



Qcut 150 A
Qcut 200 A

HIGHEST ACCURACY AND FLEXIBLE, EASY HANDLING

**PRECISION CUT-OFF MACHINES FOR DEMANDING
SECTIONING AND GRINDING PROCESSES**

MATERIALOGRAPHY STARTS WITH AN EXCELLENT CUT

QATM SECTIONING TECHNOLOGY FOR PRECISE SAMPLE PREPARATION

QATM offers a range of convenient benchtop cut-off machines for the materialographic laboratory, from manually operated to fully automated models. These cut-off machines meet the high precision requirements placed on materialographic sectioning and are ideally suitable for small parts with different geometries as well as thin sections.

WHEN IS SECTIONING NECESSARY?

The size and shape of a workpiece may require the material to be divided into segments using a cut-off machine prior to materialographic examination. QATM cut-off machines are the ideal choice for reliable, precise cutting and are the basis for good sample preparation.

PRECISION CUT-OFF MACHINES – MADE IN GERMANY



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QCUT 150 A

Flexible precision cut-off machine

- | Two axes
- | Manual cross feed
- | Positioning accuracy 0.005 mm
- | Rotation axis (optional)
- | Force-controlled cutting possible
- | Max. sample size: Ø 40 mm
- | Drive power 0.37 kW



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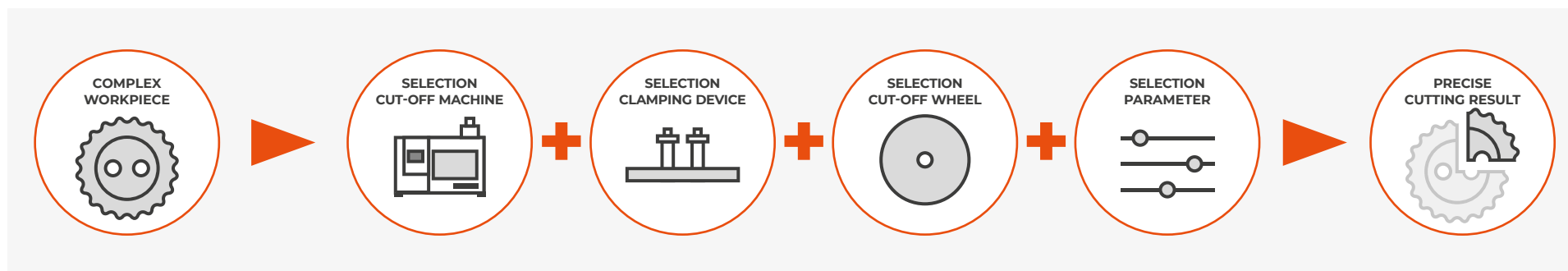
QCUT 200 A

Precision cutting and grinding with one machine

- | Three automatic axes
- | Positioning accuracy < 0.005 mm
- | Automatic cutting chamber cleaning (optional)
- | Rotation axis (optional)
- | Max. sample size: Ø 75 mm
- | Drive power 0.75 kW

STRONG COMPONENTS – PRECISE CUTTING RESULTS

SECTIONING PROCESS



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FAST, POWERFUL, FLEXIBLE – PRECISION AND QTOOL CLAMPING DEVICES

Our innovative clamping devices are used to clamp workpieces securely and precisely to ensure exact cutting and grinding processes. The QATM clamping devices of the Qtool series offer a wide range of different clamping devices that have been developed for specific applications and workpiece sizes.

- | Suitable for regular and irregularly shaped samples
- | Fast, repeat-accurate clamping of regularly shaped samples
- | Large range of different clamping tools and systems available



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PERFECT CUTTING – PRECISION CUT-OFF WHEELS FROM QATM

Cutting is more reliable, safe and efficient when processed with the right ingredients: knowledge, care and the right choice of consumables and parameters.

The Qprep range includes specially developed cut-off wheels for a wide variety of materials and requirements.

- | Low thermal influence on the specimen during the cutting process
- | Wet abrasive cutting achieves very fine surface finishes after cutting
- | Optimal cutting shortens the further preparation process

FLEXIBLE PRECISION CUT-OFF MACHINE

QCUT 150 A

- | Up to 5 different modes:
manual, automatic feed, force-controlled feed,
grinding mode, cutting with table attachment
- | Manual cross feed
- | Zone cutting function
- | 4 different cooling systems available
- | Dressing device
- | Intuitive QATM software with integrated database

www.qatm.com/qcut150a



Qcut 150 A

The Qcut 150 A is a flexible precision cut-off machine which is used with cut-off wheels up to a diameter of 203 mm / 8".

The compact benchtop model performs automatic as well as manual cuts with the ergonomic lever. The optional sample holder arm with built-in force sensor ensures low-deformation cuts due to a precise force-controlled feed rate.



NEW: ZONE-CUTTING

- | Individual adjustment of feed rate or cutting force for single sections of the sample
- | Reduced material deformation and heating
- | Accelerated cutting process



FORCE-CONTROLLED CUTTING

- | Integrated force sensor in the sample holder arm precisely regulates the feed rate via the set cutting force
- | Constant cutting force throughout the process for clean cutting even of edge-hardened components and composite materials



ALL PARAMETERS AT A GLANCE

- | Robust 4.3" industrial touchscreen
- | Intuitive software with modern interface displaying all important cutting parameters
- | Extensive program storage and user account control



TABLE ATTACHMENT

- | Table attachment can be mounted without tools
- | Quick and manual sectioning of large samples, PCBs, or plate material



GRINDING MODE

- | Target preparation: In grinding mode, samples can be ground manually or semi-automatically using a cup wheel
- | Ideal for thin sections and microelectronics

HIGHLIGHT – PARTICULARLY VERSATILE ACCESSORIES

REDUCES SUBSEQUENT GRINDING PROCESSES

The use of the adaptive rotation axis leads to an even more uniform cutting pattern and reduces the risk of the cut-off wheel runout. This reduces the effort required for later plane-parallel grinding of the sample.





NEW: VACUUM CLAMPING UNIT

- I Glass slides for thin sections can be fixed easily and without slipping



EXTENSIVE RANGE OF CLAMPING TOOLS

- I With the help of a suitable clamping tool from the extensive range of accessories, mounted or non-mounted samples up to a size of $\varnothing$ 40 mm can be clamped in the cut-off machine comfortably



SUPERIORITY IN DETAIL

1 SAMPLE HOLDER ARM

- I Tool-free quick-clamping system for mounting:
 - Precision clamping devices
 - Rotation device
 - Vacuum clamping unit
- I Max. sample size: $\varnothing$ 40 mm

2 Y-AXIS

- I Manual or automatic feed
- I Travel: 120 mm
- I Feed rate: 0.01–20 mm/s (automatic)
- I Cutting force variably adjustable: 0–10 N (optional)

3 DRESSING DEVICE

- I For sharpening diamond cutting and grinding wheels
- I Can be operated manually from the outside

4 ROBUST MACHINE BODY

- I Sturdy and corrosion-resistant stainless steel housing
- I Powder-coated, for easier cleaning

5 TRANSPARENT HOOD

- I Swivel hood with free access to the cutting chamber
- I Integrated safety switch

6 Z-AXIS

- I Manual cross feed
- I Travel: 25 mm
- I Position shown on the display
- I Positioning accuracy: 0.005 mm

7 CUT-OFF WHEEL DRIVE

- I Cut-off wheel size: $\varnothing$ 75–203 mm / 8"
- I Drive power: 0.37 kW (S1)

8 ERGONOMIC CONTROL PANEL

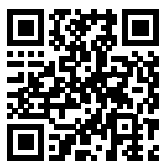
- I 4.3" industrial touchscreen
- I Intuitive interface displaying process data
- I Storage of up to 200 user-defined cutting methods
- I User account management

PRECISION CUTTING AND GRINDING WITH ONE MACHINE

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
- | Dressing device
- | New modular adaptable turning device

www.qatm.com/qcut200a



NEW

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 cutting functions. Thanks to its modular design, the Qcut 200 A can be optimally equipped with numerous options and suitable clamping tools.



HIGHEST PRECISION THANKS TO ROBUST DESIGN

- | Durable and low vibration thanks to stable construction
- | Cutting or grinding (using a cup wheel) of delicate samples with maximum precision
- | Excellent access to the cutting chamber thanks to large sliding door
- | Quick and secure attachment of versatile clamping devices on the large machine table



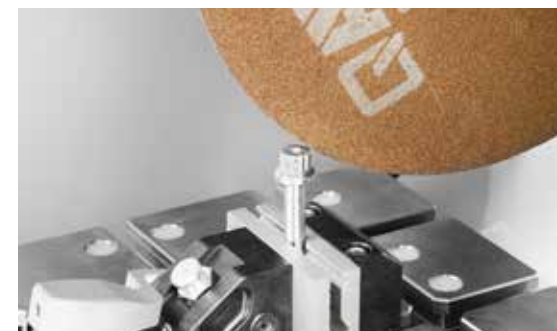
HIGHEST DEMANDS OF SAFETY

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



INTUITIVE AND SIMPLE OPERATION

- | Large 7" industrial touchscreen with ergonomic user guidance
- | Easy operation of the user-friendly software
- | Comfortable movement of automatic axes using the joystick



INTELLIGENT COMPONENT DETECTION

- | Proven automatic component detection and a new type of exit detection (auto-stop function)
- | Start and end points of the cutting process are automatically detected and process times are shortened



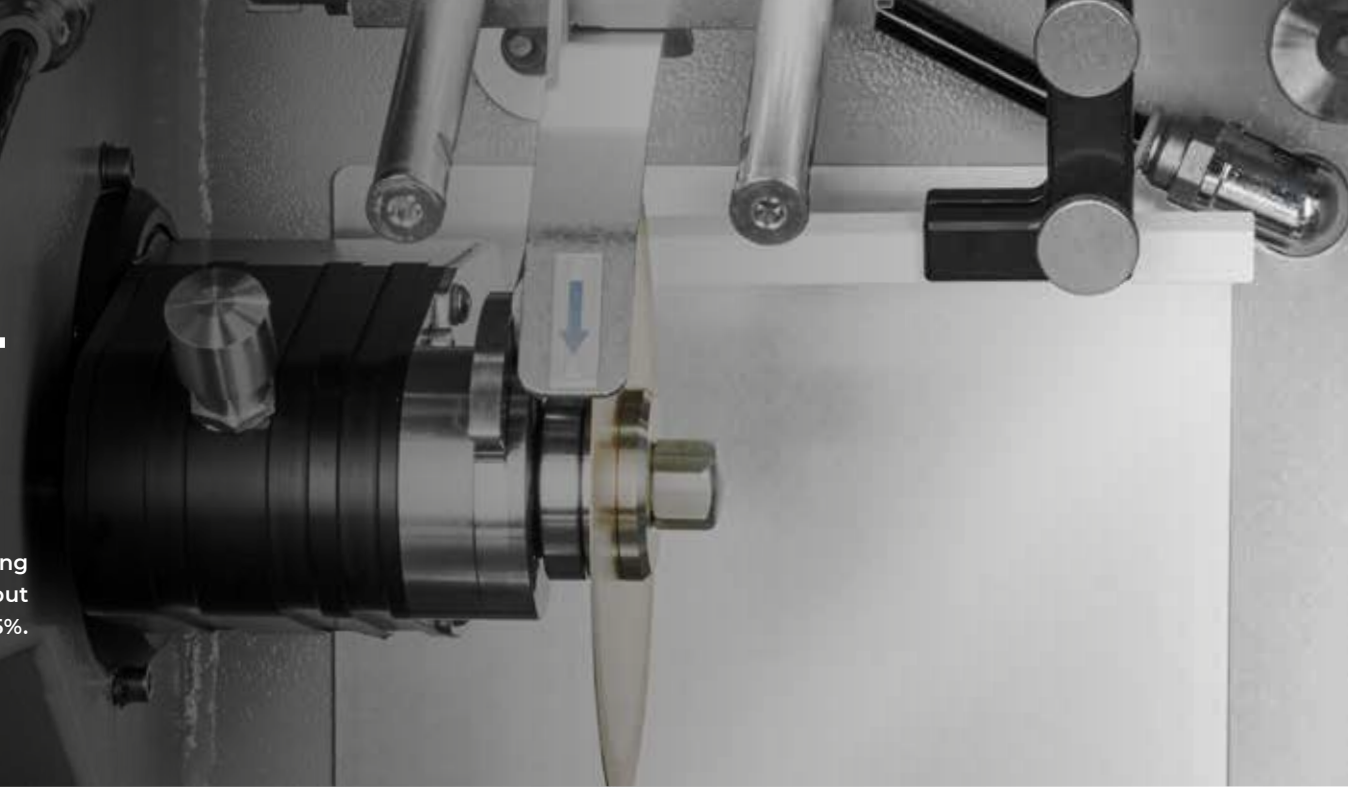
FLOW MONITORING

- | Optional flow monitoring ensures constant cooling of sensitive samples even during long cutting processes
- | The cutting process is automatically interrupted as soon as a critical threshold value is reached

HIGHLIGHT – 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 on the sample surface as well as cut-off wheel wear by up to 15%.



HIGHLIGHT – 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.





AUTOMATIC CLEANING FUNCTION

- | Fully automatic machine cleaning thanks to spiral nozzles in the cutting chamber
- | Cleaning can be switched on individually and starts automatically after each cut if required
- | Clear view during the cutting process: cleaning can be activated during the running process



EXTENSIVE CUTTING PROGRAMS

- | Depending on the geometry of the component, the travel or chop cut is used to minimize the contact area to the cut-off wheel
- | Cut the workpiece layer by layer and optimize the angle of action using the step cut functions - particularly suitable for solid material

SUPERIORITY IN DETAIL

1 CUTTING CHAMBER FLUSHING

- | Automatic cleaning of the cutting chamber

2 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

3 ERGONOMIC CONTROL PANEL

- | Large 7" industrial touchscreen
- | Joystick for manual operation

4 LASER ALIGNMENT

- | For easy workpiece positioning before cutting
- | Included as standard

5 ACCESSORIES

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

6 CUT-OFF WHEEL LOCK

- | Simplified cut-off wheel change via locking function
- | With integrated lubrication option

7 DRESSING DEVICE

- | For sharpening diamond cutting and grinding wheels
- | Can be operated manually from the outside

8 CENTRIFUGAL SEPARATOR

- | Effective removal of coolant mist from the sectioning process



OPTIMAL ACCESSORIES FOR QCUT 150 A AND 200 A

RECIRCULATION COOLING SYSTEMS

Optimal cooling is essential during sectioning. Excessive 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)

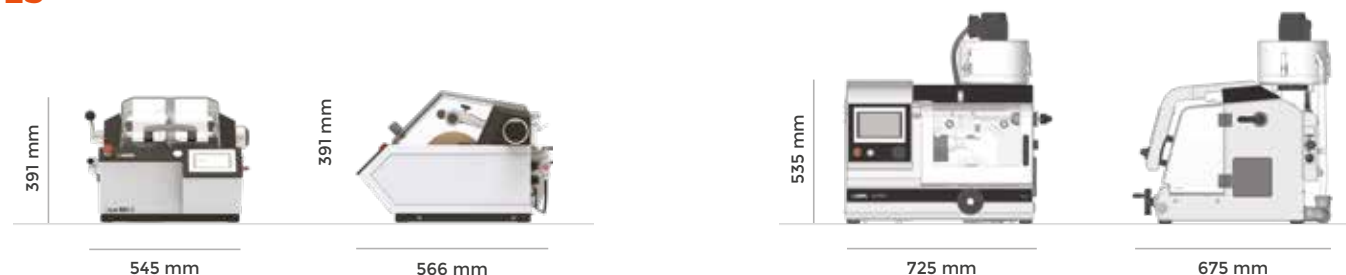
- | Mobile unit with inlet strainer, filter bag and overflow
- | Can be placed under a lab bench or floor-to-ceiling cabinet
- | Expandable with optional pump module for cut-off chamber flushing
- | Two-chamber system for filtration with removable separating slide



45L RECIRCULATION COOLING SYSTEM (SYSTEM LAB)

- | 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

PRECISION CUT-OFF MACHINES IN COMPARISON



Precision cut-off machine	QCUT 150 A	QCUT 200 A
Machine type	2 axes (Y/Z)	2 axes (Y/Z) Optional: 3 axes (X/Y/Z)
Cut-off wheel	Ø 75–203 mm / 8"	Ø 75–203 mm / 8"
Speed	150–3,000 rpm	300–5,000 rpm
Max. cutting capacity	Ø 40 mm (cut-off wheel Ø 200 mm)	Ø 75 mm (cut-off wheel Ø 200 mm)
Wheel flange size	Ø 12.7 mm	Ø 12.7 mm
Variable adjustable cutting force	0–10 N	-
Feed rate	0.01–20 mm/s	0.01–20 mm/s
X-axis (travel cut)	-	210 mm (manual / automatic)
Y-axis (chop cut)	120 mm (manual / automatic)	80 mm (automatic)
Z-axis (parallel cut)	25 mm (manual)	80 mm (automatic / option)
Man. cross feed (Z-axis)	0.005 mm	0.001 mm
Table without Z-axis (W x D)	-	300 x 210 mm
Table with Z-axis (W x D)	-	280 x 210 mm
T-slot	-	8 mm
Position accuracy Z-axis	0.005 mm	0.005 mm
Drive power (main drive)	0.37 kW (S1)	0.75 kW (S1)
Connection power	0.75 kVA	2.2 kVA
W x H x D	545 x 391 x 566 mm	725 x 535 x 675 mm
Weight (depending on equipment)	~ 45 kg	~ 82 kg

FAST, POWERFUL, FLEXIBLE

PRECISION CLAMPING DEVICES

Suitable for regular and irregularly shaped samples. They can be used universally in the QATM adaptations (Rotation device, Easy adaption horizontal and vertical as well as the sample holder arm for Qcut 150).

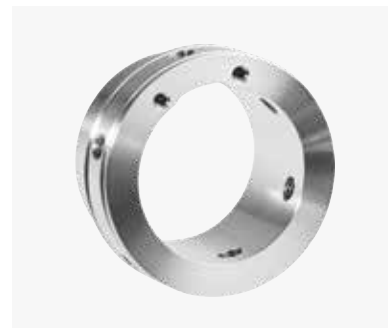
CAN BE INSTALLED DIRECTLY ON:

- | Easy adaption vertical
- | Easy adaption horizontal
- | Rotation device type RD1 and RD2

www.qatm.com/precision-clamping-devices



PRECISION CLAMPING DEVICES FOR QCUT 150 A AND 200 A



**SAMPLE HOLDER STANDARD
(OPEN)**



**SAMPLE HOLDER STANDARD
(CLOSED)**



**SAMPLE HOLDER PARALLEL
CLAMPING VICE (OPEN)**



**SAMPLE HOLDER PARALLEL
CLAMPING VICE (CLOSED)**



SAMPLE HOLDER FLEX



DROP SHAPE SAMPLE HOLDER



UNIVERSAL CLAMPING VICE



MATRIX CLAMPING VICE



MINI VICE



DOUBLE PARALLEL VICE



ADAPTER WITH BALL JOINT



VACUUM CLAMPING UNIT



REDUCER RING



HAND CHUCK

ACCESSORIES



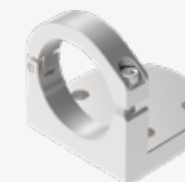
Easy clamping plate S



Easy clamping plate S with rotation function



Rotation devices



Easy adaption vertical



Easy adaption horizontal

FAST, POWERFUL, FLEXIBLE

QTOOL- CLAMPING TOOLS

- | Fast, repeat-accurate clamping
- | Regularly shaped workpieces can be efficiently clamped using the quick clamping system

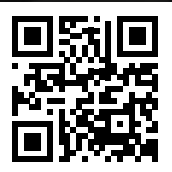
HIGH QUALITY AND ROBUST

- | Specially coated components with extremely high surface hardness and improved corrosion protection
- | Best sliding properties
- | Minimal light reflection when working with the laser
- | Sophisticated concept: Clamping lever can be ergonomically extended
- | Optimal positioning of the component thanks to adjustable back stop

COMPREHENSIVE RANGE OF ACCESSORIES

- | Extremely quick to mount via quick-release fastener on the Easy plates
- | Gas-nitrided clamping jaws for a long service life
- | Can be individually extended with additional jaws (with prisms, bevels, slotted jaws, etc.)

www.qatm.com/qtool



QTOOL-SPANNMITTEL FÜR QCUT 200 A



QTOOL 40 / QTOOL 40 S

HIGHLIGHTS

- | For small components: $\varnothing$ 40 mm | W = 60 mm
- | Screw clamp (Qtool 40 S) with star handle to manually adjust the clamping force
- | Eccentric clamp (Qtool 40) for fast and powerful clamping
- | Rear stop adjustable for optimal position during cutting
- | Versatile clamping jaw range



QTOOL 60

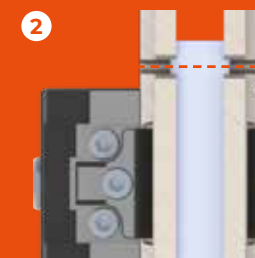
HIGHLIGHTS

- | For medium-sized components $\varnothing$ 60 mm | W = 100mm
- | Eccentric clamp for fast and powerful clamping
- | Adjustable rear stop (50mm) for optimal position during cutting
- | Versatile clamping jaw range
- | Optionally expandable with cross stop

CLAMPING JAWS FOR QTOOL 40 / 60 SERIES

With the wide range of clamping jaws, the Qtools can be individually customized to the components to be cut

- I Round components ①
- I Large components
- I Clamping the cut-off side of the component ②



standard



bevelled



high



high, slotted



cross prism



high, slotted,
with prism

ACCESSORIES



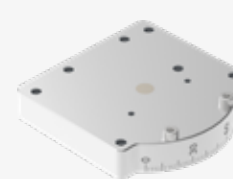
Easy clamping plate S



Easy clamping plate S
with rotation function



Easy clamping plate M (Qtool 60)



Easy adaption (Qtool 40-60)



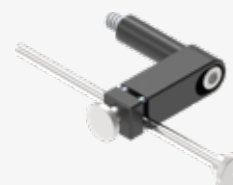
Multi-Tower



Swivel unit (Qtool 40-60)



Swivel unit (Qtool 60-80)



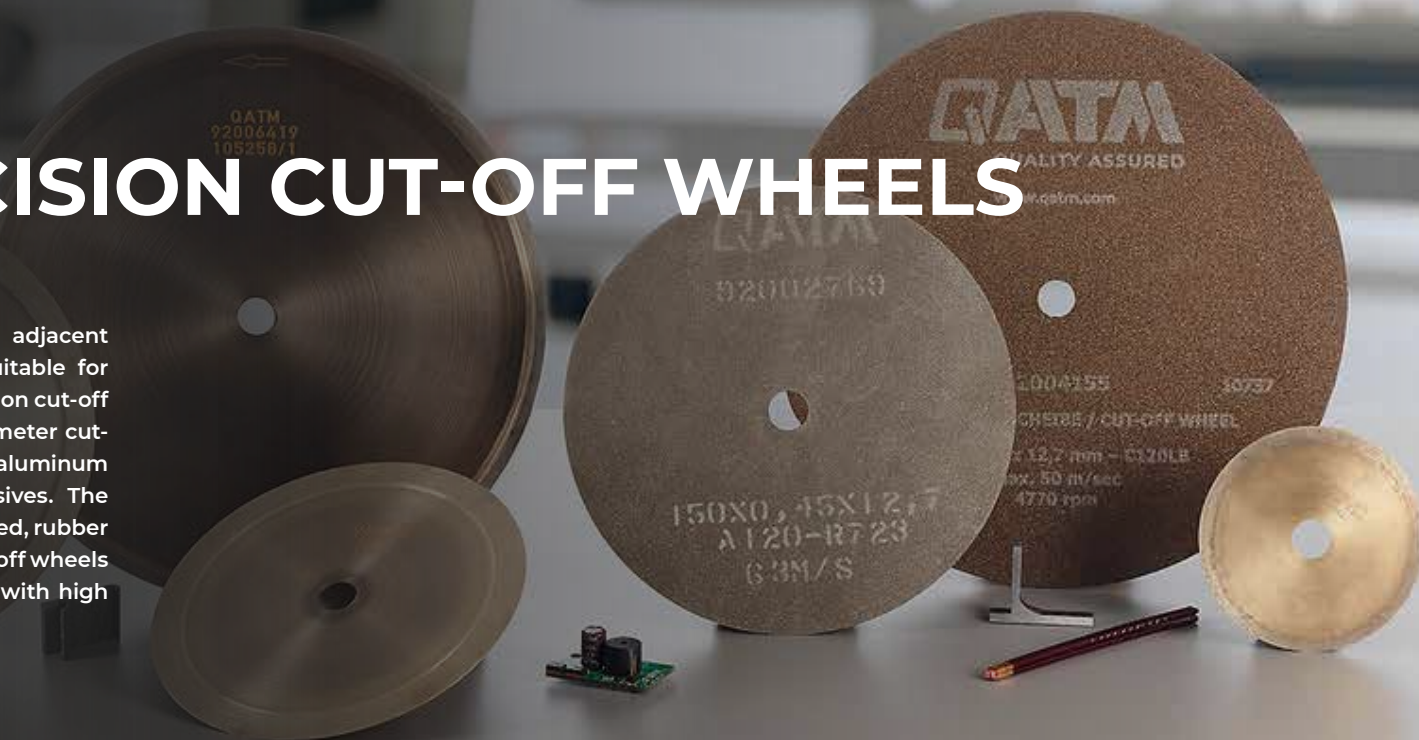
Workpiece stop (Qtool 60)



PERFECT SECTIONING

QPREP PRECISION CUT-OFF WHEELS

Precision cutting allows for cutting precisely adjacent to critical analysis areas and is particularly suitable for materials with highly complex properties. Precision cut-off wheels are significantly thinner than larger diameter cut-off wheels. With QPREP, you can choose from aluminum oxide, silicon carbide, diamond or CBN abrasives. The abrasives can be either electroplated, resin bonded, rubber bonded or bronze bonded. QPREP precision cut-off wheels are the ideal solution for cutting requirements with high surface quality and exact cutting accuracy.



PRODUCT ADVANTAGES

- Minimal material loss due to thin cut-off wheel thickness
- Allows cutting closer to the desired surface
- Allows cutting of small, sensitive, and very brittle specimens

www.qatm.com/precision-cut-off-wheels



SILICON CARBIDE PRECISION CUT-OFF WHEELS

PRODUCT ADVANTAGES

- Excellent surface finish
- High repeatability
- Exact cutting precision



ALUMINUM OXIDE PRECISION CUT-OFF WHEELS

PRODUCT ADVANTAGES

- The dense structure of the disc allows a longer lifetime
- Less wear and less heat between specimen and cut-off wheel



DIAMOND PRECISION CUT-OFF WHEELS

PRODUCT ADVANTAGES

- | Diamond as abrasive enables cutting of hardest materials
- | Sections hard material without smearing
- | The dressing functionality of our QATM cut-off machines ensures that the diamonds edge area always maintains the highest cutting performance



CBN PRECISION CUT-OFF WHEELS

PRODUCT ADVANTAGES

- | The best cutting performance when cutting soft and hard materials
- | Sections hard material without smearing
- | The dressing functionality of our QATM cut-off machines ensures that the CBN particles edge area always maintains the highest cutting performance



SAW BLADE CUT-OFF WHEEL

PRODUCT ADVANTAGES

- | The best performance when cutting non-metallic material
- | Lower heat generation due to single engagement of the saw teeth during cutting
- | Since there is no binding of abrasives, the disc is odor and dust free

ACCESSORIES

For inspection as well as effective working with Qprep cut-off wheels, QATM offers a comprehensive range of Qprep cooling and anti-corrosion agents as well as other accessories and aids.



COOLING AND
ANTI-CORROSION AGENTS



MAINTENANCE AND CARE
(Cooling lubricants, cut-off
devices and cut-off wheels)



FILTER SYSTEMS

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PREMIUM QUALITY
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VERDER

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**ENABLING
PROGRESS**

