VPulse 500

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: V Pulse 500

1. **SOPHISTICATED DESIGN**
   Proven kinematics for optimum overview, exemplary damping thanks to the polymer concrete machine bed

2. **V Pulse 500**
   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 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.
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.
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
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
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.

Machining examples

1. With PCD tip/cutting edge
2. With multiple stages
3. With cutting edge over the centre
4. With twisted flute

/// MULTI-STAGE TOOLS

1. With PCD central cutting edge
2. Deep-hole drilling tool
3. With multiple PCD cutting edges
4. Step countersink reaming tool with internal profile
5. Milling tool with internal profile

/// DRILLING TOOLS

/// REAMING TOOLS

/// BELL-SHAPED TOOLS

/// 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.
With offset plates inserted
With spiral-shaped PCD cutting edge
For profile cutters with a U-profile
Circular profile cutter
Ball radius cutter
Thread milling cutter
Cutter with countersink step

MILLING TOOLS

CUTTER HEADS

TOOLS WITH CUTTING EDGES THAT UNSCREW

PROFILE PLATES
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.
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.

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<th>HR</th>
<th>HC 5</th>
<th>HC 11</th>
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<td>Storage capacity</td>
<td>Maximum</td>
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<td>WORKPIECES</td>
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/// SPECIFICATIONS

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<th>Workpiece</th>
<th>Traverse ranges</th>
<th>Connected load</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Outside diameter</td>
<td>Axis X1 535 mm 85 mm/s</td>
<td>5 kVA</td>
<td>approx. 4,100 kg net</td>
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<td>Workpiece length up to 320 mm *</td>
<td>Axis Y1 300 mm 85 mm/s</td>
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<tr>
<td>Weight up to 25 kg **</td>
<td>Axis Z1 195 mm 85 mm/s</td>
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<tr>
<td>Adapter system SK50</td>
<td>Axis A1 360° 90°/s – 15 rpm</td>
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<tr>
<td>Tool Wire diameter 0.1– 0.25 mm</td>
<td>Axis C1 180° 40°/s</td>
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/// MACHINE DIMENSIONS

VPulse 500 with HR

/// MACHINE DIMENSIONS

VPulse 500 with HC 5

We reserve the right to make design changes in the interest of technical progress. Patent pending.
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.