

AquaScat

On-line turbidity measurement for water treatment



Applications

- Turbidity measurement in raw water
- Monitoring of flocculation and dosage of flocculants
- Filtration monitoring of filter performance and back-wash control
- Turbidity measurement in treated and final waters
- Turbidity monitoring of water in storage and distribution networks
- Turbidity measurement in process and waste waters

Advantages

- Non-contact measurement in free-fall stream (models WTM, WTM A, HT)
- Dual beam measurement in optimized flow cell (model P) with integrated fouling compensation
- Re-calibration with secondary standard (fully automatic at model WTM A)
- Lowest stray light levels

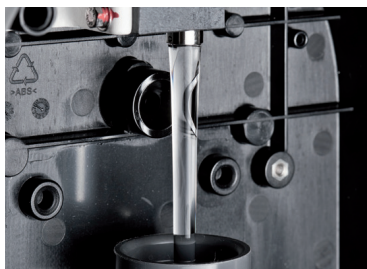
- Virtually maintenance free

- Convenient operation via touch screen
- Graphical display of trends and/or values
- Visualization of measured values over the past month

Industries

- Drinking Water Treatment Works
- Waste water treatment
- Industrial water production

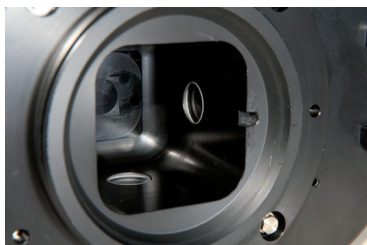
Innovations with true customer benefits



Non-contact free-fall concept

Water passes through the AquaScat models WTM, WTM A and HT without touching the optics.

- No window fouling and hence, the measured values are not falsified
- Very low and high turbidity values can be measured precisely
- The entire sample beam is measured which leads to true representative results
- Extremely low maintenance is the result



Dual beam concept

In the AquaScat P, transmitted light and scattered light are measured and taken into consideration.

- The influence of the cell contamination is reduced substantially
- Possible interference by colour is completely eliminated
- Cell cleaning is minimised



Very low quantity of stray light

The design of the AquaScat in combination with high quality optical components minimizes the quantity of stray light inside.

- A stable measurement of a few mFNU turbidity is therefore possible
- Very low zero drift provides excellent long term stability



Re-calibration with secondary standard

Formazine is used in the factory to calibrate the AquaScat after assembly. For re-calibration, a secondary standard (Zerodur® glass body) is available.

- Precise re-calibration is possible without the use of Formazine
- In the AquaScat WTM A, this re-calibration is done automatically without stopping the waterflow



Integrated control unit

The control unit of all the AquaScat family is an integrated colour touch screen.

- Values, graphs, alarm- and status messages can be presented
- An internal data logger allows recalling and displaying measured data of the last 32 days

Main technical details

Measuring principle:	90° Scattered light according to ISO 7027/EN27027
Measuring span:	0 ... 4'000 FNU (WTM, WTM A, HT) 0 ... 100 FNU (P)
Resolution:	0.001 FNU (WTM, WTM A, P); 0.1 FNU (HT)
Sample temperature:	0 ... +40 °C
Protection:	IP 54 (WTM, WTM A, HT); IP 65 (P)
Sample flow:	min. 1.3 L/min (WTM, WTM A, HT) 0.2 ... 2 L/min (P)

Full details and
technical data:



AquaScat

Technical data

Instrument data

Measuring principle:	90° Scattered light according to ISO 7027/EN27027
Light source:	LED 860 nm
Measuring span:	0 ... 4'000 FNU ~ 0 ... 5'000 mg/L TSS* (WTM, WTM A, HT) 0 ... 100 FNU (P)
Measuring ranges:	8, freely programmable
Resolution:	0.001 FNU (WTM, WTM A, P); 0.1 FNU (HT)
Sample temperature:	0 ... +40 °C
Ambient temperature:	-10 ... +50 °C
Humidity:	0 ... 100% rel.
Protection:	IP 54 (WTM, WTM A, HT); IP 65 (P)
Power supply:	18 ... 30 VDC, optional: 100 ... 240 VAC, 47 ... 63Hz
Power consumption max.:	8 W

Installation models WTM/HT

Sample inlet/outlet:	Hoses of inner \varnothing 12/25mm
Sample flow:	min. 1.3 l/min atmospheric pressure
Material inlet/outlet:	SS 316L/PVC

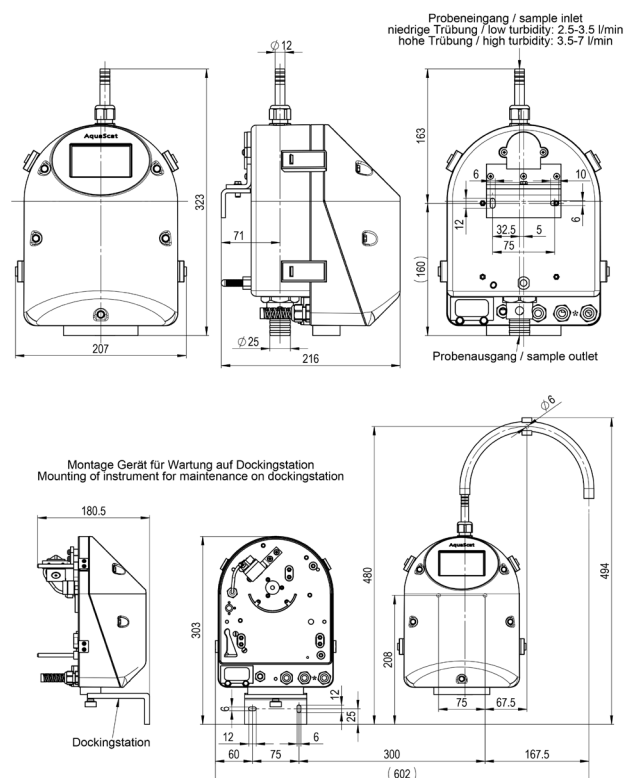
Installation model P

Sample inlet/outlet:	Hoses of inner \varnothing 16/16mm or GF-System G $\frac{3}{4}$ "
Sample flow:	min. 0.2 l/min
Pressure:	max. 10 bar @ 20 °C
Material:	Cell/inlet&outlet: POM/PVC

Control Unit

Display:	1/4 VGA, 3.5"
Operation:	Touchscreen
Outputs:	2 x 0/4 ... 20 mA, galv. isolated 2 x Relays 250 VAC, 4A

Inputs:	1 x for optional flow meter 2 x 0/4 ... 20 mA
Digital interfaces:	Ethernet, Modbus TCP, SD-card
Optional:	- Profibus DP, Profinet IO, Modbus RTU - analogue module



TSS value based on measurement with Kieselgur
mg/L TSS ~ 1.3x FNU. Calibration is substance-dependent.