QATM
QUALITY ASSURED

Qpol Vibro

FOR VIRTUALLY DEFORMATION-FREE PREPARATION

VIBRATORY POLISHING DEVICE

part of VERDER scientific

GENTLE MATERIAL REMOVAL FOR EXCELLENT POLISHING RESULTS

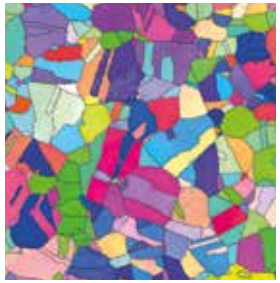
Qpol Vibro (SAPHIR VIBRO) – VIBRATORY POLISHING NEWLY DISCOVERED

The vibratory polishing device Qpol Vibro is designed for the virtually deformation-free preparation of specimen surfaces. It is ideal for further characterizations, e.g. EBSD (electron backscatter diffraction), AFM analysis and nanoindentation or micro hardness testing.

With a diameter of Ø = 308 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 magnetic forces will do their job.

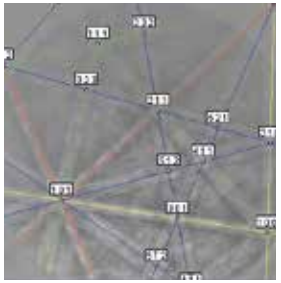
The clamping ring protects the edge of the polishing cloth to ensure a long service life. In addition, the ring delimits the polishing area and enables the sample holders to move evenly. The bowl is designed for the use of polishing cloths on magnetic systems. Consequently, the cloth is quickly and easily removed.

ANALYSIS AND CHARACTERIZATION OF THE PREPARED SURFACES



EBSD-Austenite

Pattern Austenite



Pattern-index Austenite

Benefits Qpol Vibro (Saphir Vibro)

- Rapidly exchangeable polishing bowl with magnetic system
- Automatic frequency control from 60-120 Hz
- Surface-Guard reduces crystallization of the suspension and corrosion of the specimen surface
- Pre-installed preparation methods and consumable list
- Low-noise operation and vibration-adsorbing construction
- Transparent hood made of acrylic glass with soft-closing system
- Preparation for external suction
- Memory for 200 custom preparation methods

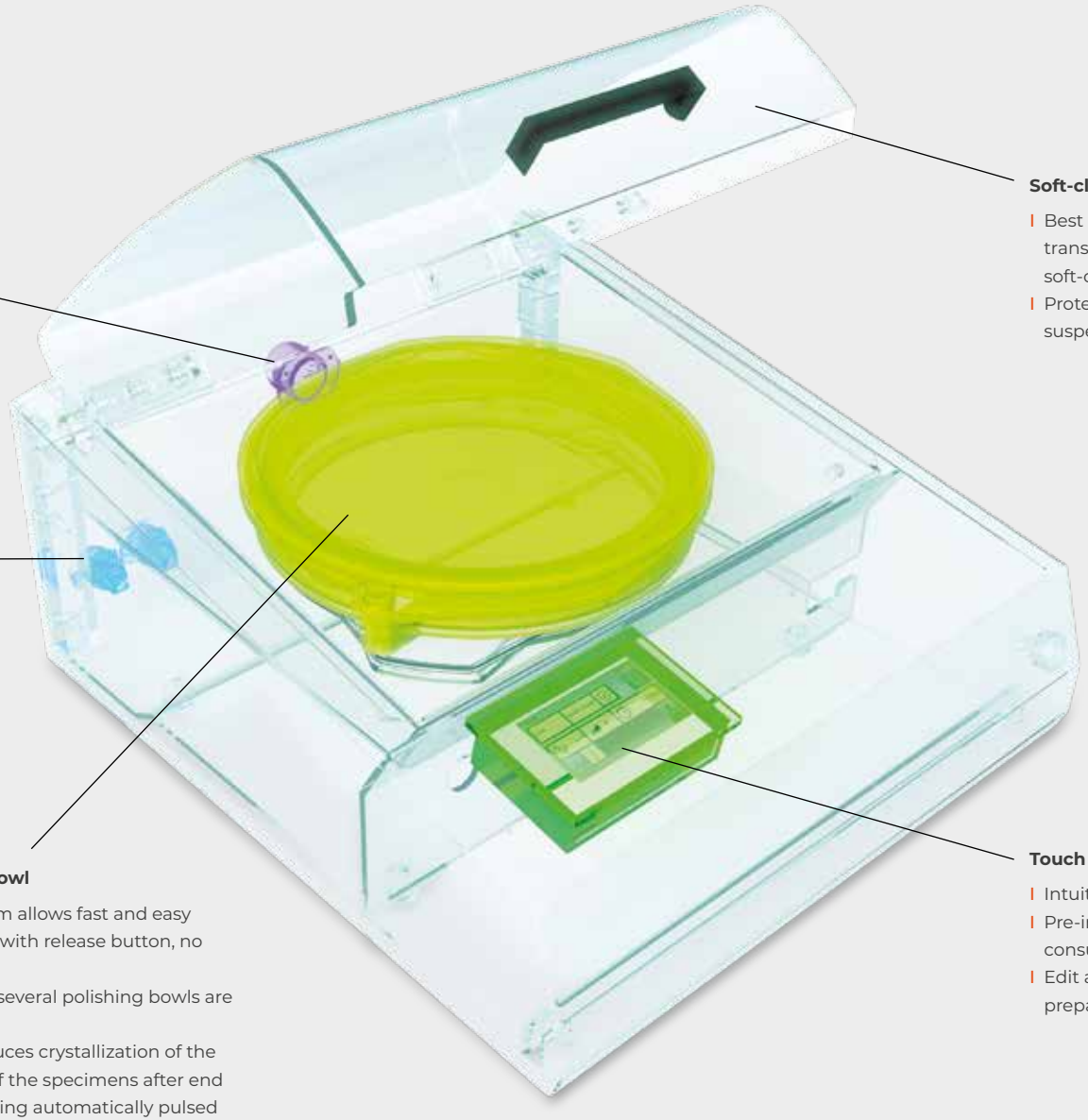
The Qpol Vibro offers silent operation based on its robust, high-quality design, innovative vibratory transmission angle, and vibrational motor with oscillation compensation. It may run for hours without any noticeable noise development. The oscillation compensation of the vibrational motor prevents the vibrations from being transmitted to the machine case or bench, thus ensuring silent operation of the Qpol Vibro.

The exhaust connection plug may be connected to an external exhaust system to safely discharge moisture or gases, thus providing a safe working environment for the operator.

The transparent, soft-closing hinged hood shows the premium quality of QATM machines and devices. It protects the suspension and specimens from contamination for achieving best preparation results. The Qpol Vibro offers a wealth of features but is still compact and lightweight – with a weight of only 45 kg it is very suitable as a bench top device.

CLEAR, ROBUST DESIGN MADE IN GERMANY

SUPERIORITY IN DETAIL



Exhaust connection plug

- Connection to an exhaust air system improves health and safety conditions for the operator

Soft-closing hood

- Best monitoring conditions due to transparent hood made of acrylic glass with soft-closing system
- Protects specimens, polishing cloth, and suspension from contamination

USB and Ethernet plug

- Ethernet plug for remote control and service applications; USB plug to save and exchange data

Exchangeable polishing bowl

- Magnetic clamping system allows fast and easy change of polishing bowl with release button, no additional tools required
- Polishing bowl with lid, if several polishing bowls are used
- QATM Surface-Guard reduces crystallization of the suspension or corrosion of the specimens after end of preparation method using automatically pulsed intervals

Touch display

- Intuitive and easy user interface
- Pre-installed preparation methods and consumables
- Edit and save up to 200 customized preparation methods

SIMPLY CLEVER

NEWLY DESIGNED 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 device may be operated in manual or automatic mode.

The selectively choosable alert function (timer) informs the operator that a program has ended.

QATM invented a special operating mode to protect the prepared surface after preparation has finished: the Surface-Guard preserves the high quality of the prepared surface by preventing e.g. corrosion.

The Qpol Vibro is equipped with automatic frequency control which optimizes the oscillation frequency depending on the specific load of the bowl.

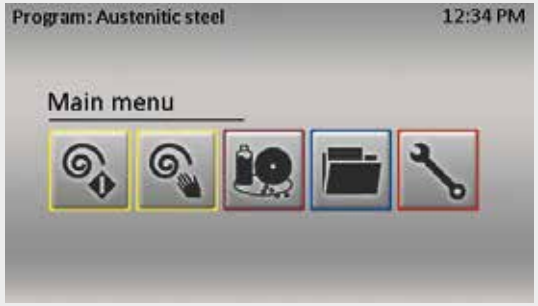
The Qpol Vibro may be operated without supervision and almost without time-limit. This yields best polishing results and gives the user time for other tasks.

QATM 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.

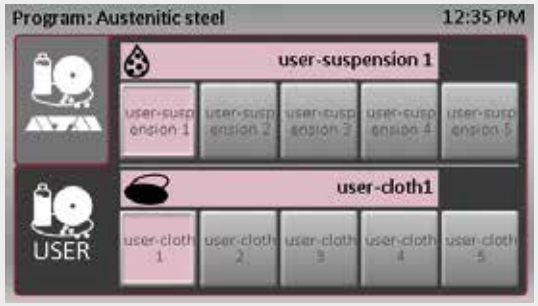
I Corrosion on specimen

I with Surface-Guard



I Main Menu

I Automatic Mode



I Menu Consumables

I Menu Preparation Methods

FOR OPTIMUM RESULTS

WIDE SELECTION OF ACCESSORIES

Sample holders

- Ø 25-25.4 mm (1”), 300 g, additional weight 90 g
- Ø 30-32 mm (1 1/4”), 220 g, additional weight 90 g
- Ø 38-40 mm (1 1/2”), 550 g, additional weight 190 g
- Ø 50 mm (2”), 360 g, additional weight 190 g

Special sample holders

- Ø 60 mm, 875 g, additional weight 190 g
- Ø 70 mm, 605 g, additional weight 190 g

Polishing bowl

- Large bowl with Ø = 308 mm (inner diameter) for polishing non-mounted specimens, filled sample holders, and for simultaneous polishing of up to 21 specimens
- Fast and easy changing of the bowl due to release button and magnetic system
- Strong hold of bowl by magnetic forces
- Especially designed for all polishing cloths with magnetic system
- Lid protects polishing cloth from contamination

Levelling discs Qpol Vibro

- For levelling of mounted specimens
- Suitable for specimen with diameter 25-50 mm, 1-2”
- Special levelling discs for specimens with diameter 60 mm and 70 mm

Cloths

- Iota, Ø 300 mm (short-nap, soft synthetic cloth)
- Zeta, Ø 300 mm (short-nap, soft synthetic cloth)
- Further polishing cloths Ø 300 mm available

Suspensions

- Eposal
- Eposil F, Eposil M
- Eposil Non Dry
- Etosil E

ACCESSORIES

Sample holders

Levelling plate with sample

Handling of various sample holders

TIPS & TRICKS

- For recurring polishing processes of different materials, simply use a **different polishing bowl** for each material.
- **Additional weights** should be used for hard specimen materials or low mass materials. The number of weights depends on the material hardness and the specimen size.
- **How to improve your preparation?** Start directly after the last step of QATM’s standard preparation methods and choose one of the polishing methods for a particular material pre-installed in the Qpol Vibro.
- We recommend to first grind and polish your specimens, e.g. according to the QATM standardized **preparation methods**. Vibratory polishing is the next step in the process.

VIBRATORY POLISHING METHODS

Material	Suspension	Cloth	Frequency	Time (h)	Additional Weights
Steel 50...150HV	Eposal	IOTA	85	02:00	1-2
Steel 150...350HV	Eposal	IOTA	85	01:30	1-2
Steel 350...HV	Eposal	IOTA	85	01:00	2-3
Cast iron	Eposal	IOTA	85	02:00	2-3
Austenitic steel	Eposal	IOTA	90	02:00	2
Aluminum & alloys	Eposil M	IOTA	90	01:30	1
Copper & alloys	Eposil M	IOTA	90	01:00	1
Titanium & alloys	Eposil M11	IOTA	90	02:00	1-2
Superalloys	Eposil M11	IOTA	90	06:00	2
Lead alloys	Eposil M	IOTA	85	03:00	1
Glass	Eposal	IOTA	90	06:00	2
Ceramic	Eposil M	IOTA	90	06:00	2-3
Minerals	Eposal	IOTA	90	06:00	2
Rocks	Eposal	IOTA	90	06:00	2
Cleaning mode	Water & Soap 50:50	IOTA	90	00:10	0

Qpol Vibro (SAPHIR VIBRO) AT A GLANCE

	VIBRATORY POLISHING DEVICE
	
MODEL	Qpol Vibro (SAPHIR VIBRO)

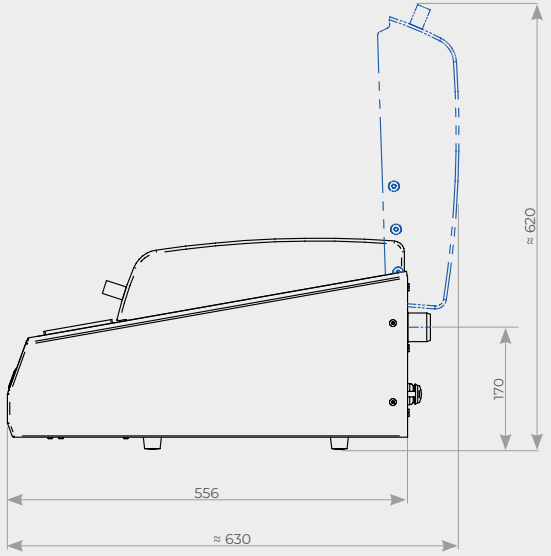
Application	preparation of specimen surfaces
Fields of application	micro structural analysis, tint etching, EBSD, AFM analysis and nanoindentation or micro hardness testing

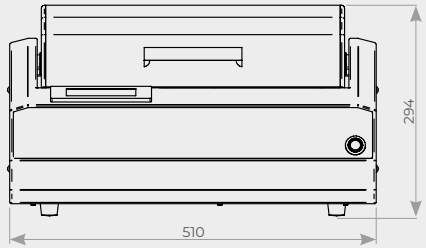
PERFORMANCE DATA

Bowl inner diameter	308 mm
Polishing cloth diameter	300 mm / 305 mm (12“)
Plugs	· socket (depending on the configuration) · USB · Ethernet
Exhaust connection plug	Ø 40 mm
Ambient temperature	10 - 40 °C
IP Code	IP 22

TECHNICAL DATA

Connection power	0.25 kVA
Drive power	135 VA
Power supply	220-240 V 50/60 Hz (1Ph/N/PE) 100-120 V 50/60 Hz (1Ph/N/PE)
W x H x D	510 x 300 x 590 mm
Weight (depending on equipment)	≈ 45 kg
More information on	www.qatm.com/qpol-vibro





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VERDER scientific

VERDER SCIENTIFIC

SCIENCE FOR SOLIDS

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

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

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