NB: NEW!
The actual edition date is given with the procedure or evaluation. See also under "Note" (below).

Zinc Trace

Principle
Zinc ions form a water-soluble orange-red complex with 4-(2-pyridyl-azo)-resorcin (PAR) at pH 6 – 11.

Range of Application
Waste water, drinking water, surface water, raw water, process analysis

Storage Information
The test reagents are stable at +15 to +25°C up to the expiry date given on the package.

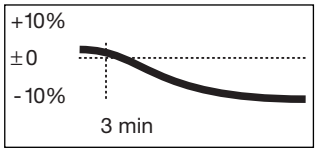
Interferences
The ions listed in the table have been individually checked up to the given concentrations. Cumulative effects and the influence of other ions have not been determined by us. There is no interference from:

2000 mg/l:	SO_4^{2-}
1000 mg/l:	Cl^-, Na^+, K^+
500 mg/l:	NO_3^-
250 mg/l:	Ca^{2+}, Mg^{2+}
50 mg/l:	Ni^{2+}, Cr^{6+}, CO_3^{2-}
10 mg/l:	Co^{2+}, Cu^{2+}, Cr^{3+}
5 mg/l:	Fe^{2+}, Fe^{3+}, Sn^{2+}
1 mg/l:	Pb^{2+}

Undissolved zinc or zinc contained in complexes can only be determined after digestion with Crack-Set LCW 902.
The measurement results must be subjected to plausibility checks (dilute and/or spike the water sample).

pH/Temperature/Time
The pH of the water sample must be between pH 2.5 and pH 11.
The temperature of the water sample and reagents must be between 15 and 25°C.

Time dependence



The final extinction is achieved after 3 min. If the reaction time is exceeded the results will be too low by a considerable amount.

Analytical Quality Assurance
addista is an analytical quality assurance system with which you can check the accuracy and precision of your analysis results at any time. Regular checks ensure that your measurement system is functioning properly and is being correctly operated, and reveal sample-specific interferences.

*For trace analysis the standard solution has be diluted by a factor of **4**.*
After dilution the following nominal values are obtained:

Standard	***Range of confidence***
0.5 mg/l zinc	*0.48 – 0.52 mg/l zinc*

Safety Advice
On grounds of quality and reliability, the analysis should be carried out only with original accessories.

CADAS 100 (LPG 185 / ≥ LPG 210)
If this test is not already stored in your instrument please ask your manufacturer for programming instructions.

Note
The new edition date and the new colour mark the introduction of the **DosiCap*Zip***. This provides not only the greatest possible protection for the reagent in the cap but also a simplified, extremely accurate dispensing method.

Applies to all types of photometer

Zinc Trace

Edition 07/2002

Carefully remove the foil from the screwed-on **DosiCap Zip**. Unscrew the **DosiCap Zip**. Pipette into the cuvette test

	Sample cuvette	Blank-value cuvette
Water sample	2.5 ml	—
Distilled water	—	2.5 ml
Demasking solution A (LCK 360 A)	0.2 ml	0.2 ml

Immediately screw the **DosiCap Zip**, with the fluting at the top, back onto each cuvette and ***shake firmly back and forth 2 or 3 times***. After ***3 min*** thoroughly clean the outside of the cuvettes and evaluate.

Zinc Trace

Edition 05/2006

Evaluation

1. Insert blank-value cuvette (see procedure).
2. Insert sample cuvette.

Parameter	Test-No.	Meas. range
Zinc trace (Zn-Trace)	360	0.02 – 0.80 mg/l
Zinc trace (Zn-Trace 902, Crack-Set)	360	0.024 – 0.96 mg/l

LP2W	*06/1997*
Zn-Trace • $F_1 = 0$ • $F_2 = 1.5$ • K = 0	
CADAS 30/30S/50/50S	***06/1997***
Zn-Trace • λ: 490 nm • Pro.: 1 • $F_1 = 0$ • $F_2 = 1.426$ • K = 0	
Zn-Trace 902 • λ: 490 nm • Pro.: 9 • $F_1 = 0$ • $F_2 = 1.426$ • $F_3 = 1.2$ • K = 0	
ISIS 6000/9000	***06/1997***
Zn-Trace • λ: 500 nm • Pro.: 1 • $F_1 = 0$ • $F_2 = 1.474$ • K = 0	
Zn-Trace 902 • λ: 500 nm • Pro.: 9 • $F_1 = 0$ • $F_2 = 1.474$ • $F_3 = 1.2$ • K = 0	
CADAS 100 / LPG 185	***06/1997***
Zn-Trace • λ: 490 nm • F = 1.42	
CADAS 100 / ≥ LPG 210	***06/1997***
Zn-Trace • λ: 490 nm • $F_1 = 1.42$	
CADAS 200 Basis / Combimodule	***11/2001***
Zn-Trace • E1W1.(M.E2W1) • C1 = (E2-E1)∗F1-F2 • W1 = 490 nm • F1 = 1.436 • F2 = 0.000	
Zn-Trace 902 • E1W1.(M.E2W1) • C1 = ((E2-E1)∗F1-F2)∗1.2 • W1 = 490 nm • F1 = 1.436 • F2 = 0.000	

Zinc Trace

Edition 06/1997

Evaluation

1. Press ”Mode“ key and check program control number: **__ : 30**
2. Insert program filter **480 nm**.
3. Select test with ”Mode“ key.
4. Insert blank-value cuvette (see procedure).
5. Insert sample cuvette.

Parameter	Display	Meas. range
Zinc trace (Zn-Trace)	Zn-T LCK 360	0.02 – 0.80 mg/l

LASA 20 LCS 360

Zinc Trace

Edition 06/1997

Evaluation

1. Press any key.
2. Check program control number: **__ : 32**
3. Select test with ↑ or ↓ key.
4. Insert blank-value cuvette (see procedure).
5. Insert sample cuvette.

Parameter	Display	Meas. range
Zinc trace (Zn-Trace)	Zn-T LCK 360	0.02 – 0.80 mg/l
Zinc trace (Zn-Trace 902, Crack-Set)	Zn-T9 LCK 360	0.024 – 0.96 mg/l

LASA 30 LCS 360

Zinc Trace

Edition 11/2001

Evaluation

1. Insert filter **480 nm**.
2. Select »Dr. Lange« mode.
3. Select test number (see below).
4. Control number must be **2**.
5. Insert blank-value cuvette (see procedure) and press green key.
6. Insert sample cuvette and press green key.

Parameter	Test-No.	Meas. range
Zinc trace (Zn-Trace)	360	0.02 – 0.80 mg/l
Zinc trace (Zn-Trace 902, Crack-Set)	360	0.024 – 0.96 mg/l

LP1W, LKT LCS 360

Zinc Trace

Edition 06/1997

Evaluation

1. Insert filter **500 nm**.
2. Enter factor (see below) and store ↑ .
3. Insert blank-value cuvette (see procedure) and press "Null" (zero) key.
4. Insert sample cuvette and press "Ergebnis mit Faktor" (result with factor) key.

Parameter	Factor	Meas. range
Zinc trace (Zn-Trace)	1.5	0.02 – 0.80 mg/l

LP2W LCS 360

Zinc Trace

Edition 06/1997

Evaluation

1. Insert program filter **500 nm**.
2. Press "Tests" key until display (see below) appears.
3. Control number must be **6**.
4. Insert blank-value cuvette (see procedure) and press "Null" (zero) key.
5. Insert sample cuvette and press "Ergebnis" (result) key.

Parameter	Display	Meas. range
Zinc trace (Zn-Trace)	Test _ _	0.02 – 0.80 mg/l

CADAS 30/50, ISIS 6000/9000 LCS 360

Zinc Trace

Edition 06/1997

Evaluation

1. Check program control number:
   __ : 32 (ISIS 6000/9000) ⇒ Select »TEST« mode.
   CADAS 30/50 ⇒ Select »TEST« mode.
2. Select test number (see below).
3. Control number must be:
   8 (CADAS 30/50)
   3 (ISIS 6000/9000)
4. Insert blank-value cuvette (see procedure) and press blue key.
5. Insert sample cuvette and press green key.

Parameter	Test-No.	Meas. range
Zinc trace (Zn-Trace)	360	0.02 – 0.80 mg/l
Zinc trace (Zn-Trace 902, Crack-Set)	360	0.024 – 0.96 mg/l

CADAS 200 Basis, Combimodule
LASA 100, XION 500 LCS 360

Zinc Trace

Edition 11/2001

Evaluation

1. Check program control number:
   __ : 46 (CADAS 200)
   LASA 100, XION 500 ⇒ Select »Dr. Lange« mode.
2. Select test number (see below).
3. Control number must be **2**.
4. Insert blank-value cuvette (see procedure) and press green key.
5. Insert sample cuvette and press green key.

Parameter	Test-No.	Meas. range
Zinc trace (Zn-Trace)	360	0.02 – 0.80 mg/l
Zinc trace (Zn-Trace 902, Crack-Set)	360	0.024 – 0.96 mg/l

CADAS 30S/50S LCS 360

Zinc Trace

Edition 06/1997

Evaluation

1. Select »TEST« mode.
2. Select test number (see below).
3. Control number must be **8**.
4. Insert blank-value cuvette (see procedure) and press key below »ZERO«.
5. Insert sample cuvette and press key below »MEAS.«.

Parameter	Test-No.	Meas. range
Zinc trace (Zn-Trace)	360	0.02 – 0.80 mg/l
Zinc trace (Zn-Trace 902, Crack-Set)	360	0.024 – 0.96 mg/l

CADAS 100 (LPG 185) / (≥ LPG 210) LCS 360

Zinc Trace

Edition 06/1997

Evaluation

1. Select »TEST« mode.
2. Select symbol (see below).
3. Check factors and measuring wavelength in memory »Mem« **(LPG 185)** or control number must be **2 (LPG 210)**.
4. Insert blank-value cuvette (see procedure) and press ”NULL“ (zero) key.
5. Insert sample cuvette and press ”MESS“ (measure) key.

Parameter	Symbol	Meas. range
Zinc trace (Zn-Trace)	360 T	0.02 – 0.80 mg/l