Nitrate MR PP M261

1 - 30 mg/L NO_3-N

Zinc Reduction

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 600, MD 610, MD 640, MultiDirect	ø 24 mm	430 nm	1 - 30 mg/L NO_3-N
XD 7000, XD 7500	ø 24 mm	465 nm	1 - 30 mg/L NO_3-N

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Nitrate MR F10 PP	Powder / 100 pc.	530840

Application List

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

Preparation

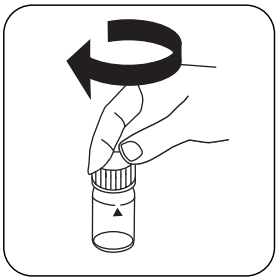
1. To avoid errors caused by contamination, rinse the vial and the accessories with Hydrochloric acid (approx. 20%) before the analysis. Then rinse them with deionised water.

Determination of Nitrate MR with Powder Pack

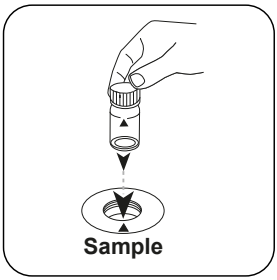
Select the method on the device.

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

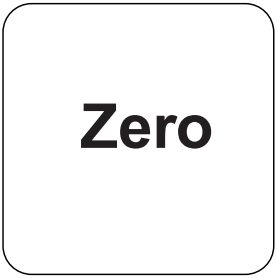
Fill 24 mm vial with **10 mL sample**.



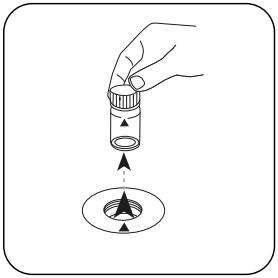
Close vial(s).



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

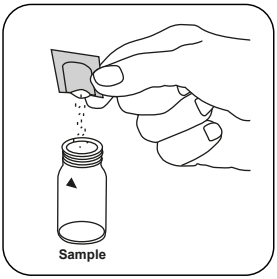


Press the **ZERO** button.

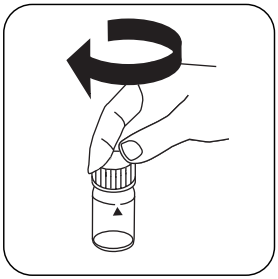


Remove the vial from the sample chamber.

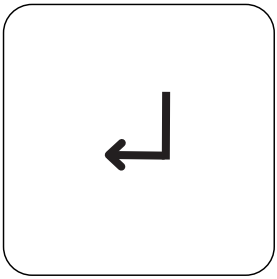
For devices that require **no ZERO measurement** , **start here**.



Add **Nitrate MR F10 powder pack**.

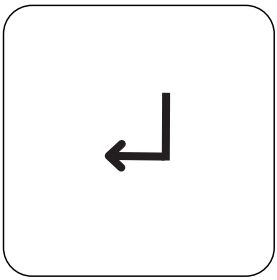


Close vial(s).

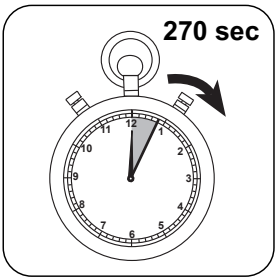


Press the **ENTER** button for countdown.
(XD: start timer)

Mix the contents by shaking vigorously. (1 minute).

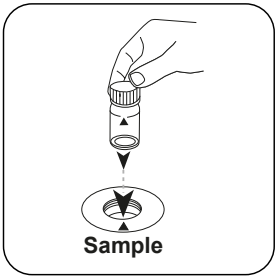


Press the **ENTER** button for countdown.
(XD: start timer)

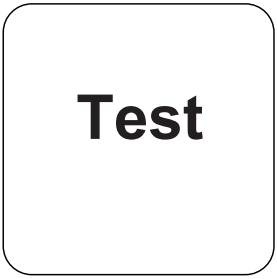


Wait for **270 second(s) reaction time**.

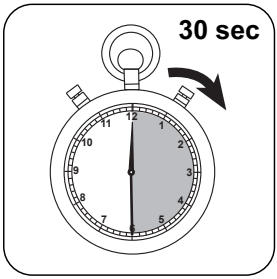
Swirl the vial once **(do not shake or invert!)**.



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



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



Wait for **30 second(s) reaction time**.

The result in mg/L NO_3-N appears on the display.

Analyses

The following table identifies the output values can be converted into other citation forms.

Unit	Cite form	Scale Factor
mg/l	N	1
mg/l	NO_3	4.4268

Chemical Method

Zinc Reduction

Calibration function for 3rd-party photometers

Conc. = a + b•Abs + c•Abs^2 + d•Abs^3 + e•Abs^4 + f•Abs^5

	ø 24 mm	□ **10 mm**
a	$-1.2983 \cdot 10^0$	$-1.2983 \cdot 10^0$
b	$3.7727 \cdot 10^1$	$8.1199 \cdot 10^1$
c	$-5.5832 \cdot 10^0$	$-2.5808 \cdot 10^1$
d		
e		
f		

Interferences

Persistant Interferences

1. Nitrite interferes at any concentration.

Interference	from / [mg/L]
Fe	1
Cu	2
Ni	1
Tannin	1

Method Validation

Limit of Detection	0.5 mg/L
Limit of Quantification	1.4 mg/L
End of Measuring Range	30.0 mg/L
Sensitivity	32.0 mg/L/Abs
Confidence Intervall	0.6 mg/L
Standard Deviation	0.2 mg/L
Variation Coefficient	1.55 %