

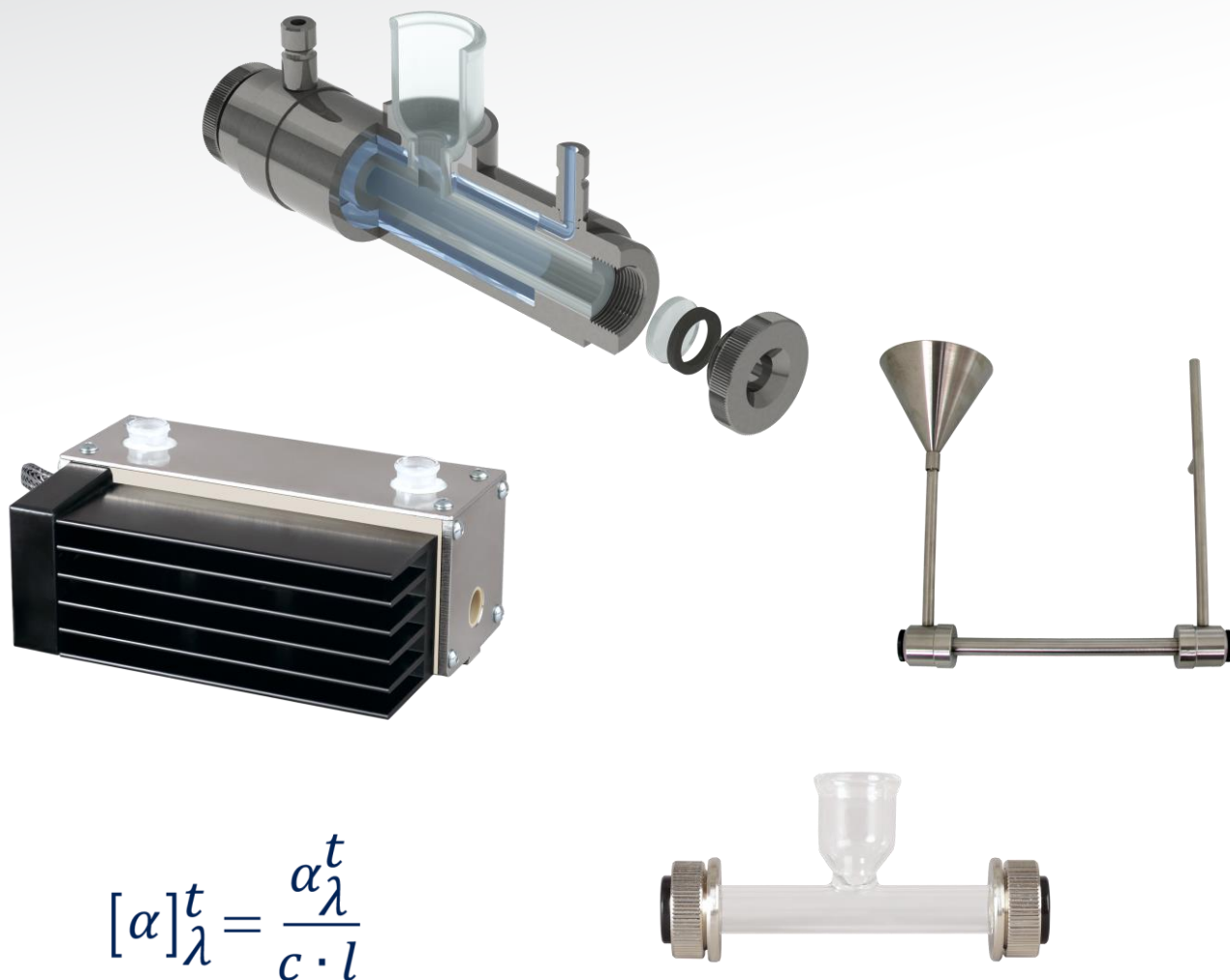
Do you receive the instruction manual in digital form, then these links are **interactive**

The keyboard combination **Alt + ←** brings you back to the starting point

POLARIMETER | MEASUREMENT TUBE

MEASUREMENT TUBES FOR A COMFORTABLE SAMPLE SUPPLY






Version 2.1 February 2023



$$[\alpha]_{\lambda}^t = \frac{\alpha_{\lambda}^t}{c \cdot l}$$

GLASS MEASUREMENT TUBE – WITHOUT TEMPERATURE CONTROL.....	3
MICRO MEASUREMENT TUBE – WITHOUT TEMPERATURE CONTROL.....	4
FLOW-THROUGH MEASUREMENT TUBES – WITHOUT TEMPERATURE CONTROL.....	5
MEASUREMENT TUBES – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31).....	6
MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31).....	7
STAINLESS STEEL FLOW-THROUGH MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31)	8
MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31).....	9
POLARIMETER MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (PELTIER TEMPERATURE CONTROL)	10
POLARIMETER QUARTZ CONTROL PLATES.....	11

POLARIMETER OVERVIEW

	<p>Polarimeter P8000 and P8100</p> <p>Recommendable devices for all basic applications without sample temperature control. Instead of temperature control, temperature compensation according to ICUMSA can be used.</p> <p>(A.KRÜSS-Website)</p>
	<p>Polarimeter P8000-P and P8100-P</p> <p>High-precision measurements through temperature control without an additional device and exact temperature control via Peltier technology.</p> <p>(A.KRÜSS-Website)</p>
	<p>Polarimeter P8000-T and P8100-T</p> <p>These Polarimeter models enable in connection with temperature-controlled measurement tubes and a circulating thermostat (PT31/PT80) a sample temperature control between 8 °C up to 40 °C at PT31 and 5 °C up to 80 °C at PT80.</p> <p>(A.KRÜSS-Website)</p>
	<p>Polarimeter P3000</p> <p>This device is built for standard applications as an economic solution for which a measurement accuracy of $\pm 0.01^\circ$ is sufficient and a temperature control can be omitted.</p> <p>(A.KRÜSS-Website)</p>
	<p>Polarimeter P1000-LED</p> <p>Device for education and training which measures the optical rotation according to the half-shade principle. The measurement results are read through an eyepiece and two noniuses.</p> <p>(A.KRÜSS-Website)</p>



GLASS MEASUREMENT TUBE – WITHOUT TEMPERATURE CONTROL

APPLICABLE FOR POLARIMETER						
MEASUREMENT TUBE	P8000 P8100 Without temperature control	P8000-P P8100-P Temperature control with Peltier technology	P8000-T P8100-T Temperature control circulating thermostat/ temperature-controlled measurement tubes recommended	P3000 Without temperature control ²⁾	P1000-LED Without temperature control	
Glass measurement tube (without temperature control) PRG-50-E und PRG-100-E und PRG-200-E						
 <p>Available tube lengths: 50/100/200 mm</p> <p>Luer connection: No</p> <p>Flow-through: No</p> <p>Required sample volume¹⁾: 3ml/50 mm 6 ml/100 mm 12 ml/200 mm</p>	<p>Abbreviation: PRG/ P/Polarimeter R/Tube G/Glass</p> <p>E/Filling funnel</p>	PRG-100-E und PRG-200-E Supplied as part of the scope of delivery.	PRG-100-E und PRG-200-E Supplied as part of the scope of delivery.	PRG-100-E und PRG-200-E Supplied as part of the scope of delivery.	PRG-100-E und PRG-200-E Supplied as part of the scope of delivery.	
Glass measurement tube (without temperature control) PRG-100 und PRG-200						
 <p>Available tube lengths: 100/200 mm</p> <p>Luer connections: No</p> <p>Flow-through: No</p> <p>Required sample volume¹⁾: 12 ml/100 mm 22ml/200 mm</p>	<p>Abbreviation: PRG/ P/Polarimeter R/Tube G/Glass</p>	Applicable	Applicable	Applicable	Applicable	Glass measurement tube Supplied as part of the scope of delivery

¹⁾Details of the sample volume are “approximate values” and do not consider the filling level of the filling funnel or the respective product tolerances.

²⁾Temperature control is possible on request.



MICRO MEASUREMENT TUBE – WITHOUT TEMPERATURE CONTROL

APPLICABLE FOR POLARIMETER						
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000- LED	
Glass measurement tube (without temperature control) PRG-50-M and PRG-100-M						
 Available tube lengths: 50/100 mm Luer connection: No Flow-through: No Required sample volume ¹⁾ : 0.55 ml/50 mm 1.1 ml/100 mm	Abbreviation: PRG/ P/Polarimeter R/Tube G/Glass	Applicable	Applicable	Applicable	Applicable	Applicable
Stainless steel micro flow-through measurement tube (without temperature control) PRM-10-SDM and PRM-100-SDM						
 Available tube lengths: 10/100 mm Luer connection: Yes Flow-through: Yes Required sample volume ¹⁾ : 0,2 ml/10 mm 0,5 ml/100 mm	Abbreviation: PRM/ P/Polarimeter R/Tube M/Metal S/ Tube connection D/ Flow-through M/ Micro	Only applicable with P8020	Only applicable with P8020	Only applicable with P8020	Only applicable with P8020	

¹⁾Details of the sample volume are “approximate values” and do not consider the filling level of the filling funnel or the respective product tolerances.

²⁾Temperature control is possible on request.

FLOW-THROUGH MEASUREMENT TUBES – WITHOUT TEMPERATURE CONTROL

APPLICABLE FOR POLARIMETER						
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000- LED	
Stainless steel flow-through measurement tube (without temperature control)						
PRM-100-SD						
 <p>Available tube lengths: 100 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume¹⁾: 1,3 ml/100 mm</p>	<p>Abbreviation: PRM/ P/Polarimeter R/Tube M/Metal</p> <p>S/Tube connection D/Flow-through</p>	Only applicable with P8020 ²⁾	Only applicable with P8020 ²⁾	Only applicable with P8020 ²⁾	Only applicable with P8020 ²⁾	
Stainless steel flow-through measurement tube (without temperature control)						
PRM-100-D and PRM-200-D						
 <p>Available tube lengths: 100/200 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume¹⁾: 12 ml/100 mm 17 ml/200 mm</p>	<p>Abbreviation: PRM/ P/Polarimeter R/Tube M/Metal</p> <p>D/Flow-through (with filling funnel)</p>	Only applicable with P8020 ²⁾	Only applicable with P8020 ²⁾	Only applicable with P8020 ²⁾	Only applicable with P8020 ²⁾	



¹⁾Details of the sample volume are “**approximate values**” and do not consider the filling level of the filling funnel or the respective product tolerances.

²⁾P8020 = **Sample chamber bushing**

It is required to organize the sample filling by a pump or to enable the temperature control (hose bushing).

³⁾Temperature control is possible on request.

MEASUREMENT TUBES – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31)

APPLICABLE FOR POLARIMETER					
MEASUREMENT TUBE	P8000 P8100 Without temperature control	P8000-P P8100-P Temperature control with Peltier technology	P8000-T P8100-T Temperature control circulating thermostat/ temperature-controlled measurement tubes recommended	P3000 Without temperature control ³⁾	P1000-LED Without temperature control
Glass measurement tube (temperature controlled) PRG-100-ET und PRG-200-ET					
 <p>Available tube lengths: 100/200 mm</p> <p>Luer connection: No</p> <p>Flow-through: No</p> <p>Required sample volume¹⁾: 4 ml/100 mm 8 ml/200 mm</p>	<p>Abbreviation: PRM/ P/Polarimeter R/Tube G/Glas</p> <p>E/ Filling funnel T/ temperature controlled (by surrounding water jacket)</p>			Applicable	
Stainless steel measurement tube with filling funnel (temperature-controlled) PRM-100-ET					
 <p>Available tube lengths: 100 mm</p> <p>Luer connection: No</p> <p>Flow-through: No</p> <p>Required sample volume¹⁾: 12 ml/100 mm</p>	<p>Abbreviation: PRM/ P/Polarimeter R/Tube M/Metal</p> <p>E/Filling funnel T/temperature-controlled by surrounding water jacket)</p>			Only applicable with P8020 ²⁾	

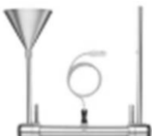

¹⁾Details of the sample volume are “approximate values” and do not consider the filling level of the filling funnel or the respective product tolerances.

²⁾P8020 = Sample chamber bushing

It is required to organize the sample filling by a pump (hose bushing) or to enable the temperature control (temperature control bushing).

³⁾Temperature control is possible on request.

MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31)

APPLICABLE FOR POLARIMETER					
MEASUREMENT TUBE	P8000 P8100 Without temperature control	P8000-P P8100-P Temperature control with Peltier technology	P8000-T P8100-T Temperature control circulating thermostat/ temperature-controlled measurement tubes recommended	P3000 Without temperature control ³⁾	P1000-LED Without temperature control
Stainless steel flow-through measurement tube (temperature-controlled) PRM-100-DTT and PRM-200-DTT					
 <p>Available tube lengths: 100/200 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume¹⁾: 12 ml/100 mm 17 ml/200 mm</p>	<p>Abbreviation: PRM/ P/Polarimeter R/Tube M/Metal</p> <p>D/Flow-through (with filling funnel) T/Temperature controlled (via water jacket) T/Temperature sensor</p>			Only applicable with P8020 ²⁾	
Temperature sensor PRT-E and PRT-T					
 <p>PRT-E Stainless steel temperature sensor</p> <p>PRT-T Stainless steel temperature sensor, PTFE-coated</p>			Can be used with all measurement tubes (equipped with a filling funnel ⁴⁾)		

¹⁾Details of the sample volume are “**approximate values**” and do not consider the filling level of the filling funnel or the respective product tolerances.



²⁾**P8020 = Sample chamber bushing**

It is required to organize the sample filling by a pump (hose bushing) or to enable the temperature control (temperature control bushing).

³⁾Temperature control is possible on request.

⁴⁾ If no funnel is provided, the temperature sensor is located directly in the sample chamber.

STAINLESS STEEL FLOW-THROUGH MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31)



APPLICABLE FOR POLARIMETER					
MEASUREMENT TUBE	P8000 P8100 Without temperature control	P8000-P P8100-P Temperature control with Peltier technology	P8000-T P8100-T Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	P3000 Without temperature control ³⁾	P1000-LED Without temperature control
Stainless steel flow-through measurement tube (temperature-controlled) PRM-200-DT					
 <p>Available tube lengths: 200 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume¹⁾: 17 ml/200 mm</p>	<p>Abbreviation: PRM/ P/Polarimeter R/Tube M/Metal</p> <p>D/Flow-through (with filling funnel)</p> <p>T/Temperature-controlled (via water jacket)</p>			Only applicable with P8020 ²⁾	
Stainless steel flow-through measurement tube (temperature-controlled) PRM-200-SDT					
 <p>Available tube lengths: 200 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume¹⁾: 17 ml/200 mm</p>	<p>Abbreviation: PRM/ P/Polarimeter R/Tube M/Metal</p> <p>S/Tube connection D/Durchfluss</p> <p>T/Temperature-controlled (via water jacket)</p>			Only applicable with P8020 ²⁾	

¹⁾Details of the sample volume are “approximate values” and do not consider the filling level of the filling funnel or the respective product tolerances.

²⁾P8020 = Sample chamber bushing - It is required to organize the sample filling by a pump (hose bushing) or to enable the temperature control (temperature control bushing).

³⁾Temperature control is possible on request.

MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (CIRCULATION THERMOSTAT PT80/PT31)


APPLICABLE FOR POLARIMETER					
MEASUREMENT TUBE	P8000 P8100 Without temperature control	P8000-P P8100-P Temperature control with Peltier technology	P8000-T P8100-T Temperature control circulating thermostat/ temperature-controlled measurement tubes recommended	P3000 Without temperature control ³⁾	P1000-LED Without temperature control
Stainless steel flow-through measurement tube PRM-100-SDTM-2,5					
 Available tube lengths: 100 mm Luer connection: Yes Flow-through: Yes Required sample volume ¹⁾ : 0,5 ml/100 mm	Abbreviation: PRM/ P/ Polarimeter R/ Tube M/ Metal S/ Tube connection D/ Flow-through T/ Temperature-controlled M/ Micro			Only applicable with P8020 ²⁾	
Stainless steel micro flow-through measurement PRM-100-SDTM-4					
 Available tube lengths: 100 mm Luer connection: Yes Flow-through: Yes Required sample volume ¹⁾ : 1,3 ml/100 mm	Abbreviation: PRM/ P/ Polarimeter R/ Tube M/ Metal S/ Tube connection D/ Flow-through T/ Temperature-controlled M/ Micro			Only applicable with P8020 ²⁾ Recommended micro measurement tube	

¹⁾ Details of the sample volume are “approximate values” and do not consider the filling level of the filling funnel or the respective product tolerances.

²⁾ P8020 = Sample chamber bushing - It is required to organize the sample filling by a pump (hose bushing) or to enable the temperature control (temperature control bushing).

³⁾ Temperature control is possible on request.


POLARIMETER MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (PELTIER TEMPERATURE CONTROL)

APPLICABLE FOR POLARIMETER						
MEASUREMENT TUBE	P8000 P8100 Without temperature control	P8000-P P8100-P Temperature control with Peltier technology	P8000-T P8100-T Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	P3000 Without temperature control ²⁾	P1000-LED Without temperature control	
Glass measurement tube (Peltier temperature control) PRG-100-EPT						
 Available tube lengths: 100 mm Luer connection: No Flow-through: Yes Required sample volume ¹⁾ : 8 ml/100 mm	Abbreviation: PRG/ P/Polarimeter R/Tube G/Glass EPT/Peltier temperature control (with two filling openings)	Not applicable	Recommended glass measurement tube	Not applicable	Not applicable	Not applicable

¹⁾Details of the sample volume are “approximate values” and do not consider the filling level of the filling funnel or the respective product tolerances.

²⁾Temperature control is possible on request.

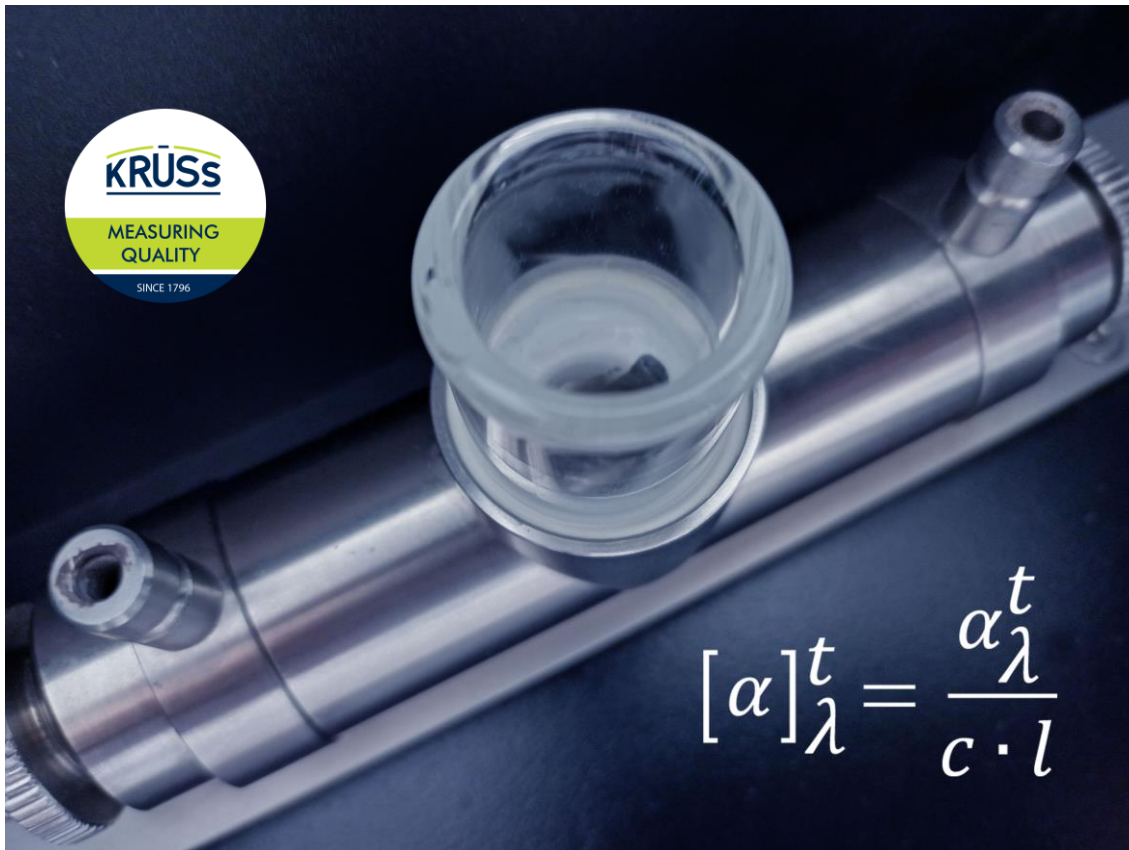
POLARIMETER QUARTZ CONTROL PLATES

APPLICABLE FOR POLARIMETER					
Quartz control plates 	P8000 P8100 Without temperature control	P8000-P P8100-P Temperature control with Peltier technology	P8000-T P8100-T Temperature control circulating thermostat/ temperature-controlled measurement tubes recommended	P3000 Without temperature control ¹⁾	P1000-LED Without temperature control
Polarimeter Quartz control plate PQP models					
PQP+17 Angle of rotation: +17° (±1°), +50 °Z (±1 °Z)	Premium quartz control plate suitable for the whole product range, Accuracy: ±0.001°, With PTB-traceable factory certificate, Valid for PTB certificate, issuing of certificate on request, Wavelength: 589 nm, Temperature: 20 °C, Housing: Stainless steel				
PQP+34 Angle of rotation: +34° (±1°), +99 °Z (±1 °Z)					
PQP-17 Angle of rotation: -17° (±1°), -50 °Z (±1 °Z)					
Polarimeter Quartz control plate PQE models					
PQE+17 Angle of rotation: +17° (±1°), +50 °Z (±1 °Z)	Standard quartz control plate suitable for the whole product range, Accuracy: ±0.005°, With PTB-traceable factory certificate, Not valid for PTB certificate, Wavelength: 589 nm, Temperature: 20 °C, Housing: Stainless steel				
PQE+34 Angle of rotation: +34° (±1°), +99 °Z (±1 °Z)					
PQE-17 Angle of rotation: -17° (±1°), -50 °Z (±1 °Z)					
PQE-34 Angle of rotation: -34° (±1°), -99 °Z (±1 °Z)					

¹⁾Temperature control is possible on request.

Cutting-edge technology from Hamburg

en



For more information, just scan the QR code



DISCOVER THE WORLD OF A.KRÜSS MEASURING INSTRUMENTS ON OUR WEBSITE.

Every day, our experts give their best to ensure your satisfaction. You can count on the first-class expertise of our specialists. For us, quality always comes first.

LEARN FROM THE EXPERTS!

We offer detailed technical information on every measuring method and appliance: You can discover practical tips on cleaning. Receive specialist information on sample measurement, standards and guidelines or experience our instruments in practical use as video demonstrations.

SEE AND DISCOVER OUR INSTRUMENTS DIRECTLY. WE ARE JUST A CLICK AWAY!

If you wish, we will gladly demonstrate our products on-site or via a video conference direct from our lab in Hamburg. See our measurement devices for yourself, online and in real time use. This way you can experience our measuring devices online live and talk to our experts.

A.KRÜSS Optronic GmbH
Alsterdorfer Straße 276-278
22297 Hamburg

Tel.: +49 40 514317-0
Fax: +49 40 514317-60

E.Mail: info@kruess.com
Web: www.kruess.com

