

HELITRONIC BASIC

The entry level
to the world of premium tools



Key parameters

Within the HELITRONIC family, the HELITRONIC BASIC system embodies the ideal reshaping machine for rotationally symmetrical tools with a diameter from 3 to 320 mm and a length of up to 350 mm. Items can weigh up to 50 kg.



Grinding



Eroding



Laser



Measuring



Software



Customer Care

Walter Maschinenbau GmbH

WALTER has produced tool grinding machines since 1953. With the introduction to the market of the HELITRONIC series for the complete machining of rotationally symmetrical tools, WALTER became the leader of the world market. Today, our product range is supplemented by 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 within Körber AG which has significant financial strength and well tested processes. 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 BASIC

With its 5 CNC axes, the HELITRONIC BASIC sharpens and grinds a wide spectrum of precision tools for metal and wood with the highest precision and quality. Short setup and idle times produce economic results from a batch size of 1 even in multiple shift operation with low staffing levels. For new entrants to the world of premium tools, this is a good recommendation.



Grinding



Software

The HELITRONIC BASIC at a glance

Application

- Grinding rotationally symmetrical tools for metalworking and woodworking industries
- For production and/or regrinding
- Complete machining with only a single clamping cycle
- Machinable materials include HSS, carbide, cermet, ceramic

The machine

- Low vibration, solid grey cast iron, gantry type construction
- X, Y, Z linear axes with ball-type linear drive
- A, C rotating axes with worm drives
- Belt-driven spindle with two ends
- Each spindle end can take up to three grinding wheels
- FANUC, the global standard for control equipment
- A variety of automatic loading systems
- Numerous efficiency options



HELITRONIC BASIC – flexible to use thanks to its belt driven spindle with 2 ends and the Eco loader.

Software

- HELITRONIC TOOL STUDIO, CAD/CAM software for design, programming, simulation and production
- Walter Window Mode WWM
- Numerous software options to extend the system's performance and to increase its efficiency



Flexibility for a wide spectrum of applications

There is no task on the market for precision tools for metal or wood which cannot be efficiently solved using the HELITRONIC BASIC system. This is why it is the first choice for resharpening companies.

Its field of applications covers all rotationally symmetrical tools to machine metal or wood, special tools as well as parts with complex geometries.

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.

WALTER gantry design

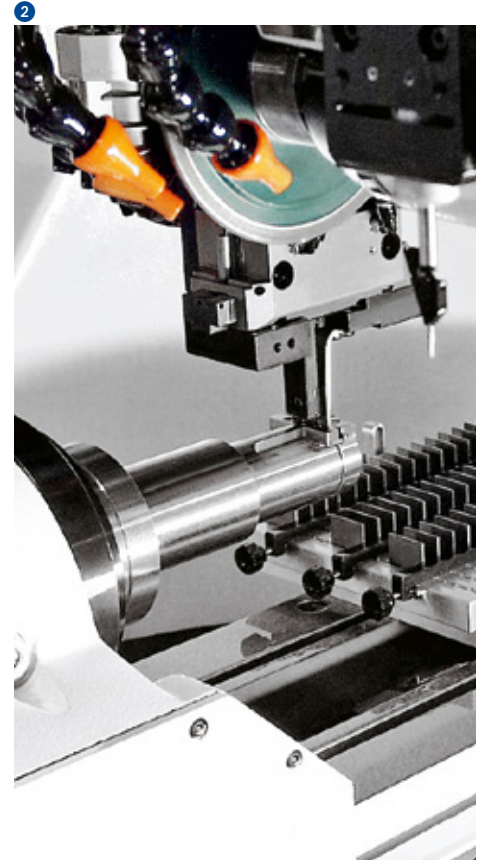
The WALTER gantry design with its high weight and extreme rigidity converts the high dynamic performance of the digital drives into low-vibration grinding precision.

Productivity and flexibility as the customer wants



“Eco loader” option

Up to 20 tools. 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 small businesses.



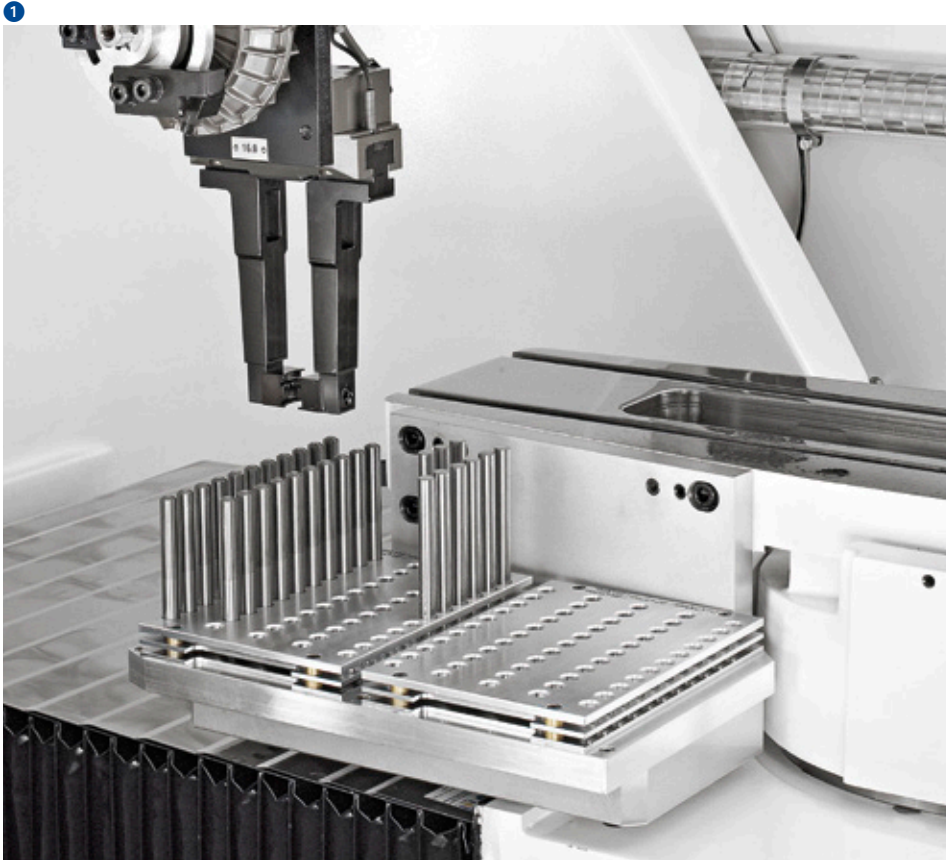
“Profiled blade loader” option

Up to 76 tools. A flexible loader system to tap the market niche for the grinding of profiled blades. The storage cassette is mounted on the work table. Here, the tool supporting axis is equipped with a clamping fixture for profiled blades. The loader automates the grinding of profiled blades which are used in the machining of wood.

Example tools (from left to right):

T slot cutter, stepped drill bit, roughing cutter, bull nose cutter, Kevlar drill, profiled tool for wood, dual-cut milling tool, end mill, burr cutter, single point cutter



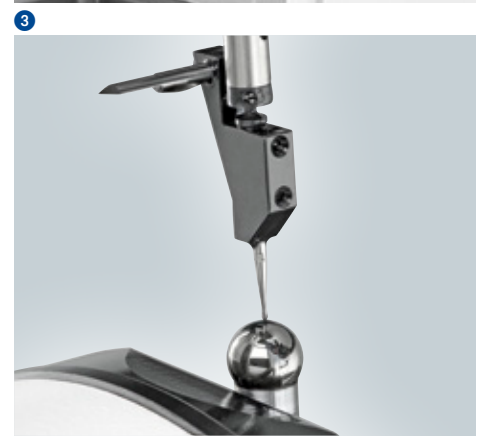


“Eco loader plus” option

Up to 165 tools. As the Eco loader plus pallets have been adapted to the Eco loader, it is possible to quickly change between an Eco loader and an Eco loader plus. This cost effective solution offers maximum flexibility and productivity.

“Torque motor 750 rpm” option

The torque motor on the A axis is an effective option to make the HELITRONIC BASIC system more flexible and more productive. At 750 rpm, the torque motor is adequately dimensioned to meet the high requirements of a wide variety of tool types. Cylindrical grinding is no longer a problem with this option.

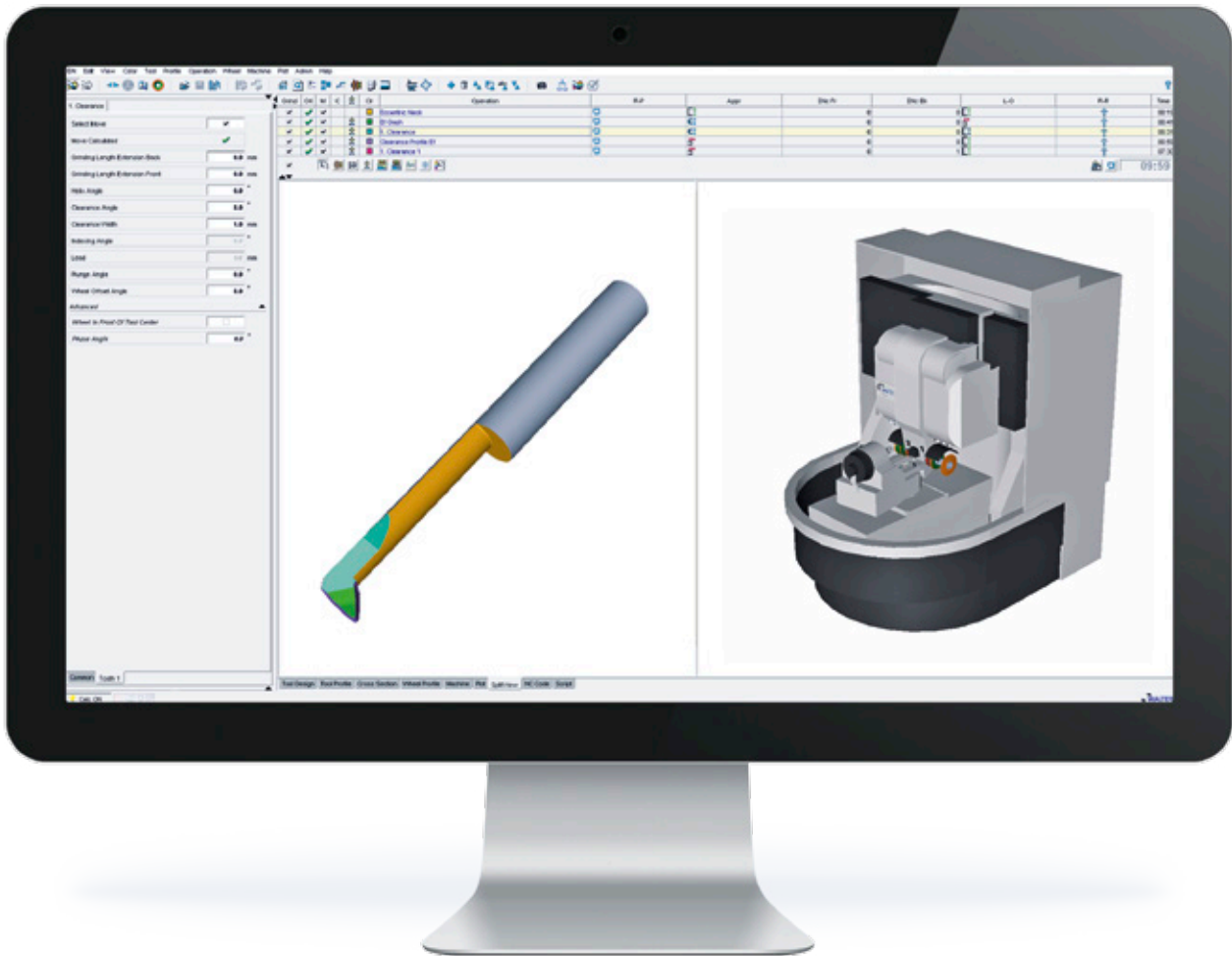


“Calibration” option

Calibration consists of a calibration ball and software. It is used to automatically calibrate the X, Y and Z axes of the machine with a loader. Any calibration time can be freely chosen in the loader program. Machines without a loading system can be calibrated manually.



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.

- Determination of the rake angle, the outer diameter and the core diameter for cylindrical tools

Integrated Measuring System IMS

With the integrated measuring system IMS, 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.



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

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

Customer Care

WALTER and EWAG deliver systems and solutions worldwide for all areas of tool machining. Our leadership 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



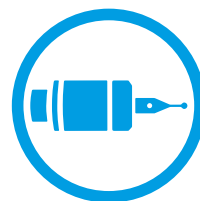
Qualification
Training
Support for production



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	460 mm
Y axis	320 mm
Z axis	660 mm
Rapid traverse speed X, Y, Z	max. 15 m/min
C axis	± 200°
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 rpm

HELITRONIC BASIC with belt-driven spindle

Spindle ends	2
Tool holder	NCT
Peak power	9 kW
Spindle Diameter	70 mm

Others

Weight of machine including coolant system	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

Tool data ¹⁾

Min. tool diameter	3 mm
Max. tool diameter	320 mm
Max. workpiece length, peripheral grinding ²⁾	350 mm
Max. workpiece length, end face grinding ²⁾	280 mm
Max. workpiece weight	50 kg

Options

Coolant system

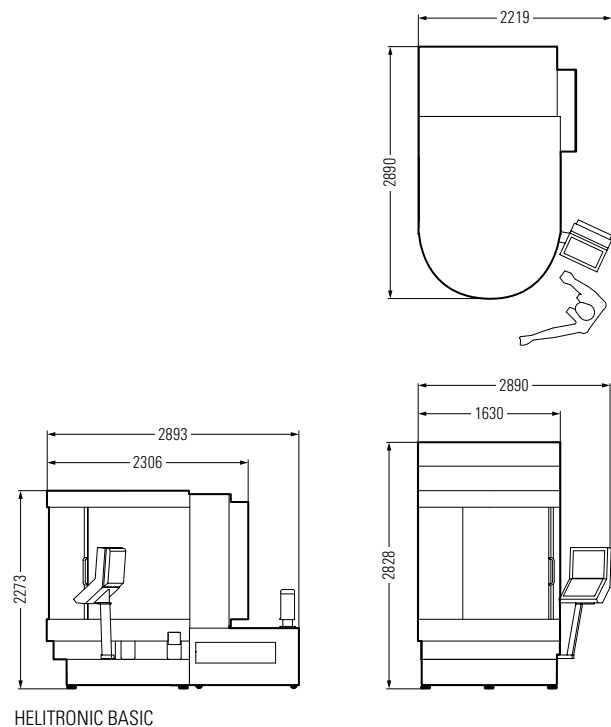
On request – several types are possible

Loading systems

Eco loader, Eco loader plus, Profiled blade loader

Others

750 rpm torque motor, automatic clamping unit, automated work table, software etc.



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 leading 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 / Ø1 – 100 mm
HELITRONIC MINI POWER	P R	HSS TC C/C CBN	255 mm / Ø1 – 100 mm
HELITRONIC MINI AUTOMATION	P R	HSS TC C/C CBN	255 mm / Ø1 – 100 mm
HELITRONIC BASIC	P R	HSS TC C/C CBN	350 mm / Ø3 – 320 mm
HELITRONIC POWER	P R	HSS TC C/C CBN	350 mm / Ø3 – 320 mm
HELITRONIC VISION 700 L	P R	HSS TC C/C CBN	700 mm / Ø3 – 200 mm
HELITRONIC VISION 400 L	P R	HSS TC C/C CBN	420 mm / Ø3 – 315 mm
HELITRONIC VISION 400	P R	HSS TC C/C CBN	370 mm / Ø3 – 315 mm
HELITRONIC MICRO	P R	HSS TC C/C CBN HSS TC C/C CBN	120 mm / Ø0.1 – 12.7 mm 120 mm / Ø3 – 12.7 mm

EWAG machines	Use	Materials	Tool dimensions ¹⁾ max. length / diameter
EWAMATIC LINEAR	P R	HSS TC C/C CBN PCD	200 mm / Ø0.2 – 200 mm
WS11/WS11-SP	P R M	HSS TC	- / up to Ø25 mm
RS15	P R M	HSS TC C/C CBN PCD	- / up to Ø25 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 / Ø1 – 165 mm
HELITRONIC POWER DIAMOND	P R	HSS TC C/C CBN PCD	350 mm / Ø3 – 320(400) mm
HELITRONIC DIAMOND	P R	HSS TC C/C CBN PCD	370 mm / Ø3 – 320(400) 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	Ø3 mm / Ø50 mm
COMPACT LINE	P R	HSS TC C/C CBN PCD	Ø3 mm / Ø50 mm
INSERT LINE	P R	HSS TC C/C CBN	Ø3 mm / Ø75 mm
RS15	P R M	HSS TC C/C CBN PCD	- / up to Ø25 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 / Ø0.1 – 200 mm
LASER LINE PRECISION	P R	CBN PCD CVD-D	250 mm / Ø0.1 – 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	Ø3 mm / Ø50 mm
LASER LINE PRECISION	P R	CBN PCD CVD-D	Ø3 mm / Ø50 mm



Measuring – Contactless measurement of tools, workpieces and grinding wheels

WALTER machines	Use	Tool dimensions ¹⁾ max. length ²⁾ / diameter
HELICHECK PRECISION	M	420 mm / Ø1 – 320 mm
HELICHECK ADVANCED	M	420 mm / Ø1 – 320 mm
HELICHECK PRO	M	300 mm / Ø1 – 200 mm
HELICHECK PRO LONG	M	730 mm / Ø1 – 200 mm
HELICHECK PLUS	M	300 mm / Ø0.1 – 200 mm
HELICHECK PLUS LONG	M	730 mm / Ø0.1 – 200 mm
HELICHECK 3D	M	420 mm / Ø3 – 80 mm
HELISSET UNO	M	400 mm / Ø1 – 350 mm
HELISCALE	M	300 mm / Ø1 – 50 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.



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