

Electrochemistry Meters

Series SD (IP 67 waterproof)



The new AQUALYTIC® SD series comprises a range of compact, easy-to-use, hand-held instruments for the accurate measurement of pH, ORP, Con, TDS or Salt. With robust housing and fully waterproof (IP67) casing, these testers are the ideal solution for in-situ testing in environmental, industrial or pool & spa applications.

The intuitive scroll-bar functionality and backlit display enable the easy measurement and simultaneous display of

Result | Temperature | Date & Time | Other Measurement Details.

With 25 sets of data storage, each with date and time stamp, the units also enable the easy recalling of data for record keeping requirements.

Designed and manufactured according to AQUALYTIC® quality standards, the series can be upgraded with replaceable electrodes to ensure long-life functionality in the field.

Delivery Content

Each device is delivered with batteries, lanyard and instruction manual in robust plastic case with hanger.

SD 50 pH additionally:
pH 4, 7, 10 buffer tablets (1 strip of 10 tablets each)

Highlights

- Portable Hand-Held Meter
- Scroll-Through Functionality
- Compact & Robust
- Storage Function
- Backlit Display
- Waterproof (IP67)

Variants

- SD 50 pH
- SD 60 ORP/Redox
- SD 70 Con
- SD 80 TDS
- SD 90 Salt

SD 50 pH

Range	0 - 60 °C, 0 - 14 pH, -1800 ~ 1800mV
Resolution	0.01 pH
Accuracy	± 0.05 pH
Resolution mV	0.1 mV (within ± 1000 mV) and 1 mV (outside ± 1000mV); Accuracy: ± 20 mV
Resolution temperature	0.1 °C; Accuracy: ± 1 °C, selectable °C / °F system
Selectable buffer system	pH 7.00 or pH 6.86
Calibration	1, 2, or 3 points calibration with auto-recognition (NIST / IUPAC)
Temperature compensation	Automatic
Memory	Time and date display / stamp with 25 sets of data storage (non-volatile)
Display	22 x 22 mm LCD screen, with yellow/green backlight
Power supply	2 x CR2032 batteries
Battery life	> 25 hours (continuous use, backlight OFF), low battery indicator on LCD screen
Auto-off	8 minutes non-use
Conformity	CE
Order code	4194800
Spare electrode	194820

SD 80 TDS (from May 2012)

Range	0 - 60 °C, < 10.00 ppt
Resolution	1 ppm (<= 999 ppm) 0.01 ppt (1.0 - 10.00 ppt)
Resolution temperature	0.1 °C; Accuracy: ± 1 °C, selectable °C / °F system
Auto switch over ppm and ppt	ppm: 0 - 999 ppt: 1.00 - 10.00
Calibration	up to 2 points calibration manual mode ± 50 % adjustable value
Temperature compensation	Automatic
Memory	Time and date display / stamp with 25 sets of data storage (non-volatile)
Display	22 x 22 mm LCD screen, with yellow/green backlight
Power supply	2 x CR2032 batteries
Battery life	> 25 hours (continuous use, backlight OFF), low battery indicator on LCD screen
Auto-off	8 minutes non-use
Conformity	CE
Order code	4194803
Spare electrode	194823

SD 60 ORP (from May 2012)

Range	0 - 60 °C, -1800 ~ 1800mV
Resolution	0.1 mV (within ± 1000 mV) 1 mV (outside ± 1000 mV)
Accuracy	± 20 mV
Resolution temperature	0.1 °C; Accuracy: ± 1 °C, selectable °C / °F system
Calibration	1 point calibration with ± 150 mV adjustable ORP value
Temperature compensation	Automatic
Memory	Time and date display / stamp with 25 sets of data storage (non-volatile)
Display	22 x 22 mm LCD screen, with yellow/green backlight
Power supply	2 x CR2032 batteries
Battery life	> 25 hours (continuous use, backlight OFF), low battery indicator on LCD screen
Auto-off	20 minutes non-use
Conformity	CE
Order code	4194801
Spare electrode	194821

SD 90 Salt (from May 2012)

Range	0 - 60 °C, < 20.00 ppt (2.00 %)
Resolution	0.01 % (when set to "P" % unit) 1 ppm (< 2000 ppm) 0.01 ppt (2.0 - 20.00 ppt)
Resolution temperature	0.1 °C; Accuracy: ± 1 °C, selectable °C / °F system
Auto switch over ppm and ppt	ppm: 0 - 1999 ppt: 2.00 - 20.00
Calibration	up to 2 points calibration manual mode ± 50 % adjustable value
Selectable unit system	"P" % or ppt / ppm
Temperature compensation	Automatic
Memory	Time and date display / stamp with 25 sets of data storage (non-volatile)
Display	22 x 22 mm LCD screen, with yellow/green backlight
Power supply	2 x CR2032 batteries
Battery life	> 25 hours (continuous use, backlight OFF), low battery indicator on LCD screen
Auto-off	8 minutes non-use
Conformity	CE
Order code	4194804
Spare electrode	194824

SD 70 Con (from May 2012)

Range	0 - 60 °C, < 20.00 mS
Resolution	1 μS (<= 1999 μS) 0.01 mS (2.0 - 20.00 mS)
Resolution temperature	0.1 °C; Accuracy: ± 1 °C, selectable °C / °F system
Auto switch over μS and mS	μS: 1 - 1999 mS: 2.00 - 20.00
Calibration	1 or 2 points calibration for auto mode Standard: 1413 μS or Standard: 12.88 mS up to 2 points calibration for manual mode ± 50 % adjustable value
Temperature compensation	Automatic
Memory	Time and date display / stamp with 25 sets of data storage (non-volatile)
Display	22 x 22 mm LCD screen, with yellow/green backlight
Power supply	2 x CR2032 batteries
Battery life	> 25 hours (continuous use, backlight OFF), low battery indicator on LCD screen
Auto-off	8 minutes non-use
Conformity	CE
Order code	4194802
Spare electrode	194822



Electrochemistry Meters Series AL10

Determination of pH, Conductivity



Highlights

- High measuring accuracy
- Light weight
- Protective casing
- Large digital display
- "Low battery" indicator
- Two-Point Calibration

AL10pH

The AL10pH is a high quality, portable, battery operated pH meter. The instrument is equipped as standard with protective casing and built-in electrode holder.

The gel electrode of the AL10pH is temperature resistant over the range 0 - 80 °C. It is fitted with a BNC connector as standard.

Technical data AL10pH

Range	0 - 14 pH
Resolution	0.01 pH
Temperature compensation	not necessary
Accuracy	± 0.07 pH (pH5-pH9) ± 0.1 pH (pH4-pH10) ± 0.2 pH (pH1-pH3.9) ± 0.2 pH (pH10,1-pH13) 23 ± 5 °C, after calibration
Ambient conditions:	0 - 50 °C 0 - 80 % rel. humidity (non condensing)
Battery	9 V block
Dimensions	208 x 110 x 34 mm (L x W x H)
Weight	approx. 380 g
CE-Conformity	
Order Code	4721300

Delivery Content

AL10pH, battery, pH-buffer (4.0 / 7.0), pH plastic electrode-type 110, in case, instruction manual and guarantee sheet.

Accessories AL10pH

Code	Article
721330	pH-electrode plastic/gel, type pH110
721247	pH-buffer, 4.00 (25°C), 90 ml
721248	pH-buffer, 7.00 (25°C), 90 ml
721249	pH-buffer, 10.00 (25°C), 90 ml



AL10Con

The AL10Con is a compact and versatile meter. The unit is extremely easy to use and is equipped as standard with a protective casing and built-in electrode holder.

It is equipped with a LC display showing two or three decimal places and a measuring range either of 0.001 – 1.999 or 0.01 – 19.99 mS/cm.

The AL10Con can be calibrated and adjusted using a potentiometer.

Technical data AL10Con

Range	0.001 - 1.999 mS/cm 0.01 - 19.99 ms/cm
Resolution	0.001 / 0.01 mS/cm
Temperature compensation	0 - 100 °C automatically 2 %/K, 25 °C
Accuracy	± 3 % Full Scale ± 1 Digit (23 ± 5 °C)
Ambient conditions	0 - 50 °C 0 - 80 % rel. humidity (non condensing)
Battery	9 V-Block
Dimensions	208 x 110 x 34 mm (L x W x H)
Weight	approx. 380 g
CE-Conformity	
Order code	4722300

Delivery Content

AL10Con, battery, conductivity sensor, in case, instruction manual and guarantee sheet.

Accessories AL10Con

Code	Article
722250	Conductivity calibration solution, 1413 µS/cm, 500 ml



Multi Parameter Hand-Held Meter AL15

dissolved Oxygen (O₂) | O₂-concentration in mg/l
 Conductivity/TDS | pH/Redox | °C/°F



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Applications

- Drinking Water
- Cooling/Boiler Water
- Waste Water
- Pool Water
- Surface Water
- Water Treatment Companies
- Industrial and Governmental Laboratories

The AL15 combines the features of several hand-held meters. It is designed for multi purpose operation and measures pH/Redox, dissolved oxygen and conductivity/TDS.

The AL15 incorporates an intuitive user interface, large, easy to read display and is supplied with a sturdy handy case with electrodes, buffer solution and accessories.

AL15

Display	Large LCD display with contrast adjustment
Measurement	pH: 0 to 14.00 pH ORP: \pm 1999 mV Conductivity: 200 μ S / 2 mS / 20 mS / 200 mS TDS (Total Dissolved Solids): Dissolved Oxygen: 0 to 20.0 mg/l
Data Logger	Real time data logger
Data Memory	Auto or manual data memory, 16000 data sets
Data Hold	Max, Min
Interface	USB, RS232
Probes	pH, ORP, Conductivity/TDS, Dissolved Oxygen and ATC
Power off	Auto shut off or manual off
Data Output	RS 232 PC serial interface
Power Supply	DC 1,5 V battery (UM3, AA) x 4 PCs or DC 9V adapter in
Software	Data acquisition software Data logger software
CE-Conformity	

pH/Redox

Range	pH 0 to 14 PH mV -1999 mV to 1999 mV
Resolution	0 - 14 pH, 0.01 pH 0 - 1999 mV, 1 mV
Accuracy	0 - 14 pH, \pm 0.02 pH + 2 digits 0 - 1999 mV, \pm 0.5 % + 2 digits
Temperature Compensation	manual 0 - 100 °C automatic (ATC)
pH Calibration	pH 7, pH 4, and pH10, 3 points calibration

Oxygen

Range	Dissolved Oxygen 0 to 20.0 mg/l (liter) Oxygen in Air 0 to 100.0 % Temperature 0 to 50 °C
Resolution	Dissolved Oxygen 0.1 mg/l 0.1 % O ₂ Temperature 0.1 °C
Accuracy (23 \pm 5 °C)	Dissolved Oxygen \pm 0.4 mg/l Oxygen in Air \pm 0.7% O ₂ Temperature \pm 0.8 °C / 1.5 °F
Salinity Correction	0 to 39 % Salt
Air Pressure Comp.	0 to 8900 meter

Conductivity/TDS

Range/ Resolution	Conductivity (μ S, mS) 0 - 200.0 μ S / 0.1 μ S 0.2 - 2.000 mS / 0.001 mS 2 - 20.00 mS / 0.01 mS 20 - 200.00 mS / 0.1 mS TDS (Total Dissolved Solids) 0 - 132 ppm / 0.1 ppm 132 - 1,320 ppm / 1 ppm 1,320 - 13,200 ppm / 10 ppm 13,200 - 132,000 ppm / 100 ppm Temperature 0 - 60 °C / 0.1 °C ; 32 - 140 °F / 0.1 °F
Accuracy	\pm 2 % F.S. + 1 digit ; \pm 0.8 °C / \pm 1.5 °F
Function	Conductivity (μ S, mS) TDS (Total Dissolved Solids, PPM) Temperature (°C, °F)

Delivery Content

Code	Article
4724200	AL15 Set pH / Con / Oxi instrument, batteries, pH electrode, temperature probe, conductivity probe, oxygen sensor, pH buffer set 4,00 / 7,00, electrolyte, membrane heads, instruction manual, guarantee sheet, in case
4724210	AL15 Set pH / Con instrument, batteries, pH electrode, temperature probe, conductivity probe, pH buffer set 4,00 / 7,00, instruction manual, guarantee sheet, in case
4724220	AL15 Set pH / Oxi instrument, batteries, pH electrode, temperature probe, oxygen sensor, pH buffer set 4,00 / 7,00, electrolyte, membrane heads, instruction manual, guarantee sheet, in case
4724230	AL15 Set pH / Redox instrument, batteries, pH electrode, temperature probe, redox electrode, pH buffer set 4,00 / 7,00, instruction manual, guarantee sheet, in case

Accessories

Code	Article
721330	Spare electrode plastic/gel type BNC-plug
721242	Redox electrode plastic/gel type BNC-plug
721250	pH buffer set 4.00/7.00/10.00 (25°C)
721247	pH buffer, 4.00 (25°C), 90 ml
721248	pH buffer, 7.00 (25°C), 90 ml
721249	pH buffer, 10.00 (25°C), 90 ml
721252	pH buffer 4.00 (25°C) 1 litre
721254	pH buffer 7.00 (25°C) 1 litre
721256	pH buffer 10.00 (25°C) 1 litre
724400	Conductivity probe
722250	Calibration solution 1413 μ S/cm
724410	Oxygen sensor
724460	Spare membrane for oxygen sensor
724470	Spare electrolyte for oxygen sensor
724420	Temperature probe PT1000
724500	RS232 cable, for connection to a computer
724510	USB cable, for connection to a computer
724540	Power supply
725050	Case incl. foam
4724520	Data Retrieve Software Software which enables the user to transmit data stored on the instrument to a computer
4724530	Data Logger / Aquisition Software Software which enables the user to monitor and log data on a computer (online measurement)

Highlights

- pH/Redox
Conductivity
Dissolved Oxygen etc.
- All in one
- Real time data logger
- Large digital display
- Protective casing
- RS 232 / USB

Electrochemistry Meters Series AL20 (IP 67 waterproof)



The microprocessor-controlled series AL20 of electrochemistry meters from AQUALYTIC® meets the day-to-day demands for sturdy and reliable systems for the measurement of pH value or ORP/Redox, conductivity/TDS and dissolved oxygen.

The water-tight housing complies with **IP67** and is equipped as standard with protective armoured and built-in electrode holder ensuring reliable operation even in extreme ambient conditions.

The support can be flipped up to hang the meter on pipes or branches.

A direct, easily understood user interface, outlining the required configuration options for all three systems, facilitates meter operation both outdoors and in the laboratory.

The automatic Hold function "freezes" stable measuring data in the display and indicates the presence of stable and reproducible results.

The internal memory allows storage of 20 data sets to facilitate subsequent evaluation.

The integral automatic switch-off feature, varying from 1 to 120 minutes, increases the operating life of the units.

The power consumption of all three units has been reduced to a minimum. As a result, the 4 x 1.5 V integrated batteries have an operating life of up to 15000 hours, depending on the unit version.

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Variants

■ Dissolved Oxygen (O₂)
O₂ Concentration in mg/l
O₂ Saturation in %
°C/°F

■ Conductivity/TDS/Salinity
°C/°F

■ pH/Redox/ORP
°C/°F

AL20pH

- pH / redox measurement and temperature measurement (Pt1000 or NTC 30kOhm)
- Automatic temperature compensation (ATC)
- Auto Hold function
- Internal memory for 20 data sets
- Automatic buffer recognition with Tintometer® standard or DIN or individual buffer
- 1, 2 and 3 point calibration
- Low battery and battery change indicator
- Sensor evaluation in the display based on the calibration result (from 10 to 100%)
- Battery operation period up to 15000 hours
- Shock-absorbing rubber protective armouring
- Waterproof

AL20Con

- Conductivity, Total Dissolved Solids (TDS), Salinity and Temperature measurement
- Dirt-insensitive up-to-date 4-pole conductivity cell offering highest precision
- Automatic temperature compensation (ATC)
- Min/Max value storage
- Internal memory for 20 data sets
- Linear and non-linear temperature compensation (EN27888)
- Calibration against standard solutions
- Low battery and battery change indicator
- Shock-absorbing rubber protective armouring
- Battery operation period up to 3000 hours
- Waterproof

AL20Oxi

- Oxygen partial pressure, Oxygen concentration, Oxygen saturation, Temperature measurement
- Automatic absolute air pressure measurement
- Auto Hold function
- Easy calibration against oxygen in air
- Salinity correction
- Self-polarising galvanic oxygen probe, allows instant measurement after the system is switched on
- Low battery and battery change indicator
- Sensor evaluation in the display
- Accessories for depth measurement
- Battery operation period up to 12000 hours
- Shock-absorbing rubber protective armouring
- Waterproof

Electrodes / measuring probes

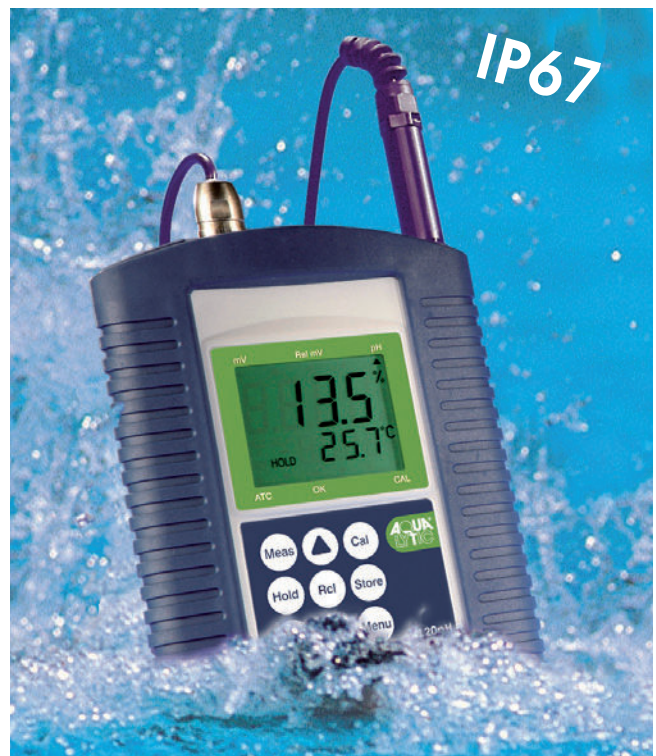
The wide variety of high-quality electrodes and measuring probes for the series AL20 meters makes them suitable for almost any application in water analysis, industry and research.

pH combination electrodes made of glass and plastic, with gel or liquid electrolyte, as well as various temperature sensors (NTC 30kOhm, Pt1000) are considered standard for modern pH meters.

Redox electrodes made of plastic with gel electrolyte and platinum tip are hardwearing and easy to use.

The galvanic, membrane-covered oxygen sensor with built-in temperature sensor allows instant measurement without the need for time-consuming polarisation.

The sturdy, dirt-insensitive 4-pole conductivity measuring cell with graphite electrodes is ideal for use in industrial process and waste water analysis. The temperature range from 0...80 °C, for a short period up to 100°C, make this sensor to a practice-oriented, user friendly item.



Applications

- Drinking Water
- Cooling/Boiler Water
- Waste Water
- Pool Water
- Surface Water
- Water Treatment Companies
- Industrial and Governmental Laboratories

AL20pH

Technical Data

pH	0.00 ... 14.00
Accuracy	± 0.01 pH (at nominal temperature, unit ± 1 digit)
Temperature	-10.0 ... +110.0 °C / 14.0 ... 230.0 °F
Accuracy	± 0.2 °C (-0..50 °C), otherwise ± 0.4 °C
Redox (ORP)	-1999 ... +2000 mV
Relative Redox	-1792 ... +2206 Rel mV (based on DIN 38 404)
Accuracy	± 0.1 % FS (mV or Rel mV)
Sensor connections	DIN 19262 and two 4 mm banana sockets "Temp" and "Ref"
Input resistance	>1012 Ohm (typ.)
Input current	<1 pA
Nominal temperature	25 °C
Operating temperature	0 to +50 °C
Storage temperature	-20 to +70 °C
Power supply	4 x 1.5V battery, type AA Operating time up to >15,000h
Power consumption	0.2 mA
Auto-Off function	0 - 120 minutes
Calibration	1-, 2- or 3-point calibration with auto buffer recognition Tintometer buffer, DIN buffer or user-selectable buffer

CE-Conformity

Delivery Content AL20pH

Code	Article
4721220	AL20pH (SET 1) instrument, batteries, pH/temp. plastic-electrode type 230, pH-buffer-set (pH 4.00/7.00/10.00), in case, manual, guarantee sheet
4721221	AL20pH (SET 2) as SET1, but with pH/temp. plastic-electrode type 225, and temperature sensor Pt 1000, manual, guarantee sheet

Accessories AL20pH

Code	Article
721225	pH-electrode plastic/gel-type 225
721230	pH/temp.-electrode type 230 plastic/gel/temperature NTC30kOhm
721235	pH-electrode glass/gel-type 235
721240	Redox-electrode plastic-type 240
721245	Temperature sensor
418609	KCl-solution, 3 molar saturated with AgCl, 100 ml
721250	pH buffer-set 4.00/7.00/10.00 (25°C)
721252	pH buffer 4.00 (25°C) 1 litre
721254	pH buffer 7.00 (25°C) 1 litre
721256	pH buffer 10.00 (25°C) 1 litre
195070	Redox calibration solution, 470 mV, 100 ml
721260	Adapter cable DIN19262 - BNC
721265	Adapter cable DIN19262, S7 plug-head
725020	Case with foam inlet

AL20Con

Technical Data

Conductivity	0.0 ... 200.0 µS/cm 0 ... 2000 µS/cm 0.00 ... 20.00 mS/cm 0.0 ... 200.0 mS/cm
Resistance	0.005 ... 100.0 kOhm*cm
TDS	0 ... 1999 mg/l
Salinity	0.0 ... 70.0 g/kg
Accuracy	± 0.5 % of result ± 0.5 % FS (± 3 digits)
Temperature	-5.0 ... 100.0 °C / 23.0 ... 212 °F
Accuracy	± 0.3K
Cell constant	0.50 ± 0.10 cm ⁻¹
Temperature compensation	selectable: - linear, 0.3 to 3.0 %/K - non-linear in acc. with EN 27 888 - no compensation
Reference temperature	20 °C and 25 °C
Calibration	1-point calibration in the range from 1000 to 2000 µS/cm
Nominal temperature	25 °C
Operating temperature	Unit: 0 to + 50 °C Measuring cell: -5 to 80 °C (up to 100 °C for short periods)
Power supply	4 x 1.5 V battery, Type AA Operating time up to 1500 h
Power consumption	ca. 2 mA, max. 4.2 mA
Auto-Off function	0 - 120 minutes
Measuring cell	4-pole conductivity measuring cell with integrated temperature- sensor (NTC 10kOhm). Electrode material: special graphite Shaft material: epoxy Temperature sensor: stainless steel Dimensions: diameter 12 mm, 120 mm long

CE-Conformity

Delivery Content AL20Con

Code	Article
4722220	AL20Con with, batteries, 4-Pole conductivity cell, in case, manual, guarantee sheet

Accessories AL20Con

Code	Article
722225	SensoDirect Conductivity Cell, 4-Pole Technology
722250	Calibration solution 1413µS/cm
725020	Case with foam inlet

AL20Oxi

Technical Data

O₂ partial pressure	0.0...570.0 hPa, 0...1200 hPa 0.0...427.5 mm Hg, 0...900 mm Hg
O₂ concentration	0.00...25.00 mg/L, 0.0...70.0 mg/L
O₂ saturation	0.0...250.0 %, 0...600 %
Accuracy	± 1.5% ± 0.2 mg/L (0...25 mg/L) ± 2.5% ± 0.3 mg/L (25...70 mg/L) ±1Digit
Temperature	-5.0 ... + 50.0 °C / 23.0 ... 122.0 °F
Accuracy	± 0.1 °C
Abs. air pressure	500..1100 hPa
Accuracy	± 0.5% full scale
Nominal temperature	25 °C
Operating temperature	0 to +50 °C
Storage temperature	-20 to +70 °C
Power supply	4 x 1.5 V battery, Type AA Operating time up to 12.000 h
Power consumption	max. 0.25 mA
Auto-Off function	0 - 120 minutes
Dimensions	175 x 140 x 45 mm (L x W x H)
Weight	approx. 580 g
Electrode	Self-polarising oxygen electrode with integrated NTC sensor Connection: 7-pin DIN socket Installation diameter: 12.0 ± 0.2 mm Overall length: approx. 220 mm (incl. kink protection) Operating temperature: 0...40 °C

CE-Conformity

Delivery Content AL20Oxi

Code	Article
4723220	AL20Oxi with batteries, oxygen sensor (1.5 m cable), electrolyte (KOH), 3 interchangeable membrane heads, in case, manual, guarantee sheet
4723221	AL20Oxi as above, but with oxygen sensor 10 m cable
4723222	AL20Oxi as above, but with oxygen sensor 30 m cable

Accessories AL20Oxi

Code	Article
723201	Oxygen sensor, 1.5 m cable
723210	Oxygen sensor, 10 m cable
723230	Oxygen sensor, 30 m cable
723250	Service Set Oxygen sensor 3 interchangeable membrane heads, 100 ml plastic bottle KOH-solution 3 mol/l
723260	Protection cap for depth measurement
725020	Case with foam inlet



AL20pH in carrying case



AL20Con in carrying case



AL20Oxi in carrying case