

## POLARIMETER | MEASUREMENT TUBES

APPLICABLE MEASUREMENT TUBES FOR CONVINIENT SAMPLE SUPPLY



MADE IN  
GERMANY

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## POLARIMETER OVERVIEW



### Polarimeter P8000 and P8100

Recommendable devices for all basic applications without sample temperature control. Instead of temperature control, temperature compensation according to ICUMSA can be used.

[\(A.KRÜSS-Website\)](#)



### Polarimeter P8000-P and P8100-P

High-precision measurements through temperature control without an additional device and exact temperature control via Peltier technology.

[\(A.KRÜSS-Website\)](#)



### Polarimeter P8000-T and P8100-T

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.

[\(A.KRÜSS-Website\)](#)



### Polarimeter P3000

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.

[\(A.KRÜSS-Website\)](#)





### Polarimeter P1000-LED

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.

[\(A.KRÜSS-Website\)](#)

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## GLASS MEASUREMENT TUBE – WITHOUT TEMPERATURE CONTROL

APPLICABLE FOR POLARIMETER						
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000-LED	
	Without temperature control	Temperature control with Peltier technology	Temperature control circulating thermostat/ temperature-controlled measurement tubes recommended	Without temperature control <sup>2)</sup>	Without temperature control	
<b>Glass measurement tube (without temperature control)</b> PRG-100-E and PRG-200-E						
 Available tube lengths: 50/100/200 mm Luer connection: No Flow-through: No Required sample volume <sup>1)</sup> : 6 ml/100 mm 12 ml/200 mm	<b>Abbreviation:</b> <b>PRG/</b> <b>P/</b> Polarimeter <b>R/</b> Tube <b>G/</b> Glass  <b>E/</b> Filling funnel	PRG-100-E and PRG-200-E are included in the scope of delivery.	PRG-100-E and PRG-200-E are included in the scope of delivery.	PRG-100-E und PRG-200-E are included in the scope of delivery.	PRG-100-E und PRG-200-E are included in the scope of delivery.	
<b>Glass measurement tube (without temperature control)</b> PRG-50-M and PRG-100-M						
 Available tube lengths: 50/100 mm Luer connection: No Flow-through: No Required sample volume <sup>1)</sup> : 0,55 ml/50 mm 1,1 ml/100 mm	<b>Abbreviation:</b> <b>PRG/</b> <b>P/</b> Polarimeter <b>R/</b> Tube <b>G/</b> Glass  <b>M/</b> Micro glass measurement tube (screw filling)	Applicable micro glass measurement tube	Applicable micro glass measurement tube	Applicable micro glass measurement tube	Applicable micro glass measurement tube	Limited applicable micro glass measurement tube

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

<sup>2)</sup>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	
	Without temperature control	Temperature control with Peltier technology	Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	Without temperature control <sup>2)</sup>	Without temperature control	
<b>Micro glass measurement tube (without temperature control)</b>						
PRG-100 and PRG-200						
 Available tube lengths: 100/200 mm Luer connection: Yes Flow-through: No Required sample volume <sup>1)</sup> : 8 ml/100 mm 15ml/200 mm	<b>Abbreviation:</b> <b>PRG/</b> <b>P/</b> Polarimeter <b>R/</b> Tube <b>G/</b> Glass	Applicable micro glass measurement tube				Micro glass measurement tube is included in the scope of delivery
<b>Stainless steel micro flow-through measurement tube (without temperature control)</b>						
PRM-10-SDM and PRM-50-SDM and PRM-100-SDM						
 Available tube lengths: 10/50/100 mm Luer connection: Yes Flow-through: Yes Required sample volume <sup>1)</sup> : 0,2 ml/10 mm 1 ml/50 mm 0,5 ml/100 mm	<b>Abbreviation:</b> <b>PRM/</b> <b>P/</b> Polarimeter <b>R/</b> Tube <b>M/</b> Metal  <b>S/</b> Tube connection <b>D/</b> Flow-through <b>M/</b> Micro	Recommended stainless steel micro flow-through measurement tube	Recommended stainless steel micro flow-through measurement tube	Recommended stainless steel micro flow-through measurement tube	Recommended stainless steel micro flow-through measurement tube	Recommended stainless steel micro flow-through measurement tube

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

<sup>2)</sup>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
<b>Stainless steel flow-through measurement tube (nicht temperierbar)</b> PRM-50-SD and PRM-100-SD and PRM-200-SD					
 <p>Available tube lengths: 50/100/200 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume<sup>1)</sup>: 10 ml/50 mm 13 ml/100 mm 17 ml/200 mm</p>	<p><b>Abbreviation:</b> PRM/ P/Polarimeter R/Tube M/Metal</p> <p>S/Tube connection D/Flow-through</p>	<p>Only with P8020<sup>2)</sup> applicable stainless steel flow-through measurement tube</p>			<p>Only with P8020<sup>2)</sup> applicable stainless steel flow-through measurement tube. (Hose bushing is required for this filling process with the pump)</p>
<b>Stainless steel flow-through measurement tube (without temperature control)</b> 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 volume<sup>1)</sup>: 12 ml/100 mm 17 ml/200 mm</p>	<p><b>Abbreviation:</b> PRM/ P/Polarimeter R/Tube M/Metal</p> <p>D/Flow-through (with filling funnel)</p>	<p>Only with P8020<sup>2)</sup> applicable stainless steel flow-through measurement tube</p>			<p>Only with P8020<sup>2)</sup> applicable stainless steel flow-through measurement tube</p>



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

<sup>2)</sup>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).

<sup>3)</sup>Temperature control is possible on request.



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

APPLICABLE FOR POLARIMETER					
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000-LED
	Without temperature control	Temperature control with Peltier technology	Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	Without temperature control <sup>2)</sup>	Without temperature control
<b>Glass measurement tube (stainless steel jacket)</b> PRG-100-ET and PRG-200-ET					
 Available tube lengths: 100/200 mm Luer connection: No Flow-through: No Required sample volume <sup>1)</sup> : 4 ml/100 mm 8 ml/200 mm	<b>Abbreviation:</b> <b>PRG/</b> <b>P/Polarimeter</b> <b>R/Tube</b> <b>G/Glass</b>  <b>E/Filling funnel</b> <b>T/Temperature-controlled (via water jacket)</b>			Recommended glass measurement tube	
<b>Temperature sensor</b> PRT-E and PRT-T					
 PRT-E Stainless steel temperature sensor PRT-T Stainless steel temperature sensor, PTFE-coated			Applicable with glass measurement tube PRG-100-ET and PRG-200-ET		

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

<sup>2)</sup>Temperature control is possible on request.

## STAINLESS STEEL FLOW-THROUGH MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (TEMPERATURE SENSOR)

APPLICABLE FOR POLARIMETER					
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000-LED
	Without temperature control	Temperature control with Peltier technology	Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	Without temperature control <sup>3)</sup>	Without temperature control
<b>Stainless steel flow-through measurement tube (temperature-controlled)</b>					
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 volume<sup>1)</sup>: 12 ml/100 mm 17 ml/200 mm</p>	<p><b>Abbreviation:</b></p> <p><b>PRM/</b></p> <p><b>P/</b>Polarimeter</p> <p><b>R/</b>Tube</p> <p><b>M/</b>Metal</p> <p><b>D/</b>Flow-through (with filling funnel)</p> <p><b>T/</b>temperature-controlled (über Wassermantel)</p> <p><b>T/</b>Temperature sensor</p>			Only with P8020 <sup>2)</sup> applicable stainless steel flow-through measurement tube	
<b>Temperature sensor</b>					
PRT-E and PRT-T					
 <p>PRT-E Stainless steel temperature sensor</p> <p>PRT-T Stainless steel temperature sensor, PTFE-coated</p>			Applicable with stainless steel flow-through measurement tube PRM-100-DTT and PRM-200-DTT		



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

<sup>2)</sup>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).

<sup>3)</sup>Temperature control is possible on request.

## STAINLESS STEEL FLOW-THROUGH MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (TEMPERATURE SENSOR)

APPLICABLE FOR POLARIMETER						
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000-LED	
	Without temperature control	Temperature control with Peltier technology	Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	Without temperature control <sup>3)</sup>	Without temperature control	
<b>Stainless steel flow-through measurement tube (temperature-controlled)</b> PRM-100-SDTT and PRM-200-SDTT						
 Available tube lengths: 100/200 mm	<b>Abbreviation:</b> <b>PRM/</b> <b>P/</b> Polarimeter <b>R/</b> Tube <b>M/</b> Metal			Only with P8020 <sup>2)</sup> applicable stainless steel flow-through measurement tube		
Luer connection: No	S/Tube connection					
Flow-through: Yes	D/Flow-through					
Required sample volume <sup>1)</sup> : 12 ml/100 mm 17 ml/200 mm	T/Temperature controlled (via water jacket) T/Temperature sensor					
<b>Temperature sensor</b> PRT-E and PRT-T						
				Applicable with stainless steel flow-through measurement tube PRM-100-SDTT and PRM-200-SDTT		
PRT-E Stainless steel temperature sensor						
PRT-T Stainless steel temperature sensor, PTFE-coated						

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



<sup>2)</sup>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).

<sup>3)</sup>Temperature control is possible on request.



## STAINLESS STEEL FLOW-THROUGH MEASUREMENT TUBES – TEMPERATURE-CONTROLLED (STAINLESS STEEL JACKET)



APPLICABLE FOR POLARIMETER					
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000-LED
	Without temperature control	Temperature control with Peltier technology	Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	Without temperature control <sup>3)</sup>	Without temperature control
<b>Stainless steel flow-through measurement tube (temperature-controlled)</b> PRM-100-DT and PRM-200-DT					
 <p>Available tube lengths: 100/200 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume<sup>1)</sup>: 12 ml/100 mm 17 ml/200 mm</p>	<p><b>Abbreviation:</b> <b>PRM/</b> <b>P/</b>Polarimeter <b>R/</b>Tube <b>M/</b>Metal</p> <p><b>D/</b>Flow-through (with filling funnel) <b>T/</b>Temperature-controlled (via water jacket)</p>			Only with P8020 <sup>2)</sup> applicable stainless steel flow-through measurement tube	
<b>Stainless steel flow-through measurement tube (temperature-controlled)</b> PRM-100-SDT and PRM-200-SDT					
 <p>Available tube lengths: 100/200 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume<sup>1)</sup>: 12 ml/100 mm 17 ml/200 mm</p>	<p><b>Abbreviation:</b> <b>PRM/</b> <b>P/</b>Polarimeter <b>R/</b>Tube <b>M/</b>Metal</p> <p><b>S/</b>Tube connection <b>D/</b>Durchfluss <b>T/</b>Temperature-controlled (via water jacket)</p>			Only with P8020 <sup>2)</sup> applicable stainless steel flow-through measurement tube	

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

<sup>2)</sup>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).

<sup>3)</sup>Temperature control is possible on request.

## STAINLESS STEEL FLOW-THROUGH MEASUREMENT TUBES – TEMPERATURE-CONTROLLED (STAINLESS STEEL JACKET)

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 <sup>3)</sup>	P1000-LED Without temperature control	
<b>Stainless steel flow-through measurement tube</b> PRM-100-SDT and PRM-200-SDT						
 Available tube lengths: 100/200 mm Luer connection: No Flow-through: Yes Required sample volume <sup>1)</sup> : 12 ml/100 mm 17 ml/200 mm	<b>Abbreviation:</b> <b>PRM/</b> <b>P/</b> Polarimeter <b>R/</b> Tube <b>M/</b> Metal  <b>S/</b> Tube connection <b>D/</b> Flow-through <b>T/</b> Temperature-controlled			Only with P8020 <sup>2)</sup> applicable stainless steel flow-through measurement tube		
<b>Stainless steel micro flow-through measurement tube</b> PRM-25-SDTM and PRM-50-SDTM and PRM-100-SDTM and PRM-200-SDTM						
 Available tube lengths: 25/50 mm 100/200 mm Luer connection: Yes Flow-through: Yes Required sample volume <sup>1)</sup> : 0,5 ml/25 mm 1 ml/50 mm 0,5 ml/100 mm 2,5 ml/200 mm	<b>Abbreviation:</b> <b>PRM/</b> <b>P/</b> Polarimeter <b>R/</b> Tube <b>M/</b> Metal  <b>D/</b> Flow-through <b>T/</b> Temperature-controlled (via water jacket)			Only with P8020 <sup>2)</sup> applicable stainless steel flow-through measurement tube		



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

<sup>2)</sup>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).

<sup>3)</sup>Temperature control is possible on request.


## POLARIMETER MEASUREMENT TUBE – TEMPERATURE-CONTROLLED (FLOW-THROUGH TEMPERATURE CONTROL AND PELTIER TEMPERATURE CONTROL)

APPLICABLE FOR POLARIMETER						
MEASUREMENT TUBE	P8000 P8100	P8000-P P8100-P	P8000-T P8100-T	P3000	P1000-LED	
	Without temperature control	Temperature control with Peltier technology	Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	Without temperature control <sup>2)</sup>	Without temperature control	
<b>Flow-through micro glass measurement tube (temperature-controlled)</b>						
PRG-50-DT and PRG-100-DT						
 <p>Available tube lengths: 50/100 mm</p> <p>Luer connection: Yes</p> <p>Flow-through: Yes</p> <p>Required sample volume<sup>1)</sup>: 0,4 ml/50 mm 0,7 ml/100 mm</p>	<p><b>Abbreviation:</b> PRM/ P/Polarimeter R/Tube G/Glass</p> <p><b>D/Flow-through</b> <b>T/ Temperature-controlled</b> (via water jacket)</p>			Applicable flow-through micro glass measurement tube		
<b>Glass measurement tube (Peltier temperature control)</b>						
PRG-100-EPT						
 <p>Available tube lengths: 100 mm</p> <p>Luer connection: No</p> <p>Flow-through: Yes</p> <p>Required sample volume<sup>1)</sup>: 8 ml/100 mm</p>	<p><b>Abbreviation:</b> PRG/ P/Polarimeter R/Tube G/Glass</p> <p><b>EPT/Peltier temperature control</b> (with two filling openings)</p>		Recommended glass measurement tube			

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

<sup>2)</sup>Temperature control is possible on request.

## POLARIMETER QUARTZ CONTROL PLATES

APPLICABLE FOR POLARIMETER					
<b>Quartz control plates</b> 	<b>P8000</b> <b>P8100</b> Without temperature control	<b>P8000-P</b> <b>P8100-P</b> Temperature control with Peltier technology	<b>P8000-T</b> <b>P8100-T</b> Temperature control circulating thermostat/temperature-controlled measurement tubes recommended	<b>P3000</b> Without temperature control <sup>1)</sup>	<b>P1000-LED</b> Without temperature control

## Polarimeter Quartz control plate PQP models

<b>PQP+17</b> Angle of rotation: $+17^\circ (\pm 1^\circ)$ , $+50^\circ \text{Z} (\pm 1^\circ \text{Z})$	Premium quartz control plate suitable for the whole product range, Accuracy: $\pm 0.001^\circ$ , With PTB-traceable factory certificate, Valid for PTB certificate, issuing of certificate on request, Wavelength: 589 nm, Temperature: 20 °C, Housing: Stainless steel
<b>PQP+34</b> Angle of rotation: $+34^\circ (\pm 1^\circ)$ , $+99^\circ \text{Z} (\pm 1^\circ \text{Z})$	
<b>PQP-17</b> Angle of rotation: $-17^\circ (\pm 1^\circ)$ , $-50^\circ \text{Z} (\pm 1^\circ \text{Z})$	
<b>PQP-34</b> Angle of rotation: $-34^\circ (\pm 1^\circ)$ , $-99^\circ \text{Z} (\pm 1^\circ \text{Z})$	

## Polarimeter Quartz control plate PQE models

<b>PQE+17</b> Angle of rotation: $+17^\circ (\pm 1^\circ)$ , $+50^\circ \text{Z} (\pm 1^\circ \text{Z})$	Standard quartz control plate suitable for the whole product range, Accuracy: $\pm 0.005^\circ$ , With PTB-traceable factory certificate, Not valid for PTB certificate, Wavelength: 589 nm, Temperature: 20 °C, Housing: Stainless steel
<b>PQE+34</b> Angle of rotation: $+34^\circ (\pm 1^\circ)$ , $+99^\circ \text{Z} (\pm 1^\circ \text{Z})$	
<b>PQE-17</b> Angle of rotation: $-17^\circ (\pm 1^\circ)$ , $-50^\circ \text{Z} (\pm 1^\circ \text{Z})$	
<b>PQE-34</b> Angle of rotation: $-34^\circ (\pm 1^\circ)$ , $-99^\circ \text{Z} (\pm 1^\circ \text{Z})$	

<sup>1)</sup>Temperature control is possible on request.



A.KRÜSS Optronic Headquarters in Hamburg



A.KRÜSS Optronic is a leading manufacturer of high-precision measuring devices and analytical instruments. The family enterprise founded in 1796 offers an extensive range of products and customised solutions for quality assurance in the pharmaceutical, chemical, petrochemical, food and beverage industry as well as for research and science.

Whether it is a refractometer, polarimeter, density meter, gas analyser, flame photometer, melting point meter or microscope – our instruments meet the highest requirements in terms of speed, accuracy and reliability. Thanks to our strong R&D capacities, we are a driving force in the technology market setting the standards for functional scope and user-friendliness. A dense network of sales partners and certified service partners allows us to provide individual consultation as well as optimised service and support for our customers around the globe.