	15 m/min
C axis rotary indexing table	± 200 degrees	± 200 degrees	± 200 degrees	± 200 degrees	± 200 degrees
A axis	∞	∞	∞	∞	∞
Tool data:					
Max. diameter	320 mm [1]	320 mm [1]	320 mm [1]	320 mm [1]	100 mm [1]
Max. workpiece length Peripheral grinding	370 mm [2]	370 mm [2]	350 mm [2]	350 mm [2]	270 mm [2]
Max. workpiece length Face grinding	300 mm [2]	300 mm [2]	280 mm [2]	280 mm [2]	200 mm [2]
Max. workpiece weight	50 kg	50 kg	50 kg	50 kg	30 kg
Accuracy					
Linear resolution	0,0001 mm	0,0001 mm	0,0001 mm	0,0001 mm	0,0001 mm
Radial resolution	0,0001 degrees	0,0001 degrees	0,0001 degrees	0,0001 degrees	0,0001 degrees
Grinding head with twin grinding spindle					
Spindle diameter	100 mm	100 mm	80 mm	80 mm	70 mm
Max. grinding wheel dia.	200 mm	200 mm	200 mm	200 mm	150 mm
Rotary electrode dia.		6 – 200 mm		6 – 200 mm	
Maximum output	30 kW	30 kW	11,5 kW (24 kW Option)	11,5 kW	9 kW
Grinding spindle speed	0 – 10.000 rpm	0 – 10.000 rpm	0 – 9.500 rpm [3]	0 – 9.500 rpm	0 – 9.500 rpm
Weight					
Grinding machine incl. coolant system	appr. 7.100 kg	appr. 7.200 kg	appr. 4.500 kg	appr. 4.600 kg	appr. 3.600 kg
Connected load					
At 400 V/50 Hz	appr. 35 kVA	appr. 35 kVA	appr. 25 kVA	appr. 25 kVA	appr. 25 kVA
Cooling system	**Option**	**Option**			
Capacity	appr. 800 l	appr. 800 l	appr. 400 l	appr. 400 l	appr. 350 l
Pump output	80/120 l/min at 7/20 bar	80/120 l/min at 7/20 bar	120 l/min at 6 bar	Stepless: 40-120 l/min at 3-20 bar 2-step: 80/120 l/min at 6/20 bar	120 l/min at 6 bar

[1] Depending on tool type. [2] From the theoretical taper diameter of the workpiece holder. [3] With 24 KW drive option, the grinding spindle speed is 7,000 rpm. Subject to changes in the interests of technical progress. No liability is accepted for any information provided.

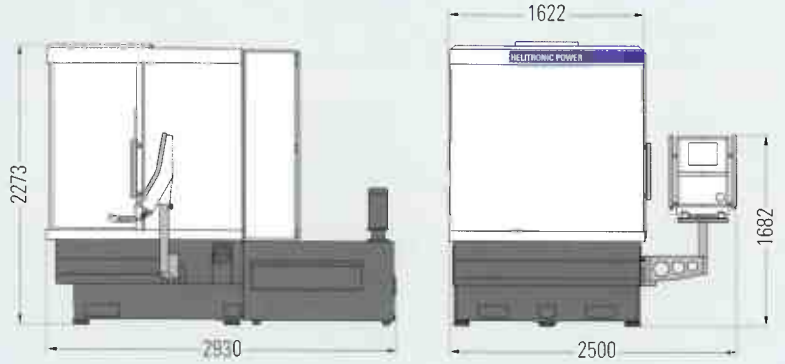
Dimensions



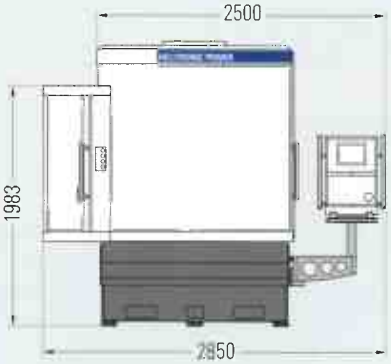
Helitronic Vision / Helitronic Diamond



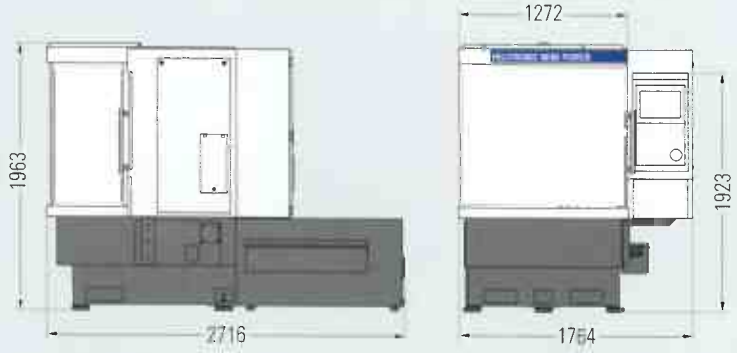
Helitronic Vision with Production Loader option (left)
and grinding wheel changer option (right)



Helitronic Power / Helitronic Power Diamond
with integrated coolant system (standard)



Helitronic Power with Disc Loader option



Helitronic Mini Power
with integrated coolant system (standard)

Dimensions (measurements in mm)
Subject to changes in the interests of technical progress. No liability is accepted for any information provided.

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