



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

SOLUTIONS IN MATERIALOGRAPHY & HARDNESS TESTING



| 1980

Foundation of ATM.

| 1996

Start of sales activities as a full-service provider for the metallographic laboratory.

| 1998

Innovation award for the cut-off machine Brillant 260.

| 2007

Relocation to today's headquarters in Mammelzen.

| 2009

First materialography conference QUALITY.

| 2010

QNESS is founded.

| 2015

ATM becomes part of Verder Scientific.

| 2018

Qness becomes part of Verder Scientific and a cooperation partner of ATM.

| 2020

ATM and Qness are growing together: QATM is the new benchmark in materialography and analysis.

QATM – MATERIALOGRAPHY & HARDNESS TESTING

CUSTOMIZED SOLUTIONS – WITH COMPETENCE AND PASSION

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. Our team of lab experts and lecturers offers individual as well as advanced seminars.

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.

I Consumables for all steps of the materialographic sample preparation

We offer a wide range of high-quality consumables for materialographic sample preparation and analysis. The consumables are tested in detail and chosen for optimal operation of QATM equipment by our application specialists at our central inhouse laboratory.



MAMMELZEN / GERMANY

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



GOLLING / AUSTRIA

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

www.qatm.com

To avoid deformation of the sample it is necessary to extract it as gently as possible from the component to be examined. Cut-off machines, adapted to requirements such as geometry or size of the work piece, guarantee low-contact cutting. The permanent stream of coolant as well as the use of different cutting modes help to avoid thermal damages and to remove cutting debris.

BENCHTOP MODELS



- BRILLANT 230**

- Qcut 200 A**

- Qcut 250 A**

- Qcut 250 M**

- Qcut 350 A**

- Max. cutting capacity: Ø 135 mm
- Traverse cut: 260 mm, automatic
- Chop cut: 180 mm, automatic
- Cross feed (optional): 140 mm, automatic

FLOOR-STANDING MODELS



Ø 350
| 400

7
kW



Qcut 400 A

- Max. cutting capacity: Ø 150 mm
- Traverse cut: 345 mm, automatic
- Chop cut: 200 mm, automatic
- Cross feed (optional): 150 mm, manual / automatic



Ø 500
| 600

15
kW



Qcut 600 A

- Max. cutting capacity: Ø 244 mm
- Traverse cut: 550 mm, automatic
- Chop cut: 360 mm, automatic
- Cross feed (optional): 550 mm, automatic



Ø 400
| 500

15
kW



Qcut 500 A

- Max. cutting capacity: Ø 190 mm
- Traverse cut: 420 mm, automatic
- Chop cut: 280 mm, automatic
- Cross feed (optional): 200 mm, automatic

NEU



Ø 500
| 600

15
kW



Qcut 600 BT

- Max. cutting capacity: Ø 244 mm
- Traverse cut: 550 mm, automatic
- Chop cut: 360 mm, automatic
- Cross feed: 550 mm, automatic
- B and C axis: up to max. 360° (patented)

AT A GLANCE

Ø 400
| 500

PRODUCT SPECIFICATIONS

Cutting wheel diameter
- in millimeters

15
kW

Drive power
- in kilowatt



EASY NUT

The easy nut fastening system guarantees an effortless exchange of the cut-off wheels. The floor-standing machines Qcut 500 A to Qcut 800 A use a power lock nut to ensure an easy fastening of the cut-off wheels.



AXES

Manual axis drive



Manual or automatic axis drive



Automatic axis drive



Without Z axis

HOT MOUNTING PRESSES

FOR PERFECT MOUNTING OF MATERIALOGRAPHIC SAMPLES



MOUNTING DEVICES

HOT MOUNTING PRESSES



Ø 25.2
- 50

1200
W



Qpress 50

- Modular setup
- Max. number of pressing units: 2 or 4
- Molds: Ø 25.2 - 50 mm
(6 different diameters)
- Closure system: Slide closure



Ø 25.2
- 50

1200
W



Qp 50 (P-50)

- Pressing unit for expanding the basic unit
- Controlled by basic unit
- Mold: Ø 25.2 - 50 mm

NEW



Ø 25
- 40

1600
W



Qpress 40

- Mold: Ø 25 - 40 mm
(6 different diameters)
- Closure system: Bajonet closure
- Double mounting possible

UV MOUNTING DEVICE



200 x
260

Qmount

- UV mounting in the shortest possible time
(60 seconds)
- Highly efficient, long-life LED technology
- Up to 12 samples with a diameter of 40 mm
- Connectable suction unit (optional)



MOUNTING WITH FORMAT

QATM offers robust hot mounting presses, which offer different pressure- and temperature modes for the generation of almost gapless mounted samples.

A sufficient selection of cylindric and rectangular moulds is offered to the customer. Intuitive software and good ergonomics are further defining properties of our products.

QATM furthermore offers devices for cold mounting samples under UV irradiation. This enables the fast generation of transparent, mounted samples for standard applications. They offer long-lasting LED technology and simple control elements.

AT A GLANCE

PRODUCT SPECIFICATIONS

Ø 25.2
- 50

Mould size or
max. sample area
- in millimeters

1200
W

Heating capacity
- in watt



ECO FUNCTION

The machine is equipped with an eco function, which strongly reduces the machine's water consumption.

GRINDING AND POLISHING MACHINES

SMART FEATURES FOR COMFORT AND SAFETY



GRINDING AND POLISHING MACHINES

PRE-GRINDING MACHINES



0.75
kW

Qgrind 100

- | Dry/wet belt grinder
- | Two grinding belts for different grain sizes
- | Endless grinding belts: 100 x 920 mm
- | Easy exchange of grinding belts



0.17
/ 4
kW

Qgrind XL

- | Powerful planar grinding machine for high sample throughput
- | Reproducible results thanks to electronic force measuring system and automatic material removal measurement
- | Automatic diamond dresser and optional cleaning station

MANUAL GRINDING AND POLISHING MACHINES



Ø 200
/ 250

0.55
kW

Qpol 250 M1/M2

- | Working wheels: Ø 200/250 mm
- | Speed: 30 - 600 rpm, continuously adjustable
- | Single or twin wheel unit



Ø 250
/ 300

2x 0.75
kW

0.75
kW

Qpol 300 M1/M2

- | Working wheels: Ø 250/300 mm
- | Speed: 30 - 600 rpm, continuously adjustable
- | Single or twin wheel unit
- | Visualization of the current grinding force
- | Timer function
- | Automatic water valve



Qdoser GENE

- | Dosing attachment for standard suspension bottles
- | Adjustable dosing quantity
- | Freely positionable using a tripod
- | Screwable to polishing heads Qpol GO and ECO

OPTIMIZED SAMPLE PREPARATION

Grinding and Polishing are essential steps in sample preparation. The aim is a sample surface which is free of deformations and scratches - because this is the basic requirement for a correct evaluation under the microscope. Contrasting with an appropriate etchant is often required to make the structure visible.

AT A GLANCE

Ø 200
- 300
(Ø 50)

PRODUCT SPECIFICATIONS

Working wheel diameter, max. sample diameter single pressure in brackets - in millimeters.

15
kW

Drive power - in kilowatt

GRINDING AND POLISHING MACHINES

AUTOMATIC GRINDING AND POLISHING MACHINES



60 W

- Qpol 60** (Grinding and polishing head)
- Adjustable pressure (single pressure 5 – 45 N)
 - Adjustable timer for preparation time
 - Toolless sample holder clamping
 - Single pressure: 4x Ø 40 mm
 - Retrofittable on Qpol 250/300 M machines



Ø 200
- 250
(Ø 40)

0.18 /
0.55
kW

- Qpol 250 A1/A2 Eco**
- Working wheels: Ø 200/250 mm
 - Programmable memory for reproducible results
 - Single or twin wheel unit
 - Single/central pressure: 6 samples Ø 40 mm



NEW

Ø 200
- 300
(Ø 50)

0.18 /
2x 0.75
kW

0.18 /
0.75
kW

- Qpol 300 A1/A2 Eco**
- Working wheels: Ø 250/300 mm
 - Programmable memory for reproducible results
 - Single or twin wheel unit
 - Single/central pressure: 6 samples Ø 50 mm



NEW

- Qdoser Eco / Qdoser Eco+**
- Automatic dosing unit
 - Dosing interval adjustable
 - Reverse rinsing function
 - Suspension containers refillable
 - Incl. accessories for installation in the Eco polishing head
 - Auto-dosing for final polishing suspension, expandable to 1 L capacity (only Qdoser Eco+)



Ø 200
- 300
(Ø 50)

0.17 /
0.75
kW

0.17 /
2x 0.75
kW

- SAPHIR 550 / RUBIN 520**
- Working wheels: Ø 200/300 mm
 - Single/central pressure: 6x Ø 50 mm
 - Programmable memory for reproducible results
 - Dosing system (optional): 6-fold
 - Single or twin wheel unit



Ø 300
/ 350

0.75 /
2.2
kW

- Qpol XL**
- Working wheels: Ø 300/350 mm
 - Central pressure: 50 – 750 N
 - Programmable memory for reproducible results
 - Integrated cleaning station (optional)
 - Integrated modular dosing system (optional)



Ø 300

- Qpol Vibro**
- Polishing bowl: Ø 308 mm
 - Vibration frequency: 60 - 120 Hz
 - Pressure via weights for sensitive samples
 - Programmable memory for reproducible results
 - Customized sample holders



COMPACT GRINDING AND POLISHING ROBOTS



Ø 250

Qpol 250 COMPACT

- | Working wheels: Ø 250 mm
- | Central pressure: 20 - 350 N
- | Changer for 16 grinding and polishing media
- | Dosing system: 6-fold, incl. fine polishing suspension
- | Cleaning station and ultrasonic cleaner
- | Integrated settling tank



Ø 300

Qpol 300 COMPACT

- | Working wheels: Ø 300 mm
- | Central pressure: 50 - 450 N, adjustable
- | Foil changer station
- | Dosing system: 6-fold, incl. fine polishing suspension
- | Storage for up to 10 sample holders
- | Individual configuration

ELECTROLYTIC POLISHER AND ETCHER



Qetch 1000

- | Current & voltage diagram in real time
- | Automated temperature control of electrolytes
- | Connection for a second electrolytic tank (optional)
- | Memory for up to 200 programs (password-protected)



Qetch 100 M

- | Portable unit for electrolytic polishing and etching
- | Independent of the mains supply
- | Low-weight, high-performance batteries
- | Replaceable tank for electrolytes
- | Integrated manual grinder (optional)
- | Aluminium housing with strong carrier grip and shoulder strap

AUTOMATIC GRINDING AND POLISHING MACHINES

With the semi-automatic grinding and polishing machines both single and central pressure can be applied. The central pressure allows grinding and polishing of embedded, unembedded and oversized specimens. In combination with a removal measurement, grinding can be done automatically to a defined sample height if required. With single pressure, up to six samples (depending on sample holder) of different sizes can be processed in one sample holder by pressing on individual plungers.

ELECTROLYTIC POLISHING AND ETCHING

In electrolytic polishing and etching, an electrochemical process is used to contrast phase boundaries under the light microscope. This process often saves mechanical grinding and polishing steps.

ONLINE PRODUCT CONFIGURATOR

For more equipment and accessories go to the online product configurator at www.qatm.com



VICKERS, BRINELL, KNOOP & ROCKWELL

AUTOMATED HARDNESS TESTERS – HIGH PRECISION AND INTUITIVE OPERATION



HARDNESS TESTERS

MICRO HARDNESS TESTERS

NEW



Qness 10 / 60 M

- | Test force range: 20 gf - 10 kgf
Option: 0.25 gf - 62.5 kgf
- | Test methods: Vickers, Knoop, Brinell, Option: Rockwell
- | Semiautomatic, economical hardness testing and microscopic analysis
- | Automatic 8-position tool changer
- | Motorized Test axis
- | Manual XY movable cross table for simple hardness traverse measurements (CHD, NHD, SHD)

NEW



Qness 10 / 60 A+

- | Test force range: 20 gf - 10 kgf
Option: 0.25 gf - 62.5 kgf
- | Test methods: Vickers, Knoop, Brinell, Option: Rockwell
- | Fully automated, economical hardness testing and microscopic analysis
- | Automatic 8-position tool changer
- | Motorized and controlled Z-Axis
- | Unique 3D positioning features
- | Very precise XY slide
- | Integrated sample camera for unique ease of use

NEW



Qness 60 A+ ^{EVO}

- | Test force range: 0.25 gf - 62.5 kgf
- | Test methods: Vickers, Knoop, Brinell, Rockwell
- | Fully automated, High-end hardness testing and microscopic analysis
- | Automatic 8-position tool changer
- | Motorized and controlled Z-Axis
- | Unique 3D positioning features
- | High precision XY slide
- | Integrated sample camera for unique ease of use



Qness 60 A+ ^{EVO} PORTAL

- | Test force range: 0.1 kgf - 62.5 kgf
- | Test methods: Vickers, Knoop, Brinell
- | Fully automated, Portal hardness testing and microscopic analysis
- | Automatic 8-position tool changer
- | As a portal solution the Qness 60 EVO offers unique movements and new possibilities in micro/low load hardness testing
- | X 500 / Y 500 / Z 300 mm

ROCKWELL HARDNESS TESTERS



Qness 150 CS

- | Test force range: 1 kgf - 250 kgf
- | Test methods: Rockwell, HVT, HBT
- | Classic concept - new defined
- | A flexible solution for easy Rockwell hardness testing
- | 7" full-color touch display

NEW



Qness 150 CSA+

- | Test force range: 1 kgf - 250 kgf
- | Test methods: Rockwell, HVT, HBT
- | Fully automatic, economical and up-to-date hardness testing
- | XY slide
- | Unique 3D control functions
- | With integrated sample image camera



Qness 150 R

- | Test force range: 1 kgf - 250 kgf
- | Test methods: Rockwell, HVT, HBT
- | Extremely versatile
- | 10.1" full-color touch display
- | Integrated workspace lighting



Qness 150 RCS

- | HRA, HRC or HBT
- | Very fast Rockwell hardness testing
- | Cycle times down to 2 seconds

HARDNESS TESTING STANDARDS



VICKERS
DIN EN ISO 6507, ASTM E-92,
ASTM E-384



BRINELL
DIN EN ISO 6506, ASTM E-10



ROCKWELL
DIN EN ISO 6508, ASTM E-18



KNOOP
DIN EN ISO 4545, ASTM E-92,
ASTM E-384



PLASTICS TESTING
DIN EN ISO 2039



CARBON TESTING
DIN 51917



CONVERSIONS
DIN EN ISO 18265, DIN EN ISO 50150,
ASTM E-140

MICROSCOPY & ANALYSIS



PHASE ANALYSIS
ISO 9042, ASTM E-562



GRAIN SIZE
DIN EN ISO 643, ASTM E-112



LAYER THICKNESS
DIN EN ISO 1463



WELD SEAM
DIN EN ISO 5817

AUTOMATIC EXPORT FUNCTIONS



Many professional export features are included in the standard.

CALIBRATION MANAGER

The QATM Calibration Manager has an automated feature for mandatory verification of the hardness tester using suitable testing plates.

QCONNECT

Qconnect is the software interface of the Qness QpixControl2 software.

- PCI Plug-In / AMS Plug-In / QDAS Plug-In

VERDER IOT PLATFORM



Networking of all devices in the Verder IoT Cloud environment.

- Virtual laboratory
- Status of devices
- Machine software update
- Backup and reporting



HARDNESS TESTERS

MACRO HARDNESS TESTERS

NEW



Qness 200 CS

- Test force range: 0.5 – 187.5 kgf
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 5-position tool changer
- Classic concept – new defined
- Economical hardness testing

NEW



Qness 200 CSA+

- Test force range: 0.5 – 187.5 kgf
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 5-position tool changer
- Fully automatic, economical and up-to-date hardness testing
- XY slide
- With integrated sample image camera



Qness 250/750/3000 C/CS

- Test force range: 0.3 – 3000 kgf
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 8-position tool changer
- Classic concept – new defined
- Ideal for small parts



Qness 250/750/3000 M/E

- Test force range: 0.3 – 3000 kgf
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 8-position tool changer
- Variant M
 - Manual adjustable (z-axis) testing head
 - Well suited for big parts
- Variant E
 - Motorized testing head positioning
 - Suited for a wide range of part sizes and high preload forces



Qness 250/750/3000 A+

- Test force range: 0.3 – 3000 kgf
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 8-position tool changer
- High precision XY slide
- Fully automated testing of serial parts
- Protective housing with light grid
- Unique 3D control functions
- Integrated sample image camera for unique operating comfort

SOFTWARE FOR HARDNESS TESTING AND ANALYSIS

OPTION



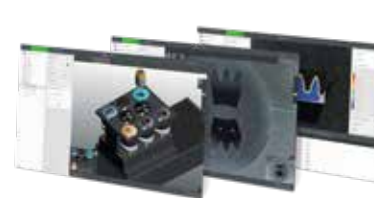
Qpix T2

- Large 12" touchscreen user interface
- Fully automated image analysis
- Full screen mode



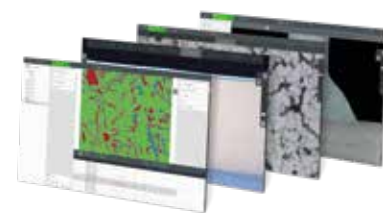
Qpix CONTROL

- Clearly structured batch management
- Effective report template feature
- Comprehensive data management
- Data import and export functions



Qpix CONTROL

- Innovative 3D operation concept
- Professional generation of fully automated testing routines
- Comprehensive data management
- Data import and export functions



Qpix INSPECT SOFTWARE MODULE

- INSPECT phase analysis
- INSPECT layer thickness measurement
- INSPECT grain size measurement
- INSPECT weld seam measurement

CUSTOMIZED SOLUTIONS



Qness 60 A+^{ADV} Sample Disc

- | Grinding, polishing and hardness testing in one sample holder
- | Sample holder is compatible with the grinding and polishing machine Qpol XL



Qness 3000 A+ 1000 mm cross table

- | Automated serial testing on the 1000 mm cross table
- | Robust industrial design
- | Data connection to primary customer systems



Qness BHT 10 kgf - 3000 kgf

- | Fully automated Brinell/Rockwell hardness tester
- | Integrated test point preparation (milling device)
- | Integrated extraction system
- | Various equipment variants and automation systems

OPTICAL ANALYSIS



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)



Qpix CONTROL² Inspect Vision System

- | Fast, high resolution and efficient for optical analysis and measurement of samples for microscopic evaluation
- | Compatible with reflected light and/or stereo microscopes

NEW



Qmobile

- | Mobile image analysis of existing Brinell indentations
- | XLED Brinell evaluation unit
- | Suitable for Brinell methods with 10 mm, 5 mm and 2.5 mm sphere
- | Field of view 8.6 x 6.6 mm, incl. 2x digital zoom



QUALITY, FLEXIBILITY,
FUNCTIONALITY & DESIGN

LABORATORY FURNITURE SYSTEM



LABORATORY FURNITURE

SYSTEM LABORATORY FURNITURE



Laboratory planning

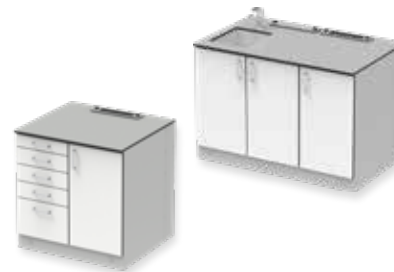
The QATM 3D Lab software is used for generating blueprints of customer specific machine- and laboratory-layouts. They are visualized in a realistic, three-dimensional format.



Customized laboratory furniture

The laboratory furniture system combines QATM quality with a flexible modular system.

- | Base, corner and end cabinets
- | Wall units and shelves
- | Doors, liner bases, integrated media bars
- | Worktop surfaces
- | Installations e.g. recirculatory cooling unit, safety storage cabinet, inset sink or waste collectors



Standard cabinets

Our selection of standard cabinets from the SYSTEM LAB FURNITURE range provide the ideal basis for placing QATM benchtop machines!

- | Sturdy, corrosion-free construction, powder-coated aluminum housing
- | Ideal for integration of recirculation cooling system or settling tank
- | Soft closing doors and drawers



Laboratory tables and desks

Configure your perfect working place with solutions from the extensive QATM laboratory furniture assortment.

Laboratory tables:

- | Very robust and durable construction
- | Passive vibration damping (optional)

Desks:

- | Electric or manual height adjustment
- | Integrated cable management



Shelves and cabinets

- | The open shelves as well as the two-door cabinets are equipped with adjustable shelf boards. The cabinets can also be ordered lockable.
- | Shelves and cabinets are available in heights of 900 mm, 1200 mm and 1950 mm.



Safety cabinets for acids and bases

- | Safety cabinets for the storage of acids, bases and other hazardous substances. With integrated system ventilation monitoring system. They are designed for laboratory use and comply with the regulations for the safe storage of flammable substances, acids and bases.

COMPLETELY FURNISHED LABORATORIES

QATM offers customized solutions for your needs. From single machines to fully equipped laboratory container everything is possible. All used parts are designed for easy and clean disposal.

The laboratory furniture system combines QATM quality with a flexible, modular system. Based on a standardized aluminium module, each cabinet element can be fitted with doors, drawer inserts and other installations. The benchtop can also be fitted to customer needs. The cabinet elements have screw connections. QATM offers an on-site assembly service.

THE FULL SCOPE

Here you can find our current consumables catalog:
www.qatm.com/downloads/brochures



EXPERT GUIDE MATERIALOGRAPHY/METALLOGRAPHY

- | Guide for materialographers and beginners
- | Tips & Tricks
- | Artefacts avoidance
- | From sampling to the finished cut



Qprep CONSUMABLES

EVERYTHING FOR CUTTING, MOUNTING, GRINDING, POLISHING, ETCHING, ANALYZING AND HARDNESS TESTING



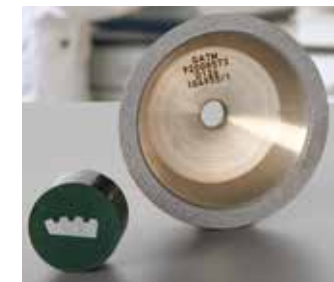
| Corundum cut-off wheels



| CBN cut-off wheels



| Diamond cut-off wheels



| Diamant-pot wheels



| Anti-corrosion coolants



| Accessories and additives for anti-corrosion coolants



| Filter accessories for recirculatory cooling units



| Mounting accessories



| Hot mounting materials



| Cold mounting materials



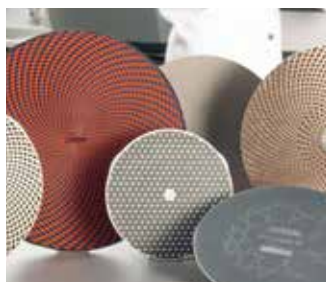
| Infiltration unit



| Cold mounting molds



| Solution Boxes



| Diamond grinding discs
| SiC grinding discs



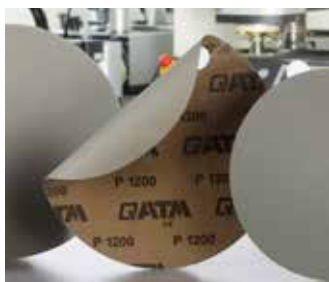
| Fixation system for plain backed grinding paper (GALAXY QUICK-Tap)



| Adhesive carrier



| CONTERO fine grinding discs



| SiC grinding papers



| Grinding belts



| Diamond suspensions



| Diamond pastes
| Diamond spray



| Polishing cloths



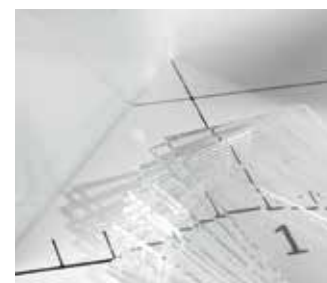
| Desiccator cabinet



| Etchants



| Miscellaneous laboratory accessories



| Accessories for microscopy



| Hardness test blocks and indenters

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PREMIUM QUALITY
MADE IN GERMANY



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VERDER
scientific

VERDER SCIENTIFIC

**ENABLING
PROGRESS.**

Under the roof of VERDER SCIENTIFIC we support thousands of customers worldwide in realizing the ambition we share.

As their technology partner behind the scenes, we deliver the solutions they need to make progress and to improve the everyday lives of countless people. Together, we make the world a healthier, safer and more sustainable place.

