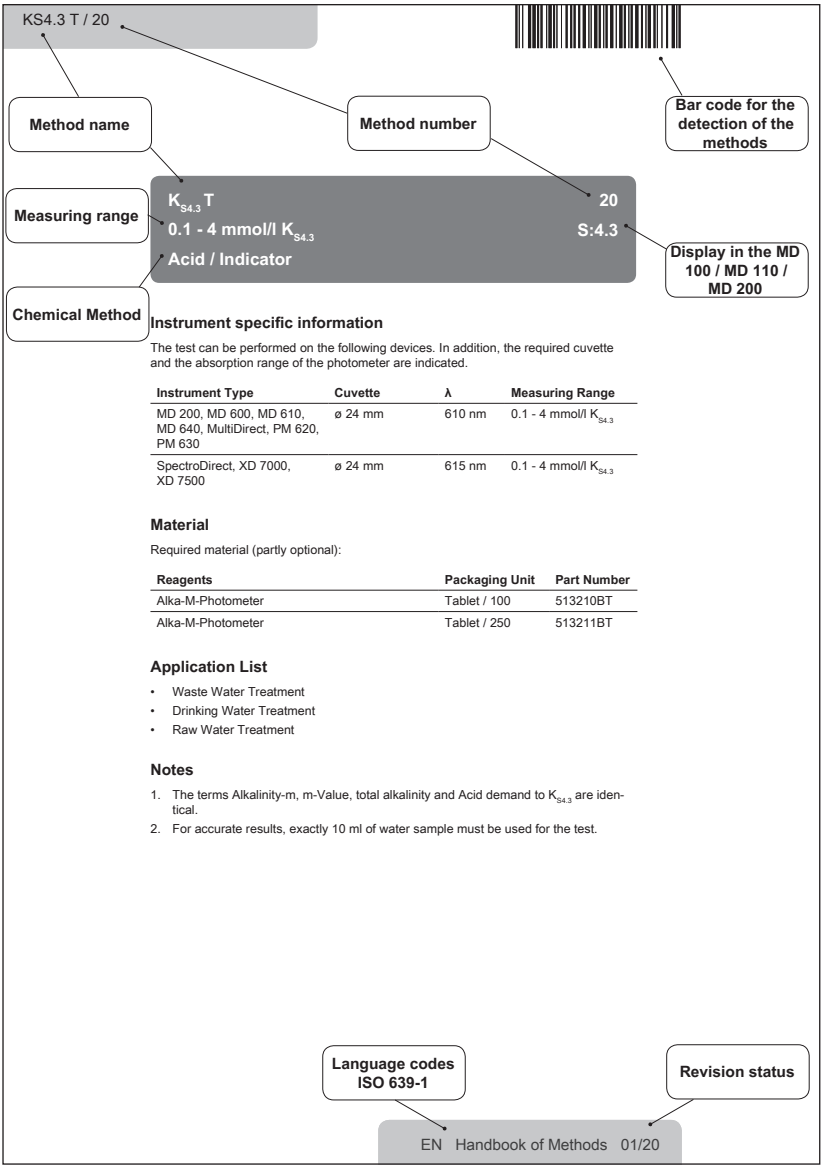
Lovibond® Water Testing

Tintometer® Group

Manual of Methods

MD50 • MD150



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	λ	Measuring Range
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l $K_{S4.3}$

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Alka-M-Photometer	Tablet / 100	513210BT
Alka-M-Photometer	Tablet / 250	513211BT

Application List

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

Notes

1. The terms Alkalinity-m, m-Value, total alkalinity and Acid demand to $K_{S4.3}$ are identical.
2. For accurate results, exactly 10 ml of water sample must be used for the test.

Performing test procedure

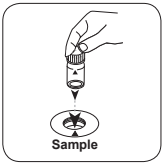
Implementation of the provision Acid capacity $K_{S4.3}$ with Tablet

Select the method on the device

For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500

Fill 24 mm vial with **10 ml sample**.

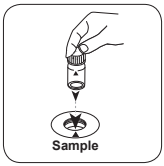
Close vial(s).



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

• • •

Dissolve tablet(s) by inverting.



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

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

The result in Acid Capacity $K_{S4.3}$ appears on the display.

Suspended solids 24 M384

10 - 750 mg/L TSS SuS

Turbidity / Attenuated Radiation Method

EN

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
no reagent required		

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 s 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.

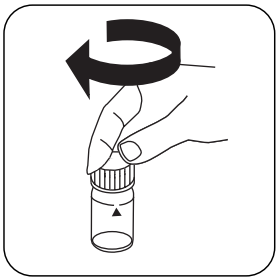
Determination of Total suspended solids

Select the method on the device.

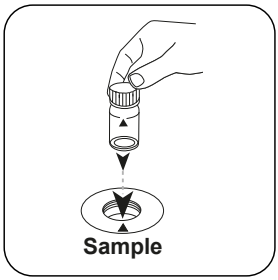
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500

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

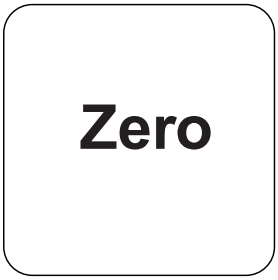
Fill 24 mm vial with **10 mL deionised water** .



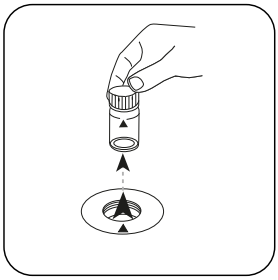
Close vial(s).



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

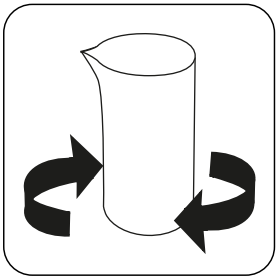


Press the **ZERO** button.

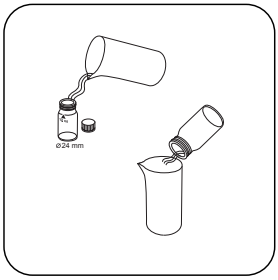


Remove the vial from the sample chamber.

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

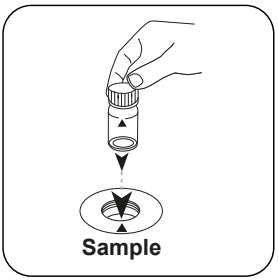


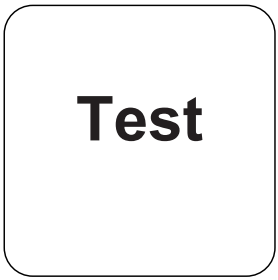
Mix homogenised water sample thoroughly.



Pre-rinse vial with water sample.

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





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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

Interferences

Persistant 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

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