Molybdate T M250

1 - 50 mg/L MoO_4 Mo3

Thioglycolate

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 - 50 mg/L MoO_4
XD 7000, XD 7500	ø 24 mm	366 nm	1 - 50 mg/L MoO_4
MD 100	ø 24 mm	430 nm	0.6 - 50 mg/L MoO_4
SpectroDirect	ø 24 mm	366 nm	1 - 30 mg/L MoO_4

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Molybdate HR No. 1	Tablet / 100	513060BT
Molybdate HR No. 1	Tablet / 250	513061BT
Molybdate HR No. 2	Tablet / 100	513070BT
Molybdate HR No. 2	Tablet / 250	513071BT
Set Molybdate No. 1/No. 2 100 Pc.#	100 each	517631BT
Set Molybdate No. 1/No. 2 250 Pc.#	250 each	517632BT

Application List

- Boiler Water
- Cooling Water

Notes

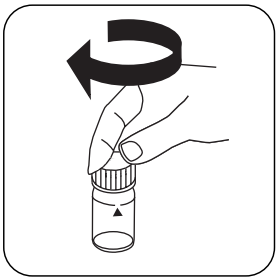
1. The tablets must be added in the correct sequence.

Determination of Molybdate HR with Tablet

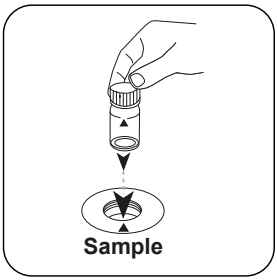
Select the method on the device.

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

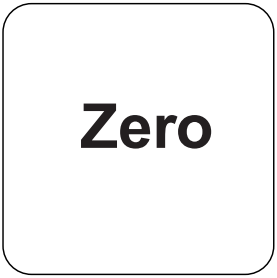
Fill 24 mm vial with **10 mL sample**.



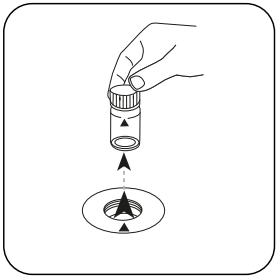
Close vial(s).



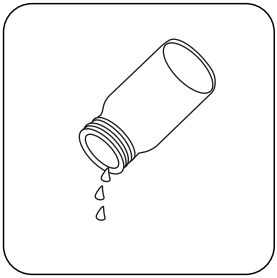
Place **sample vial** in the sample chamber. Pay attention to the positioning.



Press the **ZERO** button.

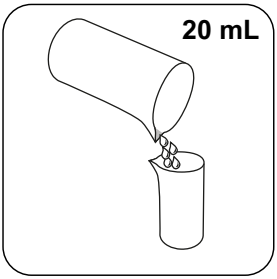


Remove the vial from the sample chamber.

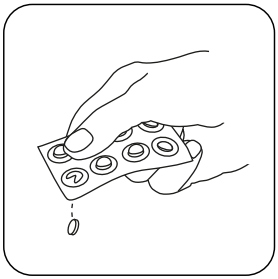


Empty vial.

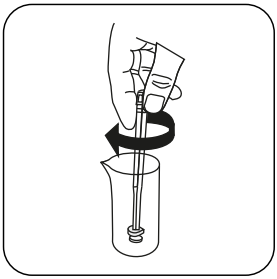
For devices that require **no ZERO measurement** , **start here**.



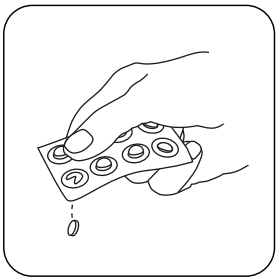
Put **20 mL sample** in 100 mL measuring beaker



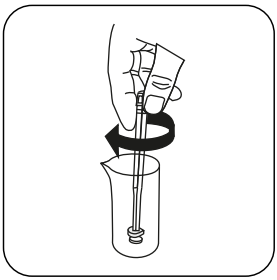
Add **MOLYBDATE HR No. 1 tablet** .



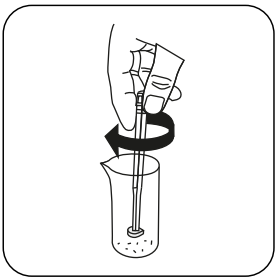
Crush tablet(s) by rotating slightly.



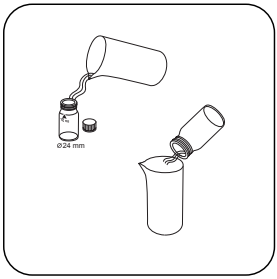
Add **MOLYBDATE HR No. 2 tablet** .



Crush tablet(s) by rotating slightly.

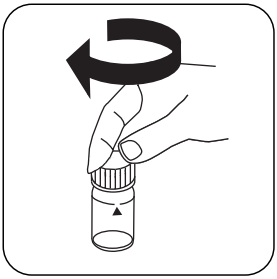


Dissolve the tablets using a clean stirring rod.

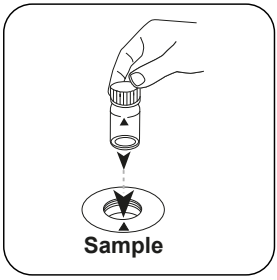


Rinse out vial with prepared sample .

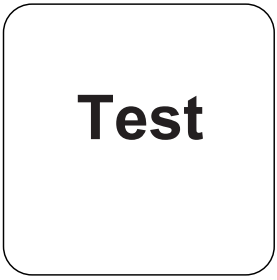
Fill up vial with **sample** to the **10 mL mark**.



Close vial(s).



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



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

The result in mg/L Molybdate/ Molybdenum 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	MoO_4	1
mg/l	Mo	0.6
mg/l	Na_2MoO_4	1.29

Chemical Method

Thioglycolate

Appendix

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	$-1.30232 \cdot 10^{+0}$	$-1.30232 \cdot 10^{+0}$
b	$1.7691 \cdot 10^{+1}$	$3.80356 \cdot 10^{+1}$
c		
d		
e		
f		

Interferences

Removeable Interferences

1. Interference from niobium, tantalum, titanium, and zirconium are masked with citric acid.
2. Interference from vanadium(V) is masked with potassium fluoride.
3. Under test conditions (pH 3.8 – 3.9) iron does not react. Other metals at levels likely to be found in industrial water systems do not interfere at any significant level either.

Bibliography

Photometrische Analyse, Lange/ Vjedelek, Verlag Chemie 1980

including stirring rod, 10 cm