HELITRONIC G 200

Cost-efficient tool-grinding machine with a small footprint

Key features

The HELITRONIC G 200 impresses with its grinding results and with a footprint of less than 2.3 m^2. It is therefore the ideal machine when space is the limiting factor. For the production and resharpening of rotationally symmetrical tools in the diameter range of 1 to 125 mm. Maximum tool length 235 mm, workpiece weight up to 12 kg.

WALTER

Walter Maschinenbau GmbH

WALTER has produced tool grinding machines since 1953. Today, our product range is supplemented by tool eroding machines and fully automated CNC measuring machines in the HELICHECK series for contactless complete measurement of tools and production parts.

Walter Maschinenbau GmbH is part of the UNITED GRINDING Group. Together with our sister company, Ewag AG, we consider ourselves to be a supplier of systems and solutions for the complete machining of tools and can offer a wide range of products, including grinding, rotary eroding, laser machining, measurement and software.

Our customer focus and our global sales and service network of company-owned locations and employees has been appreciated by our customers for decades.

HELITRONIC G 200

The HELITRONIC G 200 grinds and sharpens tools in the small to medium diameter range for the metalworking and woodworking industries in a single clamping and on the smallest of footprints. The ergonomic design and the integrated and swiveling multifunction touch panel with a 21.5" monitor facilitates the operation and accessibility of the work area. The low-vibration mineral cast machine bed ensures the maximum precision in grinding results.


Grinding


Software

The HELITRONIC G 200 at a glance

Application

- Grinding rotationally symmetrical tools with small to medium diameters for the metalworking and woodworking industries
- For production and/or regrinding
- Complete machining in a single clamping
- Materials include HSS, carbide, cermet, ceramic

The machine

- Low-vibration, solid mineral cast C-frame construction
- X, Y, Z linear axes with ballscrew drive
- Rotating A, C axes with high torque motors
- Belt-driven spindle with two ends
- Each spindle end can take up to three grinding wheels
- FANUC, the global standard for control equipment
- Loading system: Top loader

HELITRONIC G 200 – Space-saving, ergonomic design, simple operation and good accessibility

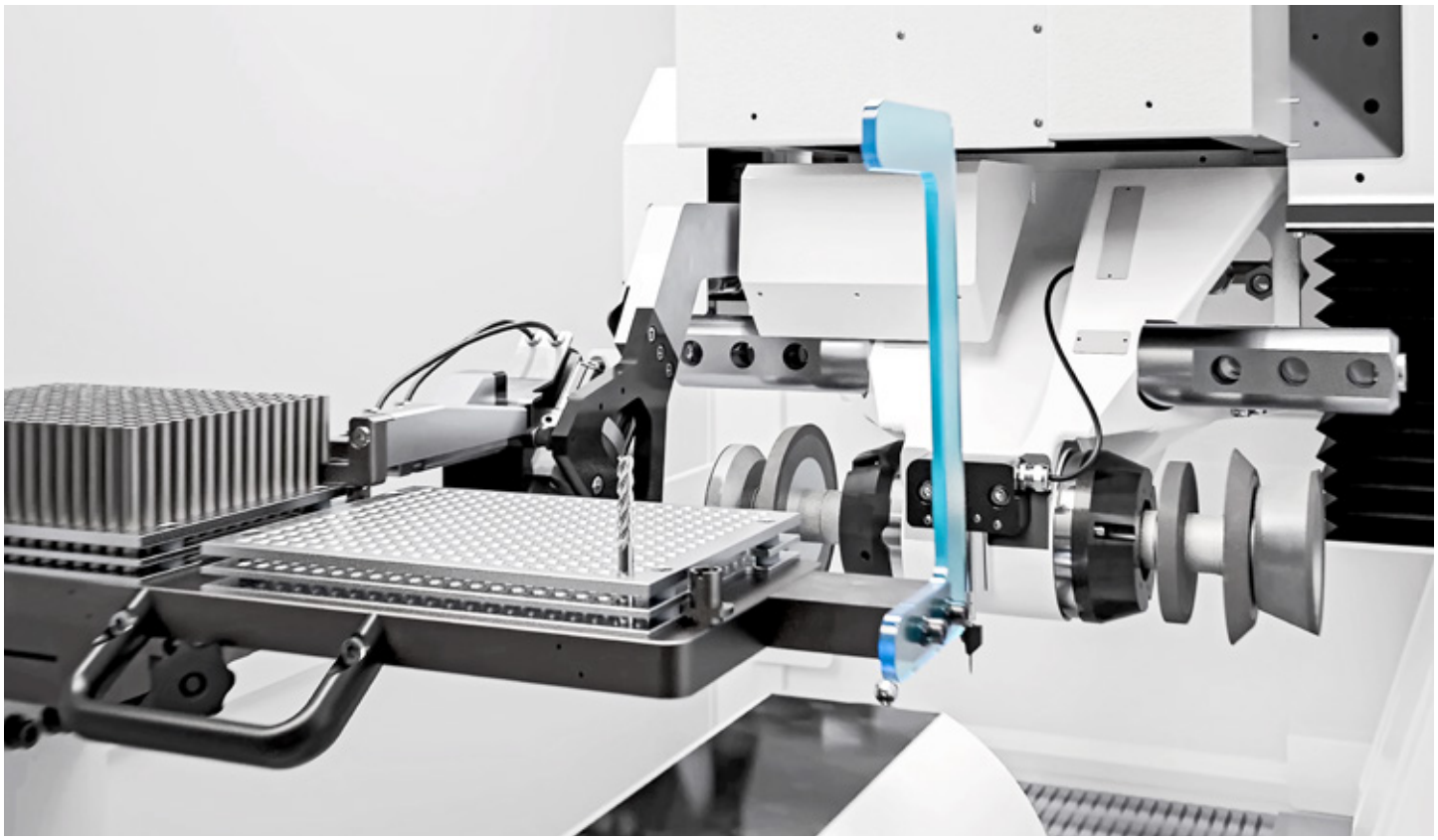
Software

- HELITRONIC TOOL STUDIO, CAD/CAM software for design, programming, simulation and production
- Numerous software options to enhance performance and increase efficiency

Belt-driven spindle
The belt-driven spindle with two ends can take up to six grinding wheels The different grinding wheel sets are allocated to the relevant spindle along with the wheel measurement data.

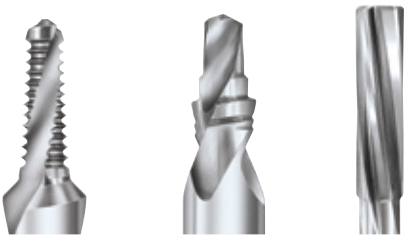
C-frame construction
The mineral cast C-frame construction with its high weight and extreme rigidity converts the high dynamic performance of the digital drives into low-vibration grinding precision.

Top loader automation option



“Top loader” option
This space-saving and inexpensive automation solution is integrated directly into the machine envelope. Featuring an automatic teaching capability set-up times are reduced to a minimum. Depending on the tool diameter, the Top loader offers a maximum of 500 places for tools.

Tool capacity, max. (sample diameters):
– 500 tools: diameter 3 mm
– 99 tools: diameter 10 mm
– 42 tools: diameter 16 mm



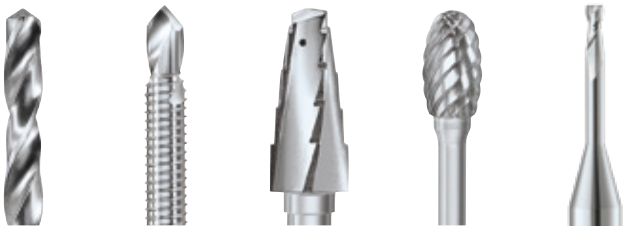
Example tools (from left to right):
Thread milling tool, stepped drill bits, carbide reamer, carbide spiral drill bit, medical drill bit, medical depth drill bit, rotary milling tool, micro milling tool

Other options

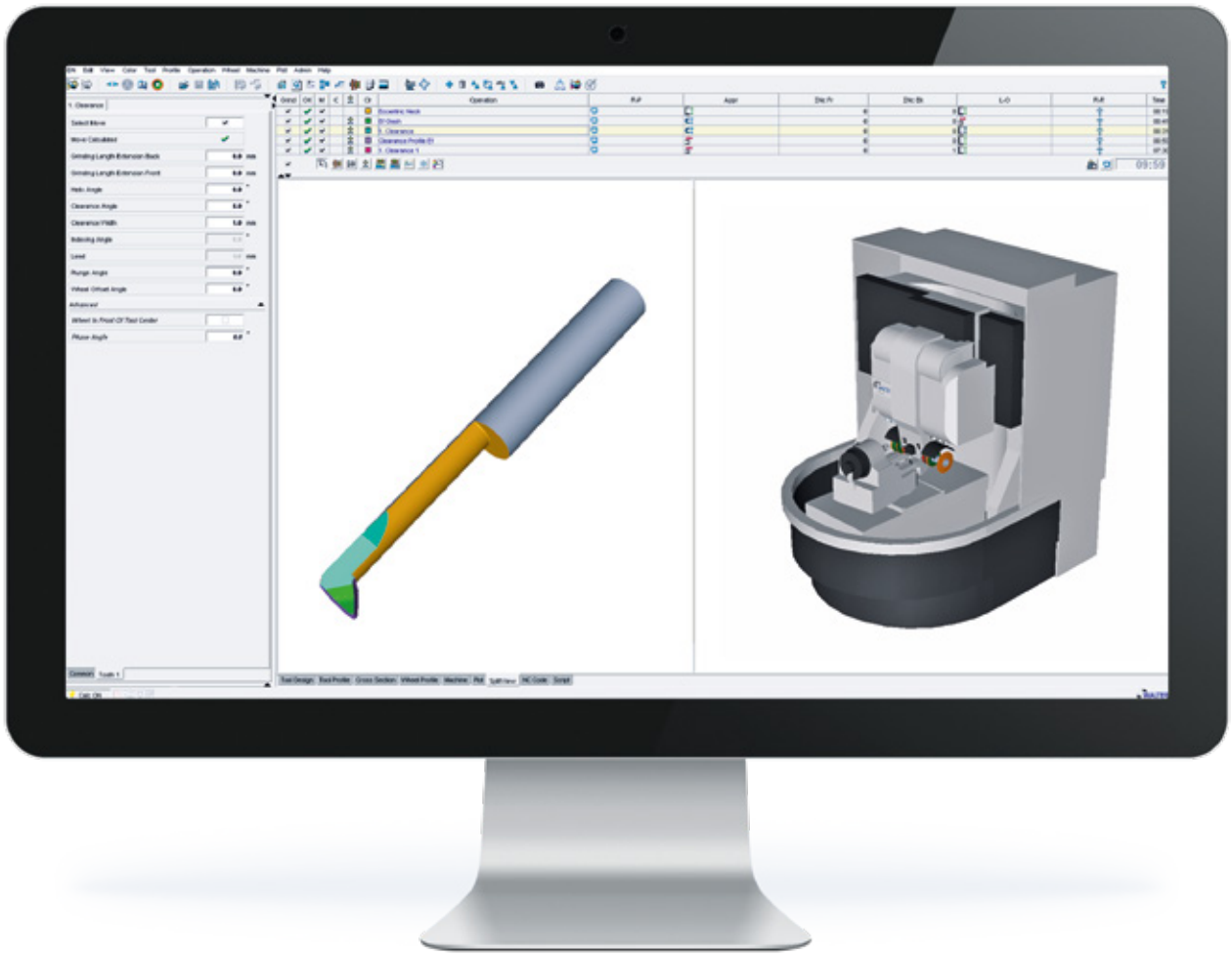
Automatic, electrical
measurement of the machine reference (AEMDM)
Now use the advantages of the automatic, electrical measurement of the machine reference in the grinding and eroding machines from WALTER.

Advantages of AEMDM

- Maximum precision of measurement results through exact positioning of the axes via electrical contact
- Significant time savings with automatic operation in comparison to the manual measurement method
- Valuable working time of the employees can be used for other tasks
- Eliminates errors caused by the human factor
- Short amortisation time for your investment



Application software for tool machining



HELITRONIC TOOL STUDIO adds operational convenience to all grinding applications

HELITRONIC TOOL STUDIO is the WALTER way to the perfect tool. According to the tried and tested method of “What you see is what you grind”, just a few mouse clicks are all that separate you from producing the perfect precision tool: Design, programming, simulation and production.

HELITRONIC TOOL STUDIO: This combines ease of programming with the greatest possible flexibility. With minimum complexity, machining steps and movement sequences for both rotationally symmetrical standard tools and for special tools can be programmed by the operator. The tool shown on the screen corresponds exactly to the tool which will then be produced. This means that, as early as the design phase, the result can be checked and, if necessary, corrected thanks to the true-to-life 3D simulation.

The operator can quickly find the tool type, the parameters to be entered and the tool by using the assistant. WALTER provides programme packages for all standard tool families, which make handling significantly easier.

Efficiency options

- Up to 30 % time saved
- Optimum feed rate
- Optimize existing IDNs

Feedrate Optimizer
This enhancement to the HELITRONIC TOOL STUDIO provides the ideal options for feed control and for monitoring the grinding wheel and machine load. Depending on the tool type, the time savings can be up to 30%. Feed optimisation uses the findings entered into the HELITRONIC TOOL STUDIO in relation to grinding movements, and the grinding wheel and tool simulation model in order to calculate the current grinding wheel and machine loads and set the optimum feed at any time. Movements with low wheel loads will be accelerated and, this is particularly important, movements where the desired wheel load is exceeded are slowed down. Even existing IDNs can be conveniently optimised with just one click. First, the profile of the grinding wheel load is determined via a progressive simulation analysis. Then, the feed is optimised in such a way that the wheel load remains constant during the entire processing run.

- Permanent set-actual comparison for the torque

Adaptive Control
By permanently comparing the machine loading, grinding can be made more efficient and simultaneously safer. If the load increases, the feed will be decelerated accordingly. If the load decreases, the speed is increased accordingly. With AC grinding, alternating loads on the grinding wheels will be prevented by a continual load. Any possible overloading of the grinding wheels is excluded.

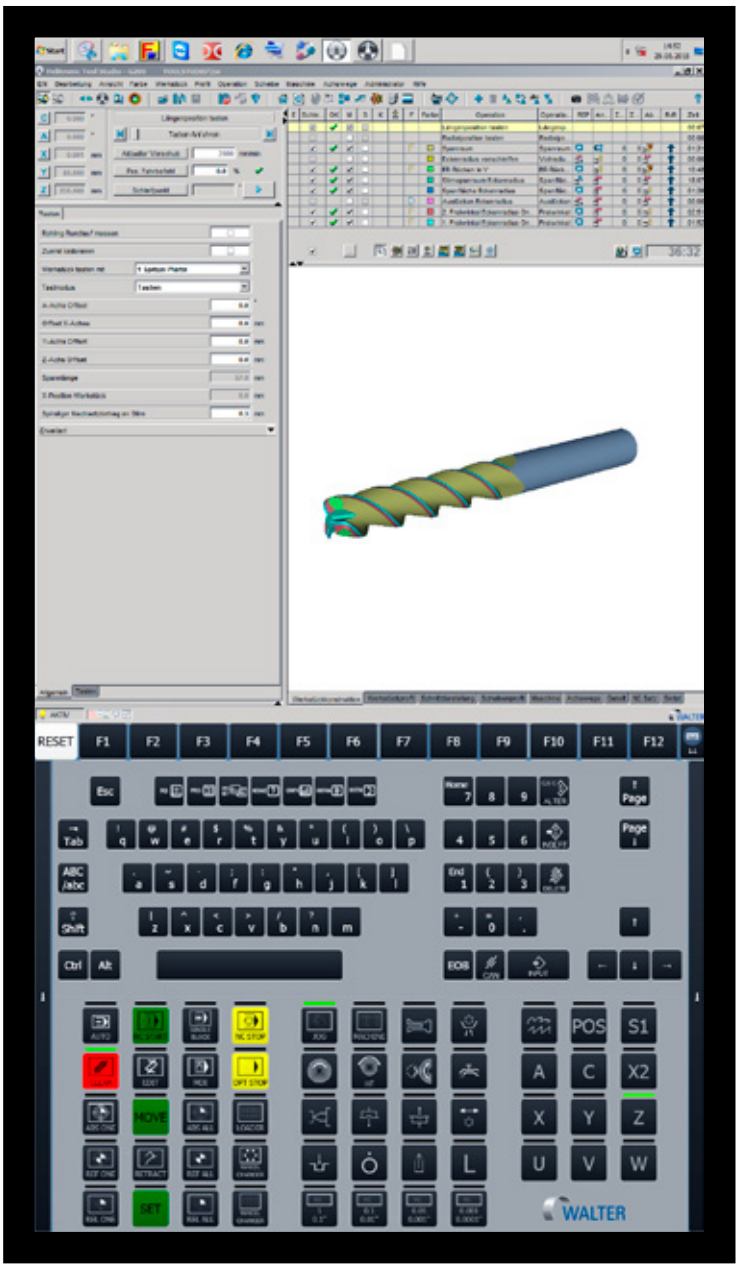
- Analysis of the centre of gravity
- Balancing the tool

Tool Balancer
The Tool Balancer is an easy way to analyse, and balance out if necessary, centre-cutting tools with an odd number of flutes (unevenly divided tools) or special tools. The efficiency-increasing method has two core functions: One is to analyse the centre of mass and the other is to automatically balance the tool using different techniques. The approach is simple and can be mastered with just a few mouse clicks. Analysis during the development phase means that the process of prototype production can be significantly shortened. Balanced tools have a longer tool life, can machine at higher speeds, produce higher-quality surfaces and result in less wear-and-tear. Asymmetrical tools are well-suited to machining processes with high rotation speeds up to a point where significant imbalance forces occur.

- High ease of operation and time saving with minimal training requirements
- Import or export of DXF files

Sketcher
Sketcher extends the functionality for the creation of CAD drawings for tools and grinding wheels in HELITRONIC TOOL STUDIO using predefined ident numbers. With Sketcher, highly accurate tool drawings can be quickly generated to aid quality assurance in the manufacturing process or to include with tool quotations. Sketcher expands the functionality of the HELITRONIC TOOL STUDIO tool grinding software, and ultimately improves the tool manufacturing process. Based on an existing HELITRONIC TOOL STUDIO IDN, the user generates a CAD drawing using predefined drawing views. This can then be dimensioned using standard CAD methods. «Sketcher» links 3D tool simulations with drawing views – the CAD drawing is synchronised automatically when simulation parameters are changed. The unifying attribute is the tool ident number. For similar tools, the CAD drawing serves as a master template that can be immediately imported.

Global standard of control technology



- Multifunction touchpanel with 21.5" screen
- Multi-processor system – high system security
- FANUC bus for digital drives – disruption-free communication
- CNC and robot from a single manufacturer – no interface problems

With the FANUC control unit, WALTER relies on the global standard of control technology. For the user, this means the highest degree of reliability, availability and operating comfort.

WALTER, famous for tool grinding, and FANUC, the No. 1 in CNC control units – together an unbeatable team.

Customer Care

WALTER and EWAG deliver systems and solutions worldwide for all areas of tool machining. Our claim is based on ensuring maximum availability of our machines over their entire service life. For this we have thus bundled numerous services in our customer care program.

From “Start up” through “Prevention” to “Retrofit”, our customers enjoy tailor made services for their particular machine configuration. Around the world, our customers can use helplines, which can generally solve a problem using remote service. In addition to that, you will also find a competent service team in your vicinity around the world. For our customers, this means:

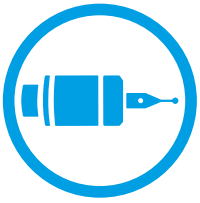
- Our team is close by and can quickly be with you.
- Our team will support you to improve your productivity.
- Our team works quickly, focuses on the problem and its work is transparent.
- Our team solves every problem in the field of machining tools, in an innovative and sustainable manner.

Start up
Commissioning
Extension of the guarantee

Qualification
Training
Support for production

Prevention
Maintenance
Inspection

Service
Customer service
Customer advice
Helpline
Remote service



Material
Spare parts
Replacement parts
Accessories

Rebuild
Machine overhauling
Refurbishing of assemblies

Retrofit
Conversions
Retrofitting parts
Taking machines back

Technical data, dimensions

Mechanical axes

X axis	305 mm
Y axis	218 mm
Z axis	475 mm
Rapid traverse speed X, Y, Z	max. 15 m/min
C axis	± 200°/- 110°
A axis	∞
Linear resolution	0.0001 mm
Radial resolution	0.0001°

Grinding spindle drive

Max. grinding wheel diameter	150 mm
Grinding spindle speed	0 – 10,500 min^{-1}

HELITRONIC G 200 with belt-driven spindle

Spindle ends	2
Tool holder	HSK 50
Peak power	9 kW
Diameter of spindle	80 mm

Others

Weight of machine including coolant system	approx. 3,900 kg
Connected value at 400 V/50 Hz	approx. 25 kVA

Tool data[1)]

Min. tool diameter for production/regrinding	1 mm/3 mm
Max. tool diameter for production/regrinding	16 mm/125 mm
Max. workpiece length of peripheral grinding[2)]	235 mm
Max. workpiece length of face grinding[2)]	195 mm
Max. workpiece weight	12 kg

Options

Automation options

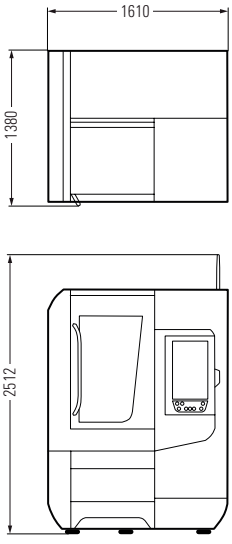
Top loader

Coolant system

On request – several types are possible

Others

Software, various clamping systems based on a spring tension system, fire-extinguishing units, mist and vapour separator, automatic, electrical measurement of the machine reference



HELITRONIC G 200

[1)] The maximum tool dimensions depend on the type of tool and its geometry, as well as the type of machining.
[2)] From the theoretical taper diameter of the workpiece holder.

Creating Tool Performance

WALTER and EWAG are globally acting market-oriented technology and service companies, and are system and solution partners for all areas of tool machining. Our range of services is the basis for innovative machining solutions for practically all tool types and materials typical for the market with a high degree of added value in terms of quality, precision, durability and productivity.

Grinding – Grinding of rotationally symmetrical tools and workpieces

WALTER machines	Use	Materials	Tool dimensions [1] max. length [2] / diameter
HELITRONIC ESSENTIAL	P R	HSS TC C/C CBN	255 mm / Ø 1 – 100 mm
HELITRONIC MINI POWER	P R	HSS TC C/C CBN	255 mm / Ø 1 – 100 mm
HELITRONIC MINI AUTOMATION	P R	HSS TC C/C CBN	255 mm / Ø 1 – 100 mm
HELITRONIC BASIC	P R	HSS TC C/C CBN	350 mm / Ø 3 – 290 (320) mm
HELITRONIC POWER	P R	HSS TC C/C CBN	350 mm / Ø 3 – 290 (320) mm
HELITRONIC POWER 400	P R	HSS TC C/C CBN	520 mm / Ø 3 – 315 mm
HELITRONIC VISION 400 L	P R	HSS TC C/C CBN	420 mm / Ø 3 – 315 mm
HELITRONIC VISION 700 L	P R	HSS TC C/C CBN	700 mm / Ø 3 – 200 mm
HELITRONIC MICRO	P	HSS TC C/C CBN	120 mm / Ø 0.1 – 12.7 mm
	R	HSS TC C/C CBN	120 mm / Ø 3 – 12.7 mm

EWAG machines	Use	Materials	Tool dimensions [1] max. length [2] / diameter
EWAMATIC LINEAR	P R	HSS TC C/C CBN PCD	200 mm / Ø 0.2 – 200 mm
PROFILE LINE	P R	HSS TC C/C CBN	255 mm / Ø 1 – 100 mm
WS 11/WS 11-SP	P R M	HSS TC	– / up to Ø 25 mm
RS 15	P R M	HSS TC C/C CBN PCD	– / up to Ø 25 mm

Eroding – Electrical discharge machining and grinding of rotationally symmetrical tools

WALTER machines	Use	Materials	Tool dimensions [1] max. length [2] / diameter
HELITRONIC DIAMOND EVOLUTION	P R	HSS TC C/C CBN PCD	185/255 mm / Ø 1 – 165 mm
HELITRONIC POWER DIAMOND	P R	HSS TC C/C CBN PCD	350 mm / Ø 3 – 290 (400) mm
HELITRONIC POWER DIAMOND 400	P R	HSS TC C/C CBN PCD	520 mm / Ø 3 – 380 mm
HELITRONIC VISION DIAMOND 400 L	P R	HSS TC C/C CBN PCD	420 mm / Ø 3 – 315 mm

Software – The intelligence of tool machining and measuring for production and regrinding

Customer Care – Comprehensive range of services

Grinding – Grinding of indexable inserts

EWAG machines	Use	Materials	Indexable inserts [1] Inscribed / circumscribed circle
EWAMATIC LINEAR	P R	HSS TC C/C CBN PCD	Ø 3 mm / Ø 50 mm
PROFILE LINE	P R	HSS TC C/C CBN	Ø 3 mm / Ø 50 mm
COMPACT LINE	P R	HSS TC C/C CBN PCD	Ø 3 mm / Ø 50 mm
INSERT LINE	P R	HSS TC C/C CBN	Ø 3 mm / Ø 75 mm
RS 15	P R M	HSS TC C/C CBN PCD	– / up to Ø 25 mm

Laser – Laser machining of indexable inserts and/or rotationally symmetrical tools

EWAG machines	Use	Materials	Tool dimensions [1] max. length / diameter
LASER LINE ULTRA	P R	TC C/C CBN PCD CVD-D MCD/ND	250 mm / Ø 0.1 – 200 mm
LASER LINE PRECISION	P R	CBN PCD CVD-D MCD/ND	250 mm / Ø 0.1 – 200 mm

EWAG machines	Use	Materials	Indexable inserts [1] Inscribed / circumscribed circle
LASER LINE ULTRA	P R	TC C/C CBN PCD CVD-D MCD/ND	Ø 3 mm / Ø 50 mm
LASER LINE PRECISION	P R	CBN PCD CVD-D MCD/ND	Ø 3 mm / Ø 50 mm

Measuring – Contactless measurement of tools, workpieces and grinding wheels

WALTER machines	Use	Tool dimensions [1] max. length / diameter
HELICHECK PRECISION	M	420 mm / Ø 1 – 320 mm
HELICHECK ADVANCED	M	420 mm / Ø 1 – 320 mm
HELICHECK PRO	M	300 mm / Ø 1 – 200 mm
HELICHECK PRO LONG	M	730 mm / Ø 1 – 200 mm
HELICHECK PLUS	M	300 mm / Ø 0.1 – 200 mm
HELICHECK PLUS LONG	M	730 mm / Ø 0.1 – 200 mm
HELICHECK 3D	M	420 mm / Ø 3 – 80 mm
HELISET PLUS	M	400 mm / Ø 1 – 350 mm
HELISET	M	400 mm / Ø 1 – 350 mm

Use: P Production R Regrinding M Measuring

Materials: HSS High speed steel TC Tungsten carbide C/C Cermet/ceramics CBN Cubic boron nitride PCD Polycrystalline diamond CVD-D Chemical vapour deposition MCD/ND Monocrystalline diamond/natural diamond

[1] Maximum tool dimensions are dependent on the tool type and geometry, as well as the type of machining.
[2] From the theoretical taper diameter of the workpiece holder.

Walter Maschinenbau GmbH
Jopestr. 5 · 72072 Tübingen, Germany
Tel. +49 7071 9393-0
Fax +49 7071 9393-695
info@walter-machines.com

For worldwide contact details, please visit
www.walter-machines.com

HELITRONIC G 200 · Subject to alterations · Printed in Germany · 465 · V2 · 12/2019 · en