HELITRONIC POWER
This is our most sold unit around the world

Key parameters
Around the world, the HELITRONIC POWER stands for top quality in the production and resharpening of rotationally symmetrical tools. Permissible diameters range from 3 to 320 mm, machining lengths can be up to 350 mm and each item may weigh up to 50 kg.
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.
With up to six grinding wheels on the belt-driven spindle, the HELITRONIC POWER grinds complex geometries with only one clamping cycle. Together with the available loading systems, it sets standards in productivity and flexibility. Our customers appreciate these functions, which is why it is the best-selling WALTER tool grinding machine worldwide.
The HELITRONIC POWER at a glance

<table>
<thead>
<tr>
<th>Application</th>
<th>The machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Grinding rotationally symmetrical tools for metalworking and woodworking industries</td>
<td>• Low vibration, solid grey cast iron, gantry type construction</td>
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<tr>
<td>• For production and/or regrinding</td>
<td>• X, Y, Z linear axes with ball-type linear drive</td>
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<tr>
<td>• Fully automated, complete machining in a single clamping cycle</td>
<td>• A, C rotating axes with worm drives</td>
</tr>
<tr>
<td>• Materials include HSS, carbide, cermet, ceramic</td>
<td>• Belt-driven spindle with two ends</td>
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<td></td>
<td>• Each spindle end can take up to three grinding wheels</td>
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<td></td>
<td>• FANUC, the global standard for control equipment</td>
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<td></td>
<td>• A variety of automatic loading systems</td>
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<td></td>
<td>• Options which increase efficiency</td>
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</tbody>
</table>

HELITRONIC POWER – the space-saving version with a belt-driven spindle and two ends.
The most economical solution for many production and regrinding companies.
Software

- HELITRONIC TOOL STUDIO, CAD/CAM software for design, programming, simulation and production
- Numerous software options to extend the system’s performance and to increase its efficiency
Universal, efficient and easy to use

Example tools (from left to right):
Cylindrical end mill, stepped drill bit, fir tree cutter, ball nose tool with variable spiral lead, cylindrical drill, thread mill cutter, high spiral corner radius mill, Kevlar mill, profiled mill, single-point cutter

Automated work table
When producing or regrinding precision tools for metal and wood, the HELITRONIC POWER is used worldwide. Decades of tried and tested WALTER expertise in hardware, software and application knowledge come together in this machine. It offers numerous benefits in relation to cost reduction and is simultaneously an ideal CNC machine for all those who wish to set themselves up in the business of tool machining. Users will love the convenient and safe operation of the HELITRONIC POWER.

The area of application of the HELITRONIC POWER comprises the entire spectrum of rotationally symmetrical tools for metal and wood machining, including special tools. Even complex geometries can be machined in a single clamping cycle. A true all-rounder with thousand-fold, global acclaim.
Innovative WALTER grinding technology

**WALTER gantry design**
The WALTER gantry design with its excellent stability properties and extreme rigidity converts the high dynamism of the digital drives into low-vibration grinding precision.

**Belt-driven spindle**
The belt-driven spindle with two ends can take up to 6 grinding wheels. The different grinding wheel sets are allocated to the relevant spindle along with the wheel measurement data.

**Automatic positioning and measuring system “Heli-Probe”**
Heli-Probe measures important tool parameters for a perfectly positioned tool in the shortest space of time. This is the best precondition for quick and accurate grinding, quality, and productivity.
“Torque motor 750 rpm” option
The torque motor on the A axis is an effective option to make the HELITRONIC POWER system more flexible and more productive. At 750 rpm, the torque motor is ideal for the high demands of the most complex tool types. Profile grinding is no longer a problem with this option.

“Glass scales” option
All linear axes are equipped with glass scales. The greater precision that results is fully implemented into grinding precision.
Automation options

**Robot loader**
The robot improves accessibility to the workpieces and makes special applications possible. Depending on the type of workpiece or the workpiece diameter, up to 7,500 workpieces can be loaded using the robot.

**“Multi-Range” equipment package for robot loaders**
The Multi-Range equipment package sets new standards in terms of flexibility. Large diameter coverages with a pair of gripper fingers and a collet replacement (Schunk bayonet) are possible with this equipment package.

**“Combi” equipment package for robot loaders**
Gripper rapid replacement system for handling cylindrical tools and tools with HSK-63 mounting shank. The word “Combi” is an exact description of the contents of this equipment package: Namely the two equipment packages “Cylindrical tools” and “HSK” plus the rapid replacement interface for fast, user-friendly retooling.

**Chain loader 300plus**
The chain loader with an HSK interface is designed for 70 tools up to a diameter of 63 mm, or 35 tools up to a diameter of 160 mm, or 21 tools up to a diameter of 320 mm. This is a globally unique system for the production and resharpening of rotationally symmetrical tools.

**Advantages of the “Combi” equipment package**
- Rapid replacement sequence thanks to only one cylinder head screw
- Pallets that have already been taught do not need to be taught again when grippers are replaced
- Pneumatics and teaching cable need to be connected only once (installation)
- Retrofitting at existing robots possible (software must be adapted)
- Easy handling
- Ergonomic form

**Eco loader/Eco loader plus**
With up to 20 tool positions as an Eco Loader. Also possible as an Eco Plus loader with up to 165 tool positions. The Eco Loader is mounted on the work table. The gripper is integrated into the grinding head. Preferred use is with single pieces and small series. This proximity to the grinding unit means short auxiliary process times. All loader functions are coordinated by the machine control unit. An effective automation measure for large and small businesses.
Automatic grinding wheel measurement
For even more efficient production. Normally the machine operator corrects the grinding wheel data in the production process manually so that the geometry of the tool can be maintained at its nominal dimension. With the automatic grinding wheel measurement, the wear on the bond of the grinding wheels can be determined automatically via tactile measurement, exactly documented and compensated for. The measurement is carried out during the production process. Diameter and length of the grinding wheel can be measured and compensated for. This means that the operator always has the optimum grinding wheel data at the desired time. Furthermore, the user can monitor the grinding wheel wear and thus influence the production process and optimise it.

The probe for the tactile measurement is fitted on the tool carrier and is mounted in place of the electrical dresser.

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

Heli Contour Check HCC
Machine-integrated camera measurement system for measuring the tool contour directly after grinding, without re-chucking the tool for very high degrees of accuracy. This way the measured contour errors can be directly adjusted.

Automated work table
The automated work table option can be equipped with up to two upper slides: one automatic and one permanent. This way, long tools can be supported by a moveable steady rest and/or a tailstock. The surface quality and tool precision is increased thanks to the constant support at the contact point of the grinding wheel.
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.
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.

Feedrate Optimizer
This enhancement to the HELITRONIC TOOL STUDIO provides the ideal options for feed control and for monitoring the grading 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.

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.

Integrated Measuring System IMS
With the integrated IMS measurement system, the outside diameter, rake angle and core diameter can be measured using the probe ball without having to unclamp the tool. By setting the tolerances, HELITRONIC TOOL STUDIO can compensate for any deviation of the measured values, e.g. by thermal growth or wheel wear-and-tear, and adjust to the nominal measure and thus prevent scrap. The operator no longer needs to make active adjustments and the dressing cycle of the grinding wheels remains constant. Both increase the efficiency, especially when it comes to large-volume production.

Efficiency options
- Up to 30% time savings
- Optimum feed rate
- Optimize existing IDNs
- Analysis of the centre of gravity
- Balancing the tool
- Determination of the rake angle, the outer diameter and the core diameter for cylindrical tools
- Permanent set-actual comparison for the torque
Global standard of control technology

- Multi-processor system – high system security
- FANUC bus for digital drives – fault-free communication
- CNC and robots from a single manufacturer – no interface problems
- 19-inch touchscreen as standard

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 machining, and FANUC, the No. 1 in CNC control units, together make an unbeatable team.
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.

Customer Care

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

<table>
<thead>
<tr>
<th>Axis</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X axis</td>
<td>460</td>
</tr>
<tr>
<td>Y axis</td>
<td>320</td>
</tr>
<tr>
<td>Z axis</td>
<td>660</td>
</tr>
<tr>
<td>Rapid travel speed X, Y, Z</td>
<td>max. 15 m/min</td>
</tr>
<tr>
<td>C axis</td>
<td>± 200°</td>
</tr>
<tr>
<td>A axis</td>
<td>∞</td>
</tr>
<tr>
<td>Linear resolution</td>
<td>0.0001 mm</td>
</tr>
<tr>
<td>Radial resolution</td>
<td>0.0001°</td>
</tr>
</tbody>
</table>

Grinding spindle drive

**Belt-driven spindle (standard)**

- Max. grinding wheel diameter: 200 mm
- Grinding spindle speed: 0 – 10,500 rpm
- Spindle ends: 2
- Tool holder: NCT
- Peak power: 11.5 kW
- Spindle Diameter: 80 mm

**High-performance belt-driven spindle with 24 kW (optional)**

- Max. grinding wheel diameter: 200 mm
- Grinding spindle speed: 0 – 7,000 rpm
- Spindle ends: 2
- Tool holder: NCT
- Peak power: 24 kW
- Spindle Diameter: 80 mm

Tool data

<table>
<thead>
<tr>
<th>Tool data</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. tool diameter</td>
<td>3 mm</td>
</tr>
<tr>
<td>Max. tool diameter</td>
<td>320 mm</td>
</tr>
<tr>
<td>Max. tool diameter with automated work table</td>
<td>290 mm</td>
</tr>
<tr>
<td>Max. workpiece length, peripheral grinding</td>
<td>350 mm</td>
</tr>
<tr>
<td>Max. workpiece length, end face grinding</td>
<td>280 mm</td>
</tr>
<tr>
<td>Max. workpiece weight</td>
<td>50 kg</td>
</tr>
</tbody>
</table>

Options

**Coolant system**

On request – several types are possible

**Loading systems**

Eco loader/Eco loader plus, Chain loader 300plus, Robot loader

**Others**

- Frequency-controlled pump 80 – 120 l/min at 7 – 20 bar, double spindle with 24 kW peak power, torque motor 750 rpm, glass scales, high frequency spindle, Heli Contour Check HCC, automation upper plate, Walter Window Mode software, automatic grinding wheel measurement, automatic, electrical measurement of the machine reference, etc.

Others

- Machine weight: approx. 4,200 kg
- Power consumption at 400 V/50 Hz: approx. 25 kVA

**Coolant system**

- Tank capacity: approx. 480 l
- Pump: 120 l/min at 6 bar

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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.

Measurements in mm. Subject to modifications due to technical progress and errors. We accept no responsibility for the correctness of any information given.
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**

<table>
<thead>
<tr>
<th>WALTER machines</th>
<th>Use</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELITRONIC ESSENTIAL</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC MINI POWER</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC MINI AUTOMATION</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC BASIC</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC POWER</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC POWER 400</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC VISION 400 L</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC VISION 700 L</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC MICRO</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td></td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
</tbody>
</table>

**WALTER machines**

<table>
<thead>
<tr>
<th>Use</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWAMATIC LINEAR</td>
<td>F L</td>
</tr>
<tr>
<td>PROFILE LINE</td>
<td>F L</td>
</tr>
<tr>
<td>WS 11/WS 11-SP</td>
<td>F L</td>
</tr>
<tr>
<td>RS 15</td>
<td>F L</td>
</tr>
</tbody>
</table>

**Eroding – Electrical discharge machining and grinding of rotationally symmetrical tools**

<table>
<thead>
<tr>
<th>WALTER machines</th>
<th>Use</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELITRONIC DIAMOND EVOLUTION</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC POWER DIAMOND</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC POWER DIAMOND 400</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
<tr>
<td>HELITRONIC VISION DIAMOND 400 L</td>
<td>F L</td>
<td>HSS TC CC CC CM</td>
</tr>
</tbody>
</table>

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

**Customer Care – Comprehensive range of services**

Use:  
- Production  
- Reconditioning  
- Measuring  

Materials:  
- HSS High speed steel  
- TC Tungsten carbide  
- CC Cermet/ceramics  
- CBN Cubic boron nitride  
- PCD Polycrystalline diamond  
- CVD Chemical vapour deposition  
- MCD/ND Monocristalline 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.