



pH-value T

M330

6.5 - 8.4

PH

Phenol Red

## 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 110, MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 600, PM 620, PM 630	ø 24 mm	560 nm	6.5 - 8.4
SpectroDirect, XD 7000, XD 7500	ø 24 mm	558 nm	6.5 - 8.4
Scuba II	ø 24 mm	530 nm	6.5 - 8.4

## Application List

- Boiler Water
- Pool Water Control
- Pool Water Treatment
- Raw Water Treatment

## Notes

1. For photometric determination of pH values only use PHENOL RED tablets in black printed foil pack and marked with PHOTOMETER.

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# camlab



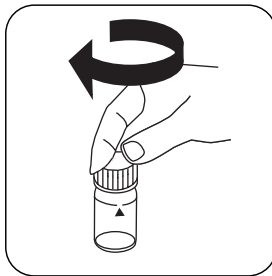
## Implementation of the provision pH-value with Tablet

Select the method on the device

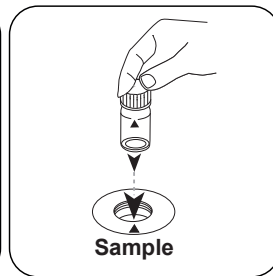
For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500



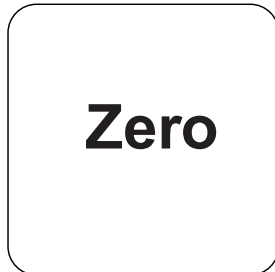
Fill 24 mm vial with **10 ml sample**.



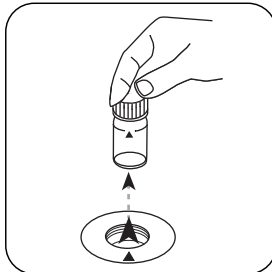
Close vial(s).



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

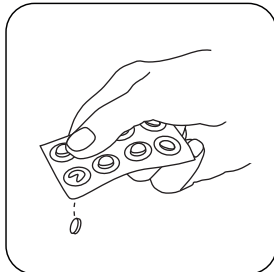


Press the **ZERO** button.

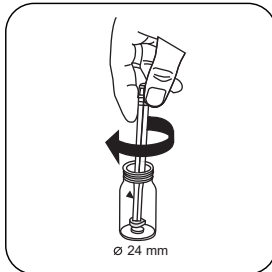


Remove the vial from the sample chamber.

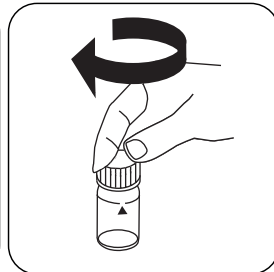
For devices that require **no ZERO measurement**, start here.



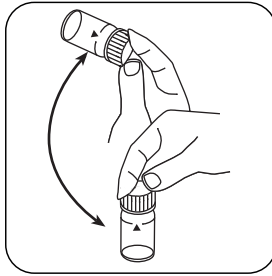
Add **PHENOL RED PHOTOMETER** tablet.



Crush tablet(s) by rotating slightly.

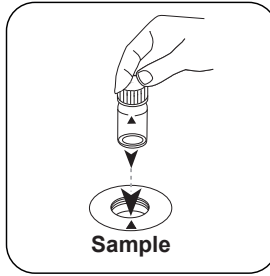


Close vial(s).

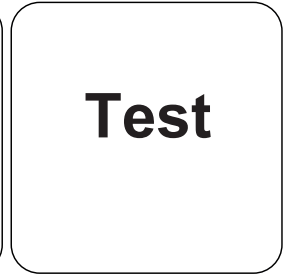


Dissolve tablet(s) by inverting.

The result in pH value appears on the display.



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



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



## Chemical Method

Phenol Red

## Appendix

### Calibration function for 3rd-party photometers

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

#### Note

Please select items for "Fields".

## Interferences

### Persistent Interferences

1. Water samples with little Carbonate hardness\* can lead to false pH values.

\* $K_{\text{S}4,3} < 0.7 \text{ mmol/l} \triangleq \text{total alkalinity} < 35 \text{ mg/l CaCO}_3$ .

### Removeable Interferences

1. pH values below 6.5 and above 8.4 can produce results inside the measuring range. A plausibility test (pH-meter) is recommended.

2. Salt error

For salt concentrations below 2 g/l, no significant error, is expected due to the salt concentration of the reagent tablet. For higher salt concentrations the measurement values

have to be adjusted as follows:

Salt concentration per sample in g/l	30 (seawater)	60	120	180
Correction	-0.15 <sup>1)</sup>	-0.21 <sup>2)</sup>	-0.26 <sup>2)</sup>	-0.29 <sup>2)</sup>

<sup>1)</sup> according to Kolthoff (1922)

<sup>2)</sup> according to Parson and Douglas (1926)

## Bibliography

Colorimetric Chemical Analytical Methods, 9th Edition, London