Programming data for Spectroquant® test kits for photometer SQ 118

The programming data until program place 174 correspond with version 1.80 of the photometer SQ 118. The other methods are not stored in the memory of the photometer SQ 118. These methods can be stored manually in the memory of the photometer SQ 118.

Curve = SQ 118 contains the correct pre-programmed calibration curve as a non-linear function
CT = Cell Test

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
000 Absorption			0.000	-	3.000		A				
001 Aluminium	Al	14825	0.05	-	0.35	mg/l	Al	2+0	50	550	Curve
002 Aluminium	Al	14825	0.20	-	1.50	mg/l	Al	2+0	10	550	0.550
003 Aluminium	Al	14825	2.0	-	13.0	$mmol/m^3$	Al	2+0	50	550	Curve
004 Aluminium	Al	14825	7.4	-	55.6	$mmol/m^3$	Al	2+0	10	550	20.4
005 Ammonium	NH_4	14752	0.010	-	0.800	mg/l	NH_4	5+5	50	690	0.317
006 Ammonium	NH_4	14752	0.10	-	3.50	mg/l	NH_4	5+5	10	690	1.58
007 Ammonium	NH_4-N	14752	0.010	-	0.620	mg/l	NH_4-N	5+5	50	690	0.246
008 Ammonium	NH_4-N	14752	0.10	-	2.70	mg/l	NH_4-N	5+5	10	690	1.23
009 Ammonium	NH_4	14752	0.6	-	44.4	$mmol/m^3$	NH_4	5+5	50	690	17.6
010 Ammonium	NH_4	14752	6	-	195	$mmol/m^3$	NH_4	5+5	10	690	87.6
011 CT Ammonium	NH_4	14544	Please use new programming data from page 7								
012 CT Ammonium	NH_4-N	14544									
013 CT Ammonium	NH_4	14544									
014 Boron	B	14839	0.050	-	0.800	mg/l	B	12+2	10	550	0.323
015 Calcium	Ca	14815	5	-	160	mg/l	Ca	3+0	20	550	68.5
016 Calcium	CaO	14815	7	-	224	mg/l	CaO	3+0	20	550	95.8
017 Calcium	$CaCO_3$	14815	0.13	-	4.00	mol/m^3	$CaCO_3$	3+0	20	550	1.71
018 Chlorine	Cl_2	14828	Item deleted, replacements see chlorine tests at page 9								
019 Chlorine	Cl_2	14828									
020 Chloride	Cl	14755	1.0	-	20.0	mg/l	Cl	0+0	20	446	9.23
021 Chloride	Cl	14755	10	-	150	mg/l	Cl	0+0	10	525	Curve
022 Chloride	Cl	14755	28	-	564	$mmol/m^3$	Cl	0+0	20	446	260
023 Chloride	Cl	14755	0.28	-	4.23	mol/m^3	Cl	0+0	10	525	Curve

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
024 Chromium	Cr	14758	0.010	-	0.600	mg/l	Cr	0+0	50	550	0.254
025 Chromium	Cr	14758	0.10	-	3.00	mg/l	Cr	0+0	10	550	1.27
026 Chromium	Cr	14758	0.2	-	11.5	mmol/m^3	Cr	0+0	50	550	4.88
027 Chromium	Cr	14758	2.0	-	58.0	mmol/m^3	Cr	0+0	10	550	24.4
028 CT COD	COD	14540	Please use new programming data from page 10								
029 CT COD	COD	14541	Please use new programming data from page 10								
030 Cyanide	CN	14800	0.002	-	0.100	mg/l	CN	5+0	50	585	0.0416
031 Cyanide	CN	14800	0.025	-	0.500	mg/l	CN	5+0	10	585	0.208
032 Iron	Fe	14761	0.01	-	1.00	mg/l	Fe	3+0	50	565	0.420
033 Iron	Fe	14761	0.20	-	2.50	mg/l	Fe	3+0	20	565	1.05
034 Iron	Fe	14761	0.2	-	18.0	mmol/m^3	Fe	3+0	50	565	7.52
035 Iron	Fe	14761	3.6	-	45.0	mmol/m^3	Fe	3+0	20	565	18.8
036 Gold	Au	14821	0.5	-	12.0	mg/l	Au	0+0	10	550	6.06
037 Hydrazine	N_2H_4	14797	Item deleted, replacement is item 09711, see page 10								
038 Hydrazine	N_2H_4	14797									
039 Hydrazine	N_2H_4	14797									
040 Hydrazine	N_2H_4	14797									
041 Copper	Cu	14767	0.05	-	2.00	mg/l	Cu	5+0	50	585	0.910
042 Copper	Cu	14767	0.20	-	6.00	mg/l	Cu	5+0	10	585	4.55
043 Copper	Cu	14767	0.8	-	31.5	mmol/m^3	Cu	5+0	50	585	14.3
044 Copper	Cu	14767	3	-	126	mmol/m^3	Cu	5+0	10	585	71.6
045 Manganese	Mn	14770	0.01	-	2.50	mg/l	Mn	2+2	50	446	1.12
046 Manganese	Mn	14770	0.5	-	10.0	mg/l	Mn	2+2	10	446	5.62
047 Manganese	Mn	14770	0.2	-	46.0	mmol/m^3	Mn	2+2	50	446	20.5
048 Manganese	Mn	14770	9	-	182	mmol/m^3	Mn	2+2	10	446	102
049 Nickel	Ni	14785	0.02	-	2.00	mg/l	Ni	1+2	50	446	0.952
050 Nickel	Ni	14785	0.20	-	5.00	mg/l	Ni	1+2	20	446	2.38
051 Nickel	Ni	14785	0.4	-	34.0	mmol/m^3	Ni	1+2	50	446	16.2
052 Nickel	Ni	14785	3.0	-	85.0	mmol/m^3	Ni	1+2	20	446	40.6

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
053 Nitrate	NO_3	14773	1.0	-	25.0	mg/l	NO_3	10+0	50	525	8.35
054 Nitrate	NO_3	14773	5.0	-	90.0	mg/l	NO_3	10+0	10	525	41.7
055 Nitrate	NO_3-N	14773	0.20	-	5.60	mg/l	NO_3-N	10+0	50	525	1.89
056 Nitrate	NO_3-N	14773	1.1	-	20.3	mg/l	NO_3-N	10+0	10	525	9.43
057 Nitrate	NO_3	14773	16	-	403	mmol/m^3	NO_3	10+0	50	525	135
058 Nitrate	NO_3	14773	0.08	-	1.45	mol/m^3	NO_3	10+0	10	525	0.672
059 CT Nitrate	NO_3	14542	2.0	-	80.0	mg/l	NO_3	10+0	16	525	32.8
060 CT Nitrate	NO_3-N	14542	0.5	-	18.0	mg/l	NO_3-N	10+0	16	525	7.41
061 CT Nitrate	NO_3	14542	32	-	1290	mmol/m^3	NO_3	10+0	16	525	529
062 Nitrite	NO_2	14776	Please use new programming data from page 13								
063 Nitrite	NO_2	14776									
064 Nitrite	NO_2-N	14776									
065 Nitrite	NO_2-N	14776									
066 Nitrite	NO_2	14776									
067 Nitrite	NO_2	14776									
068 CT Nitrite	NO_2	14547	0.05	-	2.00	mg/l	NO_2	10+0	16	525	0.920
069 CT Nitrite	NO_2-N	14547	0.020	-	0.610	mg/l	NO_2-N	10+0	16	525	0.280
070 CT Nitrite	NO_2	14547	1.1	-	43.5	mmol/m^3	NO_2	10+0	16	525	20.0
071 P(PMB)	P	14848	Please use new programming data from page 14								
072 P(PMB)	P	14848									
073 P(PMB)	PO_4	14848									
074 P(PMB)	PO_4	14848									
075 P(PMB)	P_2O_5	14848									
076 P(PMB)	P_2O_5	14848									
077 P(PMB)	PO_4	14848									
078 P(PMB)	PO_4	14848									
079 CT P(PMB)	P	14543	0.05	-	5.00	mg/l	P	5+0	16	690	1.64
080 CT P(PMB)	PO_4	14543	0.2	-	15.3	mg/l	PO_4	5+0	16	690	5.03
081 CT P(PMB)	P_2O_5	14543	0.1	-	11.5	mg/l	P_2O_5	5+0	16	690	3.76

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
082 CT P(PMB)	PO_4	14543	2	-	160	$mmol/m^3$	PO_4	5+0	16	690	53.0
083 P (VM)	P	14842	1.0	-	30.0	mg/l	P	0+0	10	405	16.1
084 P (VM)	PO_4	14842	3.0	-	92.0	mg/l	PO_4	0+0	10	405	49.4
085 P (VM)	P_2O_5	14842	2.0	-	69.0	mg/l	P_2O_5	0+0	10	405	36.9
086 P (VM)	PO_4	14842	32	-	970	$mmol/m^3$	PO_4	0+0	10	405	520
087 CT P (VM)	P	14546	0.5	-	25.0	mg/l	P	0+0	16	405	12.2
088 CT P (VM)	PO_4	14546	1.5	-	77.0	mg/l	PO_4	0+0	16	405	37.4
089 CT P (VM)	P_2O_5	14546	1.1	-	57.0	mg/l	P_2O_5	0+0	16	405	28.0
090 CT P (VM)	PO_4	14546	16	-	807	$mmol/m^3$	PO_4	0+0	16	405	394
091 Silicate	Si	14794	0.010	-	0.800	mg/l	Si	3+5	50	820	0.255
092 Silicate	Si	14794	0.10	-	5.00	mg/l	Si	3+5	20	660	1.79
093 Silicate	SiO_2	14794	0.02	-	1.70	mg/l	SiO_2	3+5	50	820	0.545
094 Silicate	SiO_2	14794	0.2	-	10.7	mg/l	SiO_2	3+5	20	660	3.83
095 Silicate	SiO_2	14794	0.3	-	28.5	$mmol/m^3$	SiO_2	3+5	50	820	9.08
096 Silicate	SiO_2	14794	3	-	178	$mmol/m^3$	SiO_2	3+5	20	660	63.7
097 CT Sulfate	SO_4	14548	Please use new programming data from page 16								
098 CT Sulfate	SO_4	14548									
099 Sulfide	S	14779	0.020	-	0.500	mg/l	S	1+0	50	660	0.260
100 Sulfide	S	14779	0.25	-	4.00	mg/l	S	1+0	10	660	Curve
101 Sulfide	S	14779	0.6	-	15.1	$mmol/m^3$	S	1+0	50	660	7.86
102 Sulfide	S	14779	7	-	121	$mmol/m^3$	S	1+0	10	660	Curve
103 Zinc	Zn	14832	Please use new programming data from page 18								
104 Zinc	Zn	14832									
105 CT Zinc	Zn	14566	0.20	-	5.00	mg/l	Zn	15+0	16	495	4.88
106 CT Chromium	Cr	14552	0.05	-	2.00	mg/l	Cr	0+0	16	550	0.971
107 CT Iron	Fe	14549	0.10	-	4.00	mg/l	Fe	3+0	16	565	1.63
108 CT Copper	Cu	14553	Please use new programming data from page 10								
109 CT Nickel	Ni	14554	0.10	-	6.00	mg/l	Ni	1+2	16	446	3.85
110 CT Cyanide	CN	14561	0.025	-	0.500	mg/l	CN	10+0	16	585	0.313

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
111 CT Phenol	PHE	14551	0.10	-	2.50	mg/l	PHE	1+0	16	495	3.39
112 CT COD	COD	14555	500	-	10000	mg/l	COD	0+0	16	585	4630
113 Turbidity			10	-	400	TE(F)		0+0	50	525	145
114 CT Lead	Pb	14833	Please use new programming data from page 11								
115 CT Cadmium	Cd	14834	Please use new programming data from page 8								
116 CT Fluoride	F	14557	Please use new programming data from page 10								
117 CT Nitrate	NO_3	14556	0.5	-	15.0	mg/l	NO_3	15+0	16	495	6.50
118 CT Nitrate	NO_3-N	14556	0.11	-	3.40	mg/l	NO_3-N	15+0	16	495	1.47
119 CT Nitrate	NO_3	14556	8	-	242	mmol/m^3	NO_3	15+0	16	495	105
120 CT HCHO	HCHO	14500	0.1	-	10.0	mg/l	HCHO	5+0	16	585	3.36
121 Sulfate	SO_4	14791	25	-	300	mg/l	SO_4	5+7	20	525	122
122 Iron	Fe	8023	0.2	-	20.0	mg/l	Fe	10+0	10	525	7.00
123 Silver	Ag	14831	Please use new programming data from page 15								
124 Silver	Ag	14831									
125 Urea	Urea	14544	0.5	-	25.0	mg/l		5+5	16	690	18.0
126 CT Ammonium	NH_4	14558	0.2	-	10.0	mg/l	NH_4	15+0	16	690	5.71
127 CT Ammonium	NH_4-N	14558	0.20	-	7.80	mg/l	NH_4-N	15+0	16	690	4.43
128 CT Ammonium	NH_4	14559	5	-	100	mg/l	NH_4	15+0	16	690	51.1
129 CT Ammonium	NH_4-N	14559	4.0	-	78.0	mg/l	NH_4-N	15+0	16	690	39.7
130 CT Nitrate	NO_3	14563	2	-	100	mg/l	NO_3	10+0	16	340	65.1
131 CT Nitrate	NO_3-N	14563	0.5	-	22.6	mg/l	NO_3-N	10+0	16	340	14.7
132 CT COD	COD	14560	4.0	-	40.0	mg/l	COD	0+0	16	340	-41.0
133 CT Sulfate	SO_4	14564	Please use new programming data from page 16								
134 CT Sulfite	SO_3	14394	1.0	-	25.0	mg/l	SO_3	2+0	16	405	9.09
135 Iodine colour no	IFZ		0.05	-	3.00	IFZ		0+0	10	340	1.27
136 Iodine colour no	IFZ		1.0	-	50.0	IFZ		0+0	10	446	17.0
137 Hazen colour no	Hazen		2	-	200	Hazen		0+0	50	340	78.0
138 Hazen colour no	Hazen		10	-	1000	Hazen		0+0	10	340	377
139 Colour	1/m		0.5	-	50.0	1/m		0+0	50	446	20.0

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
140 CT Total	N	14537	0.5	-	18.0	mg/l	N	10+0	16	525	8.00
141 CT Potassium	K	14562	Please use new programming data from page 15								
142 CT Phosphorus	P	14729	1.0	-	25.0	mg/l	P	5+0	16	690	8.33
143 CT Phosphorus	PO_4	14729	3.1	-	76.8	mg/l	PO_4	5+0	16	690	25.5
144 CT Surfactants anionic	Surf. anion.	14697	0.05	-	2.00	mg/l	MBAS	5+0	16	660	2.27
145 CT Hydrogen peroxide	H_2O_2	14731	2.0	-	20.0	mg/l	H_2O_2	2+0	16	405	40.0
146 Chlorine dioxide	ClO_2	14828	Item deleted, replacement is item 00608, see page 9								
147 Ozone	O_3	14828	Item deleted, replacement is item 00607, see page 13								
148 CT C OD	COD	14690	50	-	500	mg/l	COD	0+0	16	446	-400
149 CT COD	COD	14691	300	-	3500	mg/l	COD	0+0	16	585	3280
150 CT Chloride	Cl	14730	Please use new programming data from page 9								
151 CT Magnesium	Mg	14684	Item deleted, replacement is item 00815, see page 11								
152 CT Tin	Sn	14622	0.10	-	2.50	mg/l	Sn	15+0	16	660	1.22
153 CT Total hardness	TH	14565	Item deleted, replacement is item 00961, see page 17+18								
154 CT Hardness Ca	Ca	14565									
156 CT Residual hardness	RH	14683	0.075	-	0.750	°d		10+0	16	565	0.553
157 CT Residual hardness	Ca	14683	0.50	-	5.00	mg/l	Ca	10+0	16	565	3.95
158 HCHO	HCHO	14678	0.02	-	1.80	mg/l	HCHO	10+0	50	585	0.82
159 HCHO	HCHO	14678	1.00	-	9.00	mg/l	HCHO	10+0	10	585	4.10
160 Palladium	Pd		0.10	-	1.50	mg/l	Pd	1+0	10	525	0.57
161 Platinum	Pt		0.10	-	1.50	mg/l	Pt	5+1	10	690	2.36
162 Mercury	Hg		0.025	-	1.000	mg/l	Hg	5+0	50	565	0.563
163 Antimony	Sb		0.25	-	8.00	mg/l	Sb	3+2	10	635	4.44
164 Arsenic	As		Application deleted, replacement is item 01747, see page 8								

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
165 Chromium Bath	CrO_3		20	-	400	g/l	CrO_3	0+0	10	446	540
166 Copper Bath	Cu		10.0	-	80.0	g/l	Cu	0+0	10	820	42.0
167 Nickel Bath	Ni		10	-	120	g/l	Ni	0+0	10	690	60.0
168 CT Oxygen	O_2	14694	0.5	-	12.0	mg/l	O_2	0+0	16	495	12.8
169 Chlorine dioxide	ClO_2	14732	Item deleted, replacement is item 00608, see page 9								
170 Chlorine dioxide	ClO_2	14732									
171 Chlorine	Cl_2	14732	Item deleted, replacements see chlorine tests at page 9								
172 Chlorine	Cl_2	14732									
173 Ozone	O_3	14732	Item deleted, replacement is item 00607, see page 13								
174 Ozone	O_3	14732									
CT Acid capacity to pH 4.3	OH	01762	Item deleted								
CT Acid capacity to pH 4.3		01758	can not be measured in the SQ 118 because of not available wavelength								
CT Alcohol	C_2H_5OH	14965	Test deleted. Reflectoquant Test is replacement. Additionally RQflex required.								
Alkalinity	see Acid capacity to pH 4.3										
CT Aluminium	Al	00594	0.02	-	0.50	mg/l	Al	5+0	16	550	non linear
										factor a	0
										factor b	0.8021
										factor c	-0.6126
										factor d	0.3009
										factor e	0
CT Ammonium	NH_4	14739	0.01	-	2.00	mg/l	NH_4	15+0	16	690	1.13
CT Ammonium	NH_4-N	14739	0.01	-	2.60	mg/l	NH_4-N	15+0	16	690	0.877
CT Ammonium	NH_4	14544	0.6	-	20.6	mg/l	NH_4	15+0	16	690	10.1
CT Ammonium	NH_4-N	14544	0.5	-	16.0	mg/l	NH_4-N	15+0	16	690	7.84

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
Ammonium	NH4-N	00683	2.0	-	75.0	mg/l	NH_4-N	15+0	10	690	27.8
Ammonium	NH4-N	00683	5	-	150	mg/l	NH_4-N	15+0	10	690	55.6
Ammonium	NH4	00683	2.6	-	96.4	mg/l	NH_4	15+0	10	690	35.9
Ammonium	NH4	00683	6	-	193	mg/l	NH_4	15+0	10	690	71.8
CT AOX	AOX	00675	0.05	-	2.50	mg/l	AOX	15+0	16	446	4.0
Arsenic	As	01747	0.001	-	0.020	mg/l	As	120+0	20	525	0.057
Arsenic	As	01747	0.005	-	0.100	mg/l	As	120+0	10	525	0.115
CT BOD	BOD	00687	0.5	-	12.0	mg/l	BOD	0+0	16	495	12.8
CT Boron	B	00826	0.05	-	2.00	mg/l	B	60+0	16	405	1.41
Bromine	Br_2	00605	0.020	-	2.000	mg/l	Br_2	1+0	50	550	1.50
Bromine	Br_2	00605	0.10	-	10.00	mg/l	Br_2	1+0	10	550	7.52
CT Cadmium	Cd	14834	0.025	-	1.000	mg/l	Cd	2+0	16	525	0.630
Cadmium	Cd	01745	0.002	-	0.100	mg/l	Cd	2+0	50	525	0.141
Cadmium	Cd	01745	0.010	-	0.500	mg/l	Cd	2+0	10	525	0.704
Calcium [1)]	Ca	00049	0.20	-	4.00	mg/l	Ca	5+0	10	565	
CT Calcium	Ca	00858	10	-	250	mg/l	Ca	3+0	16	565	non linear
										factor a	0
										factor b	409.29
										factor c	-295.91
										factor d	138.96
										factor e	0

[1)] Remark to Calcium Test:
For this analysis an own calibration is required. The own calibration should be regularly check with a standard but at least every 3 month re-checked if everything is working fine. You will find all detailed information in our application list on the Internet homepage http://photometry.merck.de.

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
CT Calcium	CaCO3	00858	25	-	625	mg/l	CaCO3	3+0	16	565	non linear
										factor a	0
										factor b	1023.20
										factor c	-739.78
										factor d	347.40
										factor e	0
CT Calcium	CaO	00858	14	-	350	mg/l	CaO	3+0	16	565	non linear
										factor a	0
										factor b	573.01
										factor c	-414.28
										factor d	194.54
										factor e	0
Carbohydrazide	see Oxygen Scavengers										
CT Chloride	Cl	14730	5	-	125	mg/l	Cl	0+0	16	525	113
Chloride	Cl	14897	2.5	-	25.0	mg/l	Cl	3+0	10	446	28.2
Chloride	Cl	14897	10	-	250	mg/l	Cl	3+0	10	495	107
CT Chlorine	Cl_2	00595	0.03	-	6.00	mg/l	Cl_2	1+0	16	550	2.47
CT Chlorine	Cl_2	00597	0.03	-	6.00	mg/l	Cl_2	1+0	16	550	2.47
Chlorine	Cl_2	00598	0.010	-	1.000	mg/l	Cl_2	1+0	50	550	0.666
Chlorine	Cl_2	00598	0.05	-	6.00	mg/l	Cl_2	1+0	10	550	3.33
Chlorine	Cl_2	00599	0.010	-	1.000	mg/l	Cl_2	1+0	50	550	0.666
Chlorine	Cl_2	00599	0.05	-	6.00	mg/l	Cl_2	1+0	10	550	3.33
Chlorine	Cl_2	00602	0.010	-	1.000	mg/l	Cl_2	1+0	50	550	0.666
Chlorine	Cl_2	00602	0.05	-	6.00	mg/l	Cl_2	1+0	10	550	3.66
Chlorine dioxide	ClO_2	00608	0.020	-	2.000	mg/l	ClO_2	2+1	50	550	1.27
Chlorine dioxide	ClO_2	00608	0.10	-	10.00	mg/l	ClO_2	2+1	10	550	6.33

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
CT COD	COD	14540	10	-	150	mg/l	COD	0+0	16	446	-201
CT COD	COD	14541	25	-	1500	mg/l	COD	0+0	16	585	1670
CT COD	COD	14895	15	-	300	mg/l	COD	0+0	16	446	-222
CT COD (Hg free)	COD	09772	10	-	150	mg/l	COD	0+0	16	446	-238
CT COD (Hg free)	COD	09773	100	-	1500	mg/l	COD	0+0	16	585	1925
CT Copper	Cu	14553	0.05	-	8.00	mg/l	Cu	5+0	16	585	3.60
Cyanuric Acid [1)]	CYS	19250	2	-	160	mg/l	CYS	0+0	20	525	non linear
										factor a	-0,0757
										factor b	80,335
										factor c	3,7186
										factor d	0
										factor e	0
DEHA Diethylhydroxylamine	see Oxygen Scavengers										
Detergents	see Surfactants										
Dissolved Oxygen	see Oxygen										
KT Fluoride	F	14557	0.10	-	1.50	mg/l	F	5+0	16	635	1.73
Fluoride	F	14598	0.10	-	2.00	mg/l	F	5+0	10	635	2.40
Fluoride	F	14598	1.0	-	20.0	mg/l	F	5+0	10	635	25.7
Hardness	see Residual hardness or Total hardness										
Hydrazine	N_2H_4	09711	0.005	-	0.400	mg/l	N_2H_4	5+0	50	446	0.174
Hydrazine	N_2H_4	09711	0.02	-	2.00	mg/l	N_2H_4	5+0	10	446	0.870
Hydroquinone	see Oxygen Scavengers										
Hydrogen peroxide	H_2O_2	18789	0.015	-	3.000	mg/l	H_2O_2	10+0	20	446	1.33
Hydrogen peroxide	H_2O_2	18789	0.03	-	6.00	mg/l	H_2O_2	10+0	10	446	2.65

[1)] Remark to Cyanuric Acid Test:
As blank dist. water without adding reagents must be used.

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text	Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
Hydrogen sulfide	see Sulfide									
Iodine	I_2	00606	0.050	-	2.000	mg/l	I_2	1+0	50	550	2.38
Iodine	I_2	00606	0.20	-	10.00	mg/l	I_2	1+0	10	550	11.91
CT Iron	Fe	14896	1.0	-	50.0	mg/l	Fe	5+0	16	525	28.3
Iron	Fe	00796	0.010	-	1.000	mg/l	Fe	5+10	50	495	1.12
Iron	Fe	00796	0.10	-	5.00	mg/l	Fe	5+10	10	495	5.62
Isoascorbic acid (erythorbic acid)	see Oxygen Scavengers									
CT Lead	Pb	14833	0.10	-	5.00	mg/l	Pb	0+0	16	525	4.39
Lead	Pb	09717	0.010	-	1.000	mg/l	Pb	0+0	50	525	1.25
Lead	Pb	09717	0.10	-	5.00	mg/l	Pb	0+0	10	525	6.25
CT Magnesium	Mg	00815	5.0	-	75.0	mg/l	Mg	3+0	16	565	non linear
										factor a	0
										factor b	268.51
										factor c	-419.66
										factor d	475.72
										factor e	0
CT Manganese	Mn	00816	0.10	-	5.00	mg/l	Mn	2+5	16	446	4.13
Manganese	Mn	01739	0.005	-	0.400	mg/l	Mn	10+0	50	565	0.344
Manganese	Mn	01739	0.05	-	2.00	mg/l	Mn	10+0	10	565	1.72
Methylethylketoxime (2-butanoneoxime)	see Oxygen Scavengers									
CT Molybdenum	Mo	00860	can not be measured in the SQ 118 because of not available wavelength								
Molybdenum	Mo	19252	can not be measured in the SQ 118 because of not available wavelength								

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
Monochloramine	Cl_2	01632	0.050	-	2.000	mg/l	Cl_2	5+10	50	690	1.005
Monochloramine	Cl_2	01632	0.25	-	10.00	mg/l	Cl_2	5+10	10	690	5.025
Monochloramine	NH_2Cl	01632	0.036	-	1.450	mg/l	NH_2Cl	5+10	50	690	0.73
Monochloramine	NH_2Cl	01632	0.18	-	7.25	mg/l	NH_2Cl	5+10	10	690	3.65
Monochloramine	NH_2Cl-N	01632	0.010	-	0.392	mg/l	NH_2Cl-N	5+10	50	690	0.1985
Monochloramine	NH_2Cl-N	01632	0.05	-	1.96	mg/l	NH_2Cl-N	5+10	10	690	0.993
CT Nitrate	NO_3-N	14764	1.0	-	50.0	mg/l	NO_3-N	10+0	16	340	27.9
CT Nitrate	NO_3	14764	4	-	220	mg/l	NO_3	10+0	16	340	124
CT Nitrate	NO_3-N	00614	23	-	225	mg/l	NO_3-N	10+0	16	340	132.5
CT Nitrate	NO_3	00614	100	-	1000	mg/l	NO_3	10+0	16	340	586.7
Nitrate	NO_3-N	09713	0.10	-	5.00	mg/l	NO_3-N	10+0	50	340	3.92
Nitrate	NO_3-N	09713	1.0	-	25.0	mg/l	NO_3-N	10+0	10	340	19.6
Nitrate	NO_3	09713	0.5	-	22.2	mg/l	NO_3	10+0	50	340	17.4
Nitrate	NO_3	09713	4.4	-	111.0	mg/l	NO_3	10+0	10	340	86.8
Nitrate in seawater	NO_3-N	14942	0.2	-	17.0	mg/l	NO_3-N	15+60	10	495	non linear
										factor a	0
										factor b	9.73
										factor c	-1.83
										factor d	0.35
										factor e	0
Nitrate in seawater	NO_3	14942	1.0	-	75.0	mg/l	NO_3	15+60	10	495	non linear
										factor a	0
										factor b	43.38
										factor c	-8.53
										factor d	1.63
										factor e	0

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
CT Nitrit	NO_2-N	00609	1.0	-	90.0	mg/l	NO_2-N	20+0	16	585	78.7
CT Nitrit	NO_2	00609	3.3	-	295.2	mg/l	NO_2	20+0	16	585	258.38
Nitrite	NO_2	14776	0.007	-	0.650	mg/l	NO_2	10+0	50	525	0.248
Nitrite	NO_2	14776	0.07	-	3.25	mg/l	NO_2	10+0	10	525	1.24
Nitrite	NO_2-N	14776	0.002	-	0.200	mg/l	NO_2-N	10+0	50	525	0.0751
Nitrite	NO_2-N	14776	0.02	-	1.00	mg/l	NO_2-N	10+0	10	525	0.376
Nitrogen, Ammonium	see Ammonium										
Nitrogen, Nitrate	see Nitrate										
Nitrogen, Nitrite	see Nitrite										
CT Nitrogen, total	N	00613	0.5	-	15.0	mg/l	N	10+0	16	340	15.3
CT Nitrogen, total	N	14763	10	-	150	mg/l	N	10+0	16	340	154
Organic Acids, Volatile	see Volatile organic acids										
Organic Carbon,	see TOC										
Oxygen Scavengers	DEHA	19251	0.020	-	0.500	mg/l	DEHA	10+0	20	565	0.408
Oxygen Scavengers	Carbohy	19251	0.027	-	0.667	mg/l	Carbohy	10+0	20	565	0.544
Oxygen Scavengers	Hydro	19251	0.053	-	1.315	mg/l	Hydro	2+0	20	565	1.073
Oxygen Scavengers	ISA	19251	0.078	-	1.950	mg/l	ISA	10+0	20	565	1.592
Oxygen Scavengers	MEKO	19251	0.087	-	2.170	mg/l	MEKO	10+0	20	565	1.771
Ozone	O_3	00607	0.010	-	0.800	mg/l	O_3	1+0	50	550	0.450
Ozone	O_3	00607	0.05	-	4.00	mg/l	O_3	1+0	10	550	2.25
Oxygen Demand, Biological	see BOD										
Oxygen Demand, Chemical	see COD										
Peroxide	see Hydrogen peroxide										

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
CT pH [1)]	pH	01744	6.4	-	8.8		pH	0+0	16	550	non linear
										factor a	6.163
										factor b	3.039
										factor c	-1.913
										factor d	0.393
										factor e	0.082
Phenol	Phenol	00856	0.002	-	0.100	mg/l	Phenol	30+10	20	446	0.11
Phenol	Phenol	00856	0.025	-	1.000	mg/l	Phenol	10+0	50	495	1.67
Phenol	Phenol	00856	0.10	-	5.00	mg/l	Phenol	10+0	10	495	8.33
P(PMB)	P	14848	0.02	-	1.00	mg/l	P	5+0	50	690	0.417
P(PMB)	P	14848	0.10	-	5.00	mg/l	P	5+0	10	690	2.08
P(PMB)	PO4	14848	0.06	-	3.00	mg/l	PO4	5+0	50	690	1.275
P(PMB)	PO4	14848	0.3	-	15.3	mg/l	PO4	5+0	10	690	6.38
P(PMB)	P2O5	14848	0.05	-	2.30	mg/l	P2O5	5+0	50	690	0.952
P(PMB)	P2O5	14848	0.2	-	11.5	mg/l	P2O5	5+0	10	690	4.76
P(PMB)	PO4	14848	0.6	-	32.3	mmol/m3	PO4	5+0	50	690	13.4
P(PMB)	PO4	14848	3	-	161	mmol/m3	PO4	5+0	10	690	67.2
CT Phosphate	PO4-P	00616	3	-	100	mg/l	PO4-P	5+0	16	690	39.2
CT Phosphate	PO4	00616	9	-	307	mg/l	PO4	5+0	16	690	120
Phosphate	PO4-P	00798	1.0	-	100.0	mg/l	PO4-P	5+0	10	690	35.0
Phosphate	PO4	00798	3	-	307	mg/l	PO4	5+0	10	690	107

[1)] Remark to pH Cell Test:
As blank dist. water without adding reagents must be used.

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
CT Potassium	K	14562	5.0	-	50.0	mg/l	K	5+0	16	690	non linear
										factor a	0
										factor b	50.586
										factor c	-24.882
										factor d	12.386
										factor e	0
CT Potassium	K	00615	30	-	300	mg/l	K	5+0	16	690	not linear
										factor a	0
										factor b	174.31
										factor c	-47.64
										factor d	23.35
										factor e	0
Silicate	Si	00857	0.5	-	50.0	mg/l	Si	2+2	10	405	25.3
Silicate	Si	00857	5	-	500	mg/l	Si	2+2	10	405	258
Silicate	SiO_2	00857	1.1	-	107.0	mg/l	SiO_2	2+2	10	405	54.3
Silicate	SiO_2	00857	11	-	1070	mg/l	SiO_2	2+2	10	405	550
Silver	Ag	14831	0.10	-	1.00	mg/l	Ag	5+0	50	550	0.444
Silver	Ag	14831	0.50	-	3.00	mg/l	Ag	5+0	10	550	2.22
CT Sodium in nutrient solutions for fertilizations	Na	00885	10	-	300	mg/l	Na	1+0	16	550	267

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
CT Sulfate	SO_4	14548	5	-	250	mg/l	SO_4	2+0	16	525	non linear
										factor a	0
										factor b	132.55
										factor c	-75.27
										factor d	63.586
										factor e	0
CT Sulfate	SO_4	00617	50	-	500	mg/l	SO_4	2+0	16	525	non linear
										factor a	0
										factor b	352.68
										factor c	-124.55
										factor d	137.57
										factor e	0
CT Sulfate	SO_4	14564	100	-	1000	mg/l	SO_4	2+0	16	525	non linear
										factor a	0
										factor b	719.44
										factor c	-442.33
										factor d	369.43
										factor e	0
Sulfite	SO_3	01746	1.0	-	60.0	mg/l	SO_3	2+0	10	405	29.4
Sulfite	SO_3	01746	0.8	-	48.0	mg/l	SO_3	2+0	10	405	23.5
CT Surfactants (cationic)	CTAB	01764	0.05	-	1.50	mg/l	CTAB	5+0	16	635	1.92
CT Surfactants (nonionic)	Triton X-100	01787	can not be measured in the SQ 118 because of not available wavelength								
Suspended solids	susS		25	-	750	mg/l	susS	0+0	20	820	730
Tensides	see Surfactants										
Total Alkalinity	see Acid capacity to pH 4.3										

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	React-ion time	cells. mm	filter nm	factor
CT Total Hardness	Ca	00961	5	-	215	mg/l	Ca	3+0	16	565	non linear
										factor a	0
										factor b	318.61
										factor c	-192.47
										factor d	76.5
										factor e	0
CT Total Hardness	$CaCO_3$	00961	13	-	538	mg/l	$CaCO_3$	3+0	16	565	non linear
										factor a	0
										factor b	796.52
										factor c	-481.17
										factor d	191.29
										factor e	0
CT Total Hardness	CaO	00961	7	-	301	mg/l	CaO	3+0	16	565	non linear
										factor a	0
										factor b	446.05
										factor c	-269.45
										factor d	107.12
										factor e	0
CT Total Hardness	°d	00961	0.7	-	30.1	mg/l	°d	3+0	16	565	non linear
										factor a	0
										factor b	44.61
										factor c	-26.95
										factor d	10.71
										factor e	0

Programming data for Spectroquant® test kits for photometer SQ 118

Display-text		Item	Measuring range				Citation form	Reaction time	cells. mm	filter nm	factor
CT Total Hardness	°e	00961	0.9	-	37.6	mg/l	°e	3+0	16	565	non linear
										factor a	0
										factor b	55.76
										factor c	-33.68
										factor d	13.39
										factor e	0
CT Total Hardness	°f	00961	1.3	-	53.8	mg/l	CaO	3+0	16	565	non linear
										factor a	0
										factor b	79.65
										factor c	-48.12
										factor d	19.13
										factor e	0
Total Nitrogen	see Nitrogen, total										
CT TOC	TOC	14878	5.0	-	80.0	mg/l	TOC	0+0	16	585	-64.5
CT TOC	TOC	14879	50	-	800	mg/l	TOC	0+0	16	585	-645
CT Volatile Organic Acids	HOAc	01763	50	-	3000	mg/l	HOAc	3+10	16	495	1430
Water hardness	see Residual hardness or Total hardness										
Zinc	Zn	14832	0.05	-	250	mg/l	Zn	3+2	10	565	1.08
CT Zinc	Zn	00861	0.025	-	1.000	mg/l	Zn	15+0	16	495	1.36

In our Internet homepage http://photometry.merck.de users can find all information about our test kits. All package inserts as well as manual pages from our NOVA or Pharo photometers can be found there. This information helps to get a quick overview about the easy handling of our test kits. The package inserts include detailed descriptions about all handling steps, colour reaction, sample preparation if required, interference with other substances, analytical quality assurance data and more.

Please contact our local Merck companies or Merck agents for any questions. Alternatively contact: environmental.analysis@merck.de.