

Lovibond® Water Testing Tintometer® Group



XD 7500 (UV-VIS)



- Premium optical system with reference beam
- Automatic test recognition with internal barcode reader
- Automatic cuvette type detection
- Support of analytical quality assurance

Part Number: 71307500

Latest technology

The XD 7000 and XD 7500 spectrophotometers are equipped with VIS and UV / VIS reference beam technology.

Automatic test recognition

Each of the more than 150 pre-programmed Lovibond® methods is recognized by barcode as well as the cuvette type.

Analytical quality assurance

Standard procedures for analytical quality assurance support the verification of the photometer, the overall system (including the chemical methodology) and the verification of matrix effects.

Built-in security levels

The devices support the assignment of passwords and the assignment of up to three different levels of rights.

Additional functions

Measurement of transmission and absorption, spectral scan, kinetics analysis, as well as the creation of user-defined methods.

Interfaces for data processing

You want to process your data? With Ethernet, USB B, USB A for external memory, keyboard, barcode scanner and printer different versions are available.

Industry

Chemical Industry | Food and Beverage Industry | Industries Others | Marine Industry | Municipalities | NGO | Oil and Gas | Pharmaceutical Industry | Power and Energy

Application

Boiler Water | Cooling Water | Disinfection Control | Drinking Water Treatment | Galvanization | Pool Water Control | Pool Water Treatment | Raw Water Treatment | Waste Water Treatment

XD 7500 (UV-VIS)

The XD 7000 and XD 7500 are state-of-the-art spectrophotometers. Due to many technical subtleties, such as The automatic test recognition via barcode or over 150 pre-programmed Lovibond® methods makes it ideal for routine or spectral analysis.

Measuring Range

Test Name	Measuring Range	Chemical Method
Alkalinity-m HR T	5 - 500 mg/l CaCO ₃	Acid / Indicator
Alkalinity-m T	5 - 200 mg/l CaCO ₃	Acid / Indicator
Alkalinity-p T	5 - 300 mg/l CaCO ₃	Acid / Indicator
Aluminium T	0.01 - 0.3 mg/l Al	Eriochrom Cyanine R
Aluminium VARIO PP	0.01 - 0.25 mg/l Al	Eriochrom Cyanine R
Ammonia T	0.02 - 1 mg/l N	Indophenole Blue
Ammonia VARIO HR TT	1.0 - 50 mg/l N	Salicylate
Ammonia VARIO LR TT	0.02 - 2.5 mg/l N	Salicylate
Ammonia VARIO PP	0.01 - 0.8 mg/l N	Salicylate
Arsenic	0.02 - 0.6 mg/l As	Silver Diethyldithiocarbamate
Boron T	0.1 - 2 mg/l B	Azomethine

Test Name	Measuring Range	Chemical Method
Bromine 10 T	0.1 - 3 mg/l Br ₂	DPD
Bromine 50 T	0.05 - 1 mg/l Br ₂	DPD
Bromine T	0.05 - 6.5 mg/l Br ₂	DPD
Bromine VARIO PP	0.05 - 4.5 mg/l Br ₂	DPD
Cadmium M. TT	0.025 - 0.75 mg/l Cd	Cadion
Chloride L (A)	0.5 - 20 mg/l Cl ⁻	Mercury Thiocyanate / Iron Nitrate
Chloride L (B)	5.00 - 60 mg/l Cl ⁻	Iron(III)-thiocyanate
Chloride T	0.5 - 25 mg/l Cl ⁻	Silver Nitrate / Turbidity
Chlorine 10 T	0.1 - 6 mg/l Cl ₂	DPD
Chlorine 50 T	0.02 - 0.5 mg/l Cl ₂ ^{a)}	DPD
Chlorine dioxide 50 T	0.05 - 1 mg/l ClO ₂	DPD / Glycine
Chlorine dioxide T	0.05 - 2.5 mg/l ClO ₂	DPD / Glycine
Chlorine dioxide VARIO PP	0.04 - 3.8 mg/l ClO ₂	DPD
Chlorine HR 10 T	0.1 - 10 mg/l Cl ₂ ^{a)}	DPD
Chlorine HR (KI) T (105)	5 - 200 mg/l Cl ₂	KI / Acid
Chlorine L	0.02 - 3 mg/l Cl ₂ ^{a)}	DPD
Chlorine PP	0.02 - 2 mg/l Cl ₂ ^{a)}	DPD
Chlorine T	0.02 - 6.0 mg/l Cl ₂ ^{a)}	DPD
Chlorine VARIO PP	0.02 - 3.5 mg/l Cl ₂ ^{a)}	DPD
Chromium 50 PP	0.005 - 0.5 mg/l Cr ^{b)}	Diphenylcarbazide
Chromium PP	0.02 - 2 mg/l Cr ^{b)}	Diphenylcarbazide
COD HR VARIO TT	200 - 15000 mg/l COD ^{b)}	Dichromate / H ₂ SO ₄
COD LMR TT	15 - 300 mg/l COD ^{b)}	Dichromate / H ₂ SO ₄
COD LR VARIO TT	3 - 150 mg/l COD ^{b)}	Dichromate / H ₂ SO ₄
COD MR VARIO TT	20 - 1500 mg/l COD ^{b)}	Dichromate / H ₂ SO ₄
Copper 50 T	0.05 - 1 mg/l Cu ^{a)}	Biquinoline
Copper L	0.05 - 4 mg/l Cu ^{a)}	Bicinchoninate
Copper T	0.5 - 5 mg/l Cu ^{a)}	Biquinoline
Copper VARIO PP	0.05 - 5 mg/l Cu	Bicinchoninate
Cyanide 50 L	0.005 - 0.2 mg/l CN ⁻	Pyridine-barbituric Acid
Cyanide L	0.01 - 0.5 mg/l CN ⁻	Pyridine-barbituric Acid
CyA T	10 - 160 mg/l CyA	Melamine
DEHA T (L)	0.02 - 0.5 mg/l DEHA	PPST
DEHA VARIO PP	0.02 - 0.5 mg/l DEHA	PPST
Fluoride L	0.05 - 2 mg/l F ⁻	SPADNS
Formaldehyde 10 M. L	1.00 - 5.00 mg/l HCHO	H ₂ SO ₄ / Chromotropic acid
Formaldehyde 50 M. L	0.02 - 1.00 mg/l HCHO	H ₂ SO ₄ / Chromotropic acid
Formaldehyde M. TT	0.1 - 5 mg/l HCHO	H ₂ SO ₄ / Chromotropic acid
H ₂ O ₂ 50 T	0.01 - 0.5 mg/l H ₂ O ₂	DPD / Catalyst
H ₂ O ₂ HR L	40 - 500 mg/l H ₂ O ₂	Titanium Tetrachloride / Acid
H ₂ O ₂ LR L	1 - 50 mg/l H ₂ O ₂	Titanium Tetrachloride / Acid
H ₂ O ₂ T	0.03 - 1.5 mg/l H ₂ O ₂	DPD / Catalyst
Hardness Calcium (B) T	0 - 500 mg/l CaCO ₃	Murexide
Hardness Calcium (B) T	50 - 900 mg/l CaCO ₃	Murexide
Hardness total HR T	20 - 500 mg/l CaCO ₃ ⁱ⁾	Metallphthaleine
Hardness total T	2 - 50 mg/l CaCO ₃	Metallphthaleine
Hazen	10 - 500 mg/l Pt	(APHA) Platinum Cobalt Standard Method
Hazen	10 - 500 mg/l Pt	(APHA) Platinum Cobalt Standard Method
Hydrazine C	0.01 - 0.7 mg/l N ₂ H ₄ ^{e)}	PDMAB
Hydrazine P	0.05 - 0.5 mg/l N ₂ H ₄	Dimethylaminobenzaldehyde

Test Name	Measuring Range	Chemical Method
Hydrazine VARIO L	0.005 - 0.6 mg/l N ₂ H ₄	Dimethylaminobenzaldehyde
Hypochlorite T	0.2 - 16 % NaOCl	Potassium Iodide
Iron 10 T	0.05 - 1 mg/l Fe	Ferrozine / Thioglycolate
Iron 50 T	0.01 - 0.5 mg/l Fe	Ferrozine / Thioglycolate
Iron HR L	0.1 - 10 mg/l Fe	Thioglycolate
Iron in Mo VARIO PP (224)	0.01 - 1.8 mg/l Fe	TPTZ
Iron LR L (A)	0.03 - 2 mg/l Fe	Ferrozine / Thioglycolate
Iron LR L (B)	0.03 - 2 mg/l Fe	Ferrozine / Thioglycolate
Iron T	0.1 - 1 mg/l Fe	Ferrozine / Thioglycolate
Iron VARIO PP	0.1 - 3 mg/l Fe ⁹⁾	1,10-Phenanthroline
Iron VARIO PP	0.02 - 1.5 mg/l Fe ⁹⁾	1,10-Phenanthroline
Ks _{4,3} T	0.1 - 4 mmol/l Ks _{4,3}	Acid / Indicator
Lead 10	0.1 - 5 mg/l Pb	4-(2-Pyridylazo)-resorcin
Lead TT (A)	0.1 - 5 mg/l Pb	4-(2-Pyridylazo)-resorcin
Lead TT (B)	0.1 - 5 mg/l Pb	4-(2-Pyridylazo)-resorcin
Iodine T	0.05 - 3.6 mg/l I	DPD
Manganese HR VARIO PP	0.1 - 18 mg/l Mn	Periodate Oxidation
Manganese L	0.05 - 5 mg/l Mn	Formaloxime
Manganese LR VARIO PP	0.01 - 0.7 mg/l Mn	PAN
Manganese T	0.2 - 4 mg/l Mn	Formaloxime
Molybdate HR L	1 - 100 mg/l MoO ₄	Thioglycolate
Molybdate HR VARIO PP	0.5 - 66 mg/l MoO ₄	Mercaptoacetic Acid
Molybdate LR VARIO PP	0.05 - 5 mg/l MoO ₄	Mercaptoacetic Acid
Molybdate T	1 - 30 mg/l MoO ₄	Thioglycolate
Nickel 50 L	0.02 - 1 mg/l Ni	Dimethylglyoxime
Nickel L	0.2 - 7 mg/l Ni	Dimethylglyoxime
Nickel T	0.1 - 10 mg/l Ni	Nioxime
Nitrate DMP HR	1.2 - 35 mg/l N	2,6-Dimethylphenole
Nitrate LR TT	0.5 - 14 mg/l N	2,6-Dimethylphenole
Nitrate T	0.08 - 1 mg/l N	Zinc Reduction / NED
Nitrate VARIO TT	1 - 30 mg/l N	Chromotropic Acid
Nitrite HR TT	0.3 - 3 mg/l N	Sulfanilic / Naphthylamine
Nitrite LR TT	0.03 - 0.6 mg/l N	Sulfanilic / Naphthylamine
Nitrite T	0.01 - 0.5 mg/l N	N-(1-Naphthyl)-ethylenediamine
Nitrite VARIO PP	0.01 - 0.3 mg/l N	Diazotation
Nitrogen total HR VARIO TT	5 - 150 mg/l N ^{b)}	Persulphate Digestion
Nitrogen total LR VARIO TT	0.5 - 25 mg/l N ^{b)}	Persulphate Digestion
Oxygen active T	0.1 - 10 mg/l O ₂	DPD
Oxygen dissolved C	10 - 800 µg/l O ₂ ^{c)}	Rhodazine D TM
Ozone 50 T	0.02 - 0.5 mg/l O ₃	DPD / Glycine
Ozone PP	0.015 - 2 mg/l O ₃	DPD / Glycine
Ozone T	0.02 - 1 mg/l O ₃	DPD / Glycine
Phenol T	0.1 - 5 mg/l C ₆ H ₅ OH	4-Aminoantipyrine
PHMB T	2 - 60 mg/l PHMB	Buffer / Indicator
Phosphate g. VARIO TT	0.02 - 1.1 mg/l P ^{b)}	Phosphomolybdenum Blue
Phosphate h. VARIO TT	0.02 - 1.6 mg/l P ^{b)}	Phosphomolybdenum Blue
Phosphate HR C	5 - 40 mg/l P ^{c)}	Vanadomolybdate
Phosphate HR L	5 - 80 mg/l P	Vanadomolybdate
Phosphate HR T	1 - 80 mg/l P	Vanadomolybdate
Phosphate HR TT	3 - 60 mg/l P	Vanadomolybdate
Phosphate LR C	0.05 - 5 mg/l P ^{c)}	Stannous Chloride

Test Name	Measuring Range	Chemical Method
Phosphate LR L	0.1 - 10 mg/l P	Phosphomolybic Acid / Ascorbic Acid
Phosphate LR T	0.05 - 4 mg/l P	Phosphomolybdenum Blue
Phosphate total HR TT	1.5 - 20 mg/l P ^{b)}	Phosphomolybdenum Blue
Phosphate total LR TT	0.07 - 3 mg/l P ^{b)}	Phosphomolybdenum Blue
Phosphate VARIO PP	0.06 - 2.5 mg/l P	Phosphomolybdenum Blue
Phosphate VARIO TT	0.02 - 1.6 mg/l P	Phosphomolybdenum Blue
Phosphonate VARIO PP	0.2 - 125 mg/l P	Persulfate UV Oxidation Method
pH-value HR T	8.0 - 9.6	Thymol Blue
pH value L	6.5 - 8.4	Phenol Red
pH-value LR T	5.2 - 6.8	Bromocresolpurple
pH-value T	6.5 - 8.4	Phenol Red
Polyacrylate L	1 - 30 mg/l Polyacryl	Turbidity
Potassium T	1 - 10 mg/l K	Tetraphenylborat Turbidity
SAC 254 nm (344)	0.5 - 50 m ⁻¹	Direct Reading EN ISO 7887:1994
SAC 436 nm	0.5 - 50 m ⁻¹	Direct Reading EN ISO 7887:1994
SAC 525 nm	0.5 - 50 m ⁻¹	Direct Reading EN ISO 7887:1994
SAC 620 nm	0.5 - 50 m ⁻¹	Direct Reading EN ISO 7887:1994
Selenium	0.05 - 1.6 mg/l Se	3,3'-Diaminobenzidine in Toluene
Silcate 10 T	0.05 - 4 mg/l SiO ₂	
Silcate T	0.05 - 4 mg/l SiO ₂	Silicomolybdenum Blue
Silcate HR VARIO PP	1 - 100 mg/l SiO ₂	Silicomolybdate
Silcate L	0.1 - 8 mg/l SiO ₂	Heteropolyblue
Silcate LR VARIO PP	0.05 - 1.6 mg/l SiO ₂	Heteropolyblue
Sulphate T	5 - 100 mg/l SO ₄ ²⁻	Bariumsulphate Turbidity
Sulphate VARIO PP	5 - 100 mg/l SO ₄ ²⁻	Bariumsulphate Turbidity
Sulphide T	0.04 - 0.5 mg/l S ²⁻	DPD / Catalyst
Sulphite 10 T	0.1 - 10 mg/l SO ₃	DTNB
Sulphite T	0.05 - 4 mg/l SO ₃	DTNB
Surfactants M. (anion.) TT	0.05 - 2 mg/l SDSA	Methylene Blue
Surfactants M. (cation.) TT	0.05 - 1.5 mg/l CTAB	Disulphine Blue
Surfactants M. (not ionic) TT	0.1 - 7.5 mg/l Triton X-100	TBPE
Suspended solids	10 - 750 mg/l TSS	Turbidity / Attenuated Radiation Method
Suspended solids	10 - 750 mg/l TSS	Turbidity / Attenuated Radiation Method
TN HR TT	5 - 140 mg/l N ^{b)} ¹⁾	2,6-Dimethylphenole
TN LR TT	0.5 - 14 mg/l N ^{b)}	2,6-Dimethylphenole
TOC HR M. TT	50 - 800 mg/l TOC ^{b)}	H ₂ SO ₄ / Persulphate / Indicator
TOC LR M. TT	5 - 80 mg/l TOC ^{b)}	H ₂ SO ₄ / Persulphate / Indicator
Total iron VARIO PP	0.1 - 1.8 mg/l Fe	TPTZ
Triazole VARIO PP	1 - 16 mg/l Benzotriazole or Tolyltriazole	Catalyzed UV Digestion
Turbidity	5 - 500 FAU	Attenuated Radiation Method
Turbidity	10 - 1000 FAU	Attenuated Radiation Method
Urea T	0.1 - 2 mg/l Urea	Indophenol / Urease
Zinc L	0.1 - 2.5 mg/l Zn	Zincon / EDTA

Test Name	Measuring Range	Chemical Method
Zinc T	0.02 - 0.05 mg/l Zn	Zincon

Technical Data

Light Source	Xenon flash lamp
Optics	Grid monochromator with reference beam and beam splitter after exit slit
Measurement	Concentration, single and multi-wavelength measurement of absorbance and % transmission, kinetics, spectra
Wavelength Range	190 - 1100 nm (rango de exploración)
Wavelength Resolution	1 nm
Wavelength Accuracy	± 1 nm on all Holmium peaks
Wavelength Reproducibility	better than 0,5 nm
Spectral Scope	4 nm
Photometric Range	-3,3 - +3,3 Abs
Photometric Resolution	Absorption: 0.001 ; Transmission: 0.1 %
Photometric Accuracy	0.003 Abs below 0.6 Abs ; 0.5 % from 0.6 to 2.0 Abs
Photometric Reproducibility	0.003 Abs below 0.6 Abs ; 0.5 % from 0.6 to 2.0 Abs
Photometric Linearity	< 1 % up to 2.0 Abs between 340 to 900 nm
Scan Speed	700 - 2000 nm/min.
Stray Light	> 0.05 % Transmission at 340 and 408 nm
Drift	< 0.005 Abs per hour after 15 minutes heat up time
Operation	Membrane Keyboard
Display	7" high contrast colour graphic-display
Suitable Vials	Rectangular Cuvettes 10 mm Rectangular Cuvettes 20 mm Rectangular Cuvettes 50 mm Round Cuvettes 13 mm Round Cuvettes 16 mm Round Cuvettes 24 mm
Automatic Cuvette Recognition	Round cuvettes: 13, 16 and 24 mm ; Rectangular cuvettes: 10, 20 and 50mm
Test Recognition	via internal barcode reader
Interfaces	Ethernet USB B USB A for External Memory Keypad Barcode-Scanner PCL Compatible Printer
Auto-Check	Self-test at each switch-on: test of memory, processor, internal interface, filter lamp and additional calibration of each wavelength
LIMS Compatibility	ASCII, .csv-files
Internal Storage	approx. 5000 data sets (method, user ID, date, result), autostorage function / manual storage function
Security	Password protection possible: 3 different user levels (guest, user, admin)
Power Drain	100 - 240 V, 50/60 Hz
Power Supply	Buffer batteries (4 x AA), power supply unit with cable
Auto - OFF	Yes
Portability	Benchtop
Environmental Conditions	+10 °C to 35 °C (41 °F to 95 °F), ≤ 75 % average humidity within one year 95 %, max. 30 days/year, 85 % all other days
Stock Conditions	-25 °C to +65 °C (-13 °F to 268 °F)
Compliance	CE
Protection Class	IP 30
IP Protection Class	EN 60529
Interference Emission	Class B
Interference Immunity	IEC 61000-4-3

Tolerance Extension	0.008 E
Meter Safety	EC Directive 2014/35/EC EN 61010-1:2010
Languages User Interface	German, English, French, Spanish, Italian, Portuguese, Polish, Indonesian, Russian, Chinese, Japanese, Dutch, Swedish, Norwegian, Czech, Romanian, Macedonian, Slovenian, Hungarian, Turkish, Korean, Vietnamese, Thai, Serbian, Malaysian, Danish, Bulgarian
Languages Quick Start Guide	German, English, French, Spanish, Italian, Portuguese, Polish, Indonesian, Russian, Chinese, Japanese, Dutch, Swedish, Norwegian, Czech, Romanian, Macedonian, Slovenian, Hungarian, Turkish, Korean, Vietnamese, Thai, Serbian, Malaysian, Danish, Bulgarian
Languages Full User Manual	German, English, Spanish, French, Italian, Portuguese, Chinese, Japanese
Dimensions	422 x 195 x 323 mm
Weight	4.5 kg

Delivery Scope Text

- 4 batteries (AA)
- 1 power supply cable
- 4 round cuvettes with lid and 1 zero cuvette XD 7x00 (ø 24 mm)
- 1 zero cuvette (ø 16 mm)
- Quickstart guide in 24 languages
- Full user manual in 8 languages

Accessory

Title	Part Number
Batteries (AA), set of 4	1950025
Round cuvette 24 mm, set of 12	197620
Round cuvette 24 mm, set of 5	197629
Cleaning cloth	197635
Round cuvette 16 mm, set of 10	197665
Zero cuvette ø 16 mm for XD 7000/7500	215661
Zero cuvette ø 24 mm for XD 7000/7500	215662
Verification Standard Kit XD 7000/7500	215663
USB cable 3 m	2444482
UV Pen Lamp, 254 nm	400740
Cuvette stand for 6 round cuvettes Ø 24 mm	418951
Cuvette stand for 10 round cuvettes Ø 16 mm	418957
Pipette tips*, 1-5 ml (white) 100 pc.	419066
Pipette tips**, 0,1-1 ml (white), 1000 pc.	419073
Automatic pipette*, 1-5 ml	419076
Automatic pipette**, 0,1-1 ml	419077
W100/OG/10MM Rectangular cell, optical glass	601040
W100/OG/20MM Rectangular cell, optical glass for determination of arsenic	601050
W100/OG/50MM Rectangular cell, optical glass	601070
W110/UV/10MM Rectangular cell, Quartz UV	661130
W110/UV/20MM Rectangular cell, Quartz UV	661140
W110/UV/50MM Rectangular cell, Quartz UV	661160
Secondary standard set VIS	711160
Potassium Dichromate Secondary Standard Set UV	711161
12 V-plug connector for XD 7000/7500	71310020
Barcode Hand-held Scanner	71310030
Semimicro cell, 50 mm with lid	71310045