



## Tracer System TQ-S

### Mobile discharge measurement system for turbulent rivers with unknown cross-section profile - Salt Tracer

The discharge measurement is performed by using the well-established tracer-dilution method. The system can be deployed in turbulent rivers, creeks or waters for which data regarding the cross-section profile are not available or unknown. It is used salt (NaCl) as tracer material. After insertion of a known amount of tracer material two conductivity probes automatically determine the discharge. This way high plausibility and accurate results can be guaranteed. New TQ-COMMANDER V3 software is available! [More details](#)

### The recent version of TQ-Tracer - TQ-V3

### Launched in November 2023!

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

- Simple, mobile discharge measurement
- Internal memory, display, USB-C data connection
- Reliable results even without knowledge and independent of the cross-section profile
- Suitable for fast-flowing, turbulent waters or where access is limited
- 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: salt (NaCl)
- Probe type: conductivity probe
- Compact and convenient: complete equipment securely packed in two cases

## Fields of application

The TQ-tracer system is especially suitable for fast-flowing, turbulent waters with complex cross sections, for example mountain streams, small brooks, tributaries or even fish passes. Equally the TQ-tracer works very well in shallow rivers where most other instruments fail to get reliable results or cannot be used any more at all.

The TQ is used particularly in hydrometry as well as by consulting engineers, civil engineers, and hydropower plant operators monitoring the discharge, for control measurements or for project evaluations.

## 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 stones promote the mixing process and therefore are helpful. For particularly turbulent waters and very high flow velocities there is a TQ-version available where the sensitive probes are protected with a robust reinforcement. The user-friendly software TQ-Commander leads comfortably through the measurement and provides a full measuring report after the measurement.

## Technical details TQ-V3 S

### General

- **Mesasuring principle** tracer dilution method with instantaneous feed
- **Application** discharges up to 10 m<sup>3</sup>/s (more is possible)

### 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 / 2700 mAh NiMH batteries, size AA
- **Operation time** 40 hrs (with 4x 2500 mAh batteries)
- **Charging time** approx. 10 hrs

### Probes

- **Probe type** conductivity probe
- **Measurement range** 0 ... 5000  $\mu$ S/cm
- **Resolution** 0.1  $\mu$ S/cm

- **Operating temperature** -20 ... +60 °C
- **Other features** integrated temperature compensation
- (Further types of probes for different tracer materials available upon request)

#### Accessories included

- **Pipette** 500 µl pipette
- **Jars** bottle for calibration solution, measuring cup 1000 ml, measuring cup 500 ml, volumetric flask 500 ml
- **Others** USB memory stick (software and documentation), USB Bluetooth adapter, charging cable USB-C
- **TQ-Commander (software)** PC-version Windows 10 up to 11