VOLLMER

Product information

QXD 400

Disc eroding machine for the complete processing of PCD tools.
NEW: with automated polishing process for PCD-tips.

QXD 400

The idea.

High-tech machines for eroding, grinding and polishing of PCD-tipped tools.

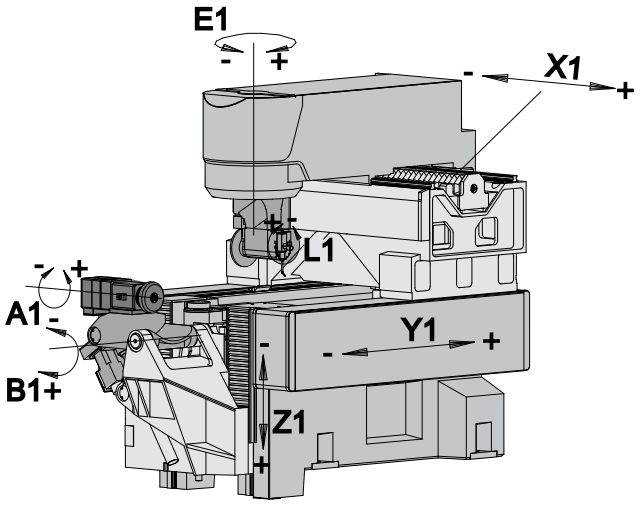
The universal QXD 400 machine is the solution for flexible processing of different PCD-tipped tools up to diameters of 400 mm and lengths of up to 400 mm. With six simultaneously controlled CNC-axes all-in-one machining of even the most complex tools is possible.

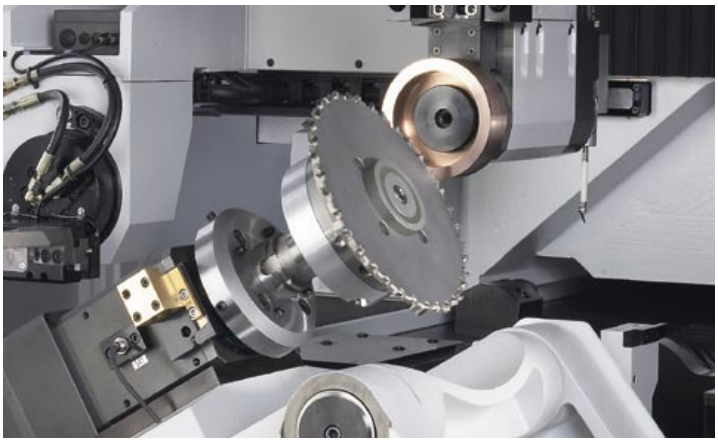
The flexible use of different eroding and grinding wheels affords a perfect solution for PCD cutting edges as well as the tool body. This novel technology and extensive automation sets new standards of productivity and economy in production and service.

The concept.

Economical machine concept for the highest efficency.

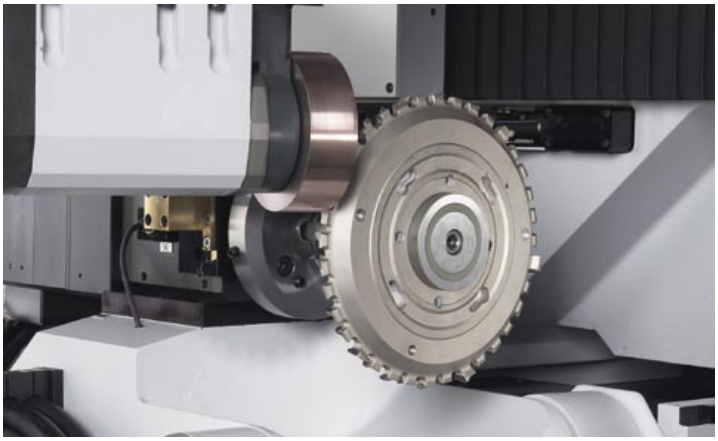
The base of this particularly economical and future-oriented platform concept comes from ultra modern CNC and drive technologies, which assure one key advantage: Complete machining in one single clamping, from the fully automatic measuring through eroding and grinding down to polishing. Six CNC axes make manual intervention unnecessary and significantly reduce the set-up times.





Eroding of a cutter with a cup wheel.

E1-axis (swivel range 330 degrees): measuring of a shank type tool, right-hand as well as left-hand cutting in a single setting.



E1-axis in a swivelled position: eroding of a left-hand milling cutter.

The technology.

NEW

Process safety and excellent surface quality due to the new function “auto-touch“ for polishing the PCD-tooth at the clearance surfaces.

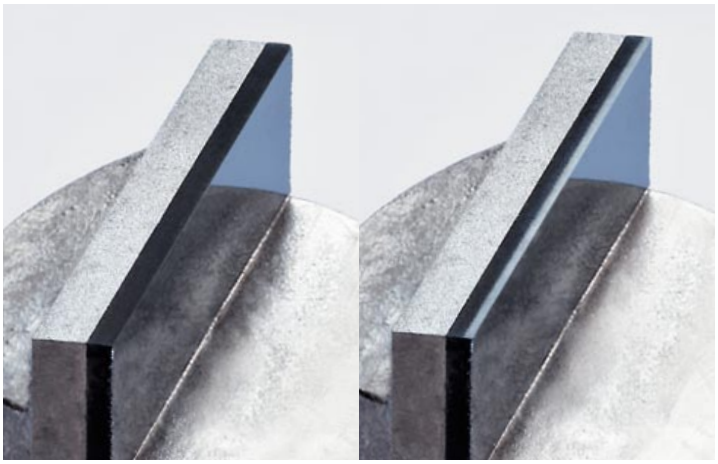
No matter if face-milling cutter, groove cutter, or groove drill cutter – a great variety of tools are nowadays used with grinded cutting edges. A good reason for VOLLMER to integrate this function in the QXD 400 series. Therefore you have from now on the possibility to polish the work pieces after eroding in the same clamping system, and thus adapt the cutting edge perfectly to the process.

The flexibility.

Extremely flexible and highly effective work processes.

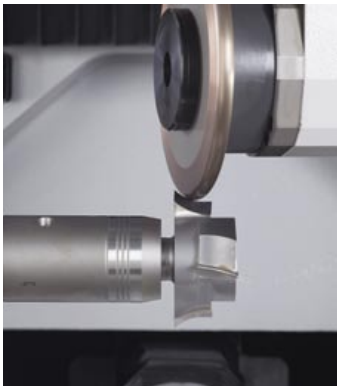
The use of different eroding and grinding wheels makes for highly effective work processes with the shortest possible piece times and the best possible surface quality. The following eroding discs can be used in order to obtain an optimal PCD cutting edge geometry: cup wheels, peripheral wheels, as well as profile-dressed wheels. Diamond or CBN grinding wheels can be used for machining the tool body, e.g. the second clearance angle of the tool cutting edge.

Dressing an eroding wheel.



PCD-tip, on the left eroded and on the right polished.

Eroding of a router with a peripheral rotary electrode.



Eroding of a profile cutter with the peripheral rotary electrode.

Eroding of a reamer.

Eroding of a finishing tool.

The control center.

Simple, safe, and efficient with globally successful VOLLMER menu technology.

The well-known, proven VOLLMER operational philosophy: Quick and simple up to maximum efficiency. That is why the globally successful VOLLMER menu technology provides short programming times and short training times, and therefore enables fast and flexible use for operators. The whole system is managed by one control mechanism only and provides safety for data input through the greatest possible graphic support.

Maximum ease of use because of the well-known VOLLMER operator interface.

The automation.

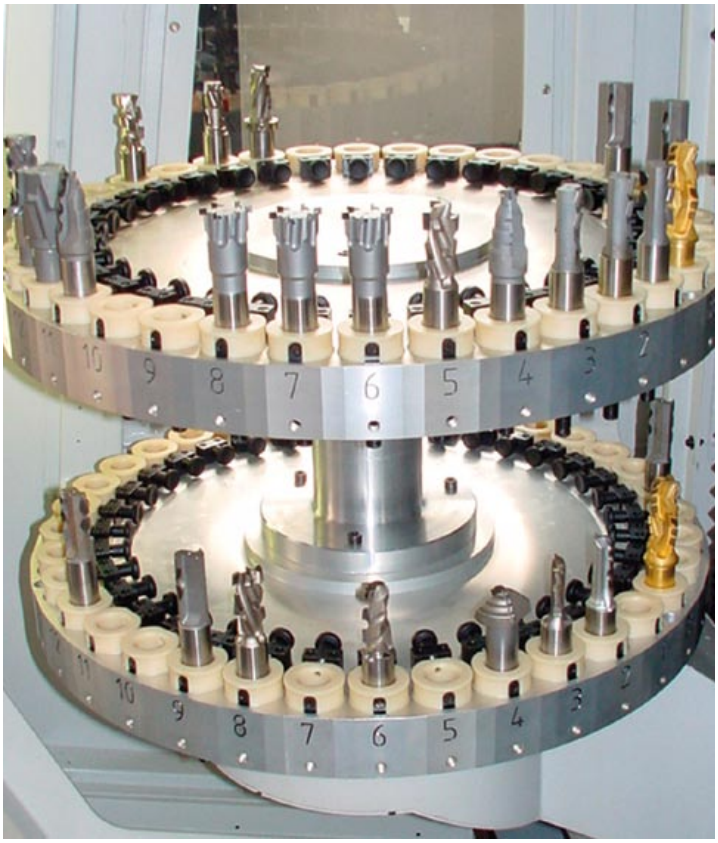
Flexible solutions for unmanned shifts in 24-hour operation.

High production output with high flexibility, including fully-automatic changing of work pieces: a decisive advantage for productivity and cost-effectiveness.

The work piece magazine holds up to 72 work pieces, all of which can be subsequently machined automatically. Up to eight different rotary electrodes can be stored in the tool magazine, and from there can be exchanged automatically into the main spindle. This ensures fully-automatic operation during unmanned shifts, 24 hours per day.

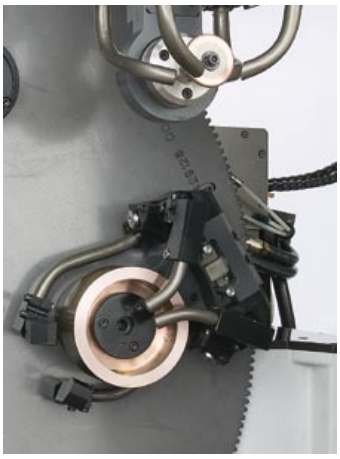
Disc erosion machine with magazine.

The future orientated VOLLMER technology.

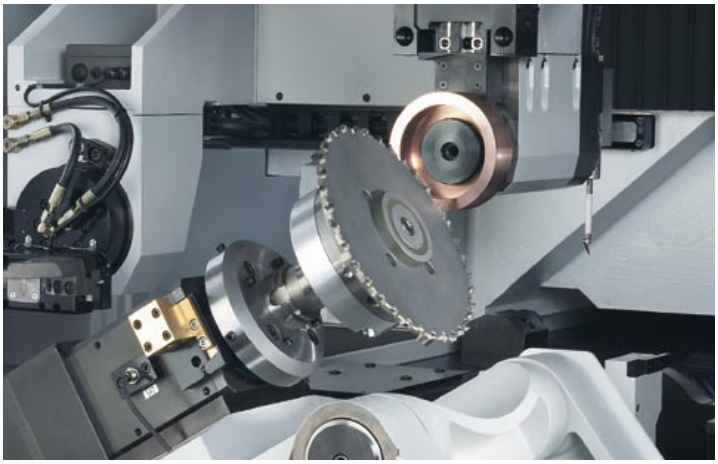


Double work piece magazine with 72 (2 x 36) slots for shank-type tools.

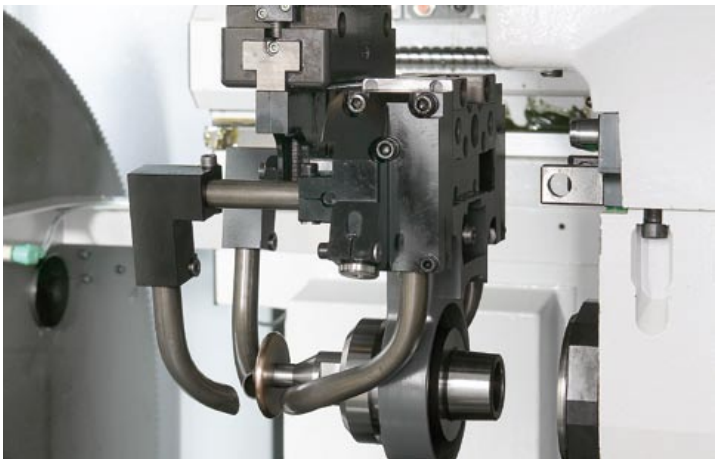
Magazine with four slots of large work pieces such as milling cutters (this magazine can also be designed as a double magazine with eight slots).



Tool magazine with six slots for eroding and grinding wheels.



B1-axis (swivel range +/- 30 degrees), eroding of a cutter with a cup wheel.



Possible tool exchange during the working operation offers flexible and constant processing in unmanned operation.

QXD 400

Technical data at a glance:

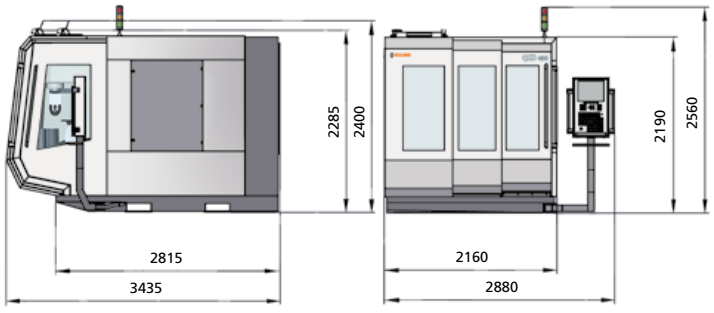
• Work piece	
Outside diameter	up to 400 mm
Length	up to 400 mm
• Tool	
Outside diameter	max. 200 mm
• Main spindle motor L1	
Speed	up to 3.000 min-1
Torque	6 Nm
• Traversing range	
X1-axis	730 mm 200 mm/sec
Y1-axis	840 mm 200 mm/sec
Z1-axis	500 mm 160 mm/sec
A1-axis	360° 90°/s
B1-axis	+/- 30° 8°/s
E1-axis	330° 180°/s
• Coolant tank	240 l
• Electrical system	380/415/440 V 50 Hz
	440 V 60 Hz
	or 200/220 V 60 Hz
Connected load	approx. 8.4 kVA/6.7 kW
• Dimensions	2160 x 3435 x 2190 mm
• Weight (net)	7.800 kg

The highlights:

A universal machine for eroding, grinding and polishing various PCD-tipped tools up to 400 mm in diameter and 400 mm in length in production and service mode.

- Simultaneously controlled path interpolation of 6 CNC axes.
- Fully automatic measuring of machine and processing of left-hand and right-hand work pieces in one clamping.
- Combined machining: Measuring, eroding, grinding and polishing.
- High processing and work piece surface quality.
- No need for manual set-up.
- Reduced non-productive time.
- Fully automatic exchange of up to six processing tools out of the magazine wheel.
- Well-known VOLLMER operational philosophy.

Dimensions



We reserve the right to make design modifications in the interest of technical improvement.

VOLLMER WERKE Maschinenfabrik GmbH
Ehinger Straße 34 · D-88400 Biberach/Riß
Telefon +49 (0) 73 51/5 71-0 · Telefax +49 (0) 73 51/5 71-130
www.vollmer-group.com · info-vobi@vollmer-group.com

804e/1.0/05.11/DWS