

# AquaScat S

In-line turbidity measurement for the water treatment



## Certificates and Conformities



ACS (Attestation Conformité Sanitaire)

DWI (Drinking Water Inspectorate)

## Applications

- Turbidity measurement in raw water
- Monitoring of flocculation and dosage of flocculants
- Filtration monitoring
- Turbidity measurement in treated water
- Turbidity monitoring of water in storage and distribution networks
- Turbidity measurement in process water

## Characteristics

- Measurement of turbidity and temperature directly in the water
- Re-calibration with secondary standard
- Lowest stray light level, also in heavily reflecting stainless steel tubing

- Very low maintenance needs
- Various process connections
- Various options to present and to transfer the measured data to PLC/SCADA
- Additional temperature measurement with submerge version
- Web interface

## Industries

- Potable water treatment
- Food and beverage
- Industrial water treatment

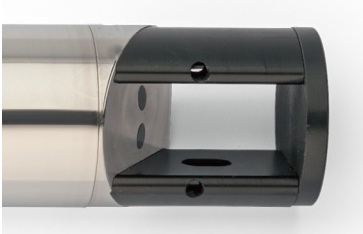
## Innovations with true customer benefits



### Measurement directly in the water

Sensorhead is sloped:

- Water flow creates self-cleaning effect of the sensorhead surface.
- Low Zero drift (less than 2% per six months of operation) in absence of fogging substances
- Integrated temperature sensor in the sensor head



### The absorber

The absorber allows the application of the sensor in all possible process installations:

- Eliminates stray light from the environment
- Avoids unwanted influences of the measured values by light reflexions, particularly in stainless steel tubing
- Turbidity values of a few mFNU can be measured precisely



### Re-calibration with secondary standard (Solid glass body)

Formazine is used in the factory to calibrate the AquaScat S after assembly. For re-calibration, a secondary standard is available:

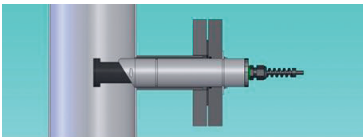
- Precise re-calibration is possible without the use of Formazine
- Purchase and storage of Formazine is not needed



### System integration

Various options to visualize and to transfer the data to PLC/SCADA are available:

- 8-wire cable
- Conn-R and SICON-C
- SICON/SICON-M
- WLAN
- Most of the customer requirements can be covered



### Process connections

Various options for process integration are available. There is a solution for almost every customer requirement.

### Main technical details

Measuring principle:	90° Scattered light according to ISO 7027/EN27027
Measuring span:	0 ... 4'000 FNU
Measuring ranges:	8, freely programmable
Resolution:	0.001 FNU
Sample temperature:	0 °C ... +60 °C
Sample flow:	max. 3.0 m/s
Protection :	IP68 (Electrical connector IP67)

Full details and technical data:



# AquaScat S

## 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*
Measuring ranges:	8, freely programmable
Resolution:	0.001 FNU
Sample temperature:	0 °C .. +60 °C
Temperature measurement:	0 °C .. +60 °C (immersion vers.)
Resolution temp. measurement:	0.1 °C
Pressure:	max. 10 bar @ 20 °C
Sample flow:	max. 3.0 m/s
Ambient temperature:	0 °C .. +60 °C
Humidity:	0 .. 100% rel.
Protection:	IP68 (Electrical connector IP67)
Power supply:	24 VDC +/-10%, galv. isolated from housing of sensor
Power consumption:	max. 2 W
Materials:	Stainless steel 1.4571, PPSU, sapphire
Dimensions:	Ø 40 x 200 mm
8-wire cable:	System integration 1 x 0/4 .. 20 mA Output (Minus Pole on GND of 24 V supply) 2 x digital outputs (24 V, high-side, max. 25 mA) Option Connection box
Conn-R:	1 x 0/4 .. 20 mA Output (Minus Pole on GND of 24 V supply) 2 x Relays Outputs 230 VAC, 4A Push-button for recalibration

### Connector for SICON-C

Dimensions: 110 x 151 x 61 mm

### Option SICON - SICON-M:

LED info of re-calibration

Max. 8 x 0/4 .. 20 mA Outputs  
Max. 7 x digital Outputs  
Max. 5 digital Inputs  
Modbus TCP  
Modbus RTU  
Profibus DP  
Profinet IO  
Conn-A for max. 8 Sensors  
Powerbox for max. 12 Relays  
130 x 160 x 60 mm  
IEEE 802.11b/g/n access with web server

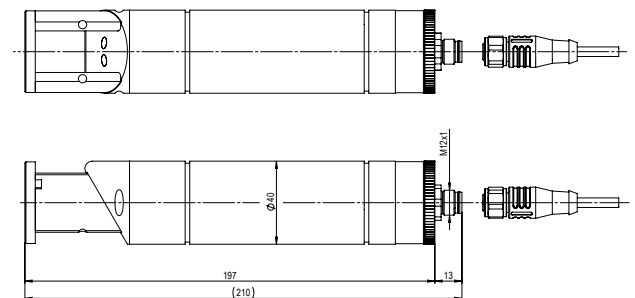
### Dimensions:

Option WLAN:

### Process connections

Options:

- PE tubing welded
- Stainless steel tubing with flanges welded
- Kit to install directly in basins
- Device to extract the sensor under pressure
- Varivent® clamp connection



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