

WALTER INFO 7/2020

# HELITRONIC DIAMOND EVOLUTION

Efficient rotary eroding and grinding machine, Two-in-one

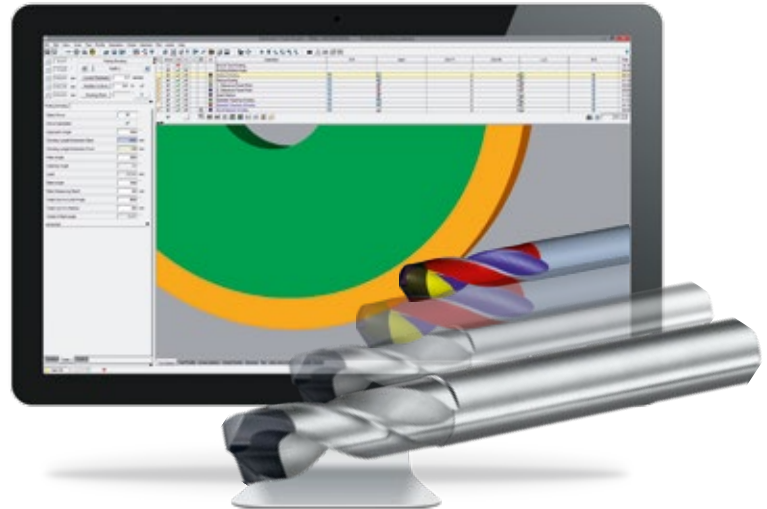
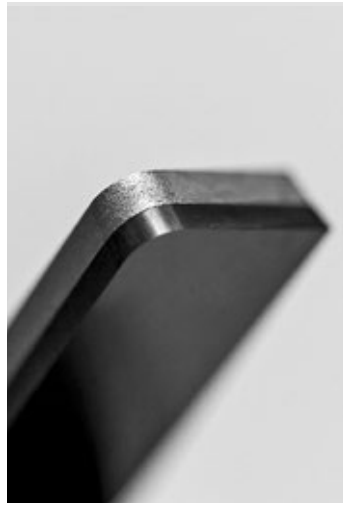
Now with  
**FINE PULSE  
TECHNOLOGY**



## Key parameters

The HELITRONIC DIAMOND EVOLUTION is a high efficient solution within our EDM portfolio for rotary eroding of PCD/CBN tools and grinding of HSS/carbide tools in one single clamping cycle on a minimal footprint. Tool diameters from 1 to 165 mm, tool lengths up to 185 (255) mm, each item can weigh up to 30 kg.

# The HELITRONIC DIAMOND EVOLUTION at a glance



## Optimal erosion process with FINE PULSE TECHNOLOGY

The new eroding concept "FINE PULSE TECHNOLOGY" sets new standards in terms of surface and cutting edge quality and consequently the process reliability of PCD tools. It is now installed as standard in HELITRONIC DIAMOND EVOLUTION. The difference to other tools on the market can even be seen with the naked eye on the most common PCD types with 10 µm grain size. A tool produced with "FINE PULSE TECHNOLOGY" on a WALTER eroding machine shines on its free surface, similar to a polished (ground) tool.

### Advantages

- Greatly improved surface quality
- Perfect cutting edge quality
- Increased process reliability even with difficult to erode PCD
- Maximum flexibility for different types of tools
- Short processing time
- State of the art technology
- Optimization for all generator codes
- Savings in the manufacturing chain of PCD tools

## HELITRONIC TOOL STUDIO with integrated EDM functionality

"What you see is what you grind" – this is the well-known motto of HELITRONIC TOOL STUDIO for grinding – we can extend this further for the eroding functionality: "What you can grind, you can also erode"

### Advantages

- CAD/CAM system for creating tools, even with complex tool geometries. CAD, design, programming, simulation and production in one software
- Simulation of grinding and/or eroding operations directly on the machine or on the PC
- Automatic collision check
- Simulation of PCDs
- Highly accurate and integrated 3D live simulation. All parameter changes are immediately displayed "live"
- Click & Edit – easy operation via selecting the operations by directly clicking on the simulation model
- Flexible modular system due to modular design. Freely combinable and expandable operations for future development





Option: Top loader



Option: Wheelchanger

## Application

- Rotary eroding and grinding of rotationally symmetrical tools for metalworking and woodworking industries
- Cost-efficient production and / or re-sharpening
- Fully automated, complete machining with only a single clamping cycle
- Machinable materials include PCD, CBN, 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 rotating electrodes/grinding wheels
- Robot loader for HSK and cylindrical tools (option)
- Top loader: Up to 500<sup>3)</sup> tools from diameter 1 mm to 16 mm (option)
- Wheelchanger for up to 6 grinding wheels/electrodes (option)
- 3-stage rotary eroding process for highest quality finish
- FANUC, the global standard for control equipment
- Numerous efficiency options
- Cooling on the workpiece holder

## Software

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

## Grinding spindle drive

Max. grinding wheel diameter	150 mm
Max. diameter of rotating electrode	150 mm
Grinding spindle speed	0 – 10,500 rpm

### HELITRONIC DIAMOND EVOLUTION with belt-driven spindle

Spindle ends	2
Tool holder	HSK 50
Peak power	9 kW
Spindle diameter	80 mm

## Others

### Paper filter

Capacity	approx. 350 l
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## Tool data <sup>1)</sup>

Min. tool diameter	1 mm
Max. tool diameter (vertical)	165 mm
Max. tool length, complete processing <sup>2)</sup>	185 mm
Max. tool length, peripheral grinding <sup>2)</sup>	255 mm
Max. tool length, end face grinding <sup>2)</sup>	185 mm
Max. tool weight	30 kg

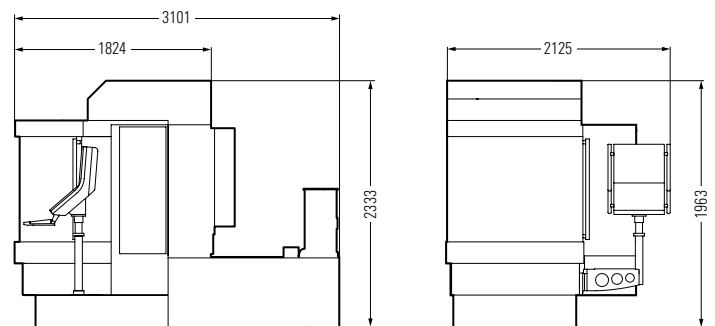
## Options

Manual and automatic steady rest, manual tailstock, glass scales, extensions for robot loader, combi filter system, mist extractor, silencer, etc.

<sup>1)</sup> The maximum tool dimensions depend on the type of tool and its geometry, as well as the type of machining.

<sup>2)</sup> From the theoretical taper diameter of the workpiece holder.

<sup>3)</sup> Depending on tool diameter.



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