



CUTTING | MOUNTING | GRINDING, POLISHING, ETCHING | ANALYSIS, HARDNESS TESTING

# GENERAL CATALOGUE



# SCIENCE FOR SOLIDS

**HEAT TREATMENT**  
**ELEMENTAL ANALYSIS**  
**MATERIALOGRAPHY &**  
**HARDNESS TESTING**  
**MILLING & SIEVING**  
**PARTICLE CHARACTERIZATION**

As part of the VERDER Group, the business division VERDER SCIENTIFIC sets standards in the development, manufacture and sales of laboratory and analytical equipment. The instruments are used in the areas of quality control, research and development for sample preparation and analysis of solids.

### Machines and equipment for the materialographic laboratory

Whatever you need for quality testing and material analysis, QATM has it all: As a manufacturer of high-quality machines for materialography and hardness testing, we offer the most comprehensive solutions for your needs. We not only supply a wide range of instruments but also accessories, consumables, complete laboratories and tailor-made special-purpose solutions.

### We aim for highest quality

Our innovative cut-off machines, mounting presses, grinders, polishers/electrolytic etchers, as well as hardness testers and analysis systems provide maximum reliability and flexibility. The R&D departments for hard- and software work in close cooperation with our customers to ensure continuous optimization of our products. QATM is certified according to EN ISO 9001:2015 to make sure our internal procedures for conception, development, purchasing, sales and service are efficient and reflect our high standards.

Customers all over the world appreciate QATM's extensive sales and service network as well as the direct communication with our experts. The comprehensive expertise and creativity of our qualified staff are the basis for the consistent high quality of our solutions.

QATM offers:

#### I MODERN PRODUCTION ENGINEERING AND HIGH VERTICAL INTEGRATION

Optimum control of every single component of our machines guarantees reliable product quality "made in Germany" and „made in Austria“.

#### I APPLICATION CONSULTATION AND END-USER SEMINARS WITH INDIVIDUAL FOCUS

Our application experts determine parameters and equipment configurations best suited for your sample preparation process.

#### I IN-HOUSE HARDWARE AND SOFTWARE DEVELOPMENT

QATM hosts the complete R&D process in-house. Tailor-made solutions to meet individual requirements are our strength.



#### MAMMELZEN / DEUTSCHLAND

- I Materialography, consumables, manufacture of lab furniture
- I Development, manufacturing, assembly
- I Training center

#### ATM Qness GmbH

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#### GOLLING / ÖSTERREICH

- I Hardness testing, Analysis
- I Development and assembly
- I Training center

#### ATM Qness GmbH

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# Expert knowledge about products and applications

## Webinars

QATM offers live webinars and webinar recordings on interesting topics at regular intervals. To learn about new webinars, please subscribe to the QATM Newsletter.

## Online product demo – profit from our new service!

Are you interested in QATM products from the materialography or hardness testing range? Then you can now have the machines of your choice demonstrated online by our experts at the comfort of your desk! You are also welcome to send us parts for testing or preparation and join us LIVE when our application engineers are processing these parts. This new online offer is made possible by the uncomplicated Microsoft Teams software which you can easily start on your computer.

## Want to know more?

Then touch base with your local QATM contact or our customer service to make an appointment or clarify further questions.

# Expert Guide - Materialography/Metallography

A comprehensive guide is hereby provided to all who deal with materialographic sample preparation. The systematic structure with extensively photographically documented examples is suitable for both beginners and experienced users who want to learn

or look up a particular preparation technique. You will find numerous tips and tricks in this book, which can also prove useful for experienced practitioners. This is especially true when working on complex or not everyday test objects.



### EXPERT GUIDE

German version

Order No.: 95016622

English version

Order No.: 95016686

# Excellent sales and service network throughout the world



Our comprehensive network of distributors and agents provides expert advice on products and applications throughout the world as well as technical service. For detailed information please refer to our website [www.qatm.com](http://www.qatm.com)

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- | UV mounting device



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3. Grinding, Polishing, Etching

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- | Manual grinding & polishing machines
- | Automatic grinding & polishing machines
- | Fully automatic systems
- | Accessories for grinders & polishers
- | Electrolytic polishers & etchers



4. HARDNESS TESTING

4. Hardness testing

- | Hardness testers



5. SYSTEM LAB / VARIOUS

5. System Lab / Various

- | System Lab
- | Complementing devices

A detailed close-up photograph of a lathe machine in operation. A large, polished brass workpiece is mounted on the lathe bed and is being cut by a tool bit. The tool bit is positioned at the bottom right of the frame, and a chip of brass is being removed. The lathe's carriage and tool rest are visible, holding the tool bit. A small white label with black text is attached to the carriage, displaying the number '1 09118201' and '70581060 1'. A white marker is visible on the right side of the workpiece. The background is a blurred grey, suggesting a workshop environment.

# 1. CUTTING

# CONTENT

## CUTTING

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**Qcut 150 M**



**Qcut 150 A**



**Brillant 220**



**Qcut 250 M**



**Brillant 230**



**Qcut 250 A**



**Qcut 350 A**



**Brillant 255**



**Qcut 400 A**



**Qcut 500 A**



**Qcut 600 A**



**Qcut 600 BOT**



**Qcut 800 A**



**EASY-  
CLAMPING PLATES**



**EASY-  
CLAMPING MODULES**



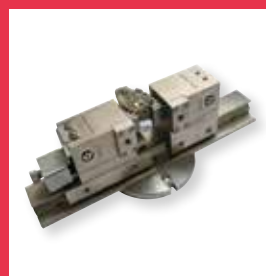
**FAST LOCK  
VICE**



**CROSS VICE,  
EXPANSION CLAMPING  
DEVICE**



**ANGLE  
VICE**



**CLAMPING  
SYSTEMS**



**UNIVERSAL  
VICE**

## CUTTING – EXPLANATIONS

# ARTICLE – FUNCTION – EQUIPMENT

### EQUIPMENT

The complete device consists of a basic module and its equipment. When compiling a complete unit, the selection of the respective equipment is required.

A device thus consists of several article numbers.

The numbering in the ‚Specifications‘ correspond to the equipment.

### OPTION

Options if desired, have to be selected in ordering equipment.

They can not be easily retrofitted.

### ACCESSORIES

Accessories can be selected independently of the ordering equipment.



### EASY-NUT

Due to the Easy-nut the cut-off wheel can be changed quickly and easily. For the big cut-off machines Qcut 500 A to 800 A the nut can be tensioned with less effort. A facilitation, which can also be retrofitted.



### WEAR RING

The wear ring protects the arbour and can be replaced if necessary.



### E-LAB

An e-Lab-ready device can be connected to a PC with a network. Preparation procedures are thus reproducible and interchangeable.



### PREREQUISITES

For certain specified functions, automatic axes must be present.



### NO DRIPPING SLIDING DOOR

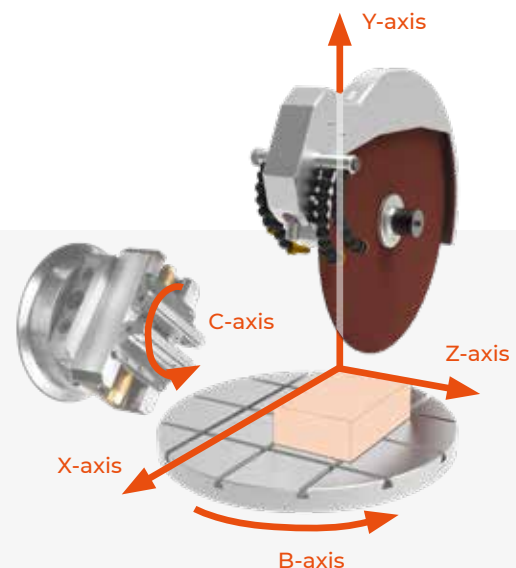
No dripping of coolant during set-up of machine.

### MADE IN GERMANY

All components used by us, as well as the construction design correspond to the normal device requirements for industry in Germany and EC Safety Regulations.

The units are finished in service friendly modular construction.

Technical changes reserved.



**QCUT 150 M**

The Qcut 150 M is a manual precision cut-off machine with manual cross feed and cutting discs up to a size of 203 mm / 8 ".

Both the cutting force and the speed of the cutting disc are infinitely adjustable. With different operating modes and cooling systems, a very wide range of applications and materials can be covered.

The user-friendly fastening system for the clamp arm, specimen holder and table top is designed in such a way that they can be changed toolfree.

A wide range of different clamping devices enables versatile use.

**FUNCTIONAL DESIGN**

The powder-coated stainless steel housing is the stable basis of the compact precision cut-off machine. The robust machine design integrates many clearly and ergonomically positioned functions. The cutting chamber, which is equipped with LED lighting, is covered with a transparent protective hood with a soft-close function.

**VARIABLE CUTTING FORCE**

The cutting force can be set manually depending on the sample geometry and sample material, which ensures precise and deformation-free cutting of particularly sensitive materials and samples.



### WIDE RANGE OF ACCESSORIES

With the help of a suitable clamping device from the extensive range of accessories, embedded or non-embedded samples up to a size of  $\varnothing$  40 mm can be clamped in the cut-off machine comfortably. Larger samples such as PCBs and plate material can be quickly and manually cut with the table top that can be mounted toolfree.



### ADJUSTABLE PARAMETERS FOR VERSATILE APPLICATION

The rotations speed of the precision cutting wheel is infinitely variable adjustable in the range of 150 - 3000 rpm using the rotary knob. Therefore diamond cutting wheels, diamond cup wheels and corundum cutting wheels can be used for a wide variety of applications. The cutting process is started and ended with the QATM start-stop button.

### MANUAL Z-AXIS

The Qcut 150 M is equipped with a manual Z-axis. For parallel cuts or defined grinding with a diamond cup wheel, the specimen can be fed up to 25 mm across.

### BASIC MODULE

#### Qcut 150 M

- | Solid stainless steel housing, powder coated
- | Manual Y-axis
- | Swivel arm with variable load
- | Manual Z-axis with scale
- | Variable speed
- | Table attachment (accessory)
- | Dressing device (option)
- | Rotation device (option)
- | LED illumination of cutting chamber
- | Soft-closing hood
- | Connection to external exhausting system on request

#### 3 different operation modes (depending on equipment)

- | Feed-controlled cutting
- | Cutting on table attachment
- | Cutting with lever

200-240V 50/60Hz (1Ph/N/PE)

Order No.: M1870022

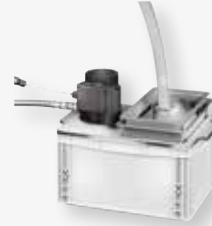
100-120V 50/60Hz (1Ph/N/PE)

Order No.: M1870023

**EQUIPMENT**
**COOLING SYSTEMS** (no voltage selection required)

**Equipment 1**
**Cut-off wheel immersion cooling (integrated)**


- | Equipment to seal and fill cutting chamber with coolant
- | Incl. drain hose and shut-off valve for easy emptying
- | Sample collector

**Order No.: A1870022**
**Equipment 2**
**Recirculation cooling system 15 L incl. filter**


- | External two-chamber PVC tank
- | Portable, incl. filter insert and lid
- | Rinsing hose

Flow rate (pump)	12 ltr./min.
Filling capacity	15 liters
WxHxD	330 x 398 x 449 mm

**Order No.: A1870023**
**Equipment 3**
**Recirculation cooling system 45 L**


- | PVC tank with removable separating slide
- | Inlet sieve with filter bag and overflow
- | Mobile, without folding wheels
- | Rinsing hose included

Flow rate (pump)	15 ltr./min.
Filling capacity	45 liters
WxHxD	366 x 550 x 600 mm

**Order No.: A1870024**
**Equipment 4**
**Recirculation cooling system 45 L Systemlab**


- | PVC tank with removable separating slide
- | Inlet sieve with filter bag and overflow
- | Mobile, with insertion mechanism for System Lab cabinets
- | Rinsing hose included

Flow rate (pump)	15 ltr./min.
Filling capacity	45 liters
WxHxD	366 x 540(640) x 610 mm

**Order No.: A1870025**
**Equipment 5**
**Fresh water cooling system**

- | Automatic water valve
- | Waterflow manually adjustable
- | Rinsing hose included

**Order No.: A1870026**

**OPTION**

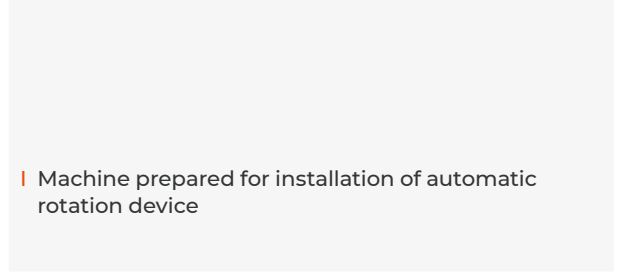
**QCUT 150 M DRESSING DEVICE**



- | For dressing of diamond cut-off wheels or cup wheels
- | Operation by manual lever

**Order No.: A1870027**

**PREPARATION ROTATION DEVICE**



- | Machine prepared for installation of automatic rotation device

**Order No.: A1870029**

**ACCESSORIES**

**QCUT 150 M TABLE ATTACHMENT**



- | Incl. Cutting guide fixed 90°, parallel cutting guide and small splash guard

**Order No.: Z1870020**

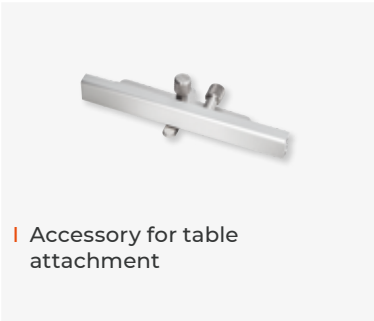
**SPLASH GUARD LARGE**



- | Accessory for table attachment

**Order No.: Z1870027**

**PARALLEL CUTTING GUIDE**



- | Accessory for table attachment

**Order No.: Z1870023**

**ANGLE CUTTING GUIDE**



- | Angular adjustable stop
- | Accessory for table attachment

**Order No.: Z1870024**



- | Angle cutting guide fixed 90°
- | Accessory for table attachment

**Order No.: Z1870022**

**CLAMPING ARM**



- | Tool-free attachment of arm and sample holder

Standard M

**Order No.: Z1870030**

Standard L

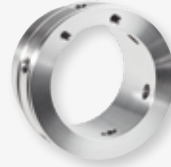
**Order No.: Z1870031**

**ACCESSORIES**
**SAMPLE HOLDER STANDARD**

- | For round or irregular shaped samples
- | 3-point clamping
- | Up to 6 fixing screws

**Standard M (open)**


- | For clamping arm M
- | Diameter Ø 30 mm

**Order No.: Z1870034**
**Standard L (open)**


- | For clamping arm L
- | Diameter Ø 40 mm

**Order No.: Z1870035**
**Standard M (closed)**


- | For clamping arm M
- | Diameter Ø 30 mm, depth 15 mm

**Order No.: Z1870036**
**Standard L (closed)**


- | For clamping arm L
- | Diameter Ø 40 mm, depth 15 mm

**Order No.: Z1870037**
**SAMPLE HOLDER FLEX**

- | To insert in grinding and polishing machines
- | For round or irregular shaped samples
- | 3-point clamping
- | Up to 6 fixing screws

**FLEX M (closed)**


- | For clamping arm M
- | Diameter Ø 30 mm, depth 21 mm

**Order No.: Z1870038**
**FLEX L (closed)**


- | For clamping arm L
- | Diameter Ø 40 mm, depth 21 mm

**Order No.: Z1870039**
**SAMPLE HOLDER PARALLEL CLAMPING VICE**

- | Parallel clamping jaws
- | Clamping range variable, dependent on screws

**Sample holder parallel clamping vice M (open)**


- | For clamping arm M
- | Diameter Ø 30 mm

**Order No.: Z1870042**
**Sample holder parallel clamping vice L (open)**


- | For clamping arm L
- | Diameter Ø 40 mm

**Order No.: Z1870043**
**Sample holder parallel clamping vice M (closed)**


- | For clamping arm M
- | Diameter Ø 30 mm, depth 27 mm

**Order No.: Z1870040**
**Sample holder parallel clamping vice L (closed)**


- | For clamping arm L
- | Diameter Ø 40 mm, depth 27 mm

**Order No.: Z1870041**

**ACCESSORIES**
**DROP SHAPE SAMPLE HOLDER M Ø 40 MM**


- | For round or irregular shaped samples (Ø13 - Ø40 mm)
- | 12 mm clamping depth
- | 3-point clamping

Usable with clamping arm M

**Order No.: Z1870044**

Usable with clamping arm L

**Order No.: Z1870045**
**UNIVERSAL CLAMPING VICE**


- | For samples of any sample geometry
- | Max. sample cross-section: 40 mm x 40 mm
- | 3-point clamping

Usable with clamping arm M

**Order No.: Z1870046**

Usable with clamping arm L

**Order No.: Z1870047**
**MATRIX CLAMPING VICE**


- | For irregularly shaped samples
- | Max. clamping range: 0 - 40 mm

Usable with clamping arm M

**Order No.: Z1870048**

Usable with clamping arm L

**Order No.: Z1870049**
**MINI VICE**


- | Max. Clamping range: 0 - 40 mm
- | Clamping range with prismatic jaw: 0 - 35mm
- | Incl. prismatic jaw

Usable with clamping arm M

**Order No.: Z1870053**

Usable with clamping arm L

**Order No.: Z1870054**



**ACCESSORIES****DOUBLE PARALLEL VICE**

- | Parallel clamping jaws
- | Fixing a specimen at two clamping points
- | Max. clamping range: 0 - 40 mm

Usable with  
clamping arm M

**Order No.: Z1870055**

Usable with  
clamping arm L

**Order No.: Z1870056**

**ADAPTOR WITH BALL JOINT**

- | Swivel device for alignment  
the sample to the cutting disc
- | Can be combined with all clamping devices
- | Swivel range +/- 18°

Usable with  
clamping arm M

**Order No.: Z1870057**

Usable with  
clamping arm L

**Order No.: Z1870058**



**ACCESSORIES**
**EXTRA FLANGES**


! Counteracts offset of the cut-off wheel during cutting

Flange Set Ø 59 mm

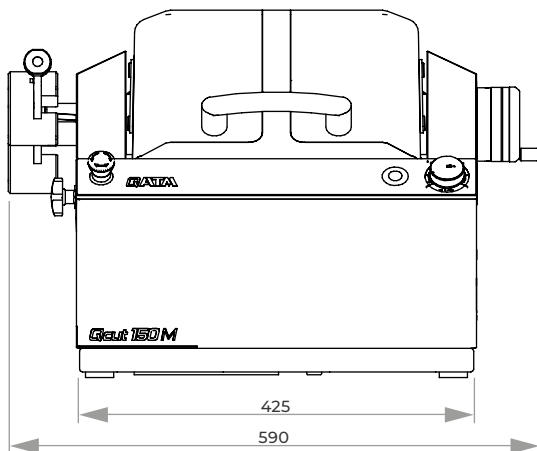
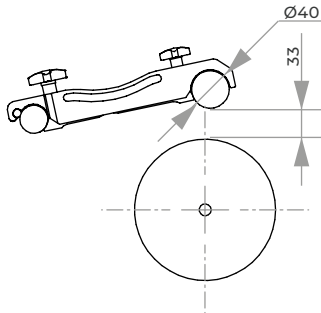
Order No.: Z1870050

Flange Set Ø 99 mm

Order No.: Z1870051

Flange Set Ø 139 mm

Order No.: Z1870052

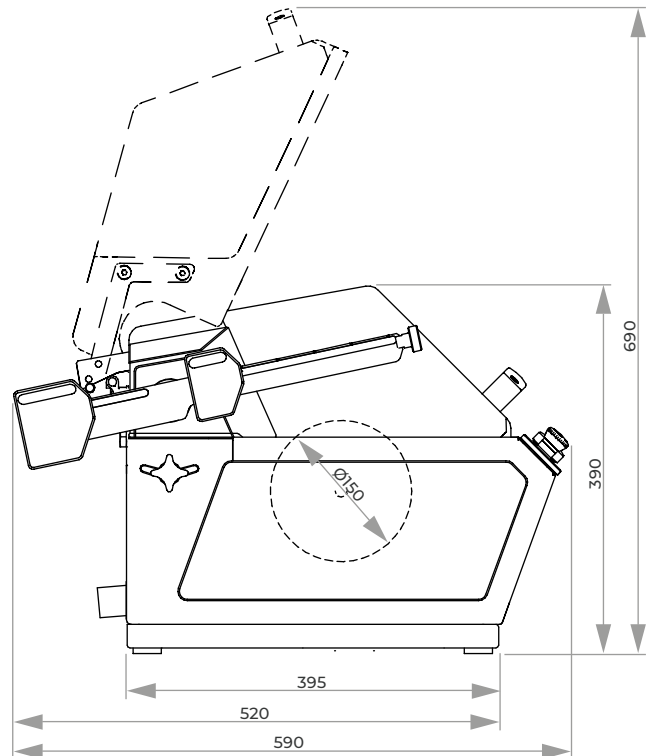

**ACCESSORIES**
**BASIC SET QCUT 150 M**

Order No.: Z1870029

**TECHNISCHE DATEN**

Cut-off wheel	Ø 75 - 203 mm/8"
Variable speed	150 - 3000 rpm
Max. cutting capacity	Ø 40 mm
Arbour size	Ø 12.7 mm
Variable adjustable cutting force:	0 - 10 N
Manual vertical movement Y-axis	120 mm
Z-axis (paralell cut) manual	25 mm
Precision Z-axis*	0.01 mm
Motor power	0.37 kW (S1)
Connection power	0.75 kVA
W x H x D	591 x 391 x 590 mm
Weight	45 kg (dep. on equipment)

\* the results may differ dependent on material, cut-off wheel or clamping



**QCUT 150 A**

The Qcut 150 A is a compact automatic precision cut-off machine with manual cross feed. With its different operation modes and cooling systems it covers a wide range of applications and materials. The user-friendly system of clamping arm, sample holder and table attachment is designed to change it tool-free. The proven QATM-software on the 4.3" touchscreen contains a consumable and program

database which allows also to create individually set user profiles.

**TABLE ATTACHMENT**

With the tool-free mountable table attachment PCBs, plate material or large samples can be quickly sectioned manually.

**ZONE-CUTTING**

The feed rate or cutting force can be adjusted individually to different areas of the samples. It reduces deformation and warming of the material thus shortens the preparation process.

**FORCE-CONTROLLED CUTTING**

The cutting force gets precisely controlled by an integrated force-sensor. It keeps the cutting force constant by adjusting the feed rate automatically throughout the cutting process.



## GRINDING MODE

In grinding mode, samples can be grinded down with a cup wheel manually or semi-automatically (Target preparation).

## CROSS FEED

With a precision of 5 µm the manual Z-axis can be monitored via display for parallel cuts or defined grinding of samples.



## BASIC MODULE

### Qcut 150 A

- | Automatic Y-axis
- | Manual Z-axis
- | Automatic travel measurement (Y-/Z-axis)
- | Variable speed
- | Table attachment (accessory)
- | Dressing device (option)

### Up to 5 different operation modes (depending on equipment)

- | Feed-controlled cutting
- | Force-controlled cutting (option)
- | Cutting on table attachment
- | Cutting with lever
- | Grinding mode (defined material removal with grinding cup)

- | 4.3" Touch-Screen with intuitive QATM user software
- | Zone-cutting feature
- | LED illumination of cutting chamber
- | Solid stainless steel housing, powder coated.
- | Soft-closing hood
- | Connection to external exhausting system on request
- | 200 customized cutting programs storable
- | Consumables data base
- | Individual setting of user access rights
- | Setting of care and maintenance tasks incl. automatic reminder
- | USB plug for data exchange and software updates
- | Ethernet plug for online-diagnostics and user support

200-240V 50/60Hz (1Ph/N/PE)

Order No.: M1870020

100-120V 50/60Hz (1Ph/N/PE)

Order No.: M1870021

## EQUIPMENT

### COOLING SYSTEMS (no voltage selection required)

#### Equipment 1

##### Cut-off wheel immersion cooling (integrated)

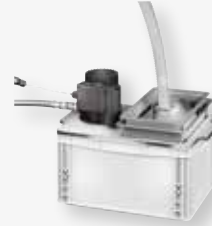


- | Equipment to seal and fill cutting chamber with coolant
- | Incl. drain hose and shut-off valve for easy emptying
- | Sample collector

**Order No.: A1870022**

#### Equipment 2

##### Recirculation cooling system 15 L incl. filter



- | External two-chamber PVC tank
- | Portable, incl. filter insert and lid
- | Rinsing hose

Flow rate (pump)	12 ltr./min.
Filling capacity	15 liters
WxHxD	330 x 398 x 449 mm

**Order No.: A1870023**

#### Equipment 3

##### Recirculation cooling system 45 L



- | PVC tank with removable separating slide
- | Inlet sieve with filter bag and overflow
- | Mobile, without folding wheels
- | Rinsing hose included

Flow rate (pump)	15 ltr./min.
Filling capacity	45 liters
WxHxD	366 x 550 x 600 mm

**Order No.: A1870024**

#### Equipment 4

##### Recirculation cooling system 45 L Systemlab



- | PVC tank with removable separating slide
- | Inlet sieve with filter bag and overflow
- | Mobile, with insertion mechanism for System Lab cabinets
- | Rinsing hose included

Flow rate (pump)	15 ltr./min.
Filling capacity	45 liters
WxHxD	366 x 540(640) x 610 mm

**Order No.: A1870025**

#### Equipment 5

##### Fresh water cooling system

- | Automatic water valve
- | Waterflow manually adjustable
- | Rinsing hose included

**Order No.: A1870026**

**OPTION**

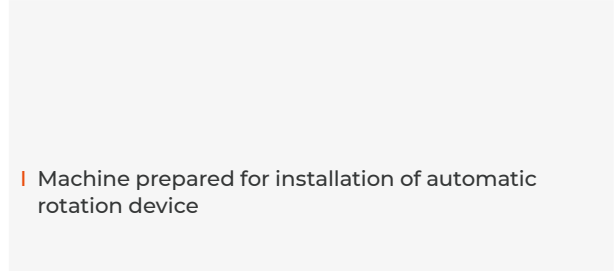
**QCUT 150 A DRESSING DEVICE**



- | For dressing of diamond cut-off wheels or cup wheels
- | Operation by manual lever

**Order No.: A1870027**

**PREPARATION ROTATION DEVICE**



- | Machine prepared for installation of automatic rotation device

**Order No.: A1870028**

**ACCESSORIES**

**QCUT 150 A TABLE ATTACHMENT**



- | Incl. Cutting guide fixed 90°, parallel cutting guide and small splash guard

**Order No.: Z1870020**

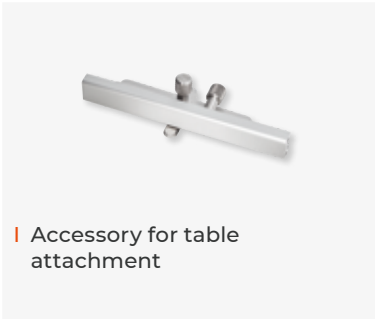
**SPLASH GUARD LARGE**



- | Accessory for table attachment

**Order No.: Z1870021**

**PARALLEL CUTTING GUIDE**



- | Accessory for table attachment

**Order No.: Z1870023**

**ANGLE CUTTING GUIDE**



- | Angular adjustable stop
- | Accessory for table attachment

**Order No.: Z1870024**



- | Angle cutting guide fixed 90°
- | Accessory for table attachment

**Order No.: Z1870022**

**CLAMPING ARM**



- | Tool-free attachment of arm and sample holder

Standard M

**Order No.: Z1870030**

Standard L

**Order No.: Z1870031**

Incl. cutting-force control



- | Tool-free attachment of arm and sample holder

Standard M, incl. cutting-force control

**Order No.: Z1870032**

Standard L, incl. cutting-force control

**Order No.: Z1870033**

**ACCESSORIES**
**SAMPLE HOLDER STANDARD**

- | For round or irregular shaped samples
- | 3-point clamping
- | Up to 6 fixing screws

**Standard M (open)**


- | For clamping arm M
- | Diameter Ø 30 mm

**Order No.: Z1870034**
**Standard L (open)**


- | For clamping arm L
- | Diameter Ø 40 mm

**Order No.: Z1870035**
**Standard M (closed)**


- | For clamping arm M
- | Diameter Ø 30 mm, depth 15 mm

**Order No.: Z1870036**
**Standard L (closed)**


- | For clamping arm L
- | Diameter Ø 40 mm, depth 15 mm

**Order No.: Z1870037**
**SAMPLE HOLDER FLEX**

- | To insert in grinding and polishing machines
- | For round or irregular shaped samples
- | 3-point clamping
- | Up to 6 fixing screws

**FLEX M (closed)**


- | For clamping arm M
- | Diameter Ø 30 mm, depth 21 mm

**Order No.: Z1870038**
**FLEX L (closed)**


- | For clamping arm L
- | Diameter Ø 40 mm, depth 21 mm

**Order No.: Z1870039**
**SAMPLE HOLDER PARALLEL CLAMPING VICE**

- | Parallel clamping jaws
- | Clamping range variable, dependent on screws

**Sample holder parallel clamping vice M (open)**


- | For clamping arm M
- | Diameter Ø 30 mm

**Order No.: Z1870042**
**Sample holder parallel clamping vice L (open)**


- | For clamping arm L
- | Diameter Ø 40 mm

**Order No.: Z1870043**
**Sample holder parallel clamping vice M (closed)**


- | For clamping arm M
- | Diameter Ø 30 mm, depth 27 mm

**Order No.: Z1870040**
**Sample holder parallel clamping vice L (closed)**


- | For clamping arm L
- | Diameter Ø 40 mm, depth 27 mm

**Order No.: Z1870041**

**ACCESSORIES**
**DROP SHAPE SAMPLE HOLDER M Ø 40 MM**


- | For round or irregular shaped samples (Ø13 - Ø40 mm)
- | 12 mm clamping depth
- | 3-point clamping

Usable with clamping arm M

**Order No.: Z1870044**

Usable with clamping arm L

**Order No.: Z1870045**
**UNIVERSAL CLAMPING VICE**


- | For samples of any sample geometry
- | Max. sample cross-section: 40 mm x 40 mm
- | 3-point clamping

Usable with clamping arm M

**Order No.: Z1870046**

Usable with clamping arm L

**Order No.: Z1870047**
**MATRIX CLAMPING VICE**


- | For irregularly shaped samples
- | Max. clamping range: 0 - 40 mm

Usable with clamping arm M

**Order No.: Z1870048**

Usable with clamping arm L

**Order No.: Z1870049**
**MINI VICE**


- | Max. Clamping range: 0 - 40 mm
- | Clamping range with prismatic jaw: 0 - 35mm
- | Incl. prismatic jaw

Usable with clamping arm M

**Order No.: Z1870053**

Usable with clamping arm L

**Order No.: Z1870054**



**ACCESSORIES**

**DOUBLE PARALLEL VICE**



- | Parallel clamping jaws
- | Fixing a specimen at two clamping points
- | Max. clamping range: 0 - 40 mm

Usable with  
clamping arm M

**Order No.: Z1870055**

Usable with  
clamping arm L

**Order No.: Z1870056**

**ADAPTOR WITH BALL JOINT**



- | Swivel device for alignment  
the sample to the cutting disc
- | Can be combined with all clamping devices
- | Swivel range +/- 18°

Usable with  
clamping arm M

**Order No.: Z1870057**

Usable with  
clamping arm L

**Order No.: Z1870058**



**ACCESSORIES**
**EXTRA FLANGES**


! Counteracts offset of the cut-off wheel during cutting

Flange Set Ø 59 mm

Order No.: Z1870050

Flange Set Ø 99 mm

Order No.: Z1870051

Flange Set Ø 139 mm

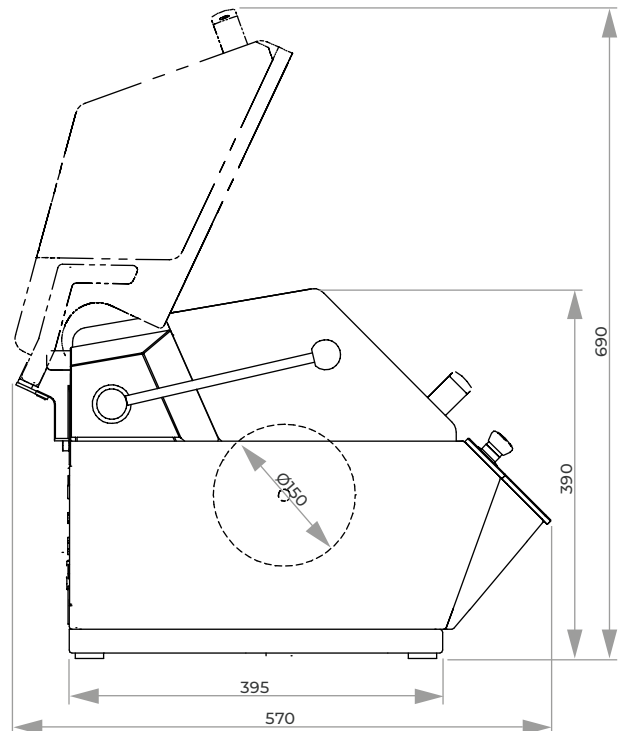
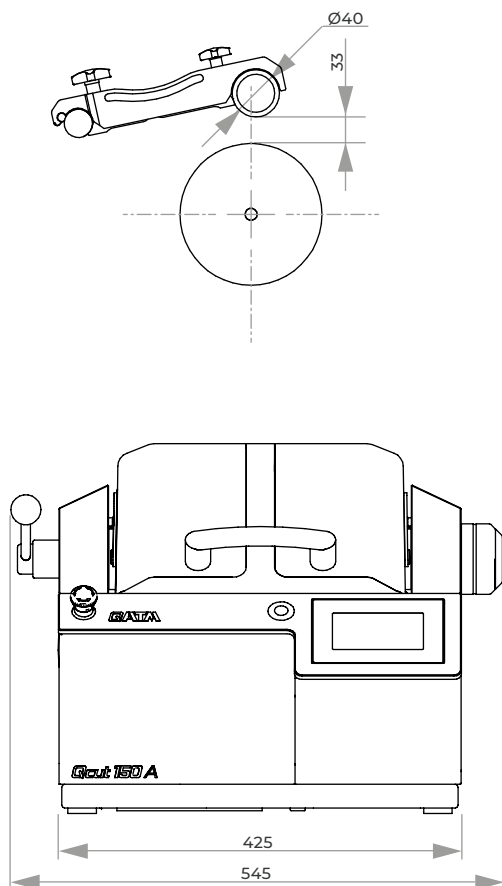
Order No.: Z1870052

**ACCESSORIES**
**BASIC SET QCUT 150 A**

Order No.: Z1870025

**SPECIFICATIONS**

Cut-off wheel	Ø 75-203 mm/8"
Max. sample size	Ø 40 mm
Arbour size	Ø 12.7 mm
Variable speed	150-3000 rpm
Y-axis (vertical) manual/automatic	120 mm
Feed Y-axis	0.01-20 mm/s
Precision Y-axis	0.1 mm
Z-axis manual (cross feed)	25 mm
Precision Z-axis	0.005 mm
Motor cut-off wheel	0.37 kW, S1-mode
Connected load	0.75 kVA
Power supply	1 230 V/50 Hz (1Ph/N/PE) 2 110 V/60 Hz (1Ph/N/PE)
WxHxD	545 x 391 x 566 mm
Weight	45 kg (dep. on equipment)



## PRECISION CUT-OFF MACHINE BRILLANT 220



### CONTROL

All axes can be controlled with a joystick. The built-in electronic control with its simple and clearly defined touch screen display enables easy programming, storage and loading. During the automatic cutting process all parameters such as feed speed, cutting force etc. can be monitored and modified.



The Brillant 220 is a compact, user-friendly precision wet abrasive cut-off machine. It can be fitted with up to three automatic axes (X, Y, Z) and several cutting modes for maximum flexibility and ideal use of space.

With its modular construction and different options and clamping tools the Brillant 220 can be easily equipped for specific applications.



### CONSTRUCTION

Openings on both sides of the solid aluminium construction allow sectioning of long or continuous parts up to  $\varnothing 70$  mm. The cutting chamber which is illuminated by energy-saving LED is easily accessible through a sliding front door and the side door with safety interlock. The cutting wheel is water cooled by versatile jointed hoses on both sides.



### AXES

The Brillant 220 is standardly equipped with automatic vertical cut-off (Y-axis, 80 mm) and definable regulated travel for large cutting wheels. The horizontal movement (X-axis, 210 mm) is available in automatic or manual mode. In combination with optional cross-feed (Z-axis, 80 mm) it allows maximum flexibility for precise, soft touch cutting.

## CUTTING MODES

Step and diagonal cut optimize the operating angle for gently cutting. The step cut divides the sample in layers and is especially suited for large parts and bulky materials. The diagonal cut is recommended for asymmetrical specimens; this is done by combining vertical and horizontal cut modes.

## PRECISION CROSS FEED

The automatic cross feed with serial cutting function produces precise parallel cuts of 1 µm (0.001 mm) in equal or varied sizes. The preselected cut-off wheel thickness is automatically included in the process. The integrated Z-axis can also be used as a precision cross feed for pot wheels (thin cuts).



## CLAMPING TOOLS

The Brillant 220 is equipped with the innovative QATM-easy-clamping system.

This makes changing and adjusting of clamping tools very easy and supersedes fixing by T-slots. All clamping tools, e.g. Fast Lock Vice 50, 60, 80, X-Clamp, Vacuum Vice and Rotavice can be fitted with the Easy-clamping system.

## FEED CONTROL

The feed adjusts automatically to different thickness and hardness of materials. The feed speed is variable.

## PULSED CUTTING

In pulsed cutting mode the feed speed is interrupted and continued in opposite direction periodically. This helps the wheel stay sharp and allows coolant to flush the point of contact, clearing debris and keeping the material cool. The characteristic, pulsed cutting in definable intervals can be switched on to every cutting mode.

## LASER

With line laser you can display the scheduled cut on the sample. This helps to define the exact cutting position.



## SHARPENING DEVICE

Diamond cutting wheels and pot wheels can be dressed easily with the sharpening device. It is manually operated by a lever from outside and during the operation sequence.





## BASIC MODULE

### Brilliant 220

- | automatic Y-axis
- | openings on the left and right for continuous long parts
- | sliding door
- | table made of stainless steel
- | electronic control with clear LCD
- | electronic travel measuring
- | cutting force dependent feed-control
- | automatic pulsed cutting
- | step cut, diagonal cut
- | program storage
- | direct positioning via joystick (all automatic axes)
- | current safety standard with door interlock (safety protection)
- | optimal cutting chamber with LED illumination
- | solid aluminium construction, powder coated
- | e-Lab-ready



Order No.: M1890000



Serial cuts with Z-axis

## EQUIPMENT

### POWER SUPPLY

#### Equipment 1

230 V/50 Hz (1Ph/N/PE)

Order No.: A1890000

#### Equipment 2

110 V/60 Hz (1Ph/N/PE)

Order No.: A1890001

### ARBOUR SIZE

#### Equipment 1

Fixed shaft fitting

Arbour size             $\varnothing$  12.7 mm

Order No.: A1890002

#### Equipment 2

Quick-change system

on request

### TABLE DRIVE

#### Equipment 1

X-axis manual (handle)

Travel X-axis            210 mm

Precision                0.1 mm

Order No.: A1890004

#### Equipment 2

X-Axis automatic

Travel X-axis            210 mm

Precision                0.1 mm

Order No.: A1890005

### CROSS FEED Z-AXIS

#### Equipment 1

without Z-axis

Order No.: A1890008

#### Equipment 2

Z-axis manual (handle)

Travel Z-axis            80 mm

Precision                0.1 mm

Order No.: A1890009

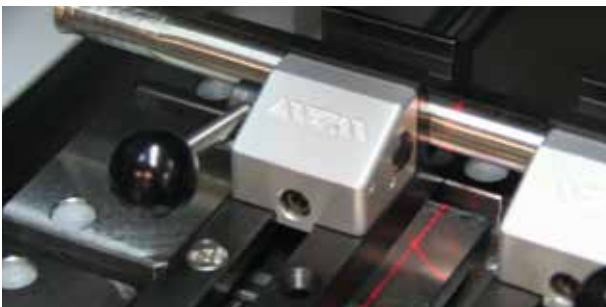
#### Equipment 3

Z-axis automatic

Travel Z-axis            80 mm

Precision                0.001 mm

Order No.: A1890010


**OPTION**
**ROTATION TOOL**

- | tool with vertical rotary feed, parallel to wheel
- | angle input via software control

on request

**LASER ALIGNMENT AID**

- | laser line to visualize the cutting line
- | laser class 1

Order No.: A1890011

**ACCESSORIES**
**RECIRCULATION COOLING SYSTEM**


- | no voltage selection required

Tank	15 ltr.
Pump	8 ltr./min, 24 V
WxHxD	400 x 220 x 300 mm
Height incl. pump	~ 350 mm

Order No.: A1800160



- | controlled by cut-off machine
- | mobile with insertion mechanism for System Lab cabinets
- | 2-chamber-pvc-compartment 45 ltr.
- | inlet sieve and filter bag

Tank	45 ltr.
Pump	8 ltr./min, 24 V
WxHxD	366 x 540(640) x 610 mm

Order No.: A5800494

**CENTRIFUGAL SEPARATOR**


- | to remove coolant mist
- | increases quality of illumination
- | exhauster power 180 or 215 m<sup>3</sup>/h, depends on power supply

400 V/50 Hz (3Ph/PE)

Order No.: Z1820009

480 V/60 Hz (3Ph/PE)

Order No.: Z1820012

220 V/60 Hz (3Ph/PE)

Order No.: Z1820011

**SAMPLE COLLECTOR**

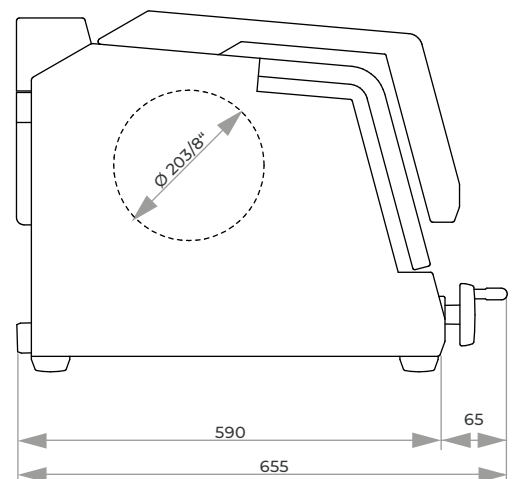
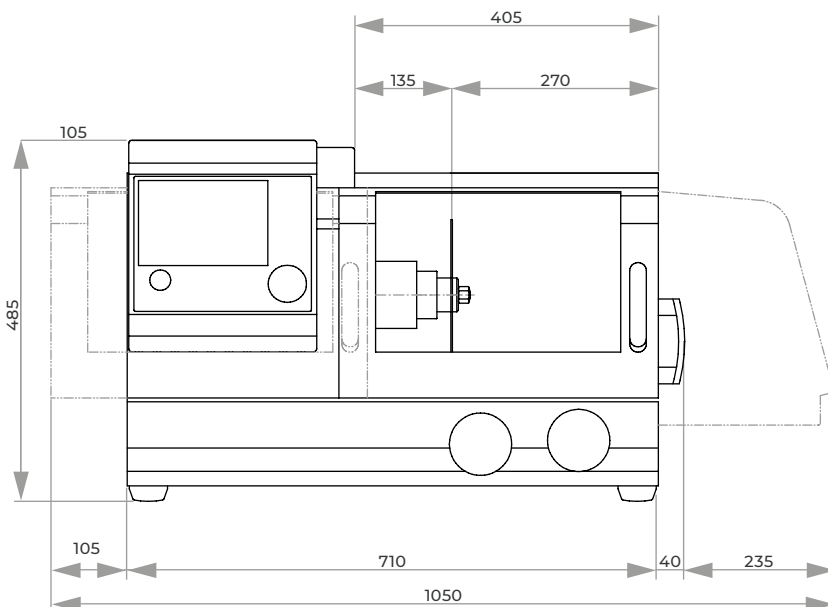
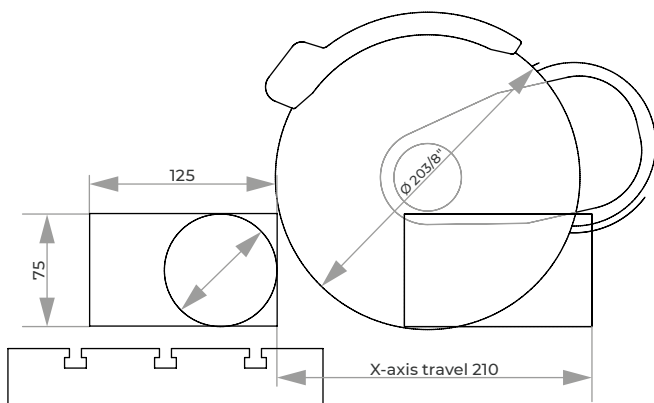
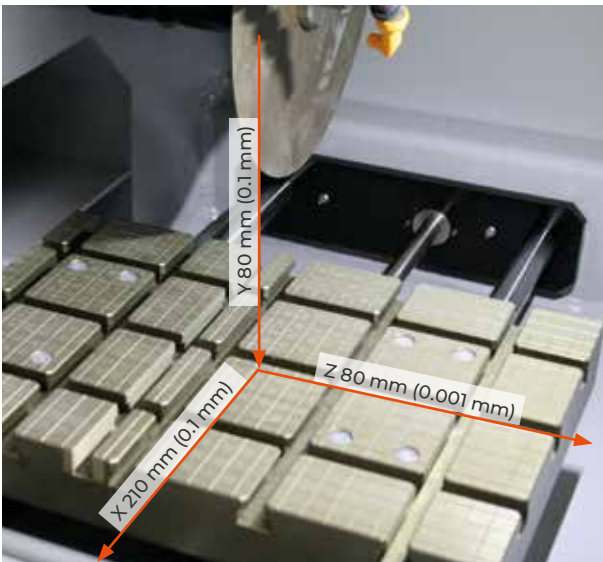

- | stainless steel, incl. fixing screws

Order No.: Z1800002

**SHARPENING DEVICE**


- | for dressing diamond and pot wheel

Order No.: A1890012



## ACCESSORIES

### BASIC SET BRILLANT 220

Order No.: Z1890003

## SPECIFICATIONS

Max. cutting capacity	Ø 75 mm (depends on cut-off wheel)
Cut-off wheel	75 – 203 mm/8"
Arbour size	Ø 12.7 mm

## VERTICAL / HORIZONTAL MOVEMENT (X-/Y-AXIS)

Table WxD	300 x 210 mm (8 mm T-slot)
Feed	0.005 – 3 mm/sec
Precision	0.1 mm
Vertical movement (Y-axis)	80 mm
Horizontal movement (X-axis)	210 mm

## CROSS FEED (Z-AXIS)

Table WxD	280 x 210 mm (8 mm T-slot)
Feed	80 mm
Precision	0.001 mm (1 µm)
Variable speed	300 – 5000 rpm in steps of 100 rpm
Motor cut-off wheel	0.75 kW, S1-mode
Connected load	2.3 kVA
Power supply	1 230 V/50 Hz (1Ph/N/PE) 2 110 V/60 Hz (1Ph/N/PE)
WxHxD	710 x 570 x 485 mm
Cutting chamber WxD	405 x 500 mm
Weight	~ 82 kg

## CUT-OFF MACHINE

# QCUT 250 M



### SAFETY

The integrated standstill monitoring allows opening only when the cutting wheel is not rotating.



The Qcut 250 M is an especially user-friendly wet abrasive cut-off machine with manual cut-off. Opening the machine folds away the hood to the inside so that the whole cutting chamber is easily accessible. The round window opens a wide field of view during the cutting process.

The cutting wheel cooling is integrated directly into the wheel guarding cover. The large, stainless table is equipped with replaceable wearing plates. Transverse grooves allow optimized alignment of clamping vices (e. g. clamping vice 80).



### FINE DYNAMIC CUT-OFF

The manual cutting movement of the Y-axis is executed precisely and jerk-free via lever. Length and angle of the lever are adjustable. Further, the cutting depth can easily be adjusted by using a limiter.



### ILLUMINATION

Through the large rounded window, the cutting chamber is comfortably visible. For direct lighting, the Qcut 250 M can be equipped with a flexible LED light.




**BASIC MODULE**
**Qcut 250 M**

- | manual vertical movement
- | simple operation
- | opening on left- and righthand side for continuous long materials
- | large table with replaceable wearing plates
- | large hood for optimal accessibility
- | latest safety standard with door interlocking system
- | solid aluminium design, powder coated
- | optional LED lamp
- | Easy-nut

**Order No.: M1880000**
**EQUIPMENT**
**POWER SUPPLY**
**Equipment 1**

400 V/50 Hz (3Ph/N/PE)

**Order No.: A1880000**
**Equipment 2**

480 V/60 Hz (3Ph/PE)

**Order No.: A1880001**
**Equipment 3**

220 V/60 Hz (3Ph/PE)

**Order No.: A1880002**
**ACCESSORIES**
**RECIRCULATION COOLING SYSTEM**


- | 2-chamber-pvc-compartment 45 ltr.
- | inlet sieve and filter bag
- | mobile, with insertion mechanism for System Lab cabinets

WxHxD 366 x 540 (640) x 610 mm

400 V/50 Hz (3Ph/PE)

**Order No.: A5800484**

480 V/60 Hz (3Ph/PE)

**Order No.: A5800485**

220 V/60 Hz (3Ph/PE)

**Order No.: A5800486**


- | incl. connection set
- | controlled by cut-off machine
- | mobile

WxHxD 366 x 550 x 600 mm

400 V/50 Hz (3Ph/PE)

**Order No.: A5800487**

480 V/60 Hz (3Ph/PE)

**Order No.: A5800488**

220 V/60 Hz (3Ph/PE)

**Order No.: A5800489**

**ACCESSORIES**
**CENTRIFUGAL SEPARATOR**


- | to remove coolant mist
- | increases quality of illumination
- | exhauster power 180 or 215 m<sup>3</sup>/h (depends on power supply)

400 V/50 Hz (3Ph/PE)

**Order No.: Z1820009**

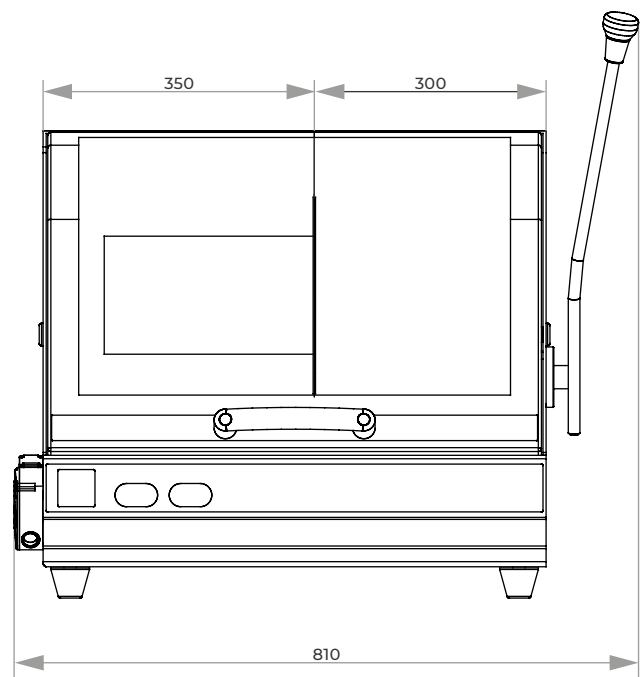
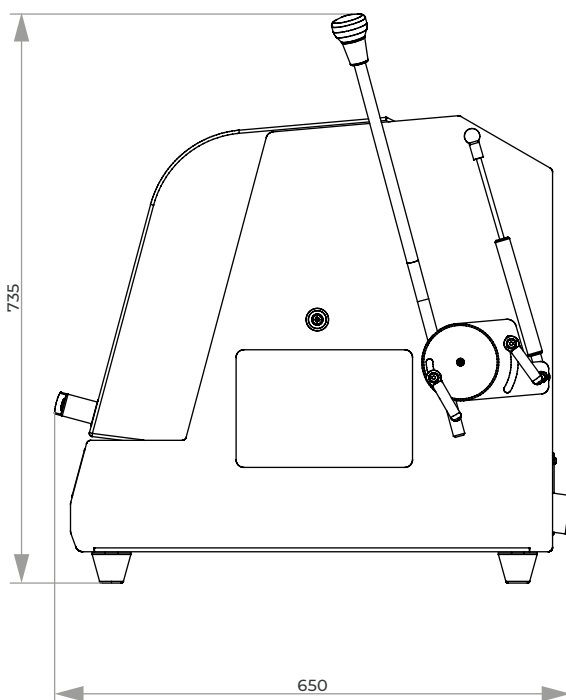
480 V/60 Hz (3Ph/PE)

**Order No.: Z1820012**

220 V/60 Hz (3Ph/PE)

**Order No.: Z1820011**
**BASIC SET QCUT 250 M**
**Order No.: Z1880000**
**SPECIFICATIONS**

Cutting capacity	Ø 90 mm - 25 mm long parts Ø 55 mm for continuous long parts
Cut-off wheel	Ø 254 mm/10"
Arbour size	Ø 32 mm
Vertical movement	~ 155 mm (depends on cut-off wheel)
Table WxD	350 x 288 mm
T-slot	12 mm
Speed	50 Hz / 2850 rpm 60 Hz / 3420 rpm
Motor cut-off wheel	3 kW, S6-mode
Connected load	4.5 kVA
Power supply	1 400 V/50 Hz (3Ph/N/PE) 2 480 V/60 Hz (3Ph/PE) 3 480 V/60 Hz (3Ph/PE)
WxHxD	~ 810 x 735 x 650 mm
Weight	~ 75 kg





The Brillant 230 is a wet abrasive cut-off machine with fine dynamic, manual wheel movement into samples up to  $\varnothing$  110 mm.

The spacious cutting chamber allows various clamping variations. The solid aluminium design comes with openings on the right and left hand side for cutting continuous long parts.



#### **FINE DYNAMIC CUT-OFF**

With the manual cutting movement, the cutting force is regulated through a set of gears. The cut is thereby jerk-free and more precise.

#### **MANUAL HORIZONTAL MOVEMENT**

The manual horizontal movement allows cutting long parts longitudinally and easy positioning of the sample below the cut-off wheel.



#### **INNOVATIVE DETAILS**

The sliding front door and the side door with safety interlock allow easy and optimal access to the cutter chamber. Further, the LED cutting chamber illumination is energy-saving. The arbour is protected against wearing by an interchangeable ring.

#### **Z-AXIS**

The manual Z-axis can be adjusted with 0.1 mm precision for parallel cuts.



**BASIC MODULE**

**Brillant 230**



- | precise manual vertical movement with a adjustable lever
- | table adjustable in x-direction
- | sliding door and side door with door interlock
- | T-slot table, stainless steel
- | opening on left- and righthand side for continuous long materials
- | chamber illumination with LED, arbour with protector
- | Easy-nut – for easy change of cut-off wheel
- | solid aluminium design, powder coated

Order No.: M1820000

**EQUIPMENT**

**POWER SUPPLY**

Equipment 1	Equipment 2	Equipment 3
400 V/50 Hz (3Ph/N/PE)	480 V/60 Hz (3Ph/PE)	220 V/60 Hz (3Ph/PE)
Order No.: A1820015	Order No.: A1820016	Order No.: A1820017

**WHEEL GUARD**

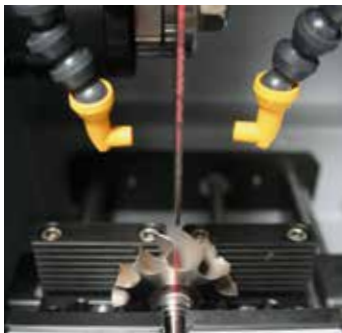
Equipment 1	Equipment 2
Cut-off wheel      Ø 254/10"	Cut-off wheel      Ø 305/12"
Max. cutting capacity    Ø 85 mm	Max. cutting capacity    Ø 110 mm
Order No.: A1820013	Order No.: A1820014



Manuelle Z-Achse

**TABLE DRIVE**

Equipment 1	Equipment 3
without (without X-axis, without Z-axis)	Z-axis manual (without X-axis)
Order No.: A1820028	Order No.: A1820030
Equipment 2	Equipment 4
X-axis manual (without Z-axis)	X-axis manual/ Z-axis manual
Order No.: A1820029	Order No.: A1820031



**OPTION**

**LASER ALIGNMENT AID**

- | laser line to visualize the cutting line
- | laser class 1

Order No.: A1820027

**ACCESSORIES**
**RECIRCULATION COOLING SYSTEM**


- | 2-chamber-pvc-compartment 45 ltr.
- | inlet sieve and filter bag
- | mobile with insertion mechanism for System Lab cabinets



- | incl. connection set
- | controlled by cut-off machine
- | mobile

WxHxD 366 x 540 (640) x 610 mm

WxHxD 366 x 550 x 600 mm

400 V/50 Hz (3Ph/PE)

400 V/50 Hz (3Ph/PE)

Order No.: A5800484

Order No.: A5800487

480 V/60 Hz (3Ph/PE)

480 V/60 Hz (3Ph/PE)

Order No.: A5800485

Order No.: A5800488

220 V/60 Hz (3Ph/PE)

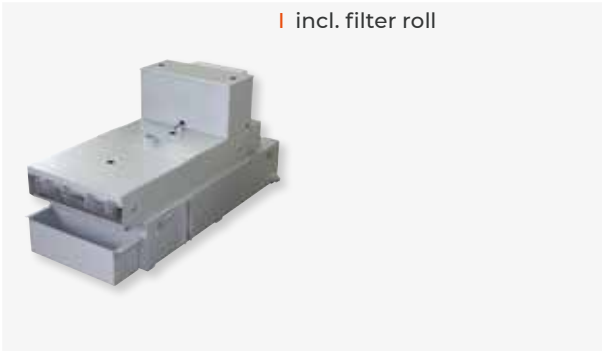
220 V/60 Hz (3Ph/PE)

Order No.: A5800486

Order No.: A5800489

**BELT FILTER SYSTEM 130**

- | incl. filter roll



Tank 130 ltr.

Filter capacity 30 ltr./min (referring emulsion)

Pump 15 ltr./min

WxHxD 607 x 632 x 1308 mm

Weight ~ 90 kg

400 V/50 Hz (3Ph/PE)

Order No.: A6501009

480 V/60 Hz (3Ph/PE)

Order No.: A6501011

220 V/60 Hz (3Ph/PE)

Order No.: A6501010

**CENTRIFUGAL SEPARATOR**

- | to remove coolant mist
- | increases quality of illumination
- | exhauster power 180 or 215 m<sup>3</sup>/h depends on power supply



400 V/50 Hz (3Ph/PE)

Order No.: Z1820009

480 V/60 Hz (3Ph/PE)

Order No.: Z1820012

220 V/60 Hz (3Ph/PE)

Order No.: Z1820011

**BASIC SET BRILLANT 230**

Order No.: Z1820005

**CONNECTION SET 230/250**

- | for belt filter system please order connection set

Order No.: Z6501004



Clamping example

**SPECIFICATIONS**

Max. cutting capacity	1	Ø 85 mm
		(Ø 254 mm cut-off wheel)
	2	Ø 110 mm
		(Ø 305 mm cut-off wheel)

Cut-off wheel	1	Ø 254 mm/10"
	2	Ø 305 mm/12"

Arbour size	Ø 32 mm
-------------	---------

Vertical movement	125 mm
-------------------	--------

Table WxD	1	380 x 250 mm
		(without Z-axis)
	2	300 x 250 mm
		(with Z-axis)

T-slot	12 mm
--------	-------

Speed	2750 rpm
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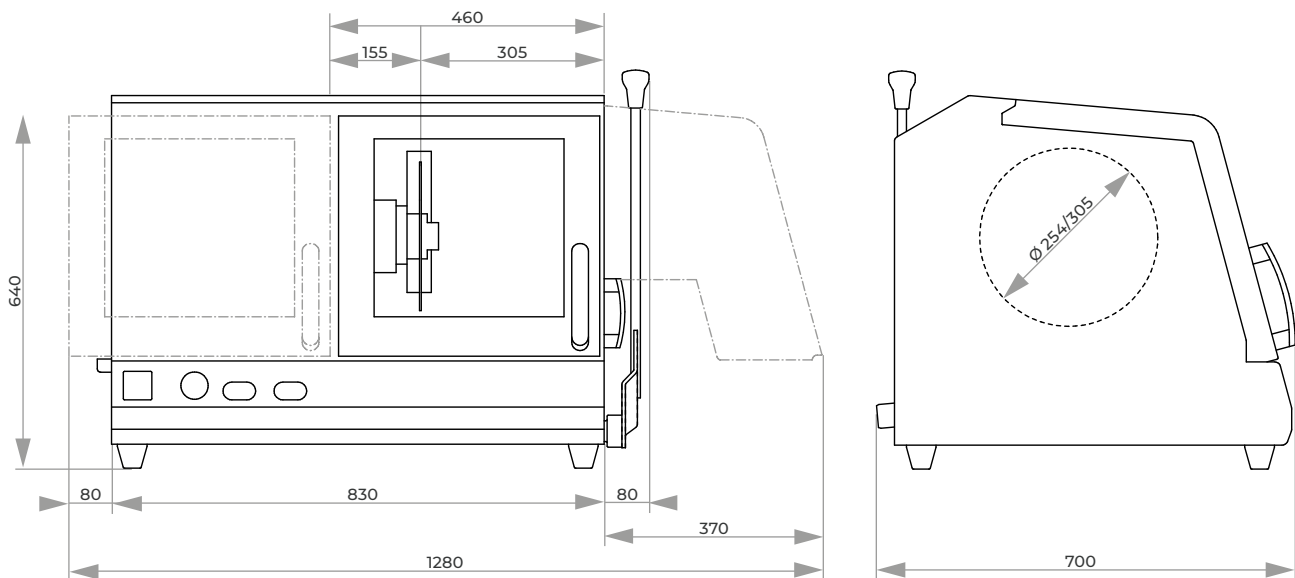
Motor cut-off wheel	4 kW, S1-mode
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Connected load	6 kVA
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Power supply	1	400 V/50 Hz (3Ph/N/PE)
	2	480 V/60 Hz (3Ph/PE)
	3	220 V/60 Hz (3Ph/PE)

WxHxD	~ 830 x 640 x 670 mm
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Weight	~ 130 kg
--------	----------





### INTUITIVE CONTROL SOFTWARE

The new control software with integrated, extensive maintenance menu makes the operation simple and comfortable.



The Qcut 250 A is a wet abrasive cut-off machine with fine dynamic and manual vertical wheel movement (chop cut) for samples up to  $\varnothing$  95 mm and electromechanical lever brake.

The automatic X-axis allows a precise pulsed cut and oscillation cut while the spacious cutting chamber gives various clamping variations. The solid aluminum design comes with openings on the right and left hand side for cutting long parts.



### HORIZONTAL MOVEMENT

The manual horizontal or automatic movement allows cutting long parts longitudinally and easy positioning of the sample below the cut-off wheel. In pulsed cutting mode the sample material is cut particularly gently.



### FINE DYNAMIC CUT-OFF

With the manual cutting movement, the cutting force is regulated through a set of gears. The cut is thereby jerk-free and more precise. The easy-to-use lever brake fixes the cutting disc in any position.

### INNOVATIVE DETAILS

The sliding front door and the side door with safety interlock allow easy and optimal access to the cutting chamber, which is optimal illuminated by a LED lamp. The Quick-Change-System makes change of the cutting wheel quick and easy and simplifies maintenance.

### AUTOMATIC CROSS TRAVEL

The automatic Z-axis can be adjusted with 0.1 mm precision for parallel cuts.


**BASIC MODULE**
**Qcut 250 A**

- | manual Y-axis with electromechanical lever brake
- | 7" Touch-Screen user interface with intuitive QATM user software
- | automatic X-axis - manual travel via hand wheel
- | cutting-force dependent feed control (X-axis)
- | superior LED illumination of cutting chamber
- | parallel setting of wheel guard during cutting sequences increases cutting capacity
- | opening on both sides for long parts


**Order No.: M1822000**
**EQUIPMENT**
**POWER SUPPLY**
**Equipment 1**

400 V/50 Hz (3Ph/PE)

**Order No.: A1822001**
**Equipment 2**

480 V/60 Hz (3Ph/PE)

**Order No.: A1822002**
**Equipment 3**

220 V/60 Hz (3Ph/PE)

**Order No.: A1822003**

**TABLE DRIVE**
**Equipment 1**

X-axis automatic/manual (without Z-axis)

**Order No.: A1822004**
**Equipment 2**

X-axis automatic/manual and Z-axis (cross feed) automatic

**Order No.: A1822005**

**OPTION**
**LASER ALIGNMENT AID**

- | laser line to visualize the cutting line
- | laser class 1

**Order No.: A1822006**



**ACCESSORIES**
**RECIRCULATION COOLING SYSTEM**


- | 2-chamber-pvc-compartment 45 ltr.
- | inlet sieve and filter bag
- | mobile with insertion mechanism for System Lab cabinets



- | incl. connection set
- | controlled by cut-off machine
- | mobile

WxHxD 366 x 540 (640) x 610 mm

WxHxD 366 x 550 x 600 mm

400 V/50 Hz (3Ph/PE)

400 V/50 Hz (3Ph/PE)

Order No.: A5800484

Order No.: A5800487

480 V/60 Hz (3Ph/PE)

480 V/60 Hz (3Ph/PE)

Order No.: A5800485

Order No.: A5800488

220 V/60 Hz (3Ph/PE)

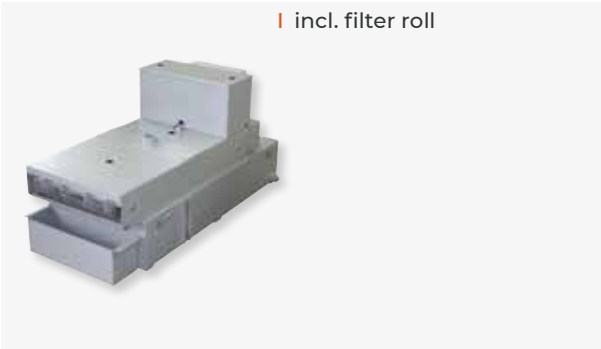
220 V/60 Hz (3Ph/PE)

Order No.: A5800486

Order No.: A5800489

**BELT FILTER SYSTEM 130**

- | incl. filter roll



Tank 130 ltr.

Filter capacity 30 ltr./min (referring emulsion)

Pump 15 ltr./min

WxHxD 607 x 632 x 1308 mm

Weight ~ 90 kg

400 V/50 Hz (3Ph/PE)

Order No.: A6501009

480 V/60 Hz (3Ph/PE)

Order No.: A6501011

220 V/60 Hz (3Ph/PE)

Order No.: A6501010

**CENTRIFUGAL SEPARATOR**

- | removes coolant mist
- | purifies the air and increases visibility
- | exhaust power 180 m<sup>3</sup>/h



400 V/50 Hz (3Ph/PE) or 480 V/60 Hz (3Ph/PE)

Order No.: A1822007

220 V/60 Hz (3Ph/PE)

Order No.: A1822008

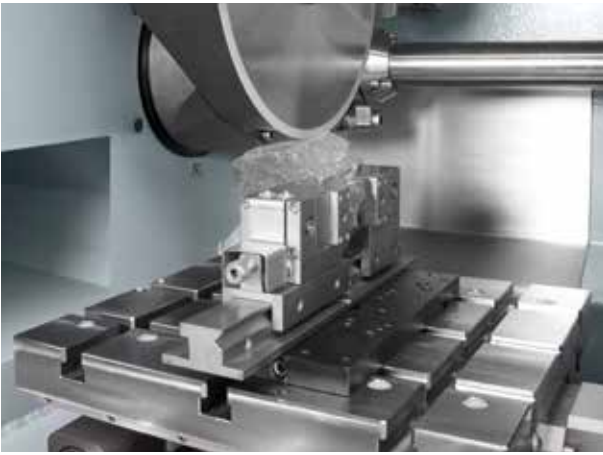
**BASIC SET QCUT 250 A**

Order No.: Z1822001

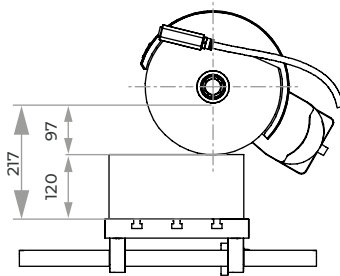
**CONNECTION SET 230/250**

- | connection tubing for belt filter system 130

Order No.: Z6501004



Clamping example



X-axis travel 225

**SPECIFICATIONS**

Max. theoretical cutting capacity	Ø 95 mm
Cut-off wheel	Ø 254 mm/10"
Arbour size	Ø 32 mm
Horizontal movement	225 mm
Vertical movement	170 mm
Cross feed	120 mm

Table WxD	1	380 x 270 mm (without Z-axis)
	2	300 x 270 mm (with Z-axis)

T-slot 12 mm

Speed 3015 rpm (50 Hz)  
3100 rpm (60 Hz)

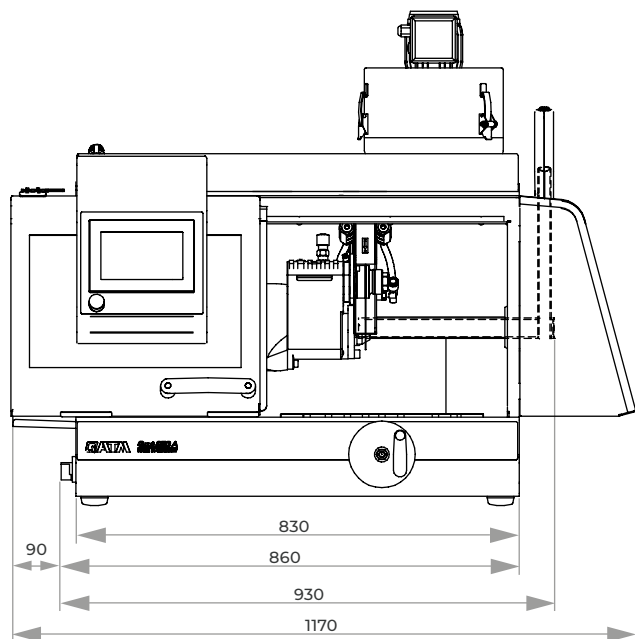
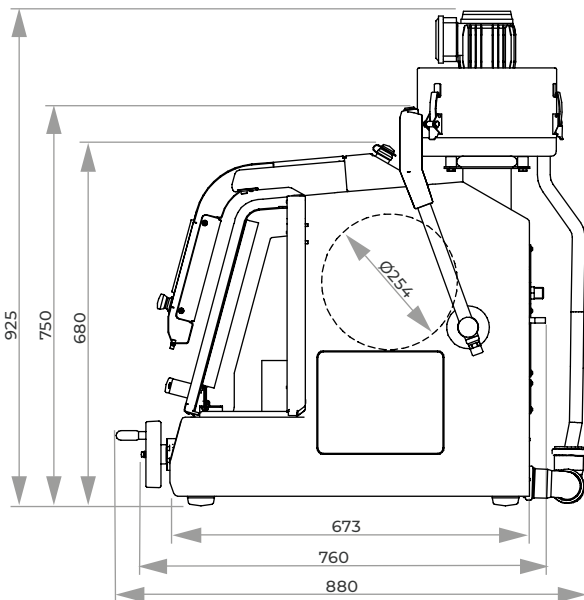
Motor cut-off wheel 3 kW, S1-mode

Connected load 5.5 kVA

Power supply	1	400 V/50 Hz (3Ph/N/PE)
	2	480 V/60 Hz (3Ph/PE)
	3	220 V/60 Hz (3Ph/PE)

WxHxD ~ 930 x 680 x 880 mm

Weight ~ 130 kg



**CUT-OFF MACHINE**  
**QCUT 350 A****ELECTRONIC PERFORMANCE CONTROL**

The feed rate is reduced upon reaching the preset maximum power. This protects the machine and its cutting components from overloading.

**ELECTRONIC CONTROL**

Cutting parameters for the automatic traverse cuts can be saved in the electronic control, and then loaded later. The position of the manual traverse cut is also shown on the display.

All parameters such as feed rate, travel and cutting force can be altered during automatic cycles.

**MULTI-POSITION-PROCESS MPP**

With the “Multi-Position-Process” (MPP) you can place multiple specimens on the table and cut them in one sequence. The teach-in function enables a simple and user-friendly setting of various cutting positions.

The Qcut 350 A is an automatic wet abrasive cut-off machine for samples up to max. Ø 135 mm. It cuts gentle with low contact cutting (lcc) different type of samples in various geometries, sizes and materials. The machine is commonly used in Materialography, Mineralogy, as well as for cutting of composite materials (CFC/PMC/MMC) or electronic devices such as PCBs.

The large scale cutting chamber, the stainless steel table as well as other software based functions of the large abrasive machines such as automatic touch detection, MPP and parallel setting of the wheel guard during vertical cutting, make operation comfortable and processes reproducible and flexible.

**PULSED CUTTING**

In cases where there are heavy sections and materials which are difficult to cut, the variable pulsed cutting system gives decisive advantages.

**AUTOMATIC TOUCH DETECTION**

After automatic start of the cutting process the sample is approached in rapid run. By touching the cut-off wheel the sample is cut efficiently and safely with preset cutting parameters.

**NEW DIMENSIONS**

The enlarged cutting chamber and worktable combined with parallel setting of wheel guard increases cutting capacity and travel for all axes. The side door ensures optimum access to the cutting chamber and the additional opening for supplying long sample parts opens up much possibilities.

**PRECISION CROSS FEED**

The optional, automatic cross-feed with series cut function is suitable for exact parallel cuts. Operational handling takes place via electronic control. The electronic cross-feed can also be applied as feeder axis when working with pot wheel.



**BASIC MODULE**

**Qcut 350 A**



- | automatic table (X-axis)
- | cutting wheel movement (Y-axis)
- | equipment: automatic cross feed (Z-axis) - note equipm. version
- | manual control of X-/Y-/Z-axis via an industrial joystick
- | high dynamic drive up to 40 mm/sec.
- | automatic touch detection
- | parallel setting of wheel guard during vertical cutting sequences increases cutting capacity
- | variable speed
- | incl. cutting wheel about with wear ring
- | Easy-nut – for easy change of cutting wheel
- | Touch-Screen display and QATM-Software control
- | optical menu navigation for drawing up precise program sequences with position steps and cutting modes (horizontal, vertical, diagonal and step cut)
- | variable pulsed cutting
- | storage of programs with password; update and backup via USB
- | remote service/support is available via controller
- | robust aluminium construction, powder-coated
- | large sliding and side door for optimal access to cutting chamber; with safety lock when machine is running
- | sliding door with large window
- | opening on the right for long parts
- | optimal chamber illumination
- | options: laser alignment aid, centrifugal separator

**Order No.: M1821001**

**EQUIPMENT**

**POWER SUPPLY**

**Equipment 1**

400 V/50 Hz (3P/PE)

**Order No.: A1821015**

**Equipment 2**

480 V/60 Hz (3Ph/PE)

**Order No.: A1821016**

**Equipment 3**

220 V/60 Hz (3Ph/PE)

**Order No.: A1821017**

**WHEEL GUARD**

**Equipment 1**

Cut-off wheel Ø 305/12"

Max. cutting capacity Ø 110 mm

**Order No.: A1821018**

**Equipment 2**

Cut-off wheel Ø 356/14"

Max. cutting capacity Ø 135 mm

**Order No.: A1821019**

**CROSS-FEED AXIS**

**Equipment 1**

without Z-axis

**Order No.: A1821020**

**Equipment 2**

Z-axis manual (handle)

Travel 140 mm

Precision 0.1 mm

**Order No.: A1821021**

**Equipment 3**

Z-axis automatic

Travel 140 mm

Precision 0.1 mm

**Order No.: A1821022**

**OPTION**
**ROTATION TOOL**


- | tool with vertical rotary feed, parallel to wheel
- | angle input via software control

on request

**LASER ALIGNMENT AID**

- | laser line to visualize the cutting line
- | laser class 1

Order No.: A1821023

**CENTRIFUGAL SEPARATOR**

- | to remove coolant mist
- | increases quality of illumination
- | exhauster power 180 or 215 m<sup>3</sup>/h depends on power supply

Order No.: A1821024

**ADDITIONAL LED**

- | illumination for the left hand area of the cutting chamber

Order No.: A1821027

**ACCESSORIES**
**RECIRCULATION COOLING SYSTEM**


- | 2-chamber-pvc-compartment 45 ltr.
- | inlet sieve and filter bag
- | mobile with insertion mechanism for System Lab cabinets

WxHxD 366 x 540 (640) x 610 mm

Order No.: A5800507

**BELT FILTER SYSTEM 130**

- | incl. filter roll



Tank	130 ltr.
Filter capacity	30 ltr./min (referring emulsion)
Pump	15 ltr./min
WxHxD	607 x 632 x 1308 mm
Weight	~ 90 kg

400 V/50 Hz (3Ph/PE)

Order No.: A6501009

480 V/60 Hz (3Ph/PE)

Order No.: A6501011

220 V/60 Hz (3Ph/PE)

Order No.: A6501010



- | incl. connection set
- | controlled by cut-off machine

- | mobile

WxHxD 366 x 550 x 600 mm

Order No.: A5800508

**CONNECTION SET 230/250**

- | for belt filter system please order connection set

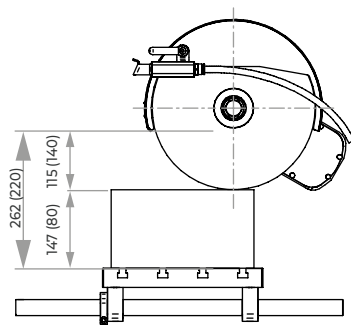
Order No.: Z6501004

**BASIC SET QCUT 350 A**

Order No.: Z1821002



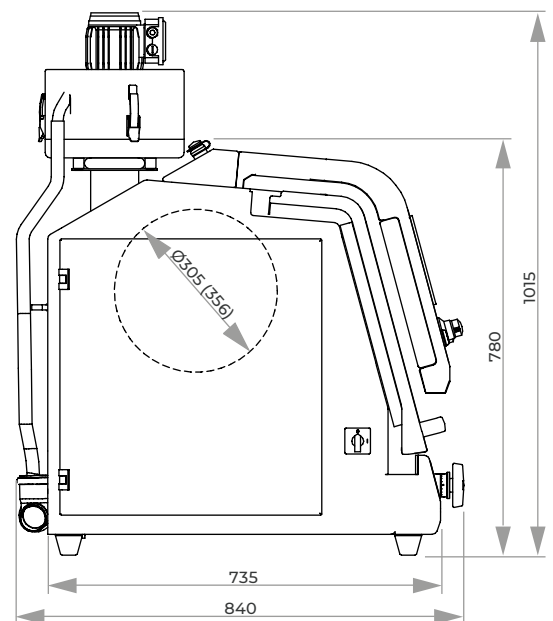
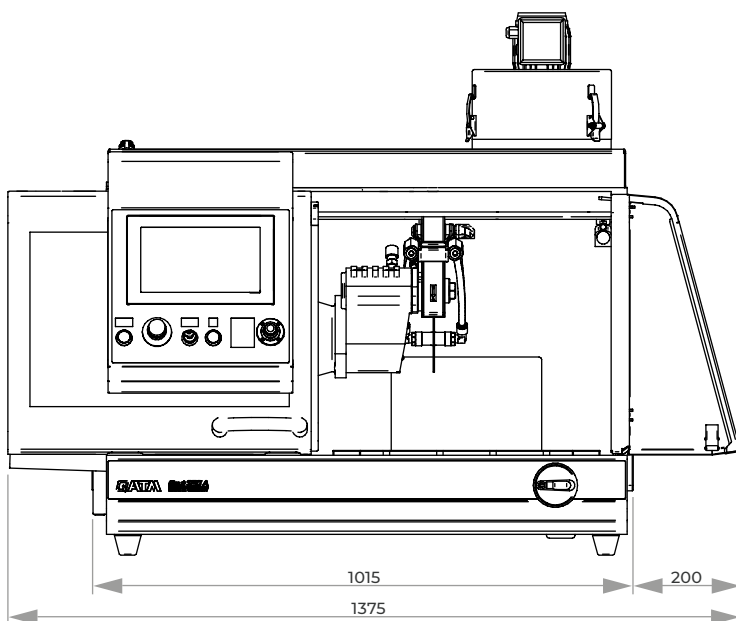
Clamping example



X-axis travel 260

**SPECIFICATIONS**

Max. cutting capacity	1	Ø 110 mm (Ø 305 mm cut-off wheel)
	2	Ø 135 mm (Ø 356 mm cut-off wheel)
Cut-off wheel	1	Ø 305 mm/12"
	2	Ø 356 mm/14"
Arbour size		Ø 32 mm
Y-axis automatic		180 mm
Z-axis automatic (parallel cut) (option)		140 mm
X-axis automatic		260 mm
Feed rate		0.001 - 40 mm/sec
Table WxD	1	400 x 300 mm (with Z-axis)
	2	500 x 300 mm (without Z-axis)
T-slot		12 mm
Motor cut-off wheel		4 kW (S1), 5.5 kW (S3)
Connected load		9.5 kVA
Power supply		variable speed 800-3400 rpm
	1	400 V/50 Hz (3/PE)
	2	480 V/60 Hz (3/PE)
	3	220 V/60 Hz (3/PE)
WxHxD		~ 1,015 x 780 x 840 mm
Weight		~ 200 kg



**CUT-OFF MACHINE  
BRILLANT 255****MANUAL VERTICAL MOVEMENT**

Cutting force can be regulated precisely and with little effort by using the wheel spider. The wheel height can be locked at each point of the wheel spider rotation.

**MANUAL HORIZONTAL MOVEMENT**

The manual horizontal movement allows cutting long parts longitudinally.

The universal wet abrasive cut off machine Brillant 255 with manual travel and fine dynamic cutting allows precise, soft touch cutting with 2 axes in arbitrary directions (Y/X axis) and can be equipped with a manual Z-axis for parallel serial cuts (option). Side openings allow cutting continuous long parts in the spacious cutting chamber of this solid and powder-coated aluminium construction.

Complex geometric shaped samples can be fixed securely on the T-slot table using our reliable clamping systems. The vibration reducing design of the cutting arm allows a low noise cutting process. Our approved LED cutting chamber illumination is energy saving, damage resistant and guarantees optimum illumination of the cutting chamber.

**MANUAL CROSS FEED**

The Z-axis is integrated in the table, and a measured parallel slice can be set using the hand wheel with scale. The height of the cutting wheel does not need to be altered when setting the Z-axis dimension.

**SAFETY**

Integrated safety protection only allows the automatic doors to be opened when the cutting wheel has stopped rotating.

**LASER ALIGNMENT**

With line laser you can display the scheduled cut on the sample. This helps to define the exact cutting position.



**BASIC MODULE**

**Brillant 255**



- | manual horizontal movement with handle
- | manual, fine dynamic cut-off with lateral wheel spider
- | spacious cutting chamber with large T-slot table
- | openings on the left and right for continuous long parts
- | sliding door
- | current safety standard with door interlock (safety protection)
- | cutting wheel arbour with wear ring
- | optimum cutting chamber illumination with LED
- | solid aluminium construction, powder coated
- | Easy-nut for quick and easy exchange of cutting wheels

**Order No.: M1841001**

**EQUIPMENT**

**POWER SUPPLY**

Equipment 1	Equipment 2	Equipment 3
400 V/50 Hz (3Ph/N/PE)	480 V/60 Hz (3Ph/PE)	220 V/60 Hz (3Ph/PE)
<b>Order No.: A1841020</b>	<b>Order No.: A1841021</b>	<b>Order No.: A1841022</b>

**TABLE DRIVE**

Equipment 1	Equipment 2
Without Z-axis	Z-axis m manual (handle)
made of stainless steel	made of stainless steel
	Travel Z-axis            150 mm
	Precision.                0.1 mm
<b>Order No.: A1841023</b>	<b>Order No.: A1841024</b>

**WHEEL GUARD**

Equipment 1	Equipment 2
Cut-off wheel Ø 356 mm/14"	Cut-off wheel Ø 406 mm/16"
Max. cutting capacity            Ø 130 mm	Max. cutting capacity            Ø 150 mm
<b>Order No.: A1841009</b>	<b>Order No.: A1841010</b>



**EQUIPMENT**
**COOLING AND FILTER SYSTEMS**
**Equipment 1**
**Recirculation cooling systems**


- | integrated
- | inlet sieve with filter bag (see consumables)

Tank	~ 130 ltr.
Pump	~ 100 ltr./min
WxHxD	755 x 663 x 921 mm
400 V/50 Hz (3Ph/PE)	<b>Order No.: A1841011</b>
480 V/60 Hz (3Ph/PE)	<b>Order No.: A1841012</b>
220 V/60 Hz (3Ph/PE)	<b>Order No.: A1841013</b>

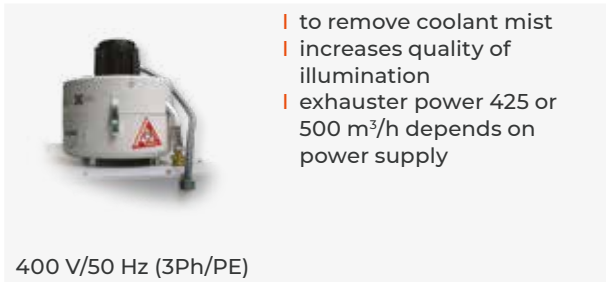
**Equipment 2**
**Belt filter system 285**


- | incl. filter roll

Tank	285 ltr.
Filtering capacity	100 ltr./min (referring emulsion)
Pump	100 ltr./min
Filter area	0.85 m <sup>2</sup>
Filter fleece width	710 mm
WxHxD	929 x 790 x 1745 mm
Weight	~ 120 kg
400 V/50 Hz (3Ph/PE)	<b>Order No.: A6501000</b>
480 V/60 Hz (3Ph/PE)	<b>Order No.: A6501002</b>
220 V/60 Hz (3Ph/PE)	<b>Order No.: A6501001</b>

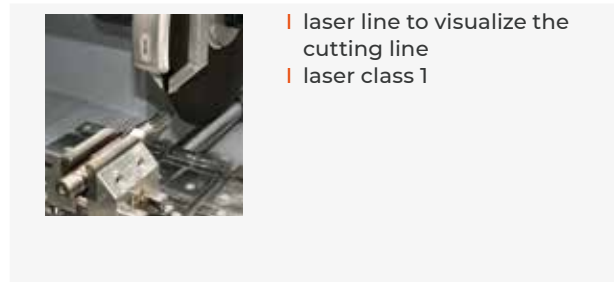
**Connection set 285**

- | for belt filter system please order connection set
- Order No.: Z6501003**

**OPTION**
**CENTRIFUGAL SEPARATOR**


- | to remove coolant mist
- | increases quality of illumination
- | exhauster power 425 or 500 m<sup>3</sup>/h depends on power supply

400 V/50 Hz (3Ph/PE)	<b>Order No.: A1841029</b>
480 V/60 Hz (3Ph/PE)	<b>Order No.: A1841030</b>
220 V/60 Hz (3Ph/PE)	<b>Order No.: A1841031</b>

**LASER ALIGNMENT AID**


- | laser line to visualize the cutting line
- | laser class 1

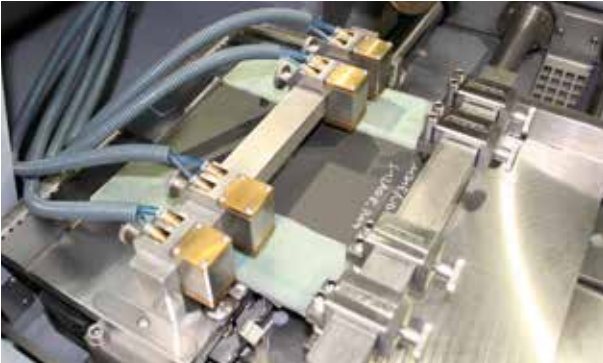
**Order No.: A1841032**

**OPTION**
**FOR Brillant 255 | Qcut 400 A**
**PULSED CLAMPING SYSTEM**

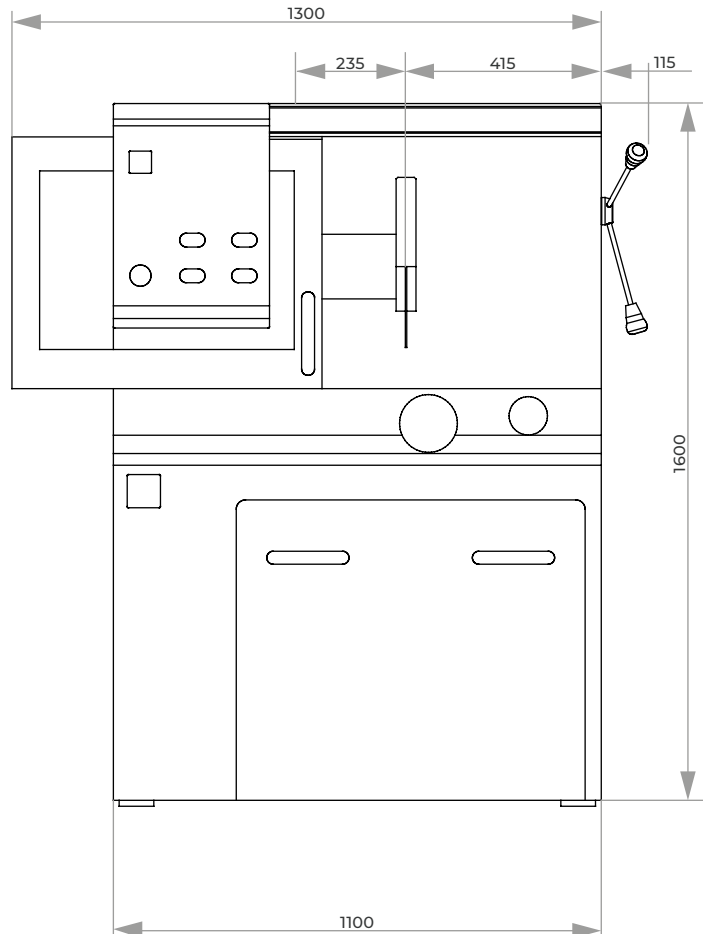
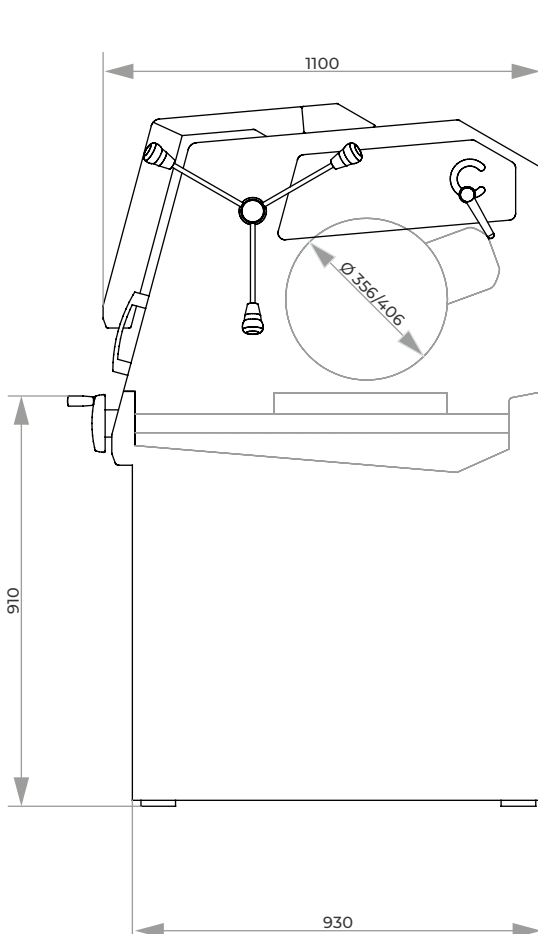
- | parallel, continuous serial cuts of 5–130 mm width
- | clamping and adjusting of sheet material up to 20 mm thickness in Z-direction
- | max. material width (cutting length) 300 mm with cut-off wheel  $\varnothing$  350 mm

Manual

- | for manual Z-axis

**Order No.: Z1841010**

**ACCESSORIES**
**BASIC SET BRILLANT 255**
**Order No.: Z1841020**
**SPECIFICATIONS**

Max. cutting capacity	$\varnothing$ 150 mm (depends on cut-off wheel)
Cut-off wheel	1 $\varnothing$ 356/14" mm 2 $\varnothing$ 406/16" mm
Arbour size	$\varnothing$ 32 mm
Vertical movement	170 mm (depends on cut-off wheel)
Horizontal movement	365 mm
Table WxD	1 550 x 375 mm (without Z-axis) 2 420 x 375 mm (with Z-axis)
T-slot	12 mm
Motor cut-off wheel	7 kW, S1-mode
Connected load	12.5 kVA
Speed	fixed speed 1950 rpm
Power supply	1 400 V/50 Hz (3Ph/N/PE) 2 480 V/60 Hz (3Ph/PE) 3 220 V/60 Hz (3Ph/PE)
WxHxD	~ 1100 x 1600 x 930 mm
Weight	~ 450 kg (depends on equipment)



## CUT-OFF MACHINE QCUT 400 A



### ELECTRONIC CONTROL

With the electronic control, all cutting parameters can be saved and loaded again. Maintenance tasks can also be stored in a customer-specific manner. During the automatic cutting process, all parameters such as feed speed, cutting force etc. can be modified.

### PROGRAM CYCLE

By pressing the start button, the main motor and the feed are activated. The integrated cut detection ensures a constant cutting behavior, even when the cutting disk wears during sectioning. The feed speed is automatically decreased when an overload occurs during the cutting process.

The universal wet-abrasive cut-off machine Qcut 400 A with automatic travel and cut-off allows precise, soft touch cutting with 2 axes in arbitrary directions (Y/X axis) and can be equipped with an automatic or manual Z-axis for parallel serial-cuts (option).

The newly developed intuitive user software with graphical LCD interface makes the automatic process sequence easy and clear.

The large cutting chamber of solid, powder coated aluminum construction is easily accessible through sliding door and side doors. Complex geometric shaped samples can be fixed securely on the T-slot table using our reliable clamping systems. The innovative Quick-Change system facilitates maintenance and replacement of the cutting disc. Our approved LED illumination of the cutting chamber is energy saving, damage resistant and guarantees optimum illumination of the cutting chamber.

### PULSED CUTTING

Especially when the material is thick and difficult to cut, the adjustable automatic pulsed-cut offers advantages such as gentle cutting and optimal cooling of the intersection area.

### CUTTING FORCE DEPENDENT FEED CONTROL

The feed speed automatically decreases when the cutting force reaches a pre-defined limit. This protects the machine, sample and clamping tools from overloading.



### PRECISION CROSS FEED

The Z-axis is integrated in the table. This allows keeping the cutting height at the same level. The automatic cross feed with serial cutting function produces precise parallel cuts.

### JOYSTICK CONTROL

To reduce times for setting up, all axes can be controlled with a joystick.



**SAFETY**

Integrated safety protection only allows the automatic doors to be opened when the cutting wheel has stopped rotating.



**LASER ALIGNMENT**

With the optional line laser the cutting line can be projected on the sample. This helps to define the exact cutting position.



**BASIC MODULE**

**Qcut 400 A**

- | automatic horizontal and vertical movement (X- and Y-axis)
- | variable speed
- | 10.1" Touch-Screen user interface with intuitive QATM user software
- | superior LED illumination of cutting chamber
- | parallel setting of wheel guard during cutting sequences increases cutting capacity
- | opening on the right for long parts
- | automatic touch detection
- | cutting-force dependent feed control (X- and Y-axis)
- | 200 customized programs storable
- | solid aluminum design



**Order No.: M1842000**

**EQUIPMENT**

**POWER SUPPLY**

Equipment 1	Equipment 2	Equipment 3
Variable speed	Variable speed	Variable speed
400 V/50 Hz (3Ph/N/PE)	480 V/60 Hz (3Ph/PE)	220 V/60 Hz (3Ph/PE)
<b>Order No.: A1842000</b>	<b>Order No.: A1842001</b>	<b>Order No.: A1842002</b>

**Table drive**

Equipment 1	Equipment 2	Equipment 3
X-axis automatic (without Z-axis)	X-axis automatic Z-axis (cross feed) manual (hand wheel)	X-axis automatic Z-axis (cross feed) automatic
included in basic unit	made of stainless steel	made of stainless steel
	Travel Z-axis      150 mm	Travel Z-axis      150 mm
	Precision            0.1 mm	Precision            0.1 mm
<b>Order No.: A1842003</b>	<b>Order No.: A1842004</b>	<b>Order No.: A1842005</b>

**EQUIPMENT**
**COOLING AND FILTER SYSTEMS**
**Equipment 1**
**Recirculation cooling unit**


- | integrated, mobile
- | multi-chamber filtration
- | inlet sieve with filter bag (see consumables)

Tank ~ 130 ltr.

Pump ~ 100 ltr./min

WxHxD 625 x 608 x 810 mm

Order No.: A1842008

**Equipment 2**
**Belt filter system 285**


- | incl. filter roll

Tank 285 ltr.

Filtering capacity 100 ltr./min (referring emulsion)

Pump 100 ltr./min

Filter area 0.85 m<sup>2</sup>

Filter fleece width 710 mm

WxHxD 929 x 790 x 1745 mm

Weight ~ 120 kg

Order No.: A1842011

**Connection set 285**

- | for belt filter system please order connection set

Order No.: Z6501003

**OPTION**
**CENTRIFUGAL SEPARATOR**


- | removes coolant mist
- | purifies the air and increases visibility
- | exhaust power 425 m<sup>3</sup>/h

Order No.: A1842010

**LASER ALIGNMENT AID**

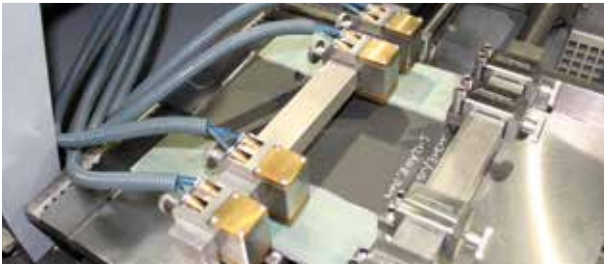

- | laser line to visualize the cutting line
- | laser class 1

Order No.: A1842009

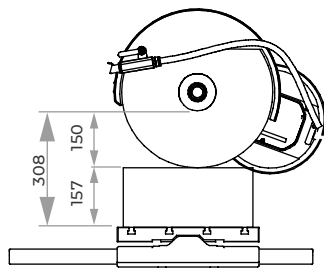
**ROTATION TOOL**


- | tool with vertical rotary feed, parallel to wheel
- | angle input via software control

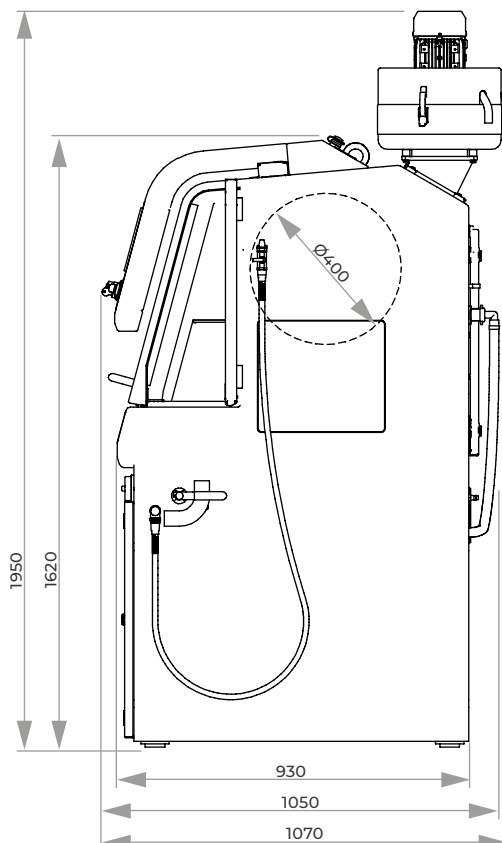
on request

**OPTION**
**AUTOMATIC PULSED CLAMPING SYSTEM  
FOR Qcut 400 A**


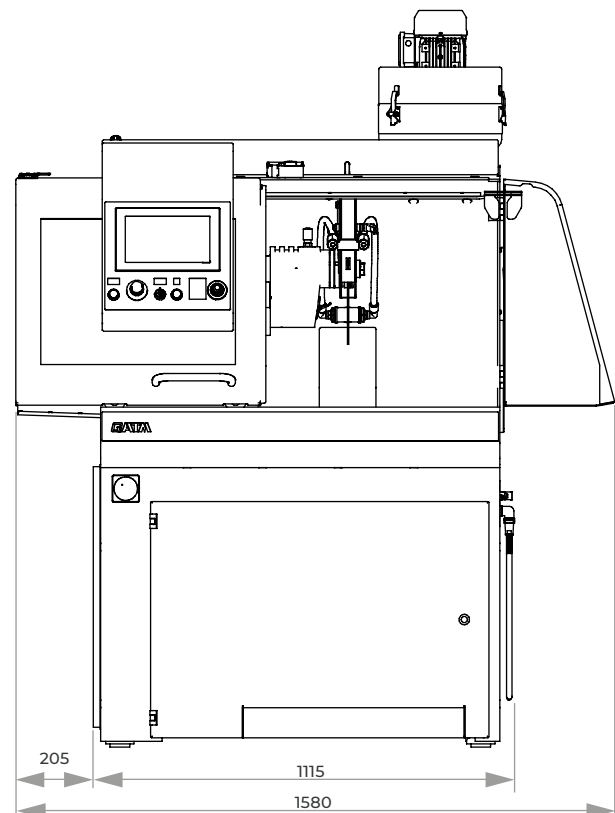
- | For automatic Z-Axis
- | For parallel cuts of variable thickness of 5–130 mm
- | Max. cutting length: 285 mm (for sample of 20 mm thickness)
- | Max. cross feed 150 mm (for one clamping)
- | Cross feed realized by automatic standard Z-axis of Qcut 400 A
- | Assembled on automatic standard Z-axis of Qcut 400 A (detachable)
- | Fixation and cross feed realized by 4 adjustable manual clamps with pressure screws
- | Additional. fixation by 4 adjustable, pneumatic clamps each with 100 N clamping force

**Order No.: A1842013**


X-axis travel 345


**ACCESSORIES**
**BASIC SET QCUT 400 A**
**Order No.: Z1842002**
**SPECIFICATIONS**

Max. theoretical cutting capacity	Ø 150 mm
Cut-off wheel	Ø 406/16" mm
Arbour size	Ø 32 mm
Horizontal movement	345 mm
Vertical movement	200 mm
Cross feed	150 mm
Feed rate	0.001-40.0 mm/sec
Table WxD	1 550 x 375 mm (without Z-axis) 2 420 x 375 mm (with Z-axis)
T-slot	12 mm
Motor cut-off wheel	7 kW, S1-mode
Connected load	17 kVA
Variable speed	1000-2900 rpm
Power supply	1 400 V/50 Hz (3Ph/N/PE) 2 480 V/60 Hz (3Ph/PE) 3 220 V/60 Hz (3Ph/PE)
WxHxD	~ 1,115 x 1,620 x 1,050 mm
Weight	~ 480 kg (depends on equipment)



## CUT-OFF MACHINE QCUT 500 A



### OPERATION

Touch-Screen display for the QATM-Software control is easy to read thanks to smart phone technology and even easier to operate. Compact program sequences are easy to compile and therefore enable automated, password-secured program sequences. Update and back-up possible via USB.

### CUT OPTIMIZATION

In addition to the type of cut, variable pulse-cut feed can also be selected. Rhythmic pulsed feed ensures regular cooling and removal of cutting debris from the sample.

### REMOTE MAINTENANCE

Using your existing broadband Internet connection, QATM provides an online fault diagnosis and operator support.

The universal wet cut-off machine Qcut 500 A meets the highest of demands on space available and possibilities for cutting with its innovative concept for design, construction and operation. The automatic horizontal table (X-axis) and cutting wheel movement (Y-axis) can reach up to 80 mm/sec. through highly dynamic axis drives in rapid-run.

Parallel setting of the wheel guard during vertical cutting sequences increases the cutting capacity considerably. The large front and hinged door with safety lock enable access to the machine table with longitudinal and cross T-slots. Recirculating cooling and automatic central lubrication systems are integrated into the robust aluminum construction body of the machine.

### CONTROL

A wide range of cutting procedures is at your disposal for the very best cutting results. Through the combination of this unlimited range of positions, series cuts or differing cut sequences can be made into reality - all made possible by such a large variety of positions. The cutting process is rightly supported by controlled cut-off wheel revolutions. Control of the cutting speed and a soft start control serve additionally for an economical cutting feed. Manual control commands in the X-/Z-/Y-axes are also possible using an industrial joystick.

### LASER ALIGNMENT AID

With line laser you can display the scheduled cut on the sample. This helps to define the exact cutting position.

### TYPES OF CUT

Travel and cutting wheel offer a wide-ranging repertoire of types of cut through different combinations.

In addition to the linear diagonal cut, the layer and segment-cuts are recommended for gentle cuts. The layer-cut is well-suited for cutting taller and longer objects as well as solid material.

The segment-cut is especially suitable for large objects and hard materials.

### MULTI-POSITION-PROCESS MPP

With the "Multi-Position-Process" (MPP) you can place multiple specimens on the table and cut them in one sequence. The teach-in function enables a simple and user-friendly setting of various cutting positions.



**BASIC MODULE**

**Qcut 500 A**



- | automatic table (X-axis) and cutting wheel movement (Y-axis) can reach up to 80 mm/sec. through highly dynamic axis drive in rapid-run
- | equipment: automatic cross feed (Z-axis)



- | automatic touch detection
- | spacious cutting chamber with large T-slot table
- | machine table made of stainless steel with longitudinal and cross T-slots
- | parallel setting of wheel guard during vertical cutting sequences increases cutting capacity



- | Multi-position process MPP allows positioning of different components on the table simultaneously and adding into an automatic cutting process
- | economical cutting feed by control of the cutting speed and soft start control
- | variable speed
- | manual control of X-/Y-/Z-axis via an industrial joystick
- | Touch-Screen display and QATM-Software control
- | smart phone optics for easy compilation of compact program sequences with position steps and cutting modes (travel-, cut-off-, diagonal-, step- and segment cut)
- | an unlimited number of password-secured program sequences can be stored and updated; file exchange and backup via USB
- | QATM online-diagnostics and user support available
- | easy access to cutting chamber by large sliding and side door (with safety lock during wheel movement)
- | sliding door with large window made of scratchproof safety glass
- | opening on both sides for long parts
- | options: laser alignment aid, centrifugal separator
- | incl. cutting wheel arbour with wear ring and optimum cutting chamber illumination
- | automatic central lubrication (6 bar compressed air required)
- | robust powder-coated aluminum construction body of machine
- | Easy-nut – for easy change of cutting wheel
- | e-Lab-ready

**Order No.: M1832000**

**EQUIPMENT**

**POWER SUPPLY**

**Equipment 1**

400 V/50 Hz (3Ph/N/PE)

**Order No.: A1832000**

**Equipment 2**

480 V/60 Hz (3Ph/PE)

**Order No.: A1832002**

**TABLE DRIVE**

**Equipment 1**

Table with X-axis

- | made of stainless steel

Travel X-axis 420 mm

Precision 0.1 mm

**Order No.: A1832008**

**Equipment 2**

Table with X/Z-axis

- | made of stainless steel

Travel X-axis 420 mm

Travel Z-axis 200 mm

Precision 0.1 mm

**Order No.: A1832011**



Clamping example

**WHEEL GUARD**

**Equipment 1**

Cut-off wheel Ø 432 mm/17"

**Order No.: A1832001**

**Equipment 2**

Cut-off wheel Ø 508 mm/20"

**Order No.: A1832010**



**EQUIPMENT**
**COOLING AND FILTER SYSTEM**
**Equipment 1**
**Recirculation cooling unit**


- | integrated, mobile
- | multi chamber filtration (see consumables)

Tank ~ 200 ltr.

Pump ~ 100 ltr./min

WxHxD 810 x 608 x 1008 mm

400 V/50 Hz (3Ph/PE)

**Order No.: A1832005**

480 V/60 Hz (3Ph/PE)

**Order No.: A1832006**
**Equipment 2**
**Belt filter system 285**


- | incl. filter roll

Tank 285 ltr.

Filter capacity 100 ltr./min (referring emulsion)

Pump 100 ltr./min

 Filter area 0.85 m<sup>2</sup>

Filter fleece width 710 mm

WxHxD 929 x 790 x 1745 mm

Weight ~ 120 kg

400 V/50 Hz (3Ph/PE)

**Order No.: A6501000**

480 V/60 Hz (3Ph/PE)

**Order No.: A6501002**
**Connection set 275**

- | for belt filter system please order connection set

**Order No.: Z6501000**
**OPTION**
**CENTRIFUGAL SEPARATOR**


- | to remove coolant mist
- | increases quality of illumination
- | suction output 425 or 500 m<sup>3</sup>/h depends on power supply

400 V/50 Hz (3Ph/PE)

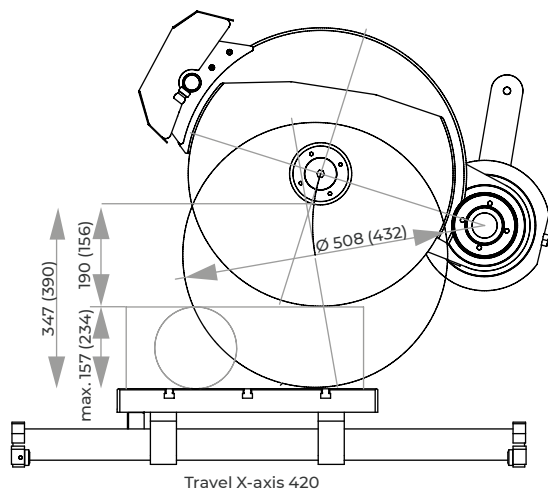
**Order No.: A1832007**

480 V/60 Hz (3Ph/PE)

**Order No.: A1832009**
**LASER ALIGNMENT AID**

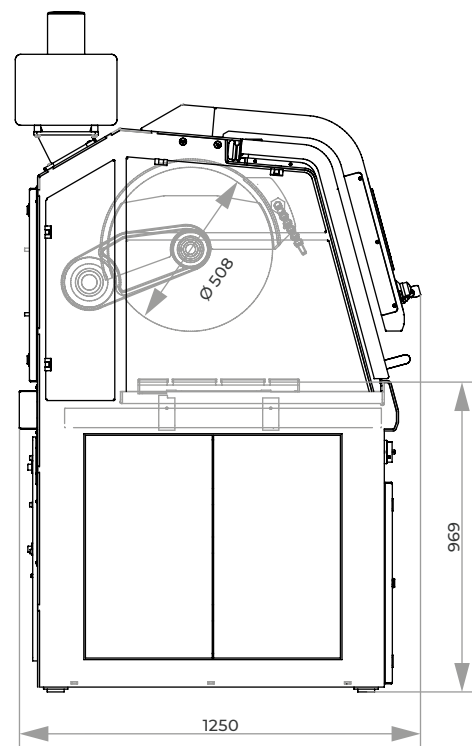
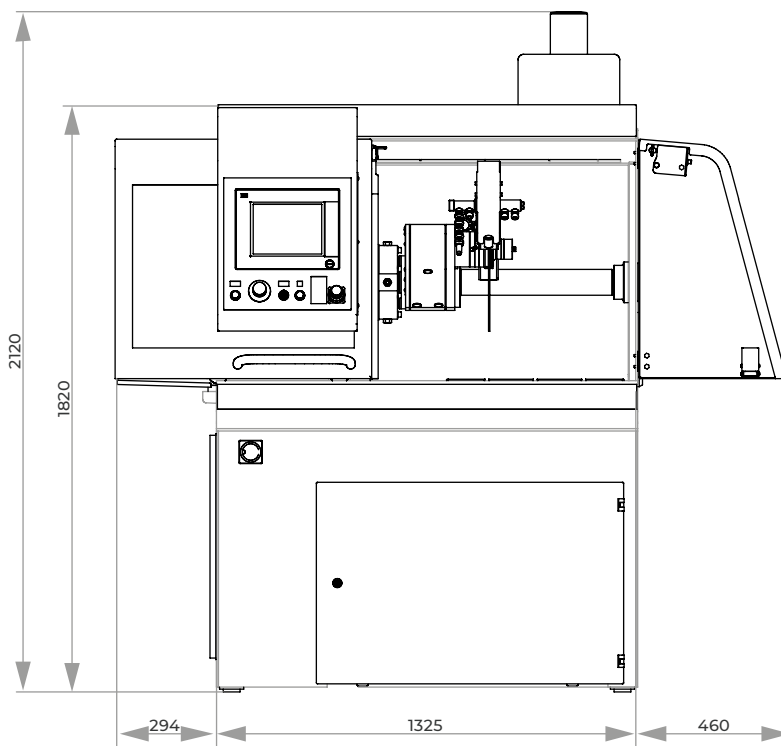

- | laser line to visualize the cutting line
- | laser class 1

**Order No.: A1832004**
**ACCESSORIES**
**BASIC SET QCUT 500 A**
**Order No.: Z1832000**


**SPECIFICATIONS**

Cut-off wheel	1 Ø 432 mm/17" *
	2 Ø 508 mm/20" **
Max. sample size	Ø 156 mm* / Ø 190 mm**
Arbour size	Ø 32 + 40 mm
Vertical movement	280*/240** mm
Horizontal movement	420 mm
Feed rate	0.001 - 50 mm/sec
Z-axis automat.	200 mm (equipment)
Precision	0.1 mm
Table WxD	700 x 500 mm (without Z-axis) 550 x 500 mm (with Z-axis)
T-slot	12 mm
Motor cut-off wheel	15 kW, S1-mode
Connected load	30 kVA
Variable speed	1000-2800 rpm* 1000-2400 rpm**
Power supply	1 400 V 50 Hz (3/N/PE) 2 480 V 60 Hz (3/PE)
WxHxD	~ 1325 x 1820 x 1250 mm
Weight	~ 1000 kg (depends on equipment)

use with cut-off wheel  
 \*Ø 432 mm or  
 \*\*Ø 508 mm





#### OPERATION

Touch-Screen display for the QATM-Software control is easy to read thanks to smart phone technology and even easier to operate. Compact program sequences are easy to compile and therefore enable automated program sequences. An unlimited number of password-secured program sequences can be updated and backed-up via USB.



The industrial wet cut-off machine Qcut 600 A meets the highest of demands on space available and possibilities for cutting with its innovative concept for design, construction and operation. A water-cooled 15 kW main motor is integrated into the swing arm and the automatic horizontal table (X-axis) and cutting wheel movement (Y-axis) can reach up to 80 mm/sec. through highly dynamic axis drives in rapid-run. With a totally new approach with the automatic cross-feed movement (Z-axis) through the swing arm, the cutting chamber is ideally put to use.

Parallel setting of the wheel guard during vertical cutting sequences increases the cutting capacity considerably.

The large front and hinged door with safety lock enable access to the machine table with longitudinal and cross T-slots. The side door allows easy and convenient change of the cut-off wheel if Z-axis is set on the hard right position. Recirculating cooling and automatic central lubrication systems are integrated into the robust welded steel construction body of the machine.



#### CONTROL

A wide range of cutting procedures is at your disposal for the very best cutting results. Through the combination of this unlimited range of positions, series cuts or differing cut sequences can be made into reality. The cutting process is rightly supported by controlled cut-off wheel revolutions which can be held constant through an optional wheel measurement facility. Control of the cutting speed and a soft start control serve additionally for an economical cutting feed. Manual control commands in the X-/Z-/Y-axes are also possible using an industrial joystick. The operator console can be slid either to left or the right.

## TYPES OF CUT

Travel and cutting wheel offer a wide-ranging repertoire of types of cut through different combinations. In addition to the linear diagonal cut, the layer and segment-cuts are recommended for gentle cuts. The layer-cut is well-suited for cutting taller and longer objects as well as solid material. The segment-cut is especially suitable for large objects and hard materials.

## MULTI-POSITION-PROCESS MPP

With the “Multi-Position-Process” (MPP) you can place multiple specimens on the table and cut them in one sequence. The teach-in function enables a simple and user-friendly setting of various cutting positions.

## CUT OPTIMIZATION

In addition to the type of cut, variable pulse-cut feed can also be selected. Rhythmic pulsed feed ensures regular cooling and removal of cutting debris from the sample.

## REMOTE MAINTENANCE

Using your existing broadband Internet connection, QATM provides an online fault diagnosis and operator support.

## LASER ALIGNMENT AID

With line laser you can display the scheduled cut on the sample. This helps to define the exact cutting position.



### BASIC MODULE

#### Qcut 600 A



| automatic table (X-axis) and cutting wheel movement (Y-axis) can reach up to 80 mm/sec. through highly dynamic axis drive in rapid-run



| automatic cross feed (Z-axis)

| automatic touch detection

| parallel setting of wheel guard during vertical cutting sequences

increases cutting capacity

| large cutting chamber with large T-slot table

| machine table made of stainless steel with longitudinal and cross

T-slots



| Multi-position process MPP allows positioning of different components on the table simultaneously and adding into an automatic cutting process

| easy access to cutting chamber by large sliding and side door (with safety lock during wheel movement)

| changing of cut-off wheel through side door

| sliding door with large window made of scratchproof safety glass

| Touch-Screen display with smart-phone technology and QATM-Software control

| an unlimited number of password-secured program sequences can be stored and updated; file exchange and backup via USB

| QATM online-diagnostics and user support available

| smart phone optics for easy compilation of compact program sequences with position steps and cutting modes (travel-, cut-off-, diagonal-, layer- and segment cut)

| through the combination of an arbitrary range of cutting positions, series cuts of differing cut-sequences can be made into reality

| variable pulse-cut feed

| economical cutting feed by control of the cutting speed and soft start control

| variable speed

| manual control of X-/Y-/Z-axis via an industrial joystick

| incl. cutting wheel arbour with wear ring and optimum chamber illumination

| automatic central lubrication (6 bar compressed air required)

| water-cooled 15 kW-main motor integrated into the swivel arm

| robust welded steel construction body of machine, powder-coated

| Easy-nut – for easy change of cut-off wheel

| e-Lab-ready

Order No.: M1831000

**EQUIPMENT**
**POWER SUPPLY**
**Equipment 1**

400 V/50 Hz (3Ph/N/PE)

**Order No.: A1831000**
**Equipment 2**

480 V/60 Hz (3Ph/PE)

**Order No.: A1831002**
**WHEEL GUARD**
**Equipment 1**

 Cut-off wheel Ø 508 mm /20"
**Order No.: A1831001**
**Equipment 2**

 Cut-off wheel Ø 610 mm /24"
**Order No.: A1831010**
**COOLING AND FILTER SYSTEMS**
**Equipment 1**
**Recirculation cooling unit**


- | integrated, mobile
- | multi chamber filtration
- | exchangeable filter fleece, filter performance up to 90% (see consumables)

 Tank ~ 170 ltr.

 Pump ~ 100 ltr./min

 WxHxD 810 x 528 x 1113 mm

400 V/50 Hz (3Ph/PE)

**Order No.: A1831005**

480 V/60 Hz (3Ph/PE)

**Order No.: A1831006**
**Equipment 2**
**Belt filter system 285**


- | incl. filter roll

 Tank 285 ltr.

 Filter capacity 100 ltr./min (referring emulsion)

 Pump 100 ltr./min

 Filter area 0.85 m<sup>2</sup>

 Filter fleece width 710 mm

 WxHxD 929 x 790 x 1745 mm

 Weight ~ 120 kg

400 V/50 Hz (3Ph/PE)

**Order No.: A6501000**

480 V/60 Hz (3Ph/PE)

**Order No.: A6501002**
**Connection set 285**

- | for belt filter systems please order connection set

**Order No.: Z6501007**
**OPTION**
**CENTRIFUGAL SEPARATOR**


- | to remove coolant mist
- | increases quality of illumination
- | exhauster power 425 or 500 m<sup>3</sup>/h, depends on power supply

400 V/50 Hz (3Ph/PE)

**Order No.: A1831007**

480 V/60 Hz (3Ph/PE)

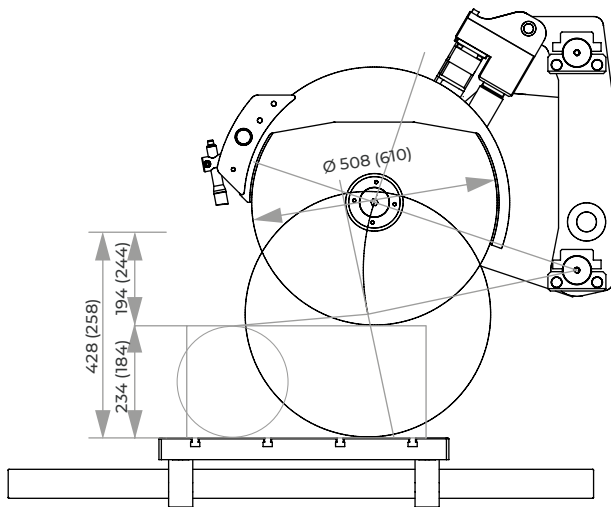
**Order No.: A1831009**
**ROTATING TOOL**


- | tool with vertical rotary feed, parallel to wheel
- | angle input via software control

**on request**

**OPTION**
**LASER ALIGNMENT AID**

- | laser line to visualize the cutting line
- | laser class 1

**Order No.: A1831004**
**ACCESSORIES**
**BASIC SET QCUT 600 A**
**Order No.: Z1831000**


Travel X-axis 550

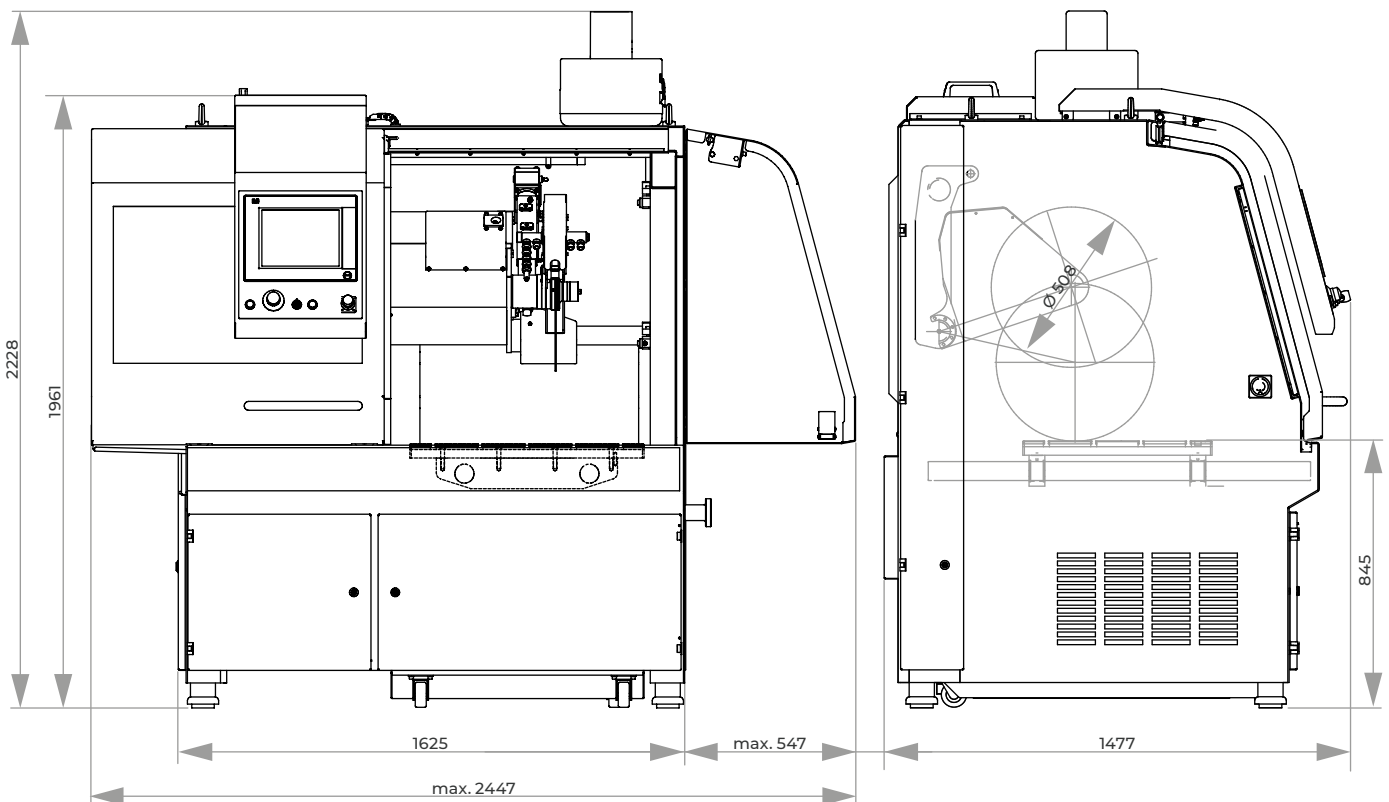
**SPECIFICATIONS**

Cut-off wheel	1	Ø 508 mm/20" *
	2	Ø 610 mm/24" **
Max. cutting capacity		Ø 194 mm* / Ø 244 mm**
Arbour size		Ø 32 + 40 mm
Y-axis automatic		360 mm
X-axis automatic		550 mm
Speed rate		0.001 - 50 mm/sec
Z-axis automatic		550 mm
Precision		0.1 mm
Table WxD		750 x 600 mm
T-slot		12 mm
Motor cut-off wheel		15 kW, S1-mode
Connected load		30 kVA
Variable speed		1000-2400 rpm* 1000-2000 rpm**
Power supply	1	400 V/50 Hz (3Ph/N/PE)
	2	480 V/60 Hz (3Ph/PE)
WxHxD		~ 1640 x 2200 x 1480 mm
Weight		~ 1600 kg (depends on equipment)

use with cut-off wheel

\* Ø 508 mm or

\*\* Ø 610 mm



# QCUT 600 BOT



### INTUITIVE AND EASY OPERATION



The teach-in function enables user-friendly programming of the of the cutting positions by approaching the

individual positions. The multi-position process MPP allows the simultaneous positioning and automatic start-up of different components on the clamping table. This eliminates the need for time-consuming reclamping of the components.

### REMOTE MAINTENANCE

Direct fault diagnosis and online support from QATM can be provided via a VPN connection using an existing broadband internet connection.

The Qcut 600 BOT is a fully automatic cutting robot with max. 5 axes for the use of cut-off wheels with a size of up to 610 mm / 24".

With its 5 axes and generous machine table ( $\varnothing$  600 mm), the Qcut 600 BOT opens up new possibilities in application. The automatic travel and cross-cutting unit reaches speeds of up to 80 mm/sec in high-speed travel thanks to its highly dynamic drives.

The rotary table (B-axis) has a swiveling range of 360° and can be modularly extended with an additional rotary axis (C-axis). The rotary axes enable cutting without additional reclamping. The cut-off wheel guard is guided in parallel during cross-cutting to increase the cutting capacity of the cut-off wheel. Circulation cooling and automatic central lubrication are integrated in the machine body of the robust steel construction.



### AUTOMATIC CUT-OFF WHEEL MEASUREMENT

The dynamic cut-off wheel measurement leads to reproducible cutting results with consistent quality. By automatically monitoring the current cut-off wheel diameter, the cutting parameters are adjusted after each cut so that the cutting speed and cutting depth remain constant.



### CUTTING OPTIMISATION

In order to optimise the cutting quality, the machine automatically detects local material singularities, such as hardened areas, and regulates the feed rate depending on the cutting force. When starting a new cut, the component is automatically detected and approached at reduced speed (soft start-up control).

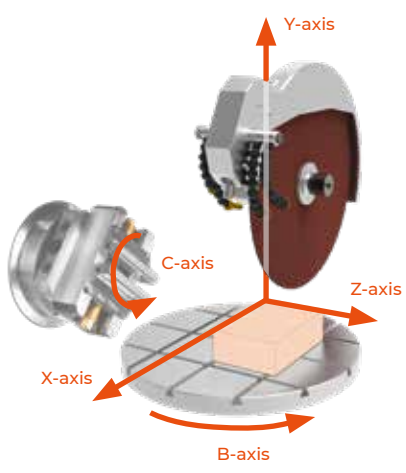


**BASIC MODULE**

**Qcut 600 BOT (4-AXES AND 5-AXES)**

- | automatic horizontal movement (X-axis) and vertical movement (Y-axis) up to 80 mm/sec through highly dynamic axis drives in rapid run.
- | automatic cross feed (Z-axis)
- | automatic horizontal turntable (B-axis)
- | manual control of the axes possible via joystick
- | user-friendly and visual menu navigation for easy compilation of compact program sequences with position steps and cutting modes (travel-, cut-off-, diagonal-, step- and segment cut)
- | cut-offs in a wide range of positions automatically and without reclamping
- | intuitive programming of the cutting positions by positioning the cut-off wheel directly on the component
- | automatic touch detection
- | Multi-Position Process MPP allows positioning of different components on the table simultaneously and adding into an automatic cutting process
- | any number of cutting positions can be approached in the programme e.g. for serial cuts or different approach positions
- | cutting force-related feeder regulation and soft-approach control
- | determination of cut-off wheel diameter after each cutting process and automatic control of cutting speed and cutting depth
- | variable speed
- | variable pulse-cut feed
- | touch-screen display with QATM-software control
- | an unlimited number of password-secured program sequences can be stored and updated
- | file exchange and backup via USB
- | remote service/support is available via controller (requires ISDN connection with router on site)
- | machine table Ø 600 mm made of stainless steel with longitudinal and cross T-slots
- | increased cutting capacity of the disc due to parallel guiding of the cutting disc protection
- | incl. wear ring to protect the cutting disc holder and optimal chamber illumination
- | housing in robust, powdercoated steel construction
- | sliding and side door with safety lock during wheel movement
- | sliding door with large window made of scratchproof safety glass
- | cutting discs can be changed through the side door
- | water-cooled, energy efficient 15 kW-main motor integrated into the swivel arm
- | automatic central lubrication (6 bar compressed air required)
- | easy-nut for quick and easy clamping and releasing of the cut-off wheel

**COORDINATE AXES**



**Qcut 600 BOT (5-AXES) – EXTRA FEATURES**

- | automatic horizontal rotation axis (C-axis)
- | rotary axis removable (placed on machine table Ø 600 mm)
- | rotary axis can be individually equipped (e.g. with a 3-jaw chuck or customer-specific clamping systems)

<b>Qcut 600 BOT (4-AXES)</b>		<b>Qcut 600 BOT (5-AXES)</b>	
Machine with X/Y/Z/B-axis		Machine with X/Y/Z/B/C-axis	
Swivel range	360°	Swivel range	200°
B-axis		B-axis	
		Swivel range	360°
		C-axis	
400 V/50 Hz (3Ph/N/PE)		400 V/50 Hz (3Ph/N/PE)	
<b>Order No.: M1831001</b>		<b>Order No.: M1831003</b>	
480 V/60 Hz (3Ph/PE)		480 V/60 Hz (3Ph/PE)	
<b>Order No.: M1831002</b>		<b>Order No.: M1831004</b>	



**EQUIPMENT**
**WHEEL GUARD**
**Equipment 1**

 Cut-off wheel  $\varnothing$  508 mm /20"

**Order No. A1831001**
**Equipment 2**

 Cut-off wheel  $\varnothing$  610 mm /24"

**Order No.: A1831010**
**COOLING AND FILTER SYSTEMS**
**Equipment 1**
**Recirculation cooling unit**


- | integrated, mobile
- | multi chamber filtration
- | exchangeable filter fleece, filter performance up to 90% (see consumables)

Tank ~ 170 ltr.

Pump ~ 100 ltr./min

WxHxD 810 x 528 x 1113 mm

400 V/50 Hz (3Ph/PE)

**Order No.: A1831005**

480 V/60 Hz (3Ph/PE)

**Order No.: A1831006**
**Equipment 2**
**Belt filter system 285**


- | incl. filter roll

Tank 285 ltr.

Filter capacity 100 ltr./min (referring emulsion)

Pump 100 ltr./min

 Filter area 0.85 m<sup>2</sup>

Filter fleece width 710 mm

WxHxD 929 x 790 x 1745 mm

Weight ~ 120 kg

400 V/50 Hz (3Ph/PE)

**Order No.: A6501000**

480 V/60 Hz (3Ph/PE)

**Order No.: A6501002**
**Connection set 285**

- | for belt filter systems please order connection set

**Order No.: Z6501007**
**OPTION**
**CENTRIFUGAL SEPARATOR**


- | to remove coolant mist
- | increases quality of illumination
- | exhauster power 425 or 500 m<sup>3</sup>/h, depends on power supply

400 V/50 Hz (3Ph/PE)

**Order No.: A1831007**

480 V/60 Hz (3Ph/PE)

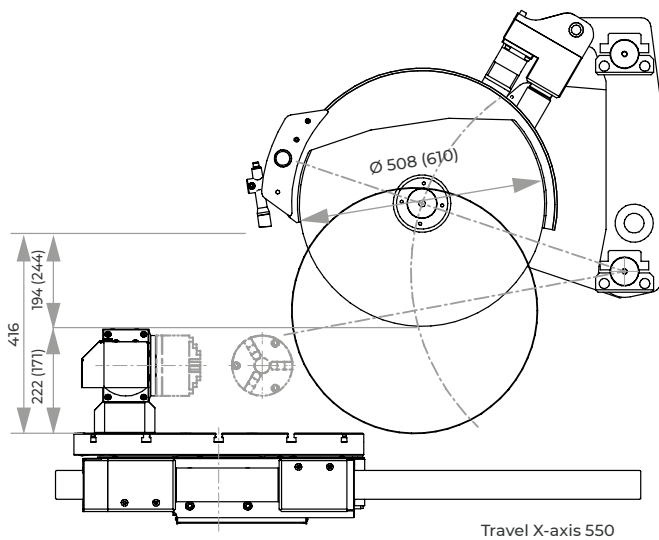
**Order No.: A1831009**
**LASER ALIGNMENT AID**


- | laser line to visualize the cutting line
- | laser class 1

**Order No.: A1832004**
**ACCESSORIES**
**BASIC SET QCUT 600 BOT**
**Order No.: Z1831000**



Clamping example



Travel X-axis 550

**SPECIFICATIONS**

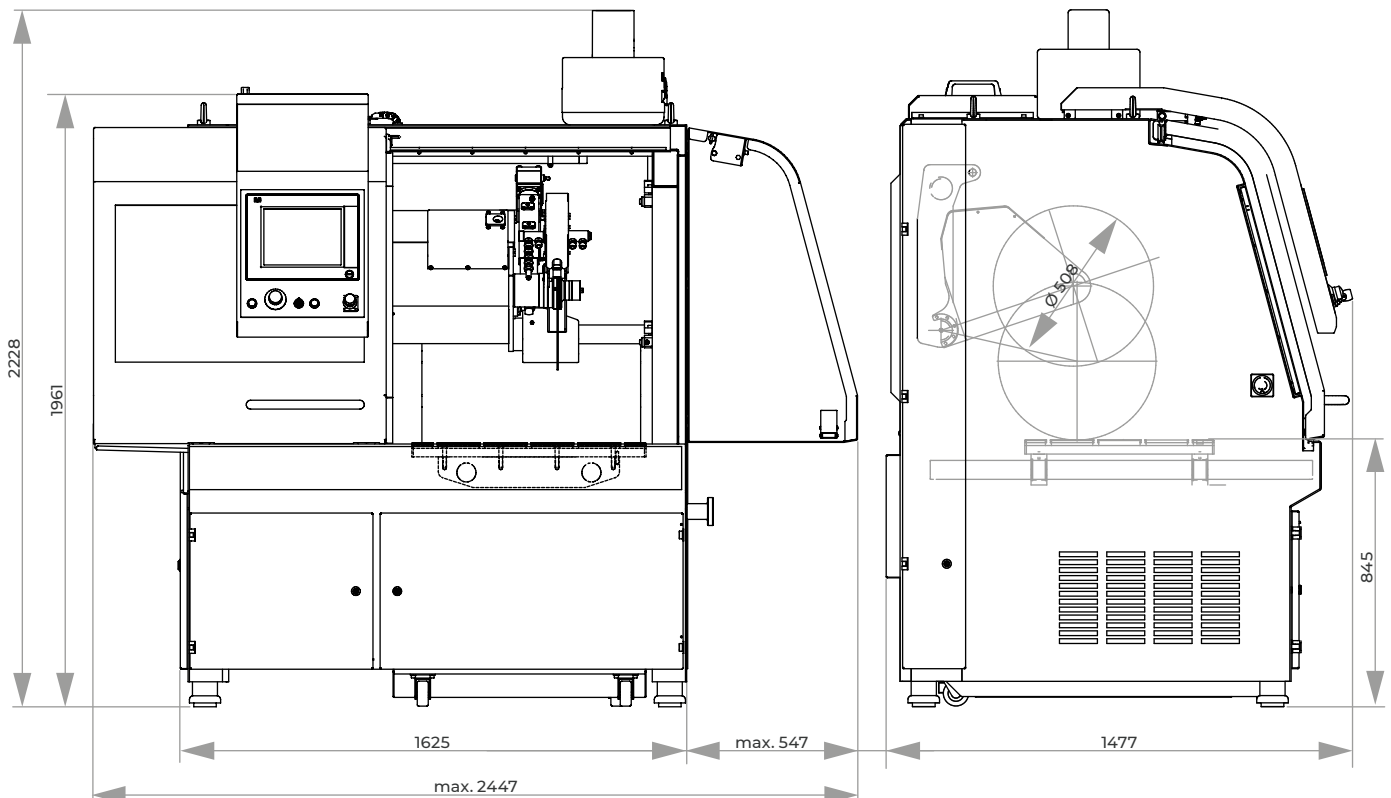
Cut-off wheel	Ø 508 mm/20" Ø 610 mm/24"
Max. way of cutting wheel into sample	Ø 195 mm* Ø 244 mm**
Arbour size	Ø 32 / 40 mm
X-axis automatic (horizontal movement)	550 mm
Y-axis automatic (vertical cut)	360 mm
Z-axis automatic (parallel cut)	550 mm
C-axis automatic (option)	360°
B-axis automatic	360° / 200°
Precision	± 0.1 mm / ± 0.1°
Table	Ø 600 mm
T-slot	12 mm
Motor cut-off wheel	15 kW, SI-mode
Connected load	30 kVA
Variable speed	1000-2400 rpm* 1000-2000 rpm**
Power supply	1 400 V 50 Hz (3/N/PE) 2 480 V 60 Hz (3/PE)
WxHxD	~ 1640 x 2200 x 1480 mm
Weight	~ 1600 kg (depends on equipment)

use with cut-off wheel

\* Ø 508 mm or

\*\* Ø 610 mm

We offer a free consultation and execution of feasibility studies with your applications in CAD. Please send us STP model data of the workpieces to be cut, with details of the desired cutting positions. We simulate and check the feasibility for you on the basis of up to 5 workpieces and give further recommendations on possible clamping tools.



### QCUT 800 A



#### OPERATION

Touch-Screen display for the QATM-Software control is easy to read thanks to smart phone technology and even easier to operate. Compact program sequences are easy to compile and therefore enable automated program sequences. An unlimited number of password-secured program sequences can be updated and backed-up via USB.



The industrial wet cut-off machine Qcut 800 A meets the highest of demands on space available and possibilities for cutting with its innovative concept for design, construction and operation. A water-cooled 30 kW main motor is integrated into the swing arm and the automatic horizontal table (X-axis) and cutting wheel movement (Y-axis) can reach up to 100 mm/sec. through highly dynamic axis drives in rapid-run. With a totally new approach with the automatic cross-feed movement (Z-axis) through the swing arm, the cutting chamber is ideally put to use.

Parallel setting of the wheel guard during vertical cutting sequences increases the cutting capacity considerably. The large front and hinged door with safety lock enable access to the machine table with longitudinal and cross T-slots. The side door allows easy and convenient change of the cut-off wheel if Z-axis is set on the hard right position. Recirculating cooling and automatic central lubrication systems are integrated into the robust welded steel construction body of the machine.



#### CONTROL

A wide range of cutting procedures is at your disposal for the very best cutting results. Through the combination of this unlimited range of positions, series cuts or differing cut sequences can be made into reality. The cutting process is rightly supported by controlled cut-off wheel revolutions which can be held constant through an optional wheel measurement facility. Control of the cutting speed and a soft start control serve additionally for an economical cutting feed. Manual control commands in the X-/Z-/Y-axes are also possible using an industrial joystick. The operator console can be slid either to left or the right.

## TYPES OF CUT

Travel and cutting wheel offer a wide-ranging repertoire of types of cut through different combinations. In addition to the linear diagonal cut, the layer and segment-cuts are recommended for gentle cuts. The layer-cut is well-suited for cutting taller and longer objects as well as solid material. The segment-cut is especially suitable for large objects and hard materials.

## MULTI-POSITION-PROCESS MPP

With the “Multi-Position-Process” (MPP) you can place multiple specimens on the table and cut them in one sequence. The teach-in function enables a simple and user-friendly setting of various cutting positions.

## CUT OPTIMIZATION

In addition to the type of cut, variable pulse-cut feed can also be selected. Rhythmic pulsed feed ensures regular cooling and removal of cutting debris from the sample.

## REMOTE MAINTENANCE

Using your existing broadband Internet connection, QATM provides an online fault diagnosis and operator support.

## LASER ALIGNMENT AID

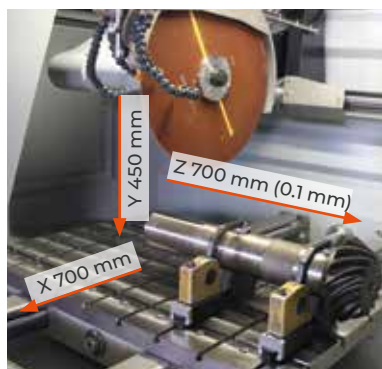
With line laser you can display the scheduled cut on the sample. This helps to define the exact cutting position.



### BASIC MODULE

#### Qcut 800 A

- | automatic table (X-axis) and cutting wheel movement (Y-axis) can reach up to 100 mm/sec. through highly dynamic axis drive in rapid-run
- | automatic cross feed (Z-axis)
- | parallel setting of wheel guard during vertical cutting sequences increases cutting capacity
- | large cutting chamber with large T-slot table
- | machine table made of stainless steel with longitudinal and cross T-slots
- | Multi-position process MPP allows positioning of different components on the table simultaneously and adding into an automatic cutting process
- | easy access to cutting chamber by large sliding and side door (with safety lock during wheel movement)
- | changing of cut-off wheel through side door
- | sliding door with large window made of scratchproof safety glass
- | Touch-Screen display with smart-phone technology and QATM-Software control
- | an unlimited number of password-secured program sequences can be stored and updated; file exchange and backup via USB
- | QATM online-diagnostics and user support available
- | smart phone optics for easy compilation of compact program sequences with position steps and cutting modes (travel-, cut-off-, diagonal-, layer- and segment cut)
- | through the combination of an arbitrary range of cutting positions, series cuts of differing cut-sequences can be made into reality
- | variable pulse-cut feed
- | economical cutting feed by control of the cutting speed and soft start control
- | variable speed
- | manual control of X-/Y-/Z-axis via an industrial joystick
- | incl. cutting wheel arbour with wear ring and optimum chamber illumination
- | automatic central lubrication (6 bar compressed air required)
- | water-cooled 30 kW-main motor integrated into the swivel arm
- | robust welded steel construction body of machine, powder-coated
- | Easy-nut – for easy change of cut-off wheel
- | e-Lab-ready



Order No.: M3510000

**EQUIPMENT**
**POWER SUPPLY**
**Equipment 1**

400 V/50 Hz (3Ph/N/PE)

**Order No.: A3510000**
**Equipment 2**

480 V/60 Hz (3Ph/PE)

**Order No.: A3510002**
**WHEEL GUARD**
**Equipment 1**

 Cut-off wheel Ø 610 mm/24"
**Order No.: A3510001**
**Equipment 2**

 Cut-off wheel Ø 813 mm/32"
**auf Anfrage**
**COOLING AND FILTER SYSTEMS**
**Equipment 1**
**Recirculation cooling unit**


- | integrated, mobile
- | multi chamber filtration
- | exchangeable filter fleece, filter performance up to 90% (see consumables)

 Tank ~ 220 ltr.

 Pump ~ 100 ltr./min

 WxHxD 1006 x 528 x 1253 mm

400 V/50 Hz (3Ph/PE)

**Order No.: A3510005**

480 V/60 Hz (3Ph/PE)

**Order No.: A3510006**
**Equipment 2**
**Belt filter system 285**


- | incl. filter roll

 Tank 285 ltr.

 Filter capacity 100 ltr./min (referring emulsion)

 Pump 100 ltr./min

 Filter area 0.85 m<sup>2</sup>

 Filter fleece width 710 mm

 WxHxD 929 x 790 x 1745 mm

 Weight ~ 120 kg

400 V/50 Hz (3Ph/PE)

**Order No.: A6501006**

480 V/60 Hz (3Ph/PE)

**Order No.: A6501007**
**Connection set 285**

- | for belt filter system please order connection set

**Order No.: Z6501007**
**OPTION**
**CENTRIFUGAL SEPARATOR**


- | to remove coolant mist
- | Increases quality of illumination
- | exhauster power 425 or 500 m<sup>3</sup>/h, depends on power supply

400 V/50 Hz (3Ph/PE)

**Order No.: A3510007**

480 V/60 Hz (3Ph/PE)

**Order No.: A3510009**
**ROTATING TOOL**


- | tool with vertical rotary feed, parallel to wheel
- | angle input via software control

**on request**

**OPTION**
**LASER ALIGNMENT AID**

- | laser line to visualize the cutting line
- | laser class 1

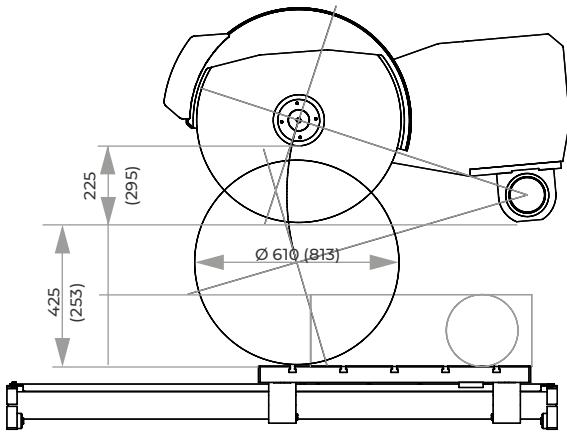
**Order No.: A3510004**
**ACCESSORIES**
**BASIC SET QCUT 800 A**
**Order No.: Z3510000**
**SPECIFICATIONS**

Cut-off wheel	1	Ø 610 mm/24" *
	2	Ø 813 mm/32" **
Max. cutting capacity	Ø 225 mm* / Ø 295 mm**	
Arbour size	Ø 32 + 40 mm	
Vertical movement	450 mm	
Horizontal movement	700 mm	
Speed rate	0.001 - 50 mm/sec	
Z-axis automatic	700 mm	
Precision	0.1 mm	
Table WxD	1150 x 800 mm	
T-slot	12 mm	
Motor cut-off wheel	30 kW, S1-mode	
Connected load	50 kVA	
Variable speed	1000-2000 rpm*	
	1000-1500 rpm**	
Power supply	1	400 V/50 Hz (3Ph/N/PE)
	2	480 480 V/60 Hz (3Ph/PE)
WxHxD	~ 2223 x 2185 x 1860 mm	
Weight	~ 3500 kg (depends on equipment)	

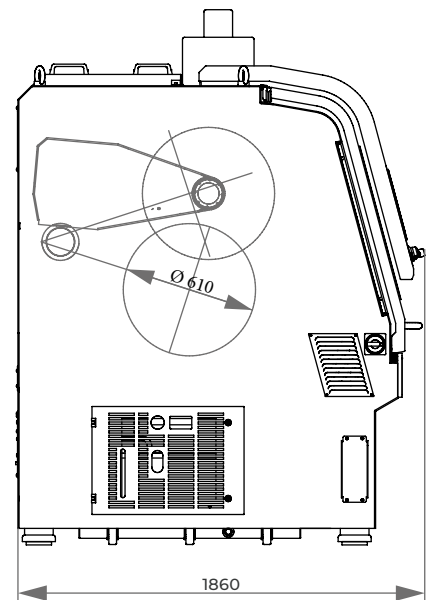
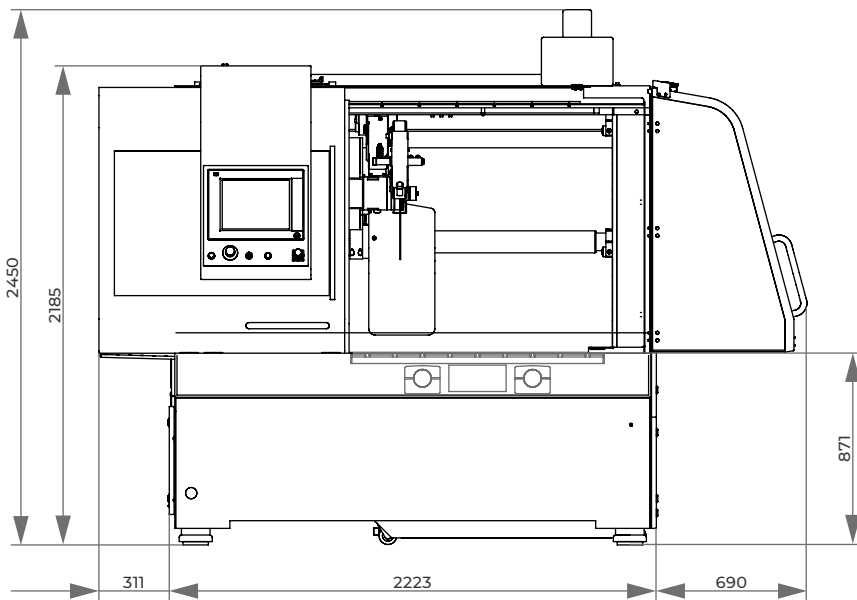
use with cut-off wheel

\* Ø 610 mm or

\*\* Ø 813 mm



Verfahrenweg X-Achse 700



# EASY-CLAMPING BASE



Easy-clamping base M



Easy-clamping base L



Easy-clamping base XL

## QUICK, FLEXIBLE AND COPLANAR

The unique Easy-clamping base serves as a quick clamping station for a variety of vices and extensions blocks.

Fixing, adjusting and removing to machine tables with t-slots is done in a few seconds by turning just a single screw.

## EASY-CLAMPING SYSTEM

Clamping tools with this logo can be used in combination with our Easy-clamping system.

**M** Where appropriate, the suitable Easy-clamping base M, L or XL is specified.

### BENEFITS

- | quick adaption
- | modular clamping system for various combinations
- | use with standard clamping systems

EASY-CLAMPING BASE	M	L	XL
Qcut 250 M			
Brillant 220			
Qcut 250 A			
Brillant 230			
Qcut 350 A			
Brillant 255			
Qcut 400 A			
Qcut 500 A			
Qcut 600 A/BOT			
Qcut 800 A		*	

\*\* only conditionally recommended



### MACHINE TABLE

All recent QATM machine tables are standardly equipped with t-slots (retrofitting possible).



Change of preassembled Easy-clamping bases



Flexible by rotating and clamping elements

### OPERATION

The flexible modular system of combining rotating and clamping with standard clamping elements saves from difficult and painstaking mounting of clamping tools into t-slots. Therefore the Easy-clamping system is a great benefit for your everyday work.

**Qcut 250 A 350 A | Brillant 220 230**
**EASY-CLAMPING BASE M**

- | for machine tables with T-slots
- | incl. clamping key



WxHxD      15 x 80 x 200 mm

**Order No.: Z2236008**

\* not suitable for Brillant 220

**Direct adaption**


- | fast lock vice 50
- | fast lock vice 60
- | fast lock vice 80\*
- | clamping system X-Clamp 3858

**Matching modules**

- | rotatable plate (base for headpieces and rotatable modules)
- | head piece 1 (base for vacuum- and duo sample holder)
- | head piece 2 (base for fast lock vice 50)
- | head piece 3 (intermediate module for rotating plates)
- | head piece 4 (base for fast lock vice 60)

**Qcut 250 M 350 A 400 A 500 A 600 A/BOT 800 A\* | Brillant 230 255**
**EASY-CLAMPING BASE L**

- | for machine tables with T-slots
- | incl. clamping key



WxHxD      20 x 80 x 245mm

**Order No.: Z2236011**

\* only conditionally recommended

**Direct adaption**


- | fast lock vice 60
- | fast lock vice 80
- | adapter for universal vices:
  - V-block plate,
  - system height adapter,
  - guide bar with sliding carriage and V-groove block

**Matching modules**

- | rotatable plate (base for headpieces and rotatable modules)
- | head piece 1 (base for vacuum- and duo sample holder)
- | head piece 2 (base for fast lock vice 50)
- | head piece 3 (intermediate module for rotating plates)
- | head piece 4 (base for fast lock vice 60)

**Qcut 500 A 600 A/BOT 800 A**
**EASY-CLAMPING BASE XL**

- | for machine tables with T-slots
- | incl. clamping key



WxHxD      20 x 100 x 400 mm

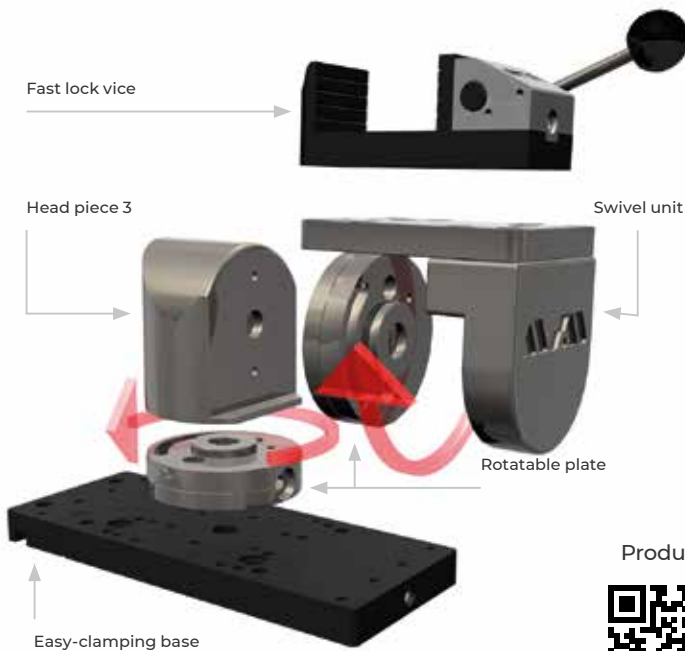
**Order No.: Z2236026**

**Direct adaption**

- | guide bar with sliding carriage 400 set (base for universal vice Mono 132 and chain clamping vice)
- | universal power clamp 100/380



# EASY-CLAMPING MODULES

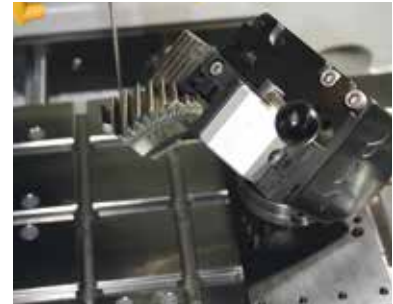


Product video



## ROTATABLE PLATE

The rotatable plate is an intermediate module for angle adjustment with 15°-increments and a precision of 1/2°. The fitting head piece is easily to adapt to the clamping element by a quick holding fixture.



Extension of the pivotal dimension by several rotatable plates

## SWIVELING, ROTATING, CLAMPING

Various Easy-clamping modules are a great benefit for your everyday work. The proved fast lock vices combined with the Easy-clamping modules serve as a quick clamping station for a variety of vices and extensions blocks. Changing of configured clamping vices with Easy-clamping bases is as fast than ever.



## CLAMPING MODULES XL

Clamping of large components in large machines requires a very firm clamping tool. Therefore, the modules for the Easy-clamping system XL are a particularly strong. They can be built up only with power clamp 100/380 and the guide bar for universal vice Mono 132 and chain clamping vice.



Guide bar with universal vice



Guide bar with chain clamping vice



Universal power clamp 100/380

**MODULES FOR EASY-CLAMPING BASE M AND L**

**ROTATABLE PLATE**

(M) (L)



- | quick holding fixture for quick and easy changing the head piece
- | incl. clamping key

Angle precision     1/2°  
 Increments         15°

**Order No.: Z2236005**



Vacuum-sample holder

**MATCHING MODULES**

(M) (L)

- | Head piece 1 (base for vacuum- und Duo-sample holder)
- | Head piece 2 (base for fast lock vice 50)
- | Head piece 3 (intermediate module for rotatable plates)
- | Head piece 4 (base for fast lock vice60)
- | Swiveling prism 60 and 100



Duo-sample holder

**HEAD PIECE 1**

(M) (L)



- | base for vacuum-/Duo-sample holder

**Order No.: Z2236006**

**HEAD PIECE 2**

(M) (L)



- | base for fast lock vice 50 and customized solutions

**Order No.: Z2236007**



Fast lock vice 50

**HEAD PIECE 3**

(M) (L)



- | intermediate module with angle 90° for adapting an additional rotatable plate
- | with additional rotatable plate adaption for swiveling unit with fast lock vice 50 and 60

**Order No.: Z2236016**



Swivel unit with fast lock vice 50

**MODULES FOR EASY-CLAMPING BASE M AND L**
**HEAD PIECE 4**

(M) (L)

| base for fast lock vice 60 and customized solutions


**Order No.: Z2236025**
**SWIVELING PRISM**

(M) (L)

Swiveling prism

 | for cylindrical samples  $\varnothing$  4-20 mm

| swivel range adjustable 0-90°

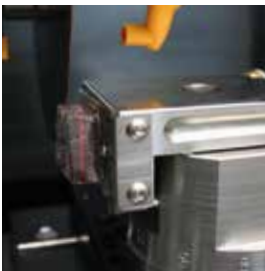


60

100

Swiveling prism 60

Swiveling prism 100

**Order No.: Z2236021**
**Order No.: Z2236023**

**CLAMPING ELEMENT FOR HEADPIECE 1 – ROTATABLE PLATE**
**VACUUM SAMPLE HOLDER**

(M) (L)

| for object slides and unclampable samples



For microscope slide 28 x 48 mm

**Order No.: Z2236002**
**Vacuum pump**

230 V/50 Hz (1Ph/N/PE)

**Order No.: Z1304600**

110 V/60 Hz (1Ph/N/PE)

**Order No.: Z1304634**

**CLAMPING ELEMENT FOR HEADPIECE 1 – ROTATABLE PLATE**
**DUO SAMPLE HOLDER**

(M) (L)

| for object slides and target preparations

| 4 ball head screws



Max. sample size 30 x 55 mm

**Order No.: Z2236003**

**CLAMPING ELEMENT FOR HEADPIECE 3 - 2 ROTATABLE PLATES**

**SWIVEL UNIT VICE**

(M) (L)



Base for fast lock vice 50

Order No.: Z2236017



Base for fast lock vice 60

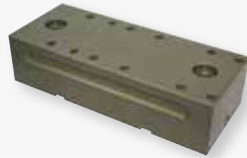
Order No.: Z2236018

**MODULES FOR EASY-CLAMPING BASE L**

**SYSTEM-HEIGHT ADAPTER 50**

(L)

- | multiple mountable
- | base for fast lock vice 80
- | extension with V-block plate 40 for universal vices
- | incl. set of center bolts



Construction height 50 mm

Order No.: Z1304631



Mounting example

**V-BLOCK PLATE 40**

(L)

- | base for universal vices
- | for Easy-clamping base L (please order set of center bolts)
- | also usable without Easy-clamping base, incl. fasteners



Construction height 40 mm  
T-slot 12 mm

Order No.: Z1304624



Universal vice Piccolo

**ACCESSORIES**

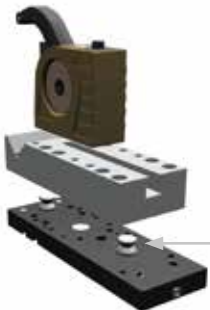
**SET OF CENTER BOLTS**

(L)

- | for mounting to Easy-clamping base or height-adapter



Order No.: Z2236013



Universal vice Mono

center bolts

**ACCESSORIES**

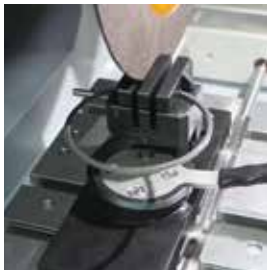
**GUIDE BAR WITH SLIDING CARRIAGE AND V-GROOVE BLOCK** (L)



- | base for Universal vices Mono
- | for clamping crankshafts, camshafts
- | bar 280 mm, with sliding carriage, V-groove block
- | incl. fasteners for T-slot 12 mm

without Universal vice

**Order No.: Z1350001**



**VERTICAL VICE**

(M) (L)

- | for clamping of delicate, thin specimens
- | integrated Easy-clamping base M or L
- | incl. adjustable stop

**Vertical Vice single**

**Vertical Vice double**



- | detached segment is still clamped after cutting

with Easy-clamping base M

with Easy-clamping base M

**Order No.: Z2236009**

**Order No.: Z2236010**

with Easy-clamping base L

with Easy-clamping base L

**Order No.: Z2236019**

**Order No.: Z2236020**



**SCREW CLAMPING SYSTEM**

(M)



- | for longitudinal cut of screws
- | tool mounting with Easy-Clamping Base M (medium)
- | Easy-Clamping Base M is already completely integrated
- | for Ø outer thread 4 - 12 mm
- | HxWxD 95 x 85 x 200 mm
- | incl. clamping key

**Order No.: Z1304643**

**Qcut 500 A 600 A/BOT 800 A**

(XL)

**GUIDE BAR 400 SET**



- | base for Universal vices Mono, Duo, chain clamping unit
- | for clamping crankshafts, camshafts
- | bar 400 mm, standard sliding carriage
- | 1x V-groove block 120°
- | 2x slanted resting blocks
- | incl. fasteners for T-slot 12 mm

without Universal vicer

**Order No.: Z1350024**


**ACCESSORIES**
**UNIVERSAL-POWER CLAMPING SYSTEM 100/380**

XL



- | integrated mechanical-hydraulic power
- | with standard clamping jaws plane/grooved, h 34 mm
- | incl. fasteners for T-slot nuts 12 mm and hand crank

Clamping width	0-205 mm
Max. clamp force	25 kN
Weight	18.5 kg
WxHxD	100 x 104 x 466 mm

**Order No.: Z2234015**

**UNIVERSAL-POWER CLAMPING SYSTEM 100/540**

- | integrated mechanical-hydraulic power
- | incl. fasteners for T-slot nuts 12 mm



Clamping width	0-365 mm
Max. clamp force	25 kN
Weight	26.3 kg
WxHxD	100 x 104 x 625 mm

**Order No.: Z2234016**

**V-GROOVE JAW**


- | horizontal V-groove
- | combinable with flat jaw h 80 mm
- | incl. fixing screws

WxH	100 x 80 mm
for clamping round material	Ø 10-100 mm

**Order No.: Z2234018**

**ANGLE DRIVE**


- | crank with top operation

**Order No.: Z2234019**

**FLAT JAW/H 80 MM**


- | grooved tightening surface
- | for clamping parallel specimens
- | combinable with V-groove jaw
- | incl. fixing screws

WxH	100 x 80 mm
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**Order No.: Z2234017**

# CUTTING ACCESSORIES

## FAST LOCK VICES

### Brillant 220

#### FAST LOCK VICE 50



- | with manual force amplification
- | incl. accessories

Ⓜ	M	direct adaption head piece 2, swivel unit
	L	head piece 2, swivel unit

Jaws WxH	35 x 25 mm
T-slot	8 mm

<b>Clamping range 50 mm</b>	<b>Clamping range 100 mm</b>	<b>V-groove jaw</b>
lever left	lever left	round materials Ø 1-35 mm
<b>Order No.: Z2270002</b>	<b>Order No.: Z2270003</b>	<b>Order No.: 02270011</b>
lever right	lever right	
<b>Order No.: Z2270000</b>	<b>Order No.: Z2270001</b>	

### Qcut 250 A 350 A 400 A | Brillant 220 230 255

#### FAST LOCK VICE 60



- | with force memory system
- | horizontal fixation of round materials

Ⓜ	M	direct adaption head piece 4, swivel unit
	L	head piece 4, swivel unit

Jaws WxH	60 x 32 mm
HxD	54 x 195 mm

<b>Clamping range 120 mm</b>	<b>V-groove jaw</b>
lever left	round materials Ø 2-35 mm
<b>Order No.: Z2235002</b>	<b>Order No.: 02235013</b>
lever right	
<b>Order No.: Z2235001</b>	



**Qcut 250 M 250 A 350 A 400 A 500 A 600 A/BOT 800 A | Brillant 230 255**
**FAST LOCK VICE 80**


- | with force memory system
- | horizontal fixation of round materials

- Ⓜ direct adaption
- Ⓛ direct adaption height adapt. 50

Jaws WxH 80 x 35 mm

**Clamping range 100 mm**
**Clamping range 150 mm**
**Clamping range 250 mm**

- | not for Qcut 250 M, 250 A, 350 A | Brillant 230

HxD 71 x 203 mm

HxD 71 x 253 mm

HxD 71 x 353 mm

| lever left

| lever left

| lever left

**Order No.: Z2231001**
**Order No.: Z2231002**
**Order No.: Z2231020**

| lever right

| lever right

| lever right

**Order No.: Z2231003**
**Order No.: Z2231004**
**Order No.: Z2231021**

**V-groove jaw**

round materials Ø 2-40 mm

**Order No.: 02231016**
**Qcut 250 M 250 A 350 A 400 A 500 A 600 A/BOT 800 A | Brillant 230 255**
**QTOOL 80**


- | fast lock vice with force memory function
- | clamping force adjustment High and Low
- | integrated Easy clamping function
- | easy and quick exchange of clamping jaws
- | movable counter jaw
- | ergonomic handle with extension option
- | incl. 2 exchangeable standard clamping jaw

Jaws (W x H) 100 x 40 mm

**Clamping range 100 mm**
**Clamping range 150 mm**
**Clamping range 250 mm**

- | not for Qcut 250 M

- | not for Qcut 250 M, 250 A, 350 A | Brillant 230

HxD 86 x 256 mm

HxD 86 x 303 mm

HxD 86 x 403 mm

**Order No.: Z2231200**
**Order No.: Z2231201**
**Order No.: Z2231202**





### Clamping jaw 70 mm



| dimensions (W x H) 100 x 70 mm

Order No.: 02231212

### Prism jaw 40 mm



| prism jaw for diameters 5 - 28 mm  
| dimensions (W x H) 100 x 40 mm

Order No.: 02231213



### Bevelled jaw 40 mm



| clamping jaw for down clamping of round material  
| 5° bevelled clamping surface  
| dimensions (W x H) 100 x 40 mm

Order No.: 02231229

### Cross prism jaw 40 mm



| horizontal 0° and vertical 90° prism for  
max. diameter: 55 mm  
| dimensions (W x H) 100 x 40 mm

Order No.: 02231230



### Round bar jaw 70 mm slotted



| longitudinal prism for max. diameter: 70 mm  
| slotted on both sides  
| dimensions (W x H) 150 x 65 mm

Order No.: 02231231

### Prism jaw 70 mm slotted



| horizontal prisms for maximum diameters:  
7 mm, 18 mm, 53 mm  
| slotted on both sides  
| dimensions (W x H) 150 x 65 mm

Order No.: 02231232

### Clamping jaw 70 mm slotted



| slotted on both sides  
| dimensions (W x H) 150 x 65 mm

Order No.: 02231233

Qcut 400 A 500 A 600 A/BOT 800 A

**ROTATING PLATE 2X 60°**



- | manual rotation of clamping tool
- | manual horizontal move on machine table

Clamping range            100 mm  
 Swivel range                +/- 60°

**Order No.: Z1304560**



# CROSS VICES, EXPANSION CLAMPING DEVICE



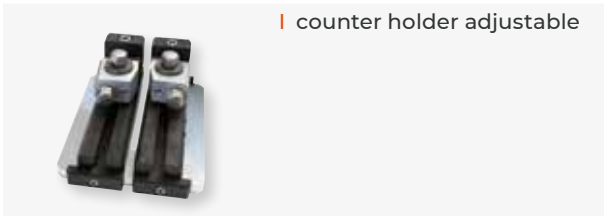
## CROSS VICE

- | especially suitable for samples which contract during cutting process by material tension: the samples are pulled apart by the transversely exciting jaws
- | for parallel clamping of round and rectangular samples, particular for longitudinal cutting through hardened materials
- | excentric clamping arrangement allows rapid changing of samples

Qcut 250 M 250 A 350 A

Brillant 230 255

### CROSS VICE 50/100



| counter holder adjustable

WxH	50 x 50 mm
Round materials	Ø max. 60 mm
Clamping range	max. 100 mm
Incl. accessories	T-slot 12 mm

Order No.: Z1340010

Qcut 400 A 500 A 600 A/BOT 800 A

Brillant 255\*

### CROSS VICE 80/100



| counter holder adjustable

WxH	80 x 50 mm
Round materials	Ø max. 90 mm
Clamping range	max. 100 mm
Incl. accessories	T-slot 12 mm

Order No.: Z1340000

\* on request

Qcut 500 A 600 A/BOT 800 A

### CROSS VICE 80/150



| counter holder adjustable

WxH	80 x 50 mm
Round materials	Ø max. 90 mm
Clamping range	max. 150 mm
Incl. accessories	T-slot 12 mm

Order No.: Z1340001

Qcut 400 A 500 A 600 A/BOT 800 A

Brillant 255

### EXPANSION CLAMPING DEVICE



| to release material tension of cylindrical, hollow workpieces

Inner sample-Ø	55-120 mm
Adjustment*	~ 10 mm

\* extendable by exchange of cylindrical pins

Order No.: Z1304636



**CUTTING ACCESSORIES**
**ANGLE VICES**

Qcut 250 A 350 A 400 A 500 A 600 A/BOT 800 A  
Brillant 230 255

**ANGLE VICE 60**


- | vertically centered, stainless
- | 2x plain jaws

Sample-Ø	max. 60 mm with V-groove jaw
Clamping range	55 mm
Rotatable	270°
Incl. accessories	T-slot 12 mm

Order No.: Z1304001

**V-GROOVE JAW**

Round materials	Ø 10-60 mm
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Order No.: 01304008

Qcut 250 A 350 A 400 A 500 A 600 A/BOT 800 A  
Brillant 230 255

**ROTATING VICE 60**


- | horizontally centered, stainless
- | 2x plain jaws

Sample-Ø	max. 60 mm with V-groove jaw
Clamping range	55 mm
Swivel range	90°
Incl. accessories	T-slot 12 mm

Order No.: Z1304002

**V-GROOVE JAW**

Round materials	Ø 10-60 mm
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Order No.: 01304008

Qcut 400 A 500 A 600 A/BOT 800 A  
Brillant 255

**ANGLE VICE 80**


- | vertically centered, stainless
- | 2x plain jaws

Sample-Ø	max. 60 mm with V-groove jaw
Clamping range	70 mm
Rotatable	270°
Incl. accessories	T-slot 12 mm

Order No.: Z1302000

**V-GROOVE JAW**

Round materials	Ø 10-60 mm
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Order No.: 01302016

**Qcut 400 A 500 A 600 A/BOT 800 A | Brillant 255****BASIC MODULE****UNIVERSAL POWER CLAMPING SYSTEM LC 90**

- | easy and safe clamping of various workpieces
- | various clamping jaws available
- | up to 28 kN tension with modest effort through mechanical power transmission
- | adjustable clamping force (11 settings)
- | incl. fasteners for t-slot nuts 12 mm and hand crank

**Order No.: Z2234001****ACCESSORIES****CLAMPING JAWS****Carrier jaws LC 90**

- | 1 pair, base for V-groove jaw and flat jaw 100
- | easy fastening with just one screw
- | made of high-strength aluminium with ceramic coating

**Order No.: Z2234003****V-groove jaw 100**

- | 1 piece, combinable with flat jaw 100
- | rotatable jaw (case-hardened steel)
- | jaw size (WxH) 100 x 70 mm
- | two horizontal V-grooves
- | for clamping round material between Ø 10 and 100 mm
- | incl. fixing screw

**Order No.: Z2234004****Spannbacke glatt 100**

- | 1 piece, combinable with flat jaw 100
- | flat tightening surface
- | for clamping parallel specimens

**Order No.: Z2234005**

**ACCESSORIES**
**QUICK-CHANGING DEVICE**


- | 1 pair
- | quick and easy connection of modules by using pull-down-studs
- | for fixation of
  - step jaw 100
  - clamping system X-Clamp 100
  - customized clamping solutions

**Order No.: Z2234009**
**STEP JAW 100**


- | 1 pair
- | clamping of parallel workpieces
- | application of clamping force via basic module LC 90
- | 180° rotatable
- | use only with quick changing device

**Order No.: Z2234008**
**CLAMPING SYSTEM X-CLAMP 100**


- | 1 pair
- | individual and safe clamping of various specimen shapes and sizes with spring suspended stainless steel plungers
- | perfect form fit with minimal effort
- | time-saving
- | use only with quick-changing device
- | incl. torque wrench and fixing screws

**Order No.: Z2234002**
**BASE 90°**


- | for installing the basic module LC 90 in side position 90°
- | incl. fixing material for T-slot nut DIN 650 12 mm

**Order No.: Z2234006**
**SUPPORT MODULE**


- | 1 piece
- | for supporting long workpieces
- | reducing of vibrations
- | spring suspended plungers fit tightly to the specimen
- | fixation of plungers
- | supplementary fixation of workpiece from above possible with universal vice
- | quick and easy connection of modules by using pull-down studs

**Order No.: Z1350023**
**CUSTOMIZED CLAMPING JAWS**


- | QATM-service: send us your drawing (DXF or DWG-file) or fotos of your workpiece.

We will design your individually optimized clamping vice.

**on request**

**BASIC MODULE**

**CLAMPING SYSTEM X-CLAMP 3858**



- | individual and safe clamping of various smaller specimen shapes and sizes with spring suspended stainless steel plungers
- | perfect form fit with minimal effort
- | time-saving
- | incl. torque wrench

Plunger area WxH 23 x 20 mm

Plunger stroke 12 mm

Max. clamping width 118 mm

**Order No.: Z2234010**

M direct adaption

**ACCESSORIES**

**BASE FOR CLAMPING SYSTEM X-CLAMP 3858**



- | incl. fixing material
- | for fixation with T-slot nut 8 mm

**Order No.: Z2234012**

- | incl. fixing material
- | for fixation with T-slot nut 12 mm

**Order No.: Z2234011**

## CUTTING ACCESSORIES

# UNIVERSAL VICES

Qcut 250 M 250 A 350 A | Brillant 220 230

### UNIVERSAL VICE PICCOLO 54



L high adapter 50  
V-block plate 40

Order No.: Z1350008

| incl. handle

Working radius	54 mm
Clamping height	-15-58 mm
Clamping force	6.5 kN
Fixing screws	M 8 x 25
T-slot nut	M 8 x 12
stainless	

suitcase set

Universal vice Piccolo 54



- | 2x universal vice Piccolo 54
- | 2x height adapter Piccolo
- | 1x handle Piccolo
- | 1x clamping arm extension
- | 3x standard clamping shoe
- | 1x piece clamping shoe traverse bridge
- | 1x clamping shoe longitudinal bridge
- | 1x clamping shoe traverse V-shoe
- | 1x clamping shoe longitudinal V-shoe
- | 4x T-slot nuts stainless M 8 x 12
- | 4x fixing screws M 8 x 25

Order No.: Z1350010

### UNIVERSAL VICE PICCOLO 100



Order No.: Z1350012

| incl. handle

Working radius	100 mm
Clamping height	-40-90 mm
Clamping force	4.2 kN
Fixing screws	M 8 x 25
T-slot nut	M 8 x 12
stainless	

Qcut 250 M 250 A 350 A 400 A 500 A 600 A/BOT 800 A | Brillant 230 255

### UNIVERSAL VICE MONO 61



L high adapter 50, guide bar  
V-block plate 40

Order No.: Z1350002

| incl. handle

Working radius	61 mm
Clamping height	-8-102 mm
Clamping force	12 kN
Fixing screws	M 10 x 32
T-slot nut	M 10 x 12
stainless	

suitcase set

Universal vice Mono 61



- | 2x universal vice Mono 61
- | 2x height adapter Mono
- | 1x handle Mono
- | 1x clamping arm extension
- | 3x standard clamping shoe
- | 1x clamping shoe traverse bridge
- | 1x clamping shoe longitudinal bridge
- | 1x clamping shoe traverse V-shoe
- | 1x clamping shoe longitudinal V-shoe
- | 4x T-slot nuts stainless M 8 x 12
- | 4x fixing screws M 8 x 25

Order No.: Z1350004

### UNIVERSAL VICE MONO 132



L high adapter 50, guide bar  
V-block plate 40  
XL guide bar 400

Order No.: Z1350011

| incl. handle

Working radius	132 mm
Clamping height	-43-155 mm
Clamping force	8 kN
Fixing screws	M 10 x 32
T-slot nut	M 10 x 12
stainless	



## UNIVERSAL VICE DUO



- | for clamping and lifting
- | with 2 changeable clamping arms
- | incl. handle

Working radius	46-91 mm
Clamping height	0-129 mm
Lifting height	4-142 mm
Clamping force	11 kN
Fixing screw	M 10 x 32
T-slot nut stainless	M 10 x 12

XL guide bar 400

Order No.: Z1350005

## CHAIN CLAMPING VICE



- | for clamping of big parts
- | 1x universal vice Mono
- | 1x chain (length 1m)
- | 1x hooking block for chain

Clamping force	16 kN
Fixing screw	M 10 x 32
Fixing screw DIN 912	M 10 x 25
2x T-slot nut stainless	M 10 x 12

XL guide bar 400

Order No.: Z1350006

## ACCESSORIES

### CLAMPING SHOES

- | for all universal vices



Longitudinal V-shoe

Order No.: 92005796



Traverse V-shoe

Order No.: 92005797



Longitudinal bridge

Order No.: 92005799



Traverse bridge

Order No.: 92005800



Standard clamping shoe

Order No.: 92005798

### FIXATION

Fixing screw

- | for universal vice Piccolo



M 6 x 25

Order No.: Z1304591

M 8 x 25

Order No.: 95003169

M 10 x 25

Order No.: 95003170

- | for universal vice Mono, Duo, chain clamping system

M 10 x 32

Order No.: 95003168

T-slot nut stainless\*



M 6 x 8

Order No.: 91001157

M 8 x 10

Order No.: 91001161

M 8 x 12

Order No.: 91001159

M 10 x 12

Order No.: 91001158

\* other sizes on request

**ACCESSORIES**
**HEIGHT ADAPTER PICCOLO**


Construction height	60 mm
Fixing screw	M 8 x 25
T-slot nut, stainless	M 8 x 12

**Order No.: Z1350007**
**HÖHENUNTERSATZ MONO**


Construction height	74 mm
Fixing screw	M 10 x 32
T-slot nut, stainless	M 10 x 12

**Order No.: Z1350003**
**CLAMPING ARM EXTENSION**


without universal vice

for Piccolo 54 and Mono 61	
Extension	90 mm
Clamping shoe	Standard

**Order No.: 95003172**
**PAIR OF V-BLOCKS**


Angle	90°
for samples	Ø 5-50 mm
D x W	50 x 150 mm

**Order No.: 92005805**
**CUSTOMIZED CLAMPING TOOLS**

Different types of tasks and conditions constitute diverse demands on clamping tools and cutting equipment. The construction of our machines gives us the opportunity to design and manufacture custom-made solutions for special dimensions. QATM has already successfully developed special clamping tools for complicated cutting movements or geometries.

Guide bar 400 Set



A close-up photograph of a person's hand holding a small white scoop, pouring a vibrant green powder into a circular opening of a grey industrial machine. The machine has various components, including a black tray and a silver handle. The background is slightly blurred, showing more of the machine's structure.

# 2. MOUNTING

## CONTENT

# MOUNTING

HOT MOUNTING PRESSES		PAGE
Opal 410	Hot mounting press	2.5
Qpress 50	Modular hot mounting press	2.8
Opal 480	Hot mounting press	2.13

UV MOUNTING DEVICE		PAGE
Qmount	UV mounting device	2.16



Opal 410



Qpress 50-2



Qpress 50-4



Opal 480



Qmount

## MOUNTING – EXPLANATIONS

# ARTICLE – FUNCTION – EQUIPMENT

### EQUIPMENT

The complete device consists of a basic module and its equipment. When compiling a complete unit, the selection of the respective equipment is required.

A device thus consists of several article numbers. The numbering in the ‚Specifications‘ correspond to the equipment.

### OPTION

Options if desired, have to be selected in ordering equipment.

They can not be easily retrofitted.

### ACCESSORIES

Accessories can be selected independently of the ordering equipment.



### ECO FUNCTION

The device is supported by an Eco function, such as to reduce water consumption.



### E-LAB

An e-Lab-ready device can be connected to a PC with a network. Preparation procedures are thus reproducible and interchangeable.

### MADE IN GERMANY

All components used by us, as well as the construction design correspond to the normal device requirements for industry in Germany and EC Safety Regulations.

The units are finished in service friendly modular construction.

Technical changes reserved.

Molds are also available in inch sizes.

**SIMPLE OPERATION**

The bayonet connection enables easy loosening and swinging to the side. Externally accessible closure components are PTFE-coated. After pressing the start key, the fully automatic program is executed with the preselected parameters. The parameters can be changed and adjusted during the mounting process.

The Opal 410 is a fully hydraulic, water cooled hot mounting press for mounting samples before polishing. The process sequence is executed automatically. Mould assemblies can be exchanged quickly and without tools. The robust aluminium construction is powder coated.

With its solid construction and QATM hydraulic system, the operating noise of the machine is minimized.

**MOULD ASSEMBLIES**

Our comprehensive selection of mould assemblies from  $\varnothing$  25.2 - 40 mm enables optimum mounting of your sample. Two mounts can be produced simultaneously with the use of a spacer.

**ELECTRONIC CONTROL**

With its clear LCD operation panel you can easily control the hot mounting press.

**HEATING**

Our high-power heating system gives a very short warm-up time.

**COOLING WITH WATER-SAVING FUNCTION**

The mounting process is either cooled with continuous or pulsed water flow. Thereby, a considerably lower water consumption can be achieved by pulsed cooling.

**PRESSURE CONTROL**

Besides the standard operation, you can choose between six pressures depending on sample diameter.


**BASIC MODULE**
**OPAL 410**

- | automatic hot mounting press
- | fully hydraulic operation with automatic water cooling (with water saving function)
- | bayonet closure system
- | computer controlled
- | easy change of mould assemblies
- | aluminium case, powder coated

**Order No.: M0770000**
**EQUIPMENT**
**POWER SUPPLY**
**Equipment 1**

230 V/50 Hz (1Ph/N/PE)

**Order No.: A0770000**
**Equipment 2**

110 V/60 Hz (1Ph/N/PE)

**Order No.: A0770001**
**ACCESSORIES**
**COOLING UNIT**
**Recirculation unit**

| extern



Cooling	0.81 kW
Motor	0.6 kW
Flow pressure	2.8 bar
Tank	6 ltr.
WxHxD	440 x 345 x 565mm
230 V/50 Hz (1Ph/N/PE)	
<b>Order No.: Z0730007</b>	
110 V/60 Hz (1Ph/N/PE)	
<b>Order No.: Z0730008</b>	

**System cooling unit**

| integrated in drawer



Cooling	0.81 kW
Motor	0.6 kW
Flow pressure	2.8 bar
Tank	6 ltr.
230 V/50 Hz (1Ph/N/PE)	
<b>Order No.: A5810171</b>	
110 V/60 Hz (1Ph/N/PE)	
<b>Order No.: A5810172</b>	

**INSERTS**
**Mould assemblies**

| cylinder, upper and lower ram



	without chamfer	with chamfer
	<b>Order No.:</b>	<b>Order No.:</b>
Ø 25.2 mm (appr. 1")	<b>Z0770101</b>	<b>Z0770107</b>
Ø 30 mm	<b>Z0770102</b>	<b>Z0770108</b>
Ø 32 mm	<b>Z0770103</b>	<b>Z0770109</b>
Ø 31.75 mm (1¼")	<b>Z0770104</b>	<b>Z0770110</b>
Ø 38 mm (appr. 1½")	<b>Z0770105</b>	<b>Z0770111</b>
Ø 40 mm	<b>Z0770106</b>	<b>Z0770112</b>

**Spacer**

| for double mounts



	without chamfer	with chamfer
	<b>Order No.:</b>	<b>Order No.:</b>
Ø 25.2 mm (appr. 1")	<b>00702113</b>	<b>00702135</b>
Ø 30 mm	<b>00702114</b>	<b>00702136</b>
Ø 32 mm	<b>00702115</b>	<b>00702137</b>
Ø 31.75 mm (1¼")	<b>00702141</b>	<b>00702142</b>
Ø 38 mm (appr. 1½")	<b>00702116</b>	<b>00702124</b>
Ø 40 mm	<b>00702117</b>	<b>00702139</b>



### ACCESSORIES

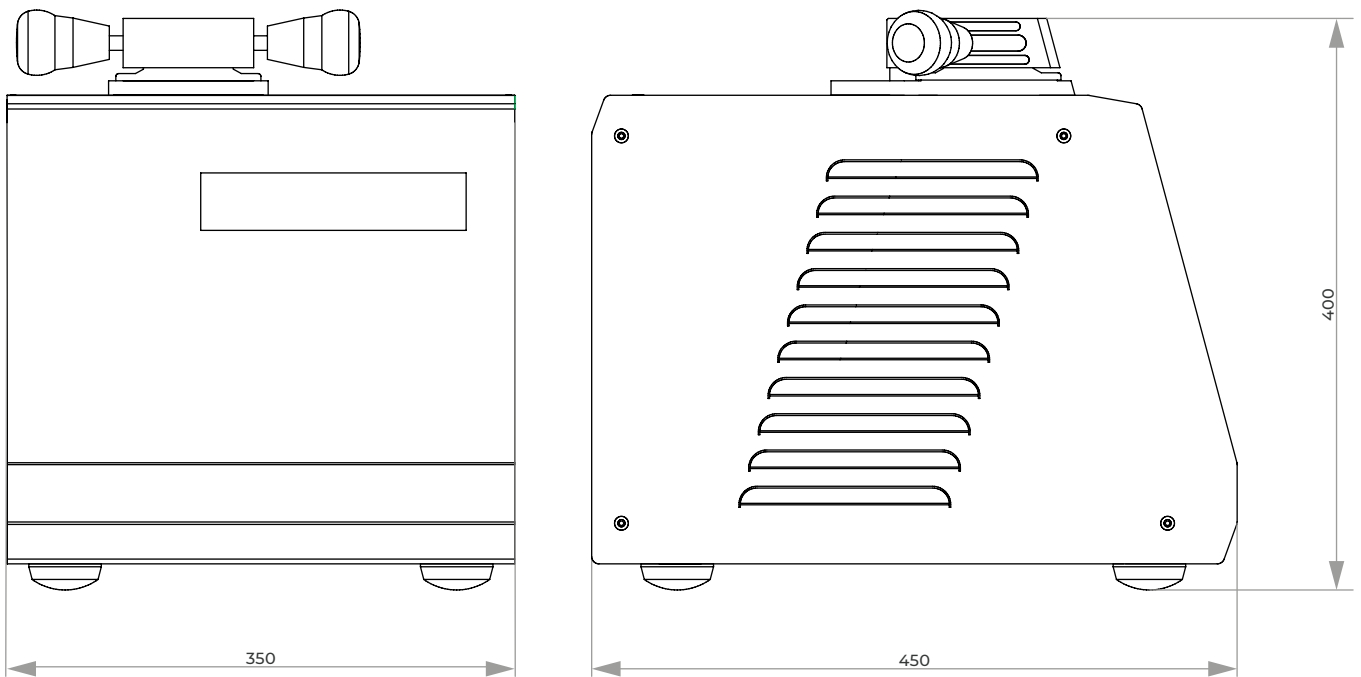
#### CONNECTION SET OPAL 410

2x pressure tube	R ½"; 2 m long
Adapter	for ¾"

Order No.: Z0730003

### SPECIFICATIONS

Mould	Ø 25.2-40 mm
Connected load	3.1 kVA
Power supply	1 230 V/50 Hz (1Ph/N/PE) 2 110 V/60 Hz (1Ph/N/PE)
Heating	4 x 500 Watt
Temperature range	20-200 °C
Heating time	variable / 0-30 min
Cooling time	variable / 0-30 min
Max. pressure	up to 450 bar depending on mould
WxHxD	~ 350 x 400 x 450 mm
Weight	40 kg



## MODULAR HOT MOUNTING PRESS

# QPRESS 50



### FAST MOUNTING CYCLE

The Qpress 50 is designed for fast mounting including a pre-heat function and safes significantly time compared to other hot mounting presses.

### MODULAR DESIGN

The basic unit, consisting of control and pressing unit, can be extended as required by 1 additional pressing unit Qp 50 (Qpress 50-2) or by 1-3 additional pressing units Qp 50 (Qpress 50-4). These units are separated from the basic unit and can also be added later. This allows to generate samples of up to 4 different diameters simultaneously in one modular device.

The Qpress 50 is a modular hot mounting press for fast and simultaneously independent mounting of different materialographic specimens. Due to its modularity the Qpress 50 can be configured ideally to the specific customer's needs; e.g. the specimens can differ in size and material.

The 7" touch screen with intuitive software contains user account management, pre-installed recipes and user-defined maintenance tasks and more. The device combines fast mounting and high energy efficiency in a robust powder-coated steel case.



### IMPROVED SLIDING CLOSURE

For easy operation a single-hand closure system has been evolved. By closing the sliding closure with suction nozzle, excess granulate is transported into a detachable shelf (dirt trap). The closure can be lifted up to clean the upper ram easily. Secure closure is given by self-locking under pressure.



### USER SAFETY

An integrated exhaust device (Dust Guard) protects the operator from inhaling expired fine dust during filling the moulds with mounting resin.



### EASY TO OPERATE

The multi-functional button indicates the selected mounting unit, the operation state of the pressing unit and facilitates the operation of the whole unit. The 7" touch display with control software consists of pre-installed mounting methods, consumables and offers the storage of more than 200 user-defined mounting methods. The user account management can be used to set different user accounts with diverse access and operator limits. In addition to that, user-defined maintenance tasks and cooling modes can be edited.



Basic unit



Qpress 50-2 -  
Basic unit with 1 additional pressing units Qp 50



Qpress 50-4 -  
Basic unit with 2 additional pressing units Qp 50



## BASIC MODULE

### Qpress 50

- | modular hot mounting press
- | basic unit with hydraulic mounting press and control interface for modular extension
- | fast mounting with low power consumption
- | proven one-hand closure system with integrated dirt trap (granular shelf to collect excess granulate) and suction nozzle
- | Dust Guard: removal of fine dust during filling of mold
- | 7" touch display with innovative control software
- | high flexibility due to customized
  - preheating function
  - cooling modes
  - maintenance tasks
- | user accounts with definable access rights
- | robust steel construction, powder coated

### Qpress 50-2

- | basic unit, consisting of control- and integrated pressing unit
- | extendable with 1 additional pressing unit Qp 50 (max. 2 moulds totally)

200-240 V, 50/60 Hz (1Ph/N/PE)

Order No.: M0800004

100-120 V, 50/60 Hz (1Ph/N/PE)

Order No.: M0800005

### Qpress 50-4

- | basic unit, consisting of control- and integrated pressing unit
- | extendable with up to 3 additional pressing units Qp 50 (max. up to 4 moulds totally)

200-240 V, 50/60 Hz (1Ph/N/PE)

Order No.: M0800002

100-120 V, 50/60 Hz (1Ph/N/PE)

Order No.: M0800003

## ACCESSORIES

### PRESSING UNIT Qp 50

- | additional pressing unit for basic unit
- | mould assemblies available in 6 different sizes
- | with sliding closure

#### Equipment 1

200-240 V, 50/60 Hz (1Ph/N/PE)

Order No.: A0800011

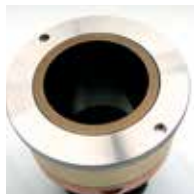
#### Equipment 2

100-120 V, 50/60 Hz (1Ph/N/PE)

Order No.: A0800012

**ACCESSORIES**
**MOULD ASSEMBLY**

| cylinder, upper and lower ram



Mould size	Equipment 1 200-240 V, 50/60 Hz (1Ph/N/PE)		Equipment 2 100-20 V, 50/60 Hz (1Ph/N/PE)	
	without chamfer	with chamfer	without chamfer	with chamfer
	<b>Order No.:</b>	<b>Order No.:</b>	<b>Order No.:</b>	<b>Order No.:</b>
Ø 25.2 mm (~1")	<b>A0800210</b>	<b>A0800220</b>	<b>A0800110</b>	<b>A0800120</b>
Ø 30 mm	<b>A0800211</b>	<b>A0800221</b>	<b>A0800113</b>	<b>A0800123</b>
Ø 1¼" (~32 mm)	<b>A0800213</b>	<b>A0800223</b>	<b>A0800111</b>	<b>A0800121</b>
Ø 1½" (~38 mm)	<b>A0800214</b>	<b>A0800224</b>	<b>A0800114</b>	<b>A0800124</b>
Ø 40 mm	<b>A0800215</b>	<b>A0800225</b>	<b>A0800115</b>	<b>A0800125</b>
Ø 50 mm	<b>A0800216</b>	<b>A0800226</b>	<b>A0800116</b>	<b>A0800126</b>

**VACUUM CLEANER Qpress 50**


| extern

Motor	0.6 kW
Effective airflow volume	20-200 m <sup>3</sup> /h
WxHxD	300x 510 x 300 mm
230 V/50 Hz (1Ph/N/PE)	
<b>Order No.: A0800227</b>	
110 V/60 Hz (1Ph/N/PE)	
<b>Order No.: A0800228</b>	

**CONNECTION SET Qpress 50**

2x pressure tube	R ½"; 2 m long
Adapter	for ¾"

**Order No.: Z0800001**
**BASIC SET Qpress 50**
**Order No.: Z0800002**
**ACCESSORIES**
**RECIRCULATION COOLING UNIT**

Recirculation cooling unit



| extern

Cooling	1.7 kW
Motor	1.4 kW
Flow pressure	5.0 bar
Tank	4 ltr.
WxHxD	235 x 520 x 625 mm
230 V/50 Hz (1Ph/N/PE)	
<b>Order No.: A0800233</b>	
110 V/60 Hz (1Ph/N/PE)	
<b>Order No.: A0800234</b>	

System cooling unit

 | integrated in drawer  
(21 HT)

Cooling	1.7 kW
Motor	1.4 kW
Flow pressure	5.0 bar
Tankinhalt	4 ltr.
230 V/50 Hz (1Ph/N/PE)	
<b>Order No.: A0800235</b>	
110 V/60 Hz (1Ph/N/PE)	
<b>Order No.: A0800236</b>	



### SPECIFICATIONS

Heating power	1200 W
Temperature range	20-200 °C
Heating time	adjustable
Cooling time	adjustable
Max. pressure in mold	250-350 bar depending on size

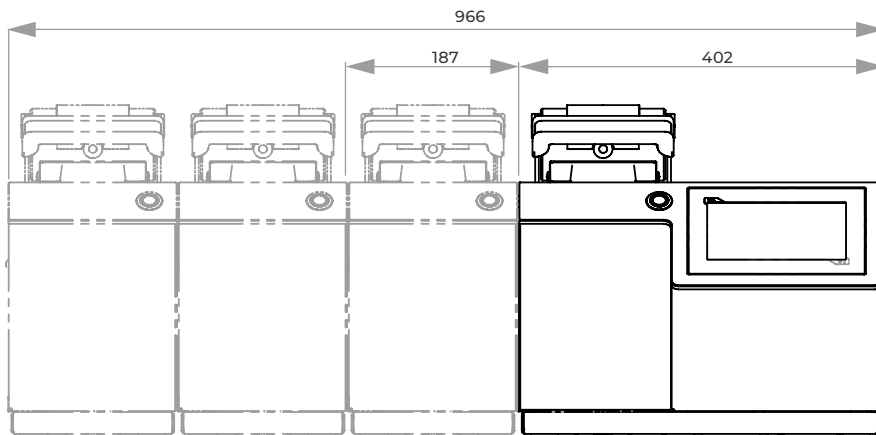
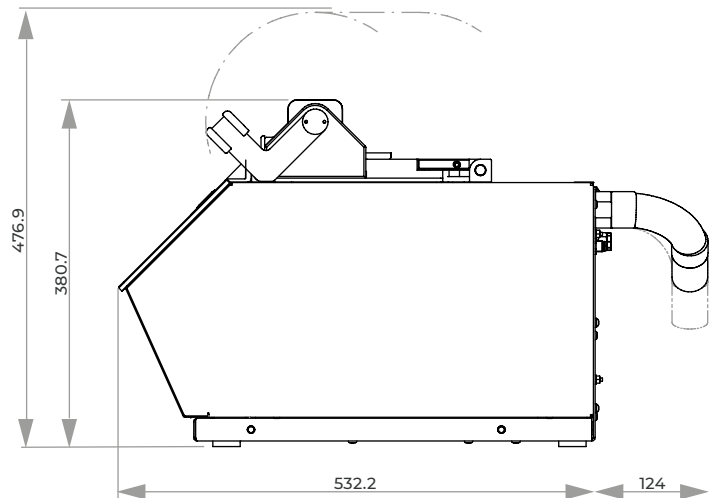
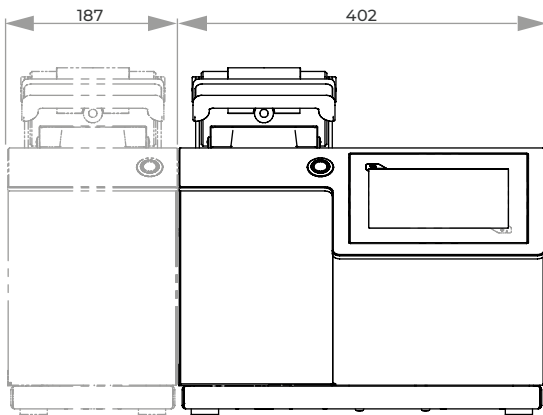
### BASIC UNIT

WxHxD	402 x 382 x 536 mm
Weight	~ 50 kg

### ADDITIONAL PRESSING UNIT

WxHxD	187 x 382 x 449 mm
Weight	~ 40 kg
Mould	Ø 25.2-50 mm (6 different sizes)

Connected load (basic unit)	1.6 kVA
Connected load (addit. pressing unit)	1.5 kVA
Power supply	<ol style="list-style-type: none"> <li>1 200-240 V, 50/60 Hz (1Ph/N/PE)</li> <li>2 100-120 V, 50/60 Hz (1Ph/N/PE)</li> </ol>



**MODULAR HOT MOUNTING PRESS**

# QPRESS 50 – CONFIGURATION

Please refer to step 1 - 5

**1. CHOOSE BASIC UNIT**
**Qpress 50-2**

200-240 V, 50/60 Hz

**Order No.: M0800004**

100-120 V, 50/60 Hz

**Order No.: M0800005**
**Qpress 50-4**

200-240 V, 50/60 Hz

**Order No.: M0800002**

100-120 V, 50/60 Hz

**Order No.: M0800003**

**2. CHOOSE MOULD ASSEMBLY FOR BASIC UNIT**

Mould size	200-240 V, 50/60 Hz		100-120 V, 50/60 Hz	
	without chamfer	with chamfer	without chamfer	with chamfer
	<b>Order No.:</b>	<b>Order No.:</b>	<b>Order No.:</b>	<b>Order No.:</b>
Ø 25.2 mm	A0800210	A0800220	A0800110	A0800120
Ø 30 mm	A0800211	A0800221	A0800111	A0800121
Ø 1¼" (~32 mm)	A0800213	A0800223	A0800113	A0800123
Ø 1½" (~38 mm)	A0800214	A0800224	A0800114	A0800124
Ø 40 mm	A0800215	A0800225	A0800115	A0800125
Ø 50 mm	A0800216	A0800226	A0800116	A0800126


**3. ADD CONNECTION SET**
**Order No.: Z0800001**
**4. CHOOSE ADDITIONAL PRESSING UNIT QP 50**

Note correct voltage

200-240 V, 50/60 Hz

**Order No.: A0800011**

100-120 V, 50/60 Hz

**Order No.: A0800012**

**5. CHOOSE MOULD ASSEMBLY FOR ADDITIONAL PRESSING UNIT QP 50**

Mould size	200-240 V, 50/60 Hz		100-120 V, 50/60 Hz	
	without chamfer	with chamfer	without chamfer	with chamfer
	<b>Order No.:</b>	<b>Order No.:</b>	<b>Order No.:</b>	<b>Order No.:</b>
Ø 25.2 mm	A0800210	A0800220	A0800110	A0800120
Ø 30 mm	A0800211	A0800221	A0800111	A0800121
Ø 1¼" (~32 mm)	A0800213	A0800223	A0800113	A0800123
Ø 1½" (~38 mm)	A0800214	A0800224	A0800114	A0800124
Ø 40 mm	A0800215	A0800225	A0800115	A0800125
Ø 50 mm	A0800216	A0800226	A0800116	A0800126



For Qpress 50-4: repeat step 3, 4 + 5 if necessary

**HOT MOUNTING PRESS  
OPAL 480****SIMPLE OPERATION**

After pressing the start key, the fully automatic program sequence is executed with the preselected parameters. The parameters can be changed and adjusted during the mounting process.

**ELECTRONIC CONTROL**

With its clear LCD operation panel you can easily control the hot mounting press. You can load and save eighteen different mounting processes.



The Opal 480 is a fully hydraulic, water cooled hot mounting press for mounting samples before polishing.

The process sequence is executed automatically. The fully automatic sliding closure allows quick and easy opening/closing of the mould assembly.

Mould assemblies can be exchanged quickly and without tools. Also rectangular moulds can be produced. The robust aluminium construction is powder coated.

With its solid construction and QATM hydraulic system, the operating noise of the machine is minimized.

**MOULD ASSEMBLIES**

Our comprehensive selection of mould assemblies from  $\varnothing$  50 - 70 mm resp. 30x60/40x60 mm (rectangular form) enables optimum mounting of your sample. Two mounts can be produced simultaneously with the use of a spacer.

**PRESSURE MODE**

Besides the standard operation, you can choose between different pressure methods:

- | pressure increases parallel with the pre-heating phase (ideal for hollow specimens, e.g. rings).
- | pressure increases after the preset temperature is reached to produce mounts as gap free as possible (ideal for complex geometries).

**COOLING**

Not only the cooling time, but also the resulting cooling curve can be adjusted infinitely according to the mounting requirements. Thereby, a considerably lower water consumption is achieved for longer cooling times.

**HEATING**

Our high-power heating system gives a very short warm-up time. For delicate samples the machine can adjust the heating curve infinitely.

## SLIDING CLOSURE

The new sliding closure is a unique innovation and allows quick and easy opening/closing of the mould assembly. By actuating the lever, the closure slides to the correct position. After initiating the cycle the mould closes and reopens automatically on completion.



### BASIC MODULE

#### OPAL 480

- | automatic hot mounting press
- | fully hydraulic operation with automatic water cooling (with water saving function)
- | completely new and simple automatic closure system
- | computer controlled with automatic cycle processing
- | four different pressure modes
- | rectangular moulds
- | easy change of mould assemblies
- | aluminum case, powder coated

Order No.: M0790000

### EQUIPMENT

#### POWER SUPPLY

Equipment 1

230 V/50 Hz (1Ph/N/PE)

Order No.: A0790000

### ACCESSORIES

#### COOLING UNIT

##### Recirculation unit

| extern



Cooling	0.81 kW
Motor	0.6 kW
Flow pressure	2.8 bar
Tank	6 ltr.
WxHxD	440 x 345 x 565mm
230 V/50 Hz (1Ph/N/PE)	

Order No.: Z0730007

##### System cooling unit

| integrated in drawer



Cooling	0.81 kW
Motor	0.6 kW
Flow pressure	2.8 bar
Tank	6 ltr.
230 V/50 Hz (1Ph/N/PE)	

Order No.: A5810171



## ACCESSORIES

### INSETS

#### Mould assemblies



I cylinder, upper and lower ram

Ø 50 mm	<b>Order No.: Z0790000</b>
Ø 60 mm	<b>Order No.: Z0790001</b>
Ø 70 mm	<b>Order No.: Z0790002</b>
□ 30x60 mm	<b>Order No.: Z0790003</b>
□ 40x60 mm	<b>Order No.: Z0790004</b>

#### Spacer



I for double mounts

Ø 50 mm	<b>Order No.: 00702118</b>
Ø 60 mm	<b>Order No.: 00702025</b>
Ø 70 mm	<b>Order No.: 00702026</b>

### CONNECTION SET OPAL 480

2x pressure tube	R ½"; 2 m long
Adapter	for ¾"

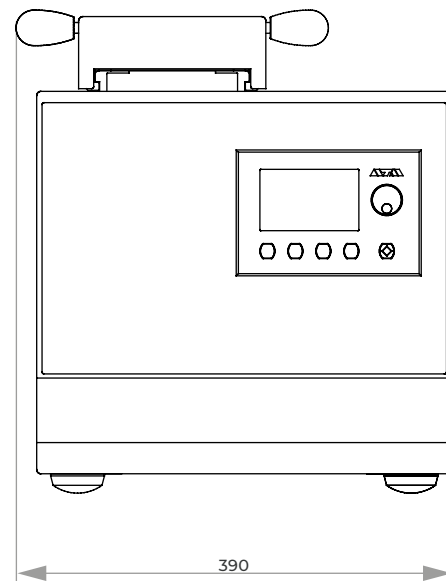
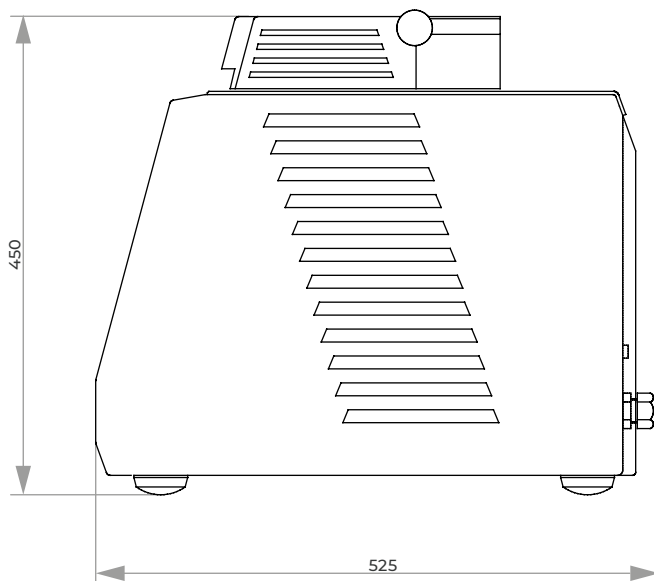
**Order No.: Z0730003**

I connection set for two Opal presses

**Order No.: Z0730004**

### SPECIFICATIONS

Mould	Ø 50-70mm
Mould (rectangular)	30 x 60 / 40 x 60 mm
Connected load	3.6 kVA
Power supply	230 V/50 Hz (1Ph/N/PE)
Heating	4 x 630 Watt
Temperature range	20-200 °C
Heating time	variable / 0-30 min
Cooling time	variable / 0-30 min
Max. pressure	up to 310 bar depending on mould
WxHxD	~ 390 x 450 x 500 mm
Weight	68 kg

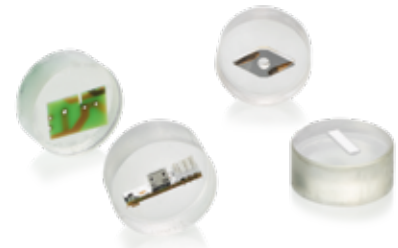


## UV MOUNTING DEVICE Qmount



### MULTI-TASK VERSATILITY

Due to the very short process times, the Qmount opens up the possibility of producing transparent, materialographic standard mountings of various materials very quickly and cost-effectively.



The Qmount is a modern device for the light-curing-based mounting of materialographic samples.

The samples are placed in the device which is equipped with customized, powerful LED technology. The UV transparent mounting moulds

are filled with the UV curing resin. The transparent sample can be removed within a very short time frame. A suction unit from the QATM portfolio can be connected to the device to increase work safety.



### VERY FAST MOUNTING

The compact device is equipped with specially developed and durable LED boards, which irradiate the samples highly efficient with UV radiation of a very narrowly tolerated wavelength range (emission maximum at  $\lambda = 365 \text{ nm}$ ) and allow standard samples to cure within 60 seconds.



### HIGH SAMPLE CAPACITY

The device contains a scratch-resistant glass plate (200 x 260 mm) which enables the simultaneous curing of up to 12 samples with a diameter of 40 mm. The simple design guarantees an easy cleaning of the working space.



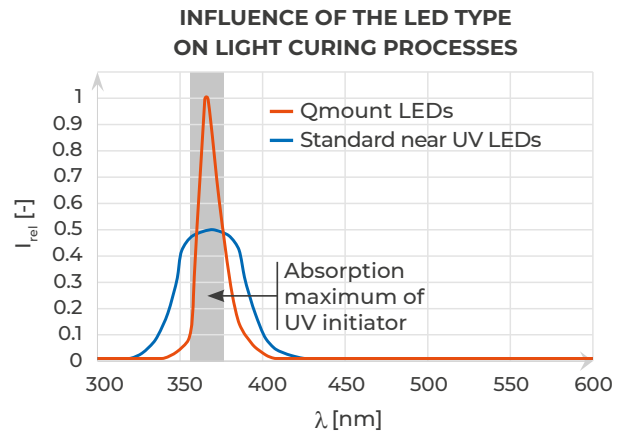
### EASIEST OPERATION

The process parameters are clearly shown on a color display and can be continuously adjusted using a rotary knob. The mounting process is started, paused or ended using the QATM start-stop button. An acoustic signal informs the user at the end of the process.

## HIGHLY EFFICIENT UV LED TECHNOLOGY

To minimize loss of electric power the Qmount is equipped with specialized UV LEDs. These show a very slim emission spectrum, which maximum superimposes with the absorption maximum of the KEM 50 UV initiator. This enables shorter curing times with a low electric consumption.

UV initiators get the necessary activation energy for the initiation reaction by absorbing UV radiation. Every molecule has a specific absorption spectrum, which shows certain wavelength areas in which the absorption coefficient of the molecule is particularly large. Outside of the so called absorption maxima a large portion of the emitted radiation is lost. Standard UV LEDs usually emit a significant amount of radiation besides the wavelength intervals in which the initiator has a good absorption. This radiation is converted to heat.



### BASIC MODULE

#### Qmount

- | UV mounting device for fast specimen mounting
- | Solid aluminum housing, powder-coated
- | Hood with soft-close hinges
- | Highly efficient LED boards with reflector sheets
- | Color display with adjustable curing time
- | Start-stop function with status display
- | High sample capacity
- | Scratch-resistant, easy-to-clean sample support surface
- | Automatic switch-off if opened prematurely
- | Connection for external suction (to be ordered separately)
- | Incl. Qmount Starter set with consumables

Order No.: M0761000

### SPECIFICATIONS

Max. sample support surface	200 x 260 mm	Polymerization temperature (depending on application)	70 - 90 °C
Max. sample height	40 mm	Connection voltage	100 - 240 V 50/60 Hz (1Ph/N/PE)
Wavelength	365 nm	Dimensions (W x H x D)	377 x 172 x 436 mm
Einstellbare Aushärtezeit	0 - 100 min	Weight (depending on equipment)	14.5 kg



**ACCESSORIES**

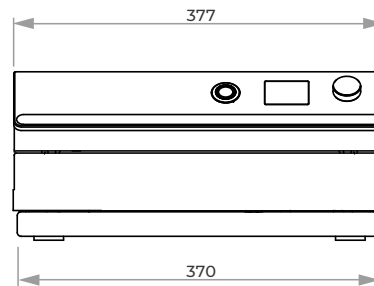
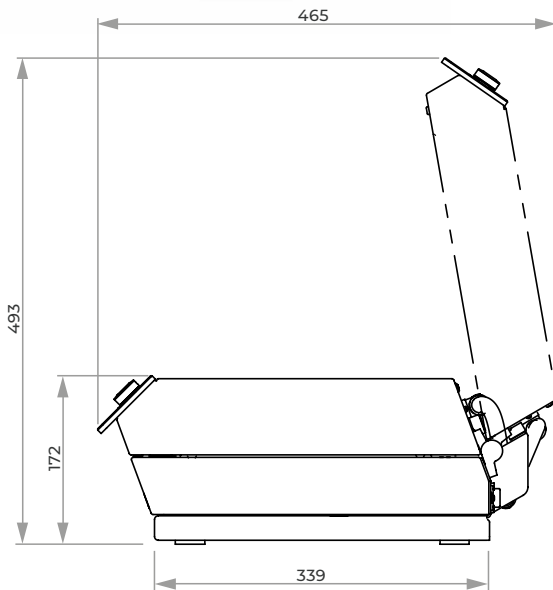
**Qmount suction unit**

- | External suction to filter the vapors and odors to increase work safety
- | Variable adjustable suction power
- | Incl. 1.5 m vakuüm tube for connection with Qmount
- | Incl. Qmount Activated carbon filter

Order No.: Z0761000

**SPECIFICATIONS**

Connection voltage	100 - 240V 50/60Hz
Effective air volume flow	20 - 100 m <sup>3</sup> /h



# 3. GRINDING, POLISHING, ETCHING



# GRINDING, POLISHING, ETCHING

<b>PRE-GRINDERS</b>		<b>PAGE</b>
Qgrind 100	Belt grinder	3.5
Qgrind XL	Automatic planar grinding machine	3.7
<b>MANUAL GRINDING &amp; POLISHING MACHINES</b>		
Qpol 30	Mobile grinder & polisher	3.11
Qpol 200 M	Manual grinding & polishing machine	3.13
Qpol 250 M1 / Qpol 250 M2	Manual grinding & polishing machine	3.16
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**Qgrind 100**



**Qgrind XL**



**Qpol 30**



**Qpol 200 M**



**Qpol 250 M1/  
Qpol 250 M2**



**Qpol 300 M1/  
Qpol 300 M2**



**Qpol GO**



**Qpol 250 A1-ECO/  
Qpol 250 A2-ECO**



**Qpol 300 A1-ECO+/  
Qpol 300 A2-ECO+**



**Saphir 550/  
Saphir 560**



**Qpol XL**



**Qpol Vibro**



**Qpol 250 BOT**



**Qpol 300 BOT**



**Qdoser ONE/Qdoser GO/  
Qdoser ECO/ECO+**



**Sample holders**



**Qetch 1000**



**Qetch 100 M**

# GRINDING POLISHING ETCHING – EXPLANATIONS

## ARTICLE – FUNCTION – EQUIPMENT

### EQUIPMENT

The complete device consists of a basic module and its equipment. When compiling a complete unit, the selection of the respective equipment is required.

A device thus consists of several article numbers. The numbering in the ‚Specifications‘ correspond to the equipment.

### OPTION

Options if desired, have to be selected in ordering equipment. They can not be easily retrofitted.

### ACCESSORIES

Accessories can be selected independently of the ordering equipment.



### E-LAB

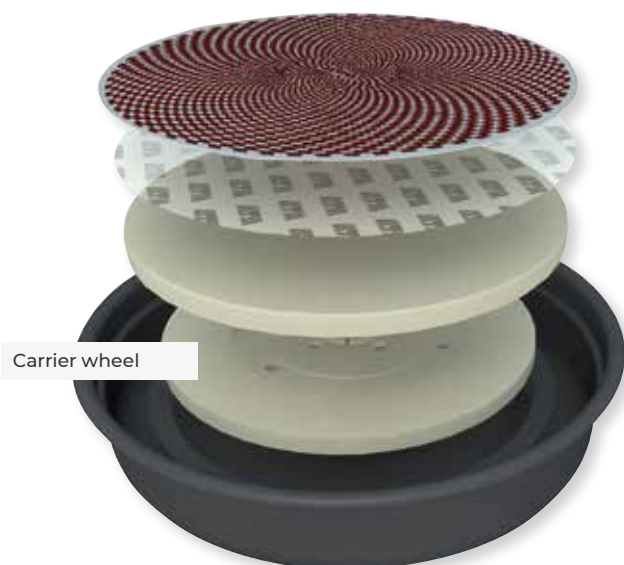
An e-Lab-ready device can be connected to a PC with a network. Preparation procedures are thus reproducible and interchangeable.

### MADE IN GERMANY

All components used by us, as well as the construction design correspond to the normal device requirements for industry in Germany and EC Safety Regulations.

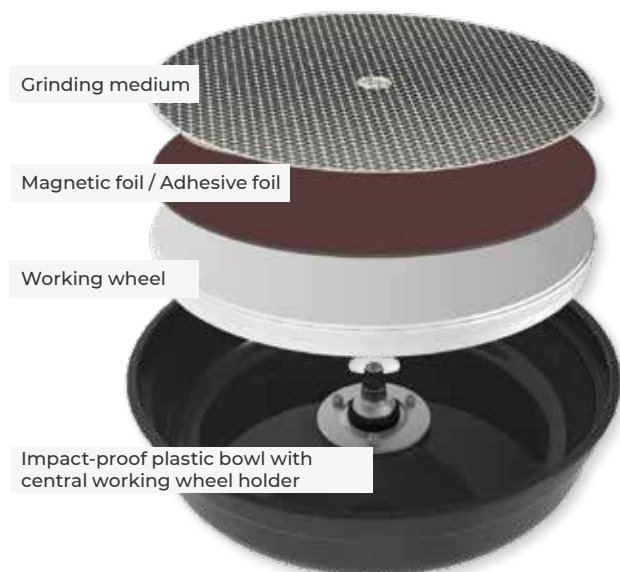
The units are finished in service friendly modular construction. Technical changes reserved.

### SAPHIR 550/560



### NEW

### Qpol 250 M/A, Opol 300 M/A: Single Disc Design





**QGRIND 100**

The Qgrind 100 is a stable wet double-belt grinder for deburring and pre-grinding of samples or other materials.

**EASY BELT EXCHANGE**

Both shroud covers are made of stainless steel and are simply opened backwards. This allows free access to the individual belts. Rotate the front tension wheel to loosen the belt which can then be removed from the side. Similarly, by rotating the adjustment wheel, the new belt can be centred onto the middle of the working surface.



It is possible to use belts with 2 different grain sizes simultaneously.

**DRIVE**

A powerful motor drives both belts at the same time. The rubber coated drive wheels, which are fitted with a special tread, prevent the belt from slipping.

**WATER-COOLING**

A water film is created over the whole width of the front end of the belt. Waste material generated is carried to the back with the water and both are drained-off into the machine. Drain-offs are separated, one to the left, one to the right.



### BASIC MODULE

#### Qgrind 100

- | two grinding belts
- | water cooling
- | manual belt centering
- | water regulating valve left/right
- | aluminium design, powder coated
- | stainless steel cover

Order No.: M600010

### EQUIPMENT

#### POWER SUPPLY

##### Equipment 1

400 V/50 Hz (3Ph/N/PE)

Order No.: A6000001

##### Equipment 2

480 V/60 Hz (3Ph/PE)

Order No.: A6000002

##### Equipment 3

220 V/60 Hz (3Ph/PE)

Order No.: A6000003

### ACCESSORIES

#### SETTLING TANK



- | 2-chamber-compartment, 45 ltr.
- | for System lab cabinet (insertion mechanism)



- | inlet sieve and filter bag
- | mobile

referring height of System cabinet H 800 mm

Order No.: A5810261

Order No.: A5800496

referring height of System cabinet H 900 mm

Order No.: A5810237

#### CONNECTION SET QGRIND 100

1 drain tube  $\varnothing$  40 mm; 1.5 m

1 pressure tube R 1/2"; 2 m

Order No.: Z5600008

#### SPECIFICATIONS

Connected load 1.4 kVA

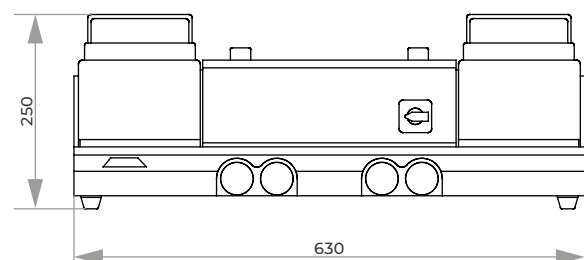
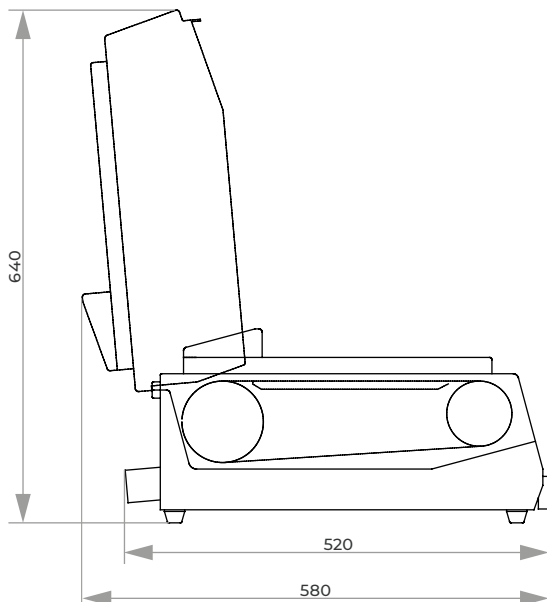
Belt speed 7 m/sec.

Grinding belts 100 x 920 mm  
100 x 915 mm

Water connection drain 1 x R 1/2" valve right and left, each  $\varnothing$  40mm

WxHxD ~ 630 x 250 x 520 mm

Weight 55 kg



# QGRIND XL



## CONVENIENT OPERATION

The modern design of QATM's proven control software allows for intuitive and user-friendly operation. All process parameters are clearly displayed and can be easily set by touch.



- | 7" touch screen
- | Status display and acoustic signal
- | Material removal measurement with graphical display
- | Automatic referencing and wear indication of grinding stone and dressing diamond
- | User Account Management with variable user rights
- | USB / Ethernet interface for remote maintenance and data transfer

The particularly robust and powerful design of the Qgrind XL planar grinding machine enables maximum and precise material removal.

The ForceControl function ensures reproducible grinding results with the integrated electronic measuring systems. By selecting and combining different grinding modes, both maximum material

removal rates (roughing) and excellent sample surfaces (finishing) are achieved. With the SmartGrind software function, the grinding process can be continuously monitored and made particularly efficient by means of fully automatic determination of dressing intervals. The integration of a cleaning station and the intuitive software interface set new standards in convenience and user-friendliness.



## GRINDING STONES AND DIAMOND GRINDING DISCS

High-quality aluminum oxide or silicon carbide grinding stones are available for the various applications. Resin-bonded diamond grinding discs can be used for planar grinding of ceramic materials and hard metals.



## AUTOMATIC DIAMOND DRESSER

In SmartGrind mode, the grinding process is continuously evaluated and the stone dressing requirement is automatically determined and efficiently controlled. It can also be dressed periodically, after a timed interval, as well as by confirmation.



## CLEANING STATION (OPTIONAL)

In the cleaning station samples are automatically cleaned with water, ethanol and air or by spin cycling at up to 800 rpm (adjustable). Thus, each preparation step is finalized with a cleaning step to avoid cross contamination.


**BASIC MODULE**
**Qgrind XL (base)**


- | planar grinding machine with central pressure
- | stable welded steel construction, powder-coated
- | grinding bowl made of stainless steel
- | variable speed control of the grinding stone and grinding head
- | ForceControl system with electronic measuring system
- | selection and combination of different grinding modes (roughing and finishing)
- | SmartGrind function for fully automatic, efficient dressing (different modes for dressing selectable)
- | removal measurement with graphic display
- | integrated cleaning station (optional) with water, ethanol, air and spin-off
- | 7" touch screen with intuitive QATM user software
- | 200 user programs can be saved
- | USB and Ethernet connection
- | automatic safety hood
- | wear indicator for grinding stone and dressing diamond
- | automatic referencing of grinding stone and dressing diamond
- | energy-saving LED illumination of the work area
- | preparation for external suction
- | integrated circulation cooling unit (optional)
- | rinsing hose for manual cleaning
- | for use with  $Al_2O_3$ -,  $SiC$  grinding stones or diamond grinding discs (depending on equipment)

400 V / 50 Hz (3Ph/PE)

**Order No.: M5700110**

480 V / 60 Hz (3Ph/PE)

**Order No.: M5700120**

220 V / 60Hz (3Ph/PE)

**Order No.: M5700130**
**EQUIPMENT**
**EQUIPMENT FOR RECIRCULATION COOLING SYSTEM**


- | incl. 45 L recirculation cooling system
- | PVC tank
- | removable separating slide
- | inlet sieve with filter bag and overflow
- | incl. connection set
- | mobile, without folding wheels

**Order No.: A5700131**
**EXTERNAL COOLING**

- | equipment for connection to an external cooling system
- | cooling water ON / OFF control in software with a pneumatically actuated ball valve
- | 1 inch thread connection

**Order No.: A5700135**
**BELT FILTER 130 L**


- | incl. filter roll
- | belt filter requires a separate power connection

tank	130 Ltr.
filter area	0.35 m <sup>2</sup>
filter capacity	30 l/min (emulsion)
pump power approx.	15 Ltr./min
colour	RAL 7040
dimensions (W x H x D)	607 x 632 x 1308 mm
weight	approx. 90 kg

400 V / 50 Hz (3Ph/PE)

**Order No.: A5700132**

480 V / 60 Hz (3Ph/PE)

**Order No.: A5700133**

220 V / 60Hz (3Ph/PE)

**Order No.: A5700134**

**EQUIPMENT**
**CLEANING STATION**


- | automatic cleaning of sample holders up to Ø 204 mm
- | cleaning media: water, ethanol and air
- | integration of the cleaning step in preparation processes
- | drying by spin cycle with max. 800 rpm (adjustable)
- | user-defined programming of cleaning process in software
- | level warning for ethanol containers
- | preparation for external suction (recommended when using ethanol)
- | tap water (drinking water) and compressed air required

with cleaning station:  
(incl. sideways swiveling grinding head)

**Order No.: A5700122**

without cleaning station:  
(grinding head cannot be moved sideways)

**Order No.: A5700121**

**EQUIPMENT**
**MEDIA CONNECTIONS**

- | water in
- | water drain
- | compressed-air (only in case of cleaning station)
- | power supply
- | Ethernet

on back side of the machine:

**Order No.: A5700111**

on right-hand side of the machine:

**Order No.: A5700112**

**OPTION**
**SIGNAL LIGHT**


- | LED-signal light with status display
- | color coding according to DIN EN 60204-1

**Order No.: A5700051**

**EQUIPMENT**
**EQUIPMENT GRINDING STONE**

- | carrying plate for a Al<sub>2</sub>O<sub>3</sub> or SiC grinding stone
- | motorized dresser with electronic force measuring system
- | automatic referencing of grinding stone and dressing diamond
- | wear display of grinding stone and dressing diamond in software

grinding stone diameter                      Ø 356 mm

max. grinding stone height                      45 mm

mounting hole for the grinding stones      Ø 38 mm

mounting for QATM multipoint diamond dresser

incl. multipoint diamond dresser

equipment grinding stone

**Order No.: A5700141**

**EQUIPMENT DIAMOND GRINDING DISC**

- | carrying plate for diamond grinding disc
- | semi automatic dresser with mounting for cleaning stone

grinding disc diameter    Ø 350 mm

grinding disc height    45 mm

mounting hole for the grinding disc                              Ø 38.1 mm

mounting for QATM cleaning stones                              Ø 10 mm

max. length of cleaning stones                                      150 mm

incl. 10 cleaning stones

Equipment diamond grinding disc

**Order No.: A5700142**

**ACCESSORIES**
**BASIC SET QGRIND XL**

**Order No.: Z5700101**

**CONNECTION SET QGRIND XL**

**Order No.: Z5700002**

**SPECIFICATIONS**
**QGRIND XL**

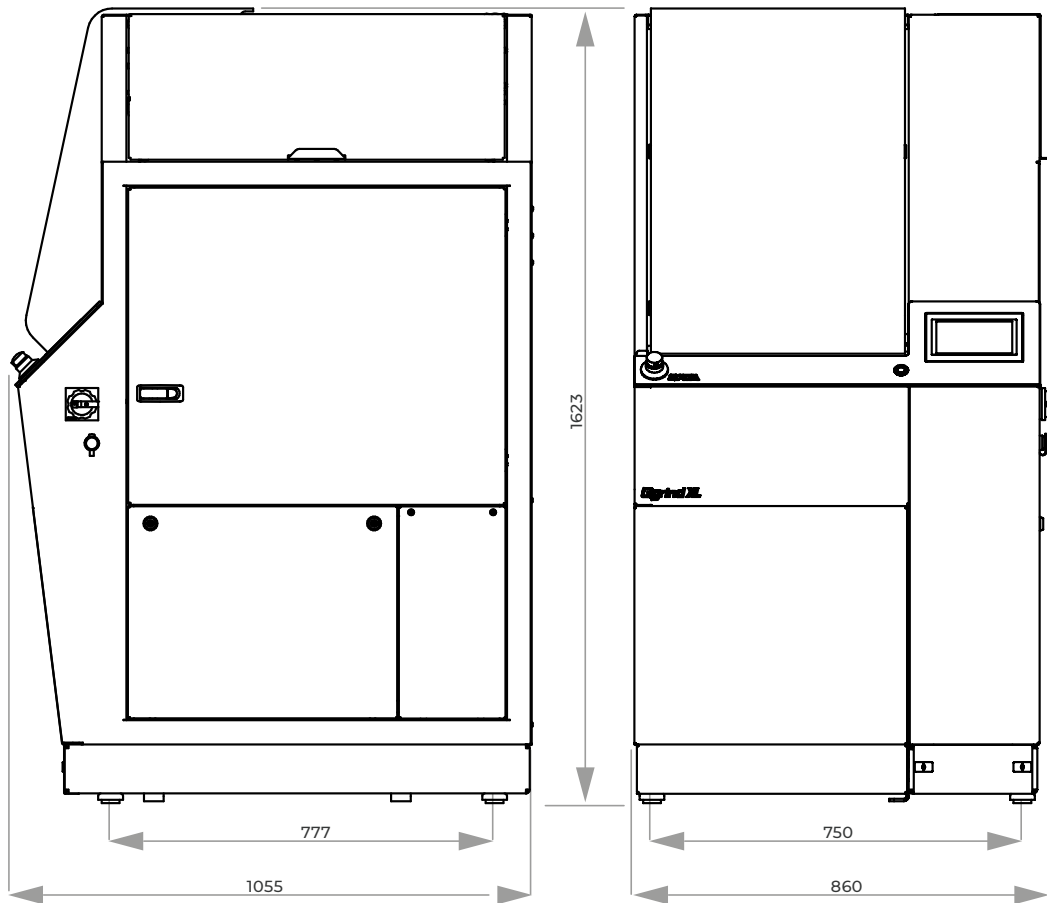
connected load	9 kVA
power supply	1 400 V / 50 Hz (3Ph/PE) 2 480 V / 60 Hz (3Ph/PE) 3 220 V / 60Hz (3Ph/PE)
removal measurement	±0.1 mm display accuracy at 1 mm removal
removal range	0.1 mm - 10 mm
dimensions (W x H x D)	approx. 860 x 1623 x 1055 mm
weight	approx. 433 kg

**GRINDING STONE**

drive power	4 kW (S1)
diameter	Ø max. 356 mm
variable speed	1000 - 2000 rpm

**SAMPLE HOLDER / GRINDING HEAD**

drive power	0.75 kW (S1)
diameter	Ø 160 - 204 mm
variable speed	30 - 160 rpm
speed of cleaning boost	30 - 800 rpm
rotation direction	clockwise/ counterclockwise
sample pressure (central)	50 - 750 N



### QPOL 30



#### SIMPLE OPERATION

Speed is shown on the display. The motor is switched ON/OFF by the jog control switch on the hand piece.



#### SPEED

The pressure applied is registered by a micro-computer and the speed is kept constant. The speed is infinitely adjustable from 1,000 - 40,000 rpm.



#### ACCESSORIES

The torque can be greatly increased by using an additional reduction gear unit. Grinding and polishing cloths can be attached at right angles or at 45° angles with the use of rubber carriers with Velcro fastenings.



The Qpol 30 is a transportable grinder and polisher designed for manual operation.



#### BASIC MODULE

##### ELECTRONIC CONTROL UNIT

I connector for 2 micromotors

Power supply	230 V / 50-60 Hz
WxHxD	~ 130 x 97 x 254 mm
Weight	2.3 kg

Order No.: 95004841

**ACCESSORIES**
**MICRO MOTOR**
**ENK-250 T**


Speed 1,000-25,000 rpm

**Order No.: 95005506**
**ENK-410 S**


Speed 1,000-40,000 rpm

**Order No.: 95004842**
**REDUCTION GEAR**
**01**

 | increasing of torque 4x  
 | speed reduced to 1/4

**Order No.: 92004479**
**02**

 | increasing of torque 15x  
 | speed reduced to 1/15

**Order No.: 92004480**
**ANGLE PARTS**


| 45°

 Fixing system Ø 3 mm  
 Weight 0.042 kg

**Order No.: 92004481**


| 90°

 Fixing system Ø 3 mm  
 Weight 0.042 kg

**Order No.: 92004482**
**STRAIGHT HANDLE**

 | for coarse pre-grinding  
 | rubber coating for ideal grip

 Fixing system Ø 6 mm  
 Weight 0.15 kg

**Order No.: 92004483**
**PEDAL SWITCH**
**Order No.: 92004484**
**RUBBER CARRIER**
**3/30 GTH**


| for grinding papers and polishing cloths with Velcro fastening

Shaft Ø 3 mm

**Order No.: 92004284**
**3/60 GTH**


| for grinding papers and polishing cloths with Velcro fastening

Shaft Ø 6 mm

**Order No.: 92004297**
**3/30 GTK**


| for grinding papers and polishing cloths with PSA

Shaft Ø 3 mm

**Order No.: 92005551**



**QPOL 200 M**

The Qpol 200 M is a manual single wheel grinder and polisher for working wheels Ø 200 mm.

The strong, speed controlled drive allows application for all working steps.

The shock-resistant plastic basin, powder coated Aluminium housing and high standard of technology inside the unit lend the requisites for quiet and smooth running and optimum preparation results.

**ROTARY SWITCH & BOOST FUNCTION**

The start/stop button with illuminated status display and the rotary switch with scale and integrated boost button allow for intuitive operation of the manual machines. The set speed remains constant throughout the entire grinding and polishing process.

At the end of the preparation procedure, the boost function may be activated to discharge any liquid left on the grinding and polishing medium in 5 seconds at 750 rpm.

**SINGLE-DISC DESIGN**

After the splash guard ring is removed, the working wheel is freely accessible. Thanks to the innovative mounting system, it locks itself automatically. After lifting it off, all parts underneath are readily accessible for easy and time-saving cleaning of the machine.



### BASIC MODULE

#### Qpol 200 M

- | Qpol 200 M: Single wheel grinding- and polishing machine
- | Variable speed
- | Spin cycle feature (Cleaning Boost)
- | Easy, fast and tool-free change of working wheel
- | Easy cleaning/rinsing of bowl by lifting the working wheel (single-disc design)
- | Aluminium case, powder coated
- | Impact-proof plastic bowl
- | Manual water solenoid
- | Basin rinsing tube
- | Incl. splashing ring and cover
- | Start-Stop function with status indication

#### Qpol 200 M

200-240 V / 50/60 Hz (1Ph/N/PE)

Order No.: M5632000

100-120 V / 50/60 Hz (1Ph/N/PE)

Order No.: M5632005

### ACCESSORIES

#### SETTLING TANK



- | 2-chamber-compartment, 45 ltr.
- | for System lab cabinet (insertion mechanism)

referring height of System cabinet H 800 mm

Order No.: A5810261

referring height of System cabinet H 900 mm

Order No.: A5810237



- | inlet sieve and filter bag
- | mobile

Order No.: A5800496

#### WORKING WHEELS Qpol 200 M



- | Single-disc design

Ø 200 mm

Order No.: Z5631001

#### CLAMPING RING Qpol 200 M

- | for working wheels Qpol 200 M
- | plastic

Ø 200 mm

Order No.: Z5631003

#### PROTECTION RING Qpol 200 M

- | protection ring

Ø 200 mm

Order No.: Z5632001

## ACCESSORIES

### CONNECTION SET Qpol 200 M

- 1 drain tube                      Ø 40 mm; 1.5 m
- 1 pressure tube                  R ½"; 2 m

Order No.: Z5600008

### BASIC SET Qpol 200 M

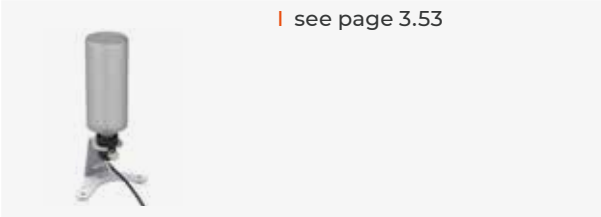
- | Splash guard ring
- | Cover
- | Anti-seize paste

Order No.: Z5632000

## OPTION

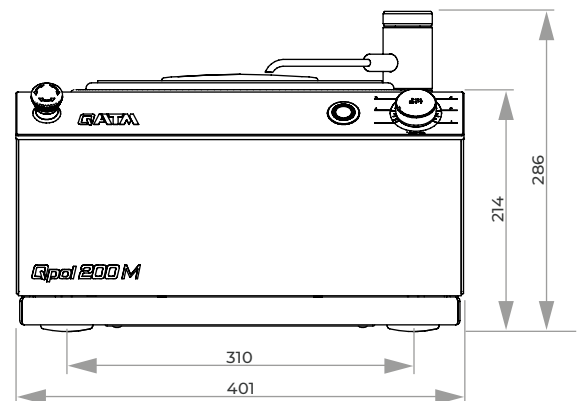
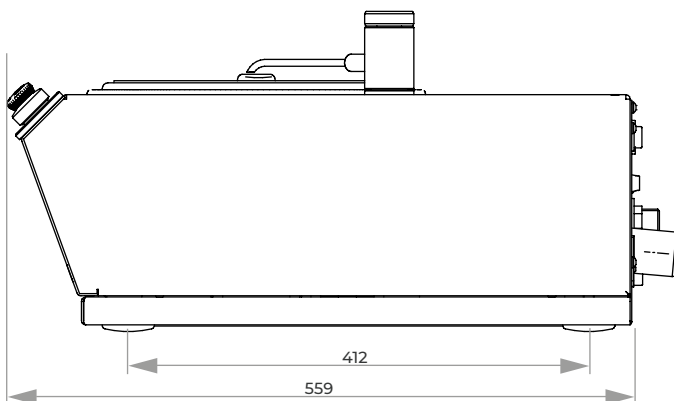
### DOSING BOTTLE Qdoser ONE

| see page 3.53



## SPECIFICATIONS

	Qpol 200 M
Working wheels	Ø 200mm
Connected load	0.7 kVA
Power supply	1 200-240 V / 50/60 Hz (1Ph/N/PE) 2 100-120 V / 50/60 Hz (1Ph/N/PE)
Speed	20-600 rpm
WxHxD	~ 401 x 286 x 603 mm
Weight	~ 20-25 kg



## MANUAL GRINDING &amp; POLISHING MACHINES

**QPOL 250 M1 / QPOL 250 M2**


The Qpol 250 M1 is a manual single wheel grinder & polisher and the Qpol 250 M2 is a manual twin wheel grinder & polisher for working wheels with  $\varnothing$  200/250 mm. The particularly strong, speed-controlled drive makes this model suitable for all preparation steps and materials.

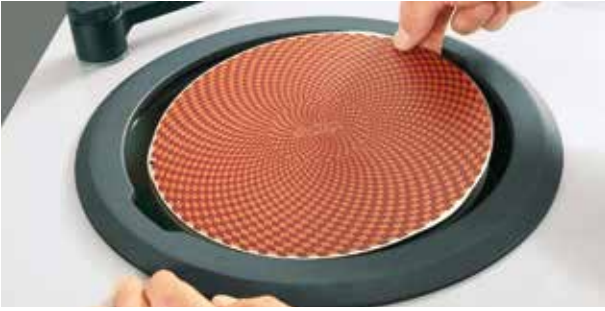
The impact-resistant plastic bowl, the powder-coated aluminium housing and the high-quality components inside the device are the basis for smooth running and best preparation results.


**ROTARY SWITCH & BOOST FUNCTION**

The start/stop button with illuminated status display as well as the rotary switch with scale and integrated boost button allow for intuitive operation of the manual machines. The set speed remains constant throughout the entire grinding and polishing process. At the end of the preparation procedure, the boost function may be activated to discharge any liquid left on the grinding and polishing medium in 3 seconds at 750 rpm.


**SINGLE-DISC DESIGN**

After removal of the splash protection ring, the working wheel is freely accessible. The wheel is automatically arrested when placed on the new mounting system. On lifting the wheel, all parts below are accessible for easy cleaning.



### **ERGONOMICALLY FORMED SPLASH RING**

The ergonomically formed splash ring significantly reduces splashing. Due to the recessed grips it is possible to change grinding and polishing media with the ring still in place. It can also be used as a hand rest during a longer preparation process.



### **ROBUST PULL-OUT WATER HOSE**

The pull-out flexible hose extension allows the tap to be used for cleaning the entire working area and the basin.



### **COMBINABLE WITH DOSING UNIT QDOSER GO**

The dosing unit Qdoser GO has been adapted to the new design and is now even more user-friendly and robust. Four 500 ml glass bottles with screw caps hold 3 x suspension and 1 x lubricant or oder 4 x diamond suspension Dia-Complete and can be filled via a separate lid. They are easily removed for cleaning.



### **COMBINABLE WITH GRINDING/POLISHING HEAD Qpol GO**

The perfect solution for automated sample preparation. The Qpol 250 M machines can be equipped with the optional Qpol Go grinding/polishing head.


**BASIC MODULE**
**Qpol 250 M1/M2**

- | Qpol 250 M1: single wheel grinder & polisher
- | Qpol 250 M2: twin wheel grinder & polisher
- | Variable speed
- | Clockwise and anti-clockwise rotation
- | Spin cycle feature (cleaning Boost)
- | Easy, fast and tool-free change of working wheel
- | Easy cleaning/rinsing of bowl by lifting the working wheel
- | Aluminium case, powder coated
- | Impact-proof plastic bowl
- | Manual water solenoid
- | Basin rinsing tube
- | Incl. splash ring and cover
- | Start-Stop function with status indication
- | Combinable with polishing head Qpol GO
- | Combinable with manual dosing unit Qdoser GO

**Qpol 250 M1**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631000**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631005**
**Qpol 250 M2**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631010**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631015**
**ACCESSORIES**
**SETTLING TANK**


- | 2-chamber-compartment, 45 ltr.
- | for System lab cabinet (insertion mechanism)

 referring height of System cabinet  
H 800 mm

**Order No.: A5810261**

 referring height of System cabinet  
H 900 mm

**Order No.: A5810237**


- | inlet sieve and filter bag
- | mobile

**Order No.: A5800496**
**WORKING WHEELS Qpol 250**


- | Single-disc design

Ø 200 mm

**Order No.: Z5631001**

Ø 250 mm

**Order No.: Z5631002**
**CLAMPING RINGS Qpol 250**

- | for working wheels Qpol 250 M/A
- | plastic

Ø 200 mm

**Order No.: Z5631003**

Ø 250 mm

**Order No.: Z5631004**

## ACCESSORIES

### CONNECTION SET Qpol 250 M1/M2

1 drain tube                      Ø 40 mm; 1.5 m long

1 pressure tube                  R ½"; 2 m long

**Order No.: Z5600008**

### BASIC SET Qpol 250 M1

**Order No.: Z5631010**

### BASIC SET Qpol 250 M2

**Order No.: Z5631011**

## OPTION

### GRINDING/POLISHING HEAD Qpol GO

| see page 3.24



Preparation Qpol GO for Qpol 250 M1

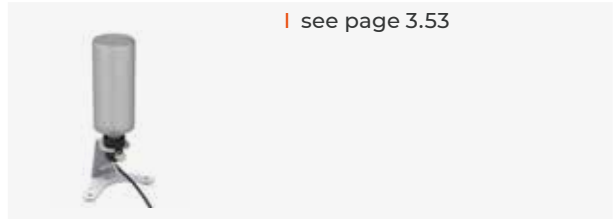
**Order No.: A5631001**

Preparation Qpol GO for Qpol 250 M2

**Order No.: A5631002**

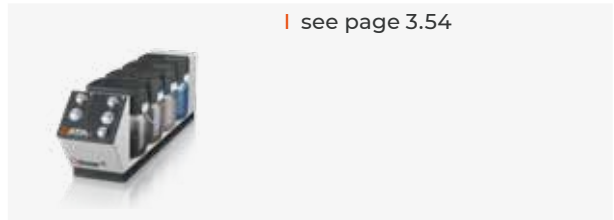
### DOSING BOTTLE Qdoser ONE

| see page 3.53



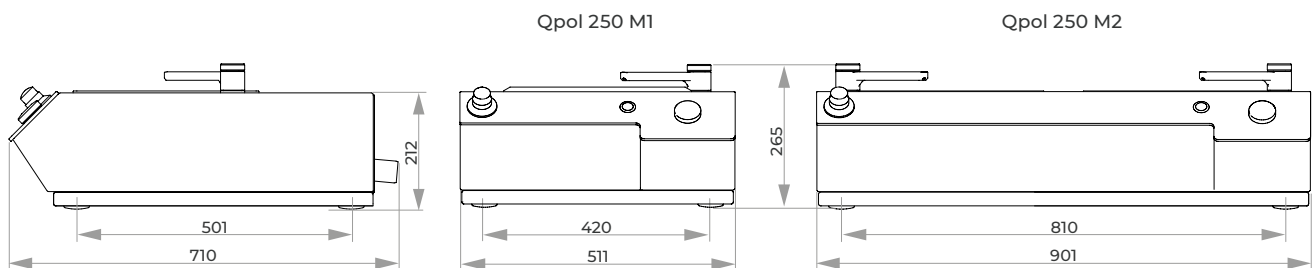
### DOSING UNIT Qdoser GO

| see page 3.54



## SPECIFICATIONS

	Qpol 250 M1	Qpol 250 M2
Working wheels	Ø 200/250 mm	Ø 200/250 mm
Connected load	1.6 kVA	1.6 kVA
Power supply	1 200-240 V / 50/60 Hz (1Ph/N/PE) 2 100-120 V / 50/60 Hz (1Ph/N/PE)	200-240 V / 50/60 Hz (1Ph/N/PE) 100-120 V / 50/60 Hz (1Ph/N/PE)
Speed	30-600 rpm	30-600 rpm
WxHxD	~ 511 x 265 x 710 mm	~ 901 x 265 x 710 mm
Weight	1 25 kg 2 30 kg	45 kg 49 kg



## MANUAL GRINDING &amp; POLISHING MACHINES

**QPOL 300 M1 / QPOL 300 M2**


The Qpol 300 M1 is a manual single wheel grinder & polisher and the Qpol 300 M2 is a manual twin wheel grinder & polisher for working wheels with  $\varnothing$  250/300 mm. The impact-resistant plastic bowl, the powder-coated aluminium housing and the high-quality components inside the device are the basis for smooth running and best preparation results.

The robust device can be retrofitted with the Qpol GO automatic grinding and polishing head and combined with the Qdoser GO manual dosing unit. Thus, it offers a high degree of flexibility as well as ease of use for sample preparation.


**ROTARY SWITCH & BOOST FUNCTION**

The start/stop button with illuminated status display as well as the rotary switch with scale and integrated boost button allow for intuitive operation of the manual machines. The set speed remains constant throughout the entire grinding and polishing process. At the end of the preparation procedure, the boost function may be activated to discharge any liquid left on the grinding and polishing medium in 3 seconds at 750 rpm.


**SINGLE-DISC DESIGN**

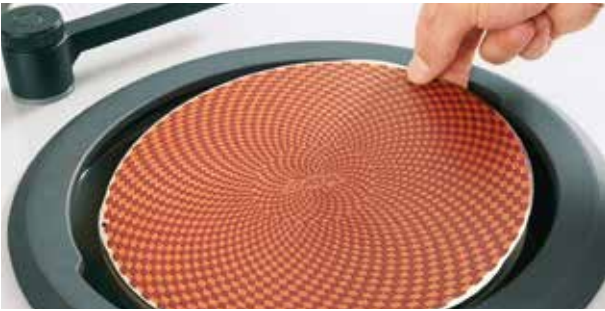
After removal of the splash protection ring, the working wheel is freely accessible. The wheel is automatically arrested when placed on the new mounting system. On lifting the wheel, all parts below are accessible for easy cleaning.





### FOR REPRODUCIBLE PREPARATIONS

The time setting and torque display to visualize the current contact pressure are the basis for easy and reproducible manual preparation steps. The water valve is automatically activated at the beginning/end of the preparation process, if required.



### ERGONOMICALLY SHAPED SPLASH GUARD RING

The machine design with its new splash guard ring, clearly laid out working area, water tap and sloping control panel convincingly meets all the requirements for comfortable operation. The new mounting system for the working wheel (single disc principle) saves time when changing the grinding and polishing media and cleaning the machine.



### INTUITIVE PARAMETER SETTING

The machine is operated and programmed via the 4.3" touch screen. All process parameters can be saved as a preparation method.



### COMBINABLE WITH DOSING UNIT QDOSER GO

The dosing unit Qdoser GO has been adapted to the new design and is now even more user-friendly and robust. Four 500 ml glass bottles with screw caps hold 3 x suspension and 1 x lubricant or oder 4 x diamond suspension Dia-Complete and can be filled via a separate lid. They are easily removed for cleaning.



### COMBINABLE WITH GRINDING/POLISHING HEAD Qpol GO

The perfect solution for automated sample preparation. The Qpol 300 M machines can be equipped with the optional Qpol Go grinding/polishing head.


**BASIC MODULE**
**Qpol 300 M1/M2**

- | Qpol 300 M1: single wheel grinder & polisher
- | Qpol 300 M2: twin wheel grinder & polisher
- | Variable speed
- | Clockwise and counter-clockwise rotation
- | Working wheels separately controlled (Qpol 300 M2)
- | Spin cycle feature (Cleaning Boost)
- | 4.3" Touch-Screen with intuitive QATM user software
- | Timer function for manual grinding/polishing
- | Torque display for visualizing the grinding pressure
- | Programs storable (parameters and notes)
- | Automatic water valve
- | Easy, fast and tool-free change of working wheel
- | Easy cleaning/rinsing of bowl by lifting the working wheel (single-disc design)
- | Aluminium case, powder coated
- | Impact-proof plastic bowl
- | Basin rinsing tube
- | Incl. splashing ring and cover
- | Start-Stop function with status indication
- | Combinable with polishing head Qpol GO
- | Combinable with manual dosing unit Qdoser GO

**Qpol 300 M1**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631060**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631065**
**Qpol 300 M2**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631070**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631075**
**ACCESSORIES**
**SETTLING TANK**


- | 2-chamber-compartment, 45 ltr.
- | for System lab cabinet (insertion mechanism)

 referring height of System cabinet  
H 800 mm

**Order No.: A5810261**

 referring height of System cabinet  
H 900 mm

**Order No.: A5810237**


- | inlet sieve and filter bag
- | mobile

**Order No.: A5800496**
**WORKING WHEELS Qpol 300**


- | Single-disc design

Ø 250 mm

**Order No.: Z5631002**

Ø 300 mm

**Order No.: Z5631007**
**CLAMPING RINGS Qpol 300**

- | for working wheels Qpol 300 M/A
- | plastic

Ø 250 mm

**Order No.: Z5631004**

Ø 300 mm

**Order No.: Z5631009**

## ACCESSORIES

### CONNECTION SET

- 1 drain tube                      Ø 40 mm; 1.5 m long
- 1 pressure tube                    R ½"; 2 m long

Order No.: Z5600008

### CONNECTION-SET FOR AIR PRESSURE

- 1 pressure tube                    3 m with coupling and connection thread R3/8"

Order No.: Z1320000

### BASIC SET Qpol 300 M1

- 1 splash guard ring, 1 cover, 4 sealings plugs for handles

Order No.: Z5631012

### BASIC SET Qpol 300 M2

- 2 splash guard rings, 2 covers, 4 sealings plugs for handles

Order No.: Z5631013

## OPTION

### GRINDING/POLISHING HEAD Qpol GO

| see page 3.24



Preparation Qpol GO for Qpol 300 M1

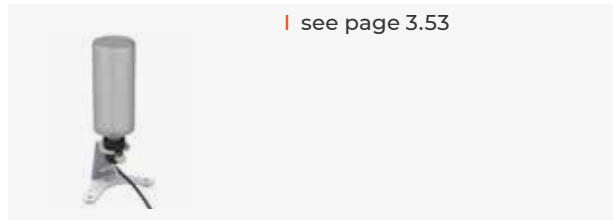
Order No.: A5631003

Preparation Qpol GO for Qpol 300 M2

Order No.: A5631004

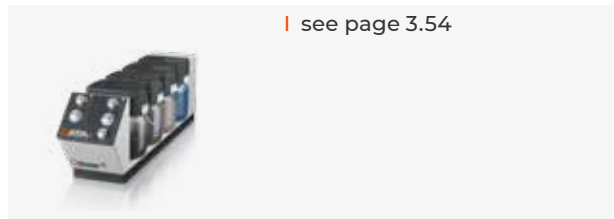
### DOSING BOTTLE Qdoser ONE

| see page 3.53



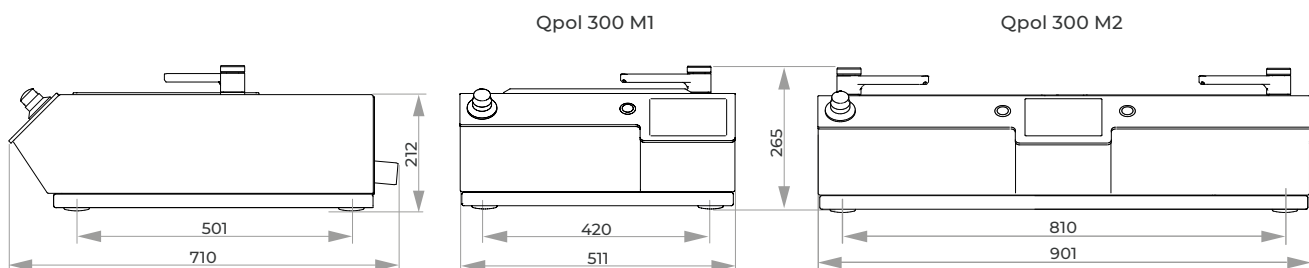
### DOSING UNIT Qdoser GO

| see page 3.54



## SPECIFICATIONS

	Qpol 300 M1	Qpol 300 M2
Working wheels	Ø 250/300 mm	Ø 250/300 mm
Connected load	1.8 kVA	2.3 kVA
Power supply	1 200-240 V / 50/60 Hz (1Ph/N/PE) 2 100-120 V / 50/60 Hz (1Ph/N/PE)	200-240 V / 50/60 Hz (1Ph/N/PE) 100-120 V / 50/60 Hz (1Ph/N/PE)
Speed	30-600 rpm	30-600 rpm
WxHxD	~ 511 x 265 x 710 mm	~ 901 x 265 x 710 mm
Weight	37-45 kg	57-65 kg



## GRINDING AND POLISHING HEAD QPOL GO



The Qpol GO grinding and polishing head enables the perfect introduction to automatic sample preparation and can be combined with the single and twin wheel grinding and polishing machines Qpol 250 M1/2 and Qpol 300 M1/2. The established technology, simple design and

intuitive operating concept ensure simple and rapid preparation steps. The grinding/polishing pressure (single pressure) and the preparation time can be continuously adjusted using the corresponding rotary control directly on the grinding and polishing head.



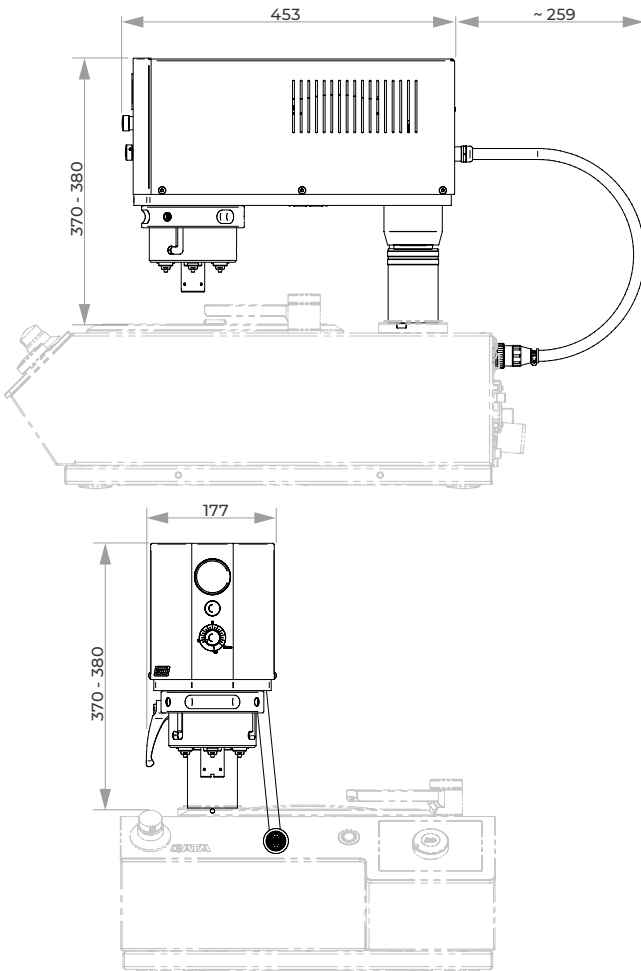
### ROBUST TECHNOLOGY AND DESIGN

The established technology, simple design and intuitive operating concept ensure simple and rapid preparation steps.



### EASY TO USE

The working area of the polishing head is easily accessible and visible thanks to LED illumination and the sleek design.



## BASIC MODULE

### Qpol GO

- | Automatic polishing head
- | Variable grinding pressure (single pressure)
- | Timer function for setting the grinding / polishing time
- | Sample holder mounting (toolless)
- | Energy-saving LED illumination of the work area
- | Can be combined with holder for dosing bottle or Qdoser GO
- | for use with Qpol 250/300 M machines

Order No.: A5631000

## OPTION

### SAMPLE HOLDER S FOR SINGLE PRESSURE

- | Ø 120 mm
- | for polishing head GO
- | Made of stainless steel
- | Incl. adaption

Samples: 4 x Ø 25 mm      Order No.: Z5450001

Samples: 4 x Ø 30 mm      Order No.: Z5450003

Samples: 4 x Ø 40 mm      Order No.: Z5450008

Samples: 4 x Ø 1"          Order No.: Z5450002

Samples: 4 x Ø 1 1/4"      Order No.: Z5450004

Samples: 4 x Ø 1 1/2"      Order No.: Z5450007

## ACCESSORIES

### BASIC SET Qpol GO

Order No.: Z5631024

## SPECIFICATIONS

Speed polishing head	150 rpm
Sample downforce	Single pressure: 5 - 45 N
Amount of samples	1 - 4 max. Ø 40 mm
Sample holder	Ø 120 mm
Drive power (polishing head)	60 W
Adjustable grinding/ polishing time	0.5 - 10 Min. (0.5 min. steps)
Compressed-air connection	6 - 8 bar, coupling connector NG8
WxHxD	~ 177 x 370-380 x 712 mm
Weight	18.5 kg

**AUTOMATIC GRINDING & POLISHING MACHINES**
**QPOL 250 A1-ECO / QPOL 250 A2-ECO**


The Qpol 250 A1/A2-ECO are single or twin wheel grinding & polishing machines for the materialographic laboratory, suitable for working wheels  $\varnothing$  200/250 mm.

The new holder for the working wheel (single-disc design) enables materialographic sample preparation without carrier disc without

compromising performance. The control software allows to edit and save up to 200 preparation methods, protected by a user account management. The process of the current preparation is visualized by a status bar. It is possible to select an additional acoustic signal at the end of each preparation step in the service menu.

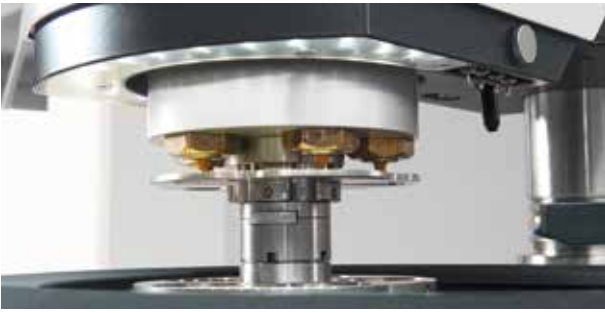

**OPERATING COMFORT**

The ECO grinding & polishing head with adjustable swivelling limits is equipped with recessed grips on both sides and integrated buttons for easy swivelling and adjustment. A large gap between the working surface and the polishing head ensures convenient changing of the sample holder.


**SINGLE-DISC DESIGN**

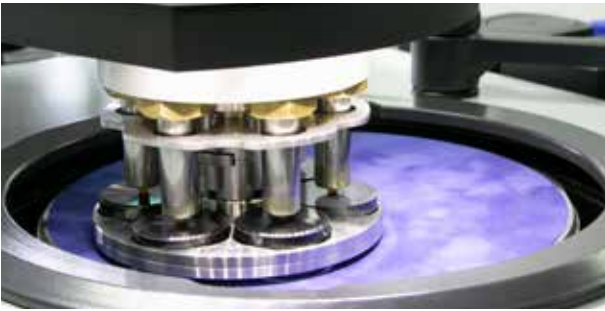
After removal of the splash protection ring, the working wheel is freely accessible. The wheel is automatically arrested when placed on the new mounting system.

On lifting the wheel, all parts below are accessible for easy cleaning.



### ECO POLISHING HEAD

The ECO polishing head is equipped with LED illumination of the working area and a holder for the nozzles of the Qdoser ECO dosing system. Water is supplied automatically via the head.



### VARIABLE SPEED

The grinding & polishing head ECO exerts 5 - 80 N in single pressure and 20 - 350 N in central pressure mode. Up to 6 samples Ø 40 mm can be moved at variable speed with sample holders Ø 130 mm.



### SAMPLE HOLDERS

QATM offers a wide selection of standard sample holders in various diameters and for different applications and machines. Samples with unusual dimensions can be clamped with the help of special design sample holders.



### ELECTRONIC CONTROL SYSTEM

The machine is operated and programmed via the 4.3" touch screen. Preparation methods for sample preparation may be edited and saved. It is also possible to prepare samples manually.



### OPTIONAL DOSING UNIT QDOSER ECO AND QDOSER ONE

The automatic grinders and polishers can be combined with the fully automatic dosing system Qdoser ECO or the manual dosing solution Qdoser One, thus offering a high degree of flexibility for sample preparation and ease of use.


**BASIC MODULE**
**Qpol 250 A1-ECO/A2-ECO**

- | Qpol 250 A1-Eco: single wheel grinder & polisher
- | Qpol 250 A2-Eco: twin wheel grinder & polisher
- | Including polishing head Eco
- | Single and central pressure
- | Variable speed of working wheel and polishing head
- | Working wheel and polishing head: clockwise/counter-clockwise rotation
- | 4.3" Touch-Screen with intuitive QATM user software
- | 200 customized programs storable
- | Adjustable swiveling stop position of polishing head
- | Economic LED illumination
- | Manual water inlet
- | Automatic water supply on the polishing head
- | Basin rinsing tube
- | Aluminium case, powder coated
- | Impact-proof plastic bowl
- | Incl. splash ring and cover
- | USB plug for data exchange and software updates
- | Ethernet plug for online-diagnostics and user support
- | Easy, fast and tool-free change of working wheel
- | Easy cleaning/rinsing of bowl by lifting the working wheel
- | Spin cycle feature (cleaning Boost)
- | Combinable with dosing unit Qdoser ECO
- | 4-times dosing unit Qdoser ECO integrable in polishing head ECO

**Qpol 250 A1-ECO**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631041**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631046**
**Qpol 250 A2-ECO**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631051**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631056**
**ACCESSORIES**
**SETTLING TANK**


- | 2-chamber-compartment, 45 ltr.
- | for System lab cabinet (insertion mechanism)

referring height of System cabinet H 800 mm

**Order No.: A5810261**

referring height of System cabinet H 900 mm

**Order No.: A5810237**


- | inlet sieve and filter bag
- | mobile

**Order No.: A5800496**
**WORKING WHEELS Qpol 250**


- | Single-disc design

Ø 200 mm

**Order No.: Z5631001**

Ø 250 mm

**Order No.: Z5631002**
**CLAMPING RINGS Qpol 250**

- | for working wheels Qpol 250 M/A
- | plastic

Ø 200 mm

**Order No.: Z5631003**

Ø 250 mm

**Order No.: Z5631004**



**ZUBEHÖR**
**CONNECTION SET**

1 drain tube                      Ø 40 mm; 1.5 m long

1 pressure tube                  R ½"; 2 m long

**Order No.: Z5600009**
**BASIC SET Qpol 250 A1-ECO**
**Order No.: Z5631010**
**BASIC SET Qpol 250 A2-ECO**
**Order No.: Z5631011**
**STANDARD SAMPLE HOLDER M FOR SINGLE PRESSURE**

Samples                            6x Ø 40 mm

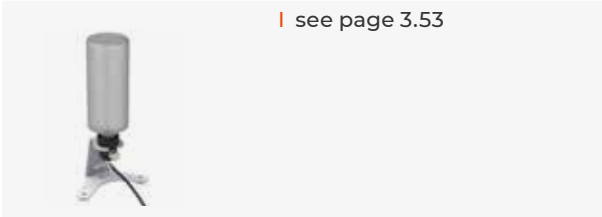
Dimensions                        Ø 130 mm

**Order No.: Z5445025**

more sample holders as of page 3.61

**OPTION**
**DOSING BOTTLE Qdoser ONE**

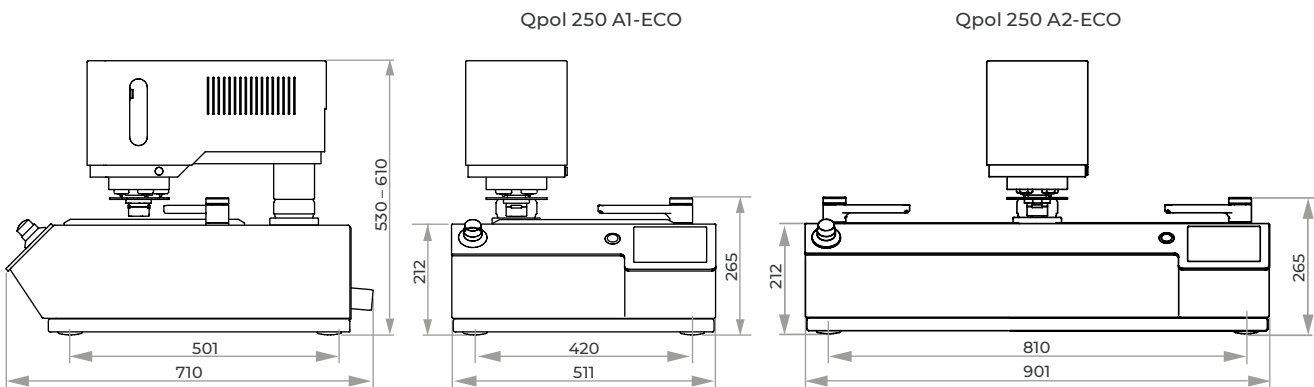
| see page 3.53


**DOSING UNIT Qdoser ECO**

| see page 3.56


**SPECIFICATIONS**

	<b>Qpol 250 A1-ECO</b>	<b>Qpol 250 A2-ECO</b>
Working wheels	Ø 200/250 mm	Ø 200/250 mm
Connected load	2.3 kVA	2.3 kVA
Power supply	1 200-240 V / 50/60 Hz (1Ph/N/PE) 2 100-120 V / 50/60 Hz (1Ph/N/PE)	200-240 V / 50/60 Hz (1Ph/N/PE) 100-120 V / 50/60 Hz (1Ph/N/PE)
Speed	30-600 rpm	30-600 rpm
WxHxD	~ 511 x 530-610 x 710 mm	~ 901 x 530-610 x 710 mm
Weight	64-72 kg	78-85 kg
	<b>POLISHING HEAD ECO</b>	<b>POLISHING HEAD ECO</b>
Single pressure	1-6 samples, max. Ø 40 mm	1-6 samples, max. Ø 40 mm
Central pressure	depending on holder	depending on holder
Speed	30-160 rpm	30-160 rpm
Sample downforce	variable	variable
Single pressure	5-80 N	5-80 N
Central pressure	20-350 N	20-350 N



## AUTOMATIC GRINDING &amp; POLISHING MACHINES

**QPOL 300 A1-ECO+ / QPOL 300 A2-ECO+**


The Qpol 300 A1/A2-ECO+ are single or twin wheel grinding & polishing machines for the materialographic laboratory, suitable for working wheels Ø 250/300 mm.

The new holder for the working wheel (single-disc design) enables materialographic sample preparation without carrier disc without

compromising performance. The control software allows to edit and save up to 200 preparation methods, protected by a user account management. The process of the current preparation is visualized by a status bar. It is possible to select an additional acoustic signal at the end of each preparation step in the service menu.

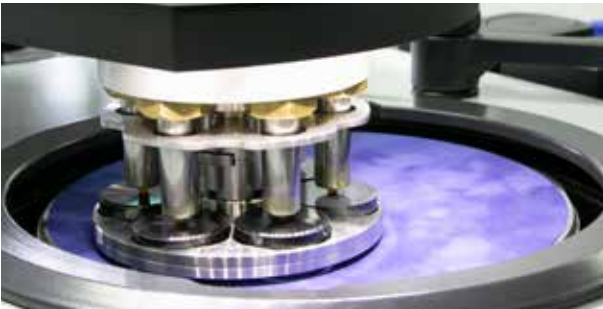
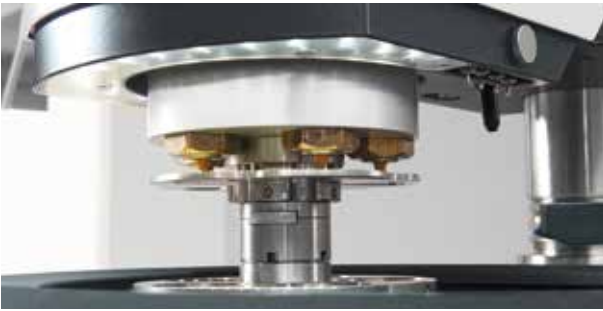

**OPERATING COMFORT**

The ECO+ grinding & polishing head with adjustable swivelling limits is equipped with recessed grips on both sides and integrated buttons for easy swivelling and adjustment. A large gap between the working surface and the polishing head ensures convenient changing of the sample holder.


**SINGLE-DISC DESIGN**

After removal of the splash protection ring, the working wheel is freely accessible. The wheel is automatically arrested when placed on the new mounting system.

On lifting the wheel, all parts below are accessible for easy cleaning.



### ECO+ POLISHING HEAD

The ECO+ polishing head is equipped with LED illumination of the working area and a holder for the nozzles of the Qdoser ECO and Qdoser ECO+ dosing systems. Water is supplied automatically via the head.

### VARIABLE SPEED

The grinding & polishing head ECO+ exerts 5 - 80 N in single pressure and 20 - 350 N in central pressure mode. Up to 6 samples Ø 50 mm can be moved at variable speed with sample holders Ø 185 mm.

### SAMPLE HOLDERS

QATM offers a wide selection of standard sample holders in various diameters and for different applications and machines. Samples with unusual dimensions can be clamped with the help of special design sample holders.

### ELECTRONIC CONTROL SYSTEM

The machine is operated and programmed via the 4.3" touch screen. Preparation methods for sample preparation may be edited and saved. It is also possible to prepare samples manually.

### OPTIONAL DOSING UNIT QDOSER ECO, QDOSER ECO+ AND QDOSER ONE

The automatic grinders and polishers can be combined with the fully automatic dosing system Qdoser ECO/ECO+ or the manual dosing solution Qdoser One, thus offering a high degree of flexibility for sample preparation and ease of use.


**BASIC MODULE**
**Qpol 300 A1-ECO+/A2-ECO+**

- | Qpol 300 A1-ECO+: single wheel grinder & polisher
- | Qpol 300 A2-ECO+: twin wheel grinder & polisher
- | Including polishing head ECO+
- | Single and central pressure
- | Variable speed of working wheel and polishing head
- | Working wheel and polishing head: clockwise / counter-clockwise rotation
- | Working wheels separately controlled (Qpol 300 A2-ECO+)
- | 4.3" Touch-Screen with intuitive ATM user software
- | 200 customized programs storable
- | Adjustable swiveling stop position of polishing head
- | Economic LED illumination
- | Manual water inlet
- | Automatic water supply on the polishing head
- | Basin rinsing tube
- | Aluminium case, powder coated
- | Impact-proof plastic bowl
- | Incl. splashing ring and cover
- | USB plug for data exchange and software updates
- | Ethernet plug for online-diagnostics and user support
- | Easy, fast and tool-free change of working wheel
- | Easy cleaning/rinsing of bowl by lifting the platen (single-disc design)
- | Spin cycle feature (Cleaning Boost)
- | Combinable with dosing unit Qdoser ECO or Qdoser ECO+
- | 4-times dosing unit Qdoser ECO integrable in polishing head ECO+

**Qpol 300 A1-ECO+**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631101**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631106**
**Qpol 300 A2-ECO+**

 200-240 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631111**

 100-120 V / 50/60 Hz  
(1Ph/N/PE)

**Order No.: M5631116**
**ACCESSORIES**
**SETTLING TANK**


- | 2-chamber-compartment, 45 ltr.
- | for System lab cabinet (insertion mechanism)

referring height of System cabinet H 800 mm

**Order No.: A5810261**

referring height of System cabinet H 900 mm

**Order No.: A5810237**


- | inlet sieve and filter bag
- | mobile

**Order No.: A5800496**
**WORKING WHEELS Qpol 300**

- | Single-disc design

Ø 250 mm

**Order No.: Z5631002**

Ø 300 mm

**Order No.: Z5631007**
**CLAMPING RINGS Qpol 300**

- | for working wheels Qpol 300 M/A
- | plastic

Ø 250 mm

**Order No.: Z5631004**

Ø 300 mm

**Order No.: Z5631009**

**ZUBHÖR**
**CONNECTION SET**

1 drain tube	Ø 40 mm; 1.5 m long
1 armored tube	R ½"; 2 m long
1 pressure tube	3 m long with coupling and screw thread R3/8"

**Order No.: Z5600009**
**BASIC SET Qpol 300 A1-ECO+**

1 splash guard ring, 1 cover, 4 sealings plugs for handles

**Order No.: Z5631012**
**BASIC SET Qpol 300 A2-ECO+**

2 splash guard rings, 2 covers, 4 sealings plugs for handles

**Order No.: Z5631013**
**STANDARD SAMPLE HOLDER L FOR SINGLE PRESSURE**

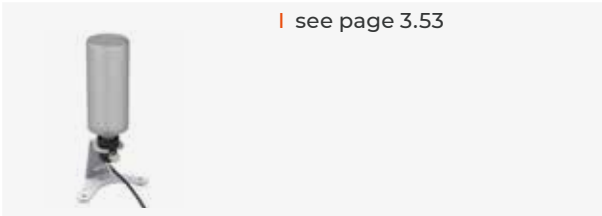
Samples	6x Ø 50 mm
Dimensions	Ø 160 mm

**Order No.: Z5446026**

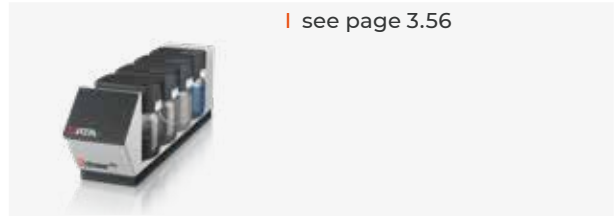
more sample holders as of page 3.61

**OPTION**
**DOSING BOTTLE Qdoser ONE**

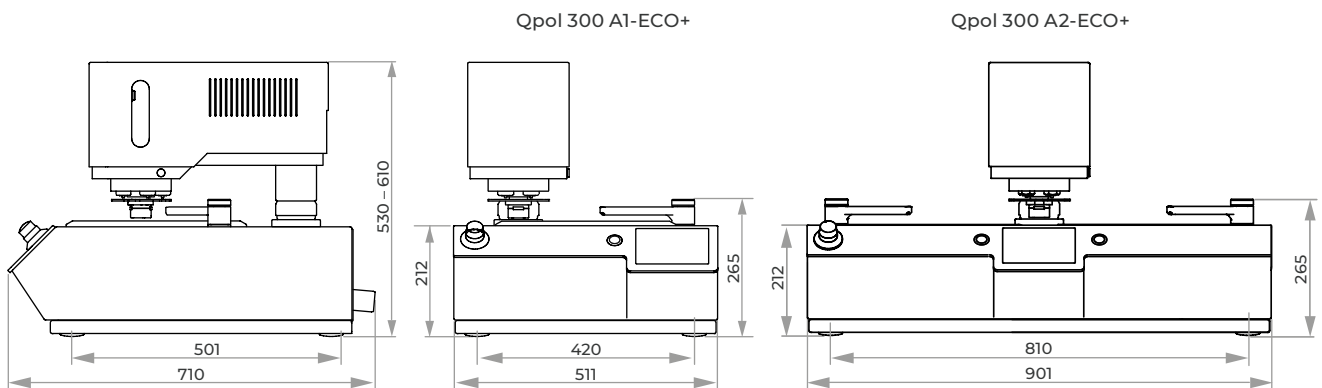
| see page 3.53


**DOSING UNITS Qdoser ECO/ECO+**

| see page 3.56


**SPECIFICATIONS**

	<b>Qpol 300 A1-ECO+</b>	<b>Qpol 300 A2-ECO+</b>
Working wheels	Ø 250/300 mm	Ø 250/300 mm
Connected load	2.8 kVA	3.3 kVA
Power supply	1 200-240 V / 50/60 Hz (1Ph/N/PE) 2 100-120 V / 50/60 Hz (1Ph/N/PE)	200-240 V / 50/60 Hz (1Ph/N/PE) 100-120 V / 50/60 Hz (1Ph/N/PE)
Speed	30-600 rpm	30-600 rpm
WxHxD	~ 511 x 530-610 x 710 mm	~ 901 x 530-610 x 710 mm
Weight	64-72 kg	78-85 kg
	<b>POLISHING HEAD ECO+</b>	<b>POLISHING HEAD ECO+</b>
Single pressure	1-6 samples, max. Ø 50 mm	1-6 samples, max. Ø 50 mm
Central pressure	depending on holder	depending on holder
Speed	30-160 rpm	30-160 rpm
Sample downforce	variable	variable
Single pressure	5-80 N	5-80 N
Central pressure	20-350 N	20-350 N



## AUTOMATIC GRINDING & POLISHING MACHINES

# SAPHIR 550 / SAPHIR 560



The Saphir 550 is a single wheel and the Saphir 560 is a twin wheel grinder and polisher with an innovative grinding and polishing head for working wheels  $\varnothing$  200-300 mm.

The automatic protective hood integrated in the head sets a new standard for operational safety.

Single and central pressure, memory function, integrated dosing system, material removed measurement are only a few of the possibilities.

Motor-driven height setting with pneumatic clamping meets highest demands



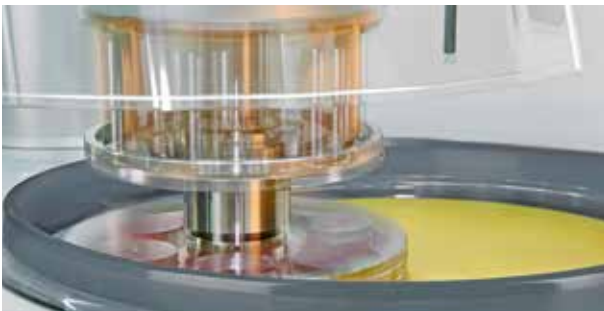
### GRINDING AND POLISHING HEAD

Through the individual pressure of the head, samples with different diameter and materials can be worked at the same time. It also has a memory function for the side and height setting. The grinding and polishing head is operated via a clearly laid out touch-display. Programs can be compiled here and then saved. Furthermore it is fitted with a quick-change function for the sample holders and clockwise and anticlockwise running directions.



### MATERIAL REMOVED MEASUREMENT

The removal height can be pre-determined with 0.1 mm accuracy. The material removed measurement takes place automatically. After reaching the preset value, the machine switches off.



### SAFETY

The preparation only starts when the transparent protective hood is extended. The working area is illuminated by energy-saving LEDs. Data safety is secured by enabling password protection for each individual program..

### VARIABLE SPEED

The display on the grinder and polisher shows the speed digitally. The base speed can be infinitely adjusted between 50 and 600 rpm. The head speed is separately adjustable between 30 and 150 rpm. The speed can also be changed during the working sequence.

### WATER

The automatically switched integrated basin rinsing is cooling the working wheel and cleaning the basin during the entire working process. The rinsing tap can be pulled out with the hose extension. Optimum distribution of water can be reached by swinging the tap left and right across the diameter of the working wheel..



## BASIC MODULE

### Saphir 550/560

- | Saphir 550: single wheel grinder/polisher
- | Saphir 560: twin wheel grinder/polisher
- | single and central pressure
- | variable speed
- | electronic control with touch display
- | programmable memory
- | polishing head: clockwise/anti-clockwise rotation
- | memory function for side and height adjustment
- | automatic protective hood
- | energy saving LED illumination of working area
- | integrated basin rinsing with cleaning and cooling function
- | automatic water solenoid
- | basin rinsing
- | incl. splash ring and cover
- | aluminium case, powder coated
- | impact-proof plastic bowl
- | e-Lab-ready

#### Saphir 550

Order No.: M5600130

#### Saphir 560

Order No.: M5600160

## EQUIPMENT

### POWER SUPPLY

Saphir 550 Equipment 1      Saphir 560 Equipment 1

230 V/50 Hz (1Ph/N/PE)      230 V/50 Hz (1Ph/N/PE)

Order No.: A5600043      Order No.: A5600055

Saphir 550 Equipment 2      Saphir 560 Equipment 2

110 V/60 Hz (1Ph/N/PE)      110 V/60 Hz (1Ph/N/PE)

Order No.: A5600044      Order No.: A5600056

### CONTROLLED REMOVAL

Equipment 1

without  
controlled removal

Order No.: A5600053

Equipment 2

with  
controlled removal

Order No.: A5600054



## OPTION

### DOSING UNIT

- | integrated dosing nozzles
- | controllable via touch display, incl. memory function
- | 4x diamond suspension dosing
- | 1x lubricant dosing
- | 1x oxide polishing dosing

Order No.: A5400001

## ACCESSORIES

### BOTTLE HOLDER FOR DIAMOND SUSPENSION

- | aluminium, powder coated

WxHxD                      290 x 185 x 120 mm

Order No.: Z5410006





## ACCESSORIES



### SETTLING TANK



- | 2-chamber-compartment, 45 ltr.
- | for System lab cabinet (insertion mechanism)



- | inlet sieve and filter bag
- | mobile

referring height of System cabinet  
H 800 mm

Order No.: A5810261

Order No.: A5800496

referring height of System cabinet  
H 900 mm

Order No.: A5810237

### CONNECTION SET

1 drain tube	Ø 40 mm; 1.5 m long
1 armored tube	R ½"; 2 m long
1 pressure tube	R 3/8" coupling and screw thread; 3 m

Order No.: Z5600009

### STANDARD SAMPLE HOLDER FOR SINGLE PRESSURE

Samples	6x Ø 50 mm
Dimensions	Ø 160 mm



Order No.: Z5400087

more sample holders as of page 3.61

### BASIC SET SAPHIR 550

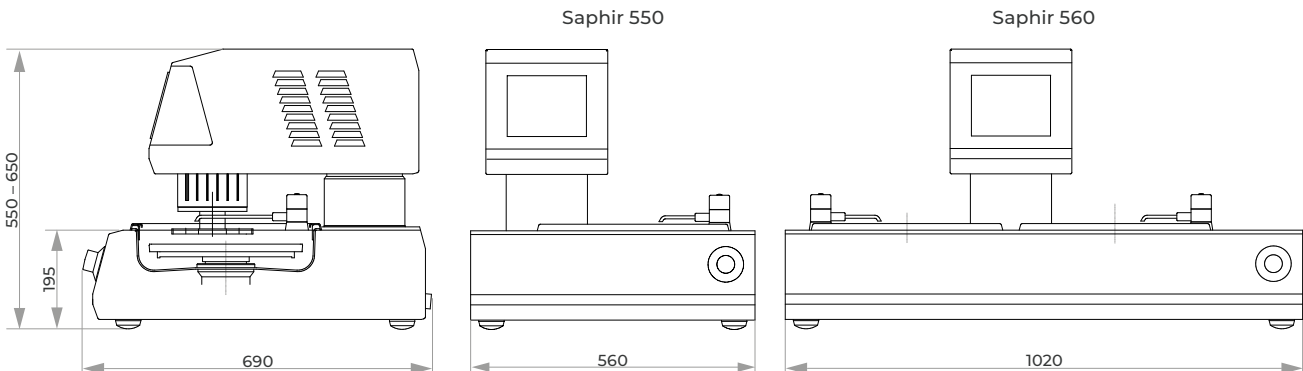
Order No.: Z5600012

### BASIC SET SAPHIR 560

Order No.: Z5600013

## SPECIFICATIONS

	Saphir 550	Saphir 560
Working wheels	Ø 200-300 mm	Ø 200-300 mm
Connected load	3.2 kVA	5.5 kVA
Power supply	1 200-240 V / 50/60 Hz (1Ph/N/PE) 2 100-120 V / 50/60 Hz (1Ph/N/PE)	200-240 V / 50/60 Hz (1Ph/N/PE) 100-120 V / 50/60 Hz (1Ph/N/PE)
Variable speed	50-600 rpm	50-600 rpm
WxHxD	~ 560 x 550-650 x 660 mm	~ 1020 x 550-650 x 660 mm
Weight	85 kg	110 kg
	<b>GRINDING AND POLISHING HEAD RUBIN 520</b>	<b>GRINDING AND POLISHING HEAD RUBIN 520</b>
Single pressure	1-6 samples, Ø 50 mm	1-6 samples, Ø 50 mm
Central pressure	depends on sample holder	depends on sample holder
Variable speed	30-150 rpm	30-150 rpm
Pressure	variable	variable
Central pressure	5-100 N	5-100 N
Central pressure	20-400 N	20-400 N



## AUTOMATIC GRINDING & POLISHING MACHINE

# QPOL XL



### CONVENIENT OPERATION

The modern design of QATM's proven control software allows for intuitive and user-friendly operation. Standard preparation methods and typical consumables are pre-installed.

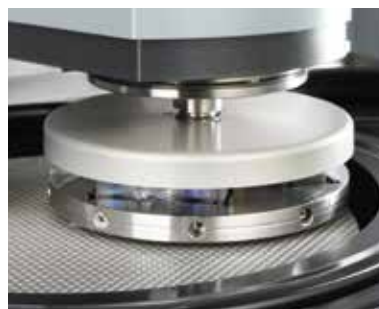


- | 7" touch screen
- | Status display and acoustic signal
- | Up to 200 programs and complete preparation methods storable
- | User Account Management with variable user rights
- | USB / Ethernet interface for remote maintenance and data transfer

High sample throughput with maximum reliability: The Qpol XL for working wheels  $\varnothing$  300/350 mm convinces as a robust and powerful powerhouse with unique removal capacity and ultimate preparation results.

With the highest stability of body and polishing

head, the device opens the series of QATM floor-standing polishing machines. The integrated load cell and the new motorized force control allow defined material removal and highest process reliability. The storage of up to 200 preparation methods is possible in the intuitive software, as is professional user management.



### CONVINCING PERFORMANCE DATA

The drive motor of the working wheel has a power of 2.2 kW and the polishing head of 1.1 kW. The speed of both systems can be operated in clockwise and counter clockwise direction as well as in oscillating movement.

### REMOVAL MEASUREMENT

The QATM Qpol XL comes with a system for precise measurement of material removal – regardless of operating time, sample type, material and hardness, you can easily monitor the material height already removed.

### CLEANING BOOST

The spin cycle function „Cleaning Boost“ is integrated into the software and spins the residual liquid off the grinding/polishing medium at the end of the preparation process with max. rpm for 3 seconds.


**BASIC MODULE**
**Qpol XL (basic unit)**

- | single wheel grinding and polishing machine with central pressure
- | stable welded steel construction, powder coated
- | variable speed of working wheel
- | variable speed of grinding / polishing head
- | grinding / polishing head: clockwise / counter-clockwise rotation
- | adjustable pendulum movement distance for grinding / polishing head
- | force control with electronic measuring system
- | removal measurement
- | integrated cleaning station (optional) with water, ethanol, air and spin cycle
- | motorized swiveling dosing arm for even lubrication of the working wheel
- | modularly configurable dosing system with optional magnetic stirrer and level warning
- | automatic water supply via dosing arm
- | 7" touch screen with intuitive QATM user software
- | 200 customized programs storable
- | USB and Ethernet connection
- | automatic safety hood
- | cooling of working wheel and basin rinsing with interval
- | spin cycle feature for working wheel (Cleaning Boost)
- | impact-proof plastic bowl
- | rinsing hose for manual cleaning
- | integrable settling tank or recirculation cooling unit (optional)
- | energy-saving LED illumination of the work area
- | splash ring (selectable depending diameter)
- | preparation for external suction system
- | manual mode for grinding and polishing

400 V / 50 Hz (3Ph/PE)

**Order No.: M5700010**

480 V / 60 Hz (3Ph/PE)

**Order No.: M5700020**

220 V / 60Hz (3Ph/PE)

**Order No.: M5700030**

**EQUIPMENT**
**EQUIPMENT FOR  
SETTLING TANK**


- | incl. 45 L settling tank
- | PVC tank
- | removable separating slide
- | inlet sieve with filter bag and overflow
- | mobile, without folding wheels

**Order No.: A5700032**
**EQUIPMENT FOR RECIRCULATION  
COOLING SYSTEM**

- | incl. 45 L recirculation cooling system
- | automatic shift valve for recirculation cooling system or drain
- | PVC tank
- | removable separating slide
- | inlet sieve with filter bag
- | mobile, without folding wheels

**Order No.: A5700033**
**EQUIPMENT FOR DIRECT DRAIN**

- | without preparation for settling tank or recirculation cooling unit

**Order No.: A5700031**

**EQUIPMENT**
**DOSING SYSTEM**


- | preparation for modularly configurable dosing system
- | requirement for the configuration of dosing modules (max. 6 bottles)
- | equipped with up to three dosing modules (can be ordered separately):
  - max. two dosing modules diamond polish
  - max. one dosing module final polish
- | rinsing function for dosing hoses and nozzles with water
- | including magnetic stirrer for all suspension bottles (automatic control in software) (Dosing system standard plus)

Equipment dosing system standard:

**Order No.: A5700042**

Equipment dosing system standard plus:

**Order No.: A5700043**

Without equipment dosing system:

**Order No.: A5700041**

**EQUIPMENT**
**CLEANING STATION**


- | automatic cleaning of sample holders up to Ø 204 mm
- | cleaning media: water, ethanol and air
- | integration of the cleaning step in preparation processes
- | drying by spin cycle with max. 800 rpm (adjustable)
- | user-defined programming of cleaning process in software
- | level warning for ethanol containers
- | preparation for external suction (recommended when using ethanol)
- | tap water (drinking water) and compressed air required

With cleaning station:

**Order No.: A5700022**

Without cleaning station:

**Order No.: A5700021**

**ACCESSORIES FOR DOSING SYSTEM**
**Dosing module diamond polish**

- | two pumps for diamond suspensions or lubricants (water and alcohol based)
- | Incl. two suspension bottles (refillable and removable)
- | level warning for both positions
- | backflushing function (software function)
- | dosing interval adjustable (software function)
- | LED illumination in the dosing compartment
- | max. filling quantity: 1L per bottle

Dosing module diamond polish:

**Order No.: Z5700011**

**Dosing module final polish**

- | one pump for final polish suspension
- | one pump for diamond suspensions or lubricants (water and alcohol based)
- | Incl. two suspension bottles (refillable and removable)
- | level warning for both positions
- | backflushing function (software function)
- | dosing interval adjustable (software function)
- | LED illumination in the dosing compartment
- | max. filling quantity: 1L per bottle

Dosing module final polish:

**Order No.: Z5700012**

**EQUIPMENT**
**MEDIA CONNECTIONS**

- | water in
- | water drain
- | compressed-air (only in case of cleaning station)
- | power supply
- | Ethernet

On back side of the machine:

**Order No.: A5700011**

On right-hand side of the machine:

**Order No.: A5700012**

**OPTION**
**SIGNAL LIGHT**


- | LED-signal light with status display
- | color coding according to DIN EN 60204-1

**Order No.: A5700051**

**ACCESSORIES**
**WORKING WHEELS Qpol XL**

Ø 300 mm

**Order No.: Z5700022**

Ø 350 mm

**Order No.: Z5700021**
**CLAMPING RING Qpol XL**

 | for working wheels Qpol XL  
 | plastic

Ø 300 mm

**Order No.: Z5631009**
**STANDARD SAMPLE HOLDER FOR CENTRAL PRESSURE**

Samples 7x Ø 50 mm

Dimensions Ø 203 mm

**Order No.: Z5440014**

more sample holders as of page 3.62

**ACCESSORIES**
**SPLASH RING Qpol XL**

| made of resistant PVC

Ø 300 mm

**Order No.: Z5700024**

Ø 350 mm

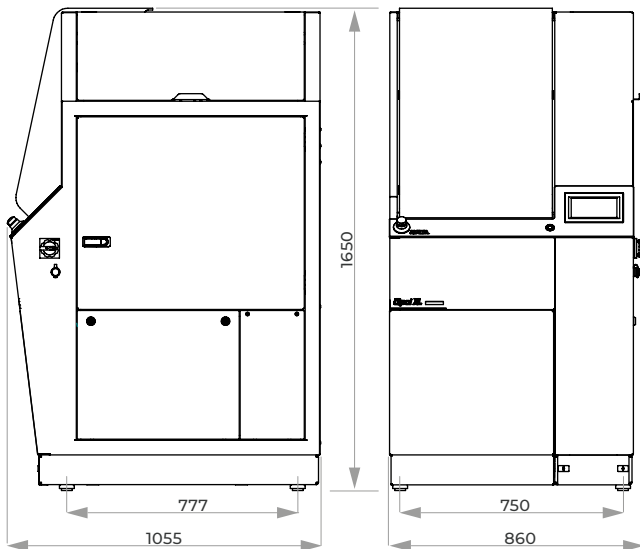
**Order No.: Z5700023**
**CONNECTION SET Qpol XL**

1 HT pipe Ø 50 mm, 1 m long

2 HT bow Ø 50 mm, 90°

1 armored tube R ½"; 2 m long with accessories

1 pressure tube R 3/8" coupling and screw thread; 3 m

**Order No.: Z5700002**
**BASIC SET Qpol XL**
**Order No.: Z5700001**

**SPECIFICATIONS**

Connected load	6 kVA
Power supply	1 400 V / 50 Hz (3Ph/PE) 2 480 V / 60 Hz (3Ph/PE) 3 220 V / 60Hz (3Ph/PE)

**WORKING WHEELS**

Drive power	2.2 kW (S1)
Diameter	Ø 300/350 mm
Variable speed	50-600 rpm
Direction of rotation	clockwise/anti-clockwise

**SAMPLE HOLDER / GRINDING AND POLISHING HEAD**

Drive power	0.75 kW (S1)
Diameter	Ø 160 - 204 mm
Variable speed	50 - 350 rpm
Speed of „Cleaning Boost“	800 rpm
Direction of rotation	clockwise/anti-clockwise
Central pressure	50 - 750 N

**Qpol XL**

Controlled removal	0.1 mm display accuracy
WxHxD	~ 860 x 1650 x 1055 mm
Weight	~ 420 kg

## VIBRATORY POLISHING DEVICE

# QPOL VIBRO



### USER INTERFACE

The innovative design of the Qpol Vibro software provides intuitive and user-friendly operation. 15 preparation methods for various materials are pre-installed, together with the appropriate consumables. The Qpol Vibro offers storage of up to 200 customized methods both on the device or on USB, allowing a transfer of methods from one device to another.

These may be programmed without any restriction in duration or in vibration intensity.

The vibratory polishing device Qpol Vibro is designed for the virtually deformation-free preparation of specimen surfaces (specimens surfaces for polishing steps  $< 1 \mu\text{m}$ ). It is ideal for further characterizations, e.g. EBSD (electron backscatter diffraction), AFM analysis and nanoindentation or micro hardness testing.

The device is applicable for soft and ductile materials, like titanium-aluminum, pure copper and copper alloys, aluminum alloys, steel and nickel based alloys and may be operated in manual or automatic mode.



### POLISHING BOWL

With a diameter of  $\varnothing = 308 \text{ mm}$  the large bowl provides sufficient space for polishing of completely filled sample holders, large specimens, as well as for simultaneously polishing up to 21 specimens. Held by strong magnets the polishing bowl can be easily removed by pressing a button and exchanged by simply putting it back into the device.

The clamping ring protects the edge of the polishing cloth to ensure a long service life. The bowl is designed for the use of polishing cloths on magnetic systems. Consequently, the cloth is quickly and easily removed.

### PLUGS

Connection to an exhaust air system improves health and safety conditions for the operator. Ethernet plug for remote control and service applications and USB plug to save and exchange data is integrated.

### SURFACE-GUARD

The Surface-Guard (movement interval) offers advantages for corrosion-sensitive materials like cast iron and preserves the quality of the polished surface after a program has finished.



## BASIC MODULE

### Qpol Vibro

- | applicable for soft and ductile materials, like titanium-aluminum, pure copper and copper alloys, aluminum alloys, steel and nickel based alloys
- | large bowl with  $\text{Ø}=308\text{mm}$  for polishing large specimens, filled sample holders, and for simultaneous polishing of up to 21 specimens ( $\text{Ø}=30\text{ mm, }1\frac{1}{4}\text{''}$ )
- | rapid changeable polishing bowl with magnetic system
- | Surface-Guard: protects the quality of the polished surface after running a preparation program
- | automatic frequency control from 60-120Hz, e.g. for mass variation
- | clearly ATM-User interface and touch screen
- | pre-installed preparation methods and consumables for various materials
- | programmable and storable polishing recipes on the device or on USB
- | manual and automatic operation modus
- | alert function (timer) indicating the finish of a program
- | low-noise operation, almost indefinite polishing time without supervision
- | vibrational motor with oscillation compensation
- | exhaust connection plug (exhaust connection for enhanced user-friendliness and safety)
- | soft closing clear-sighted hood protecting polishing cloth and specimens for contamination
- | vibration adsorbing construction
- | weight of 45 kg suitable as benchtop device

Order No.: M5651000

## EQUIPMENT

### POWER SUPPLY

#### Equipment 1

220-240 V 50/60 Hz (1Ph/N/PE)

Order No.: A5651001

#### Equipment 2

100-120 V 50/60 Hz (1Ph/N/PE)

Order No.: A5651002



## ACCESSORIES

### POLISHING BOWL (ADDITIONAL)

- | large bowl with  $\text{Ø}=308\text{mm}$  (inner diameter) for polishing large specimens, filled sample holders and for simultaneous polishing of up to 21 specimens ( $\text{Ø}=30\text{ mm, }1\frac{1}{4}\text{''}$ )
- | ergonomic carrying handle for easy handling
- | fast and easy change of the bowl due to release button and magnetic system
- | specially designed for polishing cloths of magnetic system
- | easy cleaning of bowl
- | polishing cloth meter: 300/305 mm (12")
- | lid protects cloth and suspension from contamination

Order No.: Z5651000


**ACCESSORIES**
**SAMPLE HOLDER Qpol Vibro**

- | for clamping of mounted samples
- | adding additional weights possible to increase surface pressure
- | specimen height max. 30 mm
- | slip ring of sample holder suppresses interactions with other sample holders in bowl

Sample Ø	25 mm (1")	Sample Ø	30/32 mm (1 1/4")
Weight	300 g	Weight	220 g
add. weight	90 g	add. weight	90 g
<b>Order No.:</b>	<b>Z5651008</b>	<b>Order No.:</b>	<b>Z5651009</b>
Sample Ø	38/40 mm (1 1/2")	Sample Ø	50 mm (2")
Weight	550 g	Weight	360 g
add. weight	190 g	add. weight	190 g
<b>Order No.:</b>	<b>Z5651011</b>	<b>Order No.:</b>	<b>Z5651012</b>


**LEVELLING PLATE Qpol Vibro**

- | for levelling of mounted specimens
- | suitable for samples with diameter 25-50 mm (1"-2")

**Order No.:** Z5651013

**SPECIFICATIONS**

Connected load	0.25 kVA
Drive power	135 VA
Power supply	1 220-240 V 50/60 Hz (1Ph/N/PE) 2 100-120 V 50/60 Hz (1Ph/N/PE)
Polishing bowl: inner diameter	Ø 308 mm
Polishing bowl: polishing cloth	Ø 300/305 mm (12")
Plugs	USB, Ethernet
Exhaust connection plug	Ø 40 mm
Ambient temperature	10-40 °C
IP Code	IP 22
WxHxD	~ 510 x 300 x 590 mm
Weight	~ 45 kg

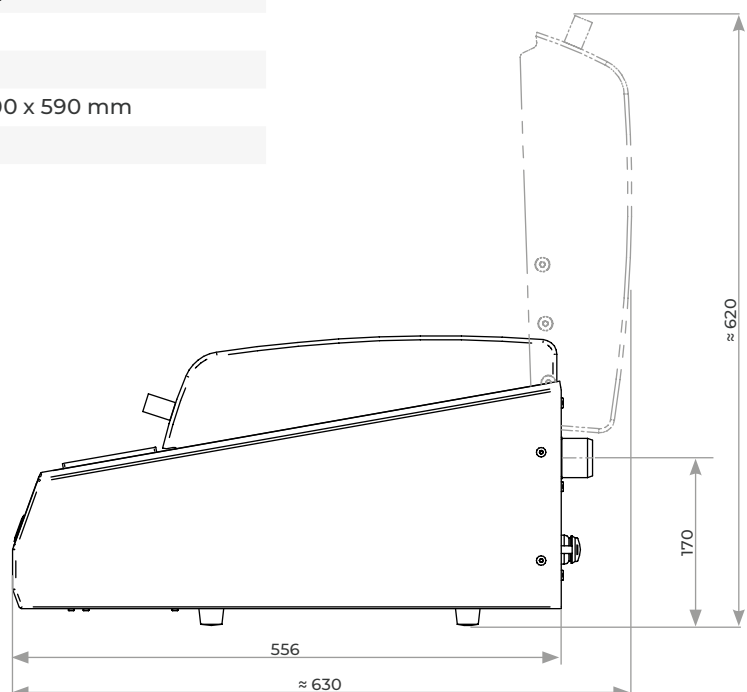
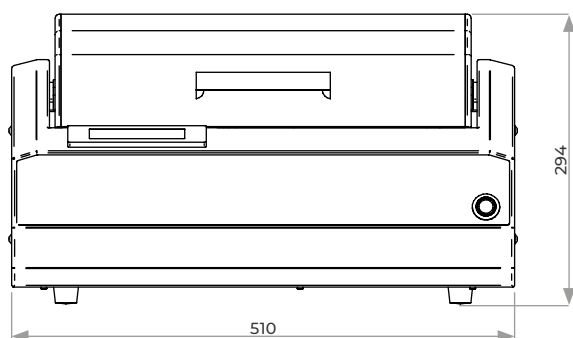


Figure: Basic unit without equipment, option and accessories. Further information on request.



## GRINDING & POLISHING ROBOT QPOL 250 BOT



### DOSING UNIT

Dosing and bottles depot are easily accessible and clearly arranged in the cabinet. Optional level monitoring and magnetic stirrer.

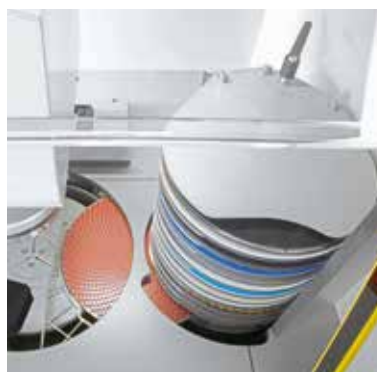


The compact fully automatic grinding and polishing robot Qpol 250 BOT combines the complete grinding and polishing process, including ultrasonic cleaning in one machine. 16x disc changer, 6x dosing unit and an integrable sedimentation tank fits perfectly into the System lab.

Intuitive user interface via touch screen and a user friendly fixation system for central force sample holder enable preparation results in shortest time. All parameters can be adjusted during the automatic process.

### SETTLING TANK

The insertible settling tank is invisibly integrated into the cabinet with all its connections (option).



### DISC CHANGER

The storage elevator contains up to 16 different grinding discs, such as SiC paper or Galaxy discs. During cleaning the sample, the foil changer replaces the grinding media and fixes it with the Vacu-Jet system automatically.



### CLEANING STATION

The cleaning station enables a fully automatic multi-step cleaning of the sample with water, air and alcohol. Cleaning times and steps are completely adjustable as needed. The ultrasonic cleaning station provides intermediate or final cleaning.


**BASIC MODULE**
**GRINDING & POLISHING ROBOT Qpol 250 BOT**

- | grinding- and polishing robot with central pressure
- | intuitive operation via QATM touchscreen surface
- | variable speed control of working wheel and polishing head
- | same & counter direction grinding
- | stock removal measurement
- | automatic abrasive changer (16-fold)
- | abrasive carrier fastening by VacuJet
- | working wheel cooling / bowl rinsing with interval switching
- | cleaning station with water, air and ethanol
- | ultrasonic cleaner
- | 6-fold dosing unit
- | level warning dosing system (optional)
- | magnetic stirrer (optional)
- | storage drawer for abrasives (optional)
- | settling tank 45L (optional)
- | aluminium case, powder-coated
- | safety light barrier
- | LED working space lighting
- | preparation for air extraction
- | up to 200 programs with all parameters storable, protected per password
- | USB interface for creating program backup
- | e-lab ready

200-240 V, 50/60 Hz (1Ph/N/PE)

**Order No.: M5805050**

100-120 V, 50/60 Hz (1Ph/N/PE)

**Order No.: M5805051**
**EQUIPMENT**
**DOSING**
**Equipment 1**

- | Dosing system basic

**Order No.: A5805050**
**Equipment 2**

- | Dosing system standard
- | with level warning

**Order No.: A5805051**
**Equipment 3**

- | Dosing system standard plus
- | with level warning and magnetic stirrer

**Order No.: A5805052**

**ACCESSORIES**
**SETTLING TANK**


- | 2-chamber PVC tank 45 liter
- | mobile, with insertion mechanism for System Lab cabinets

**Order No.: A5810237**

## ZUBEHÖR

### CONNECTION SET Qpol 250 BOT

1 drain tube	Ø 50 mm; 1.5 m long
1 armored tube	R ½"; 2 m long
1 pressure tube	R ¾" coupling and screw thread; 3 m

Order No.: Z5805001

### BASIC SET Qpol 250 BOT

Order No.: Z5805002

## SPECIFICATIONS

Connected load	3.7 kVA
Power supply	220 – 230 V 50/60 Hz (1PH/N/PE)

## GRINDING STATION

Working wheel-Ø	250 mm
Working wheel speed	50 – 600 rpm

## CLEANING STATION

Cleaning media	air, water, ethanol
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## ULTRASONIC CLEANING STATION

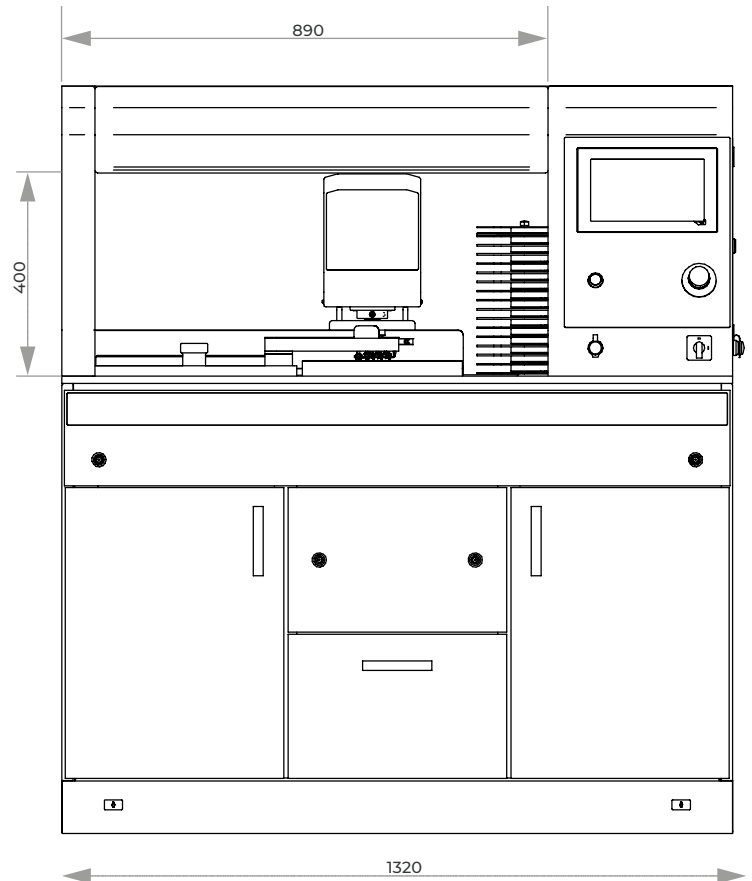
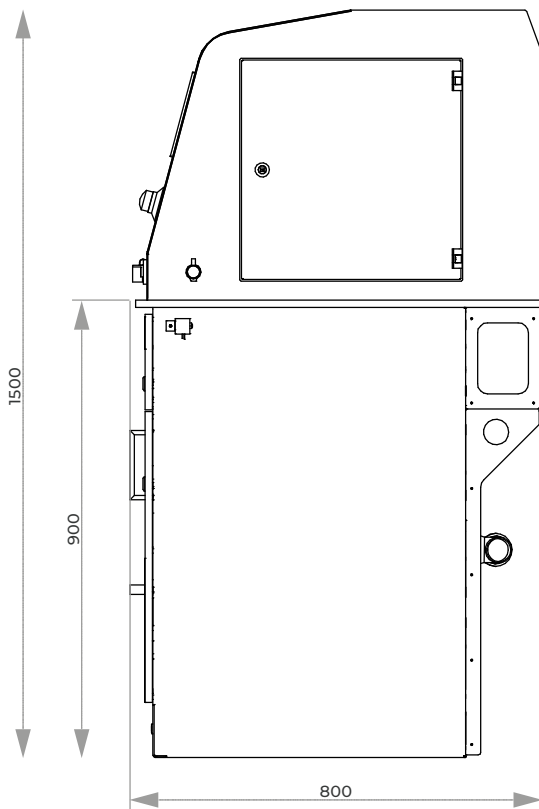
Capacity	2 ltr.
HF-power	50 W
Frequency	40 kHz

## ABRASIVE CHANGER

Storage	16 different grinding media
abrasive-Ø	250 mm

## GRINDING AND POLISHING HEAD

Speed	30 – 150 rpm, clockwise/anti-clockwise
Pressure	20 – 350 N
Controlled removal	automatic; 0.1 mm display accuracy
Sample holder	Ø 160 mm
WxHxD	~ 1320 x 1500 x 800 mm
Weight	~ 310 kg



## GRINDING & POLISHING AUTOMAT

# QPOL 300 BOT



8 stations

Designed and developed by QATM, the compact Qpol 300 BOT completely automates the grinding and polishing aspects of the specimen preparation process, including cleaning and drying. Simple touch-screen controls access all parameters

and procedures. The Qpol 300 BOT ensures that each specimen is properly processed and guarantees reproducible results and, in addition more space for sample analysis.

### MODULAR CONSTRUCTION

Elements for the Qpol 300 BOT come from the System Lab cabinets and equipment. Within the sturdy aluminium housing, it is possible to install 4 to 8 system work stations. Up to 11 different operations can be programmed and sequenced for a particular application. Options include pre-grinding, grinding and polishing as well as cleaning and drying in any combination.

The Qpol 300 BOT automatically proceeds from one step to the next, eliminating the manual, time-consuming task of cleaning each sample holder between steps.

### GRINDING AND POLISHING STATIONS

The Qpol 300 BOT is constructed with stations for complete materialographic operations from planar grinding through intermediate steps and final polishing. All stations are integrated into the system. The grinding and polishing discs are fixed onto the working wheels by using a vacuum (Vacu-Jet System) or magnetic disc system.

Each station can be configured for specific abrasive requirements. Water, diamond suspensions, diamond lubricant and oxide dispensing are fully integrated and controlled via programming. Grinding and polishing stations can also include fully automatic protective covers to maintain a clean work environment.

## GRINDING AND POLISHING HEAD

The grinding and polishing head picks up a sample holder from the stack and travels to individual work stations to perform each cycle in the proper sequence. Upon completion, the head returns the holder to the stack. The use of two heads allows simultaneous grinding and polishing and optimizes the Qpol 300 BOT when preparing multiple specimen holders.



4 stations

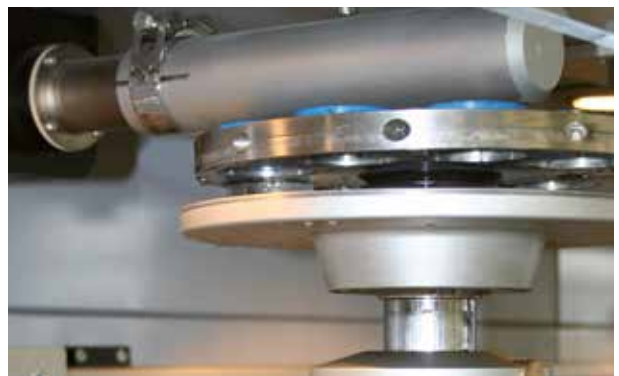
## FOIL CHANGER

In the storage elevator, there are four compartments for disposable grinding discs, such as SiC paper. The vacuum exchange arm grips the pre-selected SiC paper and places it onto the wheel. The Vacu-Jet system then operates immediately, securing the disc to the plate automatically. When finished, the used grinding paper is discarded.



## WARM AIR DRYING

After final cleaning, a programmable warm air blower dries the samples with the polished side upwards. Then the dry samples are stored in the sample stack. The drying time is programmable.

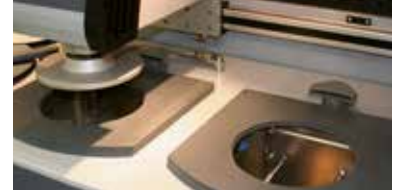


## ULTRASONIC CLEANING STATION

The ultrasonic cleaning station provides intermediate or final cleaning. Cleaning time and sequence is easily programmable. The cleaning tank includes heating with variable temperature control. A recirculation filter system, which lengthens the useful life of the cleaning fluid and optimizes the final result, is also available.

## HIGH SPEED CLEANING STATION

The cleaning station enables a fully automatic cleaning of the sample. The multi-step cleaning is carried out with water, air and alcohol. Cleaning times and steps are completely adjustable as needed.



7 stations

## SURFACE GRINDING STATION

The high speed grinding station planes the surface of the sample very quickly using an abrasive stone. The fully enclosed stone has an integrated recirculation coolant system in the cabinet. SiC and Al<sub>2</sub>O<sub>3</sub> grinding stones are kept flat by an automatic diamond dressing device with adjustable dressing depths and intervals.

The wearing surface of our standard grinding stone with glued carrier plate is 30 mm.

For diamond grinding disc applications, a cup-wheel with sample holder adaption is available for dressing the diamond surface in freely configurable intervals.





### TOUCH SCREEN CONTROL

Simple operation with drag-and-drop graphical touch-screen controls at the central panel that can slide to any work station. For each step, the screen shows a graphical representation of the working position. It is possible to follow the processing sequence in real time. The process sequence can be stored and then recalled as a complete program. A large number of programs can be stored and then recalled as needed. As standard equipment, there is a LAN connection for remote maintenance and monitoring by your facility or by QATM. This enables the recognition and removal of faults/errors or downloading of updates and procedures.



### DATA TRANSFER

The QATM central lab is always looking for solutions for your problems. We can develop an optimum procedure for a particular sample and send it to you via data transfer. Acquired data can also be exchanged via an internal network. This enables reproducibility and comparison of procedures and parameters anywhere, anytime.



5 stations

- ① Movable control panel (sideway) with touch screen control; individually programmed preparation cycles can be saved
- ② Polishing head: clockwise/anti-clockwise rotation
- ③ Holder stack for six sample holders
- ④ Two grinding and polishing stations with variable speed of working wheels
- ⑤ Fully-automatic sample cleaning with water, Ethanol, air
- ⑥ Warm air dryer with timer
- ⑦ Grinding station with four different grinding media/grains stored in foil changer
- ⑧ Dosing drawer for storing of polishing suspensions
- ⑨ Settling tank

**SPECIFICATIONS**

Connected load	depends on equipment: 4.3-15.6 kVA
Power supply	400 V/50 Hz

**GRINDING AND POLISHING STATION**

Working wheels	up to $\varnothing$ 300 mm
Speed	50-600 rpm
Stations	1

**GRINDING STATION**

Grinding stone	$\varnothing$ 350 mm
Speed	50-600 rpm
Lines	1

**CLEANING STATION**

Cleaning media	air, water, ethanol (option)
Process	time and steps can be set as needed
Stations	1

**ULTRASONIC CLEANER**

Volume	6.5 ltr.
HF-power	400 W
Stations	1

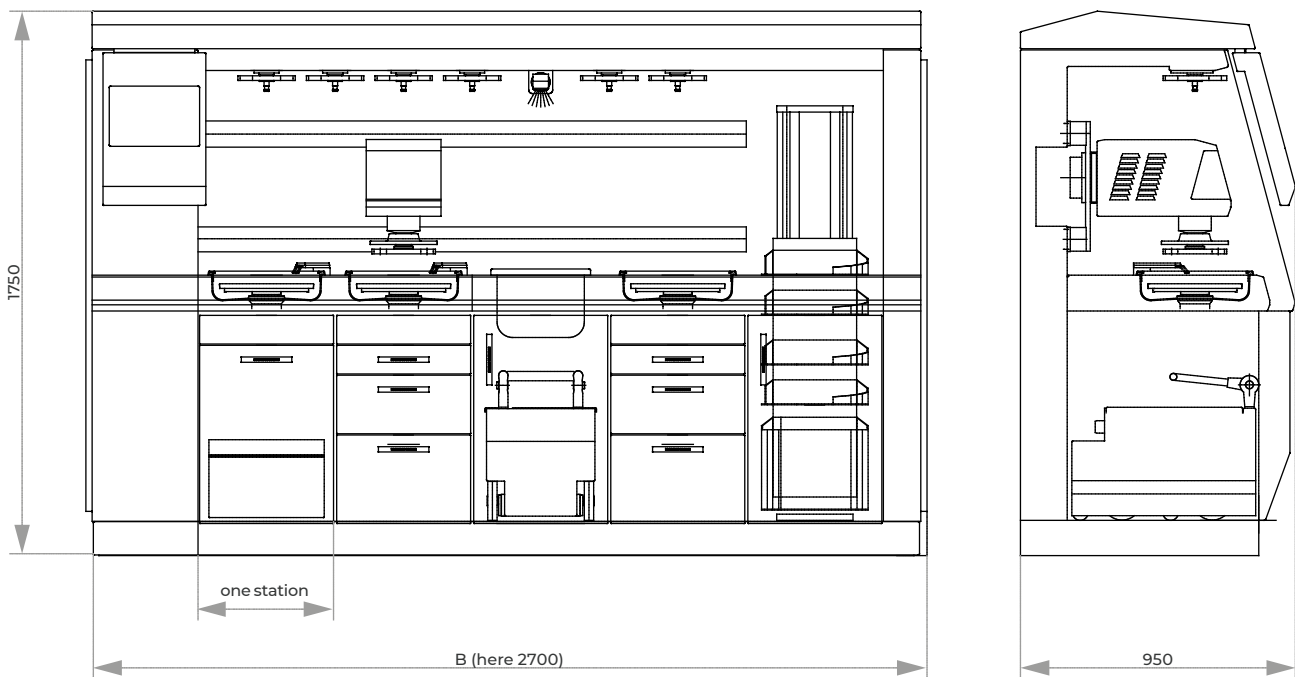
**FOIL CHANGER**

Storage	4 different grinding media
Grinding paper	$\varnothing$ 300 mm
Stations	2

**GRINDING AND POLISHING HEAD**

Central pressure	50-450 N, variable
Speed	20-120 rpm, clockwise/anti-clockwise
Pressure	variable
Controlled removal	automatic
Sample holder	$\varnothing$ 160/185/204 mm
Weight	117 kg

Stations	4	5	6	7	8
Dimension W	2260	2700	3140	3580	4020
HxD	1750 x 950 mm				





**QDOSER ONE**

The Qdoser ONE dosing system is an easy-to-use solution for manual or semi-automatic polishing processes. QATM's standard suspension and lubricant bottles can be quickly screwed on the dosing attachment. The dosing volume is closely

and continuously controlled with an adjusting screw. The system can be mounted to the polishing heads Qpol GO and ECO. If used with manual grinding/polishing machines, a stand with suction cups can be placed on the machines.

**BASIC MODULE****Qdoser ONE**

- | Standard QATM suspension bottle (1000 ml)
- | Dosing attachment for screwing onto the standard dosing bottles
- | Dosage adjustable with adjusting screw

Order No.: Z5631015

**ACCESSORIES****Qdoser ONE Holder**

- | Easy to apply to the polishing head Qpol GO or ECO
- | Quick and easy bottle exchange

Order No.: Z5631014

**Qdoser ONE Stand**

- | Stand for holding Qdoser ONE
- | Stand can be freely positioned on the grinding machine
- | Suction pads for fixation on grinding and polishing machines
- | Quick and easy bottle exchange

Order No.: Z5631016

## DOSING UNIT

# QDOSER GO



The Qdoser Go automatic dosing unit may be used in combination with all manual grinders & polishers Qpol 250/300 M.

The 4 screwable 500 ml glass bottles can hold 3x diamond suspensions and 1x lubricant or 4x

diamond suspensions Dia-Complete and can be filled through a separate lid, even during operation. They are quickly removed for easy cleaning.

A backflushing function keeps the hoses clean.



### SUSPENSION TANK

The glass bottles have a capacity of 500 ml. They may be filled through a separate inlet in the lid any time once they have been inserted. They automatically lock into place when being inserted and are easily removed.



### DOSING ARM

The dosing arm with dosing nozzles may be freely positioned on the grinding & polishing machine. The dosing is controlled via the Qdoser GO operating panel.



### BASIC MODULE

#### Qdoser GO

- | Automatic dosing unit for 3x diamond suspension and 1x lubricant or 4x diamond suspension Dia-Complete
- | Dosing interval adjustable
- | Reverse rinsing function
- | Manual or automatic mode
- | For all grinders and polishers
- | Suspension containers refillable and removable

100-240 V / 50/60 Hz (1Ph/N/PE)

Order No.: M6300050

### OPTION

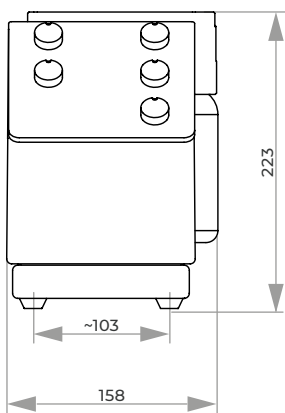
#### HOLDER FOR DOSING NOZZLES (MANUAL)

- | 4 nozzles
- | Combinable with Saphir grinders and other brands
- | Arm W x H x D: 250 x 55 x 50 mm

Order No.: A6300051

### SPECIFICATIONS

Bottles	4
Capacity	500 ml
Connected load	0.2 kVA
Power supply	100-240 V / 50/60 Hz (1Ph/N/PE)
WxHxD	~ 158 x 223 x 686 mm
Weight	~ 9 kg



## DOSING UNITS

# QDOSER ECO / QDOSER ECO+



### DOSING

The dosing nozzles are easily attached to the grinding and polishing head. The dosing is controlled fully automatically by the software of the Qpol devices.



The Qdoser ECO and Qdoser ECO+ fully automatic dosing units speed up grinding and polishing processes in the materialographic laboratory and are designed for use with the automatic grinding machines of the Qpol 250/300 A series.

4 screwable 500 ml glass bottles can hold diamond

suspensions, lubricant or final polishing suspensions and can be filled through a separate lid, even during operation. They are quickly removed for easy cleaning.

A backflushing function keeps the hoses clean.



### SUSPENSION TANK

The glass bottles have a capacity of 500 ml. They may be filled through a separate inlet in the lid any time once they have been inserted. They automatically lock into place when being inserted and are easily removed. If required, the station for final polishing suspension can be extended to 1 L capacity on the Qdoser ECO+



### MAGNETIC STIRRER (OPTIONAL)

The magnetic stirrer integrated in the control unit of the Qpol 250/300 A series prevents the suspension from settling in the bottles. The automatic stirring of the suspensions ensures a good preparation result due to the optimal distribution of the abrasive particles in the suspension before use.



**OPTION**

**MAGNETIC STIRRER ECO/ECO+**

- | 4 stirrers
- | Combinable with Qpol 250/300 A devices

Order No.: A6300052

**OPTION (FOR QDOSER ECO)**

**CONNECTION VERSIONS**

- | Connection version Qpol 250 A1/A2 ECO
- | Connection version Qpol 300 A1/A2 ECO+

Order No.: A6300050      Order No.: A6300053

**BASIC MODULE**

**Qdoser ECO / Qdoser ECO+**

- | Automatic dosing unit
- | Dosing interval adjustable
- | Reverse rinsing function
- | Controlled by the control software of the Qpol series
- | Suspension containers refillable and removable

**Qdoser ECO**

- | For 3x diamond suspension and 1x lubricant or 4x diamond suspension Dia-Complete
- | For all Qpol 250/300 A grinders/polishers

Order No.: M6300060

**Qdoser ECO+**

- | For 3x diamond suspension, lubricant or All-In-One diamond suspension and 1x final polishing suspension
- | Only for Qpol 300 A-ECO+ grinders/polishers

Order No.: M6300070

**OPTION (FOR QDOSER ECO+)**

**CONNECTION VERSIONS**

- | Connection version Qpol 300 A1/A2 ECO+

Order No.: A6300070

**ACCESSORIES (FOR QDOSER ECO+)**

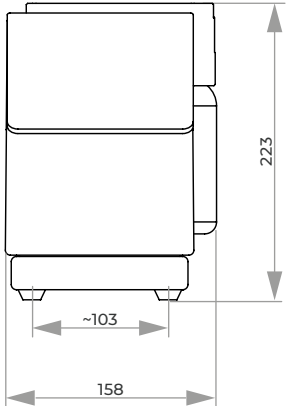
**EXTENSION FOR FINAL POLISHING SUSPENSION**

- | Extension for final polishing suspension to 1 L- suspension supply bottle

Order No.: Z6300070

**SPECIFICATIONS**

Bottles	4
Capacity	500 ml
WxHxD	~ 158 x 223 x 686 mm
Weight	~ 9 kg



## SYSTEM LAB SETTLING TANK

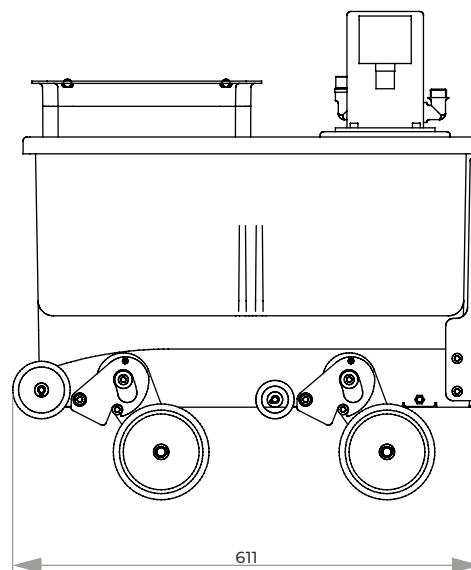
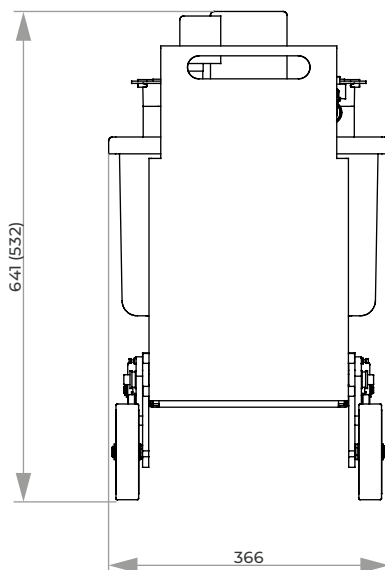


Settling tank with insertion mechanism for System lab cabinets of height 800 or 900 mm

### SYSTEM INTEGRATION

The insertion mechanism retracts the wheels mechanically when sliding in and out the Lab system cabinet, so that the sedimentation tank or the recirculation cooling does not need to be lifted, especially when filled.

The tank with its connections disappears completely in the system cabinet. The System settling tank without insertion mechanism is mobile as well.





**CENTRAL PRESSURE**

**LEVELLING PLATE**

sample holder	sample protruding	
Ø 130 mm	2 mm	<b>Order No.: 05400356</b>
Ø 130 mm	4 mm	<b>Order No.: 05400372</b>
Ø 160 mm	2 mm	<b>Order No.: 05400114</b>
Ø 160 mm	4 mm	<b>Order No.: 05400246</b>
Ø 185 mm	2 mm	<b>Order No.: 05400188</b>
Ø 185 mm	4 mm	<b>Order No.: 05400260</b>
Ø 204 mm	2 mm	<b>Order No.: 05400194</b>
Ø 204 mm	4 mm	<b>Order No.: 05440021</b>

**LEVELLING DEVICE WITH UNLOADING AID**

The pneumatic fixation enables levelling of sample holders for central pressure quickly and effortlessly. The sample distance is adjustable and universally suitable for all standard sample diameters. The unloading aid provides gentle unloading of the prepared samples.



**CENTRAL PRESSURE**

**LEVELLING DEVICE WITH UNLOADING AID**

I aid for plane-parallel sample fixation

Sample holder	Ø 160, 185, 204 mm
Sample distance	variable, 1-6 mm
Compressed air required	6 bar

**Order No.: M1320002**

**ACCESSORIES**

**CONNECTION SET**

1 pressure tube 3 m, with coupling and connection thread R 3/8"

**Order No.: Z1320000**

## ACCESSORIES FOR QPOL- AND SAPHIR DEVICES

# WORKING WHEELS, CLAMPING RINGS, CARRIER WHEELS, SPLASH RINGS


**ACCESSORIES Qpol**
**WORKING WHEELS Qpol**

- | innovative mounting system for working wheel
- | for use without carrier plate

	<b>Order No.:</b>
Ø 200 mm	<b>Z5631001</b>
Ø 250 mm	<b>Z5631002</b>
Ø 300 mm	<b>Z5631007</b>

**ACCESSORIES SAPHIR**
**WORKING WHEELS SAPHIR**

- | aluminium anodized

	<b>Order No.:</b>
Ø 200 mm	<b>Z5610034</b>
Ø 230 mm	<b>Z5610030</b>
Ø 250 mm	<b>Z5610031</b>
Ø 300 mm	<b>Z5610032</b>


**CLAMPING RINGS Qpol**

- | plastic

	<b>Order No.:</b>
Ø 200 mm	<b>Z5631003</b>
Ø 250 mm	<b>Z5631004</b>
Ø 300 mm	<b>Z5631009</b>

**CLAMPING RINGS SAPHIR**

- | plastic

	<b>Order No.:</b>
Ø 200 mm	<b>05610228</b>
Ø 230 mm	<b>05610227</b>
Ø 250 mm	<b>05610226</b>
Ø 300 mm	<b>05610225</b>


**CARRIER WHEELS SAPHIR**

- | for other brands on request

Durchmesser	<b>Order No.:</b>
Ø 200 mm	<b>05610037</b>
Ø 230 mm	<b>05610058</b>
Ø 250 mm	<b>05610057</b>
Ø 300 mm	<b>05610059</b>


**SPLASH RINGS Qpol**

- | plastic

	<b>Order No.:</b>
<b>for Qpol 200:</b>	
Ø 200 mm	<b>05632023</b>
<b>for Qpol 250:</b>	
Ø 200 mm	<b>Z5631020</b>
Ø 250 mm	<b>Z5631021</b>
<b>for Qpol 300:</b>	
Ø 250 mm	<b>Z5631022</b>
Ø 300 mm	<b>Z5631023</b>
<b>for Qpol XL:</b>	
Ø 300 mm	<b>Z5700024</b>
Ø 350 mm	<b>Z5700023</b>



# SAMPLE HOLDERS

WHICH SAMPLE HOLDER FITS WHICH DEVICE?		
DEVICE	SINGLE PRESSURE	CENTRAL PRESSURE
Saphir 550 / 560	see page 3.62	Sample holder <b>L</b>
Qpol GO	Sample holder <b>S</b>	–
Qpol ECO (as of 2022, 6x Ø 40 mm)	Sample holder <b>M</b>	Sample holder <b>M</b>
Qpol ECO+ (max. Ø 185 mm)	Sample holder <b>L</b>	Sample holder <b>L</b>
Qpol XL	–	Sample holder <b>L</b>
Qgrind XL	–	Sample holder <b>L</b>
Qpol 250 BOT (max. Ø 160 mm)	–	Sample holder <b>L</b>
Qpol 300 BOT	–	on request
DISCONTINUED DEVICE	SINGLE PRESSURE	CENTRAL PRESSURE
Saphir 520 / 530	on request	Sample holder <b>M</b>
Saphir 375	–	Sample holder <b>L</b>
Qpol ECO (until 2021, 5x Ø 40 mm)	on request	Sample holder <b>M</b>



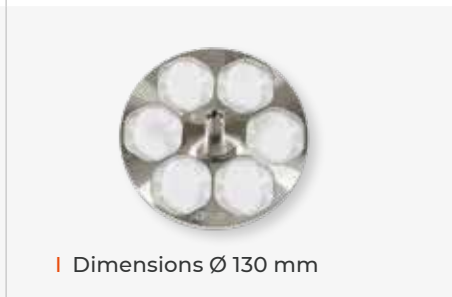
**SINGLE PRESSURE (FOR QPOL DEVICES)**

- | made of stainless steel
- | incl. adaption

**SAMPLE HOLDER S**  
for polishing head GO


| Dimensions Ø 120 mm

Size	Order No.:
4x Ø 25 mm	Z5450001
4x Ø 30 mm	Z5450003
4x Ø 40 mm	Z5450008
4x Ø 1"	Z5450002
4x Ø 1 1/4"	Z5450004
4x Ø 1 1/2"	Z5450007

**SAMPLE HOLDER M**  
for polishing head ECO


| Dimensions Ø 130 mm

Size	Order No.:
6x Ø 25 mm	Z5445020
6x Ø 30 mm	Z5445022
6x Ø 40 mm	Z5445025
6x Ø 1"	Z5445021
6x Ø 1 1/4"	Z5445023
6x Ø 1 1/2"	Z5445024
3x 55 x 30 mm	Z5445026

**SAMPLE HOLDER L**  
for polishing head ECO+


| Dimensions Ø 160 mm

Size	Order No.:
6x Ø 25 mm	Z5446020
6x Ø 30 mm	Z5446022
6x Ø 40 mm	Z5446025
6x Ø 50 mm	Z5446026
6x Ø 1"	Z5446021
6x Ø 1 1/4"	Z5446023
6x Ø 1 1/2"	Z5446024
6x Ø 2"	Z5446027
3x 55 x 30 mm	Z5446028
3x 60 x 40 mm	Z5446029



Insert suitable distance rings

**ACCESSORIES**

- | made of stainless steel

**DISTANCE RINGS M**  
for polishing head ECO

1 set	6 pcs. / . Ø
for sample holder 6x Ø 40 mm	
Size	Order No.:
Ø 25 mm	05445011
Ø 30 mm	05445010
for sample holder 6x Ø 1 1/2"	
Ø 1"	05445013
Ø 1 1/4"	05445012

**DISTANCE RINGS L**  
for polishing head ECO+

1 set	6 pcs. / . Ø
for sample holder 6x Ø 50 mm	
Size	Order No.:
Ø 25 mm	05446012
Ø 30 mm	05446011
Ø 40 mm	05446010
for sample holder 6x Ø 2"	
Ø 1"	05446015
Ø 1 1/4"	05446014
Ø 1 1/2"	05446013

**SINGLE PRESSURE (FOR SAPHIR 550/560)**

- | incl. adaption

**SAMPLE HOLDER**

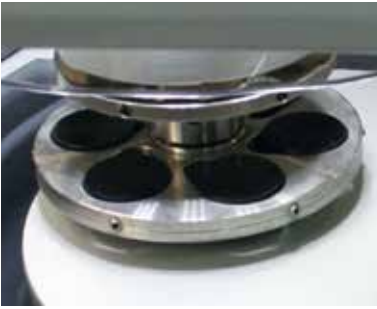

| Dimensions Ø 160 mm

Size	Order No.:
6x Ø 50 mm	Z5400087

**DISTANCE RINGS**

1 set	6 pcs. / . Ø
Size	Order No.:
Ø 25 mm	05400086
Ø 30 mm	05400085
Ø 32 mm	05400084
Ø 40 mm	05400082

1 set	6 pcs. / . Ø
Size	Order No.:
Ø 1"	05440138
Ø 1 1/4"	05440139
Ø 1 1/2"	05400083



Central pressure requires levelled samples

### CENTRAL PRESSURE

**SAMPLE HOLDER M (TEAR SHAPE)**  
for polishing head ECO



| made of stainless steel

Samples 5x Ø 20-40 mm  
Dimensions Ø 130 mm

Order No.: Z5445036

**SAMPLE HOLDER L (TEAR SHAPE)**

for polishing head ECO+,  
Qpol 250 BOT, Qpol XL,  
Saphir 550/560



| incl. adaption

Samples 6x Ø 20-40 mm  
Dimensions Ø 160 mm

Order No.: Z5446038

### CENTRAL PRESSURE

**SAMPLE HOLDER M (3-POINT-FIXATION)**  
for polishing head ECO



| especially suitable for hot mounted samples  
| made of stainless steel

Size	Order No.:	Dimensions
8x Ø 25 mm	Z5445030	Ø 130 mm
8x Ø 30 mm	Z5445031	Ø 130 mm
5x Ø 40 mm	Z5445034	Ø 130 mm
8 x Ø 1"	Z5445030	Ø 130 mm
8 x Ø 1 1/4"	Z5445032	Ø 130 mm
6 x Ø 1 1/2"	Z5445033	Ø 130 mm
3x 55 x 30 mm	Z5445035	Ø 130 mm

**SAMPLE HOLDER L (3-POINT-FIXATION)**  
for polishing head ECO+,  
Qpol 250 BOT, Qpol XL, Saphir 550/560



| incl. adaption

Size	Order No.:	Dimensions
12 x Ø 25 mm	Z5446030	Ø 160 mm
8 x Ø 30 mm	Z5446031	Ø 160 mm
6 x Ø 40 mm	Z5446034	Ø 160 mm
5 x Ø 50 mm	Z5446035	Ø 160 mm
3 x Ø 60 mm	Z5446042	Ø 185 mm
5 x Ø 70 mm	Z5446044	Ø 204 mm
12 x Ø 1"	Z5446030	Ø 160 mm
8 x Ø 1 1/4"	Z5446032	Ø 160 mm
6 x Ø 1 1/2"	Z5446033	Ø 160 mm
5 x Ø 2"	Z5446035	Ø 160 mm
3x 55 x 30 mm	Z5446036	Ø 160 mm
3x 60 x 40 mm	Z5446037	Ø 160 mm
3x 70 x 40 mm	Z5446043	Ø 185 mm
3x 100 x 50 mm	Z5446045	Ø 204 mm

**VARIO-SAMPLE HOLDER**



- | fixing, grinding and polishing of samples with big dimensions or complicated geometries
- | made of anodized aluminium
- | incl. adaption

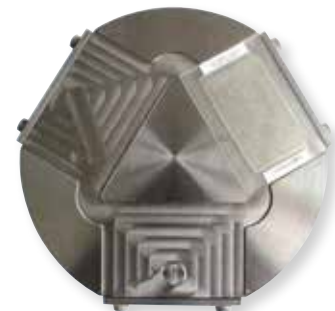
**suitable sample holder on request**



Examples for application



# SPECIAL SAMPLE HOLDERS



The problem of clamping samples with special dimensions can be solved with special sample holders.



## ELECTROLYTIC POLISHER & ETCHER

# QETCH 1000



The Qetch 1000 is a fully automatic electrolytic polisher and etcher with intuitive touch-screen operation. Polishing and etching unit and control unit are separated, also the Qetch 1000 can be used in the lab fume cabinet. A scan function displays the current voltage curve of a material and provides

polishing results quickly without structural changes. Handling of the polishing and etching unit was facilitated significantly by the interchangeable 1 ltr. electrolytic tanks. Different electrolytes can be changed and easily stored with lid. The unit is cleaned with water by a washing program.

### EASY OPERATION

Qetch 1000 provides maximum safety and flexibility for the user during the polishing & etching process by intuitive touchscreen-control. Separation of polishing & etching unit from control unit enables operation within a lab fume cupboard.

Option for connecting an additional and an external etching unit increases time saving applications. The chemical-resistant plastic vessels, also for storage of the electrolytes, are quick and easy to change.

### TOUCHSCREEN-CONTROL

The QATM touchscreen surface allows intuitive operation even with gloves.

Up to 200 programs with all parameters can be stored and protected with password (incl. labelling field).



### POLISHING AND ETCHING UNIT

The chemical resistant coated stainless steel housing has a large polishing table and can also be used separated from the control unit, e.g. in a lab-fume cabinet.




**BASIC MODULE**
**Qetch 1000 CONTROL UNIT**

- | intuitive operation via QATM Touchscreen surface, even with gloves
- | up to 200 programs with all parameters storable, protected per password (incl. free labelling field)
- | current & voltage diagram in real time
- | scan function for displaying a current-voltage characteristic graph
- | USB interface for creating program backup
- | media preparation for connecting a polishing & etching unit and an external etching unit (optional: connection for 2nd polishing & etching unit)
- | variable output voltage and process duration
- | automatic cooling control for mains water or recooling (current supply via Qetch 1000)
- | Aluminium housing, powder-coated
- | e-lab ready

**Order No.: M6202000**
**EQUIPMENT**
**POWER SUPPLY**
**Equipment 1**

230 V/50 Hz (1Ph/N/PE)

**Order No.: A6202000**
**Equipment 2**

110 V/60 Hz (1Ph/N/PE)

**Order No.: A6202001**
**POLISHING & ETCHING UNITS**
**Equipment 1**

**Polishing & etching unit**

- | large polishing table incl. set of masks (5 pcs.)
- | touch-free pump drive (magnetic clutch)
- | stainless steel start button with integrated LED status display

- | exchangeable 1 ltr.electrolyte tank made from chemical-resistant plastic (incl. lid)
- | max. standard sample height 50 mm (higher samples with ext. anode via magnetic or croc. clips)
- | polishing & etching unit can be operated separately from control unit e.g. in lab fume cabinet
- | housing made from rust-free stainless steel (chemical-resistant coating) with drip tray
- | incl. connection set (electricity/water)

**Order No.: A6202003**
**Equipment 2**
**External etching unit**

- | etching beaker made from stainless steel
- | volume 1200 ml



Automatic drive	0-60 V
ØxH	~ 120 x 120 mm
Weight	~ 0.5 kg

**Order No.: A6202004**

**OPTION**

**EXTENSION FOR CONNECTION**

| connection plugs for second etching/polishing unit Qetch 1000

Order No.: A6202005



**ACCESSORIES**

**SET OF MASKS (5 PCS.)**



| 0.5 / 1.5 / 2.5 / 5 cm<sup>2</sup> / blind mask



Order No.: Z6202001

**ELECTROLYTE VESSEL**



| volume 1 Ltr.  
| incl. cover  
| made from chemical-resistant plastic

Order No.: Z6202002

**CONNECTION SET Qetch 1000**

2x pression tubes R ½"; 2 m

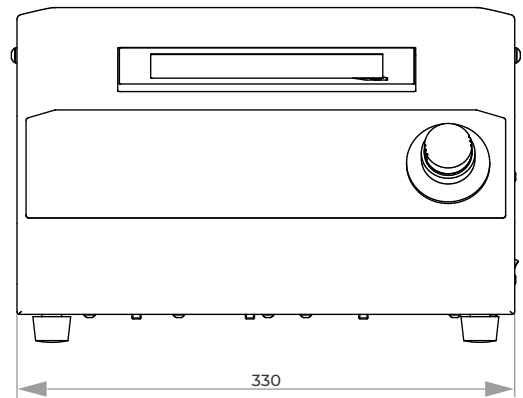
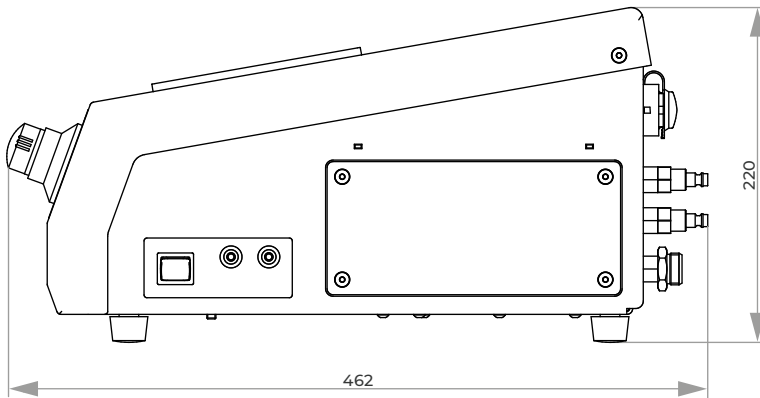
Order No.: Z6202003



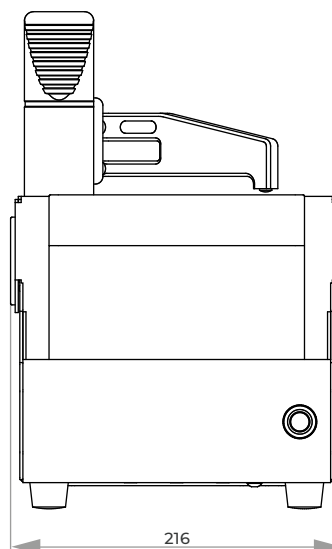
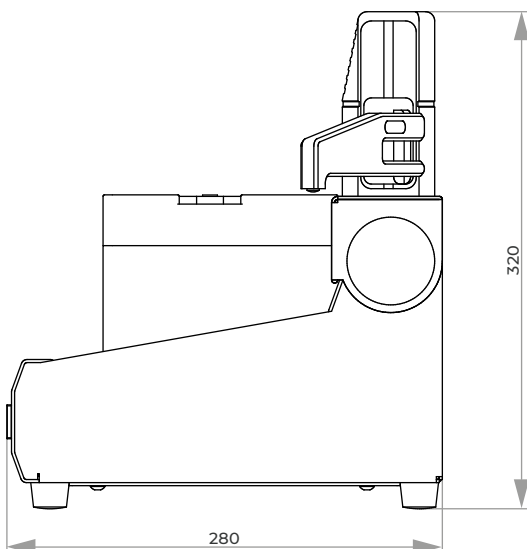


**SPECIFICATIONS**
**CONTROL UNIT**

Connected load	2 kVA
Power supply	1 220-240 V / 50/60 Hz (1Ph/N/PE) 2 110-120 V / 50/60 Hz (1Ph/N/PE)
Current	0-14 A
Working voltage	0-90 V $\pm$ 0.1V regulated
WxHxD	~ 330 x 220 x 462 mm
Weight	~ 7 kg


**SPECIFICATIONS**
**POLISHING & ETCHING UNIT**

Polishing duration	1 sec.-25 min.
Etching duration	1 sec.-5 min.
Automatic drive	0-90 V
Polishing desk	~ 160 x 150 mm
WxHxD	~ 216 x 320 x 280 mm
Weight	~ 4 kg



## ELECTROLYTIC POLISHER & ETCHER

# QETCH 100 M



### POLISHING UNIT

The polishing head is integrated in the handle. Polishing and etching gets automatically ready by touching the piezo button in the handle. A multi-coloured LED on the handle indicates all program states. The operator can focus his attention completely to the checkpoint. The handle is connected to the unit by a flexible hose. For flat surfaces, the exchangeable sealing-lip ring is especially suitable. Complex surfaces (e.g. angled areas) can be examined by using an additional flexible end piece which can be cut to size individually. The pump's adjustable performance allows an infinitely variable flow rate regulation of electrolyte.



The Qetch 100 M is a mobile battery supplied electrolytic polisher and etcher. It convinces by its compact and robust construction, ideal for use outside of the lab. The simple operation simultaneous with high functionality is matchless.

The epoxy-coated aluminium housing meets highest demands on functionality, stability and design. All sensitive parts are well protected for transport and local operation. For maximum comfort the Qetch 100 M is equipped with handle and carrying strap.

### CONTROL PANEL

The LC-display clearly shows all important parameters like current, voltage, time as well as the charge of battery. All parameters can be adjusted via control panel during operation. You can choose between constant current and constant voltage.

### BATTERY SUPPLIED OPERATION

The high capacity lithium battery allows with a single charge approximately 150 simple etching/polishing cycles including pre-grinding (state of charge display, charging and mains operation via external power supply). Up to 30 examinations are possible by using the mobile grinder at the same time.

### INNOVATIVE DETAILS

Micro motor, straight handle and accessories of our mobile grinder Qpol 30 can optionally be connected directly to the controlling unit of the Qetch 100 M (suitable storage area inside the case). The electrolyte tanks are replaceable and with screwed top for external storage. The integrated return-flow filter optimizes the life time of the electrolyte.

### SAFETY FUNCTIONS

An additional locking valve allows the flow of the electrolyte only during the cycle.





## BASIC MODULE

### Qetch 100 M

- | mobile electrolytic polisher and etcher
- | fully automatic, microprocessor controlled programm sequence
- | battery supplied by high capacity lithium battery
- | operation and charging by external power supply
- | polishing head with automatic start-stop function and multicolour LED for displaying current operating states
- | infinitely variable flow rate regulation of electrolyte
- | additional locking valve to avoid leakage of electrolyte
- | control panel with clear LC display
- | variable power and voltage supply, adjustable time
- | return-flow filter (filter pads exchangeable without tool)
- | replaceable electrolyte tank
- | flexible, exchangeable sealing-lip ring for flat surfaces; additional end-piece which can be cut to size for examination of complex surfaces (e.g. angled areas)
- | solid epoxy-coated aluminium case with carrying-sling and handle
- | prepared for storing up and controlling manual grinder Saphir 300 (option)
- | incl. maintenance set

Order No.: M6201000

## EQUIPMENT

### POWER SUPPLY

#### Equipment 1

230 V/50 Hz (1Ph/N/PE)

Order No.: A6201000

#### Equipment 2

110 V/60 Hz (1Ph/N/PE)

Order No.: A6201001

### FACILITY FOR TRANSPORTABLE GRINDER AND POLISHER

#### Equipment 1

without facility

Order No.: A6201004

#### Equipment 2

with facility

Order No.: A6201005



## ACCESSORIES

### TRANSPORTABLE GRINDER AND POLISHER

variable speed

1000-14000 rpm

Order No.: Z6201002

### BOTTLE FOR ELECTROLYTE

| with screw top

Volume 1 ltr.

Order No.: 95003955



**ACCESSORIES**
**ACCESSORIES SET FOR QETCH 100 M IN SUITCASE**


1 set including

**Order No.: Z6201001**

5x V-Ring

**Order No.: 95003606**

1x profile ring-material (~ 150 mm)

**Order No.: 06201052**

1x flexible end piece for profile ring

**Order No.: 06201051**

1x tube cutter

**Order No.: 95004030**

10x filter pads (Ø 40.5 mm)

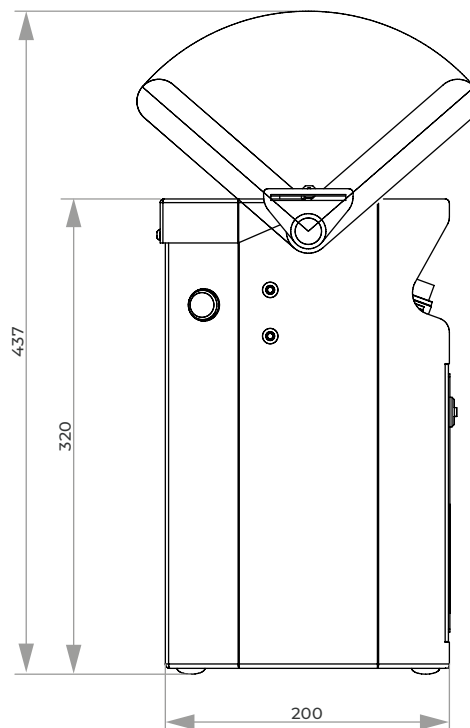
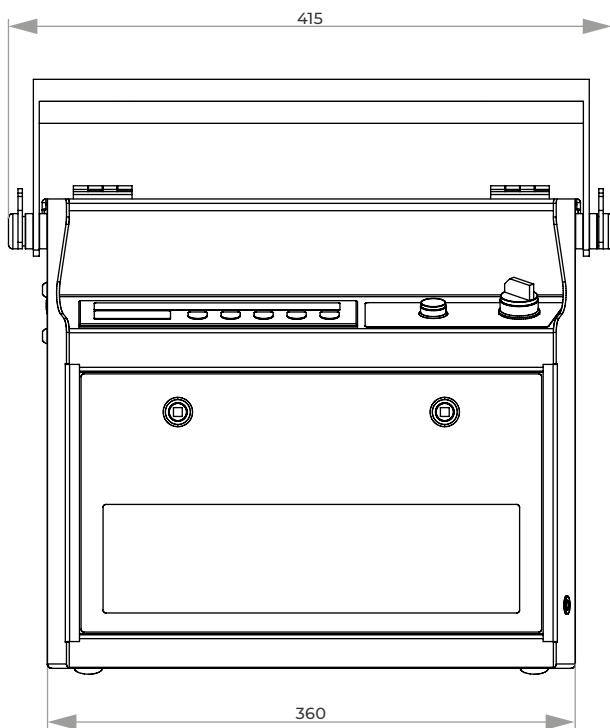
**Order No.: 95003985**

1x dolphin connector

**Order No.: 82000374**
**SPECIFICATIONS**

Power	160 W
Voltage	90 V DC
External power supply	1 230 V/50 Hz (1Ph/N/PE) 2 110 V/60 Hz (1Ph/N/PE)
Polishing area	~ Ø 9 mm
WxHxD	~ 415 x 400 x 200 mm
Weight	~ 8.5 kg*

\* without electrolyte (~ 1 ltr.)





# 4. HARDNESS TESTING/ ANALYZING

# HARDNESS TESTING/ANALYZING

HARDNESS TESTING		PAGE
Hardness testers acc. to Vickers, Brinell, Knoop & Rockwell		4.4
Qness 60 A/A+ EVO	Micro Hardness Tester	4.5
Qness 250/750/3000 CS/C/M/E EVO	Macro Hardness Tester	4.5
Qness 150 CS ECO	Rockwell Hardness Tester	4.6
Premium Hardness Test Blocks		4.6

ANALYZING		PAGE
Qeye 800	Optical Analyzer	4.7



**Qness 60 A/A+ EVO**



**Qness 250/750/3000  
CS/C/M/E EVO**



**Qness 150 CS ECO**



**Hardness  
Test Blocks**



**Qeye 800**

## HARDNESS TESTERS

## VICKERS, BRINELL, KNOOP &amp; ROCKWELL

The QATM hardness tester portfolio covers the entire test load range from 0.25 gf to 3000 kgf as well as all standard test standard test methods such as Vickers, Brinell, Knoop & Rockwell.

The automated hardness testers are characterized by technical innovations, extreme precision, modern design and highest ease of use and feature advanced interfaces.





# MICRO HARDNESS TESTERS QNESS 60 EVO



**BASIC MODULE**

**Qness 60 M/A/A+ EVO**

- | Wide test force range (0.25 gf – 62.5 kgf)
- | ASTM+DAkkS certified Vickers diamond included
- | Dynamic test turret with 8-position tool changer
- | White LED light with motorized aperture shuttering
- | Qpix Control2 Software with intuitive 3D control elements
- | Modular activation of INSPECT microscopy features
- | Fully automated, unmanned test and analysis cycles
- | Variant A+ only: Sample image camera with automatic image acquisition (49 x 37 mm)

**PIONEERING TECHNOLOGY - UNIQUE IMPLEMENTATION**

The Vickers / Knoop / Brinell hardness tester series Qness 60 EVO takes micro hardness testing to a whole new level: The high-end laboratory devices of the latest generation combine the best of both worlds – hardness testing and microscopy without compromise and with maximum operating convenience. The revolutionary optical system with color camera provides reproducible and reliable results every time.



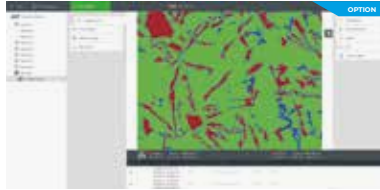
**MICRO HARDNESS TESTERS**  
Qness 60 EVO

**OPTIONAL MICROSCOPY FUNCTIONS WITH QPIX INSPECT SOFTWARE MODULES**



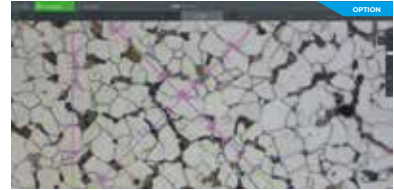
**INSPECT Layer Thickness Measurement**

Semi-automated gauging of horizontal, vertical and radial layers.



**INSPECT Phase Analysis**

Automatic image object dimensioning.



**INSPECT Grain Size Determination**

EDocumentation of statistical characteristics of grain size and segment lengths cutting through the grains.

**HARDNESS TESTERS**

# MACRO HARDNESS TESTERS QNESS 250/750/3000 EVO



**BASIC MODULE**

**Qness 250 /750 /3000 CS/C/M/E EVO**

- | 3 test force ranges – 0.3 kgf to 3000 kgf in a machine
- | 4 machine versions to serve all applications and test piece size
- | Maximum test height of variant CS: 175 mm
- | Maximum test height of variant C: 395 mm
- | Maximum test height of variants E and M: 510 mm

**NEXT GENERATION UNIVERSAL HARDNESS TESTING**

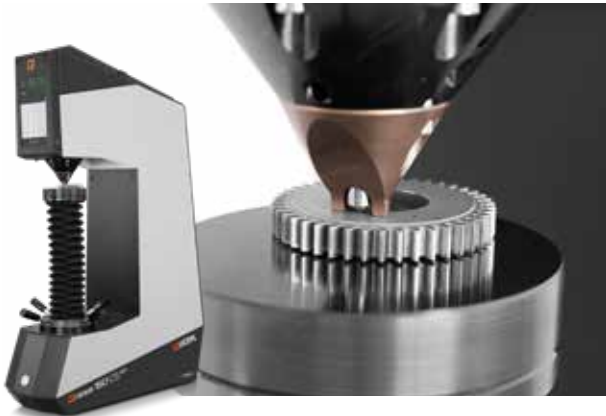
The new Vickers / Brinell / Rockwell / Knoop hardness tester series EVO by QATM combines extremely short cycle times with maximum precision.



**MACRO HARDNESS TESTERS**  
Qness 250/750/3000 CS/C/M/E EVO

## HARDNESS TESTER

# ROCKWELL HARDNESS TESTER QNESS 150 CS ECO



### BASIC MODULE

#### Qness 150 CS ECO

- | Large test force range (1 kgf - 250 kgf)
- | Direct depth gauging system
- | Robust, welded steel frame
- | High-quality steel sheet covers
- | Integrated LED workspace lighting
- | Capacitive 7" touch screen display

### UNMATCHED SIMPLE ROCKWELL HARDNESS TESTING

The Rockwell hardness tester Qness 150 CS ECO is part of the QATM ECO product line and combines high-quality workmanship with maximum operation simplicity. The characteristic „C“ shaped machine frame in robust and compact design (“S” for “small”) gives the product its name.

The proven concept with fixed test head and up/down moving spindle has been standard in Rockwell hardness testing for many decades and is ideally suited for small to medium-sized test pieces and application in almost any work surroundings.



**ROCKWELL HARDNESS TESTER**  
Qness 150 CS ECO

## HARDNESS TESTING

# PREMIUM HARDNESS TEST BLOCKS



### HARDNESS TEST BLOCKS

- | The shape enables periodic testing to be automated
- | The permissible value deviation is engraved on each hardness test block
- | On request, grid lines can be engraved and multiple calibrations can be provided
- | All hardness test blocks are calibrated in our accredited laboratory according to the latest ISO and optional to ASTM standards.
- | Free access to our comprehensive range of software for the documentation of hardness tests.



**HARDNESS TEST BLOCKS**

# OPTICAL ANALYZER - INVERSE MACROSCOPE

## OPTICAL ANALYZER QEYE 800



### BASIC MODULE

#### Qeye 800

- | Fast, high-resolution and efficient optical analysis and measurement of specimens
- | Innovative LED analysis area illumination
- | 8.5 megapixel color camera system
- | 20x optical zoom
- 35x combined zoom (optical and digital)

### WELD SEAM MEASUREMENT - FAST, HIGH-RESOLUTION AND EFFICIENT

The new Qeye 800 impresses with fast, high-resolution and efficient optical analysis and measurement of specimens. Especially for standardized weld seam measurement and inspection according to DIN EN ISO 5817.

Measurement tools such as A dimension, depth burn-in, evaluation limits and standard-compliant inspection report are included as standard in the proven and user-friendly Qpix Control2 Software. Integrated graphical template mode with predefined measurement elements and QATM standard catalog, as well as management of customer-specific templates.

Qeye saves time, providing detailed analysis and measurement with supreme accuracy. Robust modern industrial design. Easy replacement of the glass sample carrier. Absolutely dust-tight due to assembly in a clean room.



**OPTICAL ANALYZER**  
Qeye 800

### MORE HARDNESS TESTERS BROCHURES



**MICRO HARDNESS TESTERS**  
Qness 10/30/60 CHD Master/Master+



**ROCKWELL HARDNESS TESTERS**  
Qness 150 R, A/A+



**MACRO HARDNESS TESTERS**  
Qness 250/750 CA/CA+  
Qness 250/750/3000 A/A+



Online Configurator >



**ONLINE  
PRODUCT CONFIGURATOR**  
[www.qatm.com](http://www.qatm.com)



# 5. SYSTEM LAB / VARIOUS



# SYSTEM LAB / COMPLEMENTING DEVICES

<b>SYSTEM LAB</b>	<b>PAGE</b>
Passive vibration-cushioned worktop	5.4
Laboratory table with vibration-cushioned hard rock plate	5.4
System lab fume cupboard	5.5
Pharmacy fume cupboard	5.8
Acid-Bases Cabinets, Safety Cabinets	5.10
System Lab Furniture	5.12

<b>COMPLEMENTING DEVICES</b>	
Engraver, compressor	5.14
Equipment for cold mounting	5.15
Ultrasonic cleaners	5.16



**LABORATORY TABLE,  
PASSIVE VIBRATION-  
CUSHIONED WORKTOP**



**SYSTEM LAB  
FUME CUPBOARD**



**PHARMACY  
FUME CUPBOARD**



**ACID-BASES  
CABINETS**



**ENGRAVER**

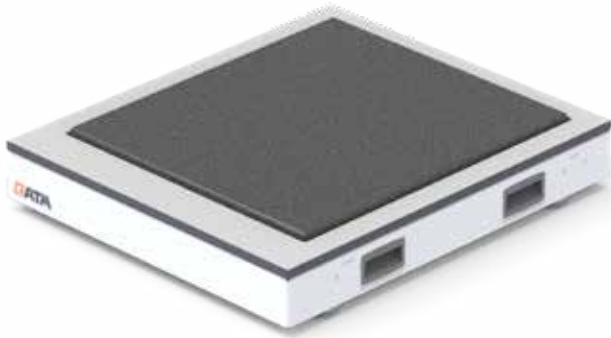


**EQUIPMENT FOR  
COLD MOUNTING**



**ULTRASONIC  
CLEANERS**

# PASSIVE VIBRATION-CUSHIONED WORKTOP



## VIBRATION-DAMPED LAB TOP

The hard rock plate is integrated in an independent stand. It can easily be placed on lab tables or cabinets. Basic requirement for the passive vibration cushioned hard rock plate is a stable foundation, such as the QATM system furniture.

### VIBRATION-DAMPED LAB TOP

Integrated passive vibration-cushioned hard rock plate

Hard rock plate 500 x 570 mm

WxDxH 600 x 600 x 140 mm

Order No.: A5810431

## SHOCK-FREE WORK

Sensitive measuring devices e. g. microscopes, hardness testers, scales are very exacting regarding their environment.

The new passive vibration cushioned hard rock plate reduces external vibrations which could influence the measuring results.

## LABORATORY TABLE WITH VIBRATION-CUSHIONED HARD ROCK PLATE

- made of extremely solid aluminum metal framework (powder-coated)
- plate made of high-quality HPL
- integrated passive vibration-cushioned hard rock plate
- with integrated cable duct and cable inlet

Hard rock plate 500 x 570 mm

Max. load plate up to 80 kg

Max. load table up to 400 kg



### 1-fold



W x H x T  
880 x 770 x 800 cm

Order No.: M7500006

W x H x T  
880 x 900 x 800 cm

Order No.: M7500009

### 1½-fold



W x H x T  
1320 x 770 x 800 cm

Order No.: M7500007

W x H x T  
1320 x 900 x 800 cm

Order No.: M7500010

### 2-fold



MW x H x T  
1760 x 770 x 800 cm

Order No.: M7500008

W x H x T  
1760 x 900 x 800 cm

Order No.: M7500011



# SYSTEM LAB FUME CUPBOARD



The System lab fume cupboard is conceived to meet the requirements of materialographic laboratories. The color scheme perfectly matches our laboratory furniture and all QATM machines. The epoxy powder coated solid aluminum cabinet

is largely chemical resistant and guarantees a long operating life. The modular designed System Lab fume cupboard corresponds to the DIN EN 14175 safety regulations and is therefore also suitable for other applications.



## FUNCTIONS

The two integrated sockets in the inside can be switched on and off from the outside. The workspace is equipped with a shock wave safety relief. In addition to the water connection, a gas and compressed air tap can be integrated (option). Access-points are provided for other supply lines.

## SASH

The electronic control of the sash shuts down automatically. In case of deviation from the stipulated airflow, the digital airflow monitoring system warns with acoustic and optic signals. The fume cupboard comes with a movement sensor for improved safety.

## WORK TOP

The ceramic working top with sink, available in different sizes, will meet highest demands..

## INSTALLATION ADVANCE

The fume cupboard is shipped in two parts and can be transported through all common doors. Installing the unit takes only short time.

## BASE CUPBOARD

Different accessories as for example a cabinet for acids and bases can be integrated in the base cupboard.


**BASIC MODULE**
**SYSTEM LAB FUME CUPBOARD**

- | tested according to DIN EN 14175
- | closed system with digital air-flow monitoring
- | single piece sash made of compound glass with automatic closure
- | integrated control panel at eye level
- | two integrated sockets switchable from outside
- | illumination module with shock wave safety relief
- | aluminium case, powder coated

**Order No.: M7510000**
**EQUIPMENT**
**POWER SUPPLY**
**Equipment 1**

230 V/50 Hz (1Ph/N/PE)

**Order No.: A7510001**
**Equipment 2**

110 V/60 Hz (1Ph/N/PE)

**Order No.: A7510002**
**CONTROL SYSTEM**
**Equipment 1**
**Air flow monitoring**

- | digital air-flow monitoring with optic and acoustic signal

**Order No.: A7510010**
**Equipment 2**
**Automatic air flow control**

- | digital air-flow monitoring with optical and acoustic signal and automatic control

**Order No.: A7510011**
**SASH TYPE**
**Equipment 1**

- | Manual sash

**Order No.: A7510015**
**Equipment 2**

- | Electronic controlled sash

**Order No.: A7510016**
**WORK SURFACE**
**Equipment 1**

- | Ceramic worktop with sink

**Order No.: A7510022**
**Equipment 2**

- | Ceramic worktop with sink\*
- | Sink WxHxD  
360x250x360 mm

**Order No.: A7510050**

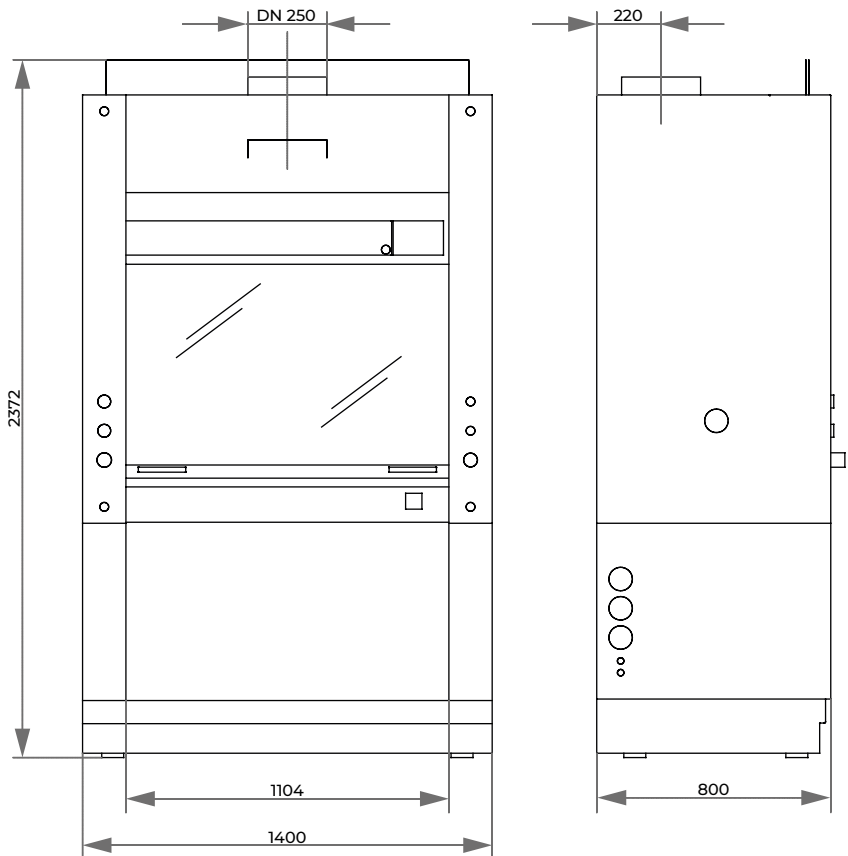
 \* only combinable with article  
A7510033 or A7510034


**EQUIPMENT**

BASE CUPBOARD		
<b>Equipment 1</b> Cupboard   2 storages per chamber Order No.: A7510031	<b>Equipment 2</b> Cupboard for large sink Order No.: A7510034	<b>Equipment 3</b> Acid/base cupboard   2 storages per chamber   2 PVC collecting trays   with exhaust air piping Order No.: A7510032
<b>Equipment 4</b> Acid/base cupboard for large sink Order No.: A7510033	<b>Equipment 5</b> Safety cupboard   for the storage of flammable liquids Order No.: A7510036	
MEDIA RAIL		
Integrated taps		
<b>Equipment 1</b> Water Order No.: A7510040	<b>Equipment 2</b> Compressed air Order No.: A7510041	<b>Equipment 3</b> Gas Order No.: A7510042

**SPECIFICATIONS**

Workspace WxHxD	1300x700x630 mm	<b>Sash</b>	
WxHxD	1400x2372x800 mm	Sash opening	500 mm
Min. ceiling height	2500 mm	Max. sash opening	650 mm
Weight	~ 280 kg		



# PHARMACY FUME CUPBOARD



Pharmacy fume cupboard with base cabinet (base cabinet not included in delivery)

The pharmacy fume cupboard according to DIN 12924 Part 4: 2012 is designed for the extraction of less toxic substances at workplaces and is ideally suited for the safe handling of chemicals and protection against harmful vapors and explosive atmospheres. In its design, it is space-saving and flexible in use.

## INSTALLATION

The pharmacy fume cupboard can simply be set up on a tabletop. For daily use in the laboratory, it is recommended to combine it with an acid-bases cabinet or safety cabinet.

## MEDIA SUPPLY

Cold water supply, drain and two sockets are provided. The controls are located on the front side for easy access.



## AIR FLOW MONITORING

The hazardous substance workstation is equipped with monitoring electronics. Proper operation is indicated by green LEDs. A visual and acoustic signal indicates any irregularities in operation. On-off switch, light switch and exhaust are integrated.



## LAB QUALITY

The robust construction made of chemically highly resistant, plastic-coated fine steel sheet is equipped with a continuously height-adjustable acrylic glass slide. Easily accessible, glare-free lighting completely illuminates the work area. The work surface is made of mostly chemical-resistant plastic.



Pharmacy fume cupboard for connection to customer's existing exhaust air system

## BASIC MODULE

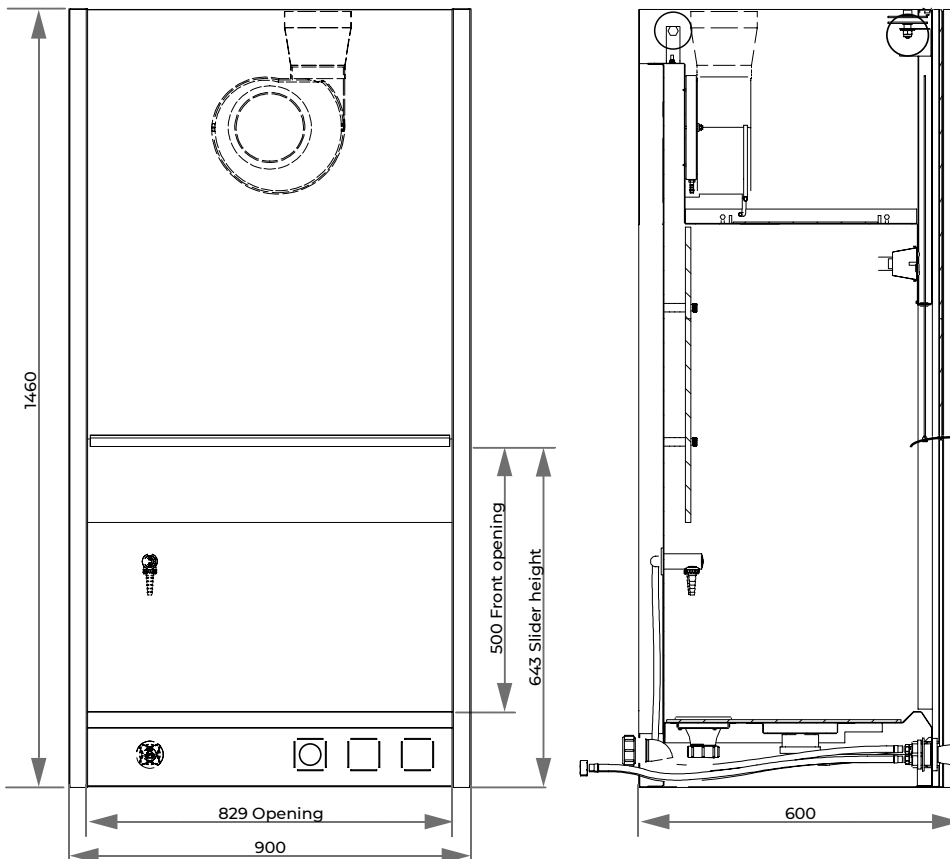
### PHARMACY FUME CUPBOARD ACCORDING TO DIN 12924 PART 4: 2012

- | safe handling of chemicals, protection against harmful vapors and explosive atmospheres
- | easy to set up on a table top
- | robust construction made of chemically highly resistant, plastic-coated sheet steel
- | work surface made of plastic
- | steplessly height-adjustable acrylic glass slider
- | Air-technical test by recognized test center
- | incl. monitoring electronics
- | with integrated exhaust fan
- | incl. workstation light
- | media supply and sockets:
  - 1 x water, cold (WNC)
  - 1 x drain
  - 2 x socket 230 V

Order No.: 95009711

## SPECIFICATIONS

<b>Exhaust air</b>			
Connection	DN100	Interior dim. HxWxD	924x890x440 mm
Flow rate	330 m <sup>3</sup> /h	Outer dim. HxWxD	1460x900x600 mm
Devices pressure loss	315 Pa	Weight	100 kg
<b>Waste water</b>			
Connection	1.5 Zoll	Further information on request.	



## SYSTEM LAB

# ACID-BASES CABINET



Acid-bases cabinet

## HANDLES

The handles fulfil highest demands on ergonomics and design and are supplementary equipped with an antibacterial coating.



## Storage of Chemicals

The System lab cabinet with acid-bases compartment and air flow monitoring is designed for lab-use and an essential element of lab equipment. The cabinet serves as safe and correct

storage for acids and bases in workrooms. The safety cabinet is specially suitable for the storage of flammable liquids.

## AIR FLOW MONITORING

Air flow monitoring is controlled by an integrated pressure sensor. The cabinet is ventilated by connection piece (DN75) on the backside.

## OPERATION

The cabinet consists of two compartments for storing acids and bases, which can be used and closed separately from each other. Each of both compartments is equipped with two removable PP trays on a sliding shelf.



Safety cabinet

## LAB QUALITY

The outer frame is made of powder-coated aluminium, the inner frame consists of melamin-coated HPL composite panel. Doors and sliding shelves are manufactured of resistant HPL solid material. To be protected from aggressive chemical fume, hinges are attached outside. The safety cabinets are designed for storage of flammable liquids in the workplace according to EN14470-1 20 (Annex L). In case of fire, the doors seal automatically. A combination of two cabinet variants is possible..



for 2-line-body H 800 mm

### ACID-BASES CABINET

#### SYSTEM LAB CABINET WITH ACID-BASES-COMPARTMENT AND AIR FLOW MONITORING

- | outer body made of powder-coated aluminium
- | inner frame made of melamin coated HPL composite panel
- | doors and sliding shelves made of resistant HPL solid material
- | removable Polypropylene (PP) trays on each sliding e
- | both doors (opening angle approx. 100°) separately operate and lockable
- | hinges outside to be protected against aggressive chemical fume
- | ventilation by connection piece (DN75) on backside



for 2-line-body H 800 mm



for 3-line-body H 800 mm



for 2-line-body H 800 mm

### SAFETY CABINET

#### SYSTEM LAB CABINET FOR STORING FLAMMABLE LIQUIDS WITH AIR FLOW MONITORING

- | outer body made of powder-coated aluminium
- | inner body corresponds to the fire resistance class F90 according to DIN 4102
- | safety in case of fire: self-closing drawers and doors by the integrated thermal release
- | doors and drawers separately operable and lockable
- | doors lockable in any position (approx. 135 ° opening angle)
- | cabinet interior completely visible
- | insert trays of PE or PP, increased protection against corrosion; removable for easy cleaning
- | ventilation by connection piece (DN75) on backside



for 3-line-body H 800 mm

### SYSTEM-LAB CABINET

The modules can be combined with the elements of the laboratory system according to the requirements and, for example be supplemented with shelves. All inserts are available for 800 and 900 cabinet height.

### COMBINATION OF ACID-BASES AND SAFETY CABINET



for 3-line-body H 800 mm

# SYSTEM LAB FURNITURE



The concept of our system lab furniture is founded on 4 corner stones:

**Quality**

Criteria for our furniture are based on the exacting requirements of industry and laboratories. The combination of high-quality materials and carefully thought-out construction guarantees stability and lasting quality.

**Flexibility**

The QATM-system provides a customized and flexible platform for personal workspaces, entire buildings, and everything in between.

**Functionality**

Archiving solutions and covered cable guides ensure a well-organized and efficient workplace.

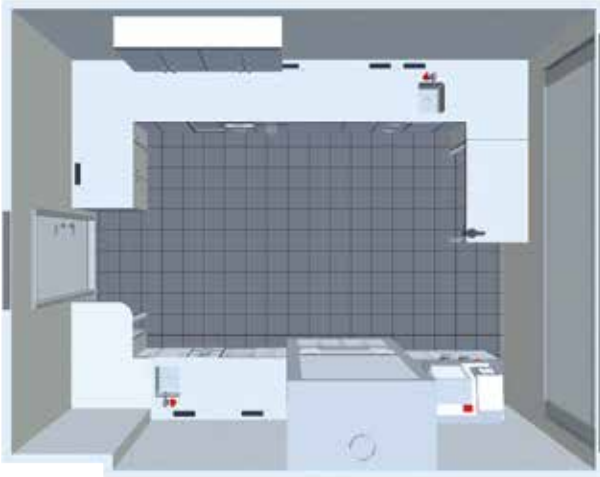
**Design**

Clean lines and high-quality materials create a fascinating, timeless and homogeneous style.





## LAB PLANNING



## SYSTEM DOORS AND DRAWERS



## SYSTEM SHELVES AND WALL UNITS



## SYSTEM WORKING SURFACES



## SYSTEM INTEGRATION



## BROCHURE SYSTEM LAB FURNITURE

For a complete overview of System Lab Furniture, please refer to our separate brochure.

## VARIOUS ENGRAVER, COMPRESSOR



### ELECTRIC ENGRAVER

| engraver to label metal, glass and plastic;  
with 6 different points

Order No.: 95006339

### ACCESSORIES

#### SET OF SPARE POINTS

Order No.: Z5690032



### COMPRESSOR WHISPER QUIET

| very low noise emission  
| incl. pressure reduction filter  
| suitable for providing compressed air to  
QATM machines.

#### VERSION SMALL

230 V/50 Hz

Order No.: 92007465

110 V/60 Hz

Order No.: 92007467

#### VERSION LARGE

230 V/50 Hz

Order No.: 92007464

110 V/60 Hz

Order No.: 92007466

### SPECIFICATIONS

Max. pressure	8 bar
Tank	4 ltr.
WxHxD	420 x 300 x 310 mm
Weight	21 kg

### VERSION SMALL

Capacity	17 ltr./min
Motor	0.13 kW
Sound pressure level	35 dB[A] 1 m

### VERSION LARGE

Capacity	50 ltr./min
Motor	0.34 kW
Sound pressure level	45 dB[A] 1 m



### SAMPLE DRYER

| hot air fan with pressure sensor  
| stand made of HPL solid material  
| perforated stainless steel bowl to place the  
samples to be dried  
| water protective mat below stainless steel bowl

230 V/50 Hz

Order No.: A5810355

110 V/60 Hz

Order No.: A5810356

### SPECIFICATIONS

Stainless steel bowl	300 x 150 x 40 mm
WxHxD	350 x 670 x 370 mm
Power	2200 W

# EQUIPMENT FOR COLD MOUNTING



### PRESSURE APPLIANCE

- | for bubble free hardening of methacrylates, eg. Technovit 4004, KEM 20
- | compressed air required

Order No.: 92002281

### SPECIFICATIONS

WxHxD	340 x 340 x 255 mm
-------	--------------------



### INFILTRATION SET

- | for cold mounting in vacuum
- | desiccator incl. non-return valve, vacuum pump, hose and pressure gauge

Order No.: Z6510000



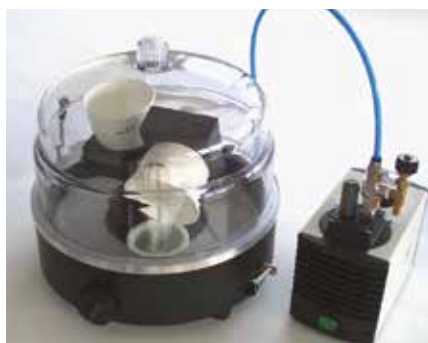
### INFILTRATION UNIT

- | for cold mounting in vacuum
- | desiccator with mechanic dosing and vacuum pump
- | rotating disc

Order No.: M6500001

### SPECIFICATIONS

for	8 cups Ø 50 mm
PTFE-mouting cups	9 cups Ø 40 mm
Vacuum pressure	0.8 bar
Power supply	230 V/50 Hz (1 Ph)
Power	60 W
WxHxD	330 x 270 x 300 mm



## VARIOUS ULTRASONIC CLEANERS



US 52



US 52H



DT 52



DT 52H

### ULTRASONIC CLEANER 52

#### US 52

| rotary button operation

Order No.: 92002607

#### US 52H

 | rotary button operation  
| 140 W heating

Order No.: 92008790

#### DT 52

| digital rotary button operation

Order No.: 92008792

#### DT 52H

 | digital rotary button operation  
| 140 W heating

Order No.: 92008793

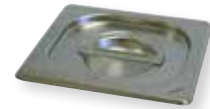
### ACCESSORIES

#### PERFORATED INSERT BASKET

Order No.: 92002608

#### COVER VA

Order No.: 92002631



### SPECIFICATIONS

Inside ~ WxHxD	150 x 140 x 100 mm	HF power	60 W
Content	1.8 ltr.	Power	230 V/50 Hz (1 Ph/N/PE)



US 100



US 100H



DT 100



DT 100H

### ULTRASONIC CLEANER 100

#### US 100

| rotary button operation

Order No.: 92002613

#### US 100H

 | rotary button operation  
| 140 W heating

Order No.: 92002610

#### DT 100

| digital rotary button operation

Order No.: 92008794

#### DT 100H

 | digital rotary button operation  
| 140 W heating

Order No.: 92008795

### ACCESSORIES

#### PERFORATED INSERT BASKET

Order No.: 92002609

#### COVER VA

Order No.: 92002632



### SPECIFICATIONS

Inside ~ WxHxD	240 x 140 x 100 mm	HF power	80 W
Content	3 ltr.	Power	230 V/50 Hz (1 Ph/N/PE)



US 255



US 255H



DT 255



DT 255H

**ULTRASONIC CLEANER 255**
**US 255**

| rotary button operation

Order No.: 92008791

**US 255H**

| rotary button operation

| 280 W heating

Order No.: 92002611

**DT 255**

| digital rotary button operation

Order No.: 92008797

**DT 255H**

| digital rotary button operation

| 280 W heating

Order No.: 92008796

**ACCESSORIES**
**PERFORATED INSERT BASKET**

Order No.: 92002612

**COVER VA**

Order No.: 92002633

**SPECIFICATIONS**

Inside ~ WxHxD	300 x 150 x 150 mm	HF power	160 W
Content	5.4 ltr.	Power	230 V/50 Hz (1 Ph/N/PE)



RK 106



DT 106

**ULTRASONIC CLEANER 106**
**RK 106**

| rotary button operation

Order No.: 92005839

**DT 106**

| digital rotary button operation

Order No.: 95001285

**ACCESSORIES**
**PERFORATED INSERT BASKET**

Order No.: 92005840

**COVER VA**

Order No.: 92005841


**SPECIFICATIONS**

Inside Ø/H	240/130 mm	HF power	120 W
Content	5.6 ltr.	Power	230 V/50 Hz (1 Ph/N/PE)

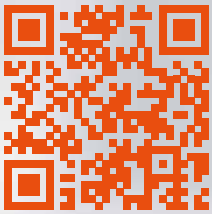




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