

WW  
DW  
PW

# Photometric tests from HACH LANGE at a glance

TYPE	MEASURING RANGE	METHOD	Instrument Models											HAZARD CODE*	ART. NO.		
			DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890			DR 2400/2500	DR 4000
<b>ACID CAPACITY KS 4.3</b>																	
LCK	0.5 – 8.0 mmol/l	LANGE method	●	●	●	●	●	●	●								LCK362
<b>ALACHLOR in water</b>																	
IM	Threshold value (ppb)	Immunoassay	●	●						●			●	●	T		2813000
<b>ALCOHOL</b>																	
LCK	0.01 – 0.12 g/l	Alcohol oxidase	●	●	●	●	●	●	●								LCK300
<b>ALUMINIUM</b>																	
LCK	0.02 – 0.5 mg/l	Chromazurol S	●	●	●	●	●	●	●						T		LCK301
PP	0.002 – 0.250 mg/l	Eriochrome cyanine R	●	●									●	●	Xn, F		2603700
PP	0.008 – 0.800 mg/l	Aluminon	●	●						●	●	●	●	●	Xi		2242000
<b>AMMONIUM</b>																	
LCK	0.015 – 2 mg/l NH <sub>4</sub> -N	Indophenol blue	●	●	●	●	●	●	●						Xn, N		LCK304
LCK	1 – 12 mg/l NH <sub>4</sub> -N	Indophenol blue	●	●	●	●	●	●	●						Xn, N		LCK305
LCK	2 – 47 mg/l NH <sub>4</sub> -N	Indophenol blue	●	●	●	●	●	●	●						Xn, N		LCK303
LCK	47 – 130 mg/l NH <sub>4</sub> -N	Indophenol blue	●	●	●	●	●	●	●						Xn, N		LCK302
PP	0.01 – 0.50 mg/l NH <sub>4</sub> -N	Salicylate	●	●							●	●	●	●	C, Xn		2668000
RS	0.02 – 2.50 mg/l NH <sub>4</sub> -N	Nessler	●	●									●	●	C		2458200
TNT	0.02 – 2.50 mg/l NH <sub>4</sub> -N	Salicylate									●	●	●	●	C, Xn		2604545
TNT	0.4 – 50.0 mg/l NH <sub>4</sub> -N	Salicylate									●	●	●	●	C, Xn		2606945
<b>AMMONIUM (quarternary compounds)</b>																	
PP	0.2 – 5.0 mg/l CTAB	Direct binary complex	●	●									●	●	Xi		2459200
<b>AOX</b>																	
LCK	0.05 – 3 mg/l		●	●	●	●	●	●	●						T, C, F		LCK390
<b>AOX (fast digestion)</b>																	
LCK	0.005 – 0.5 mg/l		●	●	●	●	●	●	●						T, C, F		LCK391
<b>ARSENIC</b>																	
RS	0 – 0.200 mg/l	Silver diethyldithiocarbamate	●	●									●	●			
<b>ATRAZINE</b>																	
IM	Lower ppb	Immunoassay	●	●									●	●	T		2762700
<b>BARIUM</b>																	
PP	1 – 100 mg/l	Turbidity measurement	●	●									●	●	Xi		1206499
AV	1 – 100 mg/l	Turbidity measurement	●	●									●	●	Xi		2513025
<b>BENZOTRIAZOLE or TOLYTRIAZOLE</b>																	
PP	1 – 16 mg/l 1 – 20 mg/l	UV	●	●								●	●	●	Xn		2141299

LCK	→	LANGE cuvette test	HPT	→	HACH pipette test	RS	→	Reagent solution
LCW	→	LANGE pipette test	PP	→	Powder Pillow test	IM	→	Immunoassay
TNT	→	TEST'N'TUBE	AV	→	ACCUVAC	RL	→	Rapid liquid system

→ Laboratory automation: see Chapter 9 → Samplers: see Chapter 10 → Process measurement technology: see Chapter 11-20



- Photometers and spectrophotometers see. page 29
- Lab. analysers see page 83

Cuvette Test (LCK)

Powder Pillow (PP)

ACCUVAC (AV)

TYPE	MEASURING RANGE	METHOD	DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890	DR 2400/2500	DR 4000	HAZARD CODE*	ART. NO.
<b>BITTER UNITS</b>																	
LCK	≥ 2 BU	MEBAK	●						●							F, Xn, N	LCK241
<b>BOD<sub>5</sub></b>																	
LCK	0.5 – 12 mg/l	Dilution method	●	●	●	●	●	●	●							Xi	LCK554
LCK	4 – 1,650 mg/l	Dilution method	●	●	●	●	●	●	●							C, O	LCK555
<b>BORON</b>																	
LCK	0.05 – 2.5 mg/l	Azomethine H	●	●	●	●	●	●	●								LCK307
PP	0.2 – 14.0 mg/l	Carmin method	●	●									●	●			1417099
PP	0.02 – 1.50 mg/l	Azomethine H	●	●								●	●	●	Xi		2666900
<b>BROMINE</b>																	
PP	0.05 – 4.50 mg/l	DPD	●	●						●	●	●	●	●	●		2105669
AV	0.05 – 4.50 mg/l	DPD	●	●						●	●	●	●	●	●		2503025
<b>CADMIUM</b>																	
LCK	0.02 – 0.3 mg/l	Cadion	●	●	●	●	●	●	●							T, N	LCK308
RS	0 – 80 µg/l	Dithizone	●	●											●	T+, C, N	224200
<b>CARBONATE/CARBON DIOXIDE</b>																	
LCK	55 – 550 mg/l CO <sub>2</sub>	pH indicator	●	●	●		●	●	●								LCK388
<b>CHLORAMINE (mono)</b>																	
TNT	0.1 – 10.0 mg/l Cl <sub>2</sub>	Indophenol									●	●	●	●		C, Xn	2805145
TNT	0.04 – 4.50 mg/l Cl <sub>2</sub>	Indophenol								●	●	●	●	●		C, Xn	2802246
<b>CHLORIDE</b>																	
LCK	1 – 70 mg/l 70 – 1,000 mg/l	Iron III thiocyanat	●	●	●	●	●	●	●							T, C	LCK311
RS	0.1 – 25.0 mg/l	Mercury thiocyanate	●	●									●	●		T, C, F	2319800



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Order simply and quickly

1) Not measurable on DR 2400

Please note: the measuring ranges can vary from instrument to instrument!

- \*Hazard symbol with description see page 60
- For more information about ordering on the Internet see page 146
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# Photometric tests (2)

TYPE	MEASURING RANGE	METHOD	DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890	DR 2400/2500	DR 4000	HAZARD CODE*	ART. NO.
<b>CHLORINE (free)</b>																	
PP	0.02 – 2.00 mg/l	DPD	●	●						●	●	●	●	●	●		2105569
AV	0.02 – 2.00 mg/l	DPD	●	●						●	●	●	●	●	●		2502025
PP	0.1 – 5.0 mg/l	DPD								●	●	●					1407099
PP	0.1 – 10 mg/l	DPD	●	●										●	●		1407099
RL	0.02 – 2.00 mg/l	DPD	●	●										●		Xi, Xn	2556900
TNT	0.09 – 5.00 mg/l	DPD								●	●	●	●	●	●		2105545
<b>CHLORINE (total)</b>																	
AV	0.02 – 2.00 mg/l	DPD	●	●						●	●	●	●	●	●		2503025
PP	0.02 – 2.00 mg/l	DPD	●	●						●	●	●	●	●	●		2105669
PP	0.1 – 5 mg/l	DPD								●	●	●					1406499
PP	0.1 – 10 mg/l	DPD	●	●										●	●		1406499
RL	0.02 – 2.00 mg/l	DPD	●	●										●		C, Xn	2557000
RL	2 – 500 µg/l	DPD	●	●										●	●	Xi	2563000
TNT	0.09 – 5.00 mg/l	DPD								●	●	●	●	●	●		2105645
<b>CHLORINE DIOXIDE</b>																	
AV	0.01 – 1.00 mg/l ClO <sub>2</sub>	Chlorophenol red	●	●										●	●	Xi	2242300
AV	0.04 – 5.00 mg/l ClO <sub>2</sub>	DPD/glycine	●	●						●	●	●	●	●	●		2771000
HPT	0.003 – 0.500 mg/l ClO <sub>2</sub>	Amaranth	●	●						●	●	●	●	●	●		HPT240
PP	0.04 – 5.00 mg/l ClO <sub>2</sub>	DPD/glycine	●	●						●	●	●	●	●	●		2770900
<b>CHLORINE/OZONE</b>																	
LCW	0.05 – 1.5 mg/l Cl <sub>2</sub> /O <sub>3</sub>	DPD	●	●	●	●	●	●									LCW510
	0.03 – 0.4 mg/l Cl <sub>2</sub> /O <sub>3</sub>																
<b>CHLORINE/OZONE/CHLORINE DIOXIDE</b>																	
LCK	0.05–2 mg/l Cl <sub>2</sub> /O <sub>3</sub>	DPD	●	●	●	●	●	●									LCK310
	0.09 – 3.8 mg/l Cl <sub>2</sub> O																
<b>CHROMIC ACID BATHS</b>																	
LCK	50 – 450 g/l CrO <sub>3</sub>	Intrinsic bath colour	●	●	●	●	●	●								Xi	LCK213
<b>CHROMIUM</b>																	
LCK	0.005 – 0.25 mg/l	Diphenylcarbazide	●	●	●	●	●	●								Xn, Xi	LCS313
PP	0.01 – 0.70 mg/l	Hypobromite oxidation	●	●						●	●	●	●	●	●	T, C	2242500
<b>CHROMIUM (III + VI)</b>																	
LCK	0.03 – 1 mg/l	Diphenylcarbazide	●	●	●	●	●	●								Xn, Xi	LCK313
<b>CHROMIUM (VI)</b>																	
PP	0.01 – 0.70 mg/l	1.5-diphenylcarbohydrazide	●	●						●		●	●	●	●	Xi	1271099
AV	0.01 – 0.70 mg/l	1.5-diphenylcarbohydrazide	●	●						●		●	●	●	●	Xi	2505025
<b>COBALT</b>																	
PP	0.01 – 2.00 mg/l	PAN	●	●									●	●	T		2651600

LCK	→	LANGE cuvette test	HPT	→	HACH pipette test	RS	→	Reagent solution
LCW	→	LANGE pipette test	PP	→	Powder Pillow test	IM	→	Immunoassay
TNT	→	TEST'N'TUBE	AV	→	ACCUVAC	RL	→	Rapid liquid system

→ Laboratory automation: see Chapter 9 → Samplers: see Chapter 10 → Process measurement technology: see Chapter 11-20



Cuvette Test (LCK)



Powder Pillow (PP)



ACCUVAC (AV)

- Photometers and spectrophotometers see. page 29
- Lab. analysers see page 83

TYPE	MEASURING RANGE	METHOD	METHOD											HAZARD CODE*	ART. NO.		
			DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890			DR 2400/2500	DR 4000
<b>COD</b>																	
LCK	5 – 60 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCK414
TNT	0 – 40 mg/l	Chromosulphuric acid											● <sup>1)</sup>	●		C	2415851
LCK	1,000 – 10,000 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCK014
LCK	5,000 – 60,000 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCK914
LCK	15 – 150 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCK314
LCK	50 – 300 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCK614
LCK	100 – 2,000 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCK514
LCK	150 – 1,000 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCK114
TNT	3 – 150 mg/l	Chromosulphuric acid											●	●		C	2125851
TNT	20 – 1,500 mg/l	Chromosulphuric acid										●	●	●	●	T, C	2125951
TNT	30 – 1,000 mg/l	Manganese (III) Reactor digestion									●	●	●	●	●	C	2623451
TNT	200 – 15,000 mg/l	Chromosulphuric acid										●	●	●	●	T, C	2415951
<b>COD ISO</b>																	
LCK	0 – 1,000 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCI400
LCK	0 – 150 mg/l	Chromosulphuric acid	●	●	●	●	●	●	●							T, C	LCI500
<b>COLOUR</b>																	
RS	5 – 500 units	Platinum-cobalt standard	●	●									●	●	●		
<b>COLOUR DEVELOPER CD 2/3/4</b>																	
LCK	0.5 – 7.5 g/l	LANGE method	●	●	●		●	●	●							Xn	LCK395
<b>COPPER</b>																	
AV	0.04 – 5.00 mg/l	Bicinchoninat	●	●						●			●	●	●	Xn	2504025
LCK	0.01 – 1 mg/l	Bathocuproine disulphonic acid	●	●	●		●	●	●								LCK529
LCK	0.1 – 8 mg/l	Bathocuproine disulphonic acid	●	●	●	●	●	●	●								LCK329
PP	0.04 – 5.00 mg/l	Bicinchoninat	●	●						●			●	●	●		2105869
PP	2 – 210 µg/l	Porphyrine	●	●									●	●	●	Xn	2603300



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# Photometric tests (3)

TYPE	MEASURING RANGE	METHOD	DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890	DR 2400/2500	DR 4000	HAZARD CODE*	ART. NO.
<b>COPPER BATHS (acidic)</b>																	
LCK	2 – 100 g/l Cu	Intrinsic bath colour	●	●	●	●	●	●								Xi	LCK229
<b>CYANIDE</b>																	
PP	0.001 – 0.240 mg/l	Pyridine-pyrazalone	●	●							●	●	●	●			2430200
<b>CYANIDE (easily liberatable)</b>																	
LCK	0.03 – 0.35 mg/l	LANGE method	●	●	●	●	●	●								Xi, N	LCK319
<b>CYANIDE (free)</b>																	
LCK	0.01 – 0.6 mg/l	Barbituric acid-pyridine	●	●	●	●	●	●									LCK315
<b>CYANURIC ACID</b>																	
PP	5 – 50 mg/l	Turbidity measurement	●	●							●	●	●	●			246066
<b>FLUORIDE</b>																	
AV	0.02 – 2.00 mg/l	SPADNS	●	●						●		●	●	●	●	C	2506025
LCK	0.1 – 1.5 mg/l	SPADNS	●	●	●	●	●	●									LCK323
RS	0.02 – 2.00 mg/l	SPADNS	●	●						●		●	●	●	●	C	44449
<b>FORMALDEHYDE</b>																	
LCK	0.5 – 10 mg/l	Acetylacetone	●	●	●	●	●	●									LCK325
LCK	0.01 – 1 mg/l	Acetylacetone	●	●	●	●	●	●									LCS325
PP	3 – 500 µg/l	MBTH	●	●									●	●		Xn	2257700
<b>HARDNESS (Ca + Mg)</b>																	
LCK	1 – 20 °dH 5 – 100 mg/l Ca 3 – 50 mg/l Mg	Metal phthalein	●	●	●	●	●	●									LCK327
RL	0.07 – 4.00 mg/l CaCO <sub>3</sub>	Calmagite	●	●							●	●	●	●	●	C	2319900
RL	1 – 1,000 µg/l CaCO <sub>3</sub>	Chlorophosphonazo	●	●									●	●			2603100
<b>HARDNESS (residual) (Ca + Mg)</b>																	
LCK	0.02 – 0.6 °dH 0.1 – 2 mg/l Ca 0.15 – 2 mg/l Mg		●	●	●	●	●	●								Xi	LCK427
<b>HYDRAZINE</b>																	
AV	4 – 600 µg/l	P-dimethylamino-benzaldehyd	●	●								●	●	●		C	2524025
LCW	0.01 – 2 mg/l	4-dimethylamino-benzaldehyd	●	●	●		●	●	●								LCW025
RS	4 – 600 µg/l	P-dimethylamino-benzaldehyd	●	●								●	●	●			179032
<b>HYDROGEN PEROXIDE</b>																	
LCW	1 – 10 g/l		●	●	●		●	●	●								LCW058

LCK	→	LANGE cuvette test	HPT	→	HACH pipette test	RS	→	Reagent solution
LCW	→	LANGE pipette test	PP	→	Powder Pillow test	IM	→	Immunoassay
TNT	→	TEST'N'TUBE	AV	→	ACCUVAC	RL	→	Rapid liquid system



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# Photometric tests (4)

TYPE	MEASURING RANGE	METHOD	DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890	DR 2400/2500	DR 4000	HAZARD CODE*	ART. NO.
<b>NICKEL</b>																	
LCK	0.05 – 1 mg/l	Dimethylglyoxime	•	•	•	•	•	•								C	LCK537
LCK	0.1 – 6 mg/l	Dimethylglyoxime	•	•	•	•	•	•								C	LCK337
PP	0.02 – 1.80 mg/l	Heptoxime	•	•									•	•	Xn	2243500	
PP	0.007 – 1.000 mg/l	PAN	•	•										•	T	2242600	
PP	0.007 – 1.000 mg/l	PAN	•	•					•			•	•		T	2651600	
<b>NICKEL BATHS (acidic)</b>																	
LCK	5 – 120 g/l	Intrinsic bath colour	•	•	•	•	•	•								Xi	LCK237
<b>NITRATE</b>																	
LCK	0.23 – 13.5 mg/l NO <sub>3</sub> -N 1 – 60 mg/l NO <sub>3</sub>	2.6-dimethylphenol	•	•	•	•	•	•								C	LCK339
AV	0.1 – 10.0 mg/l NO <sub>3</sub> -N	Cadmium reduction	•	•								•	•	•	T, N	2511025	
AV	0.3 – 30.0 mg/l NO <sub>3</sub> -N	Cadmium reduction	•	•								•	•	•	T, N	2511025	
LCK	5 – 35 mg/l NO <sub>3</sub> -N 22 – 155 mg/l NO <sub>3</sub>	2.6 dimethylphenol	•	•	•	•	•	•								C	LCK340
PP	0.01 – 0.50 mg/l NO <sub>3</sub> -N	Cadmium reduction	•	•							•	•	•	•	T, N	2429800	
PP	0.1 – 10.0 mg/l NO <sub>3</sub> -N	Cadmium reduction	•	•								•	•	•	T, N	2106169	
PP	0.3 – 30.0 mg/l NO <sub>3</sub> -N	Cadmium reduction	•	•					•	•	•	•	•	•	T, N	2106169	
TNT	0.2 – 30.0 mg/l NO <sub>3</sub> -N	Chromotropic acid										•	•	•	C	2605345	



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Order simply and quickly

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LCK → LANGE cuvette test	HPT → HACH pipette test	RS → Reagent solution
LCW → LANGE pipette test	PP → Powder Pillow test	IM → Immunoassay
TNT → TEST'N'TUBE	AV → ACCUVAC	RL → Rapid liquid system



**Hazard Code E:**  
Explosive



**Hazard Code F:**  
Highly flammable



**Hazard Code T:**  
Toxic



**Hazard Code Xi:**  
Irritant



**Hazard Code C:**  
Corrosive



**Hazard Code O:**  
Oxidizing



**Hazard Code F+:**  
Extremely flammable



**Hazard Code T+:**  
Very toxic



**Hazard Code Xn:**  
Harmful



**Hazard Code N:**  
Dangerous for the environment

→ Laboratory automation: see Chapter 9 → Samplers: see Chapter 10 → Process measurement technology: see Chapter 11-20



Cuvette Test (LCK)



Powder Pillow (PP)



ACCUVAC (AV)

- Photometers and spectrophotometers see. page 29
- Lab. analysers see page 83

TYPE	MEASURING RANGE	METHOD												HAZARD CODE*	ART. NO.		
			DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890			DR 2400/2500	DR 4000
<b>NITRITE</b>																	
LCK	0.0015 – 0.03 mg/l NO <sub>2</sub> -N 0.005 – 0.1 mg/l NO <sub>2</sub>	Diazotization	●	●	●		●	●	●								LCK541
AV	0.002 – 0.300 mg/l NO <sub>2</sub> -N	Diazotization	●	●						●	●	●	●	●	Xi	2512025	
LCK	0.6 – 6 mg/l NO <sub>2</sub> -N 2 – 20 mg/l NO <sub>2</sub>	Diazotization	●	●	●	●	●	●							Xi	LCK342	
LCK	0.015 – 0.6 mg/l NO <sub>2</sub> -N 0.05 – 2 mg/l NO <sub>2</sub>	Diazotization	●	●	●	●	●	●							Xi	LCK341	
PP	0.002 – 0.300 mg/l NO <sub>2</sub> -N	Diazotization	●	●						●	●	●	●	●	Xi	2107169	
PP	2 – 250 mg/l NO <sub>2</sub> -N	Iron (II) sulphate	●	●							●	●	●	●	Xi	2107569	
TNT	0.003 – 0.500 mg/l NO <sub>2</sub> -N	Diazotization								●	●	●	●	●	Xi	2608345	
<b>NITROGEN (total), LATON</b>																	
LCK	1 – 16 mg/l TN <sub>6</sub>	Koroleff digestion + 2.6 dimethylphenol	●	●	●	●	●	●							C	LCK138	
LCK	5 – 40 mg/l TN <sub>6</sub>	Koroleff digestion + 2.6 dimethylphenol	●	●	●	●	●	●							C	LCK238	
LCK	20 – 100 mg/l TN <sub>6</sub>	Koroleff digestion + 2.6 dimethylphenol	●	●	●	●	●	●							C	LCK338	
<b>NITROGEN (total)</b>																	
TNT	0.5 – 25.0 mg/l N	Persulphate digestion + chromotropic acid										●	●	●	C, O	2672245	
TNT	10 – 150 mg/l N	Persulphate digestion + chromotropic acid										●	●	●	C, O	2714100	
<b>NITROGEN (total), Kjeldahl</b>																	
PP	1 – 150 mg/l	Nessler	●	●								●	●	●	T+, N, C	2495300	
<b>NITROGEN (total), inorganic</b>																	
TNT	0.2 – 25.0 mg/l N	Titanium trichloride reduction										●	●	●	C, Xn	2604545	
<b>ORGANIC ACIDS</b>																	
RS	27 – 2,800 mg/l	Esterification	●	●							●	●	●	●		2244700	
<b>ORGANIC ACIDS (fatty acids)</b>																	
LCK	50 – 2,500 mg/l acetic acid	Esterification	●	●	●	●	●	●							Xn, Xi	LCK365	
<b>OXYGEN BINDER</b>																	
PP	5 – 600 µg/l DEHA	Iron reduction	●	●								●	●	●	C	2446600	
<b>OXYGEN (dissolved)</b>																	
AV	0.3 – 15.0 mg/l	HRDO	●	●						●	●	●	●	●	Xi	2515025	
AV	1.0 – 40.0 mg/l	SHRDO (UHR)	●	●										●	Xi	2515025	
AV	6 – 800 µg/l	Indigo carmine	●	●								●	●	●		2501025	

1) Not measurable on DR 2400

Please note: the measuring ranges can vary from instrument to instrument!

→ \*Hazard symbol with description see page 60

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# Photometric tests (5)

TYPE	MEASURING RANGE	METHOD													HAZARD CODE*	ART. NO.
			DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890	DR 2400/2500		
<b>OZONE</b>																
AV	0.01 – 0.25 mg/l	Indigo	●	●						●	●	●	●	●	Xn	2516025
AV	0.01 – 0.75 mg/l	Indigo	●	●						●	●	●	●	●	Xn	2517025
AV	0.01 – 1.50 mg/l	Indigo	●	●							●	●	●	●	Xn	2518025
<b>PCB</b>																
IM	Threshold values (ppm)	Immunoassay for soil and water	●	●						●			●	●	T, F	2773500
<b>pH</b>																
RS	6.5 – 8.5 units	Phenol red								●	●	●	●			2657512
<b>PHENOL</b>																
LCK	0.05 – 5 mg/l	4-aminoantipyrine	●	●	●	●	●	●							Xn	LCK345
LCK	5 – 200 mg/l	4-aminoantipyrine	●	●	●	●	●	●							Xn, O	LCK346
PP	0.002 – 0.200 mg/l	4-aminoantipyrine	●	●									●	●	Xi, Xn	2243900
<b>PHOSPHONATE</b>																
PP	0.02 – 2.50 mg/l 1.0 – 125.0 mg/l	Persulphate/UV oxidation	●	●							●	●	●	●	Xi, Xn, O	2429700
<b>PHOSPHORUS (ortho)</b>																
AV	0.02 – 2.50 mg/l PO <sub>4</sub>	PhosVer 3	●	●						●	●	●	●	●	Xi	2508025
AV	0.3 – 45.0 mg/l PO <sub>4</sub>	Molybdovanadate	●	●								●	●	●	C	2525025
PP	0.02 – 2.50 mg/l PO <sub>4</sub>	PhosVer 3	●	●						●	●	●	●	●	Xi	2106069
RL	0.3 – 45.0 mg/l PO <sub>4</sub>	Molybdovanadate	●	●									●	●	C	2076049
RL	19 – 3,000 µg/l PO <sub>4</sub> 0.04 – 30.00 mg/l PO <sub>4</sub>	Ascorbic acid Amino acid	●	●							●	●	●	●	C T, C	2678600 2244100
RS	0.3 – 45.0 mg/l PO <sub>4</sub>	Molybdovanadate	●	●								●	●	●	C	2076032
TNT	0.06 – 5.00 mg/l PO <sub>4</sub>	PhosVer 3									●	●	●	●	C	2742545
TNT	1.0 – 100.0 mg/l PO <sub>4</sub>	Molybdovanadate												●	Xi	2767345
LCK	1.6 – 30 mg/l PO <sub>4</sub> -P 5 – 90 mg/l PO <sub>4</sub>	Vanadate-molybdate	●	●	●	●	●	●							C	LCK049
<b>PHOSPHORUS (ortho + total)</b>																
LCK	0.01 – 0.5 mg/l PO <sub>4</sub> -P 0.03 – 1.5 mg/l PO <sub>4</sub>	Phosphormolybdenum blue	●	●	●		●	●	●						C, Xn	LCS349
LCK	0.5 – 5 mg/l PO <sub>4</sub> -P 5 – 15 mg/l PO <sub>4</sub>	Phosphormolybdenum blue	●	●	●	●	●	●							C, Xn	LCK348
LCK	2 – 20 mg/l PO <sub>4</sub> -P 6 – 60 mg/l PO <sub>4</sub>	Phosphormolybdenum blue	●	●	●	●	●	●							C, Xn	LCK350
TNT	0.06 – 5.00 mg/l PO <sub>4</sub>	PhosVer 3 with acid hydrolysis									●	●	●	●	C, O, Xn	2742745
LCK	0.05 – 1.5 mg/l PO <sub>4</sub> -P 0.15 – 4.5 mg/l PO <sub>4</sub>	Phosphormolybdenum blue	●	●	●	●	●	●							C, Xn	LCK349

LCK	→	LANGE cuvette test	HPT	→	HACH pipette test	RS	→	Reagent solution
LCW	→	LANGE pipette test	PP	→	Powder Pillow test	IM	→	Immunoassay
TNT	→	TEST'N'TUBE	AV	→	ACCUVAC	RL	→	Rapid liquid system

→ Laboratory automation: see Chapter 9 → Samplers: see Chapter 10 → Process measurement technology: see Chapter 11-20



Cuvette Test (LCK)



Powder Pillow (PP)



ACCUVAC (AV)

- Photometers and spectrophotometers see. page 29
- Lab. analysers see page 83

TYPE	MEASURING RANGE	METHOD												HAZARD CODE*	ART. NO.					
			DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890			DR 2400/2500	DR 4000			
<b>PHOSPHORUS (total)</b>																				
TNT	0.06 – 3.50 mg/l PO <sub>4</sub>	PhosVer 3 with acid-persulphate digestion													●	●	●	●	C, Xn, O	2742645
TNT	1.0 – 100.0 mg/l PO <sub>4</sub>	Molybdovanadate with acid-persulphate digestion															●	●	C, Xn, O	2767245
<b>PHOTOMETRIC IODINE SAMPLE</b>																				
LCK	Iodine value > 0,2	MEBAK	●	●					●									F	LCK240	
<b>POTASSIUM</b>																				
LCK	8 – 50 mg/l	Kalignost	●	●	●	●	●	●											LCK328	
PP	0.1 – 7.0 mg/l	Tetraphenylborate	●	●												●	●	T, F	2459100	
<b>REDUCING AGENT for boiler water</b>																				
LCW	0.02 – 1 mg/l DEHA	LANGE method	●	●	●		●	●	●									C	LCW250	
<b>SELENIUM</b>																				
RS	0.01 – 1.00 mg/l	Diaminobenzidine	●	●													●	●	C, F, Xn	2244200
<b>SILICIA</b>																				
LCW	0.01 – 0.8 mg/l SiO <sub>2</sub> 0.005 – 0.4 mg/l Si	Molybdenum blue	●	●	●		●	●	●									Xn, Xi	LCW028	
LCW	0.8 – 100 mg/l SiO <sub>2</sub> 0.4 – 50 mg/l Si	Molybdenum blue	●	●	●		●	●	●									Xn, Xi	LCS028	
PP	0.01 – 1.60 mg/l SiO <sub>2</sub>	Heteropoly blue	●	●										●	●	●	●	Xi, Xn	2459300	
PP	1.0 – 100.0 mg/l	Silicomolybdate	●	●						●				●	●	●	●	Xi	2429600	
PP	3 – 1,000 µg/l SiO <sub>2</sub>	Heteropoly blue	●	●													●	●	Xi	2553500
PP	3 – 1,000 µg/l SiO <sub>2</sub>	Heteropoly blue	●	●													●	●	Xi, Xn	2678500
<b>SILVER</b>																				
LCK	0.04 – 0.8 mg/l	LANGE method	●	●	●	●	●	●	●									F	LCK354	
LCK	5 – 2,500 mg/l	LANGE method	●	●	●	●	●	●	●									C	LCK355	
PP	0.005 – 0.700 mg/l	Colorimetric	●	●													●	●	Xi	2296600
<b>SLUDGE ACTIVITY</b>																				
LCK		TTC test	●	●	●		●	●	●									F	LCK318	
<b>STARCH</b>																				
LCK	2 – 150 mg/l	Iodine	●	●	●		●	●	●										LCK357	
<b>SULPHATE</b>																				
LCK	40 – 150 mg/l	Barium sulphate	●	●	●	●	●	●	●									T	LCK153	
AV	2 – 70 mg/l	Turbidity measurement	●	●								●	●	●	●	●	●	Xn	2509025	
LCK	150 – 900 mg/l	Barium sulphate	●	●	●	●	●	●	●									T	LCK353	
PP	2 – 70 mg/l	Barium sulphate	●	●													●	Xn	1206599	
PP	2 – 70 mg/l	Turbidity measurement	●	●								●	●	●	●	●	●	Xn	2106769	

1) Not measurable on DR 2400

Please note: the measuring ranges can vary from instrument to instrument!

→ \*Hazard symbol with description see page 60

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# Photometric tests (6)

TYPE	MEASURING RANGE	METHOD	DR 2800 DR 5000 LASA 30 LASA 50 LASA 100 XION CADAS 200 POCKET DR 820 DR 850 DR 890 DR 2400/2500 DR 4000 HAZARD CODE*												ART. NO.	
<b>SULPHIDE</b>																
LCK	0.1 – 2 mg/l	Dimethylphenylendiamine	●	●	●	●	●	●	●						C	LCK653
RS	5 – 800 µg/l	Methylene blue	●	●							●	●	●	●	T, C	2244500
LCW	0.1 – 2 mg/l	Dimethylphenylendiamine	●	●	●		●	●	●						C	LCW053
<b>SULPHITE</b>																
LCW	0.1 – 5 mg/l	LANGE method	●	●	●		●	●	●							LCW054
HPT	0.1 – 5,0 mg/l	HACH method	●	●									●		C	HPT430
<b>SURFACTANTS (anionic)</b>																
LCK	0.2 – 2 mg/l	MBA	●	●	●	●	●	●	●						Xn	LCK332
RS	0.002 – 0.275 mg/l LAS	Crystal violet	●	●							●	●	●	●	F, T	2446800
<b>SURFACTANTS (cationic)</b>																
LCK	0.2 – 2 mg/l	CTAB	●	●	●	●	●	●	●						F, Xn	LCK331
<b>SURFACTANTS (nonionic)</b>																
LCK	0.2 – 6.0 mg/l	TBPK, CTAS	●	●	●	●	●	●	●						Xn	LCK333
LCK	0.1 – 20 g/l	TBPK, CTAS	●	●	●		●	●	●						Xn	LCK334
LCK	6 – 200 mg/l	TBPK, CTAS	●	●	●	●	●	●	●						Xn	LCK433
<b>SUSPENDED SOLIDS</b>																
	0 – 750 mg/l	Photometric	●	●							●	●	●			
<b>TANNIN + LIGNIN</b>																
RS	0.1 – 9.0 mg/l	Tyrosine	●	●							●	●	●	●		2244600
<b>TIN</b>																
LCK	0.1 – 2 mg/l	Pyridinfluoron (PYF)	●	●	●	●	●	●	●						T, O	LCK359
<b>TOC (difference method)</b>																
LCK	2 – 65 mg/l TOC	Persulphate (photometric)	●	●	●	●	●	●	●						Xn, O	LCK380
LCK	60 – 735 mg/l TOC	Persulphate (photometric)	●	●	●	●	●	●	●						Xn, O	LCK381
<b>TOC (expulsion method)</b>																
LCK	3 – 30 mg/l TOC	Persulphate (photometric)	●	●											Xn	LCK385
LCK	30 – 300 mg/l TOC	Persulphate (photometric)	●	●											Xn	LCK386
LCK	300 – 3,000 mg/l TOC	Persulphate (photometric)	●	●											Xn, N	LCK387
TNT	0.3 – 20.0 mg/l C	Persulphate (photometric)									●	●	●	●	Xn, O	2760345
TNT	15 – 150 mg/l C	Persulphate (photometric)									●	●	●	●	Xn, O	2815945
TNT	100 – 700 mg/l C	Persulphate (photometric)									●	●	●	●	Xn, O	2760445
<b>TOLYLTRIAZOLE</b>																
PP	1 – 20 mg/l	UV photolysis	●	●							●	●	●		Xn	2141299
<b>TOXICITY</b>																
PP	0 – 100 % inhibition	ToxTrak	●	●	●		●	●	●						C	2597200

LCK	→	LANGE cuvette test	HPT	→	HACH pipette test	RS	→	Reagent solution
LCW	→	LANGE pipette test	PP	→	Powder Pillow test	IM	→	Immunoassay
TNT	→	TEST'N'TUBE	AV	→	ACCUVAC	RL	→	Rapid liquid system

→ Laboratory automation: see Chapter 9 → Samplers: see Chapter 10 → Process measurement technology: see Chapter 11-20



Cuvette Test (LCK)



Powder Pillow (PP)



ACCUVAC (AV)

- Photometers and spectrophotometers see. page 29
- Lab. analysers see page 83

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TYPE	MEASURING RANGE	METHOD	DR 2800	DR 5000	LASA 30	LASA 50	LASA 100	XION	CADAS 200	POCKET	DR 820	DR 850	DR 890	DR 2400/2500	DR 4000	HAZARD CODE*	ART. NO.
<b>TPH in water</b>																	
IM	Limiting value 2 – 200 mg/l	Immunoassay for soil and water	●	●	●	●	●	●	●	●			●	●	●		2774300
<b>TRIALOMETHANE</b>																	
RS	0 – 200 ppb	THM Plus	●	●											●		2790800
<b>VICINAL DIKETONES</b>																	
LCK	0.015 – 0.5 mg/kg diacetyl	MEBAK	●	●					●							T, N	LCK242
<b>ZINC</b>																	
LCK	0.2 – 6 mg/l	PAR	●	●	●		●	●	●							Xn	LCK360
PP	0.01 – 2.00 mg/l	Zincon	●	●						●		●	●	●	●	Xn, N	2429300
<b>ZINC (trace)</b>																	
LCK	0.02 – 0.8 mg/l	PAR	●	●	●		●	●	●							Xn	LCS360

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**Order simply and quickly**

The screenshot shows the HACH LANGE online shop interface. Annotations include:

- Simple navigation:** Points to the left-hand menu with categories like Products, Downloads, and Service.
- Request reagent recycling:** Points to the 'Recycling' icon in the top navigation bar.
- Easy login:** Points to the 'login' button in the top right corner.
- Contents of your shopping basket:** Points to the 'Basket' icon in the top navigation bar.
- Documents and accessories for each product:** Points to the 'documents' link below each product listing.
- Choose your product and request a quotation:** Points to the 'add to cart' icon (shopping cart) next to each product listing.

1) Not measurable on DR 2400

Please note: the measuring ranges can vary from instrument to instrument!

- \*Hazard symbol with description see page 60
- For more information about ordering on the Internet see page 146
- Order simply and quickly

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