Zinc T M400

0.02 - 1 mg/L Zn

Zincon

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	610 nm	0.02 - 1 mg/L Zn
XD 7000, XD 7500	ø 24 mm	616 nm	0.02 - 1 mg/L Zn
SpectroDirect	ø 24 mm	616 nm	0.02 - 0.5 mg/L Zn

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Copperr/Zinc LR	Tablet / 100	512620BT
Copperr/Zinc LR	Tablet / 250	512621BT
EDTA in presence of copper	Tablet / 100	512390BT
EDTA in presence of copper	Tablet / 250	512391BT
Dechlor in presence of chlorine	Tablet / 100	512350BT

Application List

- Waste Water Treatment
- Raw Water Treatment
- Cooling Water
- Galvanization

Preparation

1. In the case of high levels of residual chlorine, perform the analysis with a dechlorinated water sample. To dechlorinate the sample, add a DECHLOR tablet to a 24mm vial with the water sample. Then add the Copper/Zinc LR tablet (point 2) and continue with the test procedure as described.
2. Strong alkaline or acidic water samples should be adjusted between to about pH 7 before the analysis (use 1 mol/l Sulphuric acid or 1 mol/l Sodium hydroxide).

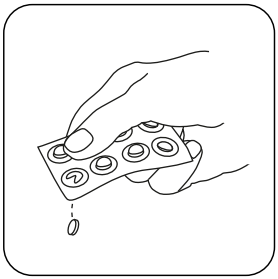
Notes

1. When using the copper/zinc LR tablets, the Zincon indicator reacts with both the zinc and the copper. Therefore, the specified measuring range may possibly refer to the total concentration of both ions.
2. The addition of an EDTA tablet during the second step of the analysis ensures that any copper presence is not measured.

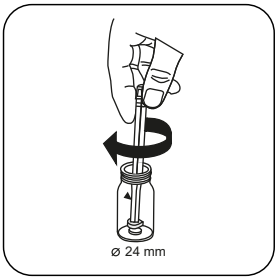
Determination of Zinc with Tablet

Select the method on the device.

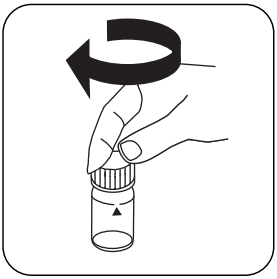
Fill 24 mm vial with **10 mL sample**.



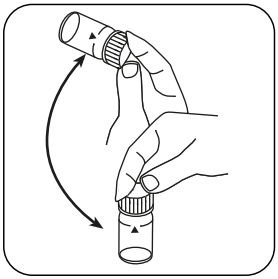
Add **COPPER/ ZINK LR tablet**.



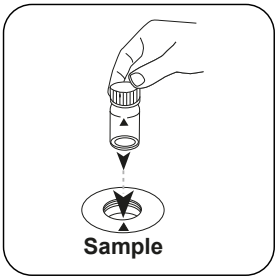
Crush tablet(s) by rotating slightly.



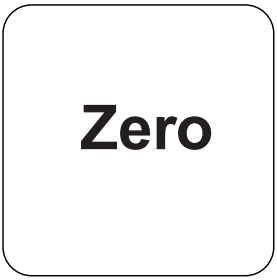
Close vial(s).



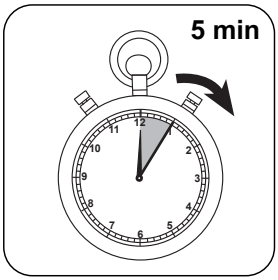
Dissolve tablet(s) by inverting.



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

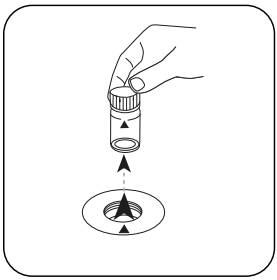


Press the **ZERO** button.

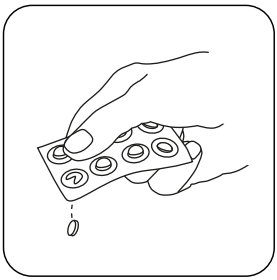


Wait for **5 minute(s) reaction time**.

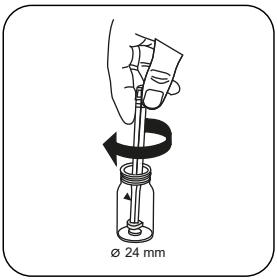
Once the reaction period is finished, the measurement takes place automatically.



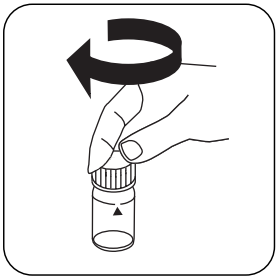
Remove the vial from the sample chamber.



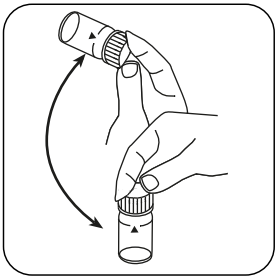
Add **EDTA tablet**.



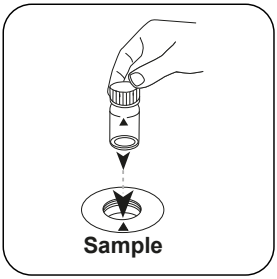
Crush tablet(s) by rotating slightly.



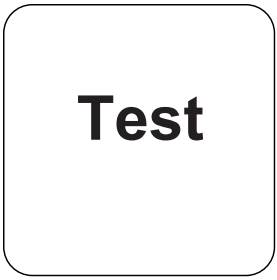
Close vial(s).



Dissolve tablet(s) by inverting.



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



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

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

Chemical Method

Zincon

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	1.76244 • 10^{-2}	1.76244 • 10^{-2}
b	-1.07009 • 10^{+0}	-2.30069 • 10^{+0}
c	-2.01229 • 10^{+0}	-9.30181 • 10^{+0}
d	-2.13062 • 10^{+1}	-2.11749 • 10^{+2}
e	-5.56685 • 10^{+1}	-1.1895 • 10^{+3}
f	-4.52617 • 10^{+1}	-2.07933 • 10^{+3}

Interferences

Persistant Interferences

Copper, cobalt, nickel, aluminium, iron, cadmium, manganese interfere with the determination.

Removeable Interferences

- If there is a presence of interfering metals, pre-isolation of zinc is recommended by means of an ion exchanger, precipitation of the metals with ammonia, pre-extraction of the zinc from hydrochloric acid medium using methyldioctylamine or triisooctylamine solution in methyl isobutyl ketone, etc..
- Concentrations above 1 mg/L can lead to results within the measuring range. A plausibility test (dilution of the sample) is recommended.

Derived from

Hach Method 8009 US EPA approved for Wastewater