

Process photometer in the brewing industry

Main catalogue

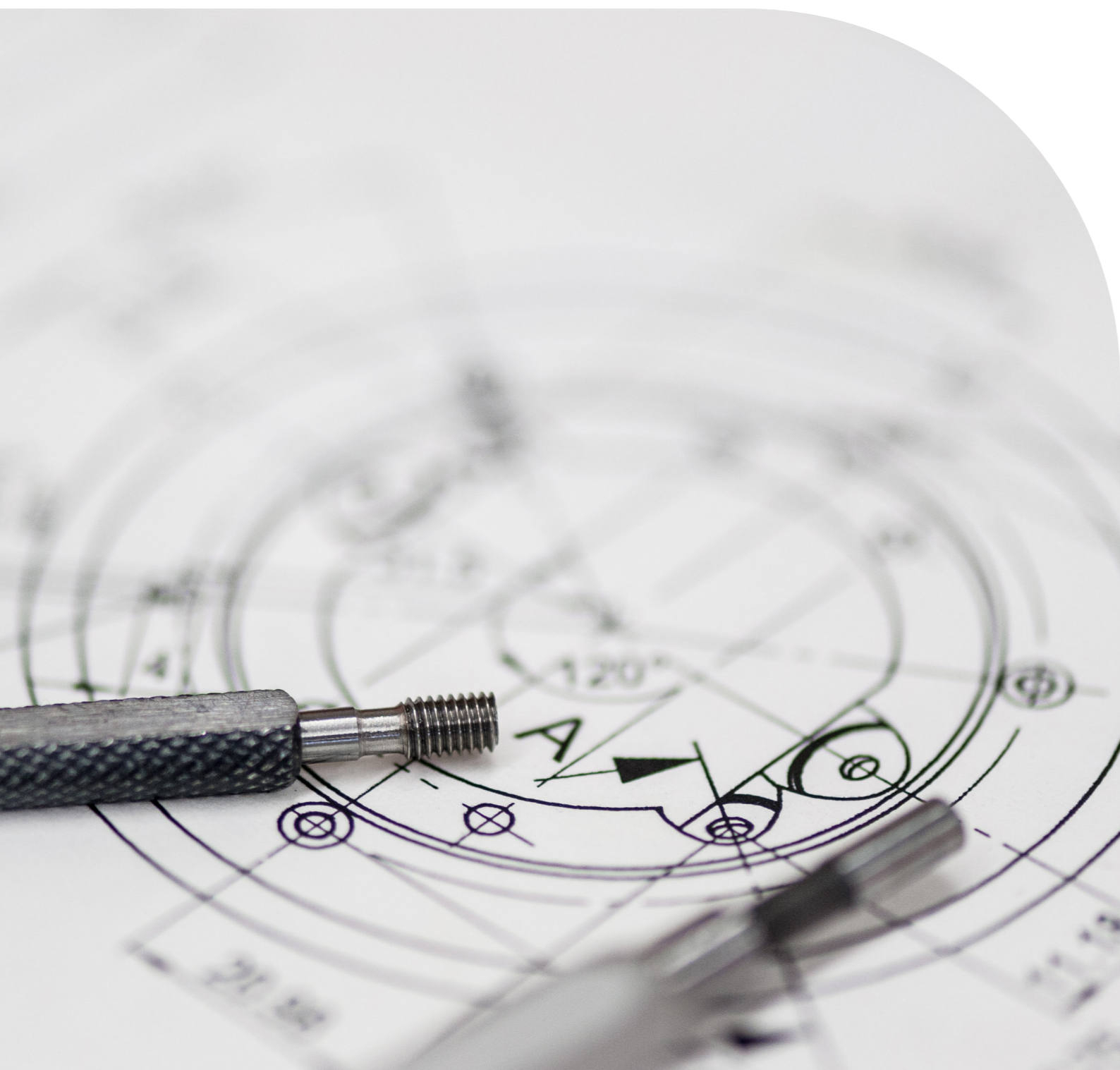


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Swiss Quality

Precise and high quality. Since 1946.



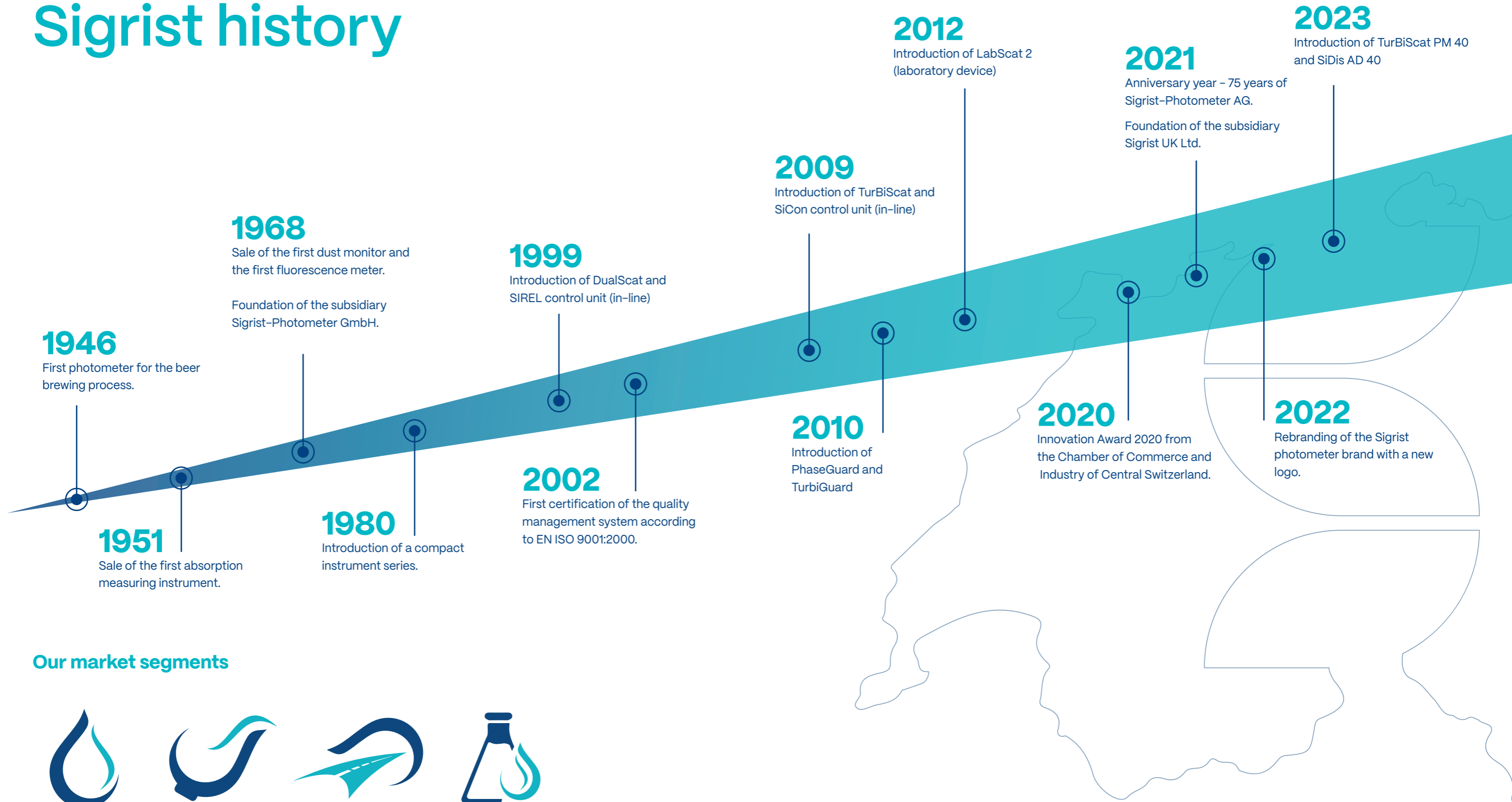
Tradition and innovation combined

The **Sigrist-Photometer AG** based in Ennetbürgen, Switzerland, has been developing, producing and distributing high-quality optical measuring instruments for use in water treatment, the food industry, industrial processes, transport and the environment since 1946. We are one of the technology and quality leaders and sell our products in over 80 countries. With great commitment, our 85 employees contribute to the sustainably positive development of the company and the appreciative corporate culture.

The large network of sales and service partners ensures competent advice around the world and supports customers in the practical use and service of all Sigrist products.

swiss  made
since 1946

Excerpt from the Sigrist history



Our market segments



Water



Beverages and Food



Transport and Environment



Industrial Processes

Turbidity measurement in the brewing industry

Sigrist. Your competent partner.

Turbidity measurement in the brewing industry, especially filtration control in the brewing process, is firmly associated with the name Sigrist. Sigrist offers a complete range of optical measuring devices that cover the most important applications in the brewery – from the brewhouse to the laboratory.

Numerous useful innovations originate from Sigrist: These include the introduction of LED technology, which no longer requires regular lamp changes and is extremely energy efficient, the increase in the significance of turbidity measurement through the introduction of dual-angle measurement, the quick and easy checking of devices via a solids reference, automated turbidity measurement in the laboratory at defined temperatures or the convenient operation of control devices via a color touchscreen, to name just a few examples.

In addition to their recognised quality, Sigrist process photometers are characterised by low overall costs (total cost of ownership). The secret of the high quality standard lies in the "Swissness": The devices are developed and manufactured in Switzerland and individually tested before despatch in accordance with the strict quality standards of ISO 9000:2008, ISO14001 and ISO 45001.

Sigrist guarantees its appliances for 24 months from installation at no extra charge.

Anyone who chooses Sigrist products attaches particular importance to quality, high added value, sustainability and low energy consumption.



Sigrist photometers in the brewing industry

Sigrist photometers in water treatment

Water is an important resource, especially for beer brewing! With our process photometers, we monitor that clean and high-quality brewing water is used. Sigrist offers a complete portfolio of photometers for water monitoring.

Sigrist photometers in the brewing process

What originally began with the control of filtration has long since become a systematic programme that includes all optical process controls in the brewery – from the brewhouse to the laboratory. With Sigrist-Photometer AG the customer has a competent partner for all measurement tasks.

The photometers are used for various tasks:

- For turbidity measurement of wort, yeast and beer
- For phase detection between different media based on turbidity or color measurement
- For color measurement in beer

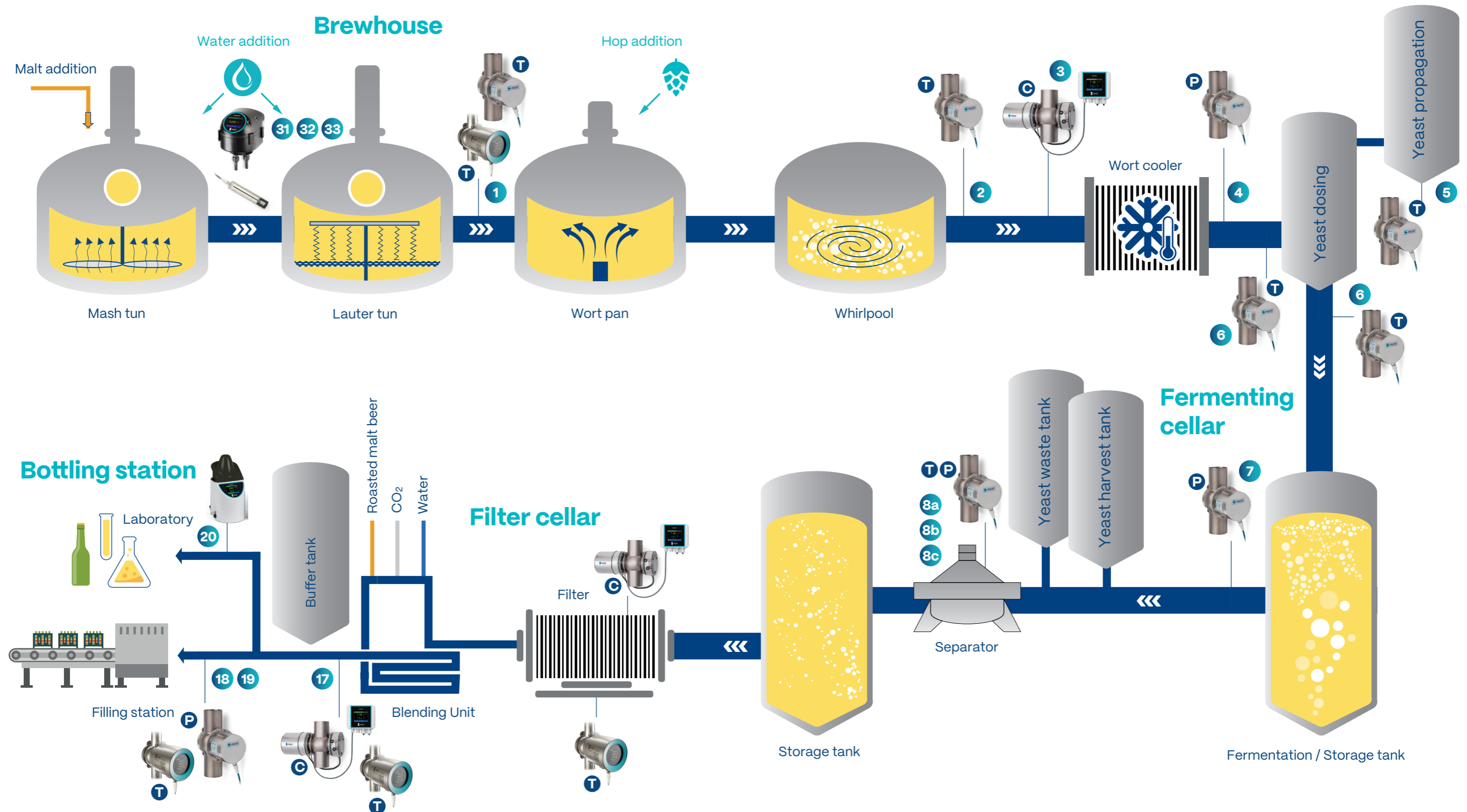
	Turbidity measurement	Phase monitoring		Color measurement
		Turbidity	Color	
Process	TurBiScat PM 40 TurbiGuard	PhaseGuard T PhaseGuard HT	PhaseGuard C	ColorPlus 2 TurBiScat PM 40
Laboratory	LabScat 2			

The diagram on the following double page gives an overview of the individual applications of Sigrist devices in the brewery.



Brewing process

What originally began with the control of filtration has long since become a systematic programme covering all optical process controls in the brewery – from the brewhouse to the laboratory. With Sigris, the customer has a competent partner for all optical measurement tasks. The following diagram provides an overview of the individual applications of Sigris devices in the brewery:



T Turbidity P Phase detection C Color

Overview by application



	1	2	3	4	5	6	7	8a	8b	8c	9	10	11	12	13	14	15	16	17	18	19	20	31	32	33	
Products	Turbidity after lauter tun	Turbidity after whirlpool	Color (EBC) of the hot wort before cooler	Phase separation water/wort	Yeast propagation/yeast increase	Yeast dosing (difference value)	Phase separation yeast/beer	Turbidity at the separator (inlet)	Turbidity at the separator (outlet)	Turbidity at the separator (bypass)	Turbidity for KG dosing	Turbidity to KG - beer filtration monitoring	Color (EBC) after beer filtration	Turbidity for KG-free filtration (monitoring of individual filter blocks)	Turbidity for KG-free filtration (manifold monitoring)	Turbidity for PVPPP dosing	Turbidity after PVPPP filtration (filter monitoring)	Turbidity after the sheet filter	Color (EBC) of beer at the blending system (roasted malt dosing)	Phase separation beer/water	Turbidity and color before filler	Turbidity in the brewery laboratory	Turbidity in water	pH value, conductivity, ORP, oxygen	Disinfectant residues (chlorine, ClO2, O3)	
LabScat 2																										
TurBiScat PM 40 - 3010	•											•	•	•			•	•								
TurBiScat PM 40 - 3C10												•	•	•			•	•	•		•					
TurbiGuard	•	•			•	•		•	•	•	•					•										
PhaseGuard T								•	•	•	•															
PhaseGuard HT							•	•																		
PhaseGuard C				•																•						
ColorPlus 2			•										•						•							
See water portfolio																							•	•	•	

KG Diatomaceous earth

Process steps

Sigrist process photometers in the brewing process

The use of process photometers can replace or supplement time-consuming, expensive laboratory analyses. The measurement results are available promptly and can be used for production control.

Beer quality can be guaranteed, production time shortened and product output improved with the same amount of raw materials. This also reduces energy costs and improves sustainability.

A – Applications in the brewhouse

Monitoring wort turbidity at the lauter tun and mash filter

As a result of the raw materials available, it is important to obtain information about the wort quality at an early stage. The use of a high-resolution turbidity measuring device, such as the TurBiScat PM 40, with forward scattered light measurement 25° or also with dual-angle measurement 90° and 25° (recommendation EBC/MEBAK) is expedient for this purpose. By recognising increased measured values in good time, it is possible to react accordingly during mashing. A breakthrough of the filter cake or the beginning clogging of the filter cake is recognised and corrective measures can be taken immediately. In the subsequent brewing process, measures can be taken in advance to optimise filtration of the problem brews and thus ensure the quality of the beer. The simple monitoring of turbidity measurement by absorption with the TurbiGuard is available as a cost-effective alternative.

Monitoring the whirlpool

The outlet of a whirlpool should be monitored with a turbidity meter. Hot trub has a detrimental effect on the chemical-physical stability of the beer. The TurbiGuard is used for this measurement. Monitoring can improve the quality of the beer, reduce the wort retention time in the whirlpool and possibly eliminate a fermentation cycle.

Phase separation water/wort

The sharply demarcated transition from wort to water when pushing out the lines with water can be recognised in seconds with a PhaseGuard C. This means that no water gets into the wort and the waste water is not contaminated with wort. Controlled, optimised phase separation ensures product quality, speeds up product changeovers and reduces waste water costs.

Color measurement before the wort cooler

The color of the wort is influenced by various factors during the brewing process (raw materials, brewing time, etc.) and is therefore subject to certain fluctuations. The wort color has a significant influence on the color of the subsequent beer. The ideal point to measure the color early in the process is between the whirlpool and the wort cooler.

B – Applications in the fermentation cellar

Yeast management – yeast dosage

This application can be realised cost-effectively using two simple TurbiGuard absorption turbidity sensors. The first sensor measures the turbidity of the incoming wort, the second sensor measures the total turbidity of wort and yeast after yeast dosing. By calculating the difference between the two signals, the yeast concentration can be indicated directly in millions of yeast cells per millilitre.

Yeast management – yeast propagation

The propagation of yeast cells is nowadays one of the most important processes within a brewery, as beer quality is heavily dependent on good yeast management. Regular determination of the yeast cell count is time-consuming, so the system is not necessarily operated in the optimum standard mode.

In this application with a TurbiGuard, yeast growth can be determined during yeast propagation in the process. Using in-line turbidity measurement, the user has an overview of the current yeast cell count (HZZ) – in real time without laboratory testing, loss of time, or the need for personnel. The optimum time for preparing the wort can therefore be adjusted.

The process becomes much more transparent and offers opportunities for optimisation and cost reductions.

Yeast/beer phase separation (yeast harvesting)

Optical monitoring and control of the phase transition from yeast to beer helps avoid product losses. The PhaseGuard HT turbidity measuring device, with short path length and extended sensor head, reliably measures the phase transition.

C – Applications in the filter cellar

Turbidity in unfiltered water

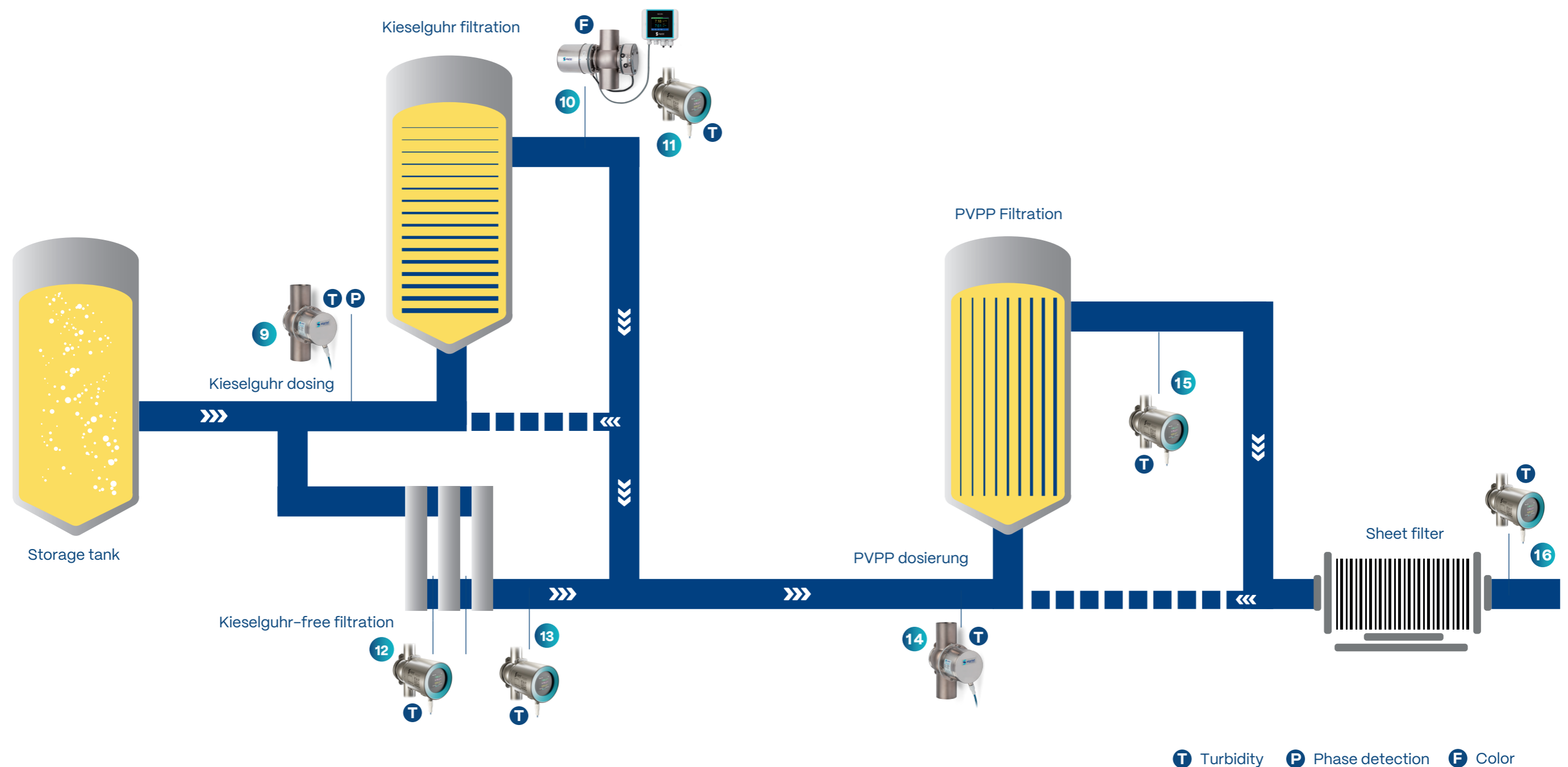
By measuring the turbidity value in the unfiltered water, the consumption of filter aids can be optimised, costs reduced and product quality assured. The measurement is carried out either via the TurBiScat PM 40 or via the TurbiGuard (calibrated) or PhaseGuard T (as an absorption value).

Filtration control and monitoring

The measurement of colloidal turbidity via 90° scattered light as a measure of the fineness of the beer's lustre is an important optical quality feature. By measuring the forward scattered light at 25°, diatomaceous earth particles and yeast cells can also be selectively detected. This enables optimised control of diatomaceous earth pre-coating and filter breakthroughs.

The 25° angle was found to be the optimum angle for measuring these particles with sufficient sensitivity. The world's leading breweries have adopted the proven combination of 90/25° angle measurement. Of course, the TurBiScat PM 40 delivers these measured values with color compensation.

Sigrist photometers are also used for turbidity measurement in other filters to monitor the quality of beer filtration or when measuring in the inflow to recognise and prevent filter clogging.



Color measurement

The color of some types of beer is adjusted either with malt extract, roasted malt beer or by adding caramel. By continuously measuring the color, the dosage in the blending system can be precisely controlled and monitored. The ColorPlus 2 in-line color measuring device is used for this purpose. The continuous measurement of the color before filling provides valuable quality assurance. The measurement can be carried out either with a ColorPlus 2 or with the optionally available color measurement integrated in the TurBiScat PM 40. On request, the measurement is carried out turbidity-compensated in accordance with the EBC standard at 430 nm and correlates with the laboratory values.

D – Applications in bottling

Phase separation beer/water

Various beers are fed from the storage tanks in the bottling plants. During product changeover, several hectolitres of product are lost per week due to the intermediate rinsing with water during changeover. The use of a PhaseGuard C on an optical basis reduces beer losses and increases product safety.

E – General applications

Separators

Separators are used at various locations in the brewery: In the brewhouse after the whirlpool, in the fermentation cellar for yeast treatment and when separating the beer/yeast mixture and very often in the filter cellar. The PhaseGuard T or TurbiGuard can be used in a variety of ways here. The inlet turbidity is monitored in the inlet and an alarm is signalled if the turbidity is too high. In the outlet, the turbidity of the beer is monitored in order to control the discharge of the separator chamber. In the bypass, the dosed addition of unfiltered beer is controlled in order to adjust the turbidity of a cloudy beer (Zwickel-beer/Kellerbier, wheat beer).

In production operation, the sensor is used to monitor the correct and regular emptying of the trub chamber in order to achieve optimum unfiltered quality and reduce downtimes.

Sigrist laboratory photometer in the brewery

Process control and quality assurance

The LabScat 2 is the ideal addition for quality assurance throughout the entire process. Measurements can be taken both in glass cuvettes and directly in bottles. As the MEBAK/EBC-compliant LabScat 2 is the market leader in this field, an optimum comparison can be generated for ring analyses. By measuring two angles and analysing the ratio of the two measurement results, more information about the causes of turbidity can be determined during the final inspection of the beer.

Forcing test

To determine the shelf life, the beer is heated and cooled again in alternating cycles. The turbidity curve is measured directly in the bottle and the shelf life of the beer is determined.



Applications in the brewing process

Sigrist. Your competent partner.



TurBiScat PM 40



Applications

- 1 – Turbidity after the lauter tun
- 10 – Color after Kieselguhr filter
- 11 – Turbidity for Kieselguhr beer filtration monitoring
- 12 – Turbidity at the Kieselguhr-free filter
- 13 – Turbidity for Kieselguhr-free filtration (manifold monitoring)
- 15 – Turbidity after PVPP filtration (filter monitoring)
- 16 – Turbidity after layer filter
- 17 – Beer color after blending unit
- 18 – Turbidity and color in the bottling plant

The TurBiScat PM 40 measures turbidity in liquids, and optionally also the (beer) color, in compliance with MEBAK/EBC/ASBC. This makes the TurBiScat an in-line color measuring device as well. The combination of Hastelloy and sapphire in a seal-less design allows it to be used in practically all process applications. The turbidity measurement is color-compensated. It measures scattered light at an angle of 90° and 25°. With this dual-angle measurement, the device can be used in a variety of ways; in the brewery from the brewhouse to the filter cellar to the pressure tank and bottling.



Innovations with real benefits



Highest precision, large measuring range, reliability

- One device type for a wide range of applications (90° and 25° degree measurement, optional color measurement)
- Precise measurement from the smallest to the largest turbidity values
- Proven measuring system
- MEBAK/EBC/ASBC-compliant



Convincing design

- Stainless steel and sapphire in a seal-less design with LED technology
- Easy installation in VARINLINE® housing
- Operates without an additional control unit
- Permanent humidity and temperature monitoring
- Solid reference, exact verification and recalibration without formazine



Measured values displayed directly at the measuring point

- Simultaneous display of up to 4 measured values or curves over the last 7 days (1 day, 1 hour)
- User-friendly navigation via touchscreen
- Modern configuration and measured value display via smartphone



System integration and integrated security

- Wide range of data interfaces
- Permanent accessibility to measured values and status information
- Integrated limit value monitoring
- Enhanced data security
- Secure WLAN connection
- Secure access to smartphone via web browser
- Very low maintenance
- Low TCO



- 1
- 2
- 3
- 4
- 5
- 6

Turbidity and color

Communication S1xx

IO: 0/4 ... 20 mA
Modbus RTU IO

Profibus DP PB

Profinet IO PN

PoE – Power over Ethernet
Web-Server & Modbus-TCP PE

Photometer Product variants and sets							
		TurBiScat PM 40-S1xx + control unit 10 EBC + blanking plate		TurBiScat PM 40-S1xx with adaptation of control unit to other TurBiScat + blanking plate		TurBiScat PM 40-S1xx + blanking plate	
		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)	
IO: 0/4 ... 20 mA Modbus RTU	IO	122562	122986	122669	122988	122442	122984
Profibus DP	PB	122663	Bus cable provided by the customer	122671	Bus cable provided by the customer	122632	Bus cable provided by the customer
Profinet IO	PN	122665	Bus cable provided by the customer	122673	Bus cable provided by the customer	122633	Bus cable provided by the customer
PoE – Power over Ethernet Web-Server & Modbus-TCP	PE	122667	Bus cable provided by the customer	122675	Bus cable provided by the customer	122631	Bus cable provided by the customer

Supplied without VARINLINE® installation housing, can be ordered separately.
ProfiNet versions from 2024

Turbidity

Communication S1xx

IO: 0/4 ... 20 mA
Modbus RTU IO

Profibus DP PB

Profinet IO PN

PoE – Power over Ethernet
Web-Server & Modbus-TCP PE

		TurBiScat PM 40-S1xx + control unit 10 EBC + blanking plate		TurBiScat PM 40-S1xx with adaptation of control unit to other TurBiScat + blanking plate		TurBiScat PM 40-S1xx + blanking plate	
		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)	
IO: 0/4 ... 20 mA Modbus RTU	IO	122662	122985	122670	122987	122441	122598
Profibus DP	PB	122664	Bus cable provided by the customer	122672	Bus cable provided by the customer	122629	Bus cable provided by the customer
Profinet IO	PN	122666	Bus cable provided by the customer	122674	Bus cable provided by the customer	122630	Bus cable provided by the customer
PoE – Power over Ethernet Web-Server & Modbus-TCP	PE	122668	Bus cable provided by the customer	122676	Bus cable provided by the customer	122628	Bus cable provided by the customer

Supplied without VARINLINE® installation housing, can be ordered separately.
ProfiNet versions from 2024

Main technical details

Measuring principle	90° / 25° scattered light (Color: absorption)
Wavelength	650 nm (color: 430 nm)
Measuring range	0 ... 1000 EBC 0 ... 4000 NTU (color 0 ... 50 EBC)
Resolution	0.001 EBC
Measuring units	EBC, NTU
Recalibration	Solid reference
Sample temperature	0 ... +100 °C / +32 ... +104 °F
Ambient humidity	0 ... 100 % rel. humidity
Material Housing	Stainless steel 1,4301
Cleaning	CIP / SIP compatible up to +120 °C @ 2 h
Power	4 W
Interfaces	4x 0/4 ... 20 mA, Profibus DP, Profinet IO, PoE, Web-Server, Modbus-TCP digital I/O, Modbus RTU
Protection class	IP66
Conformities	CE UK

Full details and technical data:



TurBiScat PM 40-S0SC and SiDis AD40-S1xx display Product variants and sets



- 1
- 2
- 3
- 4
- 5
- 6

Photometer Product variants and sets						
	1	2	3	4	5	6
	TurBiScat PM 40-S0SC with control unit 10 EBC + SiDis AD 40-S1xx + connection cable photometer to SiDis 8-pin xx m (plug on both sides) + blanking plate		TurBiScat PM 40-S0SC with adaptation of control unit to another TurBiScat + SiDis AD 40-S1xx + Connection cable photometer to SiDis 8-pin xx m (plug on both sides) + blanking plate		TurBiScat PM 40-S0xx + SiDis AD 40-S1xx + Connection cable photometer to SiDis 8-pin xx m (plug on both sides) + blanking plate	
		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)
	122685 122686	123011 123012	123419 123420	123427 123428	122997 122998	123007 123008
	122687 122688	Bus cable provided by the customer	123421 123422	Bus cable provided by the customer	122999 123000	Bus cable provided by the customer
	122689 122690	Bus cable provided by the customer	123474 123475	Bus cable provided by the customer	123001 123002	Bus cable provided by the customer
	122691 122692	Bus cable provided by the customer	123423 123424	Bus cable provided by the customer	123003 123004	Bus cable provided by the customer

Sigrist connection cable photometer to SiDis 8-pin 5 m with 2 plugs.
Sigrist connection cable photometer to SiDis 8-pin 10 m with 2 plugs.

	1	2	3	4	5	6
	TurBiScat PM 40-S0SC with control unit 10 EBC + SiDis AD 40-S1xx + connection cable photometer to SiDis 8-pin xx m (plug on both sides) + blanking plate		TurBiScat PM 40-S0SC with adaptation of control unit to another TurBiScat + SiDis AD 40-S1xx + Connection cable photometer to SiDis 8-pin xx m (plug on both sides) + blanking plate		TurBiScat PM 40-S0xx + SiDis AD 40-S1xx + Connection cable photometer to SiDis 8-pin xx m (plug on both sides) + blanking plate	
		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)		Incl. device cable (10 m, 8-pin, 1 plug)
	122677 122678	123009 123010	123413 123414	123425 123426	122989 122990	123005 123006
	122679 122680	Bus cable provided by the customer	123415 123416	Bus cable provided by the customer	122991 122992	Bus cable provided by the customer
	122681 122682	Bus cable provided by the customer	123470 123473	Bus cable provided by the customer	122993 122994	Bus cable provided by the customer
	122683 122684	Bus cable provided by the customer	123417 123418	Bus cable provided by the customer	122995 122996	Bus cable provided by the customer

Sigrist connection cable photometer to SiDis 8-pin 5 m with 2 plugs.
Sigrist connection cable photometer to SiDis 8-pin 10 m with 2 plugs.

Turbidity and color

Communication	S1xx
IO: 0/4 ... 20 mA Modbus RTU	IO
Profibus DP	PB
Profinet IO	PN
PoE – Power over Ethernet Web-Server & Modbus-TCP	PE

Turbidity

Communication	S1xx
IO: 0/4 ... 20 mA Modbus RTU	IO
Profibus DP	PB
Profinet IO	PN
PoE – Power over Ethernet Web-Server & Modbus-TCP	PE

Main technical details

Measuring principle	90° / 25° scattered light (Color: absorption)
Wavelength	650 nm (color: 430 nm)
Measuring range	0 ... 1000 EBC 0 ... 4000 NTU (color 0 ... 50 EBC)
Resolution	0.001 EBC
Measuring units	EBC, NTU
Recalibration	Solid reference
Sample temperature	0 ... +100 °C / +32 ... +104 °F
Ambient humidity	0 ... 100 % rel. humidity
Housing Material	Stainless steel 1,4301
Cleaning	CIP / SIP compatible up to +120 °C @ 2 h
Power	4 W
Interfaces	4x 0/4 ... 20 mA, Profibus DP, Profinet IO, PoE, Web-Server, Modbus-TCP digital I/O, Modbus RTU
Protection class	IP66
Conformities	CE UK

Full details and technical data:



Supplied without VARINLINE® installation housing, can be ordered separately.
Profibus versions from Q2 2024; Profinet from mid-2024.



Turbidity and color

Communication

IO: 0/4 ... 20 mA

Modbus RTU

Profibus DP

Profinet IO

1

2

Photometer Product variants and sets	
TurBiScat PM 40-S0SC with control unit 10 EBC + SiCon + connecting cable photometer to SiCon (10 m, 8-pin, 1 plug) + blanking plate	TurBiScat PM 40-S0SC + SiCon + photometer connection cable to SiCon (10 m, 8-pin, 1 plug) + blanking plate
123130	123126
123435	123431
123436	123432
123131	123127

Supplied without VARINLINE® installation housing, can be ordered separately.

Turbidity

Communication

IO: 0/4 ... 20 mA

Modbus RTU

Profibus DP

Profinet IO

TurBiScat PM 40-S0SC with control unit 10 EBC + SiCon + connecting cable photometer to SiCon (10 m, 8-pin, 1 plug) + blanking plate	TurBiScat PM 40-S0SC + SiCon + photometer connection cable to SiCon (10 m, 8-pin, 1 plug) + blanking plate
123128	123124
123433	123429
123434	123430
123129	123125

Supplied without VARINLINE® installation housing, can be ordered separately.

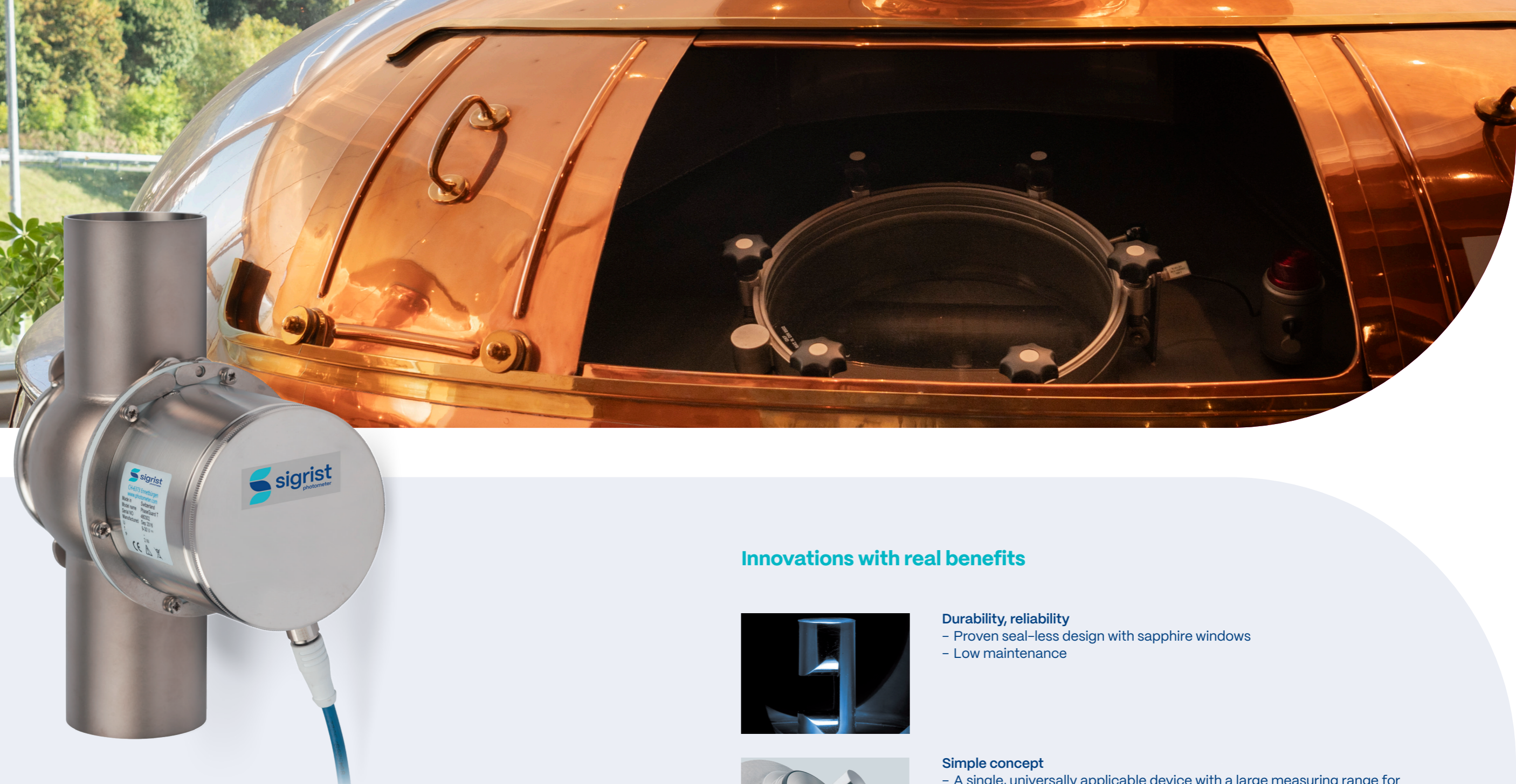
Main technical details

Measuring principle	90° / 25° scattered light (color: absorption)
Wavelength	650 nm (color: 430 nm)
Measuring range	0 ... 1000 EBC, 0 ... 4000 NTU (color 0 ... 50 EBC)
Resolution	0.001 EBC
Units, measuring units, Measured quantity:	EBC, NTU
Recalibration	Solid reference
Sample temperature	0 ... +100 °C / +32 ... +104 °F
Ambient humidity	0 ... 100 % rel. humidity
Housing Material	Stainless steel 1,4301
Cleaning	CIP / SIP compatible up to +120 °C @ 2 h
Power	4 W
Interfaces	4x 0/4 ... 20 mA, Profibus DP, Profinet IO, digital I/O, Modbus RTU
Protection class	IP66
Conformities	CE, UKCA

Full details and technical data:



TurbiGuard



Applications

- 1 – Turbidity after the lauter tun
- 2 – Turbidity after the whirlpool
- 5 – Yeast propagation, yeast dosing
- 8 – Turbidity at the separator
- 9 – Turbidity Kieselguhr dosing
- 14 – Turbidity for PVPP dosing

The TurbiGuard is used to measure medium to high turbidity. A single device with two measuring ranges covers the corresponding applications. The TurbiGuard is calibrated with formazine over the entire linearised measuring range. Simple configuration and communication via the serial interface and the device outputs guarantee ease of use and system integration. The optional SiCon control unit is used for more convenient installations.

Innovations with real benefits



Durability, reliability

- Proven seal-less design with sapphire windows
- Low maintenance



Simple concept

- A single, universally applicable device with a large measuring range for almost all applications
- Easy installation in a standard housing without tools
- Maximum flexibility in configuration and communication



Quality and cost optimised

- True calibration with formazine, linearised over the entire measuring range
- Periodic verification through zero adjustment recommended
- Use of proven optical components guarantees quality and reduces acquisition and maintenance costs
- Easy installation in VARIVENT® housing



Flexible configuration

- Simple configuration and communication via the built-in Ethernet interface using a web browser and the existing outputs
- Optional for more convenient installations: optional operating system SiCon with state-of-the-art touchscreen technology and color display



	①	②	③	④	⑤
	TurbiGuard			TurbiGuard + SiDis AD40	
	1x TurbiGuard for medium/high turbidity			1x TurbiGuard for medium/high turbidity	
Communication	with 1x blanking plate, with 1x device cable 20 m	without blanking plate, with 1x device cable 10 m	without blanking plate, without device cable	1 blanking plate, with 1x device cable 10 m + 1x connection cable 5 m	1 blanking plate, with 1x connection cable 5 m
IO: 0/4 ... 20 mA	123353	123352	118674		
IO: 0/4 ... 20 mA Modbus RTU				123371	
Modbus RTU	123355	123354	122715		
Profibus DP			122716		
Profinet IO			122717		
PoE – Power over Ethernet – Web-Server & Modbus-TCP					123373

Supplied without VARINLINE® installation housing, can be ordered separately.



	TurbiGuard with SiCon		
	1x TurbiGuard for medium/high turbidity + 1x SiCon		
Communication	1x blanking plate 1x device cable 10 m	without blanking plate 1x device cable 10 m	without blanking plate without cable
IO: 0/4 ... 20 mA	122722	122718	118674
Modbus RTU	122723	122719	122715
Profibus DP	122724	122720	122716
Profinet IO	122725	122721	122717

Supplied without VARINLINE® installation housing, can be ordered separately.

Main technical details

Measuring principle	absorption
Wavelength	880 nm
Measuring range	0 ... 100 / 0 ... 1000 EBC, 0 ... 400 / 0 ... 4000 NTU
Resolution	0.5% EBC / 2 NTU
Path length	10 mm
Sample temperature	0 ... +100 °C / +32 ... +104 °F
Ambient humidity	0 ... 100 % rel. humidity
Material Housing	Stainless steel 1.4301
Cleaning	CIP / SIP compatible up to +120 °C @ 2 h
Voltage	9 ... 30 VDC
Power	2 W (3 W with Profibus DP)
Outputs	1x 0/4 ... 20 mA, 2x opto-coupler
Optional interfaces	Profibus DP, Profinet IO, Modbus RTU
Installation	VARINLINE®, ≥ DN 40
Protection class	IP66
Conformities	CE UK

Full details and technical data:



PhaseGuard

- Applications**
- 4 - Phase separation water/wort
 - 7 - Phase separation yeast/beer
 - 8 - Turbidity on the separator
 - 9 - Turbidity diatomaceous earth dosage
 - 19 - Phase separation beer/water

Depending on the version, the PhaseGuard measure phase transitions for turbidity or color. Three models of the PhaseGuard cover the possible applications: Phase switch for turbidity (model T), for color (model C), for very high turbidities (model HT). The PhaseGuard is equipped with a universal measurement range of absorption percentages. Easy application and system integration are ensured by the simple communication via the serial interface and the device outputs.



Innovations with real benefits



Long service life, reliability

- Proven and tested seal-free design with sapphire windows
- Low maintenance



Simple concept

- 3 models cover applications: Phase switch for turbidity (model T), phase switch for color (model C), phase switch for very high turbidities, such as beer yeast, for example (model HT)
- Easy selection of the correct model thanks to fixed path lengths and suitable materials
- Easiest configuration and system integration



Optimised quality and costs

- optimised universal measurement range in absorption percentages
- periodic recalibration via a zero balance is recommended
- The use of tried and tested optical components ensures quality and reduces the costs of acquisition and servicing
- Easy installation in VARINLINE® housing



Flexible configuration

- Easy configuration and communication via the integrated USB interface with parameter file and the existing outputs
- Optional for more convenient installation: optional SiCon operating system with the latest touchscreen technology and color display



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Photometer Product variants and sets				
PhaseGuard T – Turbidity measurement for phase separation		PhaseGuard C – Color measurement for phase separation		
Communication	Without blanking plate, with 10 m cable	Without blanking plate, without cable	Without blanking plate, with 10 m cable	Without blanking plate, without cable
IO: 0/4 ... 20 mA	122752	118677	122749	118676
Modbus RTU	122753	122741	122750	122738
Profibus DP	122754	122742	122751	122739

Delivery does not include VARINLINE® fitting housing, can be ordered separately.

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PhaseGuard HT – Turbidity measurement for phase separation for pipes ≥ DN65		PhaseGuard HT – Turbidity measurement for phase separation for pipes < DN65		PhaseGuard T with Hastelloy sensor head
Communication	Without blanking plate, with 10 m cable	Without blanking plate, without cable	Without blanking plate, with 10 m cable	Without blanking plate, without cable
IO: 0/4 ... 20 mA	122755	118678	122758	119675
Modbus RTU	122756	122744	122759	122747
Profibus DP	122757	122745	122760	122748

Delivery does not include VARINLINE® fitting housing, can be ordered separately.

Main technical details

Measuring principle	absorption
Wave length	880 nm (turbidity); 430 nm (color)
Measuring range	0 ... 100 % absorption
Resolution	0.5% absorption
Path length	10 mm (models T and C), 5 mm (model HT)
Sample temperature	0 ... +100 °C / +32 ... +104 °F
Ambient humidity	0 ... 100 % rel. hum.
Housing material	stainless steel 1,4301
Cleaning	CIP / SIP compatible up to +120 °C @ 2 h
Voltage	9 ... 30 VDC
Power	2 W (3 W with Profibus DP)
Outputs	1x 0/4 ... 20 mA, 2x opto-coupler
Optional interfaces	Profibus DP, Modbus RTU
Installation	VARINLINE®, ≥ DN 40
Protection class	IP66
Conformities	CE UK



Full details and technical data:

Yeast management

The quality and vitality of the starter yeast has a great effect on the course of the fermentation process. The beer quality is significantly dependent on good yeast management. The term yeast management includes all processes and actions related to handling the industrial yeast.

Yeast growth in yeast increase/yeast propagation (TurbiGuard)

Control of yeast propagation with the help of TurbiGuard replaces the manual yeast cell count determination in the laboratory. This way, the optimal time for pitching yeast to the wort can be identified and optimal fermentation processes ensured. This is the basis for best beer quality. Better fermentation processes mean shorter fermentation times with significant cost savings. In addition, for brewing breaks the yeast propagation can be set to pause mode at the right time.

Pitching control (2x TurbiGuard, output in million HZ/ml)

Precise yeast dosage for pitching yeast to the wort results in the main fermentation process proceeding in optimal time (7 days). If too little yeast is pitched, the fermentation may proceed slower. This would negatively impact the subsequent beer quality and capacity. The economic benefit is optimised efficiency of the fermentation cellar. If a main fermentation takes one additional day it will require higher cooling energy and tank volumes while lowering the beer output.

Yeast crop (PhaseGuard HT)

Both in the single tank process and with separate fermentation and storage tanks, the yeast must be removed from the tank between the main fermentation and the storage. This is known as yeast crop. Beer waste is one of the major problems in every process. Avoiding these losses can help the brewery optimise its capacitance and save money. The quick and precise detection of the transition between the yeast and the beer can reduce the loss of beer.



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System for controlling the yeast pitching (2x TurbiGuard, SiCon M)

2x TurbiGuard + 1x SiCon M

Communication

IO: 0/4 ... 20 mA

Modbus RTU

Profibus DP

Profinet IO

	+ 2 blanking plates + 2x device cables 10 m	without blanking plate + 2x device cables 10 m	without blanking plate Without cable
IO: 0/4 ... 20 mA	122734	122730	119427
Modbus RTU	122735	122731	122727
Profibus DP	122736	122732	122728
Profinet IO	122737	122733	122729



ColorPlus 2

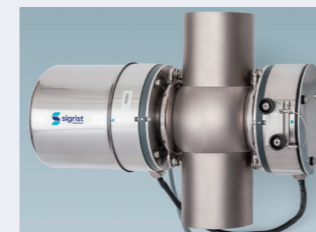


Applications

- 3 - EBC color of the hot wort before cooler
- 10 - Color after beer filtration
- 17 - Beer color after blending unit

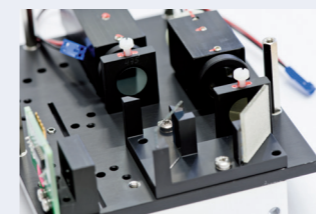
The ColorPlus 2 is an absorption measuring instrument for color determination in the brewing process according to the EBC methods. The use of energy-saving LEDs make the photometers a durable and reliable source of light. Installation into a standard - VARINLINE® - housing. The required path length is selected using different OPL inserts. Control is via the intelligent SiCon control unit through the integrated touchscreen. The monitor displays a choice of values, graphs, status and alarm notifications. A variety of analogue and digital interfaces allow easy system integration and control.

Innovations with real benefits



Compact design/large measuring range

- Hygienic design. Double-sided mounting in standard VARINLINE® housing:
- Various different optical elements (pathlength shorteners) allow the coverage of even very large measuring ranges (max. 0-200 EBC color)
- Limited power consumption thanks to LED technology



Turbidity compensation

- Optional second wavelength at 700 nm for turbidity compensation



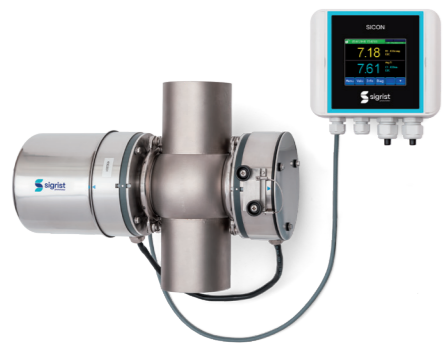
Control unit

- For device evaluation simple evaluation units based on optical reference filters can be used:
 - One evaluation unit is included in the basic equipment and allows the evaluation of high absorption
 - Additional control units are available for the evaluation of different measuring points



Maintenance-friendliness

- No purge air necessary
- Easy adjustment of the zero point
- Hygienic cleaning (CIP-/SIP compatible)
- Seal replacement by own staff
- No light source replacement thanks to LED technology



Length (OPL-Bit 1 + OPL-Bit 2)

- 16 mm
- 30 mm
- 44 mm
- 59 mm
- 66 mm
- 74 mm
- 80 mm
- 95 mm
- 116 mm

Photometer Product variants and sets				
	1	2	3	4
	430 nm Quartz window	430 nm Sapphire window	430/700 nm Quartz window	430/700 nm Sapphire window
16 mm	123374	123383	123392	123401
30 mm	123375	123384	123393	123402
44 mm	123376	123385	123394	123403
59 mm	123377	123386	123395	123404
66 mm	123378	123387	123396	123405
74 mm	123379	123388	123397	123406
80 mm	123380	123389	123398	123407
95 mm	123381	123390	123399	123408
116 mm	123382	123391	123400	123409

Delivered without Varinline®-housing.
The application requires an additional SiCon set with communication interference. See separate tables on pages 66/67.

Main technical details

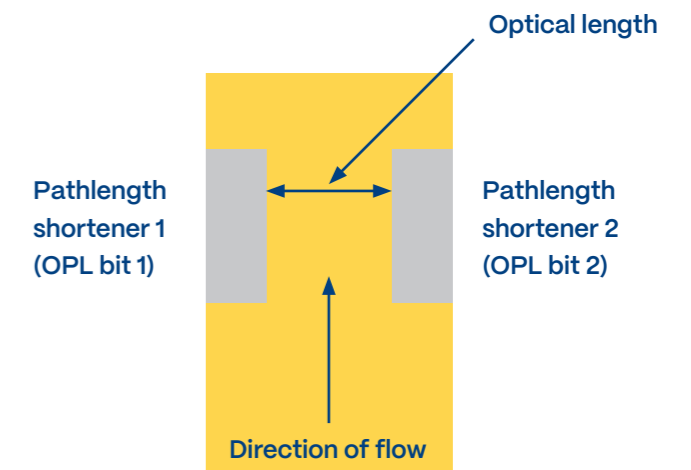
Measuring principle	absorption
Wavelength	430 nm (optional 2nd LED: 700 nm)
Measuring range	0 ... 10/0 ... 200 EBC color
Resolution	≥ 0.003 EBC Color
Measuring units	EBC, SRM
Recalibration	solid reference
Sample temperature	0 ... +110 °C
Ambient humidity	0 ... 100 % rel. humidity
Material Housing	Stainless steel 1.4301
Cleaning	CIP / SIP compatible up to +120 °C @ 2 h
Power	4 W (with SiCon control unit)
Protection class	IP65
Conformities	CE UK



Full details and technical data:

Maximum color value in turbidity-free media (nominal values)

ID (DIN 11 850)	1	2	3	4	5	6	7	8	9
Pathlength shorteners length (sum)	16 mm	30 mm	44 mm	59 mm	66 mm	74 mm	80 mm	95 mm	116 mm
Pathlength shorteners	2x 8 mm	8 mm + 22 mm	2x 22 mm	22 mm + 37 mm	58 mm + 8 mm	2x 37 mm	22 mm + 58 mm	37 mm + 58 mm	2x 58 mm
DN 40 (ID 38 mm)	34 EBC	93 EBC							
Optical length	22 mm	8 mm							
DN 50 (ID 50 mm)	22 EBC	37 EBC	125 EBC						
Optical length	34 mm	20 mm	6 mm						
DN 65 (ID 66 mm)	15 EBC	20 EBC	34 EBC	107 EBC					
Optical length	50 mm	36 mm	22 mm	7 mm					
DN 80 (ID 81 mm)	11 EBC	14 EBC	20 EBC	34 EBC	50 EBC	107 EBC			
Optical length	65 mm	51 mm	37 mm	22 mm	15 mm	7 mm			
DN 100 (ID 100 mm)	9 EBC	10 EBC	13 EBC	18 EBC	22 EBC	28 EBC	37 EBC	150 EBC	
Optical length	84 mm	70 mm	56 mm	41 mm	34 mm	26 mm	20 mm	5 mm	
DN 125 (ID 125 mm)	109 EBC	95 EBC	9 EBC	11 EBC	12 EBC	14 EBC	16 EBC	25 EBC	83 EBC
Optical length	6 mm	7 mm	81 mm	66 mm	59 mm	51 mm	45 mm	30 mm	9 mm



LabScat 2



Applications

- 20 – Laboratory turbidity measurement in bottles or cuvettes
- Inspection of the online measuring devices
- Forcing bottle test

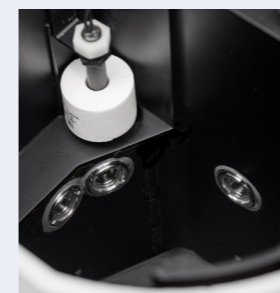
The LabScat measures the turbidity in liquids. Transmitted light and scattered light are measured with a single light source at 90° and 25°. This allowed color-compensated dual-angle measurement according to MEBAK/EBC methods in both bottles and cuvettes. Bottle rotation and water quench minimize interferences, the water quench quality is monitored. Control via an integrated colored touchscreen. Routine maintenance activities do not require tools. Recalibration is simply performed with an included solid reference. Sample identification and administration of the measured values data is via digital interfaces (USB, Ethernet with web browser).

Innovations with real benefits



Compact design

- All relevant parts are accessible without tools.
- A valve unit allows complete draining of the water quench.
- Limited space requirement on the laboratory table.
- All standard bottles can be measured.



Compelling measuring technology

- High-quality optical components and tried and tested dual beam measuring method allow extremely deep inherent brightening effect.
- Stable measurement from a few mEBC up to 500 EBC (e.g. for dark wheat beer) also at 0 °C.
- Window residues and color effects from bottles and medium are automatically compensated.
- Interference from bottles are reduced, resulting in more precise measurements.



Intuitive control

- Integrated control unit with touchscreen and color display:
- Simple and clear control.
- Extensive communication options incl. integrated web browser.
- Access code protection prevents unauthorised access.



User-friendly maintenance

- Water quality monitoring, warning when required
- Solid reference for quality assurance
- Precise monitoring and recalibration, if required, without formazine.
- Simple and very limited maintenance requirement.
- Low overall cost (total cost of ownership).



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Photometer Product variants and sets						
LabScat 2 with or without 50 mm cuvette			LabScat 2	Sets with 50 mm and 25 mm cuvette		
1x cuvette KPL50/190 for temperature control	1x cuvette KLP50/190	1x cuvette KLP50/190		1x cuvette KLP50/190 1x cuvette KLP25/190	1x cuvette KLP50/190 1x cuvette KLP25/190	1x cuvette KLP50/190 1x cuvette KLP25/190
Cooling set +	Cooling set			Cuvette KLP 50/190 for temperature control		
				Cooling set+	Cooling set	
				Calibration up to 500 EBC-25mm cuvette, including certificate	Calibration up to 500 EBC-25mm cuvette, including certificate	Calibration up to 500 EBC-25mm cuvette, including certificate
Communication						
IO: 0/4 ... 20 mA	122774	122770	122766	119185	123120	122782
Modbus RTU	122775	122771	122767	122763	123121	122783
Profibus DP	122776	122772	122768	122764	123122	122784
Profinet IO	122777	122773	122769	122765	123123	122785

Cooling set: Fan for cooling operation
 Cooling set+: Fan for cooling operation, temperature control



Cooling set

Main technical details

Measuring range	0 ... 200 EBC (standard calibration) 0 ... 500 EBC (with special cuvette)
Resolution	0.001 EBC
Measuring units	EBC, ASBC, FTU, NTU
Measuring time	12 seconds
Bottle dimensions	Ø 50 ... 88 mm, height up to 330 mm
Voltage	12 VDC via a separate power supply (included) 100 ... 240 VAC 47 / 63 Hz
Power	10 W
Recalibration	solid reference
Operating unit	integrated, touch screen ¼ VGA 3.5"
Outputs	Ethernet, USB
Reading out the measuring data	web browser, USB
Temperature (water + ambient)	0 ... +40 °C / +32 ... +104 °F
Conformities	CE



Full details and technical data:



AquaScat S



Certificates and conformities



ACS (Attestation Conformité Sanitaire)

DWI (Drinking Water Inspectorate)

Applications

- 31 – Turbidity in water processing

The AquaScat S measures turbidity and temperature in water according to the ISO 7027 standard. The in-line measurement reduces water consumption to a minimum. The available drinking water certifications also allow the use for drinking/fresh water. Calibration is adjusted with a solid reference without the use of formazine. The AquaScat S offers a wide range of installation options and process integrations.

Innovations with real benefits



Precise measurement without water loss

- Measurement of turbidity and temperature directly in the water
- No expensive installations necessary
- Hygienic design with drinking water approvals in several markets

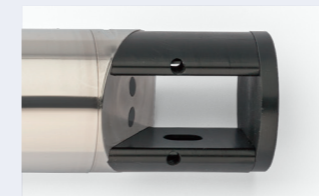


Simple adjustment of instrument calibration

- No use of formazine, adjustment is done with solid state reference
- Inexpensive, fast and reliable

Sophisticated design

- Inclined sensor head for cleaning effect by water flow
- Absorber minimises influence of line reflections or other interferences
- Precise measurements of deep turbidity (< 0.01 FNU) possible



Highest flexibility

- Versatile installation options
- Can be used in-line, on-line or off-line
- Various possibilities for electronic connection to existing systems



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Photometer Product variants and sets										
	1	2	3	4	5	6	7	8	9	10
Communication	AquaScat S + Removable fitting and flange connection + Control unit + SiCon	AquaScat S + Removable fitting + Control unit + SiCon	AquaScat S + Control unit + SiCon + Pipe flange	AquaScat S + Control unit + SiCon + Immersion tube Basic equipment	AquaScat S + Control unit + SiCon M	AquaScat S + Control unit + SiCon	AquaScat S + Control unit + WiFi module	AquaScat S + Control unit	AquaScat S + WiFi module + Control unit-adaptation to another AquaScat S	AquaScat S + Control unit adaptation to another AquaScat S
IO: 0/4 ... 20 mA	123104	123100	123099	123098	123097	123096	123094	123092	123095	123093
Profibus DP	123105	123101	123348	123345	123110	123114				
Profinet IO	123106	123102	123349	123346	123111	123108				
Modbus RTU	123107	123103	123350	123347	123112	123109				

Main technical details

Measuring range	0 ... 4000 FNU
Resolution	0.001 FNU
Sample conditions	0 ... 60°C, max. 10 bar @ 20 °C
Sample flow	max. 3.0 m/s
Voltage	24 VDC ± 10%
Rating	max. 2 W
Recalibration	manual, with solid state reference
Control unit	SiCon, SiCon M
Outputs	8-pole cable (basic)_ 1x 0/4 ... 20 mA 2x digital
Inputs	-
Protection class	IP68 (electrical connector IP67)
Conformities	CE UK



Full details and technical data:

AquaMaster



Applications

- 31 32 - Determination of raw water quality

AquaMaster is a full-fledged plug-and-measure system for monitoring water quality. The system consists of either a turbidity measuring device (AquaScat 2 WTM A, AquaScat 2 P) or a SICON M. Up to four additional sensors can be connected that measure pH, redox, conductivity, dissolved oxygen and temperature. Operation is via the integrated surface of the respective AquaScat 2 or SICON M.

Innovations with real benefits



- Compact and modular complete system**
- Free choice and combination of parameters
 - Easy sampling, no complex piping required



- User-friendly maintenance**
- Instrument design already includes integrated trays and holders for maintenance
 - Automatic recognition of the calibration status of the sensors



- Integrated control unit**
- One surface for controlling all sensors
 - Quick and easy parametrisation of all sensors



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Photometer Product variants and sets												
	pH ORP LF dO2	ORP LF dO2	pH LF dO2	pH ORP dO2	pH ORP LF	LF dO2	ORP LF	pH LF	dO2	LF	ORP	pH
Communication												
IO: 0/4 ... 20 mA	123256	123253	123255	123254	123252	123251	123250	123249	123248	123246	123247	123245
Profibus DP	123268	123265	123267	123266	123264	123263	123262	123261	123260	123258	123259	123257
Profinet IO	123280	123277	123279	123278	123276	123275	123274	123273	123272	123270	123271	123269
Modbus RTU	123292	123289	123291	123290	123288	123287	123286	123285	123284	123282	123283	123281

Abbreviations: ORP = Redox, LF = Conductivity
dO2 = dissolved oxygen



119506		119506	119506	119506								119506
119571	119508	119571	119571	119571								119571
119508	119509	119509	119508	119508	119509	119508	119509	119506		119509	119508	119506
119509			119508	119509				119506				119571

Main technical details

Measuring range	0 ... 100 FNU(P), pH: 0 ... 14, ORP: -1500 ... 1500 mV conductivity: 1 ... 300'000 µS/cm, gel. oxygen: 0.004 ... 25 ppm
Sample conditions	0 ... 40 °C, max. 6 bar
Sample volume	0.5 ... 1.0 l/min
Voltage	18 ... 30 VDC
Rating	max. 10 W
Recalibration	AquaScat 2 P: Manual with solid reference probes Manual with the respective buffer solutions
Operating unit	integrated, touch screen ¼ VGA 3.5"
Outputs	2x 0/4 ... 20 mA, 2x relay 250 VAC, 4A
Inputs	2x 0/4 ... 20 mA, 1x optional for flow meter
Protection class	IP66
Conformities	CE UK



Full details and technical data:



AquaDMS

Applications

- 33 – Measurement of disinfection remnants in water

AquaDMS is a compact plug-and-measure system for determining the concentration level of disinfectants. Depending on the equipment, the system measures free chlorine, chlorine dioxide, ozone, or hydrogen peroxide with or without compensation of the pH value. The integrated flowregulator and the automatic probe cleaning reduce maintenance to a minimum.

Innovations with real benefits



Complete measuring system

- Quick and easy installation and commissioning
- Stable water throughput for precise measurements

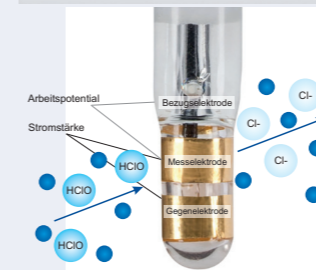
Integrated control unit with touch screen

- Easy operation



Low maintenance and stable probes

- integrated probe cleaning ASR®, i.e. no manual or chemical cleaning required
- No refilling of electrolytes required



Customised solutions

- Suitable for all standard disinfectants
- Integrated pH-compensation possible



IO: 0/4 ... 20 mA

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Photometer Product variants and sets	
AquaDMS with pH compensation	AquaDMS without pH compensation
960001	960000

Accessories



960005
Cl₂, ClO₂, O₃ in salt water sensor



960006
H₂O₂ sensor

Main technical details

Measuring principle	free chlorine: 0 ... 20 mg/L chlorine dioxide: 0 ... 20 mg/L ozone: 0 ... 10 mg/L hydrogen peroxide: 0 ... 30 mg/L
Resolution	0.01 mg/L
Sample conditions	0 ... 50 °C, max. 6 bar @ 20 °C pH of the sample: 6 ... 9 Conductivity of the sample: 50 ... 2000 µS/cm
Sample volume	0.6 ... 6.7 l/min
Voltage	85 ... 230 VAC, 50... 60 Hz
Power	max. 10 watt
Control unit	integrated, touch screen 90x50 mm
Outputs	1- 5 0/4 ... 20 mA 1x relay 250 VAC, 4A
Inputs	1x digital (NO/NC)
Protection class	IP65
Conformities	CE



Full details and technical data:





SiDis AD 40

Applications

- Display unit for Sigris turbidity and color measurement equipment

The SiDis AD 40 is the suitable display for Sigris process photometers. It provides measurement information independent of the fitting location of the photometer. The display allows the reading of measuring values, curves with progression, as well as status and alarm notifications.

The control is user-friendly via logical menu navigation on the touchscreen. The SiDis AD 40 and a connected photometer are configured via a linked smartphone. The measured values and curve progressions can be displayed on the smartphone. Coupling the SiDis AD 40 to the phone is simple and navigated via the SiDis AD 40.

Main technical details

Display:	¼ VGA with touchscreen Resolution: 320 x 240 pixels with 2.4" diagonal dimension Touchscreen: Soda-lime tempering glass
Material	housing: PC/ABS UL94 V0 Touchscreen: Soda-lime tempering glass
Cleaning	CIP / SIP compatible up to +120 °C @ 2 h
Power	max. 4 W
Interfaces:	4x 0/4 ... 20 mA outputs, digital inputs and outputs, Modbus RTU, Profibus, Profinet, Power over Ethernet, WLAN
WLAN module	WLAN according to IEEE 802.11 b/g/n
Protection class	IP66
Dimensions	Ø 105.5 x 71 mm
Weight	approx. 0.4 kg
Conformities	CE UK

Profinet from 2024.

Product variants and sets

122503	Display unit SiDis AD 40 - S1IO -1002.000S Standard IO (4x 0/4..20 mA, Modbus RTU)
122627	Display unit SiDis AD 40 - S1PB -1002.000S with Profibus DP Interface
122561	Display unit SiDis AD 40 - S1PN -1002.000S with Profinet IO Interface
122626	Display unit SiDis AD 40 - S1PE -1002.000S with Power over Ethernet (PoE)

SiCon (M)



The control unit SiCon (M) with the latest technology and color display facilitates the handling by operators due to its logical menu navigation. The display allows the reading of measuring values, curves with progression, as well as status and alarm notifications. The SiCon (M) offers all options for easy system integration via various interfaces. The integrated SD cards allows almost unlimited data recording for quality assurance.

Main technical details

Outputs	4 x 0/4 ... 20 mA (max. load 500 Ω) 7x digital (max. 30 V)
Inputs	5x digital (max. 30 V)
Display	¼ VGA with touch screen (320 x 240 pixels with 3.5" diagonal)
Power supply	9 ... 30 VDC
Power input	max. 8 W
Protection degree	IP 66

SiCon

SiCon	1 photometer with up to 4 measuring channels
SiCon M	Up to 8 photometers / 8 measuring channels
SiCon C	Tool, ideal for maintenance

Conn Box

119510 Conn-P Box

Passive connection box for the connection of up to 5 sensors.
Maximum sensor distance of 5 m
– Power supply: 24 V

119920 Conn-P Box

Active connection box for the connection of up to 8 sensors
Maximum sensor distance of 800 m
– Power supply: 24 V

120510 Conn-P Box

Connection box for AquaScat S
– 2 relays and connection for SiCon C

Activation

Master software 20076

A Sigrisr measuring or control unit can be configured at all time, so that it can also serve several devices in a client/ serverconfiguration. This requires an activation code.





SiCon: Operation unit 24 VDC / SiCon M:
Multichannel control unit 24 VDC

Communication	Additional inputs
IO: 0/4 ... 20 mA	
Profibus DP	-
Modbus RTU	-
Profinet IO	-
Power output terminal 4-way	-
IO: 0/4 ... 20 mA	Power output terminal 4-way

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Checking unit variants and sets			
SiCon M + power supply 24 V	SiCon M	SiCon + power supply 24 V	SiCon
122709	119040	122698	118342
122710	122704	122699	122693
122711	122705	122700	122694
122712	122706	122701	122695
122713	122707	122702	122696
122714	122708	122703	122697

Delivered without cable.

Main technical details

Service voltage:	9 ... 30 VDC
Power consumption:	5 W
Protection degree:	IP 66
Analogue outputs:	4 x 0/4 ... 20 mA outputs, galvanically isolated up to max. 50 V to earth and max. 500 Ω burden.
Digital outputs:	7 x digital outputs up to max. 30 VDC, freely configurable, with 1 output normally closed as a relay.
Integrated field bus:	Modbus TCP / Ethernet
Optional field bus modules:	Profibus DP, Modbus RTU, Profinet IO
SiCon:	1 sensor
SiCon M:	2 sensors, up to 8 sensors
Digital inputs;	5 x digital inputs up to max. 30 VDC, free configuration

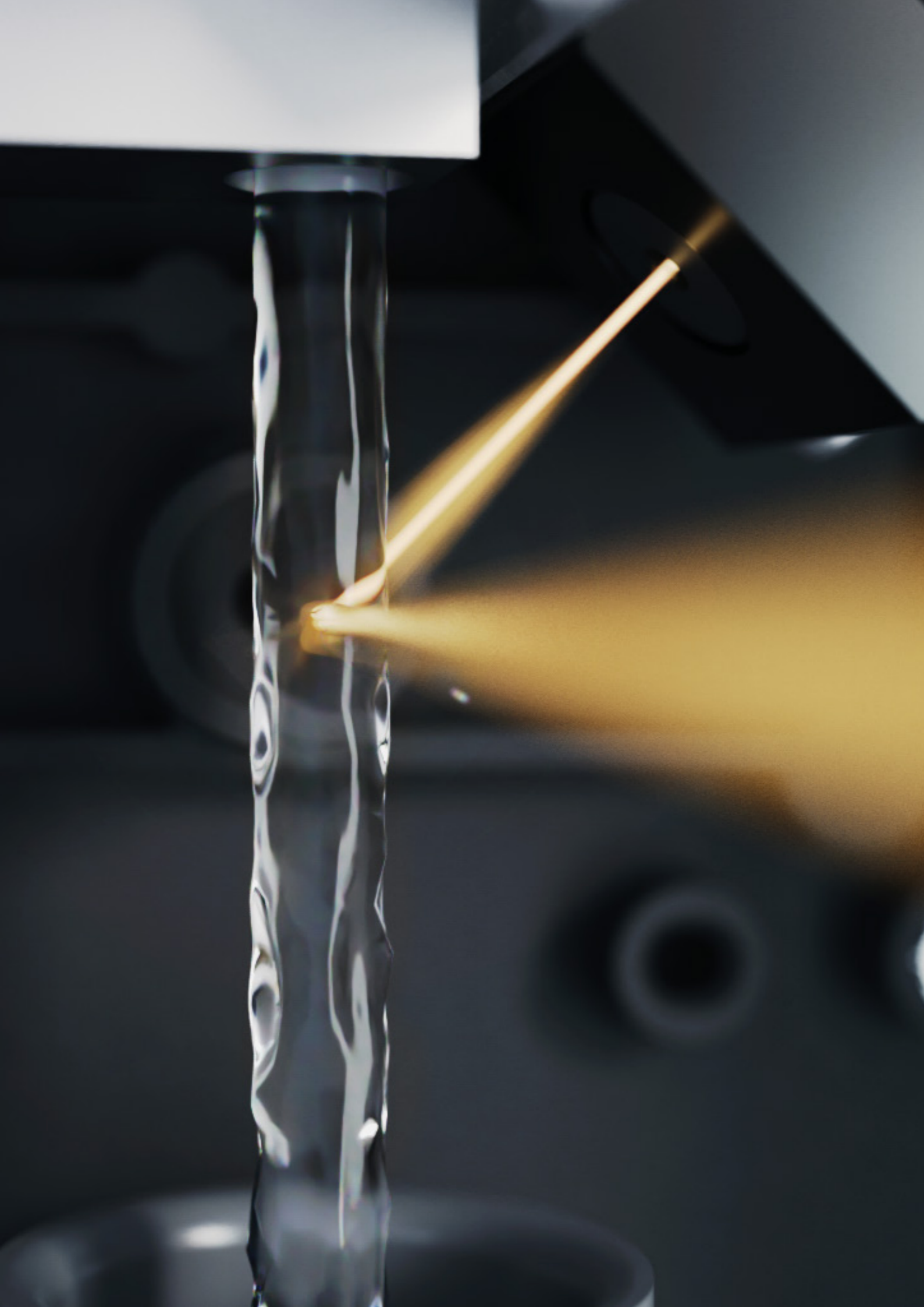
Full details and technical data:



Accessories and consumables

Article	Article number	LabScat 2	TurBiScat PM 40	TurbiGuard	PhaseGuard T	PhaseGuard HT	PhaseGuard C	ColorPlus 2
Cuvette KPL50/190 only for LabScat with temperature control	111786	●						
Cuvette KPL50/190 glass with lock LabScat 2	114114	●						
Cuvette KPL25/190 glass with lock LabScat 2	119468	●						
Ethernet cable: LabScat 2	119461	●						
USB cable: LabScat 2	119462	●						
Water filter for LabScat 2	112653	●						
Device cable 8-pin 10 m with plug	120444	●	●	●	●	●	●	
Device cable 8-pin 20 m with plug	120540	●	●	●	●	●	●	
Device cable 8-pin 30 m with plug	120541	●	●	●	●	●	●	
Connecting cable 5 m, double-sided with plug	122574	●						
Connecting cable 10 m, double-sided with plug	122575	●						
Solid reference 0.8 EBC	123459	●						
Checking unit with solid reference 0.8 EBC	123482	●						

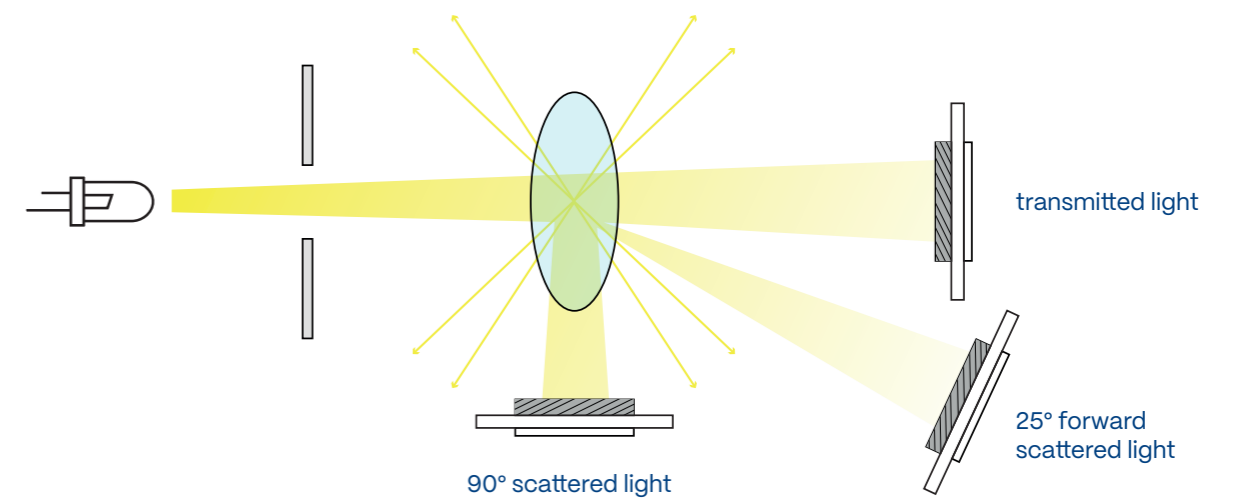
Article	Article number	LabScat 2	TurBiScat PM 40	TurbiGuard	PhaseGuard T	PhaseGuard HT	PhaseGuard C	ColorPlus 2
24VDC power supply 20W, input100-240 VAC/47-63Hz	119045							●
Terminal for box for temp. & pressure, ColorPlus	115551							●
Hazen calibration for ColorPlus incl. certificate	116993							●
Hazen calibration for ColorPlus incl. certificate	118935							●
1 set EPDM seals for pathlength shortener: ColorPlus(2)(Ex)	114947							●
Device cable/m for WTM500, DualScat, SG, ColorPlus, VisGuard	105863							●
Terminal operating tool	122112		●					
Tool lid desiccant	122636		●					
Desiccant molecular strainer 25 g	122596		●					
Desiccant bag, 30 g	111391			●	●	●	●	●
Desiccant bag, 50 g	119202	●						
Different VARINLINE® housings			●	●	●	●	●	●



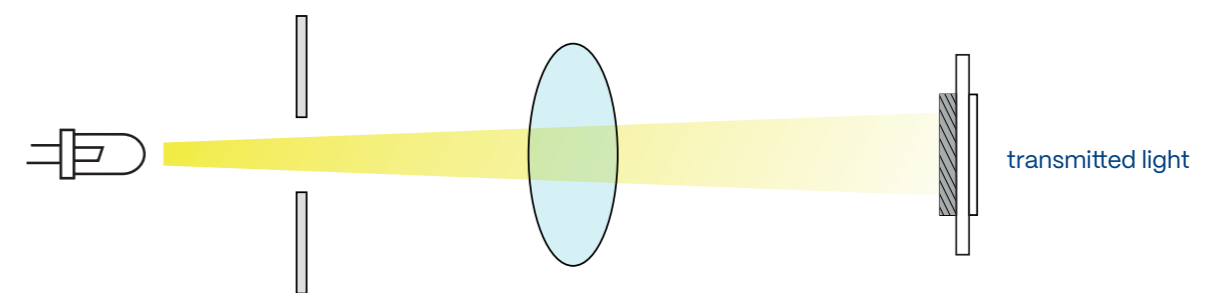
Measurement principles

Reliable and safe measurement.

Scattered light measurement



Absorption measuring





Sigrist USP's and advantages

Background

Our company is an independent Swiss SME and has gained an excellent international image as a manufacturer of high-quality process photometers. Our customers benefit from our many years of expertise and best Swiss quality.

Values

Our corporate culture is based on a symbiosis of material and immaterial values that we foster and develop for the benefit of all stakeholders.

Swiss Innovation

Our products offer solutions to real needs of society, of humans and the environment. They fulfil the highest quality, reliability and uniqueness standards, offering our customers great value.

Ethics and Responsibility

Acting economically responsibly is at the centre of all we do. To us, fairness, reliability and sustainability are as important factors for success as economic aspects.

Legal information

Contents

We aim for the correctness, topicality and completeness of the information contained in this brochure and have carefully developed these contents. We do not assume liability of any kind for the offered information. We reserve the right to change or update all included information at any time without prior notice.

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Amendments

Amendments can be made at any time.

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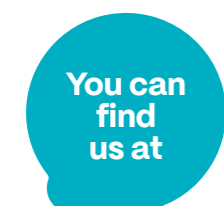
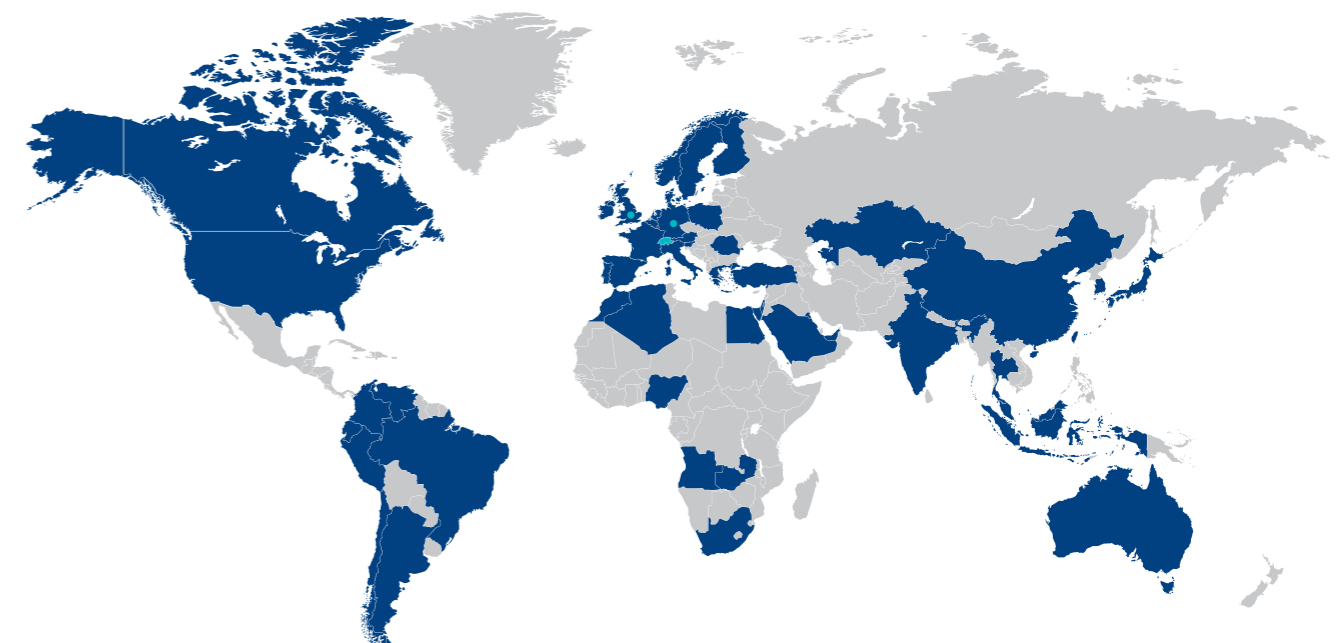
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