



Suspended solids 24

M384

10 - 750 mg/L TSS

SuS

Turbidity / Attenuated Radiation Method

## Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

Instrument Type	Cuvette	$\lambda$	Measuring Range
MD 100, MD 600, MD 610, MD 640, MultiDirect	ø 24 mm	660 nm	10 - 750 mg/L TSS
XD 7000, XD 7500	ø 24 mm	810 nm	10 - 750 mg/L TSS

## Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
no reagent required		

## Application List

- Drinking Water Treatment
- Waste Water Treatment
- Raw Water Treatment

## Sampling

1. Measure the water sample as soon as possible after sampling. It is possible to store the sample at 4 °C for 7 days in plastic or glass containers. The measurement should be at the same temperature as the sample. Temperature differences between measurement and sampling can change the result of the measurement.



## Notes

1. The photometric determination of Suspended Solids is based on a gravimetric method. In a laboratory this is usually done by evaporation of the filter residue of a filtrated water sample in a furnace at 103 °C – 105 °C and weighing of the dried residue.
2. When higher accuracy is required perform a gravimetric determination of a water sample. The result can be used to calibrate the photometer with the same water sample.
3. The estimated detection limit is 20 mg/L TSS.



## Determination of Total suspended solids

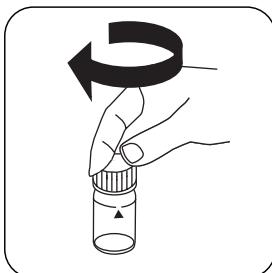
Select the method on the device.

For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500

Homogenize mL of the water sample in a blender on high speed for minutes



Fill 24 mm vial with **10 mL deionised water** .



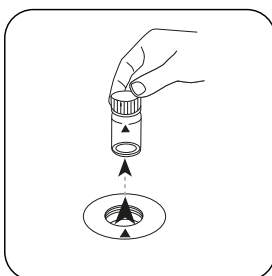
Close vial(s).



Place **sample vial** in the sample chamber. Pay attention to the positioning.

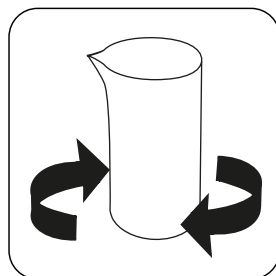


Press the **ZERO** button.

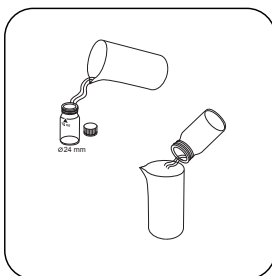


Remove the vial from the sample chamber.

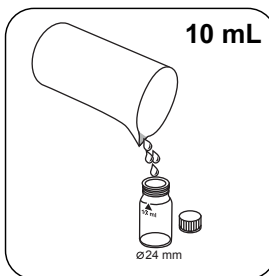
For devices that require **no ZERO measurement** , **start here**.



Mix homogenised water sample thoroughly.



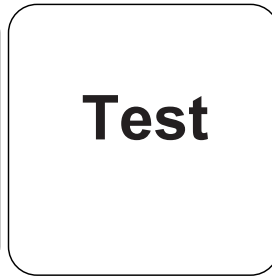
Pre-rinse vial with water sample.



Fill 24 mm vial with **10 mL prepared sample** .



Place **sample vial** in the sample chamber. Pay attention to the positioning.



Press the **TEST** (XD: **START**) button.

The result in mg/L TSS (Total Suspended Solids) appears on the display.



## Chemical Method

Turbidity / Attenuated Radiation Method

## Appendix

### Calibration function for 3rd-party photometers

Conc. =  $a + b \cdot \text{Abs} + c \cdot \text{Abs}^2 + d \cdot \text{Abs}^3 + e \cdot \text{Abs}^4 + f \cdot \text{Abs}^5$

	∅ 24 mm	□ 10 mm
a	$5.32451 \cdot 10^0$	$5.32451 \cdot 10^0$
b	$4.51473 \cdot 10^{+2}$	$9.70666 \cdot 10^{+2}$
c	$6.79429 \cdot 10^{+1}$	$3.14066 \cdot 10^{+2}$
d		
e		
f		

## Interferences

### Persistent Interferences

- Colour interferes if light is absorbed at 660 nm.

### Removeable Interferences

- Air bubbles interfere and can be removed by swirling the vial gently.

## Method Validation

Limit of Detection	10 mg/L
Limit of Quantification	30 mg/L
End of Measuring Range	750 mg/L
Sensitivity	550 mg/L / Abs
Confidence Intervall	4.24 mg/L
Standard Deviation	1.79 mg/L
Variation Coefficient	0.47 %

Derived from

EN 872:2005