H₂O₂ HR L

M214

40 - 500 mg/L H₂O₂

HP2

Titanium Tetrachloride / Acid

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, XD 7000, XD 7500	ø 16 mm	530 nm	40 - 500 mg/L H ₂ O ₂

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Reagent for Hydrogen Peroxide	15 mL	424991

Hazard Notes

- The reference reagent contains a 25% sulphuric acid solution. It is recommended to wear appropriate protective clothing (protective goggles/gloves).

Application List

- Waste Water Treatment
- Drinking Water Treatment
- Raw Water Treatment
- Disinfection Control

Preparation

- The determination is held in strong acid medium. In the case of strongly alkaline samples (pH > 10), the samples must be acidified before measurement (with a 5% sulphuric acid solution at a ratio of 1:1).

Notes

- The sample can be measured even 24 hours after the colour reaction.

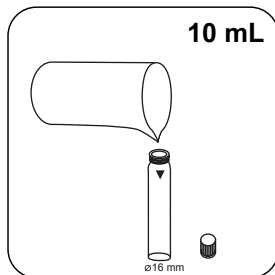




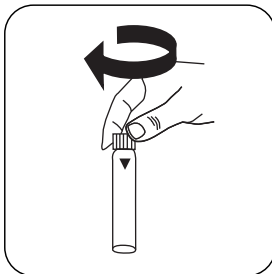
Determination of Hydrogen peroxide HR with liquid reagent

Select the method on the device.

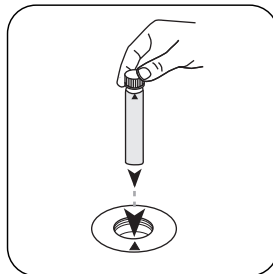
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



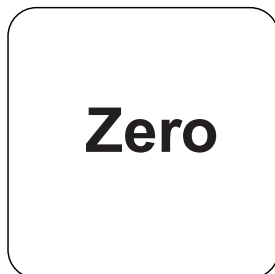
Fill 16 mm vial with **10 mL sample**.



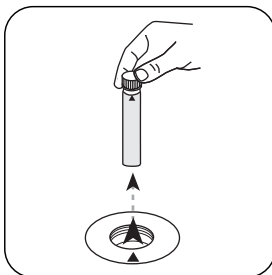
Close vial(s).



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

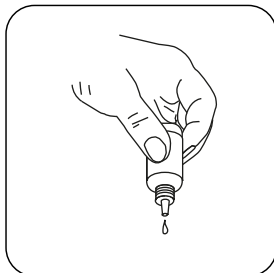


Press the **ZERO** button.

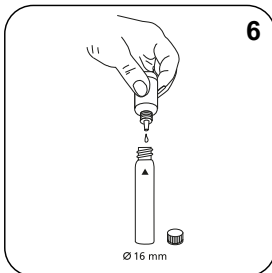


Remove **vial** from the sample chamber.

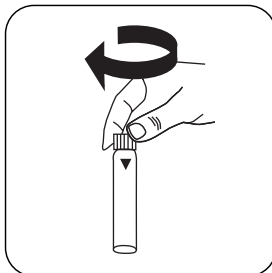
For devices that require **no ZERO measurement**, start here.



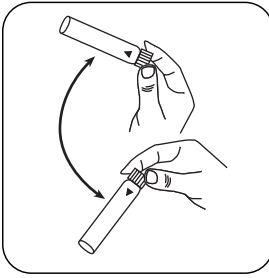
Hold cuvettes vertically and add equal drops by pressing slowly.



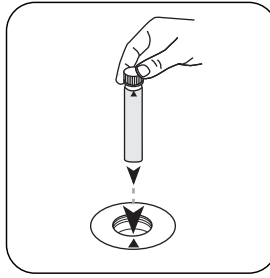
Add **6 drops H₂O₂-Reagent Solution**.



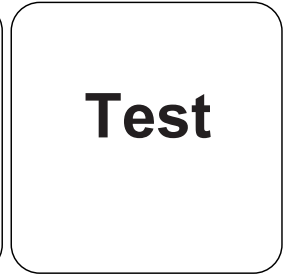
Close vial(s).



Invert several times to mix the contents.

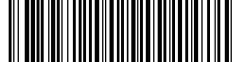


Place **sample vial** in the sample chamber. • Pay attention to the positioning.



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

The result in mg/L H_2O_2 appears on the display.



Chemical Method

Titanium Tetrachloride / Acid

Calibration function for 3rd-party photometers

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

	∅ 16 mm
a	$7.35421 \cdot 10^{-0}$
b	$3.21189 \cdot 10^{-2}$
c	$3.50603 \cdot 10^{-1}$
d	
e	
f	

Interferences

Removeable Interferences

- Colour interference is eliminated as follows.
 - Fill a clean vial with 10 ml of the water sample. Carry out zero calibration.
 - Measure the sample without the addition of reagents. (Result B)
 - Then measure the same sample with the addition of the reagents (Result A).
 Calculation of H₂O₂ Concentration = Result A - Result B.
- Particles in the sample solution or turbidity distort the analysis and must be eliminated. This can be through centrifuging or simply filtering the sample solution prior to performing the measurement. Falsification of the measurement results should also be expected when working with coloured solutions.