QATM®
QUALITY ASSURED

Qcut 200 A

FOR DEMANDING SECTIONING AND GRINDING PROCESSES

FULLY AUTOMATIC PRECISION CUT-OFF MACHINE

part of VERDER scientific

THE FIRST CHOICE FOR PRECISE SECTIONING

QUALITY ASSURANCE IN MATERIALOGRAPHY STARTS WITH AN EXCELLENT CUT

For over 20 years, QATM's innovative precision cut-off-machines have been setting new standards and benchmarks in materialographic sample preparation. What makes our cut-off-machines so special? We engineer and develop machines to put precision and quality first. With the Qcut 200 A as the follow-up model to the Brilliant 220, we have now further developed the popular model in the 4th generation. The Qcut 200 A remains unique on the market with its conceptual design of a large cut-off-machine in table format.

QCUT 200 A

- Fully automatic precision axes with backlash free bearings
- New cooling system with approx. 25 % higher flow rate than comparable machines which reduces the cut-off wheel wear by up to 15 %
- Automatic cleaning function
- New software functions for grinding applications
- Simplified cut-off wheel change
- New modular adaptable sample rotation

Qcut 200 A

The Qcut 200 A is a precision cut-off machine with up to 3 automatic axes for use with cut-off wheels up to 203 mm / 8“ in size.

The Qcut 200 A is a compact, precision cut-off machine that offers the highest possible flexibility and use of space, with up to three automatic axes (X, Y, Z) and numerous sectioning functions. Thanks to its modular design, the Qcut 200 A can be optimally equipped with numerous options and suitable clamping tools.

INTUITIVE AND SIMPLE OPERATION

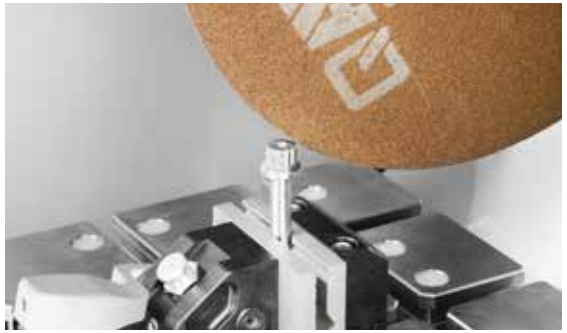
The large 7“ touch display is ergonomically arranged and easy to operate via the user-friendly software. The joystick ensures comfortable movement of the automatic axes.

FLOW MONITORING

Via the optional flow monitoring, constant cooling can be ensured when cutting sensitive samples with long sectioning processes. The sectioning process is automatically interrupted when a critical threshold value is reached.

HIGHEST DEMANDS ON SAFETY

Due to the enabling switch, the machine can only be positioned via the two-hand control when the door is open. This eliminates the risk of crushing for the machine operator.



INTELLIGENT COMPONENT DETECTION

In addition to the proven automatic component detection, the machine also has a new type of exit detection (auto-stop function). Thus, the start and end points of the sectioning process are automatically detected and process times are shortened.

AUTOMATIC CLEANING FUNCTION

The machine is cleaned fully automatically via the spiral nozzles in the cut-off chamber. Cleaning can be switched on individually and, if required, starts automatically after each cut-off. For a clear view, it can also be switched on during cut-off operation.

OPTIMIZED COOLING

REDUCED CUT-OFF WHEEL WEAR

The new bar cooling system provides improved cooling during the sectioning process. This reduces deformation and heat input at the specimen surface.

REDESIGN YOUR WORK PROCESSES WITH THE QCUT 200 A

APPLICATION EXAMPLES

COMPLEX SEGMENT CUTS

To investigate the hardness profile on the tooth flanks of a twist drill, a cut-off section perpendicular to the flank is required. The new **Qtool 40** and **60** clamping devices can be precisely adjusted for angular cuts using the **Easy-clamping base S rotary function**.

THIN-WALLED COMPONENTS (BATTERIES)

For the inspection of thin-walled components with pressed connections, such as battery housings, a finely tuned clamping force is required. The new **Qtool 40 S** has a threaded spindle to dose the clamping force.

THIN SECTION TECHNOLOGY

Thin sectioning can be used to analyze the crystal structure of ceramics. The new **vacuum clamping unit** holds the glass slide with the glued-on ceramic in position without slipping.

Qtool 60 adapted to Easy-clamping base S with rotary function

Qtool 40 S with Easy-clamping base S

Vacuum clamping unit with Easy-clamping base S and Easy Adaption vertical

WIDE RANGE OF ACCESSORIES

THIN SECTION TECHNOLOGY

With the new vacuum clamping unit, glass slides for thin sections can be fixed easily and without slipping.

WORK AREA LIGHTING
- New powerful LED machine illumination

CUT-OFF WHEEL LOCK
- Simplified cut-off wheel change via locking function
- With integrated lubrication option

LINE LASER
- For exact component part positioning before cutting

CENTRIFUGAL SEPARATOR
- Effective removal of coolant mist from the sectioning process

CUT-OFF CHAMBER FLUSHING
- Automatic cleaning of the cut-off chamber

ERGONOMIC CONTROL PANEL
- Large 7“ TFT touch display
- Joystick for manual operation

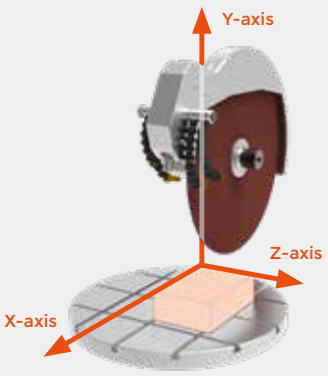
DRESSING DEVICE
- For sharpening diamond cut-off and grinding wheels
- Can be operated manually from the outside

MANUAL CLEANING
- Cleaning nozzle in direct access

SIDE CHANNEL OPENING
- Feeding of long bar material

ROBUST MACHINE BODY AND SLIDING DOOR
- Optimized drainage of the coolant in the cut-off chamber
- Drip-free access to the cut-off chamber through sliding door

COORDINATE AXES



ACCESSORIES
- Clamping possibility individually expandable with turning device or further clamping devices

LARGE MACHINE TABLE
- Axes can be positioned backlash-free
- Easy grooves for simple mounting of QATM clamping devices
- T-slots 8 mm for individual clamping devices
- Max. W x H: 300 mm x 210 mm

EVERYTHING IN VIEW

INTUITIVE OPERATING CONCEPT

MAIN CUTTING PARAMETERS

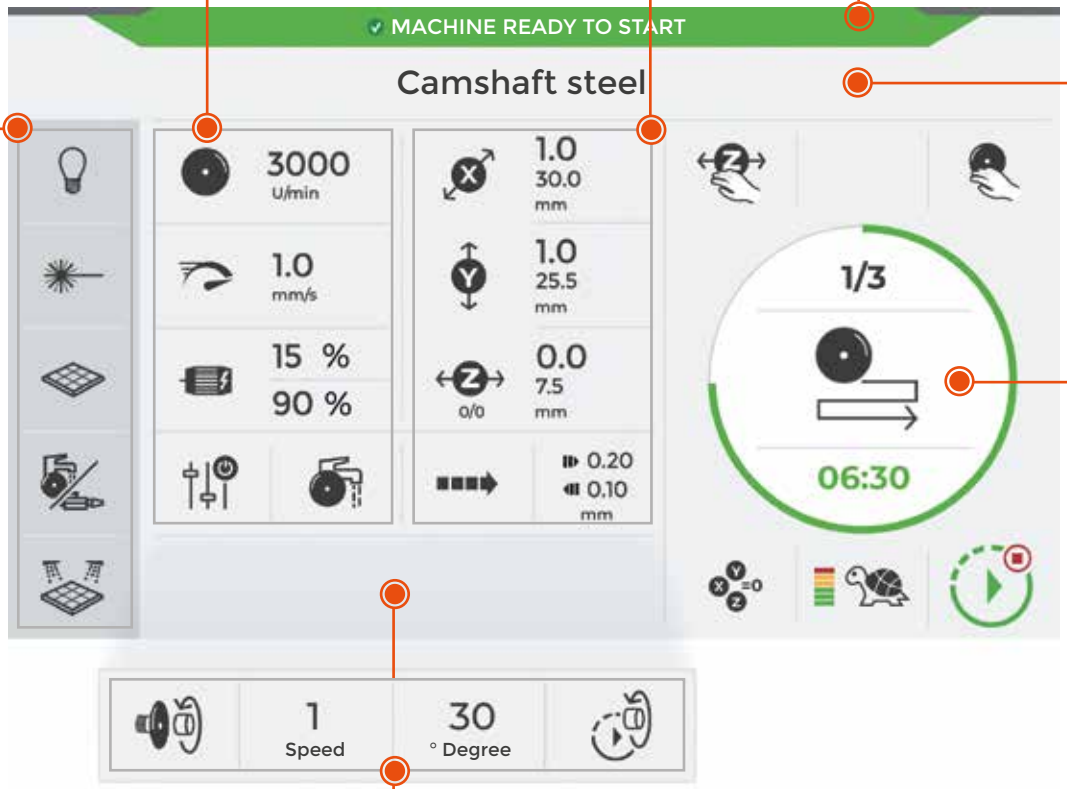
- Adjustment of rotational speed, feed rate
- Automatic control of feed rate for different material thicknesses and hardnesses

POSITIONING

- Coordinates and target setting
- Setting of intermittent feed

STATUS BAR

- Machine status and service information



HOTKEYS

- Access bar
- Direct access to functions for setup operation and machine cleaning

PROGRAM

- Settings can be configured and saved individually

CONTROL BAR

Visual control window with the set process parameters

- Process time for the sectioning process
- Number of serial cuts
- Selected sectioning program

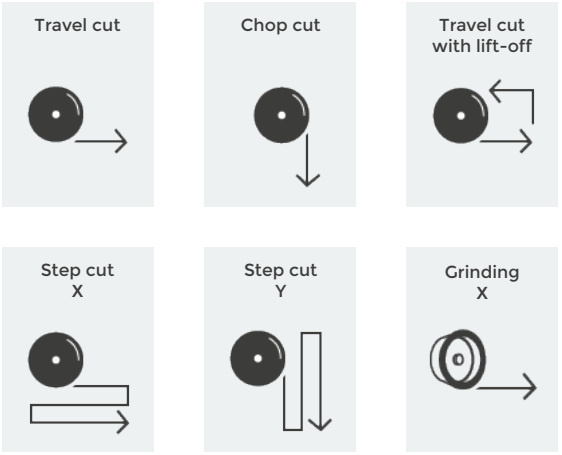
ROTATION DEVICE

- Oscillate / rotate
- 6 speeds
- Rotation with set parameters for visual control during setup

EXTENSIVE SECTIONING PROGRAMS

Depending on the geometry of the component, the travel or chop cut is used to minimize the contact area between the component and the cut-off wheel. The step cut functions separate the workpiece layer by layer and optimize the angle of action for a material friendly cut. They are therefore particularly suitable for solid material.

CUT TYPE SELECTION

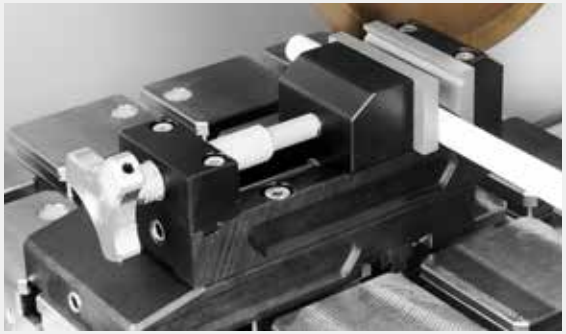


ACCESSORIES

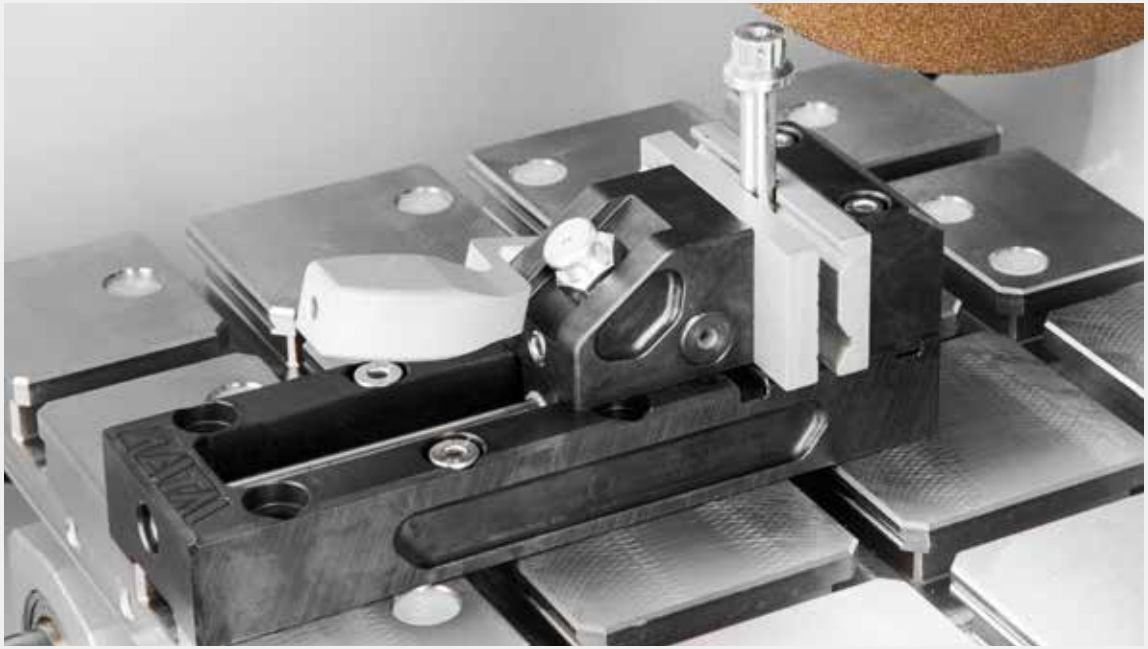
CLAMPING TOOLS

A wide range of clamping tools is available for the Qcut 200 A. Using the Easy clamping system, they can be simple and securely fastened to the table with just one screw. This makes the tedious fixing of the clamping tools in the T-slots of the table unnecessary. The Easy clamping system is an innovative addition with a great impact on everyday work.

EASY-CLAMPING BASE S WITH ROTARY FUNCTION + EASY ADAPTION (VERTICAL)



EASY-CLAMPING BASE S WITH QTOOL 40 S



QTOOL 60

FOR ENVIRONMENTALLY FRIENDLY FILTRATION OF THE COOLANT

RECIRCULATION COOLING SYSTEMS

Optimum cooling is essential during sectioning. Strong heat generation during the sectioning process damages the specimen and increases the wear of the cut-off wheel. The cooling and corrosion protection agent dissipates the heat and simultaneously removes the chips from the cut-off chamber.

15L RECIRCULATION COOLING SYSTEM

- Portable system with filter cartridge and lid
- Small footprint required
- Easy to integrate into existing laboratory furniture
- Two-chamber system for filtration

45L RECIRCULATION COOLING SYSTEM (MOBILE)

- Mobile unit with inlet strainer, filter bag and overflow
- Can be placed under a lab bench or floor-to-ceiling cabinet
- Expandable with optional pump module for cut-off chamber flushing
- Two-chamber system for filtration with removable separating slide

45L RECIRCULATION COOLING SYSTEM (SYSTEM LABORATORY)

- Mobile unit with retractable mechanism
- Can be conveniently integrated into QATM system laboratory cabinets and cabinets with undershelves
- Expandable with optional pump module for cut-off chamber flushing
- Inlet strainer, filter bag and overflow
- Two-chamber system for filtration with removable separating slide

FOR ALL STEPS OF THE MATERIALOGRAPHIC SAMPLE PREPARATION

QPREP CONSUMABLES

High-quality cut-off wheels are available for selection for the various applications. Using an optimal cut-off wheel results in very fine surface finishes after sectioning and shortens the preparation procedure.

QPREP aluminum oxide cut-off wheels

- The resin bond enables timely breaking out of blunt abrasive particles during the sectioning process
- For sectioning medium-hard and case-hardened material (e.g. mild steel and cast materials)

QPREP diamond precision cut-off wheels

- Diamond as an abrasive enables sectioning of hard materials without smearing
- The dressing function of the Qcut 200 A ensures that the diamonds always maintain maximum cutting performance

QPREP CBN - Precision cut-off wheels

- The cubic boron nitride CBN cut-off wheels are particularly suitable for composite as well as tough materials
- Cuts hard material without smearing

Qprep

Further information on our consumables and other products can be accessed via the QR code.

TECHNICAL DATA

Qcut 200 A

Cut-off wheel	Ø 203 mm / 8“
Max. sample size	Ø75 mm
Wheel flange size	Ø 12.7 mm
X-axis (travel cut) automatic	210 mm
Y-axis (chop cut) automatic	80 mm
Z-axis automatic	80 mm
Precision Z-axis	0.005 mm
Table (with Z-axis)	300 x 210 mm (280 X 210 mm)
T-slot	8 mm
Speed	300-5000 U/min
Drive power (main drive)	0.75 kW (S1)
Connection power	2.2 kVA
W x H x D	725 x 535 x 675 mm
Weight	approx. 82 kg

03/2023 Subject to technical changes and printing errors.

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SCIENCE FOR SOLIDS

Verder Scientific is a business field belonging to the Verder Group and sets standards in the development, manufacture and sale of laboratory and analytics devices. Used in quality control, research and development for test-piece preparation and the analysis of solids.

For several decades our companies have supplied production plants and research institutes, laboratories for quality testing and analytics, all kinds of technical specialists and scientists with modern, reliable devices to solve the many and varied challenges they face.

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