

Product information

## QWD

Wire erosion machines for production  
and servicing of PCD tools

# QWD 750/760

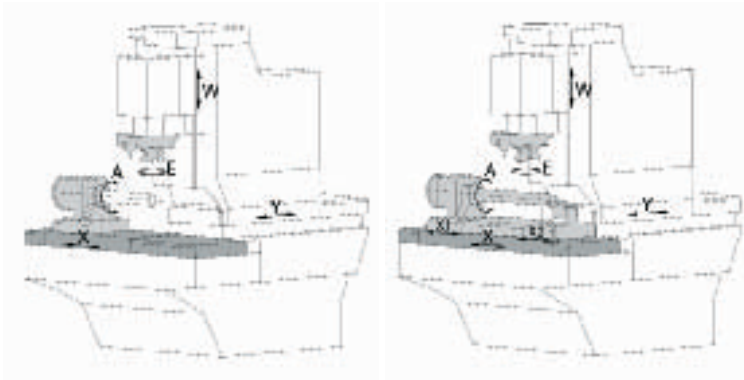
## The versatile machine concept for top-standard performance

- For tool machining with and without tail centre
- QWD 750: for tools with unsupported clamping.
- QWD 760: for tools clamped between centres.
- Machining of tools with different axial angles
- 5 simultaneously path-controlled CNC axes
- CAD-CAM system with special software for PCD tools in the metal and wood working sector
- Top precision thanks to rigid design and extremely stable polymer concrete machine bed
- Newly developed high-power erosion generator with freely accessible parameters for optimal results
- Measuring and erosion in a single clamping operation



QWD 750

QWD 760

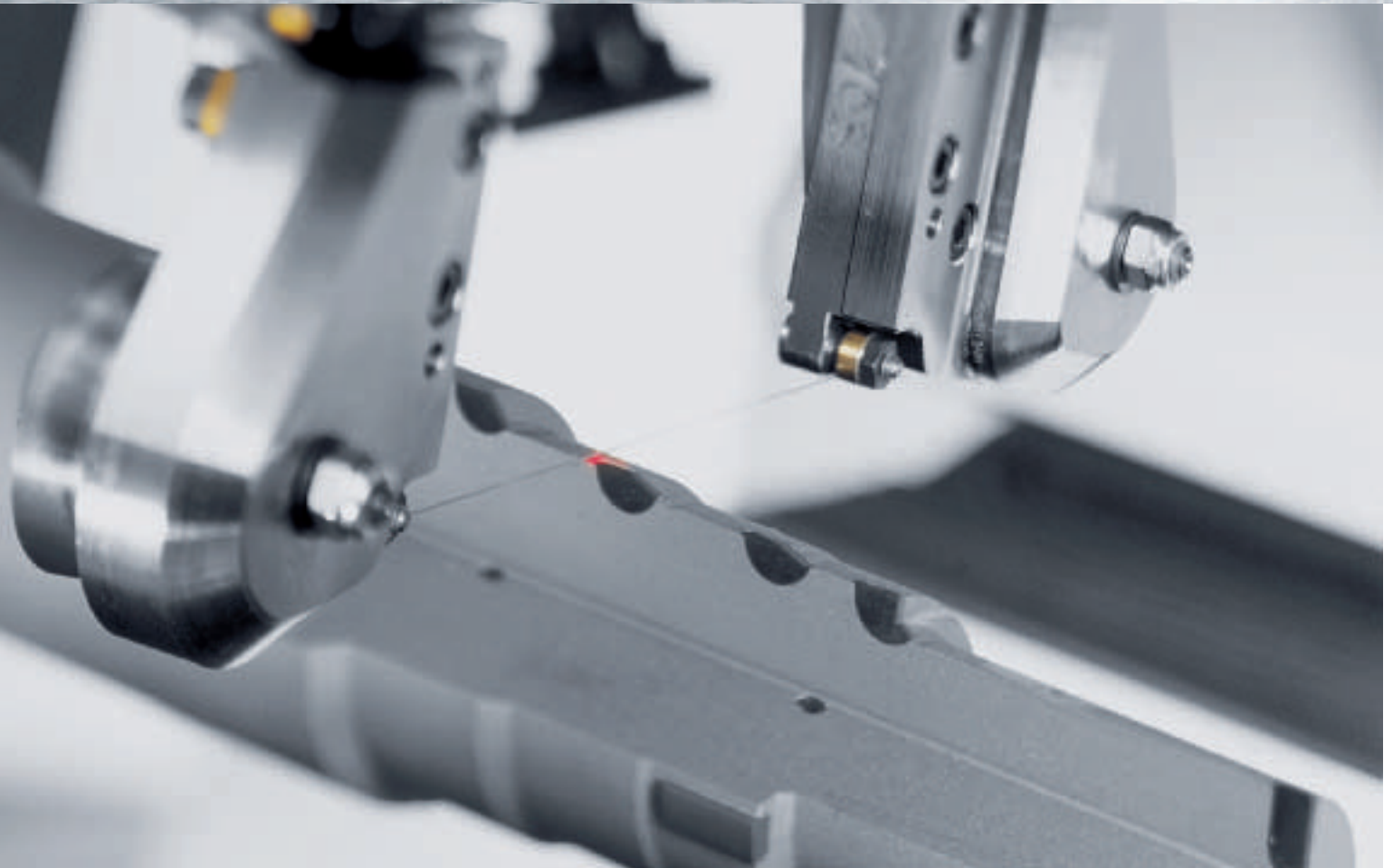


In the erosion machines QWD 750 and 760, the X, Y, W, A and E axes are CNC-controlled



### For extra flexibility: the CNC-controlled E-axis

The horizontally guided erosion wire can be swivelled by the E-axis. The E-axis always passes through the point of the tool cutting edge which is currently being machined. That way, the desired lateral clearance angle can be obtained with maximum precision at any point on the profile.



### **Excellence down to the last detail**

#### **First-class results**

- High erosion power for roughing operations
- Fine finish-ground surface with roughness values of  $Ra \leq 0,2 \mu m$

#### **Convenient operation**

- Simple operator prompting on LCD colour display
- Excellent access to tool and machine interior

#### **Flexibility**

The Vollmer multiprocessor control with CAD-CAM system guarantees maximum flexibility for designing individual tool geometries. Suitable for use on any industrial-standard PC.

#### **Modular PMC multiprocessor system**

Software for workshop-oriented programming (WOP) comes ready supplied.

#### **Free programming**

ExProg software for creative solutions.

#### **Vollmer diagnostic system**

The erosion machines QWD 750 and QWD 760 are equipped with an in-process diagnostic system which monitors the entire machine operation during the work process. Any occurring faults are shown in clear text on the LCD display and can thus be rectified directly by the operating personnel.

#### **Comprehensive support**

As part of our comprehensive support package, we help our customers to improve the economic efficiency of their tool machining – worldwide and without compromise. We offer continuous support right through to start-up and beyond with our after-sales service.

# A WIDE RANGE OF TOP-QUALITY PRODUCTS

## PCD tools for metal working

### Multi-stage tools (drilling, reaming, countersinking)



Tool with one PCD tip/cutting edge



Tool with multiple stages



Tool with multiple stages



Tool with one centre cutting edge



Tool with helical flutes

### Reaming tools

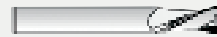


Reamers with multiple PCD cutting edges

### Milling tools



Milling cutter with inclined inserted tips



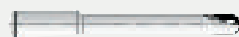
Milling cutter with helical PCD cutting edge



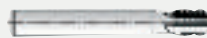
Profile cutter with U-profile



Circular profile cutter



Ball radius cutter



Thread cutter



Circular cutter with countersinking stage

### Drilling tools



Tool with PCD centre bit



Deep hole drilling tool

### Tools with internal cutting edges (bell-shaped tools)



Multi-stage countersinking-reaming tools with internal profile



Milling tools with internal profile

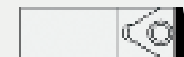
### Milling cutter heads



### Tools with internal turning cutting edges

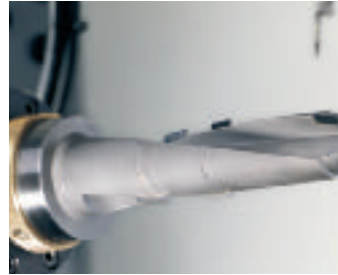


### Profile plates





Tool with internal cutting edges  
(bell-shaped tool)



Multi-stage tool with twisted flute



Radius profile end mill



Circular milling tool

### PCD tools for wood working



Profile end mills



Routers



Profile cutters



Profile cutters,  
Jointing cutters



Discoid tools,  
cutting tools



End mills



Jointing cutters



Profile end mills



Profile cutters



Profile cutters



Flattening cutters

# QWD 750 H/760 H

## Fully automatic machining of PCD tools

Fully automatic sharpening even after working hours, in multi-shift operation or at weekends. All this is now possible - in servicing and production - with the QWD models with integrated loading device and tool magazines for automatic machining of up to 36 tools. Magazine and loading device are equipped with 4-axis CNC control. The tool change in the magazine can take place during the machining process.

### QWD 750 H:

Unsupported tool clamping with:

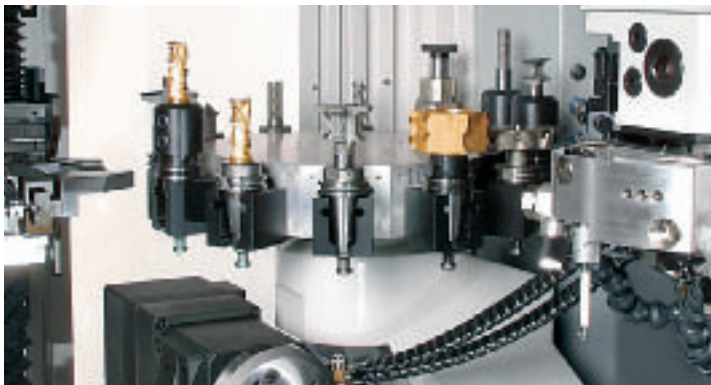
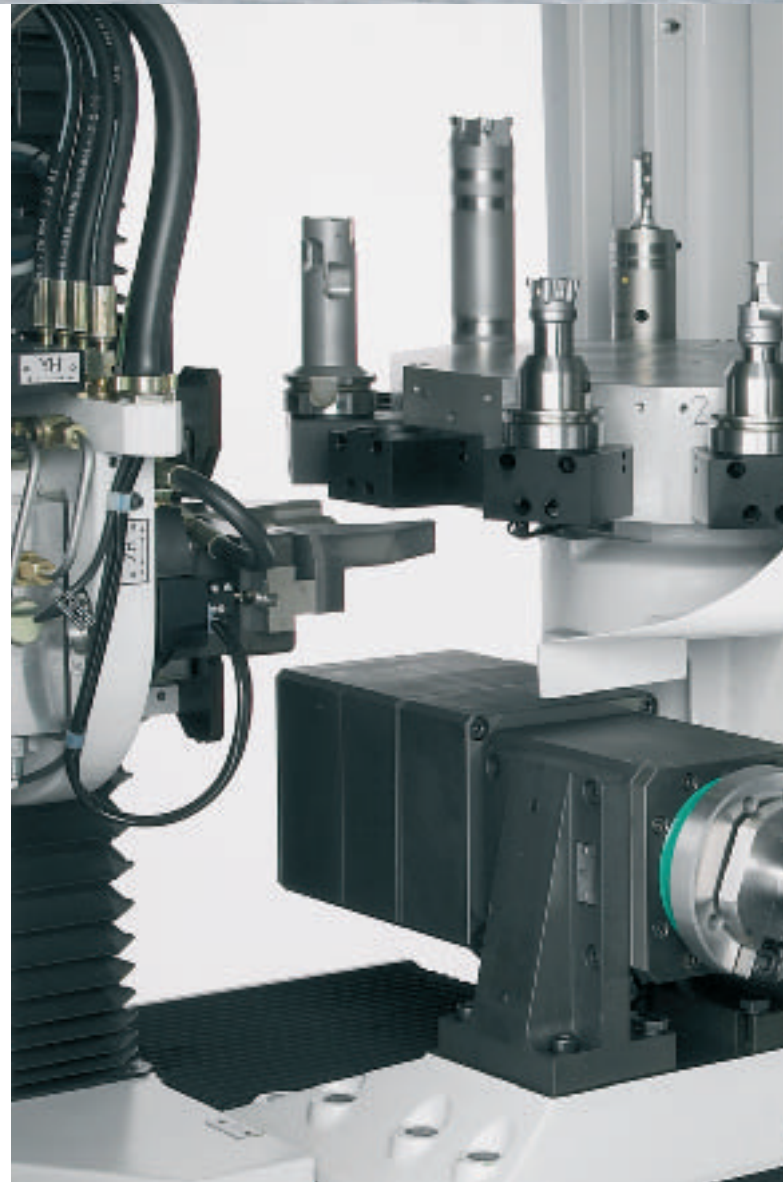
- SK 50
- SK 40
- HSK
- Cylindrical shanks

### QWD 760 H:

- Tool clamping between centres for both cylindrical shanks and HSK monobloc tools.

- Unsupported tool clamping for:

- SK 50
- SK 40
- HSK
- cylindrical shanks



With magazine for wood cutting tools



Tool change in magazine during machining



Alignment of tool in magazine



QWD 760 H with magazine for metal cutting tools: clamps shank-type tools from 85 to 390 mm in length, with a machining length of 350 mm



Machining between centres



Quick tool change SK 50

# QWD 750/750 H/760/760 H

## The control system: fast, reliable and intelligent

- All data can be entered and retrieved at the control desk – minimal data inputs now necessary
- Clear-text user prompting with graphic support
- Direct transfer of data from tool drawings
- Fully automatic execution of all operating sequences
- Automatic measuring and erosion in a single clamping operation
- The eroded tool is fully finished and ready for use
- A variety of programs for these machining operations come ready installed and can be supplemented with customer-specific parameters and tool dimensions

All machining programs allow selection of up to four eroding stages, each with their own eroding parameters: pre-roughing, roughing, finishing and fine finishing – all thanks to intelligent software programs. The infeed amounts can be programmed for each eroding stage – the gap value and eroding speed are graphically represented in the display.

## Measuring and erosion in a single clamping operation

The data for measuring and eroding a tool can be entered while the previous one is still being machined. As soon as this tool is clamped in place, the program for the automatic sequence is started.



Measuring a tool



Eroding at the cutting edge





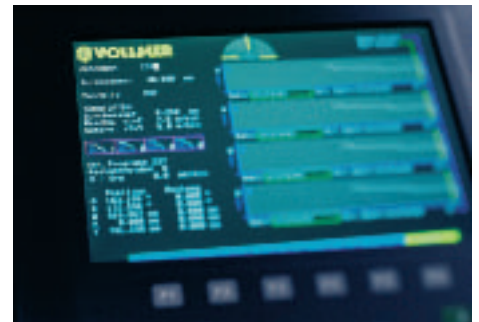
### Individual programming for the professional

Thanks to the standard integration of expert software for individual machining of complex tool geometries, it is possible to machine not only standard tools but also highly complicated ones with external and internal contours.

- Free programming for all kinds of tool machining requirements
- Division of tool contour into any number of contour elements
- Assignment of individual data to each contour element
- Seamless transitions between different angles within a contour element
- Simulation facility for checking the programmed cutting edge geometry



Measuring program



Software menu for path management



Simulation at workstation



Confirmation of profile precision at separate measuring station



Windows-based expert software



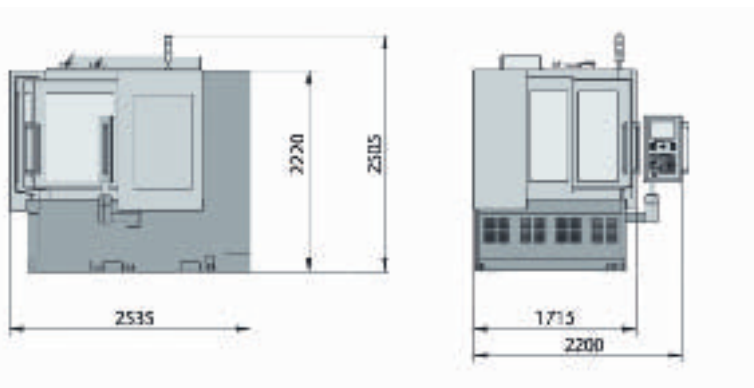
# QWD 750/760

## Summary of technical data:

	QWD 750	QWD 760		QWD 750	QWD 760
• Milling cutters			• Wire electrode		
Outer Ø (mm)	up to 320	up to 250	Wire Ø (mm)	0,15 to 0,3	0,15 to 0,3
Cutting edge length (mm)	up to 480	up to 260	Adjusting range		
• Shank-type tools			Wire guide (mm)	20 to 120	20 to 120
Outer Ø (mm)	10 up to 320	10 up to 250	Wire speed (m/min)	up to 7	up to 7
Total length (mm)	up to 500	up to 500	Coils (DIN 46399)	K 125/K 160	K 125/K 160
Cutting edge length (mm)	up to 480	up to 260	• Traversing ranges		
• Discoid tools			X-axis (mm)	500	275
Outer Ø (mm)	up to 320	up to 250	Y-axis (mm)	300	300
Cutting edge length (mm)	up to 480	up to 260	W-axis (mm)	200	200
Tangential clearance angle	up to 6°	up to 6°	A-axis turning range	360°	360°
Radial clearance angle	-10° up to 6°	-10° up to 6°	Tool holding system	ISO 50	ISO 50
• Clearance angle	up to 30°	up to 30°	E-axis swivel angle	180°	180°
Axially parallel cutting edges	*	*	• Tail centre unit		
Cutting edges with axial angle	*	*	For clamping tools		
Helical cutting edges	up to 45°	up to 45°	between centres		*
Cylindrical tools	*	*	• Automatic measuring device		
Conical tools	*	*	Measuring resolution (mm)	0,001	0,001
Profiled tools	*	*	• Pump delivery rate		
Right and left-hand cutting tools	*	*	Dielectric fluid (l/min)	60	60
Tool weight (kg)	max. 20	max. 20	Dielectric fluid capacity (l)	140	140
			Connected load (kW/kVA)	3,4/4,5	3,4/4,5
			Weight (kg)	approx. 4400	approx. 4500

\* Included as standard

## Dimensions



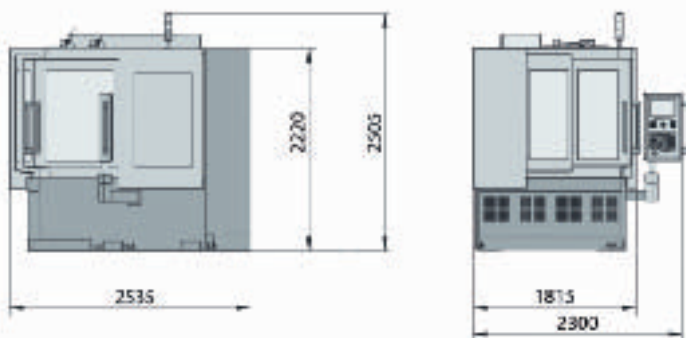
## QWD 750 H/760 H

### Technical data of machine with manual loading:

	QWD 750 H	QWD 760 H		QWD 750 H	QWD 760 H
• Milling cutters			• Wire electrode		
Outer Ø (mm)	up to 320	up to 320	Wire Ø (mm)	0,15 to 0,3	0,15 to 0,3
Cutting edge length (mm)	up to 480	up to 480	Adjusting range		
• Shank-type tools			Wire guide (mm)	20 up to 120	20 up to 120
Outer Ø (mm)	10 up to 320	10 up to 320	Wire speed (m/min)	up to 7	up to 7
Total length (mm)	up to 500	up to 500	Coils (DIN 46399)	K 125/K 160	K 125/K 160
Cutting edge length	up to 480	up to 480	• Traversing ranges		
• Discoid tools			X-axis (mm)	500	500
Outer Ø (mm)	up to 320	up to 320	Y-axis (mm)	300	300
Cutting edge length (mm)	up to 480	up to 480	W-axis (mm)	200	200
Tangential clearance angle	up to 6°	up to 6°	A-axis turning range	360°	360°
Radial clearance angle	-10° up to 6°	-10° up to 6°	Tool holding system	ISO 50	ISO 50
• Clearance angle	up to 30°	up to 30°	E-axis swivel angle	180°	180°
Axially parallel cutting edges	*	*	• Tail centre unit		
Cutting edges with axial angle	*	*	For clamping tools between centres		*
Helical cutting edges	up to 45°	up to 45°	• Automatic measuring device		
Cylindrical tools	*	*	Measuring resolution (mm)	0,001	0,001
Conical tools	*	*	• Pump delivery rate		
Profiled tools	*	*	Dielectric fluid (l/min)	60	60
Right and left-hand cutting tools	*	*	Dielectric fluid capacity (l)	140	140
Tool weight (kg)	max. 20	max. 20	Connected load (kW/kVA)	4,2/5,4	4,2/5,4
			Weight (kg)	approx. 4800	approx. 4900

\* Included as standard

### Dimensions



The technical data may differ from the above if a loading device is used. Please contact us for further details.