



## Fluorescence Tracer TQ-F

### Discharge measurement via tracer dilution method for sewage - fluorescence

The discharge measurement is performed by using the well-established tracer-dilution method and is especially suitable for big volumes of water. It is used a fluorescent material as tracer. When using the tracer in sewage water most often a continuous insertion of a known amount of tracer is done. Two optical fluorescence probes automatically determine the discharge. This way high plausibility and accurate results can be guaranteed.

**The most recent version of the TQ-Tracer is TQ-V3.**

**TQ-V3 was launched in November 2023!**

#### Features and advantages of the TQ-V3

- Simple, mobile discharge measurement
- Internal memory, Display, USB-C charging and data connection
- Continuous insertion of tracer material possible
- Application in dirt water and sewage canals possible
- Environmentally friendly, harmless for water
- Discharge values immediately available
- Easy transmission of measurement data from the sensor to receiving device via Bluetooth
- Convenient receiving of data on laptop
- Real-time visualisation of measurement data
- User-friendly guidance through the measurement by the included software TQ-Commander
- Simultaneous measurement with up to four probes
- Tracer material: optical fluorescence (fluorescein or similar)

- Probe type: fluorescence probe
- Compact and convenient: complete equipment securely packed in two cases

## Fields of application

The TQ-Tracer system is especially suitable for sewage applications (purification plant, sewage canals, separate or combined flow systems, aso.) for calibration measurements, measuring and detecting extraneous water, for calibration of calculation models or for control measurements. The measuring device is used particularly by water and wastewater associations, sewage plants, canal management, engineering offices, civil engineers or industry.

## Implementation

The tracer dilution method can be applied for discharge measurement in all waters in which a thorough mixing of the tracer takes place. High turbulences, alternating cross sections and stages promote the mixing process and therefore are positive. As a tracer a fluorescence material has to be used, because salt cannot be used due to the changing conductivity in sewage water (see TQ-S). The insertion of the tracer material usually takes place automatically via a proportioning pump. The user-friendly software TQ-Commander leads comfortably through the measurement and provides a full measuring report at the end.

## Technical details TQ-F

### General

- **Measuring principle** tracer dilution method with instantaneous feed
- **Application** all discharge volumes

### TQ-Amp (measurement device with Bluetooth-transmission)

- **Memory capacity** 8MB (data storage in the receiving device)
- **Transmission interval** 1 second
- **Data transfer** Bluetooth class 1 (transmission range up to 100m) , USB-C
- **Operating temperature** -20 ... +60 °C
- **Protection** IP66
- **Energy supply** 4x 1.5 V batteries, size AA or 4x 1.5 V / 2500 mAh NiMH batteries, size AA
- **Operation time** 25 hrs (with 4x 2500 mAh batteries)
- **Recharging time** approx. 10 hrs

### Probes

- **Probe type** optical fluorescence probe
- **Measurement range** Fluorescein/Rhodamine: 0 ... 50 µg/l (ppb)
- **Resolution** 0.05 µg/l (ppb)
- **Operating temperature** 0 ... +50 °C
- (Further types of probes for different tracer substances available upon request.)

### Accessories included

- **Pipette** 500 µl
- **Jars** bottle for calibration solution, measuring cup stainless steel 1000 ml, measuring cup 500 ml, volumetric flask 500 ml

- **Others** USB memory stick (software and documentation), USB Bluetooth adapter, charging cable USB-C, protection- and weighting armour
- **TQ-Commander (software)** PC-Version Windows 10 up to 11