**Manganese T****M240****0.2 - 4 mg/L Mn****Mn****Formaldehyde**

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 100, MD 600, MD 610, MD 640, MultiDirect	ø 24 mm	530 nm	0.2 - 4 mg/L Mn
SpectroDirect, XD 7000, XD 7500	ø 24 mm	450 nm	0.2 - 4 mg/L Mn

Material

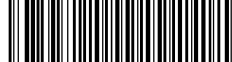
Required material (partly optional):

Reagents	Packaging Unit	Part Number
Manganese LR 1	Tablet / 100	516080BT
Manganese LR 1	Tablet / 250	516081BT
Manganese LR 2	Tablet / 100	516090BT
Manganese LR 2	Tablet / 250	516091BT
Set Manganese LR 1/LR 2 100 Pc.#	100 each	517621BT
Set Manganese LR 1/LR 2 250 Pc.#	250 each	517622BT

Application List

- Galvanization
- Drinking Water Treatment
- Raw Water Treatment





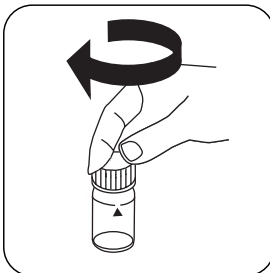
Determination of Manganese with Tablet

Select the method on the device.

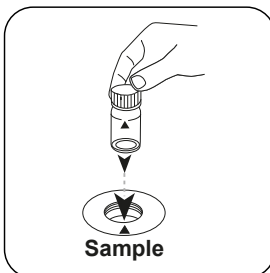
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



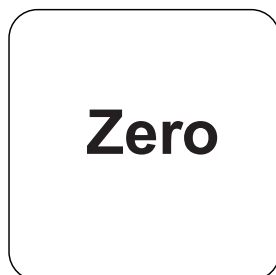
Fill 24 mm vial with **10 mL sample**.



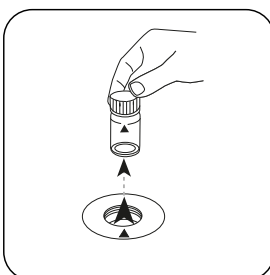
Close vial(s).



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

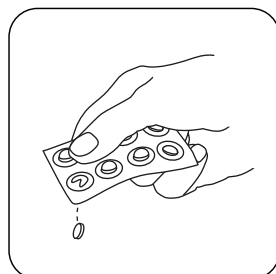


Press the **ZERO** button.

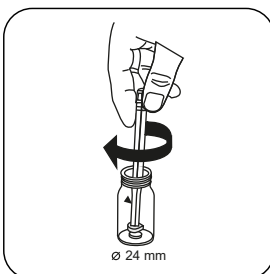


Remove the vial from the sample chamber.

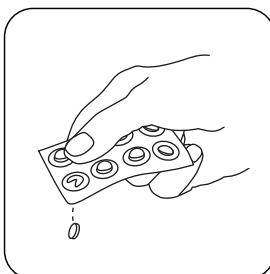
For devices that require **no ZERO measurement**, start here.



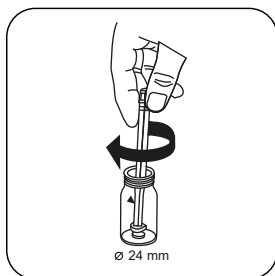
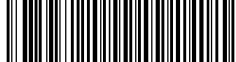
Add **MANGANESE LR 1 tablet**.



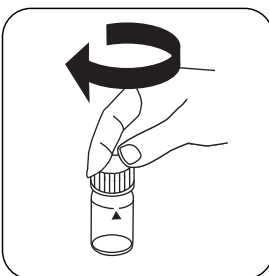
Crush tablet(s) by rotating slightly and dissolve.



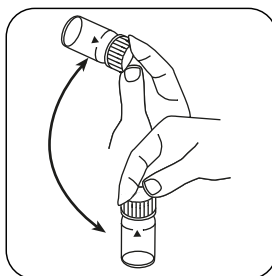
Add **MANGANESE LR 2 tablet**.



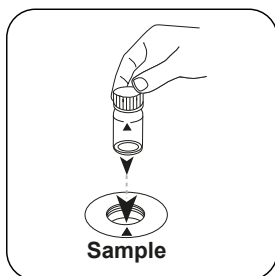
Crush tablet(s) by rotating slightly.



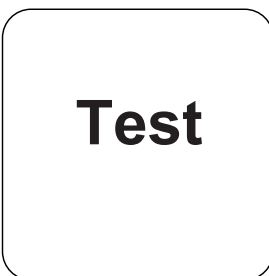
Close vial(s).



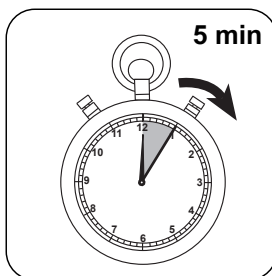
Dissolve tablet(s) by inverting.



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

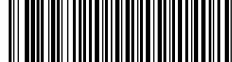


Press the **TEST** (XD: **START**) button.



Wait for **5 minute(s) reaction time**.

Once the reaction period is finished, the measurement takes place automatically.
The result in mg/L Manganese 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	Mn	1
mg/l	MnO ₄	2.17
mg/l	KMnO ₄	2.88

Chemical Method

Formaldehyde

Appendix

Calibration function for 3rd-party photometers

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

	ø 24 mm	□ 10 mm
a	$-1.42044 \cdot 10^{-1}$	$-1.42044 \cdot 10^{-1}$
b	$2.41852 \cdot 10^{+0}$	$5.19982 \cdot 10^{+0}$
c		
d		
e		
f		

Bibliography

Gottlieb, A. & Hecht, F. Mikrochim Acta (1950) 35: 337

According to

DIN 38406-E2

* including stirring rod, 10 cm