



## ***VPulse 500***

//////// ROTARY TOOLS //

Highly efficient wire erosion machine for manufacturing and servicing PCD-tipped tools



THE QWD-SERIES WIRE EROSION MACHINES  
SET THE BENCHMARK IN MANUFACTURING AND  
MAINTAINING HIGH-PERFORMANCE PCD TOOLS.

THE **VPulse** 500 HAS NOW ACHIEVED NEW LEVELS  
OF PRECISION AND EFFICIENCY:

A WEALTH OF POSSIBILITIES THANKS TO THE NEW  
EROSION GENERATOR, MAXIMUM RELIABILITY  
AND EASE OF OPERATION, AS WELL AS VARIOUS  
AUTOMATION OPTIONS, FOR ROUND-THE-CLOCK  
HIGH-EFFICIENCY OPERATION.

**BOOST YOUR SUCCESS WITH  
THE PIONEERING *VPulse* 500.**

PROVEN TECHNOLOGY – BRAND NEW STRENGTHS: **VPulse 500**



//// **1 SOPHISTICATED DESIGN**

Proven kinematics for optimum overview, exemplary damping thanks to the polymer concrete machine bed

//// **2 vpulse EDM**

New erosion generator for maximum cost-efficiency and premium surface quality when manufacturing PCD tools

//// **3 MODERN OPERATING CONCEPT**

Height-adjustable, pivoting control panel with 19" touchscreen, allowing optimal viewing of the machine

//// **4 SOFTWARE**

Tried-and-tested ExProg programming system and recently developed VOLLMER solution for easy contour machining

//// **5 EXTERNAL FILTRATION/COOLING**

Can be connected to an optional external cooling and cleaning system for optimum temperature management

//// **6 FLEXIBLE AUTOMATION**

Various options relating to workpiece automation



## /// THE MACHINE CONCEPT

The new **VPulse 500** comes with everything you need for manufacturing and maintaining PCD-tipped tools as standard, and is able to adapt flexibly to your requirements.

/// State-of-the-art control for optimum machining performance

/// Simultaneous path interpolation in 5 CNC axes

/// Measurement and erosion in a single clamping arrangement

/// Machining with unsupported clamping, optional counter point unit for machining between centres

/// Various interfaces for flexible machining of different workpieces

/// Diverse options for automated workpiece machining

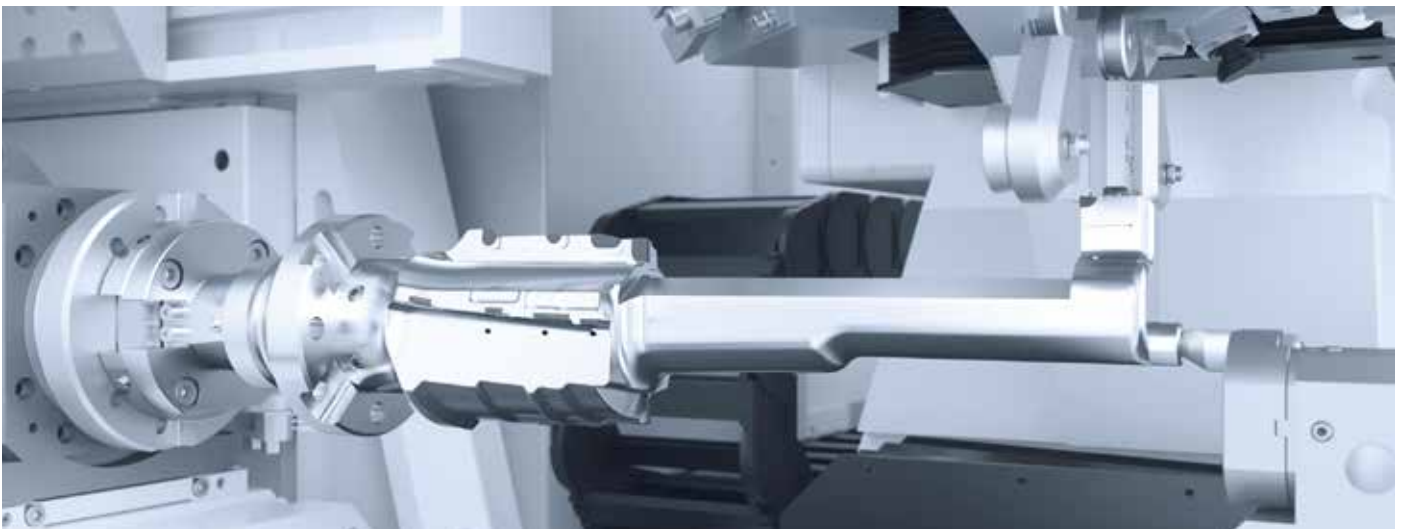
/// **vpulse EDM**, the perfect technology for any machining objective



/// MACHINE KINEMATICS  
for maximum flexibility



/// CONTOUR EDGE MEASUREMENT  
for precision machining



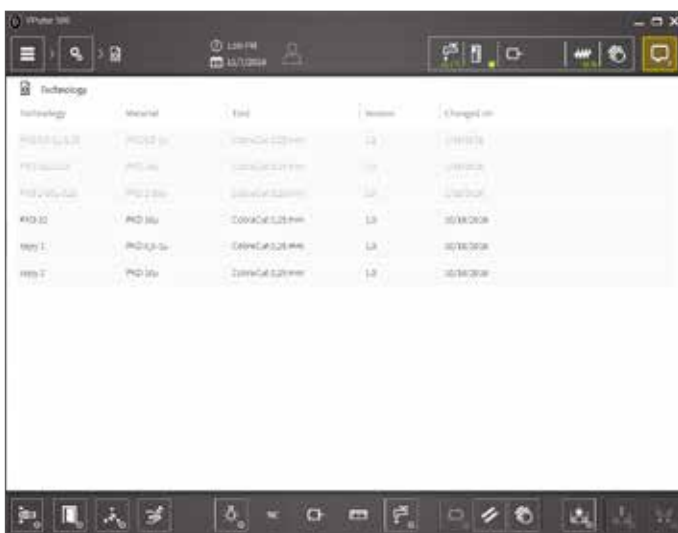
/// MACHINING BETWEEN THE CENTRES

### /// **Vpulse** EDM EROSION GENERATOR

The generator is the heart of the efficient eroding process for PCD-tipped tools.

The proven VOLLMER **Vpulse** EDM erosion generator is a prime example of this. Used for wire erosion for the first time – with the **VPulse 500**. Thanks to a higher material removal rate and optimised surface quality, it is the perfect companion for completing all your machining objectives. The integrated technology database makes handling even easier thanks to

preconfigured parameters and enhances its user-friendliness, as the correct material specific machining program can be quickly selected. The technology database can be expanded individually at the customer's request.



/// COMPREHENSIVE TECHNOLOGY DATABASE



## /// THE OPERATING CONCEPT

Achieve maximum-precision performance with ease. Reliable and extremely accurate, time and again. Such a feat requires not only a highly developed, sophisticated machine concept, but also an operating philosophy that makes man the measure of all things. This is the only way to ensure that the operator can exploit the machine to its full potential – for the benefit of the company.

It starts with sophisticated working ergonomics and encompasses the logical, convenient entry of parameters through to advanced human-machine interaction. Processes are continuously optimised by a range of new information, analysis and documentation options.



### /// ERGONOMIC OPERATION

Flexible, height-adjustable and pivoting control panel, optimal view of the machine

**PRECISION WORK MADE EASY:**

/// Adjustable, pivoting control panel for optimal working ergonomics – with the display and machine compartment always in view

/// Operation via touchscreen or mouse

/// New design for greater ease of operation

/// User-friendly menu navigation – even complex tasks can be completed with minimal training

/// Easy, quick acquisition of information about key program and machine parameters

/// New documentation and analysis options for faster process optimisation



/// MODERN CONTROL PANEL  
for ergonomic work



### /// SOFTWARE

An intelligent, advanced machine concept logically needs an intelligent, advanced software concept. The ExProg programming system integrated in the VPulse 500 has proved itself multiple times and scores highly with its combination of known strengths and own new merits compared with the previous generation:

/// Easy application thanks to intuitive user interface

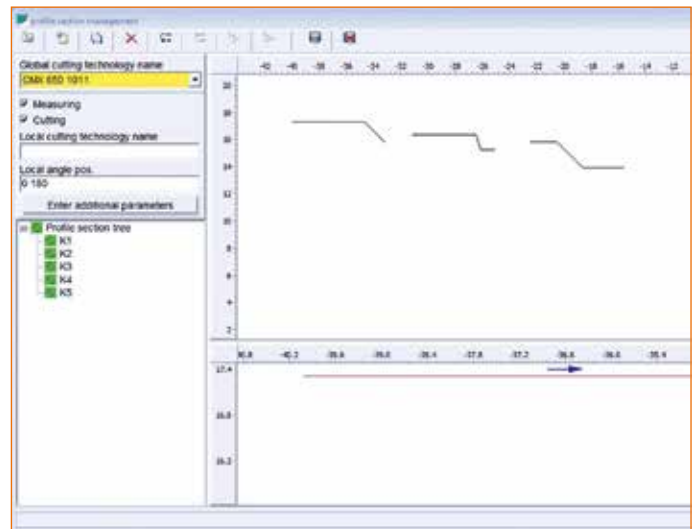
/// Division of profiles into any number of part contours for even greater machining flexibility

/// Assignment of individual data to each contour element

/// Simulation for checking the cutting edge geometry – saves time and minimises errors

/// External or local storage of machining programs as required

/// Networking of multiple machines via a database for easier data exchange and program modification



/// ExProg  
Part contour management



/// ExProg  
3D NC simulation



## /// THE VOLLMER SOLUTION

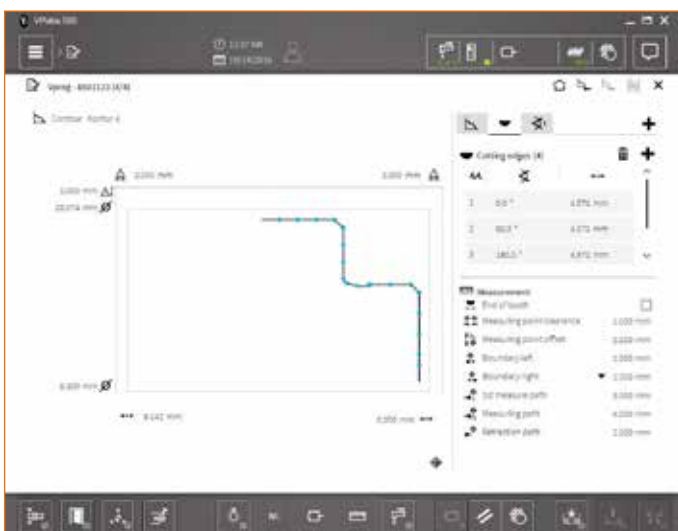
To make creating machining programs even easier and more functional, we at VOLLMER have developed an additional software solution – as a full-value substitute for the 4-path program. It is preinstalled as standard in addition to the ExProg software.

/// New, clear design for greater ease of operation

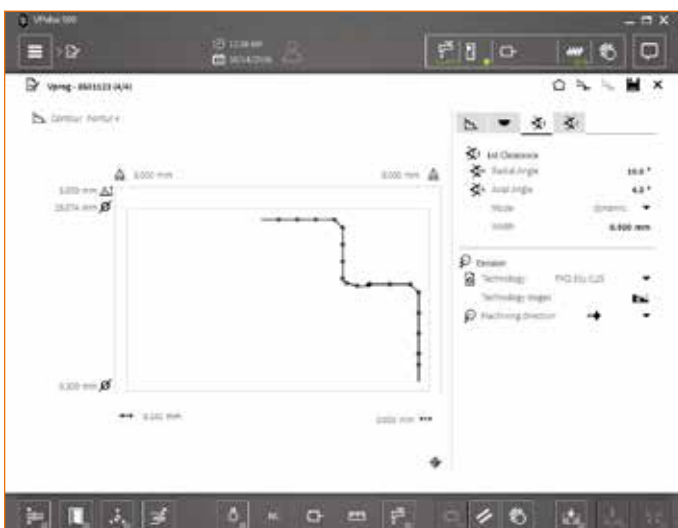
/// Simple, intuitive handling

/// Program editor for contour machining with any number of contours and cutting edges

/// Greater functionality compared to the previous generation: Selection of measuring modes and visual representation of measuring points as well as measuring and eroding in a single program



/// VOLLMER – ENTERING MEASUREMENT PARAMETERS



/// VOLLMER – ENTERING EROSION PARAMETERS



## ROTARY TOOLS // APPLICATION

### /// APPLICATION

Whether manufacturing or servicing: For tasks requiring uncompromising precision and a high degree of flexibility, the new VOLLMER *VPulse* 500 wire erosion machine is number one for machining PCD-tipped solid carbide tools.

Fine contours and extremely sharp cutting edges achieved cost-effectively and with maximum process reliability: That is what the *VPulse* 500 represents.

### /// METAL APPLICATION

The automotive or aerospace sectors have the highest standards – standards that naturally also apply to the tools they use. The VOLLMER *VPulse* 500 wire erosion machine facilitates the production and machining of a wide variety of intricate and complex tool geometries. Reliable, safe and extremely productive.

#### Machining examples



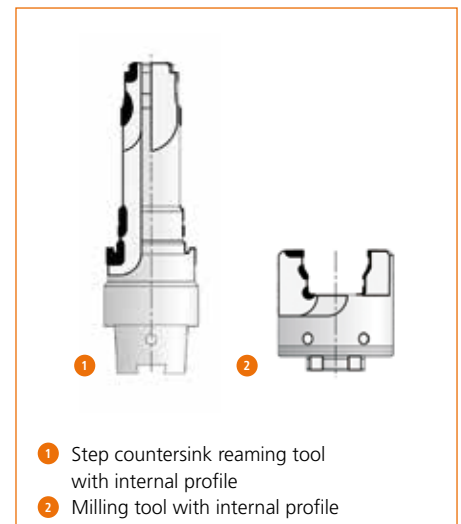
### /// MULTI-STAGE TOOLS



### /// DRILLING TOOLS

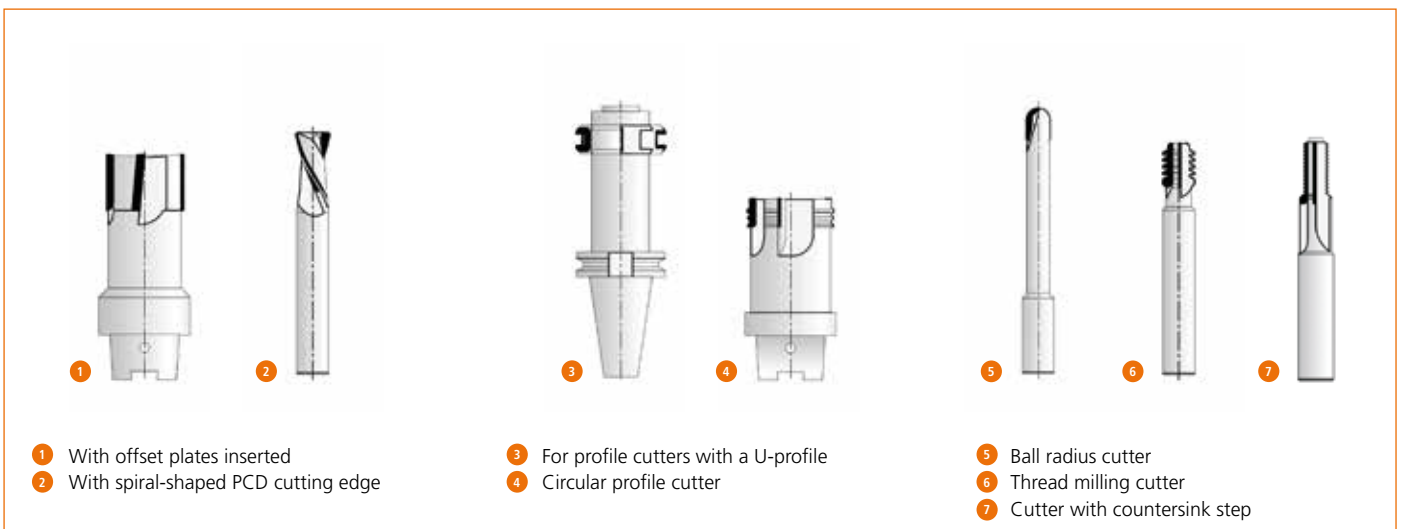


### /// REAMING TOOLS

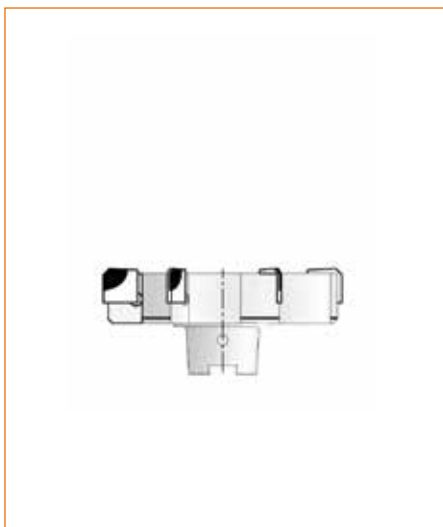


### /// BELL-SHAPED TOOLS

//// METAL APPLICATION



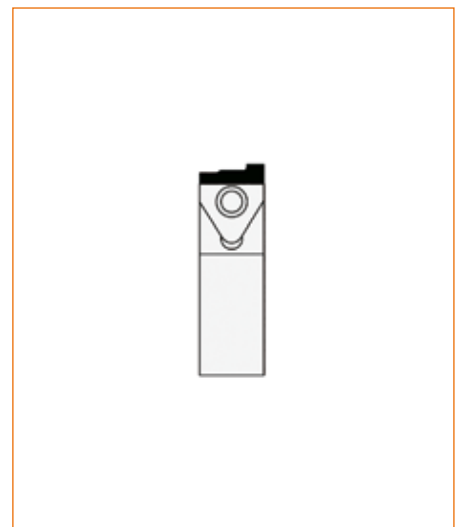
//// MILLING TOOLS



//// CUTTER HEADS



//// TOOLS WITH CUTTING EDGES THAT UNSCREW



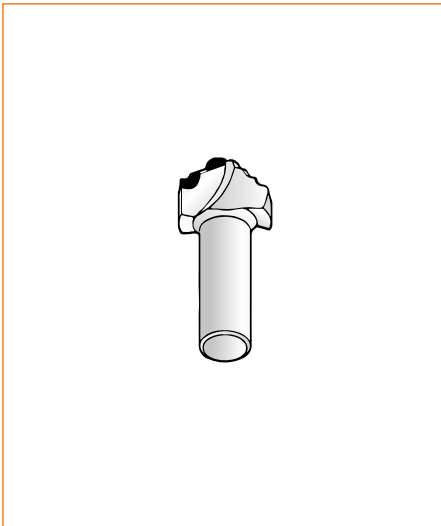
//// PROFILE PLATES



/// WOOD APPLICATION

A high level of profile accuracy is also required of tools used in the woodworking industry – such as for machining laminates. The VOLLMER *VPulse* 500 caters to all your woodworking needs.

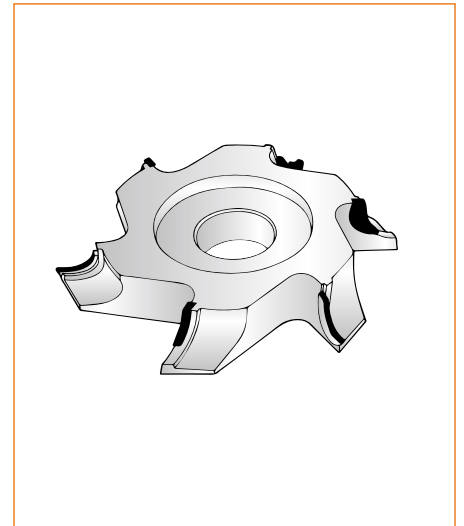
Machining examples



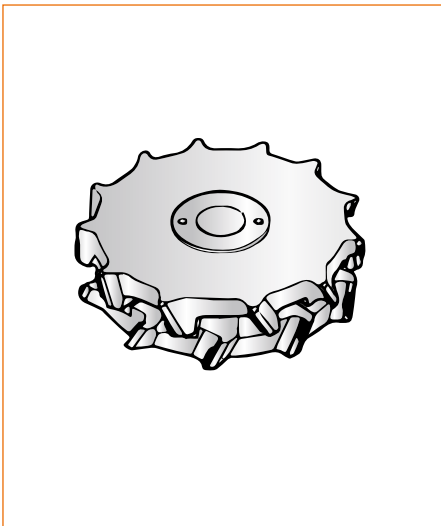
/// PROFILE END MILL



/// ROUTER BIT



/// PROFILE CUTTER



/// JOINTING CUTTER



/// DISCOID TOOLS

## //// AUTOMATION APPLICATION

### /// THE AUTOMATION

Increase efficiency without lifting a finger thanks to intelligent automation solutions. This means that the *VPulse 500* can operate on a multi-shift basis or completely unmanned over the weekend. Various automation options are available for the new VOLLMER wire erosion machine, making it an integral, cost-effective part of your process with minimal adjustment.

### /// INTERNAL AUTOMATION

/// max. workpiece weight 20 kg

/// max. workpiece diameter 300 mm

/// max. workpiece length 500 mm



/// INTERNAL AUTOMATION  
automatic loading and unloading of workpieces



## /// THE AUTOMATION

### /// EXTERNAL WORKPIECE STORAGE

The appropriate external workpiece storage is an essential component of your automated machining process. VOLLMER offers three tried-and-tested solutions in different sizes – for 16, 28 and 64 workpieces.



/// EXTERNAL WORKPIECE STORAGE  
HR

HR

	Maximum	
Storage capacity	16	pcs
WORKPIECES		
Diameter	300	mm
Length	500	mm
Weight	20	kg
Maximum load	400	kg



/// EXTERNAL WORKPIECE STORAGE  
HC 5

HC

	HC 5 Maximum	HC 11 Maximum	
Storage capacity	28	64	pcs
WORKPIECES			
Diameter	300	300	mm
Length	500	500	mm
Weight	20	20	kg
Maximum load	700	1600	kg

## /// SPECIFICATIONS

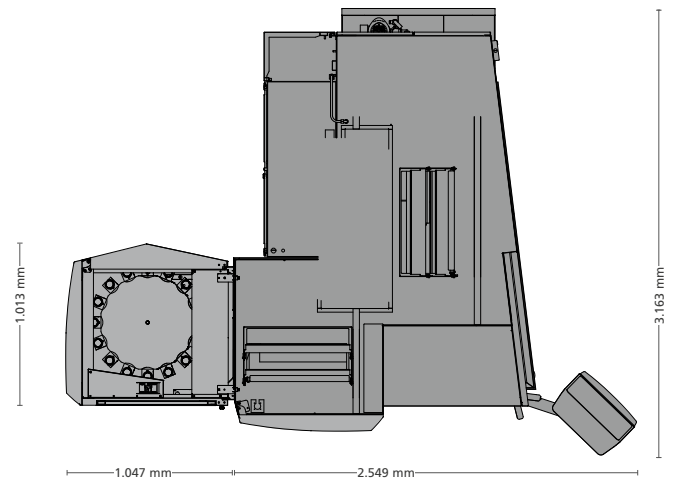
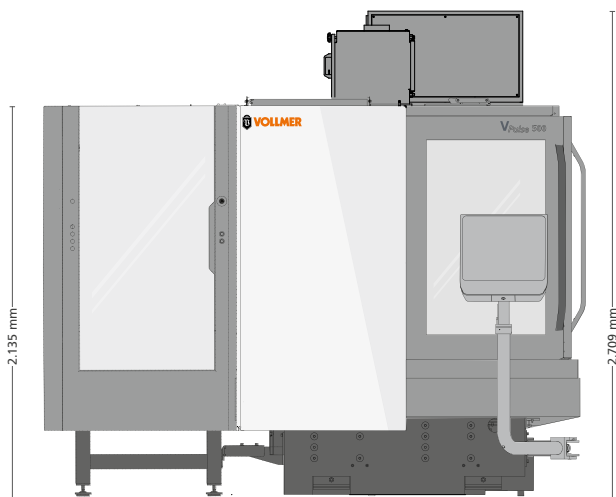
Workpiece	
Outside diameter	up to 320 mm*
Workpiece length	up to 500 mm**
Weight	up to 25 kg***
Adapter system	SK50
Tool	
Wire diameter	0.1–0.25 mm

Traverse ranges		
Axis X1	535 mm	85 mm/s
Axis Y1	300 mm	85 mm/s
Axis Z1	195 mm	85 mm/s
Axis A1	360°	90°/s – 15 rpm
Axis C1	180°	40°/s

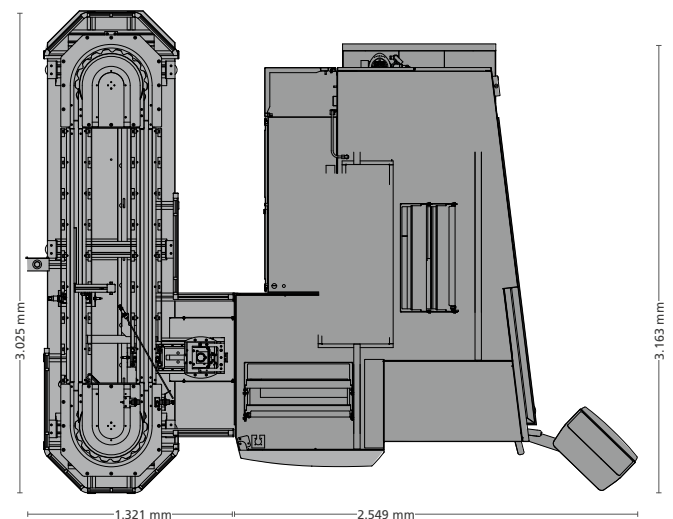
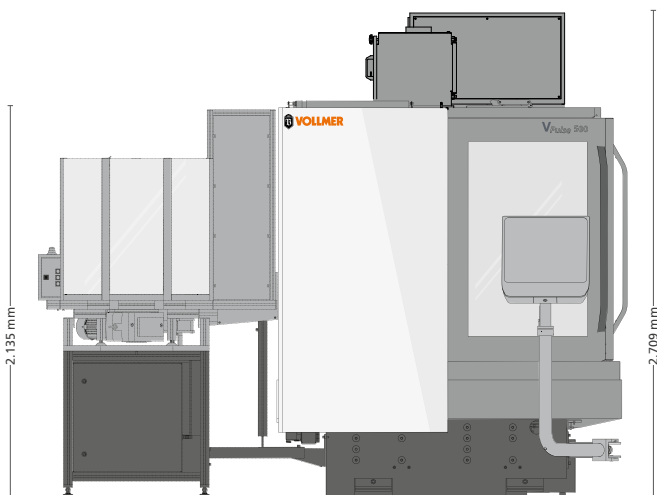
<b>Connected load</b>	5 kVA
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<b>Weight</b>	approx. 4,100 kg net
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\*automated up to 300 mm // \*\*for machining between points up to 420 mm // \*\*\*automated up to 20 kg



### /// MACHINE DIMENSIONS VPulse 500 with HR



### /// MACHINE DIMENSIONS VPulse 500 with HC 5



**VPulse 500** – THE MAIN ADVANTAGES AT A GLANCE:

/// **MAXIMUM PRECISION**

Customised 5-axis kinematics for machining PCD-tipped rotary tools.

For maximum profile accuracy.

/// **MORE PRODUCTIVITY**

High-performance control system combined with the new **VPulse EDM** erosion generator.

For reduced costs per unit.

/// **EASIER HANDLING**

Innovative operating concept, proven software, enhanced human-machine interaction.

For quick, flawless work.