1 LLG-Universal indicator paper, rolls

For the determination of pH values. Plastic dispensing reel with 1 roll of 5m.

Range pH	Description	PK	Cat. No.
1 - 11	Dispensing reel with 1 roll	1	9.129 800
1 - 14	Dispensing reel with 1 roll	1	9.129 802
1 - 11	Refill packs with 3 rolls	3	9.129 801
1 - 14	Refill packs with 3 rolls	3	9.129 803

2 LLG-Universal indicator paper, strips

For determination of pH value. Vial with snap lid of 100 pre-cut indicator paper strips.

Range pH	Package contents	PK	Cat. No.
1 - 14	100 strips per vial with snap lid	100	9.129 805

3 Universal indicator papers

For determination of pH- value. *MACHEREY-NAGEL*
Plastic dispensing reel with 1 roll of indicator paper and colour scale.

Range pH	Description	PK	Cat. No.
1 - 11	Dispensing reel with 1 roll	1	9.130 200
1 - 14	Dispensing reel with 1 roll	1	9.130 210
1 - 11	Refill packs with 3 rolls	3	9.130 203
1 - 14	Refill packs with 3 rolls	3	9.130 213

Further indicatorpapers available on request.

4 Special indicator papers

For determination of pH- value. *MACHEREY-NAGEL*
Plastic dispensing reel with 1 roll of indicator paper and colour scale.

Range pH	Description	PK	Cat. No.
0,5 - 5,5	Roll 5 m	1	9.130 305
0,5 - 5,5	Refill packs with 3 rolls	3	9.130 306
5,5 - 9,0	Roll 5 m	1	9.130 325
5,5 - 9,0	Refill packs with 3 rolls	3	9.130 326

Further indicator papers available on request.

5 Indicator paper, Duotest

Roll length 5 m, 10 mm width. With two colour zones. Plastic box with 1 roll of indicator *MACHEREY-NAGEL* paper and colour scale. Duotest indicator papers combine two different indicator zones on a single strip. The zones are separated by a hydrophobic barrier, which effectively prevents mixing of the reaction colors, simplifying and precisely assigning the pH value.

Range pH	Description	PK	Cat. No.
1,0 - 12,0	Dispensing reel with 1 roll	1	9.130 344
1,0 - 4,3	Dispensing reel with 1 roll	1	9.130 356
3,5 - 6,8	Dispensing reel with 1 roll	1	9.130 359
5,0 - 8,0	Dispensing reel with 1 roll	1	9.130 347
7,0 - 10,0	Dispensing reel with 1 roll	1	9.130 362
9,5 - 14,0	Dispensing reel with 1 roll	1	9.130 363

1 Indicator paper, Tritest

For determination of pH-value.
Roll length 5m, 10mm width. With three colour zones, without hydrophobic zone.
Plastic container with 1 roll of indicator paper and colour scale.

MACHEREY-NAGEL

Range pH	Description	PK	Cat. No.
1 - 11	Dispensing reel with 1 roll	1	9.130 367
1 - 11	Refill packs with 3 rolls	3	9.130 368

2 Litmus paper

Litmus paper, available in blue, red and neutral.
Supplied in booklets of 100 strips, 10 x 70mm W x L.

MACHEREY-NAGEL

Measuring range	Type	Colour change	PK	Cat. No.
8.0 to 5.0	Litmus paper, blue	blue - red	100	9.130 112
5.0 to 8.0	Litmus paper, red	red - blue	100	9.130 116
5.0 to 8.0	Litmus paper, neutral	red - violett - blue	100	9.130 118

Also available as reel. Refill packs available separately.

3 LLG-Indicator paper sticks

For pH determination. Box of 100 indicator paper sticks of 80mm length.

Range pH	Package contents	PK	Cat. No.
0 - 14	50 sticks per pack	50	9.129 806
0 - 14	100 sticks per pack	100	9.129 807

4 LLG-Universal Indicator strips *"Premium"*, in vial with snap lid

Flip-top vial is easy to open and close with one hand. The new LLG pH strips offer the utmost in convenience and ease of use in laboratory-grade testing. With a single colour match, and a 12 mm reagent pad, these universal pH strips (0.0-14.0) belong in every lab.
- pH measuring range: 0 - 14
- 12 mm matching area for quick matches,
- Flip-top vial stays closed when dropped, but is easy to open with one-hand.
- Vial keeps strips safe from the elements
- 1 pack (vial) of 100 strips

Range pH	Package contents	PK	Cat. No.
0 - 14	100 strips per vial with snap lid	100	9.129 808

5 pH-Fix indicator strips, universal

For determination of pH- value. Permanent colour. Non bleeding.

MACHEREY-NAGEL

Range pH	PK	Cat. No.
0.0 - 6.0	100	9.130 382
0 - 14	100	9.130 381
0 - 14 PT*	100	9.130 379
7.0 - 14.0	100	9.130 384

* PlopTop tube.

1 pH-Fix indicator strips, special

For determination of pH- value. Permanent colour. Non bleeding.

MACHEREY-NAGEL

Range pH	PK	Cat. No.
0,3 - 2,3	100	9.130 385
1,7 - 3,8	100	9.130 386
2,0 - 9,0 CE**	100	9.130 380
3,1 - 8,3 CE**	100	9.130 377
3,6 - 6,1 PT* CE**	100	9.130 378
3,6 - 6,1 CE**	100	9.130 387
4,0 - 7,0	100	6.280 450
4,5 - 10,0 CE**	100	9.130 383
5,1 - 7,2	100	9.130 388
6,0 - 7,7	100	9.130 389
6,0 - 10,0	100	9.130 392
7,5 - 9,5	100	9.130 390
7,9 - 9,8	100	9.130 391

* PlopTop tube.

2 Indicator paper, PEHANON®

For determination of pH-value in coloured solutions.
Supplied in packs of 200, 11 x 100mm W x L strips.

MACHEREY-NAGEL

Range pH	PK	Cat. No.
1 - 12	200	9.130 657
1.0 - 2.8	200	9.130 651
1.8 - 3.8	200	9.130 652
3.8 - 5.5	200	9.130 603
6.0 - 8.1	200	9.130 626

3 Special indicator strips

Non-bleeding. Supplied in packs of 100 strips.

Range pH	PK	Cat. No.
0.0 - 2.5	100	9.130 002
2.0 - 9.0	100	9.130 003
2.5 - 4.5	100	9.130 004
4.0 - 7.0	100	9.130 007
5.2 - 7.2	100	9.130 009
6.5 - 10.0	100	9.130 010
11.0 - 13.0	100	9.130 013

4 pH indicator strips

Non-bleeding. Ranges as indicated. Supplied in packs of 100 strips.

Range pH	Increments pH units	Type	PK	Cat. No.
0 - 14	1	Universal	100	9.130 001
0 - 6	0.5	Acilit	100	9.130 016
5 - 10	0.5	Neutralit	100	9.130 017
7.5 - 14	0.5	Alkalit	100	9.130 018

1 2 LLG-pH Pen

Cost efficient pH tester, ideal for testing small amounts of liquid and in narrow vessels. The supplied storage container prevents the electrode from drying out.

- ATC from 0 °C to 50 °C
- Large, easy-to-read LCD display
- **3-point calibration**

Scope of supply: pH meter
Specifications

pH Measuring range:	0 ... 14
pH Accuracy:	±0.1
pH resolution:	±0.1
Dimensions with electrode (W x D x H):	36 x 20 x 210 mm
Dimensions electrode (diam. x L):	12 x 110 mm
Weight:	72 g
Power supply:	2 x 3 V CR2032 button cell
IP code:	IP 65
Warranty:	2 years

Type	PK	Cat. No.
LLG-pH Pen	1	**6.263 690**

3 4 LLG-pH Meter 5

The LLG-pH meter 5 is a very easy to use pH/mV/°C handheld meter. The pH value and temperature can be stored directly on the SD card (Excel file) or transferred directly from the pH meter to a PC via the RS-232 interface.
- Gel filled pH electrode with external temperature sensor with 1m cable
- BNC connector
- Automatic temperature compensation (ATC)
- Large, easy-to-read LCD display
- 3 point calibration
- Suitable for all standard SD cards with 1 to 16 GB

Please order batteries separately (6 x 1.5 V AA)
Optional: power cable, PC connection cable, PC software

Scope of supply: pH meter, pH electrode with temperature sensor, buffers pH 4 and pH 7, 4 GB SD-Memory card, transport case.

Specifications

Measuring range pH:	0 ... 14
pH resolution:	0.01
pH accuracy:	±0.02 + 2d
Ambient conditions:	0 ... 50 °C, max. 85 % r.H.
Temperature range electrode:	0 ... 60 °C
Dimensions (W x D x H):	68 x 177 x 45 mm
Weight:	490 g
Power supply:	6 x 1.5 V AA batteries/9 V mains adapter (optional)
IP code:	IP 51
Warranty:	3 years (1 year on the electrode)

Description	PK	Cat. No.
LLG-pH Meter 5	1	**6.263 691**

Accessories for LLG-pH meter 5

Description	PK	Cat. No.
Electrode + temperature sensor for LLG-pH meter 5	1	**6.263 692**
SD card 4GB for LLG-pH meter 5	1	**6.263 693**
Case for LLG-pH Meter 5	1	**6.263 694**
Power cable for LLG-pH Meter 5	1	**6.263 695**
Connecting cable PC for LLG-pH Meter 5	1	**6.263 696**
Software for LLG-pH Meter 5	1	**6.263 697**

1

1 pH Meter PAL-pH

NEW

ATAGO

For the pH measurement this droplet type pH meter only needs 0.6 ml of sample.
Suitable for e.g. foods, soil, water-soluble cutting oil or alkaline cleaning liquid.
- Quick measuring results in 3 seconds
- Unconsumable KCl due to internal electrode liquid
- Completely flat measurement unit allows easy cleaning
- 100 measured data can be wirelessly transferred via near field comminication (NFC)

Specifications

Measuring range	0 ... 14 pH
Resolution:	0.01 pH
Accuracy:	±0.10 pH (2.0 ... 12.0 pH)
Calibration points:	at 4.01 pH, 6.86 pH, 9.18 pH
Temperature compensation:	0.0 ... 50.0 °C
Dimensions (W x D x H):	66 x 31 x 109 mm
Power supply:	2 x AAA alkaline batteries
IP code:	IP 65

Type	PK	Cat. No.
PAL-pH	1	**6.312 228**

2

2 pH tester PHX 800

ebro

- Housing made of ABS
- Automatic switch-off after 15 minutes
- Hold-function
- Auto-lock-function
- Automatic deactivation
- Battery level indicator
- Exchangeable battery
- Robust
- Waterproof
- Adjustable

Specifications

Measuring range:	0 to 14pH
Accuracy:	±0.1pH
Resolution:	±0.2pH
Operating temperature:	0 to +50°C
Storage temperature:	-25 to +60°C
Battery:	4 x 1.5V A76/LR44
Battery lifetime:	approx. 150 hours
Dimensions (W x L x H):	170 x 32 x 15mm
Weight:	approx. 70 g
IP code:	IP 65

Type	Description	PK	Cat. No.
PHX 800	pH tester	1	**6.266 914**

3

3 Pocket pH testers Eutech™ EcoTestr

Thermo Scientific

Valuable and waterproof pH testers, easy to use. Suitable for general and industrial
purposes, e.g. in laboratories, pools, aquariums and cooling towers.
- Sensor protective cap can be used as a container for samples
- Easy battery change
- Auto-calibration and auto-buffer recognition
- Up to 3 calibration points (only EcoTestr® pH 2)
- Waterand dustproof housing
- Long-lasting, fixed sensor
- Automatic temperature compensation (only EcoTestr® pH 2)
- Hold function freezes last reading temporarily

Specifications:

Range:	0.0 ... 14.0 pH
Resolution:	0.1 pH
Accuracy:	±0.1 pH
Protection class:	IP 67
Power supply:	4 x 1.5 V A76 batteries

Type	PK	Cat. No.
EcoTestr pH 2	1	**6.233 465**

1   Tester Expert pH

Simultaneously measure pH and temperature with a pocket sized tester designed to provide accurate measurements on the go for a variety of applications.

Thermo Scientific

- Large 4 digit double line display
- Display of battery life, status and recalibration
- Automatic temperature compensation (ATC)
- Automatic buffer recognition and calibration
- Auto-power-off

Specifications

pH range:	0 ... 14
Resolution:	0.1
Accuracy:	±0.1
pH calibration points:	1 to 3 points
Temperature range:	0 ... 50 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C + 1 digit
Operating temperature:	5 ... 45 °C
Dimensions (W x L x H):	43 x 170 x 30 mm
Weight:	90 g
Power supply:	Incl. 4 batteries (A76 or LR44 equivalent)
IP code:	IP 67
Warranty:	1 year

Type	PK	Cat. No.
Expert	1	**6.284 896**

pH Pocket Tester Elite pH/Elite pH Spear

6.290 131

Simultaneously measure pH and temperature with a pocket sized tester designed to provide accurate measurements on the go for a variety of applications. The Pocket Tester Elite pH has a leakproof, transparent wide-base cap for upright standing with fill line indicator. The Elite pH Spear pocket tester features a spear tip open pore sensor. This rugged and user-friendly tester is ideal for direct measurement of solid or semi-solid samples.

Thermo Scientific

- 1-push calibration
- Large 4-digit double line display
- Backlit graphic display
- Auto-hold readings
- Easy-to-operate, intuitive keypad
- Auto-off

Scope of supply:
Elite pH and Elite pH Spear: Tester incl. batteries and lanyard
Elite pH Kit and Elite pH Spear Kit: Tester incl. batteries, laynard, soft carry case, buffer sachets set
(pH 4.01, 7.00, 10.01, deionized water, 5 x 20 ml each)

Specifications

pH range:	-1.00 to 15.00
Resolution:	0.01 pH
Accuracy:	±0.01 pH ±1 LSD
pH calibration points:	1 to 3 points
Temperature range:	0 to 60 °C
Resolution:	0.1 °C
Accuracy:	0 to 50 °C (±0.5 °C + 1 LSD)
	50 to 60 °C (±1.0 °C + 1 LSD)
Operating temperature:	5 to 45 °C
Relative humidity:	5 to 85 %, non-condensing
Temperature compensation Elite pH/pH Spear:	ATC/MTC
Dimensions (W x L x H) Elite pH/pH Spear:	200 x 45 x 36 mm/280 x 45 x 36 mm
Weight Elite pH/pH Spear:	160 g/150 g
Power supply:	4 x AAA 1.5 V batteries
IP code:	IP 67

Type	PK	Cat. No.
Elite pH	1	**6.290 131** 2
Elite pH Kit	1	**6.290 137**
Elite pH Spear	1	**6.290 136** 3
Elite pH Spear Kit	1	**6.290 142**

6.290 136

1

6.222 767

Pocket tester Eutech™ pHTestr/pH Spear, waterproof

Thermo Scientific

Waterproof, rugged pH testers with one hand operation for general and industrial purposes, e.g. frequent testing of pools, aquariums, cooling towers, in the chemical industry and food processing.
- Large LCD display
- Easy maintenance and cleaning
- Waterproof and dustproof housing
- User-replaceable, rugged sensor
- Double junction sensor, pHTestr 10BNC only with BNC connector, without sensor
- Push-Button calibration with up to 3 points and Auto-Buffer recognition
- Buffer solutions USA 4.01/7.00/10.01 and NIST 4.01/6.86/9.18 usable
- Hold function, the last measured value remains on the display
- pHTestr 30, 10BNC and pH Spear with temperature display
- pH Spear tester with glass tip electrode for direct measurement of solid or semi-solid samples, e.g. in food processing
- Up to 500 hours operation time with single battery set

2

6.252 022

Specifications

pH range (pHTestr 10):	-1.00 -15.00 (-1.0 bis 15.0)
Resolution (pHTestr 10):	0.01 pH (0.1 pH)
Accuracy (pHTestr 10):	±0.01 pH (±0.1 pH)
pH calibration points:	3 points
Temperature range (only pHTestr 30, 10BNC, pH Spear):	0 to 50 °C
Resolution:	0.1 °C
Accuracy (only pHTestr 30):	±0.5 °C
Operating temperature:	0 to 50 °C
Temperature compensation (pHTestr 10BNC, pH Spear):	ATC (MTC)
Dimensions (B x L) (pH Spear):	165 x 38 mm (240 x 38 mm)
Weight (pH Spear):	90 g (103 g)
Power supply:	4 x 1.5 V A76 batteries
IP code:	IP 67

Type	PK	Cat. No.
pHTestr 30	1	**6.222 767** 1
pHTestr 20	1	**6.902 406**
pHTestr 10	1	**6.223 017**
pHTestr 10BNC	1	**6.225 666**
pH Spear	1	**6.252 022** 2

3

3   pH meter PHT 810

ebro

Portable pH meter with external electrode.
- BNC connection
- With automatic pH calibration
- Handy and robust
- Current value memory
- Simple calibration with keypad
- Electrodes for different applications
- Min/Max- and hold function

pH meter set contains: pH meter PHT 810, penetration electrode AT 206, punching pin, buffer solutions pH4 and pH7, KCl solution, carrying case, 2-point calibration certificate

⚠️ **Warning**

H phrases: H315|H319

Specifications

Measuring range:	0 to 14pH
Accuracy:	±0.03pH
Resolution:	±0.01pH
Operating temperature:	0 to +50°C
Storage temperature:	-25 to +60°C
Battery:	Lithium 3V/1Ah
Battery lifetime:	approx.. 5 years
Dimensions (W x L x H):	54 x 110 x 22mm
Weight:	approx. 200g

Type	Description	PK	Cat. No.
PHT 810	pH meter (without electrode)	1	**6.262 991**
ST 1000	pH meter set	1	**6.266 915**

1 Electrodes for pH meter PHT 810

Plastic electrode AT 200: Housing material: Plastic, Diam.: 12mm, Length shaft: 120mm   *ebro*

Glass electrode AT 201: Housing material shaft: Glass, Diam. shaft: 12mm, Length shaft: 120mm

Penetration electrode AT 206 for measurements in semi-solid food stuff and other materials. Housing material:
Glass, Diameter shaft/electrode: 25mm/5mm, Length shaft/electrode: 65mm/12mm, with 1m cable and BNC plug

Type	Description	PK	Cat. No.
AT 200	Plastic electrode for PHT 810	1	**6.267 164**
AT 201	Glass electrode for PHT 810	1	**6.267 165**
AT 206	Penetration electrode for PHT 810	1	**6.252 036**

pH meter Eutech™ pH150/pH450 series

The best value waterproof meter for measuring pH, mV and temperature.   *Thermo Scientific*
- Large, three line LCD, shows pH or mV measurement with temperature and % slope
- Built-in memory function, stores up to 150 measurements along with temperature
- Auto buffer recognition, automatically identifies USA, NIST or DIN buffer sets for rapid calibration
- Indication of necessary recalibration
- Power with AA batteries or use optional AC adapter
- Features mV offset, calibrate to a Redox/ORP standard or use for pH electrode diagnostics
- Ready indicator, manual or automatic measurement hold feature and optional automatic shutoff function
- % slope and temperature displayed with each measurement
- Includes innovative Grip-Clip™, quickly and easily secures the electrode to your beaker or container

Additional features PH450
- Backlit display
- Extended memory stores up to 500 data sets, easy USB or RS232 output with optional data cables
- Built-in real-time clock stamps storedata and calibration data with time and date, meets standards for GLP
  (Good Laboratory Practices)
- Ability to use ion selective electrodes

Scope of supply PH15002K and PH45002K: Meter with electrode, ATC probe, Grip-Clip™ electrode holder,
2 x AA batteries, hard carry case, pH buffers, storage solution, rinse solution

6.284 900

Specifications

pH range:	-2.00 to 16.00
Resolution:	0.01
Accuracy:	±0.01
pH calibration points:	Up to 5 points (USA & NIST), up to 6 points (DIN)
mV range:	±2000 mV
Accuracy:	±0.2 mV +2 digits or +0.5 % of reading
Temperature range:	-10.0 to +110.0 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C
Power supply:	incl. 2 x AA batteries, >700 h continuous use, AC adapter (optional)
Dimensions (W x L x H):	83 x 200 x 57 mm
Weight:	500 g
IP code:	IP 67
Warranty:	3 years on the meter

6.284 308

Type	Description	PK	Cat. No.
PH15000	Meter only	1	**6.284 899**
PH15002K	with double-junction pH electrode, ATC probe	1	**6.284 900**
PH45000	Meter only	1	**6.284 901**
PH45002K	with double-junction pH electrode, ATC probe	1	**6.284 308**

1

6.280 112

pH meter FiveGo™ F2

Mettler-Toledo Online

Portable pH meter for field work and laboratories.
- Measurement made easy: A large, well-structured display, intuitive button arrangement and simple menu ensure measurements can be performed in just a few clicks.
- Ergonomic design for one handed operation: Thanks to its ergonomic design, handling the FiveGo™ is a comfortable experience. The foldable stand provides optimal viewing on flat surfaces.
- IP67 Water and dustproof: The IP67 waterproof protection makes the FiveGo™ portables able to withstand wet and demanding environments.

Scope of delivery:
F2-Meter: Meter only
F2-Standard kit: Meter with LE438 sensor
F2-Food kit: Meter with LE427 sensor and carrying case
F2-Field kit: Meter with LE438 sensor and carrying case

Specifications
pH
Measuring range:	0.00 ... 14.00
Resolution:	0.01
Accuracy:	±0.01

mV
Measuring range:	-1999…1999 mV
Resolution:	1 mV
Accuracy:	±1 mV
Temperature Compensation:	ATC and MTC
Calibration:	3 points, 4 predefined buffer groups
Memory size:	200 measurements, current calibration

Temperature
Measuring range:	0 ... 100 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C
Dimensions (W x D x H):	188 x 77 x 33 mm
Protection class:	IP 67 (meter + electrode)

Type	PK	Cat. No.
F2-Meter	1	**6.280 111**
F2-Standard kit	1	**6.280 112** 1
F2-Field kit	1	**6.280 113**
F2-Food kit	1	**6.280 114**

2

6.243 880

3

3 ## pH/mV/°C Meter Eutech™ pH6+/pH5+ series

Thermo Scientific

The pH6+ and pH5+ offer you the greatest value-for-money for your basic pH measurement needs. Both meters measure pH and Temperature, the pH6+ aditionally measures mV/ORP. Rugged and user-friendly, these meters come with rubber boots for protection against harsh field elements.
- 3-point-calibration with auto-buffer recognition
- Automatic temperature compensation (ATC)

Scope of delivery: Meter with Rubber Armour/Stand and plastic carrying case (except pH601+ and pH501+)

Specifications
pH range:	0.00 to 14.00 pH
Resolution:	0.01 pH
Accuracy:	±0.01 pH
pH calibration points:	1 to 3 points
mV range (pH6+ only):	±1000 mV
Accuracy:	±0.2 mV
Temperature range:	0.0 to 100.0 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C
Dimensions (W x L x H):	85 x 157 x 42 mm
Weight:	255 g
Power supply:	4 x 1.5 V AAA alkaline batteries, >200 h
IP code:	IP 54
Warranty:	3 years on the meter

Type	Description	PK	Cat. No.
PH603+K	with "3-in-1" pH/Temperature combi electrode	1	**6.243 880** 2
PH602+K	with single junction pH electrode, ATC probe	1	**6.240 654**
PH601+K	with ATC probe, stand and plastic carrying case	1	**6.284 898**
PH601+	with ATC probe	1	**6.240 739**
PH503+K	with "3-in-1" pH/Temperature combi electrode	1	**6.244 042**
PH502+K	with single junction pH electrode, ATC probe	1	**6.240 492**
PH501+	with ATC probe	1	**6.262 080**

pH-meter Seven2Go™ S2

Portable routine model for pH measurement
Mettler-Toledo Online

- New, intuitive menu structure with fast and easy T-Pad navigation in 12 languages
- Robust design with IP67 protection for use in harsh and demanding environments
- Intelligent Sensor Management (ISM®) functionality reduces the risk of errors
- Up to 5 point calibration with automatic buffer recognition and temperature compensation
- 4 predefined buffer groups and 1 user defined buffer group
- Automatic, manual and time dependant endpoint recording
- Data memory storage for 200 data points
- Power requirements: 4 x 1.5V AA or 1.3V NiMH accumulators

Items supplied:
S2-Meter: Instrument, electrode clip, operating instructions, quick guide, test certificate, declaration of conformity and batteries.
S2-Standard kit: As S2-Meter, but also with InLab Expert Pro-ISM-IP67, buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.
S2-Field kit: As S2-Standard kit, but also with bottles for calibration and uGo™ carrying case.
S2-Food kit: As S2-Field kit, but with InLab Solids Pro-IP67 instead of InLab Expert Pro-ISM-IP67.
S2-Light kit: As S2-Standard kit, but with InLab Versatile Pro instead of InLab Expert Pro-ISM-IP67.

1

6.265 415

Specifications
pH

Measuring range:	-2 to 20 pH
Resolution:	0.01/0.1
Accuracy:	±0.01

mV

Measuring range:	-1999 ... +1999mV
Resolution:	1
Accuracy:	±1
Relative mV-measurement:	yes

Temperature

Measuring range:	-5.0 ... 105.0°C
Resolution:	0.1°C
Accuracy:	±0.5°C
Dimensions (W x D x H):	222 x 70 x 35mm

Type	PK	Cat. No.
S2-Meter	1	**6.265 414**
S2-Standard kit	1	**6.265 415** 1
S2-Field kit	1	**6.265 416**
S2-Food kit	1	**6.265 417**
S2-Light kit	1	**6.265 418**

Pocket pH meters ProfiLine Series

The WTW ProfiLine, hand-held, pH/mV meters are robust and waterproof, according to IP67. They have LCD or graphics displays. The proven DIN socket for connecting pH electrodes permits pH measurement even in wet environments. The instruments can be operated by standard alkaline or rechargeable batteries.

2 3 pH and redox meter pH 3110 ProfiLine

Make testing of pH and redox potential simple. Easy operation virtually eliminates errors.
All function keys of the 3110 can be operated even when wearing gloves; automatic calibration and AutoRead functions ensure stable and reproducible results.
The multifunctional display for pH, mV and temperature is always easy to read.
WTW®

2

Measuring ranges

pH:	-2.0 ... +20.0
	-2.00 ... +20.0
	-2.000 ... +19.999
Accuracy:	±0.01 pH (±1 digit)
	±0.005 from +15 °C to +35 °C
mV/Accuracy:	±1200.0/±0.3
	±2000/±1
Temperature:	-5.0 to +105.0 °C
Accuracy:	±0.1 °C
Temperature compensation:	Automatic via pH electrodes with integral temperature probe, TFK 325 or Pt1000

3

Type	Description	PK	Cat. No.
pH 3110	meter only	1	**9.774 367**
pH 3110 Set 2	case set including SenTix 41 and accessories	1	**9.774 354**

1

1 **2** pH meter pH 3310 ProfiLine

Convenient and versatile pH/mV meter with backlit graphics display and menu controlled operation. Waterproof and robust. With 5 point calibration for WTW technical or DIN/NIST buffers. Additional 20 pre-programmed buffer sets. The CMC function (Continuous Measurement Control) helps maintain the optimum measuring range and warns when limits are exceeded. The pH/mV handheld meter with integral, time controlled, data logger and memory for 5000 GLP compliant records is ideal for extended data collection. With 1 to 5-point pH calibration. Menu controlled, with backlit graphics display for comfortable and safe operation. 100% waterproof, USB interface for fast data transfer. Includes driver software and cable.

WTW®

2

Measuring ranges

pH:	-2.0 ... +20.0
	-2.00 ... +20.00
	-2.000 ... +19.999
Accuracy:	±0.005 pH from +15°C to +35°C
mV/Accuracy:	±1200.0/±0.3 mV
	±2500/±1 mV
Temperature:	-5.0 to +105°C
Accuracy:	±0.1°C
Interface:	Mini USB-B
Memory:	5000 records (measured value, temperature, date, time, ID)

Type	Description	PK	Cat. No.
pH 3310	meter only	1	**9.774 337**
pH 3310 Set 2	case set including SenTix 41 and accessories	1	**9.774 356**

3

pH/Redox-Meter SD 305 pH

NEW

Robust and waterproof hand-held meter for field use. For measurements in drinking water, cooling/boiler water, waste water, pool water and surface water.
- Automatic temperature compensation
- Buffer recognition of Lovibond® standards (pH 4.01/7.00/10.01) and buffers according to DIN 19266
- Choice between 1-, 2- or 3-point calibration
- Evaluation of the sensor quality after each calibration
- Alarm function with adjustable limits
- Auto hold function
- Battery status indicator
- Redox measurement in mV or mVH according to DIN 38404-6
- Data transfer and evaluation via software possible

Lovibond®

4.678 216

Scope of supply:
SD 305 pH/ORP (Set 1): Instrument, protective covering with electrode holder, carrying case, pH/Temp. electrode Type 231, pH buffer solution (4.01/7.00/10.01), storage solution for pH/ORP electrodes, batteries, manual
SD 305 pH/ORP (Set 2): Instrument, protective covering with electrode holder, carrying case, pH/Temp. electrode Type 226, temperature probe Pt1000, pH buffer solution (4.01/7.00/10.01), storage solution for pH/ORP electrodes, batteries, manual
SD 305 pH/ORP (Set 3): Instrument, protective covering with electrode holder, carrying case, Redox electrode Type 242, temperature probe Pt1000, ORP control solution (470 mV), storage solution for pH/ORP electrodes, batteries, manual

Specifications

pH:	-2.000 ... 16.000
Accuracy:	±0.005
Temperature:	-5.0 ... 150 °C
Accuracy:	±0.2 °C
Redox (ORP):	-2000.0 ... 2000.0 mV
Accuracy:	±0.05 % FS (mV or mVH)
Datalogger:	10000 Data sets automatically
	1000 Data sets manually
Dimensions (W x D x H):	100 x 164 x 37 mm
Weight:	302 g
Power supply:	2 x AAA battery
IP code:	IP 67

Type	PK	Cat. No.
SD 305 pH/ORP (Set 1)	1	**4.678 215**
SD 305 pH/ORP (Set 2)	1	**4.678 216** 3
SD 305 pH/ORP (Set 3)	1	**4.678 217**

1   pH-meter HandyLab 100

SI Analytics

The portable allrounder for pH/mV measurements. The HandyLab 100 increases the measuring speed and accuracy thanks to the AutoRead and the CMC function. AutoRead displays when the measuring value is stable and eliminates the risk of a premature reading of the faulty measuring value. CMC (Continuous Measurement Control) visualizes whether the measuring value is still within the calibration limits. Having storage capacity for up to 200 data sets, stored data can be viewed. The Handylab 100 can process 1- to 5-point calibration with a choice of 22 stored buffer sets easily and comfortably.

Supplied with:

HL100Versatile: pH meter set Handylab 100 with pHT combination electrode A7780-NTC30-DIN-N for general applications

HL100Field: pH meter set Handylab 100 with pHT-electrode BlueLine 24 pH and reinforcement for on-site measurements

Specifications

pH

Measuring range:	-2 ... 20 pH
Resolution:	±0.1/±0.01/±0.001 pH
Accuracy:	±0.005 pH

mV

Measuring range:	-2500 ... +2500 mV
Resolution:	±1 mV
Accuracy:	±0.3 mV

Temperature

Measuring range:	-5.0 ... +105.0 °C
Resolution:	±0.1 °C
Accuracy:	±0.1 °C

Type	PK	Cat. No.
HL100Versatile	1	6.265 283
HL100Field	1	7.910 240

2   pH meter HandyLab 700/750

SI Analytics

Portable pH measuring devices by SI Analytics with Memosens® technology offers increased safety and a user-friendly interface

- Durable design for daily measurements
- Connection: 2 x 4mm diam. for integrated or separate temperature sensor
- Contrast-rich and scratch-resistant clear glass LCD display
- Self-explanatory operation with one clear text line
- Display of the sensor status at one glance with Sensoface
- Calibration of up to 3 points with automatic buffer detection (from 10 buffers)
- Manual calibration by indicating random buffer values
- Real-time clock and display of battery charging status
- Extended operating time of more than 1.000 hours with standard batteries (4 x AA)

HandyLab 750 additional features:

- Store up to 5.000 data points.
- Micro-USB connection to communicate with the software HandyLab Pilot software for evaluation of data from digital Memosens® sensors.
- HandyLab Pilot software (included with delivery), allows easy management and evaluation of stored data and can be used for device configuration.

Supplied with: Set with pH meter, AquaLine 90pH, SKK K1A and DIN buffer solutions in ampoules

Specifications

pH measurement Memosens (also ISFET)

Measuring range:	-2.000 ... +16.000pH

mV measurement Memosens Redox

Messbereich:	-2000 ... +2000mV

pH/mV measurement (analog)

pH measurement measuring range:	-2 ...16pH
mV measurement measuring range:	-1300 ... +1300mV

Temperature measurement

Measuring range with sensor NTC 30kOhm:	-20 ... +120°C
Measuring range with sensor Pt 1000:	-40 ... +250°C

Type	PK	Cat. No.
HL700AL90pH	1	6.266 645
HL750AL90pH	1	6.266 646

6.265 259

pH/Ion-Meter Seven2Go™ pro S8

Portable professional model for pH measurement

Mettler-Toledo Online

- New, intuitive menu structure with fast and easy T-Pad navigation
- Robust design with IP67 protection for use in harsh and demanding environments
- Intelligent Sensor Management (ISM®) functionality reduces the risk of errors
- New sunlight-proof screen guarantees screen readability even in direct sunlight
- New StatusLight gives a fast, visual confirmation showing if the meter is ready to measure or not
- Operating support for 12 languages with information shown in complete words and sentences
- Up to 5 point calibration with automatic buffer recognition and temperature compensation
- 8 predefined buffer groups and 1 user defined buffer group (1 user defined ion-standard)
- Automatic, manual and time dependant endpoint recording
- Data memory storage for 2000 GLP data points with weatherproof Micro-USB connection for data export
- Power requirements: 4 x 1.5V AA or 1.3V NiMH accumulators

Items supplied:
S8-Meter: Instrument, LabX direct pH, USB cable, electrode clip, base accessory, operating instructions, quick guide, test certificate, declaration of conformity and batteries.
S8-Standard kit: As S8-Meter, but also with InLab Expert Pro-ISM-IP67 and buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.
S8-Field kit: As S8-Standard kit, but also with bottles for calibration and uGo™ carrying case.
S8-Biotech kit: As S8-Field kit, but with InLab Routine Pro ISM (incl. cable) instead of InLab Expert Pro-ISM-IP67.
S8-Fluoride kit: As S8-Standard kit, but with perfectION Fluoride instead of InLab Expert Pro-ISM-IP67, without buffer sachets.

Specifications
pH
Measuring range:	-2 to 20 pH
Resolution:	0.001/0.01/0.1
Accuracy:	±0.002

mV (rel. mV)
Measuring range:	-2000 ... +2000 mV
Resolution:	0.1/1
Accuracy:	±0.1

Ion
Measuring range:	1.00e-09 ... 9.99e+09
Resolution:	3 or 4 digits (auto-range)
Accuracy:	±0.5%

Temperature
Measuring range:	-5.0 ... 130°C (ATC)
	-30.0 ... 130°C (MTC)
Resolution:	0.1°C
Accuracy:	±0.2°C if T = 0°C … 105°C
	±0.5°C if T < 0°C or T > 105°C
Dimensions (W x D x H):	222 x 70 x 35mm
Units:	mg/L, mmol/L, mol/L, %, ppm, pX

Type	PK	Cat. No.
S8-Meter	1	**6.265 258**
S8-Standard kit	1	**6.265 259** 1
S8-Field kit	1	**6.265 260**
S8-Biotech kit	1	**6.265 261**
S8-Fluoride kit	1	**6.265 262**

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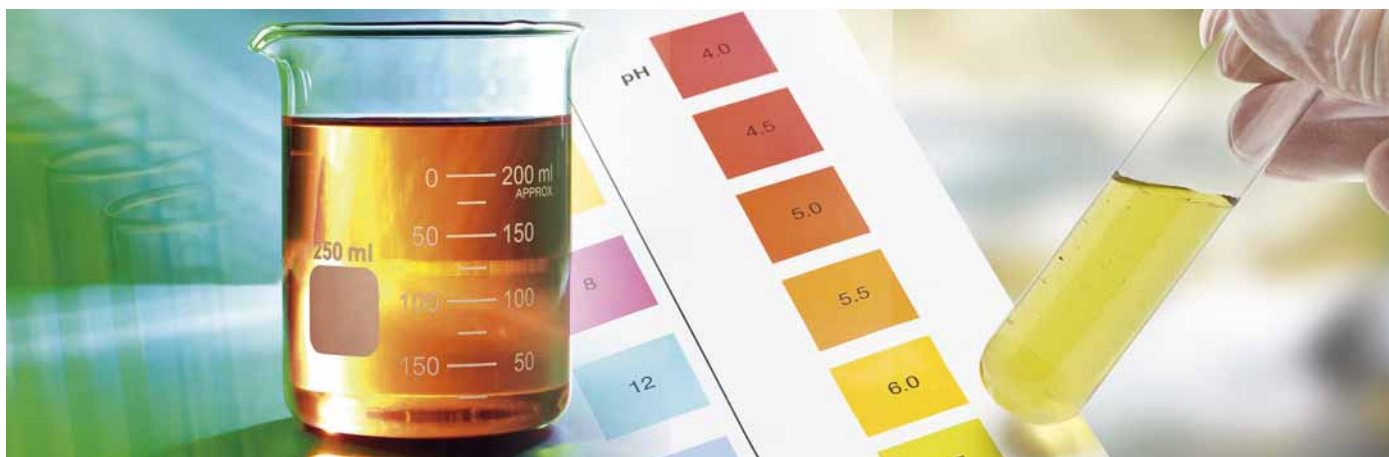
LLG pH meter 7

The LLG pH Meter 7 is an easy-to-use, robust table-top instrument for measuring pH and redox potential. The large color-touch-display and the intuitive, language-independent user interface ensure fast and easy use. Particularly suitable for routine applications in laboratories, production plants and schools.

- **Available as set with gel combination electrode ("Made in Germany") with temperature sensor**
- Large color-touch-display with language-independent graphical user interface
- Automatic temperature compensation
- Memory for 500 values
- 3-point calibration
- Reminder function for upcoming calibrations
- BNC connection for the electrode
- RS232 interface for data transfer
- Electrode holder can be mounted left and right

Scope of supply:
LLG pH meter 7: pH meter, electrode holder, protective cover, power supply unit
LLG-pH Meter 7 set: pH meter, combination electrode, electrode holder, protective cover, power supply unit

6.263 601

Specifications

pH range:	0 ... 14
pH resolution:	0.01
pH accuracy:	±0.01
Temperature range electrode:	0 ... 80 °C
Dimensions (W x D x H):	180 x 240 x 80 mm
Weight:	0.7 kg
Power supply:	9 V DC/1A
IP code:	IP 54
Warranty:	3 years

Type	Plug type	PK	Cat. No.
LLG-pH Meter 7	EU	1	**6.263 600**
LLG-pH Meter 7 set	EU	1	**6.263 601** 1
LLG-pH Meter 7	UK	1	**6.263 606**
LLG-pH Meter 7 set	UK	1	**6.263 607**
UK plug for LLG-pH Meter 7	UK	1	**6.263 634**

Suitable accessories can be found in our online shop.

pH meter LAB 845

SI Analytics

Due to the intuitive operation and robust aluminum housing the pH-Meter LAB 845 is perfect for training and routine purposes.
- Made in Germany
- USB Interface
- Data logger (storage of up to 4000 entries: Date, time, main measured value, secondary measured value, measured temperature) with adjustable interval
- Nummerical password protection
- Selectable user language (German, English, French and Spanish)
- Configurable turn-off time
- Sturdy aluminium housing
- Graphic LCD display, backlit

Scope of supply: Stand, mains adapter, electrode as indicated and 6 DIN buffers (2 x pH 4.01, 2 x pH 6.87 and 2 x pH 9.18)

6.270 548

Specifications

	Measuring range // Resolution // Accuracy
pH:	0 - 14 // 0.01 // ±0.01 (±2 at calibration point)
mV:	-1999 ... 1999 mV // 1 mV // ±0.3 mV
ISE:	0 ... 30000 ppm
Temperature:	-10 ... 100 °C // 0.1 °C // ±0.1 °C
Temperature compensation:	automatic with PT1000 or fix temperature

Description	PK	Cat. No.
LAB 845 without electrode	1	**6.270 548** 2
Lab 845 set with BlueLine electrode BL19pH	1	**6.281 380**
Lab 845 set with BlueLine electrode BL25pH	1	**6.281 620**
Lab 845 set t with BlueLine electrode BL29pH	1	**6.281 621**

pH meters Eutech™ PH700/PH2700 series

Economical, user-friendly and accurate, the PH700 is the ideal choice for routine applications in laboratories, production plants and schools. The advanced PH2700 offers an easy to read screen that says more. View pH or ORP readings, with temperature, electrode status, calibration points, date and time all at once.

Thermo Scientific

- Large, easy-to-read display
- Ready indicator
- 5-point calibration with auto-buffer recognition
- Memory holds up to 100 data points
- Integral electrode holder

Additional features PH2700
- Up to 6-point calibration with auto-buffer recognition
- Quick, easy electrode diagnosis with multiple pH slopes and offset display
- Extended memory holds up to 500 data points, time and date-stamped for GLP compliance
- Alarm for re-calibration
- Auto-Log function for convenient continuous monitoring
- Password protection for setup and calibration

Scope of delivery: Meter with Integral Electrode Holder (except PH70040) and electrodes as indicated.

Specifications	pH700 // pH2700
pH range:	0.00 to 14.00 // -2.000 to 20.000
Resolution:	0.01 // 0.001
Accuracy:	±0.002
pH calibration points:	Up to 5 points // Up to 6 preset or 5 custom
mV range:	±1999 mV // ±2000 mV
Accuracy:	±0.2 mV (±199.9 mV) // ±2 mV (beyond)
Temperature range:	0.0 to 100.0 °C
Resolution	0.1 °C
Accuracy:	±0.5 °C
Dimensions (W x L x H):	155 x 175 x 69 mm
Weight:	650 g
Power supply:	100-240 V adapter
IP code:	IP 54
Warranty:	3 years on the meter

Type	Description	PK	Cat. No.
PH70040	Meter only	1	**7.910 491**
PH70040S	Meter with Integral Electrode Holder	1	**6.284 902**
PH70042S	with pH Electrode, ATC Probe	1	**7.910 099** 1
PH70042GS	with Glass body, open pore pH electrode, ATC Probe	1	**6.284 903**
PH270040S	With RS232 cable	1	**6.284 904** 2
PH270042GS	With pH Electrode, ATC Probe, RS232 cable, pH Electrode Refill Solution	1	**6.284 905**

7.910 099

6.284 904

www.wenk-labtec.com

1 2 Laboratory instrument inoLab® pH 7110

Basic pH/mV laboratory instrument for all tasks where reliable, accurate readings are
required quickly and easily. With large LCD segment display and easy-to-read keyboard.
The AutoRead function ensures correct and repeatable measurement results.
A built-in timer reminds the user of periodical calibration.

WTW®

Scope of supply: Instrument, mains power adapter, stand

Specifications

Ranges	All values ±1 digit
pH:	-2.0 ... 20.0 ±0.1 pH
	-2.00 ... 20.00 ±0.01 pH
	-2.000 ... 19.999 ±0.005 pH
mV:	±(1200.0 ±0.3) mV
	±(2000 ±1) mV
Calibration:	1-, 2- or 3 point WTW technical buffer or DIN/NIST
Temperature:	-5.0 ... 105.0°C ±0.1°C
Power supply:	Universal power supply 100 to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH rechargeable batteries

Type	Description	PK	Cat. No.
pH 7110	Stand-alone instrument with DIN connection	1	9.920 090
pH 7110 BNC	Stand-alone instrument with BNC connection	1	9.920 093
pH 7110 SET 2	Instrument incl. SenTix® 41, buffer 4.7 / 10.01 and 3 mol/l KCl	1	9.920 091
pH 7110 SET 4	Instrument incl. SenTix® 81, buffer 4.7 / 10.01 and 3 mol/l KCl	1	9.920 092

3 Laboratory instrument inoLab® pH 7310

Reliable Documentation for pH measurement, if desired also available with built-in
printer. A modern backlit graphic display with menu controlled user interface allows easy
and intuitive operation. The mini USB-B interface provides fast data transfer to a PC. The internal memory can record
up to 5000 GLP complying data including ID, date and time. The housing and the keypad are easy-to-clean. Up to five
calibration points cover almost the complete pH range. A calibration history of the 10 last calibrations allows conclusions
on the state of the sensor. An integrated thermal printer (58mm width) is ready for printout of the measured data
(option). **Supplied with:** meter, power supply, stand and USB cable.

WTW®

Specifications

Ranges	All values ±1 digit
pH:	-2.0 ... 20.0 ±0.1 pH
	-2.00 ... 20.00 ±0.01 pH
	-2.000 ... 19.999 ±0.005 pH
mV:	±(1200.0 ±0.3) mV
	±(2500 ±1) mV
Temperature:	-5.0 ... 105.0 °C ±0.1 °C
Calibration:	1-, 2-, 3-, 4-, 5 point WTW technical. DIN, NIST and 20 additional buffer sets
Calibration memory:	Up to 10 calibrations recallable
Display:	LCD Graphic, backlit
Memory:	manual 200/5000 automatic
Logger:	manual/time controlled
Interface:	Mini USB-B
Power supply:	Universal power supply, 100 to 240V, 50/60 Hz, 4 x 1.5V AA or 4 x 1.2V NiMH

Type	Description	PK	Cat. No.
pH 7310	Meter only incl. accessories	1	9.920 100
pH 7310 Set 2	Meter incl. SenTix® 41 and accessories	1	9.920 101
pH 7310 Set 4	Meter incl. SenTix® 81 and accessories	1	9.920 102
pH 7310P	Meter incl. integrated printer	1	9.920 104
pH 7310P BNC	Meter with integrated printer, incl. accessories, BNC input	1	9.920 107
RP 58 HQ	Printer paper	1	6.252 725

1

pH meter FiveEasy™ pH F20/FiveEasy Plus™ pH FP20

FiveEasy™ and FiveEasy™ Plus benchtop meters provide high quality pH/mV measurements with the simple click of a button.
- Large, easy to read and easy to understand display with all information visible at a glance
- Five self-explanatory buttons making operation simple and easy
- Fast and easy connectivity for simple and secure data transfer (FP only)
- Electrode arm extension pole included

Mettler-Toledo Online

F20-Meter: Meter with CD operating instructions, QuickGuide, declaration of conformity, test certificate and power supply
F20-Standard: as F20-Meter, plus plastic LE438 3-in-1 pH electrode and 1 each x 4.01, 7.00 and 9.21 buffer sachets
FP20-Meter: Meter with CD operating instructions, QuickGuide, declaration of conformity, test certificate and power supply
FP20-Standard: as FP20-Meter, plus plastic LE438 3-in-1 pH electrode and 1 each x 4.01, 7.00 and 9.21 buffer sachets
FP20-Bio: as FP20-Meter, plus glass LE410 3-in-1 pH electrode and 1 each x 4.01, 7.00 and 9.21 buffer sachets
FP20-Micro: as FP20-Meter, plus glass LE422 micro pH electrode and 1 each x 4.01, 7.00 and 9.21 buffer sachets
FP20-TRIS: as FP20-Meter, plus glass LE420 pH electrode with moveable sleeve diaphragm and 1 each x 4.01, 7.00 and 9.21 buffer sachets

6.280 101

Specifications
Measuring range (Accuracy)

pH F20/FP20:	0.00 to 14.00pH/-2.00 to 16.00pH (±0.01pH)
mV:	-2000 to 2000mV (±1mV)
Temperature F20/FP20:	0 to 100°C (0.5°C)/-5 to 105°C (0.3°C)
Input:	BNC, Cinch (NTC 30kΩ)
Temperature compensation:	ATC and MTC
Power supply:	100-240V/50-60Hz/12V DC
Calibration F20:	3 points, linear, 4 predefined buffer groups
Calibration FP20:	5 points, linear/segmented, 4 predefined buffer groups

FP20 only:

Memory:	200 measurements
Interface:	RS232, USB, Reference input

Type	PK	Cat. No.
F20-Meter	1	6.280 100
F20-Standard Kit	1	6.280 101 **1**
FP20-Meter	1	6.280 102
FP20-Standard Kit	1	6.280 103
FP20-Bio	1	6.280 104
FP20-Micro	1	6.280 105
FP20-TRIS	1	6.280 106

We can **supply** this
manufacturer's
whole
product range !

LLG
Lab Logistics Group

METTLER TOLEDO

1   pH meter SevenCompact™ S210

The SevenCompact™ pH meter S210 is the perfect choice for a wide range of applications. At the same time, working with the S210 is like child's play. Starting a measurement or calibration has never been easier, requiring only a single keypress.

Mettler-Toledo Online

- Fast and accurate measurements
- User-friendly operation
- Menu guidance in 12 languages
- Clear, well arranged color display
- Many peripheral options
- GLP compliant

Supplied with:
S210-Basic: Instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate
S210-Kit: As per S210-Basic, additionally with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.
S210-Bio: As per S210-Kit, but with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM.
S210-U: As per S210-Kit, but with InLab® Versatile Pro instead of InLab® Expert Pro-ISM.

Specifications:

pH-range:	-2 ... 20
pH-relative accuracy:	±0.002
pH-resolution User-definable:	0.001/0.01/0.1
mV-range:	-2000.0 ... 2000.0
mV-relative accuracy:	±0.2
mV-resolution User-definable:	0.1/1
Temperature range	
MTC:	-30.0 ... 130.0 °C
ATC:	-5.0 ... 130.0 °C
Temperature accuracy:	±0.1 °C
Display:	4.3 inch, TFT color
Ext. power supply:	9-12V/10W
IP code:	IP 54

Type	PK	Cat. No.
S210-Basic	1	**9.704 156**
S210-Kit	1	**9.704 157**
S210-Bio	1	**9.704 158**
S210-U	1	**9.704 159**

Printers for Mettler Toledo instruments

6.252 178

Suitable for the following Mettler Toledo instruments:

Mettler-Toledo Online

RS-P25, RS-P26, RS-P28: SevenExcellence™, SevenCompact™, FiveEasy Plus™, SevenMulti™
RS-P25/USB-P25: SevenExcellence™
RS-P26, RS-P28: SevenGo pro™, SevenGo pro Duo™, Densito, Refracto, SevenEasy™

Supplied with: Printer, power cable (country specific), interface cable, paper roll (1 pcs), ribbon cartridge (1 pcs)

Features	For model
Built-in real-time clock, Zero/Tare key:	RS-P26, RS-P28
Statistic application, totalling application:	RS-P28
RS232 Schnittstelle:	RS-P25, RS-P26, RS-P28
Printer unit:	Dot matrix printer
Ribbon cartridge:	Exchangeable, black ink
Paper roll:	Standard paper 57.5 mm (W), max. Ø 60 mm
Print quality:	Thermally stable and lightfast paper (GxP)
Interface:	RS232C, 9pin male connector or USB* (*SevenExcellence ONLY)
Dimensions (W x D x H):	120 x 203 x 73mm
Net weight:	740g (paper roll included)

9.773 710

Type	PK	Cat. No.
RS-P25/USB-P25	1	**6.252 178**
RS-P26	1	**6.251 155**
RS-P28	1	**9.773 710**

1 pH/Ion meter SevenCompact™ S220

The colour display with its well-designed icons and menu settings in 10 languages makes operation genuinely intuitive. Applications range from routine measurements through sample analysis, data handling and data archiving in compliance with GLP regulations.
Simply innovative design that meets the requirements for a universal, easy-to-operate pH/Ion meter.

Mettler-Toledo Online

- User friendly instrument for demanding users
- Security and high reproducibility thanks to Intelligent Sensor Management (ISM®)
- Improved quality of measurements through professional calibration support
- Comprehensive service package including IQ/OQ
- Integrated USB and RS232 interfaces for data exchange

Supplied with:
S220-Basic: Instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate
S220-Kit: As per S220-Basic, additionally with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.
S220-Bio: As per S220-Kit, but with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM.
S220-U: As per S220-Kit, but with InLab® Versatile Pro instead of InLab® Expert Pro-ISM.
S220-Micro: As S220-Kit but with InLab® Ultra Micro instead of InLab® Expert Pro-ISM
S220-uMix: As S220-Kit but also including the uMix™ magnetic stirrer

Specifications:

pH-range:	-2.000 to 20.000
pH-relative accuracy:	±0.002
pH-resolution User-definable:	0.001/0.01/0.1
mV-range:	-2000.0 to 2000.0
mV-relative accuracy:	±0.2
mV-resolution User-definable:	0.1/1
Ion-Concentration range:	1.00E-9 to 9.99E+9
Ion-Concentration accuracy:	±0.5%
Temperature range	
MTC:	-30.0 to 130.0°C
ATC:	-5.0 to 130.0°C
Temperature accuracy:	±0.1°C
Display:	4.3 inch, TFT color
Ext. power supply:	9-12V/10W

Type	PK	Cat. No.
S220-Basic	1	**9.704 160**
S220-Kit	1	**9.704 161**
S220-Bio	1	**9.704 162**
S220-U	1	**9.704 163**
S220-Micro	1	**6.284 504**
S220-uMix	1	**6.284 505**

Accessories for Printers for Mettler Toledo instruments

Mettler-Toledo Online

Description	PK	Cat. No.
Normal paper	5	**9.947 538**
Paper roll adhesive	1	**9.947 540**
Ribbon cartridge, black	2	**4.668 465**

1 LLG pH electrode

Low maintenance combination electrode with integrated temperature sensor. Robust design with plastic shaft, protective basket and fixed cable connection. Made in Germany.

Specifications

Temperature range:	0 ... 80 °C
Temperature sensor:	NTC 30 kΩ
pH range:	0 ... 14
Diaphragm:	2 x ceramic
Membrane shape:	Cylindrical
Electrolyte:	Gel, 3M
Min. immersion depth:	15 mm
Cable length:	1 m
Length/Ø:	120/12 mm
Electrode connection:	BNC
Temperature sensor connection:	Cinch 3 mm

Type	PK	Cat. No.
LLG pH electrode	1	**6.263 602**

pH combination electrode, gel electrolyte, SenTix®

Basic pH combination electrodes, with plastic body, gel reference system. SenTix® 20 with plug head (AS/DIN or AS/BNC cable combination please order separately).
Sentix 21-3 and Sentix 41-3 with 3 m fixed cable.

WTW®

Specifications

Temperature range:	0 to 80 °C
pH range:	0 to 14 pH
Length/diam.:	120 mm/12 mm
Electrolyte:	Gel
Diaphragm:	Fibre
Membrane shape:	Cylindical
Membrane resistance at 25°C:	1 GΩ

Type	Temperature sensor	Connector	Cable m	PK	Cat. No.
SenTix® 20	-	Plug-in head	-	1	**9.040 851**
SenTix® 21	-	DIN, waterproof	1	1	**9.040 872**
SenTix®21-3	-	DIN, waterproof	3	1	**9.040 873**
SenTix® 22	-	BNC	1	1	**9.040 840**
SenTix® 41	NTC 30 kΩ	DIN, waterproof	1	1	**9.040 876** 2
SenTix® 41-3	NTC 30 kΩ	DIN, waterproof	3	1	**9.040 877**
SenTix® 42	NTC 30 kΩ	BNC	1	1	**9.040 841**

9.040 876

pH combination electrodes, liquid electrolyte, SenTix®, refillable

Standard pH combination electrodes with glass shaft, non-solid electrolytes. With fixed cable (1m). SenTix® 60 with screw head (AS/DIN or AS/BNC cable combination please order separately).

WTW®

Specifications

Temperature range:	0 to 100°C
pH range:	0 to 14pH
Length/diam.:	120/12mm
Electrolyte:	Liquid, KCl 3mol/l
Diaphragm:	Platinum
Membrane shape:	Conical
Membrane resistance at 25°C:	600 MΩ
Refill hole cover:	Slide

Type	Temperature sensor	Connector	PK	Cat. No.
SenTix® 60	-	Plug head	1	**9.040 842**
SenTix® 61	-	DIN, watertight	1	**9.040 881**
SenTix® 62	-	BNC	1	**9.040 843**
SenTix® 81	NTC 30 kΩ	DIN, watertight	1	**9.040 886** 3
SenTix® 82	NTC 30 kΩ	BNC	1	**9.040 844**

9.040 886

1   IDS pH electrodes SenTix® 940

Low maintanance pH electrodes with plastic shaft and gel electrolyte, with built-in temperature sensor NTC 30 kOhm. Cable length 1.5 m, SenTix® 940-3 with 3 m cable.

WTW®

Specifications
Temperature range:	0 ... 80 °C
pH range:	0 ... 14 pH
Length/diam.:	120 mm/12 mm
Electrolyte:	Gel
Diaphragm:	Fibre
Membrane shape:	Cylinder
Membrane resistance at 25°C:	< 1GΩ

Type	PK	Cat. No.
SenTix® 940	1	**6.240 824**
SenTix® 940-3	1	**6.239 769**

2   pH combination electrode, SenTix® H/SenTix® HW, refillable

Precision pH combination electrodes with glass shaft and liquid electrolyte. With plug head (AS/DIN or AS/BNC cable combination please order separately). SenTix® H for high alkaline solutions, SenTix® HW for low conductive samples.

WTW®

Specifications	**SenTix® H // SenTix® HW**
Temperature range:	0 to 80 °C // 0 to 60 °C
pH range:	0 to 14 pH
Length/diam.:	170/12 mm
Electrolyte:	Liquid, KCl 3 mol/l
Diaphragm:	Ground joint
Membrane shape:	Cylindrical
Membrane resistance at 25°C:	2 GΩ // 800 MΩ
Refill hole cover:	Slide

Type	Temperature sensor	Connector	PK	Cat. No.
SenTix® H	-	plug head	1	**9.040 845**
SenTix® HW	-	plug head	1	**7.058 767**

3   pH electrodes, SenTix® SP, not refillable

pH electrodes with plastic shaft and liquide electrolyte. SenTix® SP with plug head (AS/DIN or AS/BNC cable combination please order separately). SenTix® SP-DIN with 1m-fixed cable. For penetration measurements.

WTW®

Specifications
Temperature range:	0 to 80°C
pH range:	2 to 13pH
Length // diam.:	65/25 mm // 15/5 mm
Electrolyte:	Polymer
Diaphragm:	Hole
Membrane shape:	Spear
Membrane resistance at 25°C:	400MΩ

Type	Temperature sensor	Connector	PK	Cat. No.
SenTix® SP	-	plug head	1	**9.040 890**
SenTix® SP-DIN	-	DIN	1	**7.655 158**

4   pH/ORP electrodes SensoLyt® ProcessLine

For the SensoLyt® armature, for the installation in a flow vessel or in a replacement fitting
- For drinking water, wastewater or in the process
- Also for high pressure and temperature conditions
- Easy to maintain by easy measuring chain replacement

WTW®

Type	Description	Range pH	PK	Cat. No.
SensoLyt® SEA	For strongly contaminated waste water	2 - 12	1	**6.223 033**
SensoLyt® SE	As SensoLyt® SEA, but without arming for installation	2 - 12	1	**7.008 185**
TA-SensoLyt® SEA	As SensoLyt® SEA, also for installation in TA-197 pH	2 - 12	1	**9.774 218**
SensoLyt® SEA-HP	For increased pressure/temperature conditions	4 - 12	1	**7.656 875**
SensoLyt® ECA	For normal contaminated wastewater	2 - 12	1	**6.223 031**
SensoLyt® EC	As SensoLyt® ECA, but without arming for installation	2 - 12	1	**7.618 407**
SensoLyt® DWA	For drinking water applications	0 - 14	1	**6.223 010**
SensoLyt® DW	As SensoLyt® DWA, but without arming for installation	0 - 14	1	**6.222 876**

IDS pH electrodes SenTix® 980

Precision pH electrodes with glass shaft and liquid electrolyte KCl 3 mol/l Ag+ free, with
built-in temperature sensor NTC 30 kOhm.Cable length 1.5 m, SenTix® 980-P
wireless-ready.

WTW®

Specifications

Temperature range:	0 ... 100 °C
pH range:	0 ... 14 pH
Length/diam.:	120 mm/12 mm
Electrolyte:	KCl 3 mol/l Ag+ free
Diaphragm:	Platinum wire
Membrane shape:	Cone
Membrane resistance at 25°C:	< 600 MΩ

Type	PK	Cat. No.
SenTix® 980	1	**6.238 921** 1
SenTix® 980-P	1	**6.285 212**

6.238 921

Accessories for combination electrodes

Connection cable for pH electrodes with plug head connection to plugs as indicated.

WTW®

Type	Connector	Cable m	PK	Cat. No.
AS/DIN	DIN	1	1	**9.040 895** 2
AS/DIN-3	DIN	3	1	**9.040 896**
AS/BNC	BNC	1	1	**9.040 897**

9.040 895

3 pH-electrodes, BlueLine, not refillable

Low-maintenance pH combination electrode with plastic body, Ag/AgCl reference system.
With fixed cable, length 1 m (BlueLine 24 pH IDS 1.5 m, BlueLine 24-3 pH IDS 3 m).
BlueLine 22 pH with plug head (LB 1A or LB 1BNC cable combination please order separately).

SI Analytics

Specifications

Temperature range:	-5 to 80°C
pH range:	0 to 14pH
Zero point:	pH=7.0 ±0.3
Length/diam.:	120mm/12mm
Electrolyte:	Gel
Diaphragm:	Fibre
Membrane shape:	Cylindrical
Membrane resistance at 25 °C:	400MΩ

Type	Temperature sensor	Connector	PK	Cat. No.
BlueLine 22 pH	-	Plug head	1	**9.041 147**
BlueLine 23 pH	-	DIN	1	**9.041 148**
BlueLine 24 pH	NTC 30 kΩ	DIN + Banana	1	**9.041 149**
BlueLine 24 pH IDS	NTC 30 kΩ	Digital plug	1	**6.265 622**
BlueLine 24-3 pH IDS	NTC 30 kΩ	Digital plug	1	**6.265 623**
BlueLine 25 pH	-	BNC	1	**9.041 150**
BlueLine 26 pH	NTC 30 kΩ	BNC + Banana	1	**9.041 151**
BlueLine 26 pH-Cinch	NTC 30 kΩ	BNC + Cinch	1	**6.251 893**
BlueLine 28 pH	Pt 1000	DIN + Banana	1	**7.075 024**
BlueLine 28 pH-P	Pt 1000	DIN + 2-mm-pin	1	**6.204 522**
BlueLine 29 pH	Pt 1000	BNC + Banana	1	**6.261 445**
BlueLine 29 pH-P	Pt 1000	BNC + 2-mm-pin	1	**6.226 741**

4 Spear-tip electrode, BlueLine 21 pH, not refillable

pH combination electrode with plastic body, Ag/AgCl reference system and spear
membrane tip. BlueLine 21 pH IDS mit 1.5 m fixed cable and digital plug. BlueLine 21 pH
with plug head. LB 1 A or LB 1 BNC cable combination please order separately.
Particularly suitable for penetration measurements in semi-solid media.

SI Analytics

Specifications

Temperature range:	-5 to + 80°C
pH range:	2 to 13 pH
Temperature sensor:	No
Taper length // Dia. max./min.	65/25mm // 12/5mm
Electrolyte:	Referid®
Diaphragm:	Hole
Membrane resistance at 25 °C:	400 MΩ

Type	PK	Cat. No.
BlueLine 21 pH	1	**9.041 146**
BlueLine 21 pH IDS	1	**6.265 621**
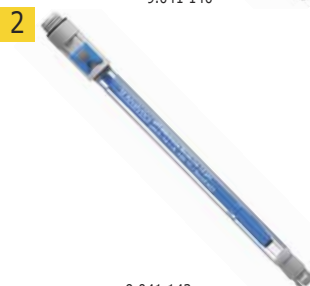
9.041 140

9.041 142

pH electrodes BlueLine, refillable

pH combination electrode with glass body, Ag/AgCl reference system. With fixed cable, length 1 m (BlueLine 14 pH IDS 1.5 m). BlueLine 11 pH and BlueLine13 pH with screw head (LB 1A or LB 1BNC cable combination please order separately).

SI Analytics

Specifications

Temperature range:	-5 to 100°C
pH range:	0 to 14pH
Zero point:	pH=7.0 ±0.3
Length/diam.:	120/12mm
Blueline 13 pH:	170/12mm
Electrolyte:	Liquid, KCl 3mol/l
Diaphragm:	Platinum
Blueline 13 pH:	Ground joint
Membrane shape:	Conical
Blueline 13 pH:	Cylindrical
Membrane resistance at 25°C:	250MΩ
Blueline 13 pH:	300MΩ
Refill hole cover:	Slide

Type	Temperature sensor	Connector	PK	Cat. No.
BlueLine 11 pH	-	Plug head	1	**9.041 140** 1
BlueLine 12 pH	-	DIN	1	**9.041 141**
BlueLine 13 pH	-	Plug head	1	**9.041 142** 2
BlueLine 14 pH	NTC 30 kΩ	DIN + Banana	1	**9.041 143**
BlueLine 14 pH ID	NTC 30 kΩ	DIN + 4-mm-banana, ID function	1	**6.233 381**
BlueLine 14 pH IDS	NTC 30 kΩ	Digital plug	1	**6.265 620**
BlueLine 15 pH	NTC 30 kΩ	BNC + Banana	1	**9.041 144**
BlueLine 15 pH ID	NTC 30 kΩ	BNC + 4-mm-banana, ID function	1	**9.041 155**
BlueLine 15 pH Cinch	NTC 30 kΩ	BNC + Cinch	1	**6.240 767**
BlueLine 17 pH	-	BNC	1	**7.608 144**
BlueLine 18 pH	Pt 1000	DIN + Banana	1	**7.054 864**
BlueLine 19 pH	Pt 1000	BNC + Banana	1	**7.658 006**
BlueLine 15 pH	NTC 10 kΩ	BNC + jack connector	1	**7.672 009**

3 pH combination electrodes with gel electrolyte

Low-maintenance pH combination electrode for use in water management and process chemistry. Not refillable.

SI Analytics

- With glass shaft and Silamid® reference
- Gel electrolyte with visible KCl reserve
- With factory test certificate 2.1 for pressure and temperature resistance

Scope of delivery: Electrode with screw plug head (Pg 13.5 installation thread), HD seal, connection cable.

Specifications

Temperature range:	-5 ... 80 °C
Pressure range	1 ... 12 bar
pH range:	2 ... 12
Length/diam.:	120 mm/12 mm
Electrolyte:	Gel
Diaphragm:	Ceramic
Membrane shape:	Sphere
Membrane resistance at 25 °C:	30 MΩ

Type	PK	Cat. No.
L7781 HD	1	**7.070 780**

9.041 120

pH-combination electrodes

With plug head, glass shaft, platinum diaphragm (N 64 with sleeve diaphragm), 3mol/l KCl electrolyte, Silamid® reference system and 12mm dia. spherical membrane.

SI Analytics

Type	Temp. range max. °C	Length mm	Membrane	Diam. mm	PK	Cat. No.
N 61	-5 ... +100	170	A-glass	12	1	**9.041 100**
H 61	+10 ... +100	170	H-glass	12	1	**9.041 105**
N 62	-5 ... +100	120	A-glass	12	1	**9.041 110**
H 62	+10 ... +100	120	H-glass	12	1	**9.041 112**
N 64	-5 ... +100	170	A-glass	12	1	**9.041 120** 4

pH-Electrodes ScienceLine plus

With glass shaft, Silamid®-reference system with silver ion barrier and double-electrolyte, electrolyte KCl 3 mol/l, banana plug.
pH range 0 to 14 pH. SCPpHT-A170MF-3M-DIN-N additionally with ID function.

SI Analytics

Type	Temp. range max. °C	Length mm	Diam. mm	Membrane	Diaphragm type	Connector	Temperature sensor	Glass	PK	Cat. No.
SCPpHT-SP-A-3M-DIN-N	-5 … 100	120	12/8	Spear	3 x Ceramic	DIN	Pt 1000	A	1	**4.672 216** 1
SCPpHT-SP-A-3M-BNC-N	-5 … 100	120	12/8	Spear	3 x Ceramic	BNC	Pt 1000	A	1	**4.672 217**
SCPpHT-H170MF-3M-DIN-N	-5 … 100	170	12	Sphere	Ceramic	DIN	Pt 1000	H	1	**4.672 222**
SCPpHT-A170MF-3M-DIN-N	-5 … 100	170	12	Sphere	Platinum	DIN	Pt 1000	A	1	**4.672 219**
SCPpHT-A170MF-3M-BNC-N	-5 … 100	170	12	Sphere	Platinum	BNC	Pt 1000	A	1	**4.672 218**
SCPpH-H120MF	-5 … 100	120	12	Sphere	Platinum	Plug head	-	A	1	**4.672 220** 2
SCPpH-H170MF	-5 … 100	170	12	Sphere	Platinum	Plug head	-	H	1	**4.672 221**
SCPpHT-MIC-AMF-3M-DIN-N	-5 … 100	70/130	12/5	Cylinder	Platinum	DIN	Pt 1000	A	1	**4.672 224** 3
SCPpHT-MIC-AMF-3M-BNC-N	-5 … 100	70/130	12/5	Cylinder	Platinum	BNC	Pt 1000	A	1	**4.672 225**
SCPpH-MIC-AMF	-5 … 100	70/130	12/5	Cylinder	Platinum	Plug head	-	A	1	**4.672 223**

4.672 216

4.672 220

4.672 224

4   Cable combinations

For BlueLine pH electrodes, ScienceLine, IoLine and TopLine.
Cable length: 1 m coaxial cable.

SI Analytics

Type	Connector	PK	Cat. No.
LB 1 A	DIN	1	**9.041 303**
LB 1 BNC	BNC	1	**9.041 304**
L 1 N	Banana, 4 mm	1	**6.225 150**
L 1 A	DIN	1	**9.041 235**
L 1 BNC	BNC	1	**9.041 301**

pH electrodes InLab® Routine Series

Combined pH electrode, glass shaft, ARGENTHAL™ reference with silver-ion trap,
detachable cable. For InLab®Routine please order separately InLab® cable S7 and for
InLab®Routine Pro and InLab®Routine Pro ISM please order separately InLab® cable MultiPin-BNC/RCA.

Mettler-Toledo Online

Specifications:

Temperature range:	0 to +100 °C
pH range:	0 - 14
Electrode Dia.:	12 mm
Electrolyte:	Liquid, KCl 3 mol/l
Diaphragm:	ceramic
Membrane resistance at 25 °C:	< 600 M Ω
Shaft length:	min. 120 mm

9.041 450

9.041 454

Description	Temperature sensor	Electrode head	PK	Cat. No.
InLab® Routine	-	S7	1	**9.041 450** 5
InLab® Routine Pro	NTC 30 kΩ	MultiPin™	1	**9.041 454** 6
InLab® Routine Pt1000	Pt1000	MultiPin™	1	**9.041 456**
InLab® Routine Pro ISM	NTC 30 kΩ	MultiPin™	1	**7.629 195**
InLab® cable S7-BNC 1.2 m			1	**9.041 613**
InLab® cable MultiPin-BNC/RCA, 1,2 m			1	**9.041 611** 7

9.041 611

8   pH combination electrode InLab® Solids

With spear-tip membrane. With glass shaft, Argenthal™ reference system and S7 plug
head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +80°C
pH range:	0 - 11
Temperature sensor:	no
Length/Diam.:	25mm/6mm
Electrolyte:	XEROLYT® PLUS polymer electrolyte, non-refillable
Diaphragm:	open junction
Membrane resistance at 25 °C:	< 250 MΩ

Type	Connector	Temperature sensor	PK	Cat. No.
InLab® Solids	S7	-	1	**9.041 553**
InLab® Solids Pro-ISM	MultiPin™	NTC 30 kΩ	1	**9.041 555**
InLab® Solids Go-ISM	BNC/RCA IP67	NTC 30 kΩ	1	**6.270 667**

1   pH electrode InLab® Micro

pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag⁺ trap and S7 electrode head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +80°C
pH range:	0 - 14
Temperature sensor:	no
Length/Diam.:	60mm/3mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Ceramic type Z (pore size 0.9µm)
Membrane resistance at 25 °C:	< 1000MΩ

Type	PK	Cat. No.
InLab® Micro	1	**9.041 560**

2   pH electrodes InLab® 413

For portable applications in the lab and outdoors, robust and maintenance-free. pH-combination electrode with chemically resistant PEEK shaft, ARGENTAL™ reference system. Fixed BNC/RCA (Cinch) cable. InLab® 413 IP67 with MultiPin™ electrode head.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100 °C
pH range:	0 - 14
Temperature sensor:	NTC 30 kΩ
Length/Diam.:	120 mm/12 mm
Electrolyte:	XEROLYT® polymer
Diaphragm:	double open junction
Membrane resistance at 25 °C:	< 250 MΩ
IP code:	IP67

Type	Connector	Cable m	PK	Cat. No.
InLab® 413 SG Expert Go	BNC / RCA (Cinch)	1,8	1	**6.233 316**
InLab® 413 IP67	BNC / RCA (Cinch)	1,2	1	**6.900 314**

pH electrodes InLab® Expert Pro

pH-combination electrode with chemically resistant PEEK shaft, ARGENTAL™ reference system. Fixed BNC/RCA (Cinch) cable.
InLab® Expert Pro ISM for SevenCompact and SevenExcellence.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 14
Temperature sensor:	NTC 30kΩ
Length/Diam.:	120mm/12mm
Electrolyte:	XEROLYT® polymer
Diaphragm:	open junction
Membrane resistance at 25 °C:	< 250MΩ

9.041 506

Type	Connector	Temperature sensor	Cable m	PK	Cat. No.
InLab® Expert Go-ISM	BNC/RCA IP67	NTC 30 kΩ	1,8	1	**7.626 196**
InLab® Expert	S7	-	-	1	**9.041 500**
InLab® Expert Pro-ISM	BNC/RCA	NTC 30 kΩ	1,2	1	**9.041 508**
InLab® Expert Pro	BNC/RCA	NTC 30 kΩ	1,2	1	**9.041 506** 3
InLab® Expert DIN	DIN 19262 / 4 mm	Pt1000	1,2	1	**9.041 503**
InLab® Expert NTC30	MultiPin™	NTC 30 kΩ	1,2	1	**9.041 504**

4   pH electrode InLab® Micro Pro ISM

pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag⁺ trap and MultiPin™ electrode head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 14
Temperature sensor:	NTC 30kΩ
Length/Diam.:	130mm/5mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Ceramic
Membrane resistance at 25 °C:	< 300MΩ

Type	PK	Cat. No.
InLab® Micro Pro ISM	1	**6.243 633**

1   pH combination electrode LE 438

With epoxy body and gel electrolyte, fixed cable with BNC/Cinch connection. For simple measurements, particularly suitable for portable pH meters, with temperature sensor.

Mettler-Toledo Online

Electrolyte:	3 mol/L KCl sat. with AgCl as gel, non-refillable
Body length:	120 mm
pH:	0 to 14
Temperature:	0 to 80 °C
Temperature sensor:	NTC 30 kΩ

Type	Connection	PK	Cat. No.
LE 438	BNC / Cinch	1	**9.041 400**

2   pH electrode InLab® Science Pro ISM

pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag⁺ trap and MultiPin™ electrode head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 12
Temperature sensor:	NTC 30kΩ
Length/Diam.:	170mm/12mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	movable glass sleeve
Membrane resistance at 25 °C:	< 600MΩ

Type	PK	Cat. No.
InLab® Science Pro ISM	1	**9.041 472**

3   pH electrode InLab® Pure Pro-ISM

For ion-weak samples like ultra-pure water, deionized water.
pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag⁺ trap and MultiPin™ electrode head.
Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +80 °C
pH range:	0 - 11
Temperature sensor:	NTC 30 kΩ
Length/Diam.:	170 mm/12 mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Glass sleeve
Membrane resistance at 25 °C:	< 50 MΩ

Type	PK	Cat. No.
InLab® Pure Pro-ISM	1	**7.629 193**

Connection cables

For connecting pH electrodes with built-in temperature sensors and MultiPin plug head or with S7 plug head (without temperature sensor) as indicated. Cables suitable for a variety of other manufacturers meters.

Mettler-Toledo Online

9.041 634

9.041 613

9.041 649

9.041 650

Connector	Electrode head	Length m	PK	Cat. No.	
DIN	S7	1.2	1	**9.041 634**	4
BNC	S7	1.2	1	**9.041 613**	5
2 mm	S7	1.2	1	**9.041 662**	
4 mm	S7	1.2	1	**9.041 661**	6
-	S7	5.0	1	**9.041 669**	
BNC/RCA	MultiPin™	1.2	1	**9.041 611**	
BNC/1x4 mm	MultiPin™	1.2	1	**6.282 405**	
DIN/RCA	MultiPin™	1.2	1	**9.041 649**	
Lemo 00/2x4 mm	MultiPin™	1.2	1	**9.041 650**	7

1 IDS ORP electrodes SenTix® ORP-T 900

Universel ORP electrodes with platinum disc for laboratory applications.

WTW®

Specifications

Measuring range:	-1250.0 ... +1250.0 mV
Working temperature range:	0 ... 100 °C
Length/diam.:	120 mm/12 mm
Electrolyte:	KCl 3 mol/l
Sensor:	Platinum
Diaphragm:	Ceramic

Type	PK	Cat. No.
SenTix® ORP-T 900	1	**6.267 995**
SenTix® ORP-T 900-P	1	**7.644 433**

6.267 995

2 Combined redox electrodes InLab®

Redox combination electrodes for measuring the oxidation/reduction potential in aqueous solutions. The signal is generated on the surface of the indicator electrode by an electron exchange with the oxidation/reduction system of the measured medium. Without temperature sensor.
With Safelock™ end ring for easy refilling of the reference electrolyte and complete sealing in closed position.
For use with a wide variety of measuring instruments.

Mettler-Toledo Online

InLab® Redox: For general purpose. With platinum ring indicator electrode
InLab® Redox Pro: For emulsions, wastewater analysis and general purpose. With movable ground joint junction and platinum ring indicator electrode
InLab® Redox L: For large samples. With platinum ring indicator electrode
InLab® Redox Au: Combined redox electrode with gold ring indicator electrode
InLab® Redox Ag: Combined redox electrode with silver ring indicator electrode
InLab® Redox Micro: For small samples. With platinum ring indicator electrode

Please order connection cable separately.

Specifications

Temperature range:	0 ... 100 °C
Connection:	S7
Reference system:	Silver/silver chloride
Reference electrolyte:	3 mol/l KCl (InLab® Ag: 1 mol/l KNO$_3$)
Type of junction:	Ceramic
Shaft material:	Glass

Type	Length mm	Shaft diameter mm	PK	Cat. No.
InLab® Redox	120	12	1	**9.041 540**
InLab® Redox Pro	120	12	1	**9.041 541**
InLab® Redox L	170	12	1	**9.041 542**
InLab® Redox Au	120	12	1	**9.041 544**
InLab® Redox Ag	120	12	1	**9.041 545**
InLab® Redox Micro	100	6	1	**9.041 543**

3 ORP electrodes SenTix® ORP, analogue

With glass shaft, Ag/AgCl reference system, connections for AS/DIN, AS/DIN-3, AS/BNC, S7 plug head.

WTW®

Specifications

Temperature range:	0 ... 100 °C
Length/Diam.:	120 mm/12 mm
Electrolyte:	KCl 3 mol/l
Sensor:	Platinum
Sensor shape:	Disc (4 mm)
Diaphragm:	Ceramic

Type	PK	Cat. No.
SenTix® ORP	1	**7.050 767**

Ion-selective electrodes

Combined ISE and GSE electrodes.   *WTW®*

Type	For	Measuring range	Range pH	Connector	Membrane	PK	Cat. No.
NH 500/2	Ammonium	0.02 ... 900 mg/l	4-12	S7	-	1	**7.008 136**
Ca 800	Calcium, Magnesium	0.02 ... 40000 mg/l 5×10^{-7} ... 1 mol/l	2.5-11	DIN	Matrix	1	**6.803 397**
Ag/S 800	Silver, Sulfide	0.01 ... 108000 mg/l 10^{-7} ... 1 mol/l 0.003 ... 32000 mg/l 10^{-7} ... 1 mol/l	2-12	DIN	Solid state	1	**6.226 445**
Cl 800	Cloride	2 ... 35000 mg/l 5×10^{-5} ... 1 mol/l	2-12	DIN	Solid state	1	**6.204 775**
CN 800	Cyanide	0.2 ... 260 mg/l 8×10^{-6} ... 10^{-2} mol/l	0-14	DIN	Solid state	1	**7.634 542**
CU 800	Copper, Nickel	0.0006 ... 6400 mg/l 10^{-8} ... 10^{-1} mol/l	2-6	DIN	Solid state	1	**7.620 500**
K 800	Potassium	0.04 ... 39000 mg/l 10^{-6} ... 1 mol/l	2-12	DIN	Matrix	1	**7.624 548**
Br 800	Bromide	0.4 ... 79000 mg/l 5×10^{-6} ... 1 mol/l	1-12	DIN	Solid state	1	**6.225 474**
F 800	Fluoride, Aluminium, Phosphate, Lithium	0.02 ... sat. mg/l 10^{-6} ... sat. mol/l	5-7	DIN	Solid state	1	**7.615 487**
NO 800	Nitrate	0.46 ... 2000 mg/l	2.5-11	DIN	Matrix	1	**6.204 944**
Na 800/S7	Sodium	0.01 ... 23000 mg/l	8-11	S7	Glass	1	**6.313 274**

1 Ion selective combination electrodes perfectION™

With integrated reference electrode. Easy cleaning of the diaphragm between measurements with Click & Clear™ (except Na electrode): by pressing the electrode head, the electrolyte solution flows through the diaphragm. The electrolyte can be easily emptied and refilled. Optimum contact between sample and electrolyte solution is always guaranteed.   *Mettler-Toledo Online*

Scope of delivery: Sensor with permanently connected 1.2 m cable with BNC connection, 60 ml reference electrolyte, operating instructions.

Scope of delivery Na-electrode: Sensor with S7 plug head, diaphragm made of glass with higher sensitivity to sodium, 25 ml reference electrolyte, operating instructions.

Type	Membrane	Measuring range mol / l	Temp. range max. °C	Range pH	PK	Cat. No.
F	Solid	10^{-6} ... saturated	0 ... 80	4.5 ... 5.5	1	**6.239 828**
Na	Na⁺ glass	10^{-7} ... 1	0 ... 80	8 ... 11	1	**6.239 927**
Cl	Solid	5×10^{-5} ... 1	0 ... 80	2 ... 12	1	**6.240 856**
NO3	Polymer	7×10^{-6} ... 1	0 ... 40	2.5 ... 11	1	**6.251 376**
Ca	Polymer	5×10^{-7} ... 1	0 ... 40	2.5 ... 11	1	**9.041 169**
Ag/S2	Solid	10^{-7} ... 1	0 ... 80	2 ... 12	1	**9.041 170**
CN	Solid	8×10^{-6} .. 10^{-2}	0 ... 80	10 ... 14	1	**9.041 171**
Cu	Solid	10^{-8} ... 0.1	0 ... 80	2 ... 12	1	**9.041 172**
I	Solid	5×10^{-8} ... 1	0 ... 80	0 ... 12	1	**9.041 173**
K	Polymer	10^{-6} ... 1	0 ... 40	2.5 ... 11	1	**9.041 174**
Pb	Solid	10^{-6} ... 0.1	0 ... 80	4 ... 7	1	**9.041 175**

2 Ion selective, gas-sensitive electrodes

Modular half cell with exchangeable diaphragm and S-7 plug head for determining the concentration of individual ions in aqueous solutions. Easy to use and require comparatively low expenditure on apparatus thereby offering advantages over wet chemistry and instrument analysis methods. Ion selective electrodes must be used in conjunction with a suitable reference electrode (InLab® Reference, cat no. 9.041 590).   *Mettler-Toledo Online*

Type	Measuring range mol / l	Temp. range max. °C	Membrane	PK	Cat. No.
Bromide DX280	1 to 10^{-6}	0 to 80	Solid state	1	**9.041 721**
Chloride DX235	1 to 10^{-5}	0 to 80	Solid state	1	**9.041 723**
Fluoride DX219	1 to 10^{-6}	0 to 80	Solid state	1	**9.041 725**
Calcium DX240	1 to 10^{-6}	0 to 50	Polymer matrix	1	**9.041 730**
Potassium DX239	1 to 10^{-6}	0 to 50	Polymer matrix	1	**9.041 731**
Nitrate DX262	1 to 10^{-5}	0 to 50	Polymer matrix	1	**9.041 732**
Ammonium DX218	1 to 10^{-6}	0 to 50	Polymer matrix	1	**9.041 733**
Copper DX264	1 to 10^{-6}	0 to 50	Polymer matrix	1	**9.041 736**
Sodium DX223*	1 to 10^{-7}	0 to 60	Glass	1	**9.041 735**
NH3	10^{-2} - 10^{-6}	0 to 50	Foil	1	**9.041 745**
InLab® Reference		0 to 100		1	**9.041 590**

* Module not exchangeable.
Further ions sensitive electrodes on request.

1

6.252 026

Ammonia gas sensing ISE Electrode

Gas and ion selective electrode for determination of ammonia content in aqueous solutions. For rapid and precise measurement of ammonia.

Thermo Scientific

Scope of delivery: Waterproof BNC connector, 1 m cable, 20 loose membranes, preassembled outer body and membrane cap, 2 x 60 ml bottles of electrode filling solution, spout cap and tweezers.

Specifications

Concentration range:	0.01…17000 ppm ammonia (NH_3)
	0.01…14000 ppm nitrogen (N)
Temperature range:	0…50 °C
Electrode resistance:	<5000 MΩ
Length/Ø:	150 mm/16 mm
Cable length:	1 m

Type	PK	Cat. No.
Ammonia ISE electrode 9512BNWP	1	**6.252 026** 1
Replacement membranes for 9512BNWP	3	**6.260 763**
Replacement membranes for 9512BNWP	20	**6.252 027**

2

7.659 280

Fluoride electrodes

For quick and easy measurement of fluoride ions in aqueous solutions. When using the half cell electrodes 9409BN and 9409SC, a separately available reference electrode is needed.

Thermo Scientific

Specifications

Measurement range:	0.02 ppm…saturated
Temperature range:	0…80 °C
Length/Ø:	110 mm/13 mm
Cable length:	1 m

Type	Description	Electrode head	PK	Cat. No.
9409BN	Solid state, half cell	BNC	1	**7.659 280** 2
9409SC	Solid state, half cell	Screw cap	1	**6.285 489**
9609BNWP	Solid state, combination	BNC	1	**6.091 369**

3

3   LLG-Electrode stand for 3 electrodes

With cable duct. For three electrodes, 3 opening with diam. 16 mm. Additional opening for temperature sensor. Three joints for high flexibility and adjustment options.

Base plate:	105 x 125 mm
Base plate weight:	0.7 kg
Arm weight:	0.1 kg
Max. arm height:	320 mm

Type	PK	Cat. No.
LLG-Electrode stand	1	**6.286 248**

4

4   Electrode stand

With flexible electrode holder for two electrodes and temperature sensor.

WTW®

Type	PK	Cat. No.
Electrode stand	1	**9.040 870**

5

5   Electrode vessel Z 453

Free standing electrode vessel for storing electrodes with 12mm diam. shaft.

SI Analytics

Type	PK	Cat. No.
Z 453	1	**7.624 578**

1   LLG-pH-Buffer solutions with colour coding in twin-neck dispensing bottles

The ready-to-use buffer solutions offer excellent quality, precision and advantages in use. The calibration vessel, integrated into the twin-neck dispensing bottles, allows the particularly economical dispensing of solution and prevents contamination.

Features
- Accuracy ±0.01, tested and certified at 25°C
- Temperature dependence data table printed on the label
- Traceable to NIST
- Shelf-life: 24 months (pH 7 and 10) or 36 months (pH 4) from date of production
- Colour-coded

pH-value at 25 °C	Colour	Capacity ml	PK	Cat. No.
4.00	red	250	1	9.040 868
7.00	yellow	250	1	9.040 869
10.00	blue	250	1	9.040 871

2   LLG-pH buffer solutions with colour coding

The ready-to-use colour coded LLG-pH buffer solutions offer excellent quality, precision and are designed to suit all end user requirements. Supplied in 1L bottles and conveniently colour coded to eliminate any risk of confusion between the 3 pH values.
- Accuracy ±0.01, tested and certified at 25 °C
- Temperature dependence data table printed on the label
- Traceable to NIST

pH-value at 25 °C	Colour	Capacity ml	PK	Cat. No.
4.00	red	1000	1	9.040 865
7.00	yellow	1000	1	9.040 866
10.00	blue	1000	1	9.040 867

3   LLG-pH-Buffer solution

Tested and certified at 20°C. Provided with label that gives the pH value at different temperatures. Tolerance ±0.02 pH. Supplied in HDPE containers. Traceable to NIST (SRM). Temperature dependence data is printed on the label as well as batch numbers and expiry dates. Buffers have a 24 month shelf life from date of manufacture.

pH-value at 20 °C	Buffer	Capacity ml	PK	Cat. No.
4.00	Citrate	1000	1	4.664 603
7.00	Phosphate	1000	1	9.041 368
9.00	Borate	1000	1	9.041 374
10.00	Borate	1000	1	9.041 369

4   pH buffer solutions

Clear, Colourless pH Buffer Solutions. Tested and ISO17025 Certified at 20 °C, supplied with a detailed Certificate of Analysis which outlines traceability to N.I.S.T. Temperature dependence data is printed on the label as are lot numbers and expiry dates. Containers made of HDPE.

Reagecon

pH-value at 20 °C	Accuracy (±)	Capacity ml	PK	Cat. No.
1,00	0,02	500	1	6.235 385
2,00	0,02	500	1	6.228 059
3,00	0,02	500	1	6.206 738
4,00	0,01	500	1	9.040 911
4,00*	0,01	500	1	4.011 211
5,00	0,10	500	1	4.011 214
6,00	0,01	500	1	6.203 561
6,80	0,01	500	1	6.206 693
7,00	0,01	500	1	9.040 913
8,00	0,01	500	1	4.011 221
9,00	0,01	500	1	6.225 161
10,00	0,01	500	1	9.040 915
11,00	0,05	500	1	4.011 226
12,00	0,05	500	1	6.234 641
13,00	0,05	500	1	6.230 322

* Phthalate free

1 Buffer solutions

Sealed sachets in boxes as indicated. For single use only. Packaging ensures that buffer solution is always fresh, has not been used before and is not contaminated.

Mettler-Toledo Online

⚠ **Warning**

H phrases: H319

pH-value at 25 °C	Capacity ml	Tolerance ± ml	PK	Cat. No.
4.01/7.00/9.21	20	0.02	30	**9.041 813**
4.01/7.00/10.01	20	0.02	30	**9.041 814**
4.01	20	0.02	30	**9.041 816**
7.00	20	0.02	30	**9.041 817**
9.21	20	0.02	30	**9.041 818**
10.01	20	0.02	30	**9.041 815**

2 Standard buffer solutions

To DIN/NIST. Supplied in 250ml bottles. Tolerance ±0.02 pH.

WTW®

⚠ **Warning**

H phrases: H319

pH-value at 25 °C	Capacity ml	PK	Cat. No.
1.68	250	1	**9.040 741**
4.01	250	1	**9.040 744**
6.87	250	1	**9.040 746**
9.18	250	1	**9.040 749**
12.47	250	1	**9.040 752**

3 pH buffer solutions

Colour coded. pH values at 25°C. Provided with label that gives the pH value at different temperatures. Supplied in 250ml containers. Tolerance ±0.02 pH.

SI Analytics

pH-value at 25 °C	Colour	Capacity ml	PK	Cat. No.
4.01	yellow	250	1	**9.041 050**
7.00	green	250	1	**9.041 051**
10.01	orange	250	1	**9.041 052**

4 Cleaning solution

WTW®

⚠ **Warning**

H phrases: H315|H319

Type	Description	Capacity ml	PK	Cat. No.
RL-G	Cleaning solution for galvanic oxygen sensors	30	1	**9.822 552**

5 Electrolytes and cleaning solutions

Electrolytes are used as refill solutions for liquid filled electrodes as well as a storage solution for all types of pH electrodes. With the pepsin cleaning solution, you can remove protein precipitation from the diaphragm of electrodes with liquid electrolyte.

WTW®

⚠ **Danger**

H phrases: H290|EUH208

Type	Description	Capacity ml	PK	Cat. No.
KCl-50	Reference electrolyte, 3 mol/l KCl	50	1	**7.059 778**
KCl-250	Reference electrolyte, 3 mol/l KCl	250	1	**7.008 211**
PEP/pH	Pepsin cleaning solution	3 x 250	3	**9.040 796**

1 Technical pH buffer solutions

Colour coded. Tested and ISO 17025 Certified at 25 °C. Uncertainty of measurement
±0.02 pH. Temperature dependence data is printed on the label as are lot numbers and
expiry dates. These pH buffer solutions are suitable for use where very accurate measurements are required and are
supplied with a detailed Certificate of Analysis which outlines traceability to N.I.S.T (the N.I.S.T SRM(s) Lot No. is stated
on the certificate). This item has a 12 to 36 month shelf life from date of manufacture depending on pH value.

Reagecon

pH-value at 25 °C	Colour	Capacity ml	PK	Cat. No.
2,00	Red	250	1	9.040 949
4,01	Red	250	1	9.040 950
7,00	Yellow	250	1	6.240 744
9,21	Blue	250	1	9.040 951
10,00	Blue	250	1	6.240 745
4,01	Red	500	1	6.206 907
7,00	Yellow	500	1	6.229 762
4,01	Red	1000	1	9.040 955
7,00	Yellow	1000	1	6.238 677
10,00	Blue	1000	1	6.238 676

2 Technical buffer solutions

Identified by colour-coded labels. Tolerance ±0.03 pH.

WTW®

pH-value at 25 °C	Capacity ml	PK	Cat. No.
2.00	1000	1	9.040 721
4.01	50	1	9.040 734
4.01	250	1	9.040 727
4.01	1000	1	9.040 722
7.00	50	1	9.040 735
7.00	250	1	9.040 728
7.00	1000	1	9.040 723
10.01	250	1	7.401 072
10.01*	1000	1	9.040 725

* For handheld meters 315i, 330i, 340i, 350i, 3110, 3210, 3310, MultiLine® 3410, 3420, 3430, 3510, 3620, 3630 and Inolab® versions from 2004 onwards

3 Redox calibration solutions

To test redox (ORP) of electrodes. Supplied in bottles as indicated.

Mettler-Toledo Online

Danger

H phrases: H314|H319

pH-value	Redox potential at 25°C	Volume	PK	Cat. No.
7	220 mV, U_H = 427 mV	250ml	1	9.041 872
7	220 mV, U_H = 427 mV	250ml	6	6.801 283
0.1	468 mV, U_H = 675 mV	6 x 30ml	6	9.041 878

4 Redox buffer solution

For testing ORP electrodes. 427mV, pH7.
Supplied in pack of 250ml.

WTW®

Type	PK	Cat. No.
Redox	1	9.040 782

1 LLG-Electrolyte solutions, KCL

Potassium chloride electrolyte for pH electrodes - Filling solution for reference electrolyte.

Type	Capacity ml	PK	Cat. No.
3mol/l	1000	1	**9.041 370**
3mol/l	250	1	**9.041 371**
3mol/l, (AgCl saturated.)	250	1	**9.041 372**

2 KCL electrolyte solutions

For refilling or replacing reference electrolyte. Supplied in 250ml DURAN® bottles.   *SI Analytics*

Danger

H phrases: H225

Type	Description	Capacity ml	PK	Cat. No.
L 2114	2mol/L KNO$_3$ + 0.001mol/l KCI for Ag-probes	250	1	**9.041 072**
L 3004	potassium chloride solution 3 mol/l, sterilized	250	1	**9.041 092**
L 3014	potassium chloride solution 3 mol/l, Ag/AgCl saturated	250	1	**9.041 036**
L 4204	potassium chloride solution 4.2 mol/l	250	1	**9.041 033**

3 Cleaning and storage solutions for pH-electrodes

Cleaning, rinse, regeneration and storage solution. Designed to extend the useful life of pH electrodes.   *Reagecon*

Danger

H phrases: H334

Type	Capacity ml	PK	Cat. No.
Pepsin / HCL, for protein removal	500	1	**9.040 940**
Organic cleaning solution	500	1	**9.040 942**
Electrode Storage solution	100	1	**9.040 945**
Electrode Storage solution	500	1	**9.040 944**
Electrode Storage solution	1000	1	**6.226 124**
Electrode Rinse solution	500	1	**6.287 444**

ISE reference electrolyte

Bridge electrode for reference electrodes as well as combined ISE electrodes of the 800 series for adaptation to the sample composition.   *WTW®*

Type	Description	PK	Cat. No.
ELY/BR/503	Standard electrolyte (Cl-free)	1	**7.400 760**
ELY/BR/503/N	Electrolyte for nitrate measurement	1	**6.204 945**
ELY/BR/503/K	Electrolyte for potassium measurement	1	**6.250 333**

ISE sample conditioning solutions

For sample preparation with pre-made ion strength adjuster solutions (ISA and TISAB) for the direct concentration determination with ion selective electrodes.   *WTW®*

Warning

H phrases: H315|H319

Type	For	Capacity ml	PK	Cat. No.
ISA/K	Potassium ions	250	1	**6.204 398**
TISAB	Fluoride measurement	1000	4	**7.008 227**
ISA/FK	Other suspended solids electrodes	250	1	**7.008 228**
ISA/Ca	Calcium ions	250	1	**7.008 229**
ISA/Ag	Silver and sulfide ions	1000	1	**7.008 230**
TISAB/NO3	Nitrate	1000	1	**7.008 231**
ISA/Na	Sodium	1000	1	**7.008 232**

7.400 760

1   Conductivity testers Expert CTS

For accurate measurement of conductivity, TDS, and salinity in one single instrument, making it an ideal solution for many applications.
- Large 4 digit double line display
- Display of battery life, status and re-calibration
- Automatic temperature compensation (ATC)
- Auto conductivity buffer recognition and calibration
- Selectable TDS factor: 0.40 to 1.00
- Auto off

Thermo Scientific

Specifications

Conductivity range:	0.00 … 20.00 mS/cm
Resolution:	10 µS/cm below 2.00 mS/cm, 0.10 mS/cm above 2.00 mS/cm
Accuracy:	±2 % full scale ±1 LSD
TDS range:	0 … 20000 ppm
Resolution:	10 ppm below 2000 ppm, 100 ppm above 2000 ppm
Accuracy:	±2% full scale ±1 LSD
Salinity range:	0 … 10000 ppm
Resolution:	100 ppm
Accuracy:	±2 % of full scale ±1 LSD
Calibration points:	1 per parameter
Temperature range:	0 … 50 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C + 1 digit
Operating temperature:	5 … 45 °C
Dimensions (W x L x H):	45 x 170 x 30 mm
Weight:	90 g
Power supply:	Incl. 4 batteries (A76 or LR44 equivalent)
IP code:	IP 67
Warranty:	1 year

Type	PK	Cat. No.
Expert CTS	1	**6.284 906**

2   Salt Meter SSX 210

For determination of the relative salt content in fluid and semi-solid food products, such as meat, cold cuts, cheese, salads etc. The measurement is performed by determination of the electrical conductivity, as it is dependent on the salt content. Easy handling, robust and impact-resistant. With 2-conductor measuring probe with gold plated electrodes and silicone cable. Case included.

ebro

Specifications

Measuring range:	0 ... 100
Accuracy:	±1 digit
Resolution	1 digit
Operating Temperature:	+10 ... 40 °C
Sample Rate:	1 ... 15 s, adjustable
Dimensions:	100 x 46 x 25 mm
Weight:	approx. 200 g
IP code:	IP 54
Power supply:	Lithium 3V/1Ah, Type CR2477

Type	PK	Cat. No.
Salt Meter SSX 210	1	**6.228 196**

1

1 Conductivity meters Eutech™ CON6+

Sturdy and economical, ease-of-use with high performance. The handy meter is
IP54 splashproof and comes with a conductivity electrode with automatic temperature compensation function.

Thermo Scientific

- 5-point-calibration with ±1% full scale accuracy
- Option of quick, easy automatic calibration or customised, near-to-sample manual calibration.
- Auto-Ranging for Conductivity/TDS measurements for fast response and best resolution
  over wide measurement range
- Easy-To-Read Display
- Available in kit version with plastic carrying case
- Auto off

Scope of supply: Meter with electrode, CON603+K additionally with conductivity carrying kit set
(1 x 1413 µS, 12.88 mS, 84 µS KCL Standard Solutions and 1 x Deionised (Rinse) Water, 60 ml each).

Specifications

Conductivity range:	0 µS/cm to 200 mS/cm
Resolution:	0.05 % full scale
Accuracy:	±1 % of full scale ±1 LSD
Temperature range:	0.0 to 100.0 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C
Power supply:	4 x 1.5 V AAA alkaline batteries, >500 h
Dimensions (W x L x H):	85 x 157 x 42 mm
Weight:	255 g
IP code:	IP 54
Warranty:	3 years on the meter

Type	PK	Cat. No.
CON603+	1	**6.281 845**
CON603+K	1	**6.263 037**

2

Conductivity meter FiveGo™ F3

Portable conductivity meter for field work

Mettler-Toledo Online

- Measurement made easy: A large, well-structured display, intuitive button arrangement
  and simple menu ensure measurements can be performed in just a few clicks.
- Ergonomic design for one handed operation: Thanks to its ergonomic design, handling the FiveGo is a comfortable
  experience. The foldable stand provides optimal viewing on flat surfaces.
- IP67 Water and dustproof: The IP67 waterproof protection makes the FiveGo portables able to withstand wet and
  demanding environments.

Supplied with:
F3-Meter: Meter only
F3-Standard kit: Meter with LE703 sensor
F3-Field kit: Meter with LE703 sensor and carrying case

6.280 116

Specifications
Conductivity

Measuring range:	0.00 µS/cm … 200 mS/cm
Resolution:	automatic range
Accuracy:	±0.5% of the measured value
Temperature	
Measuring range:	0 … 100 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C
TDS (Total Dissolved Solids)	
Measuring range:	0.01 mg/l … 200 g/l
Resolution:	automatic range
Temperature compensation:	Linear 0.00 … 10.00 %/°C, reference temperature 20 and 25 °C
Calibration:	1 point, 3 predefined standards
Memory size:	200 measurements, current calibration
Dimensions (W x D x H):	188 x 77 x 33 mm
IP code:	IP 67 (meter + sensor)

Type	PK	Cat. No.
F3-Meter	1	**6.280 115**
F3-Standard kit	1	**6.280 116** **2**
F3-Field kit	1	**6.280 117**

Conductivity meter Seven2Go™ S3

Portable routine model for conductivity measurement *Mettler-Toledo Online*
- New, intuitive menu structure with fast and easy T-Pad navigation
- Robust design with IP67 protection for use in harsh and demanding environments
- Intelligent Sensor Management (ISM®) functionality reduces the risk of errors
- Easy 1 point calibration with option of manual cell constant entry
- 3 predefined standards and 1 user defined standard
- Automatic, manual and time dependant endpoint recording
- Data memory storage for 200 data points
- Power requirements: 4 x 1.5V AA or 1.3V NiMH accumulators

Supplied with:
S3-Meter: Includes instrument, electrode clip, operating instructions, quick guide, test certificate, declaration of conformity and batteries.
S3-Standard kit: As S3-Meter, but also with InLab 738-ISM and sachets of conductivity standards 1413 µS/cm and 12.88 mS/cm.
S3-Field kit: As S3-Standard kit, but also with bottles for calibration and uGo™ carrying case.
S3-Bioethanol kit: As S3-Field kit, but also with InLab 725 instead of InLab 738-ISM.

6.265 248

Conductivity

Measuring range:	0.010µS/cm … 500mS/cm
Resolution:	0.001 … 1 (auto-range)
Accuracy:	±0.5%

Temperature

Measuring range:	-5.0 … +105.0°C
Resolution:	0.1°C
Accuracy:	±0.2°C

TDS (Total Dissolved Solids)

Measuring range:	0.01mg/l … 300g/l
Resolution:	0.01 … 1 (auto-range)
Accuracy:	±0.5%

Specific resistance

Measuring range:	0.01 … 100.0MΩcm

Salinity

Measuring range:	0.01 … 42psu

Type	PK	Cat. No.
S3-Meter	1	**6.265 247**
S3-Standard kit	1	**6.265 248** 1
S3-Field kit	1	**6.265 249**
S3-Bioethanol kit	1	**6.265 250**

2 Conductivity meter CT 830

With automatic measuring range switching. *ebro*
The meter is the ideal choice for determination of conductivity, salinity and temperature
and combines the features for mobile application in the field with the precision and comfort of a laboratory meter.
In the standard version the meter CT 830 is supplied with conuctivity sensor AT 830 C and 1.50m cable. It is ideally
suited for overall applications in the field and in laboratories. Two parallel, largely dirt-insensitive graphite electrodes,
the integrated temperature sensor for parallel temperature measurement, an automatic temperature compensation and
the wide measuring range are the benefits of the conductivity sensor.

Supplied with: Meter incl. conductivity sensor, calibration solution 0.1N/KCL 1288µs and case

Specifications
Measuring range

Conductivity:	0 to 200µS/0 to 20mS/0 to 500mS
TDS:	0 to 200mg/l/0 to 2000mg/l/0 to 20g/l/0 to 500g/l
Temperature:	-10 °C to +100 °C
Display:	128 x 64 pixel, backlighted
Interface:	USB with "Interface HMG USB", isolated
Ambient temperature:	-10 °C to +55 °C
Rel. humidity:	Max. <95% (non-condensing)
Connections:	Connector BK for sensor (4-pole USB interface socket)
Housing:	ABS
Dimensions (W x D x H):	200 x 40 x 95 mm
Batteries:	3 batteries Type AA, IEC R6, LR6, 1.5V
Protection class:	IP 65

Type	Description	PK	Cat. No.
CT 830 Set	Conductivity meter incl. conductivity sensor AT 830 C	1	**6.268 947**
AT 830 C	C-sensor for CT 830, 3mm	1	**6.268 948**

1

4.678 226

Conductivity meter SD 325 CON

NEW

Lovibond®

The portable instrument with data logger is ideal for determining electrical conductivity in aqueous media. With a simple keystroke, further parameters such as TDS, salinity or resistance can be selected and conveniently read off. The selection of different measuring cells allow the determination of low (< 200 µS/cm) and very high conductivities (< 1000 mS/cm) with highest precision.
- Automatic recognition of conductivity standards
- Alarm function with adjustable limit values
- Auto hold function
- Selectable reference temperature (20 °C/25 °C)
- Automatic temperature compensation
- Battery status indicator
- Low power consumption
- Data transfer and evaluation via software possible

Scope of supply:
SD 325 CON (Set 1): Conductivity meter, protective covering, transport case, 4-pol graphite electrode (diam. 12 mm, < 200 mS/cm), conductivity standards, batteries, manual
SD 325 CON (Set 2): Conductivity meter, protective covering, transport case, 4-pol graphite electrode (diam. 16 mm, < 1000 mS/cm), conductivity standards, batteries, manual
SD 325 CON (Set 3): Conductivity meter, protective covering, transport case, 2-pol stainless steel electrode (diam. 10 mm, < 200 µS/cm, pure water), flow through cell for pure water, batteries, manual

Specifications

Conductivity:	0.000 ... 1000.0 mS/cm
Temperature:	-5.0 ... 100.0 °C
TDS:	0.000 ... 5000 mg/l
Resistance:	0.000 ... 50.0 MOhm/cm
Salinity:	0.0 ... 70.0 PSU
Datalogger:	10000 Data sets automatically
	1000 Data sets manually
Interface:	USB
Dimensions (W x D x H):	100 x 164 x 37 mm
Weight:	302 g
Power supply:	2 x AAA batteries (incl.)
IP code:	IP 67

Type	PK	Cat. No.
SD 325 CON (Set 1)	1	**4.678 226** 1
SD 325 CON (Set 2)	1	**4.678 227**
SD 325 CON (Set 3)	1	**4.678 228**

Pocket conductivity meters ProfiLine

The ProfiLine hand-held conductivity meters have a waterproof (IP 67) housing and a completely sealed silicone membrane keypad with tactile feedback. A separate battery compartment allows easy exchange of standard alkaline, or rechargeable, batteries. The carefully laid out, large displays indicate the reading and other important information. The 3310 series meters have a backlit, graphics display and menu-controlled operation. A selection of application specific conductivity cells cover virtually all measurement tasks.

2

3

2 3 Conductivity meter ProfiLine Cond 3310

WTW®

Comfortable and versatile conductivity meter with integral, time controlled, data logger and 5000 GLP-compliant record memory for extended data collection. Menu controlled, with backlit, graphics display for comfortable, safe operation. Wide range of conductivity cells attachable. GLP-supporting functions, enhanced choice of cell constants, automatic and manual temperature compensation (which can be switched off) with linear and non-linear functions for pure water and natural waters acc. to EN 27888.

Specifications:
Measuring ranges/Resolution:

Conductivity:	as Cond 3110, but additionally with
	0.00µS/cm to 19.99µS/cm (when K=0.1cm^{-1})
	0.000µS/cm at 1.999µS/cm (when K=0.01 cm^{-1})
TDS:	0 to 1999mg/l, 0.0 to 199.9g/l
Spec. resistance:	0.0 to 999MΩ/cm
Memory:	5000 records (measured value, temperature, date, time, ID)

Type	Description	PK	Cat. No.
Cond 3310	meter only	1	**9.774 409**
Cond 3310 Set 1	case set including conductivity probe TetraCon 325 and accessories	1	**9.774 400**

www.wenk-labtec.com

The inoLab® series from WTW

The inoLab® benchtops are perfectly designed for modern laboratory surroundings. The key pads are clearly outlined and easy-to-operate, their smooth surfaces are easy-to-clean and the operation is self-explanatory. All meters include a universal power supply and a convenient stand with sensor support. If desired they can be ordered in application oriented sets including sensors and accessories.

1   Laboratory instrument inoLab® Cond 7110

Modern conductivity measurement is easy to do. the inoLab® Cond 7110 has all important functions for measuring conductivity like adjustable reference temperature and different methods of temperature compensation. A big LCD segment display makes readings easy and a well-arranged keypad provides convenient operation. The automatic AutoRead function supports correct and repeatable results. Each meter come with a stand and accessories.

WTW®

Specifications

Ranges:	All values ±1 digit
Conductivity:	0.00 ... 1000 mS/cm ±0.5 % of measured value
	0.00 ... 19.99 µS/cm at K= 0.1 cm^{-1})
Salinity:	0.0 ... 70.0 (acc. IOT)
Temperature:	-5.0 ... 105.0 °C ±0.1 °C
AutoRead:	automatic
Power supply:	Universal power supply, 100V to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH

Type	Description	PK	Cat. No.
Cond 7110	Meter only including accessories	1	**9.920 096**
Cond 7110 Set 1	Meter including TetraCon® 325 and accessories	1	**9.920 097**

Conductivity meter inoLab® Cond 7310

This is the inoLab® Cond 7310 or inoLab® Cond 7310P. A modern backlit graphic display with menu controlled user interface allows easy and intuitive operation. The mini USB-B interface provides fast data transfer to a PC. The internal memory can record up to 5000 GLP complying data including ID, date and time. The housing and the keypad are easy-to-clean. The inoLab® Cond 7310 has the possibility to connect different standard and special conductivity electrodes and has automatic and manual temperature compensation (can even be switched off for pure water measurements according pharmacopeia) for linear and non-linear function according EN 27 888. An integrated thermal printer (58mm width) is ready for printout of the measured data (option). The scope of delivery includes meter, stand, power supply and USB cable.

WTW®

9.920 114

9.920 117

Specifications

Ranges:	All values ±1 digit
Conductivity additional:	0.00 ... 1000 mS/cm ±0.5 % of measured value
	0.000 ... 1.999 µS/cm, K= 0.01 cm^{-1}
	0.00 ... 19.99 µS/cm, K= 0.1 cm^{-1}
Spcific resistance:	0.00 ... 20 MOhm cm
Salinity:	0.0 ... 70.0 (acc. IOT)
TDS:	1 ... 1999 mg/l, 0 to 199.9 g/l
Temperature:	-5.0 ... 105.0°C ±0.1°C
Cell constants:	Fix 0.01 cm^{-1}, calibratable 0.450...0.500 cm^{-1}, 0.800 to 0.880 cm^{-1},
	calibratable 0.09 ... 0.110 cm^{-1}, 0.250 ... 25.0 cm^{-1}
Calibration:	1 point
T$_{ref}$:	20 °C/25 °C
Temperature compensation:	none, nlF, 0.000 ... 10.00 %/K
Calibration memory:	Up to 10 calibrations recallable
Display:	LCD Graphic, backlit
Memory:	manual 200/5000 automatic
Logger:	manual/time controlled
Interface:	Mini USB-B
Power supply:	Universal power supply, 100V to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH

Type	Description	PK	Cat. No.
Cond 7310	Meter incl. accessories	1	**9.920 114**
Cond 7310 Set 1	Meter incl. TetraCon® 325 and accessories	1	**9.920 115**
Cond 7310P	Meter with built-in printer and accessories	1	**9.920 117**

6.270 549

Conductivity meter LAB 945

SI Analytics

Due to the intuitive operation and robust aluminum housing the conductivity meter LAB 945 is perfect for training and routine purposes.
- Made in Germany
- USB Interface
- Data logger (storage of up to 4000 entries: Date, time, main measured value, secondary measured value, measured temperature) with adjustable interval
- Nummerical password protection
- Selectable user language (German, English, French and Spanish)
- Configurable turn-off time
- Sturdy aluminium housing
- Graphic LCD display, backlit

Scope of supply: Stand, mains adapter, electrode as indicated and 6 ampoules with test solutions 0.01 M KCl

Specifications	Measuring range // Resolution // Accuracy
Conductivity:	0 ... 200 µS/cm // 0.1µS // ±1 digit
	0 ... 2000 µS/cm // 1µS // ±1 digit
	0 ... 20 mS/cm // 0.01 mS // ±1 digit
	0 ... 500 mS/cm // 0.1 mS // ±1 digit
TDS:	0 ... 200 mg/l // 0.5 % of measured value
	0 ... 2000 mg/l // 0.5 % of measured value
	0 ... 20 g/l // 0.5 % of measured value
	0 ... 500 g/l // 0.5 % of measured value
Temperature:	-10 to 100 °C // 0.1 °C // ±0.1 °C (50 ... 50 °C)
Temperature compensation:	automatic with NTC30kOhm or fix temperature

Type	PK	Cat. No.
Lab 945 without electrode	1	6.270 549
LAB 945 Set with LF435T, 4-pole cell	1	6.281 623
LAB 945 Set with LF513T, 2-pole cell	1	6.281 624
LAB 945 Set with LF613T, 4-pole cell	1	6.281 625

6.280 108

Conductivity meters FiveEasy™ F30/FiveEasy™ Plus FP30

Mettler-Toledo Online

FiveEasy™ and FiveEasy™ Plus benchtop meters provide high quality conductivity measurements with the simple click of a button. They are the perfect choice for reliable measurement data at a reasonable price.
- Large, easy to read and easy to understand display with all information visible at a glance
- Five self-explanatory buttons making operation simple and easy
- Fast and easy connectivity for simple and secure data transfer (FP only)
- Electrode arm extension pole included

F30/FP30-Meter: Meter with CD operating instructions, QuickGuide, declaration of conformity, test certificate and power supply
F30/FP30-Standard: as F30/FP30-Meter, plus LE703 conductivity sensor and 1 each x 1413µs/cm and 12.88mS/cm standard sachets

Specifications
Measuring range (Accuracy)

Conductivity F30/FP30:	0.01µS/cm to 200mS/cm/0.01µS/cm to 500mS/cm (±0.5 % of measured value)
TDS F30/FP30:	0.01mg/l to 200g/l/0.01mg/l to 300g/l
Temperature F30/FP30:	0 to 100°C (0.5°C)/-5 to 105°C (0.3°C)
Calibration F30:	1 point, 3 predefined standards
Calibration FP30:	1 point, 3 predefined standards, manual cell constant input
Input:	Mini-DIN
Temperature compensation:	Linear: 0.00%/°C to 10.00%/°C
Reference temperature:	20°C and 25 °C
Power supply:	100-240 V/50-60 Hz/12V DC
FP30 only:	
Salinity:	0.00 to 42psu
Memory:	200 measurements
Interface:	RS232, USB

Type	PK	Cat. No.
F30-Meter	1	6.280 107
F30-Standard Kit	1	6.280 108
FP30-Meter	1	6.280 109

www.wenk-labtec.com

Conductivity meters SevenCompact™ S230

The colour display with its well-designed icons and menu settings in 10 languages makes operation genuinely intuitive. Applications range from routine measurements through sample analysis, data handling and data archiving in compliance with GLP regulations. Simply innovative design that meets the requirements for a universal, easy-to-operate conductivity meter.

Mettler-Toledo Online

- User friendly instrument for demanding users
- Security and high reproducibility thanks to Intelligent Sensor Management (ISM®)
- Improved quality of measurements through professional calibration support
- Comprehensive service package including IQ/OQ
- Integrated USB and RS232 interfaces for data exchange

Supplied with:
S230-Basic: Instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate
S230-Kit: As per S230-Basic, additionally with InLab® 731-ISM, guide to conductivity measurements and 2 calibraton sachets for 1413µS/cm and 12.88mS/cm.
S230-USP/EP: As per S230-Kit, but with InLab® 741-ISM instead of InLab® 731-ISM and without calibration sachets for 12.88mS/cm.

9.704 165

Specifications:

Calibration:	13 pre-defined and 1 user-defined standard
Conductivity range:	0.001µS/cm to 1000mS/cm, autoscaling
Conductivity accuracy:	±0.5%
Salinity range:	0.00 to 80.00psu
TDS range:	0.00mg/L to 1000g/L, autoscaling
Resistivity range:	0.00 to 100MOhm*cm, autoscaling
Conductivity ash range:	0.000 to 2022%, autoscaling
Temperature range	
MTC:	-30.0 to 130.0°C
ATC:	-5.0 to 130.0°C
Temperature accuracy:	±0.1°C
Display:	4.3 inch, TFT color
Ext. power supply:	9-12V/10W

Type	PK	Cat. No.
S230-Basic	1	**9.704 164**
S230-Kit	1	**9.704 165** 1
S230-USP/EP	1	**9.704 166**

Printers for Mettler Toledo instruments

Suitable for the following Mettler Toledo instruments:

Mettler-Toledo Online

RS-P25, RS-P26, RS-P28: SevenExcellence™, SevenCompact™, FiveEasy Plus™, SevenMulti™
RS-P25/USB-P25: SevenExcellence™
RS-P26, RS-P28: SevenGo pro™, SevenGo pro Duo™, Densito, Refracto, SevenEasy™

Supplied with: Printer, power cable (country specific), interface cable, paper roll (1 pcs), ribbon cartridge (1 pcs)

Features	For model
Built-in real-time clock, Zero/Tare key:	RS-P26, RS-P28
Statistic application, totalling application:	RS-P28
RS232 Schnittstelle:	RS-P25, RS-P26, RS-P28
Printer unit:	Dot matrix printer
Ribbon cartridge:	Exchangeable, black ink
Paper roll:	Standard paper 57.5 mm (W), max. Ø 60 mm
Print quality:	Thermally stable and lightfast paper (GxP)
Interface:	RS232C, 9pin male connector or USB* (*SevenExcellence ONLY)
Dimensions (W x D x H):	120 x 203 x 73mm
Net weight:	740g (paper roll included)

6.252 178

9.773 710

Type	PK	Cat. No.
RS-P25/USB-P25	1	**6.252 178** 2
RS-P26	1	**6.251 155**
RS-P28	1	**9.773 710** 3

Conductivity meter SevenExcellence™ S470

Modular professional system for measurements of pH, redox potential, conductivity, salinity/TDS and ion concentration. Fits up to three modules in any composition and order, can be expanded with additional measurement parameters at any time.

Mettler-Toledo Online

- Large, high resolution 7" colour touch display (capacitive), very clear and easy to operate
- Modularity and flexibility; up to 3 measuring modules can work in parallel, expansion to 3 channels possible
- Universal communication via 2 x USB, Ethernet (LAN) and RS232
- Plain text user interface in 10 languages with menu guidance in full sentences
- OneClick™ operation concept to quickly start frequently used functions and preferred methods
- Storage for user methods
- Highest security and GxP support (ID protection, sophisticated user management, limits/alarms, integrated radio clock, etc.)
- Intelligent sensor management (ISM®)
- Connection of stirrer, sample changer, PC, barcode reader, keyboard, local or network printer possible
- Storage up to 20000 data sets (measurements, calibrations, methods)
- 17 predefined, 60 user-defined methods
- 5 point calibration (pH), 13 pre-defined and 20 user-defined buffer groups, incl. temperature chart
- uPlace™ electrode arm with perfect vertical movement
- Compatible with all METTLER TOLEDO electrodes (Recommended: ISM® electrodes)

S470-Basic: Includes instrument, 1 x conductivity expansion unit, 1 x pH/mV expansion unit, 1 x blank expansion unit, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.
S470-Kit: As S470-Basic but with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.
S470-USP/EP: As S470-Kit but with InLab® 741-ISM instead of InLab® 731-ISM and InLab® Pure Pro-ISM instead of InLab® Expert Pro-ISM, BNC/RCA-MultiPin™ ISM-cable (1.2 m), and without 1413 µS/cm and 12.88 mS/cm calibration sachets.

Specifications	Measuring range // Resolution // Accuracy
Temperature MTC/ATC:	-30.0 to 130.0 °C // 0.1 °C // ±0.1 °C
pH:	-2.000 to 20.000 // 0.001/0.01/0.1 // ±0.002
mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
Rel. mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
ISFET pH:	0.000 to 14.000 // 0.001/0.01/0.1 // ±0.05
Conductivity:	0.001 to 999999 µS/cm // 0.001 to 1 // ±0.5%
	0.001 to 2000 mS/cm // 0.001 to 1 // ±0.5%
	0.001 to 200 S/m // 0.0001 to 1 // ±0.5%
	0.001 to 200000 mS/m // 0.0001 to 1 // ±0.5%
	0.1 to 999999 µS/m // 0.001 to 1 // ±0.5%
TDS:	0.001 to 1000 g/L , ppt // 0.001 to 1 // ±0.5%
	0.001 to 999999 mg/L , ppm // 0.001 to 1 // ±0.5%
Salinity:	0.01 to 80.0 psu , ppt // 0.01 to 0.1 // ±0.5%
Resistivity:	0.01 to 100.0 MΩxcm // 0.0001 to 1 // ±0.5%
	0.01 to 999999 Ωxcm // 0.01 to 1 // ±0.5%
Conductivity Ash:	0.000 to 2022% // 0.001 to 1 // ±0.5%

Type	PK	Cat. No.
S470-Basic	1	**9.704 361**
S470-Kit	1	**9.704 362**
S470-USP/EP	1	**9.704 363**

Conductivity cell probes

WTW®

Standard conductivity cell probe TetraCon® 325:
4-pole cell with integral temperature sensor. Cable length 1.5 metres. Measuring range: 1µS/cm to 2S/cm.
TetraCon® 325-3:
Like TetraCon® 325, but cable length 3 m

Special conductivity cell probe TetraCon® 325/C:
As TetraCon® 325, 4-pole cell with integral temperature sensor, but with sensor head made of chemically resistant PEEK. Cable length 1.5 metres.
Measuring range: 1µS/cm to 2S/cm

Ultra-pure water conductivity cell probe LR 325/01:
With integral temperature sensor and flowthrough vessel D 01/T for measuring very low conductivity ranges (<1 µS/cm) e.g. boiler feed water or deionised water. Cable length 1.5 metres. Min./max. insertion depth 35/110mm and flowthrough, measuring range: 0.001µS/cm to 200µS/cm.

Conductivity flowthrough cell TetraCon® DU/T:
4-pole conductivity cell with integral temperature sensor for standard applications. Connection via 10mm diameter tubing nozzles
(the adapter cable KKDU with 1 metre cable is required for connection). Filling volume 7ml. Measuring range: 1µS/cm to 1000µS/cm.

IDS conductivity cell probe TetraCon® 925:
Intelligent digital 4-pole cell with integral temperature sensor. Automatical transfer of the cell constant. For connection to WTW IDS measuring instruments. Cable length 1.5 metres. Measuring range: 1µS/cm to 2S/cm.
TetraCon® 925-3:
Like TetraCon® 925, but cable length 3 m

IDS conductivity cell probe TetraCon® 925/LV:
Intelligent digital 4-pole cell with integral temperature sensor. Fork design, suitable for small volumes (at least 2.5ml) as well as for viscous samples.
Automatical transfer of the cell constant. For connection to WTW IDS measuring instruments. Cable length 1.5 metres. Measuring range: 1µS/cm to 2S/cm.

IDS conductivity cell probe LR 925/01:
Intelligent digital 2-pole cell with integral temperature sensor and flowthrough cell D 01/T for measuring of low conductivity values (<1µS/cm) e.g. in boiler feed water or ion exchange water. Automatical transfer of the cell constant. Cable length 1.5 metres. Min./max. immersion depth 35/110mm and flow through measurement. Measuring range: 0.01µS/cm to 200µS/cm.

Type	Length mm	Electrode	Shaft	Cell constant	PK	Cat. No.
TetraCon® 325	120	Graphite	Epoxy resin	K =0.475	1	**9.704 081** 1
TetraCon® 325/C	120	Graphite	Epoxy resin	K =0.475	1	**6.229 561**
TetraCon® 325-3	120	Graphite	Epoxy resin	K =0.475	1	**7.008 434**
LR 325/01	121	V4A steel	V4A steel	K = 0.1	1	**9.704 083**
LR 925/01	120	V4A steel	V4A steel	K = 0.1	1	**7.656 781** 2
TetraCon® DU/T	155	Graphite	Epoxy resin	K approx. 0.8	1	**9.704 078** 3
TetraCon® 925	120	Graphite	Epoxy resin	K =0.475	1	**7.653 077** 4
TetraCon® 925-3	120	Graphite	Epoxy resin	K =0.475	1	**6.239 576**
TetraCon® 925/LV	120	Graphite	Epoxy resin	K = 0.469	1	**6.269 370**
KKDU 325	100	Connection cable	-	-	1	**9.704 079**

1

9.704 081

2

7.656 781

3

9.704 078

4

7.653 077

5 Conductivity measuring cell LF413TIDS

5

For versatile applications. IDS® 4-pole cell, plastic shaft, 1.5m cable with digital plug,   *SI Analytics*
sensor material graphite, temperature sensor NTC 30 kOhm.

Specifications

Temperature range:	-5 to +80°C
Conductivity range:	1µS/cm to 2000mS/cm
Taper length/Dia.:	120mm/15.3mm

Type	Length mm	Electrode	Shaft	Cell constant	PK	Cat. No.
LF413TIDS	120	Graphite	Plastic	K=0.475	1	**6.265 636**

Conductivity sensors InLab® for Mettler Toledo conductivity meters

710: 4 platinum poles
720 + 751-4 + 752-6: 2 platinum poles
731 + 738: 4 graphite poles
741 + 742: 2 steel poles
ISM® (Intelligent Sensor Management) is a sophisticated safety concept that leaves nothing to chance. The instrument automatically detects the connected sensor and uses the most up-to-date calibration data stored on the sensor chip.

Mettler-Toledo Online

All Conductivity sensors with integrated probe sensor (NTC 30 kΩ), shaft length 120 mm, schaft diameter 12, only type 751-4 has diam. 4 mm and 752-6 diam. 6 mm.

Type	Measuring range	Cell constant	Material shaft	Cable m	PK	Cat. No.
710	0,01 ... 500 mS/cm	0,80	Glass	1.2 Mini-DIN	1	**9.041 443** 1
720	0,1 ... 500 µS/cm	0,06	Glass	1.2 Mini-DIN	1	**9.041 446**
731	0,01 ... 1000 mS/cm	0,57	Graphite	1.2 Mini-DIN	1	**9.041 447**
731-ISM	0,01 ... 1000 mS/cm	0,57	Graphite	1.2 Mini-DIN	1	**9.041 448**
731-2m ISM	0,01 ... 1000 mS/cm	0,57	Graphite	2.0 Mini-DIN	1	**9.041 449**
738-ISM	0,01 ... 1000 mS/cm	0,57	Epoxy	1.8	1	**7.626 197**
738	0,01 ... 1000 mS/cm	0,57	Epoxy	1.8	1	**7.636 591**
738-ISM	0,01 ... 1000 mS/cm	0,57	Epoxy	10.0	1	**9.041 519**
741	0,1 ... 500 µS/cm	0,105	Stainless steel	1.2 Mini-DIN	1	**6.242 844**
741-ISM	0,1 ... 500 µS/cm	0,105	Stainless steel	1.2 Mini-DIN	1	**9.041 442** 2
742	0,001 ... 500 µS/cm	0,105	Stainless steel	1.8	1	**9.041 524**
751-4	0,01 ... 100 mS/cm	1,0	Glass	1.2 Mini-DIN	1	**9.041 475**
752-6	0,01 ... 112 mS/cm	1,0	Glass	1.2 Mini-DIN	1	**9.041 476** 3

9.041 443

9.041 442

9.041 476

6.230 491

Conductivity sensors for Eutech™ conductivity meters

2-pole cells made of PP and ultem plastic with stainless steel rings.

Thermo Scientific

CONSEN91B: Ag/AgCl reference system, sealed.
Used with COND 6+/TDS 6+/Salt 6+
CONSEN91W: Ag/AgCl reference system, refillable.
Used with CON 510/CON 400 /CON 410/PC 300/PC 510/CON 11/CON 110
CONSEN9103J: Ag/AgCl reference system, refillable.
Used with COND 610/COND 600/CD 650/PC 650/PCD 650

Specifications

Measuring range:	0 ... 150 mS
Temperature range:	0 ... 80 °C
Cell constant:	K = 1.0
Temperature compensation:	ATC
Length/diam.:	144 x 16 mm

Type	Connector	Sensor type	Cable m	PK	Cat. No.
CONSEN91B	BNC, phono	Platin pin	1	1	**6.230 491** 4
CONSEN91W	6-pin	Plating band	1	1	**6.205 314**
CONSEN9103J	8-pin	Plating pin	3	1	**6.281 895**

1   LLG-Conductivity Solutions

- Values stated at 25°C: Accuracy ±1%
- Directly traceable to NIST
- Certificate including actual value, expiration date and uncertainty of measurement

Type	Capacity ml	PK	Cat. No.
84 µS/cm	500	1	**9.040 861**
147 µS/cm	500	1	**9.040 862**
1.413 µS/cm	500	1	**9.040 863**
12.880 µS/cm	500	1	**9.040 864**

2   Conductivity Standards

Reagecon

Conductivity standards tested and ISO 17025 certified at 25 °C. Uncertainty of measurement of ±1%. Directly traceable to N.I.S.T. Temperature dependence data is printed on the label as are lot numbers and expiry dates. Supplied in 500 ml HDPE bottle. 1.3 µS/cm in 250 ml bottle. Calibration values 84, 147, 1413, 12880 µS/cm. Control Values 1.3 - 350000 µS/cm.

Type µS/cm	Capacity ml	PK	Cat. No.
1,3*	250	1	**6.225 059**
5	500	1	**6.901 629**
10	500	1	**6.901 622**
20	500	1	**6.802 901**
23,8	500	1	**6.259 883**
50	500	1	**6.074 754**
84	500	1	**9.040 904**
100	500	1	**6.234 859**
147	500	1	**9.040 905**
200	500	1	**6.802 902**
500	500	1	**6.205 415**
1000	500	1	**6.901 670**
1413	500	1	**9.040 906**
3000	500	1	**9.040 964**
5000	500	1	**6.205 412**
10000	500	1	**6.901 671**
12880	500	1	**9.040 907**
50000	500	1	**6.210 129**
100000	500	1	**6.205 413**
350000	500	1	**9.040 987**

*1.25 - 1.35 µS/cm at 25 °C.

3   Calibration and test material for conductivity measurements

WTW®

Test resistors and calibration solutions to test the meters with conductivity function as well as to calibrate the system from the device and conductivity measuring cell

- Optimal measuring safety by PTB/NIST traceable standard solutions
- Easy device check by highly precise test resistors
- Pharmacopeia conforming test kits

Type	Description	PK	Cat. No.
USP KIT 2	Kit according to pharmacopeia: LR 325/01 with stainless steel flow vessel, test resistor set, calibration standard 5 µS/cm	1	**6.227 656**
USP KIT 1	Kit according to pharmacopeia: LR 325/01 with glass flow vessel, test resistor set, calibration standard 5 µS/cm	1	**6.093 356**
E-SET Trace	Test and calibration standard 1413 µS/cm at 25 °C	1	**9.704 137**
KS 100 µS	Test and calibration standard 100 µS/cm at 25 °C	1	**6.801 249**
KS 5 µS	Test and calibration standard 5 µS/cm at 25 °C	1	**6.222 865**
6R/SET/LAB1	Precision resistor set with calibration certificate	1	**7.085 924**

1

6.280 119

Dissolved oxygen meter FiveGo™ F4

Mettler-Toledo Online

Portable dissolved oxygen meter for field work.
- Measurement made easy: A large, well-structured display, intuitive button arrangement
  and simple menu ensure measurements can be performed in just a few clicks.
- Ergonomic design for one handed operation: Thanks to its ergonomic design, handling the FiveGo is a comfortable
  experience. The foldable stand provides optimal viewing on flat surfaces.

F4-Meter: Meter only
F4-Standard kit: Meter with LE621 sensor
F4-Field kit: Meter with LE621 sensor and carrying case

Specifications

Measuring range (O$_2$ Saturation):	0.1 … 400 %
Resolution:	0.1 %
Accuracy:	±1 %
Measuring range (Temperature):	0 … 50 °C
Resolution:	0.1 °C
Accuracy:	±0.3 °C
Measuring range (O$_2$ concentration):	0.01 … 45.00 mg/l (ppm)
Resolution:	0.01 mg/l
Accuracy:	±1 %
Temperature compensation:	ATC and MTC
Calibration:	2 points, 100 % and 0 %
Memory size:	200 measurements, current calibration
Dimensions (W x D x H):	188 x 77 x 33 mm
IP code:	IP 67 (meter + sensor)

Type	PK	Cat. No.
F4-Meter	1	**6.280 118**
F4-Standard kit	1	**6.280 119** 1
F4-Field kit	1	**6.280 120**

2

2   Oxygen meter SD 315 Oxi

NEW

Lovibond®

The portable hand-held measuring instrument SD 315 Oxi meets the daily requirements
for a robust and reliable instrument for the determination of dissolved oxygen in aqueous
media. The Clark oxygen sensor with integrated temperature probe enables immediate measurements without time-
consuming run-in time (polarisation time).

- Simple calibration against air or according to DIN EN ISO 5814
- Alarm function with adjustable limits
- Automatic pressure and temperature compensation
- Auto Hold Function
- Automatic switch-off individually selectable from 1 to 120 min
- Backlit LCD display
- Sensor status display in % after each calibration
- Salinity correction
- Parameter: dissolved oxygen (O$_2$), O$_2$ concentration in mg/l, O$_2$ saturation in %, temperature in °C/°F
- Battery status indicator
- Flexible stand at the rear allows the unit to be set up or fastened to a belt.
- Data transfer and evaluation via software possible

Scope of supply: Instrument, protective covering, electrode holder, carrying case, galvanic oxygen sensor, KOH refill
electrolyte, spare membrane, calibration bottle with sponge, batteries, manual

Specifications

O$_2$ concentration:	0.0 … 70.0 mg/l
O$_2$ saturation:	0.0 … 600.0 %
Temperature:	0.0 … 50.0 °C
Memory:	10000 data sets automatically
	1000 data sets manually
Dimensions (W x D x H):	164 x 100 x 37 mm
Weight:	302 g
Power supply:	2 x AAA
IP code:	IP 67

Type	Cable length m	PK	Cat. No.
SD 315 Oxi (Set 1)	2.0	1	**4.678 221**
SD 315 Oxi (Set 2)	10.0	1	**4.678 222**

340

1   Portable dissolved oxygen meter Oxi 3205

Robust and easy to use dissolved oxygen meter for standard alkaline, or rechargeable, batteries. Menu-controlled with backlit graphics display for ease of use under all lighting conditions. Suitable for use in harsh environments.

WTW®

⚠ **Warning**

H phrases: H315|H319

Measuring ranges:

O$_2$ concentration:	0.00 to 20.0mg/l (19.9mg/l*)
	0.0 to 90.0mg/l (90mg/l*)
O$_2$ saturation:	0.0 to 200.0% (200%*)
	0 to 600%
Temperature:	0.0 to +50°C, ±0.1°C
	* when using DurOx oxygen sensor probes

Accuracy:

O$_2$ concentration:	±0.5% of reading
O$_2$ saturation:	±0.5% of reading

Type	Description	PK	Cat. No.
Oxi 3205	meter only	1	**9.774 378**
Oxi 3205 Set 1	case set including DO sensor CellOx 325 and accessories	1	**9.774 340**

The inoLab® series from WTW

The inoLab® benchtops are perfectly designed for modern laboratory surroundings. The key pads are clearly outlined and easy-to-operate, their smooth surfaces are easy-to-clean and the operation is self-explanatory. All meters include a universal power supply and a convenient stand with sensor support. If desired they can be ordered in application oriented sets including sensors and accessories.

2   Oxygen meter inoLab® Oxi 7310

Reliable Documentation for dissolved oxygen measurement, if desired also available with built-in printer. This is the inoLab® Oxi 7310 or inoLab® Oxi 7310P. A modern backlit graphic display with menu controlled user interface allows easy and intuitive operation.
The mini USB-B interface provides fast data transfer to a PC. The internal memory can record up to 5000 GLP complying data including ID, date and time. The housing and the keypad are easy-to-clean. The inoLab® Oxi 7310 supports the long proven WTW galvanic sensors, CellOx® 325 and StirrOx® G. A calibration history of the 10 last calibrations allows conclusions on the state of the sensor. Calibrations versus external standards e.g. Winkler titration, are possible, too. The meter includes automatic barometric pressure and temperature compensation. An integrated thermal printer (58 mm width) is ready for printout of the measured data (option). The scope of delivery includes meter, stand, power supply and USB cable.

WTW®

Specifications

Ranges:	All values±1 digit
Dissolved oxygen concentration:	0.00 ... 20.00 mg/l ±0.5 % of measured value
	0 ... 90 mg/L ±0.5 %
Saturation:	0.0 ... 200.0 % ±0.5 % of measured value
	0 ... 600 % ±0.5 % of measured value
Partial pressure:	0 ... 200.0 hPa, 0 ... 1250 hPa
Temperature:	-5.0 ... 105.0 °C ±0.1 °C
Calibration:	1-point air calibration (water vapour saturated air) or versus external standard
Calibration memory:	Up to 10 calibrations recallable
Display:	Backlit graphic LCD
Memory:	manual 5/5000 automatic
Logger:	manual/time controlled
Interface	Mini USB-B
Power supply	Universal power supply, 100 to 240 V, 50/60 Hz, 4 x 1.5 V AA

Type	Description	PK	Cat. No.
Oxi 7310	Meter only including accessories	1	**9.920 108**
Oxi 7310 Set 1	Meter including CellOx® 325 and accessories	1	**9.920 109**
Oxi 7310 Set 4	Meter including StirrOx® G and accessories	1	**9.920 110**
Oxi 7310P	Meter including integrated printer	1	**9.920 111**

1 **2** **Portable dissolved oxygen meter Oxi 3310**

Comfortable and versatile DO meter with integral, time controlled, data logger and memory
for 5000 GLP compliant records for extended data collection. Menu controlled, with backlit graphics
display for comfortable and safe operation. Calibration against external standards possible. Automatic temperature,
barometric pressure and salinity compensation. 100 % waterproof, USB interface for fast data transfer. Includes driver
software and cable.

WTW®

⚠ **Warning**

H phrases: H315|H319

Measuring ranges:

O_2 concentration:	0.00 to 19.99mg/l (19.9mg/l*)
	0.0 to 90.0mg/l (90mg/l*)
O_2 saturation:	0.0 to 199.9% (199%*)
	0 to 600%
Temperature:	-5.0 to +50.0°C
	* when using DurOx oxygen sensor probes

Accuracy:

O_2 concentration:	±0.5% of reading
O_2 saturation:	±0.5% of reading
Memory:	5000 records (measured value, temperature, date, time, ID)

Type	Description	PK	Cat. No.
Oxi 3310	meter only	1	**9.774 338**
Oxi 3310 Set 1	cased set including DO sensor CellOx 325 and accessories	1	**9.774 339**

Thermal printer P 3001 for WTW® instruments with serial interface

WTW® devices with serial interface can be directly connected to a PC and therefore use
the PC printer.

WTW®

Description	PK	Cat. No.
Thermal printer P 3001	1	**7.510 044**
Printer paper RP 3001	1	**7.089 804**

3 **Galvanic Dissolved Oxygen Sensor CellOx® 325**

Membrane covered galvanic dissolved oxygen for measurement of water and aqueous solutions.
Low maintenance and without polarization time. The CellOx® 325 is a dissolved oxygen sensor with built-in
temperture compensation by a NTC 30 kOhm sensor and membrane leakage monitoring for field and
laboratory applications. It has a fast response (t99<60 s) and a low-maintenance operation. The application ranges
from surface water, waste water treatment, BOD measurement to industrial and special applications. An electrolyte
filling is sufficient for up to 6 months service life. The calibration vessel is included in the delivery.
For Oxi 3xx, Oxi 3xxi, ProfiLine Oxi 197, ProfiLine Oxi 197i, ProfiLine Multi 197i, Multi 340i, Oxi 3205, Oxi 3210,
Oxi 3310, ProfiLine Oxi 1970i, ProfiLine Multi 1970i, inoLab®.

WTW®

⚠ **Warning**

H phrases: H315|H319

Specifications

Temperature range:	0 to 50 °C
DO-concentration:	0 to 50 mg/l
DO-saturation:	0 to 600 %
Partial pressure:	0 to 1250 hPa
Shaft length/diam.:	145 mm/15.3 mm
Plug:	8 pole plug, waterproof

Type	Cable m	PK	Cat. No.
CellOx® 325	1.5	1	**9.822 551**
CellOx® 325-3	3	1	**7.008 258**

Accessories for Oxygen Sensor CellOx® 325

WTW®

⚠ **Warning**

H phrases: H315|H319

Type	Description	PK	Cat. No.
ZBK 325	Replacement and maintenance agent for dissolved oxygen sensor CellOx®325 und TA 197 Oxi	1	**7.008 272**

1 Oxygen sensor StirrOx® G

For inoLab® Oxi 730, ProfiLine 197i/1970i, inoLab® 740 Oxi, inolab Oxi 7310   *WTW®*
Self-stirring oxygen sensor.
- single-handed use
- high reproducibility
- ready for immediate use, no polarisation period necessary
- extremely low internal consumption of oxygen by the electrode
- no zero point calibration necessary
- OxiCal®-SL calibration and storage vessel included
- 6 months operation with one electrolyte filling
- IMT function compensation
- membrane leakage monitoring, damaged membranes are indicated.
Supplied with case, spare parts and maintenance solutions.

Type	PK	Cat. No.
StirrOx® G	1	9.822 560
Accessories kit with replacement and maintenance equipment	1	7.008 273

2 Oxygen sensor DurOx® 325

For use with Oxi 3xxi, ProfiLine Oxi 1970i, ProfiLine 3205, 3210, 3310.   *WTW®*
Membrane-covered oxygen sensor with low flow requirement and removable cage guard,
for field applications (fish farm revival pools) and for educational purposes.

- ready to measure - no polarisation time
- IMT compensation via two integral temperature sensors
- service life with one electrolyte filling approx. 6 months
- minimal flow requirement
- no zero current
- sensor is watertight (IP 68 - 2)
- standard with 3m cable and watertight plug
- standard with calibration/storage vessel OxiCal® -D
- standard with cage guard SK-D

⚠ **Warning**

H phrases: H315|H319

Type	PK	Cat. No.
DurOx® 325	1	9.920 045

Optical D.O. Sensor FDO® 925

Optical IDS D.O. sensor for portable MultiLine® IDS and InoLab® Multi IDS benchtop   *WTW®*
meters. Measures the dissolved oxygen according DIN ISO 17289:2014-12. For
applications in the lab and in process, outdoor and waste water treatment plants. Low maintenance (t99 < 60 s).
No oxygen consumption, with inclined membrane for avoiding air bubbles. Factory calibrated membrane with smart
chip. Built-in NTC 30 kOhm temperature sensor.

Specifications

Temperature range:	0 ... 50.0 °C ±0.2 °C
DO concentration:	0.00 ... 20.00 mg/l ±0.5 % of value
DO saturation:	0.0 ... 200.0 % ±0.5 % of value
Partial pressure:	0.0 ... 400 hPa ±0.5 % of value
Shaft length/diam.:	150 mm/15.3 mm

6.238 174

Type	Description	PK	Cat. No.
FDO® 925	1.5 m fix cable	1	6.238 174 3
FDO® 925-3	3 m fix cable	1	6.239 577
SC-FDO® 925	Changing cap	1	6.242 048
FDO® 925-P	Plug head, AS/IDS cable or wireless module necessary	1	6.259 423

Accessories for Oxi

Suitable for all laboratory and field electrodes except StirrOx® G.   *WTW®*

Type	Description	PK	Cat. No.
WP3-ST	Replacement membrane heads for StirrOx® G	3	9.822 594
WP 90/3	Replacement membrane heads for all dissolved oxygen sensors, except StirrOx®G, DurOx®325	3	9.822 595

1 Oxygen sensor InLab® 605/InLab® 605-ISM

Mettler-Toledo Online

Sensor for polarographic oxygen measurement with high accuracy and repeatability. For use in laboratory, field and industry. Robust construction. Diaphragm mechanically protected by steel mesh, shaft made of glass-fibre reinforced PPS. With integrated temperature sensor.

- he InLab® oxygen sensors are designed for use with the SevenExcellence™ multi-channel tabletop meter and the portable SevenGo™ 6 meters.

- InLab®-ISM oxygen sensors are equipped with Intelligent Sensor Management, which enables simple calibration in the air and permanent monitoring of the sensor status.

Designed for use with the SevenExcellence™ multi-channel tabletop meter and the portable SevenGo™ 68 dual-channel instruments.

Specifications

Sensor type:	Polarographic sensor
Measuring range oxygen:	0 ... 200 %/0 ... 20 mg/l
Measuring range temperature:	0... 60 °C
Connections:	BNC (IP 67)/Cinch (RCA)
Shaft diameter:	12 mm
Shaft length.	120 mm

Type	Cable m	PK	Cat. No.
InLab® 605	5	1	**6.239 016**
InLab® 605	10	1	**9.041 601**
InLab® 605-ISM	2	1	**9.041 583**
InLab® 605-ISM	5	1	**9.041 584**
InLab® 605-ISM	10	1	**9.041 585**

2 Electrolyte solution for dissolved oxygen electrodes

WTW®

Type	Capacity ml	PK	Cat. No.
ELY/G	50	1	**9.822 553**
ELY/A	50	1	**9.822 604**
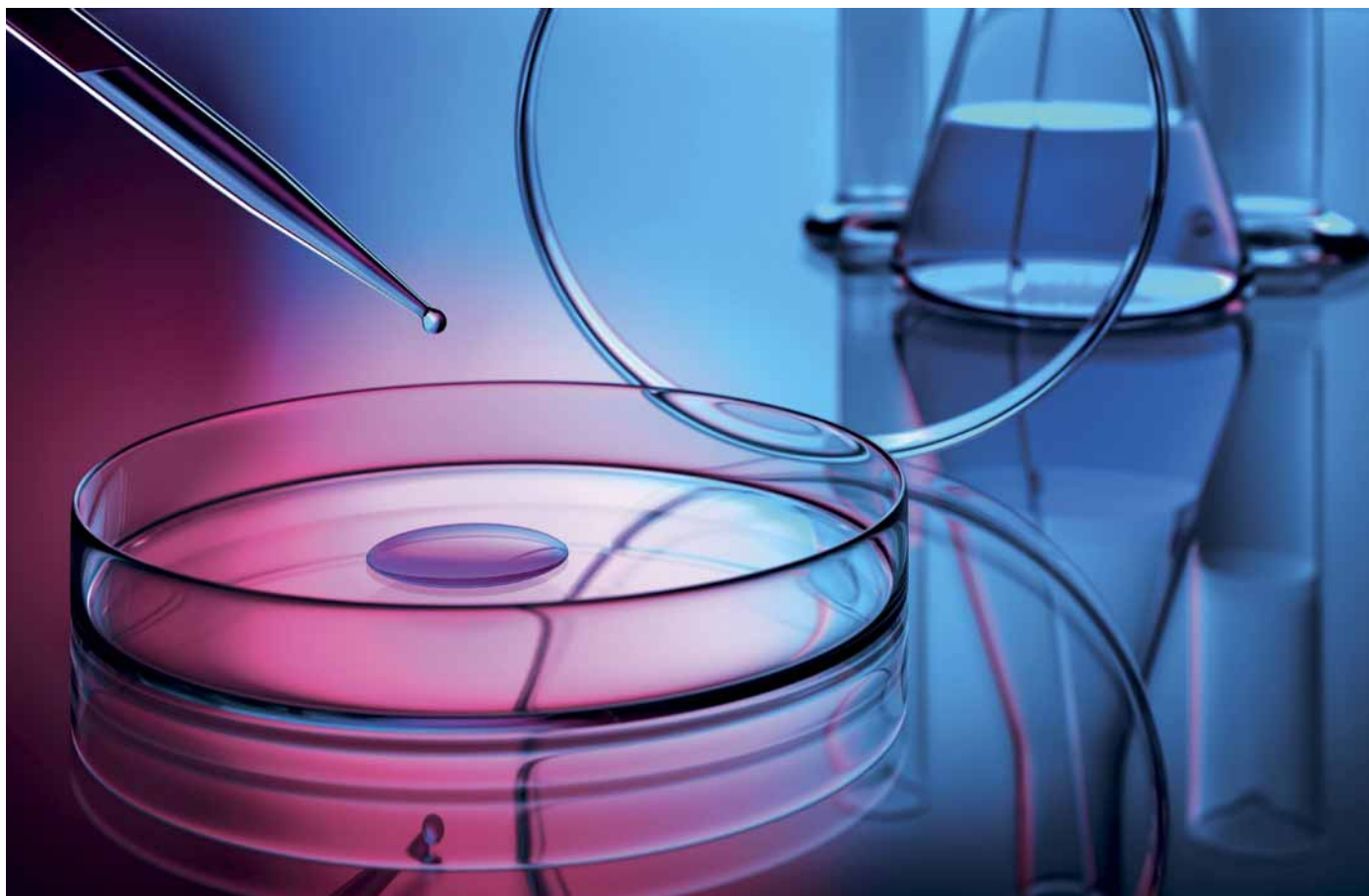
1   Multi-Parameter meter Eutech™ PCTestr 35

Versatile multi-parameter meter for measuring pH, conductivity and temperature.   *Thermo Scientific*
Waterproof, with user-replaceable sensor. Suitable for general and industrial purposes,
e.g. in the chemical industry and food processing, pools, aquariums and cooling towers.
- Multi-sensor for pH, conductivity and temperature
- Simply toggle the parameters
- Up to 5 calibration points for pH and 3 calibration points for conductivity
- Water- and dustproof housing
- Big LCD Display
- Auto-Off

Specifications

pH range:	0.0 … 14.0
Resolution:	0.1 pH
Accuracy:	0.1 pH
mV range:	0 … 1999 µS/cm/2.00 … 20.00 mS/cm
Resolution:	1 µS/cm/0.01 mS/cm
Accuracy:	±1 % (full scale)
Temperature range:	0 … 50 °C
Resolution:	0.1 °C
Accuracy:	0.5 °C
Protection class:	IP 67
Power supply:	4 x 1.5 V A76 batteries

Type	PK	Cat. No.
PCTestr 35	1	**6.258 988**

2   Multiparameter meters SensoDirect 150

The SD 150 Multi-Parameter handheld instrument is ideal for the sequential determination of pH,   *Lovibond®*
Redox/ORP, conductivity, TDS and dissolved oxygen and combines the applications of several
instruments in one portable device.
- Large, easy to read LCD display with contrast adjustment
- Automatic recognition of standard solutions
- Automatic temperature compensation
- Real time data logger

Scope of supply: Instrument, batteries, protective armouring, electrode holder, pH electrode type 226,
temperature sensor Pt1000, pH buffer, manual
SensoDirect 150 (Set 1) pH/Con/TDS/Oxi/Temp. additionally: Conductivity cell, oxygen sensor, electrolyte,
membrane heads
SensoDirect 150 (Set 2) pH/Con/TDS /Temp. additionally: Conductivity cell
SensoDirect 150 (Set 3) pH/Oxi/Temp. additionally: Oxygen sensor, electrolyte, membrane heads
SensoDirect 150 (Set 4) pH/Redox/Temp. additionally: Redox electrode

Specifications

pH:	0 … 14 pH
ORP:	-1999 … 1999 mV
Conductivity:	0 … 200.0 mS/cm
TDS:	0 … 132000 ppm
Temperature:	0 … 60 °C
Oxygen:	0 … 20.0 mg/l
Interface:	USB, RS 232
Dimensions (W x D x H):	76 x 203 x 38 mm
Weight:	320 g
Power supply:	DC 1.5V battery (UM3, AA) x 4 PCs or DC 9V Adapter
IP code:	IP 51

Type	PK	Cat. No.
SensoDirect 150 (Set 1) pH/Con/Oxi	1	**6.241 474**
SensoDirect 150 (Set 2) pH/Con	1	**6.241 983**
SensoDirect 150 (Set 3) pH/Oxi	1	**6.256 805**
SensoDirect 150 (Set 4) pH/Redox	1	**9.699 295**

1   Multiparameter meters SD 335

NEW

Depending on the set, the portable multi-parameter measuring device is ideally suited for the precise determination of pH, redox, temperature, conductivity/TDS/salinity as well as saturation and concentration of dissolved oxygen.

Lovibond®

- Intuitive user interface thanks to graphical LCD display
- Simultaneous determination of up to three parameters due to galvanic isolation
- Selection between multi-parameter display or single value display
- Setting of alarm limits for parameter monitoring
- Micro-USB connection for software-free data transmission and power supply
- Data logger records measurement data incl. time stamp and measuring point ID in a fixed time interval or manually at the push of a button
- Automatic recognition of standard solutions
- Evaluation of the sensor quality after calibration
- Rechargeable NiMH batteries

Scope of supply: Meter, protective armouring, electrode holder for 2 electrodes, pH/temp. electrode type 231, pH buffer (4.01/7.00/10.01), storage solution for pH/ORP electrodes, 3 x AAA-NiMH rechargeable batteries, user manual
SD 335 Multi (Set 1) pH/Con/Temp. additionally: Conductivity electrode LC 12 (< 200 mS/cm), conductivity solution 1413 µS/cm (NIST)
SD 335 Multi (Set 2): pH/DO/Temp. additionally: Galvanic oxygen sensor (2 m cable), refill electrolyte, membrane heads, calibration bottle with sponge
SD 335 Multi (Set 3): pH/Con/DO/Temp. additionally: Conductivity electrode LC 12 (< 200 mS/cm), conductivity solution 1413 µS/cm (NIST), galvanic oxygen sensor (2 m cable), refill electrolyte, membrane heads, calibration bottle with sponge

Specifications

pH:	-2.00 … 16.00 pH
mV:	-2000 … 2000 mV
Conductivity:	0.000 … 500 mS/cm
TDS:	0.000 … 500 g/l
Salinity:	0.0 … 70.0 PSU
O_2-concentration:	0.00 … 50.00 mg/l
O_2-saturation:	0.0 … 500.0 %
Temperature:	-10.0 … 110.0 °C
Data logger:	8 GB
Interface:	Micro-USB
Dimensions (W x D x H):	100 x 164 x 37 mm
Weight:	310 g
Power supply:	3 x AAA NiMH rechargeable batteries, Micro-USB
IP code:	IP 67

Type	PK	Cat. No.
SD 335 Multi (Set 1) pH / Con / Temp.	1	**4.678 204**
SD 335 Multi (Set 2) pH / DO / Temp.	1	**4.678 205**
SD 335 Multi (Set 3) pH / Con / DO / Temp.	1	**4.678 206**

New logo - new name:
Aqualytic® becomes Lovibond®!
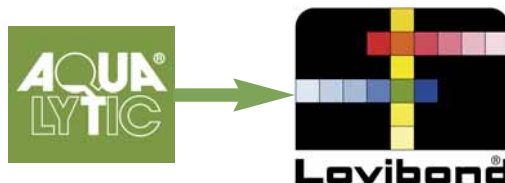
1   Multi parameter HandyLab 680

The HandyLab 680 increases the measuring accuracy via: *SI Analytics*
- IDS technology. The digitalization of the measuring signal eliminates interferences.
- AutoRead function. Autoread provides a stable, precise measuring value.
- CMC (Continuous Measurement Control) visualizes whether the measuring value is within the calibration range.
- QSC (Quality Sensor Control) informs about the actual condition of the electrode and therefore increases operation safety.

The HandyLab 680 increases the operator comfort via:
- IDS Technology. The secure allocation of the calibration data to the sensor eliminates any uncertainty about the date and results of its last calibration. This saves time and money while assuring the highest confidence in your measurements.
- Traceability of the measuring values by the digital and automatic capture of all sensor data.
- User administration can be activated to allow tiered access and capabilities ensuring security and confidence of your data.
- Transmission of all data in *.csv format via USB interface to the PC or the USB memory stick, or, as an alternative, formatted transfer to Excel by means of MultiLabImporter (included in the delivery).

Supplied with:
HL680pH/CondVersat: pH/Cond meter Set HandyLab 680 with conductivity electrode LF413T IDS, pHTelectrode A7780 IDS,
case Z530 and protective armouring Z389 for generall applications
HL680pH/Cond/OxVer: pH/Cond/OX meter Set HandyLab 680 with oxygen electrode FDO1100 IDS, conductivity electrode LF413T IDS,
pHT electrode A7780 IDS, case Z530 and protective armouring Z389 for generall applications

Specifications
pH
Measuring range:	0.000 ... 14.000pH
Resolution:	±0.001pH
Accuracy:	±0.004pH

mV
Measuring range:	±1200.0 mV
Resolution:	±0.1mV
Accuracy:	±0.2mV

Temperature
Measuring range:	-5.0 ... +105.0°C
Resolution:	±0.1°C
Accuracy:	±0.2°C

Conductivity
Measuring range:	0.00 ... 2000mS/cm
Resolution:	±0.1mS/cm, ±0.01µS/cm, ±0.001µS/cm
Accuracy:	±0.5% of mean value
Specific resistance:	0.00 Ωcm ... 100 MΩcm ±0.5% of mean value
Salinity:	0.0 ... 70.0 (acc. to IOT)
TDS:	0 ... 1999 mg/l, 0 ... 199.9g/l ±0.5% of mean value

Oxygen measurement
DO concentration:	0.00 ... 20.00mg/l ±0.5% of mean value
DO saturation:	0.0 ... 200.0 % ±0.5% of mean value
DO partial pressure:	0 ... 400 hPa ±0.5% of mean value

Type	PK	Cat. No.
HL680pH/CondVersat	1	**6.265 601**
HL680pH/Cond/OxVer	1	**6.265 299**

1

1   Multiparameter meters ProfiLine pH/Cond 3320

The pH/Cond 3320 has a robust, waterproof housing (IP67) and is equipped with a memory *WTW®* as well as a data logger with an adjustable interval between 1 s and 60 min. All entries contain GLP-supporting data, like the date, time and ID number. The modern, waterproof USB interface is used for easy and quick data transfers. Applications: Process chemistry, Life Science, food and beverage industry, pharmaceutical industry (measurement of pH and conductivity according to pharmacopeia).
- Two inputs for the simultaneous measurement of pH/mV/ISE/redox potentail and conductivity
- Backlit graphic display for the parallel display of the measured values
- Perfect for monitoring process applications
- Waterproof USB interface

Scope of delivery pH/Cond 3320 Set 2: Professional pH and redox meter for mobile measurements. Meter in transport case with SenTix® 41, TetraCon® 325, buffer solution STP 4 and STP 7, conductivity standard 0.01 mol/l KCl, manual, stand, beaker, CD-ROM, driver software for USB, battaries, cable.

Specifications
Measuring range/Resolution

pH:	-2.000 … 19.999 ±0.005 pH
mV:	-2500 ... +2500 ±1 mV
ISE (mg/l, μmol/l, mg/kg, ppm, %):	0.000 … 999999
Conductivity:	0.000 μS/cm ... 1000 mS/cm
Salinity:	0.0 ... 70.0
TDS:	0 mg ... 199.9 g/l
Temp.:	-5.0 … 105.0 °C ±0.1 °C
Memory:	manually 200/5000 automatically
Power supply:	4 x 1.5 V AA or 4 x 1.2 V NiMH battery
IP code:	IP 67

Type	Description	PK	Cat. No.
pH/Cond 3320	only device	1	**6.264 057**
pH/Cond 3320 Set 2	with SenTix® 41, TetraCon® 325 and accessories	1	**6.262 509**

2

2   Multiparameter meter ProfiLine Multi 3320

The Multi 3320 for the measurement of pH, ORP, conductivity and dissolved oxygen *WTW®* (electro-chemical) is an ideal meter for environmental applications in the areas of ground and surface water measurement, in aquatic cultures as well as in wastewater treatment plants and much more. The Multi 3320 has a robust waterproof housing (IP 67) and memory with data logger with adjustable interval between 1 s and 60 min. The keypad can also be operated when wearing gloves and is easy to clean under a water jet.
- Two inputs for simultaneous measurement of pH and conductivity or pH and dissolved oxygen
- Backlit graphic display for parallel output of measured values
- All conventional WTW pH electrodes, combined ISE electrodes, conductivity measuring cells and galvanic oxygen sensors can be connected to the meter.
- Waterproof USB interface

Scope of delivery Multi 3320 Set 1: Professionel pH and conductivity meter for mobile measurements. Meter in field case with SenTix® 41, CellOx® 325, TetraCon® 325, sensor accessories, manual, stand, beaker, CD-ROM, driver software for USB, batteries, cable.

Specifications
Measuring range/Resolution

pH:	-2.000 … 19.999 ±0.005 pH
mV:	-2500 ... +2500 ±1 mV
ISE (mg/l, μmol/l, mg/kg, ppm, %):	0.000 … 999999
O_2 concentration:	0.00 ... 20.00 mg/l or 0.0 ... 90.0 mg/l*
O_2 saturation:	0.00 ... 200.0 % or 0.0 ... 600 %*
O_2 partial pressure:	0.0 ... 200.0 hPa, 0 ... 1250 hPa*
Conductivity:	0.000 μS/cm ... 1000 mS/cm
Salinity:	0.0 ... 70.0
TDS:	0 mg ... 199.9 g/l
Temp.:	-5.0 … 105.0 °C ±0.1 °C
Memory:	manually 200/5000 automatically
Power supply:	4 x 1.5 V AA or 4 x 1.2 V NiMH battery
IP rating:	IP 67

Type	Description	PK	Cat. No.
Multi 3320 Set 1	with SenTix® 41, TetraCon® 325, CellOx® 325 and accessories	1	**7.660 051**

*depending on oxygen sensor and measuring media

The inoLab® series from WTW

The inoLab® benchtops are perfectly designed for modern laboratory surroundings. The key pads are clearly outlined and easy-to-operate, their smooth surfaces are easy-to-clean and the operation is self-explanatory. All meters include a universal power supply and a convenient stand with sensor support. If desired they can be ordered in application oriented sets including sensors and accessories.

Laboratory instruments inoLab® Multi 9620 IDS/ 9630 IDS

1

Securely traceable with the cutting edge inoLab® Multi 9630 IDS and inoLab® Multi 9620 IDS.   *WTW®*
- Secure measurement data
- Digital sensor recognition
- Complete documentation
- Wireless ready

High-tech made by WTW for challenging applications. Two digital inoLab® multi parameter instruments for IDS sensors for simultaneous measurement of equal or different parameters and sensors. Two (inoLab® Multi 9620 IDS) or three sensors (inoLab Multi 9630 IDS) could be connected either by cable or via wireless modules. A large color graphic display protected by a glass plate supports the representation of readings and information, The anti-bacterial keypad minimizes the danger of microbiological contaminations. The robust lower case made of zinc diecast provides proper stand and perfect shielding against interferences. A high quality stand for alternative left or right mounting allows easy adaptation to the requirements at the working place.

6.283 614

Secure measurements
- Digital data transfer eliminates interferences, provide secure calibration data and makes documentation of sensor data easy.
- The smart sensor rating (QSC) gives information about the true condition of an IDS pH electrode and increases safety of operation
- The CMC function for pH visualizes the optimum measuring range and supports correct measurements.
- Visual display for the channel in order to provide correct allocation of channel and sensor.

Documentation according GLP/AQA
- Automatic digital recording of all sensor data for distinct documentation
- Optional user administration for clear allocation of user and measurement results and assigning different access levels
- Transfer of data as *.csv format via USB to PC, if desired transfer direct to Excel (MultiLab Importer, part of scope of delivery or as download from internet)
- Additional transfer to USB memory drive or selected printer

Compatible to conventional pH measurement
- pH module (accessory) capable of being integrated for pH, ISE and ORP electrodes with DIN or BNC plug and 4 mm banana plug. For temperature sensor.

IDS WLM Kit. For wireless measurement of pH/ORP, conductivity, dissolved oxygen, or turbidity. Consisting of a wireless module for sensor and meter, USB charger and universal USB power supply.

2

6.285 517

3

6.283 612

Specifications

Measuring channels	
inoLab® Multi 9620 IDS:	2
inoLab® Multi 9630 IDS:	3
Display:	Color graphic, glass plate protected
Memory:	manual: 500/automatic: 10000
Logger:	manual/time controlled
Interface:	USB-A, Mini USB-B
Power supply:	Universal power supply, 100 to 240 V, 50/60 Hz

Type	Description	PK	Cat. No.
Multi 9620 IDS	Single instrument	1	**6.283 614** 1
Multi 9620 Set C	With SenTix® 980, TetraCon® 925	1	**7.644 960**
Multi 9630 IDS	Single instrument	1	**6.285 517** 2
Multi 9630 Set K	With SenTix® 980, TetraCon® 925	1	**6.285 439**
IDS WLM KIT	Accessory Kit for wireless equipment	1	**6.283 612** 3

Separate IDS electrodes available on request.

1

2

1 2 Multiparameter meters

Selected IDS-Sensors:

SenTix® 940: Low maintenance combined pH electrode with ATC, QSC suitable, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004pH), temperature range 0.0 to 80.0°C, ±0.2°C. Also available with plug head for cable or wireless modules.

SensoLyt® 900: Low maintenance polymer electrolyte pH electrode with built-in temperature sensor, pressure resistant up to 10 bar, QSC suitable, memory for 10 calibrations, saved serial number, pH 2.000 to 12.000 (±0.004pH), temperature range from 0.0 to 60.0°C, ±0.2°C. Only available with plug head for cable, MPP or wireless modules.

SenTix® 950: Combined pH-electrode with plastic shaft, 3 mol/l KCl, ATC, QSC-suitable, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004pH), temperature range 0.0 to 80.0°C, ±0.2°C. Also available with plug head for cable or wireless modules.

SenTix® 980: Combined pH-electrode with plastic shaft, 3 mol/l KCl, ATC, platinum wire junction, QSC-suitable, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004pH), temperature range 0.0 to 100.0°C, ±0.2°C. Also available with plug head for cable or wireless modules.

TetraCon® 925: Robust, general purpose 4-electrode conductivity cell with graphite electrodes incorporating integral temperature sensor. Memory for 10 calibrations, stored serial number, measuring range 10 µS/cm to 2000 mS/cm ±0.5% of value, 0.0 to 100.0°C, ±0.2°C. Also available with plug head for cable or wireless modules.

LR 925/01: 2-electrode stainless steel conductivity cell for low conductivities, integrated temperature sensor, flow through vessel, memory for 10 calibrations, stored serial number, measuring range 0.01 µS/cm to 200µS/cm ±0.5% of value, 0.0 to 100.0°C, ±0.2°C. Also available with plug head for cable or wireless modules.

FDO® 925: Extremely fast (T99< 60 s) and precise optical DO sensor for field and laboratory applications. Handy, suits in different BOD bottles. Waterproof for depth measurement to 100m. Bevelled, air bubble repelling membrane, Green light technology for extended operation time. Insensitive against H_2S. O_2 concentration: 0.00 to 20.00mg/l, O_2 saturation: 0.0 to 200.0% O_2 partial pressure: 0.0 to 400hPa. Accuracy: ±0.5% of value. Also available with plug head for cable or wireless modules.
The information for meter precision refers to the sensors' built-in, electronic, measuring technology.

Multiparameter meters MultiLine® IDS

Professional digital multiparameter meters for mobile measurement, with 3, 2 or 1 universal measurement channels, wireless preparation, colour graphic display (black/white display for Multi 3510), data logger manually or automatically (timed) and 2 (1 for Multi 3510) waterproof USB interfaces suitable for field use. Easy to clean with a soft brush under water jet.

WTW®

Multi 3630: The Multi 3630 IDS with three universal measurement channels is suitable for all WTW IDS pH, ORP, dissolved oxygen sensors, conductivity cells and turbidity sensors, whether connected to cable or wireless. Documentation of meter and sensor data. User control over MultiLab® users. With USB-A and Mini USB-B interface and colour display.
Multi 3620: The Multi 3620 IDS with two universal measurement channels is suitable for all WTW IDS pH, ORP, dissolved oxygen sensors, conductivity cells and turbidity sensors, whether connected to a cable or wireless. Documentation of meter and sensor data. User control over MultiLab® users. With USB-A and Mini USB-B interface and colour display.
Multi 3510: Sequential multi-parameter measurement. All WTW IDS pH, ORP, dissolved oxygen sensors, conductivity cells and turbidity sensors can be connected to the universal channel, either with cable or wireless module. Data transfer to PC with MultiLab® Importer. With Mini USB-B interface and black/white display.

Specifications

Measuring range:	depending on IDS sensor
Memory Multi 3510 IDS:	manual: 500 data records
	automatic: 4500 data records
Memory Multi 3630 IDS/Multi 3620 IDS:	manual: 500 data records
	automatic: 10.000 data records
Dimensions (W x D x H):	approx. 180 x 80 x 55 mm
Weight:	400 g
Power supply Multi 3510 IDS:	4 alkaline batteries, USB
Power supply Multi 3630 IDS/Multi 3620 IDS:	PSU with charging function, 4 NiMH batteries (AA type), USB
IP code:	IP 67

1   Multiparameter meters MultiLine® 3630 IDS

Multi 3630 IDS: Single meter in a carrying case, buffers 4 and 7, 3 mol/l KCl,   *WTW®*
conductivity standard, batteries, cables, power supply, arming SM Pro
Multi 3630 IDS SET F: Single meter in a field case with IDS sensors (digital pH sensor SenTix® 940, digital
conductivity cell TetraCon® 925, optical sensor FDO® 925), QSC Kit, stand, beaker, buffers 4 and 7, conductivity
standard, batteries, cables, power supply, arming SM Pro
Multi 3630 SET G: Meter in a large carrying case with IDS sensors (digital pH sensor SenTix® 940-3, optical sensor
FDO® 925-3, digital conductivity cell TetraCon® 925-3), QSC Kit, buffers 4 and 7, conductivity standard, stand, beaker,
CD-ROM, batteries, cables, power supply, arming SM Pro
Multi 3630 SET KS2: Single meter in a carrying case, with QSC Kit, buffers 4 and 7, conductivity standard, stand,
beaker, CD-ROM, batteries, cables, power supply, arming SM Pro

Type	Description	PK	Cat. No.
Multi 3630	3 channels, meter only	1	**6.283 309**
Multi 3630 SET F	3 channels, with SenTix® 940, TetraCon® 925, FDO® 925	1	**6.282 980**
Multi 3630 SET G	3 channels, SenTix® 940-3, FDO® 925-3, TetraCon® 925-3	1	**6.283 709**
Multi 3630 SET KS2	3 channels, meter only, armor SM Pro	1	**6.283 615**

2   Multiparameter meters MultiLine® 3620 IDS

Multi 3620 IDS: Single meter in a carrying case with Quick Start Guide, CD-ROM and   *WTW®*
batteries, driver software for USB, cable, power supply
Multi 3620 IDS SET C: Meter in a carrying case with IDS sensors (digital pH sensor SenTix® 940, digital conductivity
cell TetraCon® 925), QSC Kit, buffer 4 and 7, conductivity standard, stand, beaker, CD-ROM, batteries, cables, power
supply, arming SM Pro
Multi 3620 IDS SET G: Meter in a large carrying case with IDS sensors (digital pH sensor SenTix® 940-3, optical
sensor FDO® 925-3, digital conductivity cell TetraCon® 925-3), QSC Kit, stand, beaker buffer 4 and 7, conductivity
standard, CD-ROM, batteries, cable, power supply , arming SM Pro

Type	Description	PK	Cat. No.
Multi 3620	2 channels, meter only	1	**6.282 919**
Multi 3620 SET C	2 channels, with SenTix® 940, TetraCon® 925	1	**6.270 419**
Multi 3620 SET G	2 channels, with SenTix® 940, FDO® 925-3, TetraCon® 925-3	1	**6.283 708**

3   Multiparameter meters MultiLine® 3510 IDS

Multi 3510 IDS: Single meter in a carrying case with buffer 4, 7, KCl 3 mol/l,   *WTW®*
conductivity standard, batteries, USB cable
Multi 3510 SET 1: Meter in a carrying case with pH electrode SenTix® 940, buffer 4, 7, KCl 3 mol/l,
conductivity standard, batteries, USB cable
Multi 3510 SET 3: Meter in a carrying case with conductivity sensor TetraCon® 925,
conductivity standard, batteries, USB cable
Multi 3510 IDS SET 4: Meter in a carrying case with optical sensor FDO® 925, batteries, USB cable
Multi 3510 SET KS1: Single meter in a carrying case with buffer 4, 7, KCl 3 mol/l, conductivity standard, batteries,
USB cable, arming SM Pro

Type	Description	PK	Cat. No.
Multi 3510	1 channel, meter only	1	**6.282 979**
Multi 3510 SET U	1 channel, meter only, armor SM Pro	1	**6.283 706**
Multi 3510 SET 1	1 channel, SenTix® 940	1	**6.282 978**
Multi 3510 SET 3	1 channel, TetraCon® 925	1	**6.283 710**
Multi 3510 SET 4	1 channel, with FDO® 925	1	**6.270 393**

1

Wireless module MultiLine® IDS WLM-S

Wireless measurement of pH/Redox, conductivity, dissolved oxygen and turbidity.
- Bluetooth® LE
- Universal plug head
- Opening for electrolyte solution refilling (only pH electrodes with liquid electrolyte)
- Signal LED (RGB)

WTW®

Suitable for IDS portable meters MultiLine® Multi 3630 IDS/3620 IDS/3510 IDS, as well as for IDS laboratory meters inoLab® Multi 9630 IDS/9620 IDS/9310 IDS.

6.283 612

Specifications

Range:	About 10 m
Continuous operating times	
IDS pH/ORP electrodes:	60 h
IDS Conductivity cells:	30 h (conductivity up to 1 S)
IDS Oxygen sensor:	9 h
IDS Turbidity sensor:	5 h
Protection class:	IP43
Power supply:	Re-chargeable LiPo battery 230mAh

Type	Description	PK	Cat. No.
Wireless module IDS WLM-S	for plug head sensor	1	**6.283 617**
Wireless module IDS WLM KIT	incl. USB-Charger, USB-Power supply	1	**6.283 612** 1
WLM-Charger	USB-Charger, cascadable	1	**6.283 618**

2

2 Laboratory instrument inoLab® Multi 9310 IDS

Intelligent, digital IDS sensors promotes the inoLab® Multi 9310 IDS to a perfect all-rounder. The universal digital input is ready for all available laboratory IDS sensors.
No matter whether pH, conductivity or dissolved oxygen, when plugged into a suitable sensor the inoLab® Multi 9310 becomes either a pH, conductivity or dissolved oxygen meter. An integrated thermal printer (58mm width) is ready for printout of the measured data (option). Includes meter, power supply, stand and USB cable. The inoLab® Multi 9310 IDS is wireless ready.

WTW®

Specifications

Display:	backlit graphic LCD
Memory:	manual: 500/automatic: 5000
Logger:	manual/time controlled
Interface:	Mini USB-B
Power supply:	Universal power supply, 100 to 240 V, 50/60 Hz

Type	Description	PK	Cat. No.
Multi 9310	Single instrument	1	**9.920 120**
Multi 9310 Set 1	Incl. SenTix® 940	1	**9.920 121**
Multi 9310 Set 2	Incl. SenTix® 980	1	**9.920 122**
Multi 9310 Set 3	Incl. TetraCon®925	1	**9.920 123**
Multi 9310 Set 4	Incl. FDO® 925	1	**9.920 124**
Multi 9310 Set C	Incl. SenTix® 940, TetraCon® 925	1	**9.920 125**
Multi 9310P*	Single instrument	1	**9.920 127**

*Meter with integrated printer

pH/conductivity meters SevenCompact™ Duo S213

Compact, universal dual-channel meter for measuring pH and conductivity as well as resistivity, salinity and TDS.

Mettler-Toledo Online

- Suitable for digital and analogue sensors
- Quick and easy calibration with up to 5 calibration points
- Automatic temperature compensation
- Memory for 2000 values
- Large TFT colour display
- Robust construction
- Intuitive, simple operation

Scope of supply:
S213 Meter: Device incl. electrode holder, power adapter, protective cover, operating instructions, declaration of conformity and calibration certificate
S213 Standard kit: Same as S213 meter, additionally with InLab® Expert Pro-ISM pH sensor and InLab® 731 ISM conductivity sensor, 2 bags each of buffer pH 4.01, 7.00, 9.21, and 10.01, 2 bags each of conductivity standards 1413 µS/cm and 12.88 mS/cm
S213 Water Kit: Same as S213 meter, additionally with InLab® Pure Pro ISM pH sensor and InLab® 741 ISM conductivity sensor, 2 bags each of buffer pH 4.01, 7.00, 9.21 and 10.01, 2 each of conductivity standard 1413 µS/cm

6.284 460

6.284 461

6.284 462

Specifications	Measuring range // Resolution // Accuracy
Temperature range:	-5/-30.0 ... 130 °C // 0.1 °C // ±0.1 °C
pH:	0 ... 14 // 0.001/0.01/0.1 // ±0.002
mV:	-2000 ... 2000 mV // 0.1/1 // ±0.1 mV (-1000 ... 1000); ±0.2 mV (>1000 mV)
Conductivity:	0.001 µS/cm ... 1000 mS/cm // 0.001 ... 1 // ±0.5 %
Resistivity:	0.00 ... 100.0 MΩ x cm // 0.00 ... 1.0 // ±0.5 %
Salinity:	0.00 ... 80.00 psu/ppt // 0.00 ... 1.0 // ±0.5 %
TDS:	0.00 mg/l ... 1000 g/l // 0.01 ... 1 // ±0.5 %
Outputs:	RS232, USB-A/-B
Dimensions (W x D x H):	204 x 174 x 74 mm
Weight:	890 g
IP code:	IP 54

Type	PK	Cat. No.	
SevenCompact™ Duo S213-Meter	1	6.284 460	1
SevenCompact™ Duo S213-Standard Kit	1	6.284 461	2
SevenCompact™ Duo S213-Water Kit	1	6.284 462	3

4 pH/mV, Conductivity, Oxygen meter, SevenExcellence™ S479

Triple channel instrument with pH/mV, conductivity and DO/BOD expansion units.

Mettler-Toledo Online

S479-Kit: Includes instrument, pH/mV, conductivity and DO/BOD expansion units, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate. Included kit sensors: InLab® Expert Pro-ISM, InLab® 731-ISM and InLab® OptiOx™.

Type	PK	Cat. No.
S479-Kit	1	6.284 512

5 pH/Ion, Conductivity, Oxygen meter, SevenExcellence™ S975-uMix

Triple channel instrument with pH/Ion, DO/BOD and conductivity expansion units

Mettler-Toledo Online

S975-uMix (kit): Includes instrument, pH/Ion, DO/BOD and conductivity expansion units, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate. Also includes the uMix™ magnetic stirrer. Kit includes the following sensors: InLab® Expert Pro-ISM, InLab® 731-ISM and InLab® OptiOx.

Type	PK	Cat. No.
S975-uMix	1	6.282 736

1

1   Hanging Scales HDB-N

Convenient for hanging loads.   *Kern & Sohn*
- Ideal for quick checking in goods receiving and shipping, also suitable for cases.
- Data hold function: For easy reading of the weight, the display can be "frozen" in different ways.
  Either automatically when the weighing value remains unchanged or manually by pressing the Hold key
- Hook (stainless steel), can be hinged
- Batteries included, 2 x 1.5 V AAA, operating time approx. 180 h, AUTOOFF function to preserve the battery
  (can be switched off)

Type	Dimensions (W x D x H)	Capacity	Readability	Weight	PK	Cat. No.
	mm	kg	g	g		
HDB 5K5N	72 x 25 x 105	5	5	200	1	**6.231 173**
HDB 10K10N	72 x 25 x 105	10	10	450	1	**7.633 920**
HDB 30K-2XL	107 x 25 x 101	30	20	200	1	**4.660 770**
HDB 10K-2XL	107 x 25 x 101	15	10	200	1	**4.660 771**
HDB 6K-3XL	107 x 25 x 101	6	5	200	1	**4.660 772**

2

2   Pocket balances TGC

NEW

Slim pocket balance with large stainless steel weighing plate and practical tare pan.   *Kern & Sohn*

- High-resolution
- Particularly rapid reaction and stabilisation time
- Cover made of shock proof plastic, can also be used as a weighing pan
- Stainless steel weighing plate
- LCD display

Specifications

Total dimension (W x D x H):	100 x 130 x 18 mm
Weight:	200 g
Temperatur range:	0 ... 40°C
Power supply:	Batteries 2 x CR2032
Operating time:	33 h

Type	Capacity	Readability	Plate diam.		PK	Cat. No.
	g	g	mm			
TGC 150-2	150	0.01	81		1	**4.671 678**
TGC 500-1	500	0.1	81		1	**4.671 679**
TGC 1K-3	1000	1.0	81		1	**4.671 680**

3

3   Precision balances Type EMB

The Precision balances EMB are entry-level devices in the field of laboratory balances.   *Kern & Sohn*
They can be stacked with a stack frame (optionally available) and can also be operated
by battery, as an alternative to mains power, which means that they have the flexibility to be used in different locations.

- Simple and convenient 2-key operation
- Tare function facilitates formulation work
- Flat design
- Batteries included
- EMB 100-3 with ring-shaped draught shield
- Hook for underfloor weighing
- Large LCD display
- AUTO-OFF function after 3 min

Dimensions (W x D x H):	170 x 240 x 39 mm
EMB 100-3/EMB1000-2:	170 x 240 x 54 mm
Net weight:	approx. 750 g

Type	Capacity	Readability	Reproduci-bility	Linearity	Plate diam.		PK	Cat. No.
	g	g	g	± g	mm			
EMB 100-3	100	0.001	0.001	0.005	82		1	**6.238 426**
EMB 200-3	200	0.001	0.001	0.005	82		1	**7.655 256**
EMB 200-2	200	0.01	0.01	0.02	105		1	**9.901 320**
EMB 600-2	600	0.01	0.01	0.03	105		1	**9.901 321**
EMB 1000-2	1000	0.01	0.01	0.05	150		1	**6.235 728**
EMB 2000-2	2000	0.01	0.01	0.05	150		1	**7.670 022**
EMB 500-1	500	0.1	0.1	0.2	150		1	**9.901 322**
EMB 1200-1	1200	0.1	0.1	0.3	150		1	**9.901 323**
EMB 3000-1	3000	0.1	0.1	0.3	150		1	**6.258 933**
EMB 6000-1	6000	0.1	0.1	0.3	150		1	**6.254 494**
EMB 2200-0	2200	1.0	1.0	2.0	150		1	**9.901 371**
EMB 5.2K1	5200	1.0	1.0	3.0	150		1	**9.901 324**
EMB 5.2 K 5	5200	5.0	5.0	10.0	150		1	**9.901 372**

1　Precision balance EHA

NEW

The compact all-round model for laboratory, industry and teaching.

Kern & Sohn

- High precision
- Large, shock proof weighing plate made from stainless steel
- Particularly flat design
- Simple and convenient 5-key operation
- Level indicator and levelling feet as standard
- Adjusting program CAL for quick setting of the balance accuracy
- Battery operation
- Universal mains adapter EU, GB

Type	Capacity	Readability	Reproduci-bility	Linearity	Plate dimensions	PK	Cat. No.
	g	g	g	± g	mm		
EHA 500-2	500	0.01	0.03	0.02	Ø 105	1	**4.671 682**
EHA 500-1	500	0.1	0.3	0.2	Ø 105	1	**4.671 681**
EHA 3000-1	3000	0.1	0.3	0.3	120 x 120	1	**4.671 684**
EHA 3000-0	3000	1	3	2	120 x 120	1	**4.671 683**

2　Compact balances Compass™ CX

Balance series with high battery life for daily weighing tasks. With a large weighing platform for a variety of mobile weighing applications in laboratories, industry and education.

OHAUS

- Battery life up to 1000 hours in continuous operation
- Backlit LCD display, digit height 18 mm
- Easy and convenient 2-button operation
- ABS housing and stainless steel weighing platform with non-slip feet

Scope of delivery: Balance incl. 3 AA batteries included.

Please order power adapter separately.

Dimensions (W x D x H):	135 x 201 x 41 mm
Dimensions plate (W x D):	128 x 142 mm
Weight:	500 g

Type	Capacity	Readability	PK	Cat. No.
	g	g		
CX221	220	0.1	1	**6.275 393**
CX621	620	0.1	1	**6.275 416**
CX1201	1200	0.1	1	**6.275 417**
CX2200	2200	1.0	1	**6.275 418**
CX5200	5200	1.0	1	**6.275 419**

3　Compact balances Compass™ CR

Economic balance series for basic weighing. With a large weighing platform for a variety of mobile weighing applications in laboratories, industry and education.

OHAUS

- Battery life up to 300 hours in continuous operation
- Backlit LCD display, digit height 15 mm
- Easy and convenient 2-button operation
- ABS housing and weighing platform with non-slip feet

Scope of supply: Balance incl. 3 AA batteries included.

Please order power adapter separately.

Dimensions (W x D x H):	140 x 205 x 41 mm
Dimensions plate (W x D):	125 x 132 mm
Weight:	400 g

Type	Capacity	Readability	PK	Cat. No.
	g	g		
CR221	220	0.1	1	**6.275 420**
CR621	620	0.1	1	**6.275 421**
CR2200	2200	1.0	1	**6.275 422**
CR5200	5200	1.0	1	**6.275 423**

Suitable accessories can be found in our online shop.

Balances/Pocket balances

1

6.281 350

2

6.281 354

Portable Balances, Scout® SKX

OHAUS

- Superior overload protection and practical stackable design for convenient storage
- Bright backlit LCD and 4 button operation make the new scout easy to see and use
- Multiple connectivity options are available for data logging and communication
- Fast weighing speed and high resolution delivers repeatable and reliable results
- Application: Weighing, density determination, mole weighing
- Display: Backlit LCD: 6-digit 7-segment with white LED backlight
- Operation: AC adapter (included), batteries (not included)
- Communication: Optional RS232, USB host, USB device, Bluetooth or Ethernet
- Construction: ABS housing, stainless steel pan, replaceable in-use cover
- Design Features: Fast stabilization time, menu lock switch, stackable design, security slot, integral weigh below hook for below balance weighing applications, transportation lock, removable stainless steel weighing platform, stability indicator, overload and underload indicators, low battery indicator, auto shut-off

Type	Plate dimensions		Capacity	Readability		PK	Cat. No.
	mm		g	g			
SKX123	diam. 93		120	0.001		1	**6.281 344**
SKX222	diam.120		220	0.01		1	**6.281 345**
SKX422	diam. 120		420	0.01		1	**6.281 346**
SKX622	diam. 120		620	0.01		1	**6.281 347**
SKX1202	170 x 140		1200	0.01		1	**6.281 348**
SKX2202	170 x 140		2200	0.01		1	**6.281 349**
SKX421	diam. 120		420	0.1		1	**6.281 350** 1
SKX621	170 x 140		620	0.1		1	**6.281 351**
SKX2201	170 x 140		2200	0.1		1	**6.281 352**
SKX6201	170 x 140		6200	0.1		1	**6.281 353**
SKX8200	170 x 140		8200	1		1	**6.281 354** 2

3

6.281 362

4

6.281 366

Portable Balances, Scout® STX

OHAUS

- Navigate quickly and efficiently using the informative color touchscreen display
- Fast weighing speed and high resolution deliver repeatable and reliable results
- Superior overload protection and stackable storage drive overall durability
- Multiple weighing modes and languages for simplified weighing
- Application: Weighing, percent weighing, parts counting, check weighing, dynamic/animal weighing, totalization, density determination, display hold, mole weighing
- Display: Full-color touchscreen WQVGA graphic LCD (4.3" diagonal), QWERTY keyboard and numeric keypad to quickly input GLP and GMP data and other application data
- Operation: AC adapter (Included), batteries (not included)
- Communication: Optional RS232, USB host, USB device, Bluetooth or Ethernet
- Construction: ABS housing, stainless steel pan, replaceable in-use cover
- Design Features: Fast stabilization time, up-front level indicator, up to 9 operating languages, save-to-USB function, menu lock switch, stackable design, security slot, integral weigh below hook for below balance weighing applications, transportation lock, removable stainless steel weighing platform, stability indicator, overload and underload indicators, low battery indicator, auto shut-off

Type	Plate dimensions		Capacity	Readability		PK	Cat. No.
	mm		g	g			
STX123	diam. 93		120	0.001		1	**6.281 355**
STX223	diam. 93		220	0.001		1	**6.281 356**
STX222	diam. 120		220	0.01		1	**6.281 357**
STX422	diam. 120		420	0.01		1	**6.281 358**
STX622	diam. 120		620	0.01		1	**6.281 359**
STX1202	170 x 140		1200	0.01		1	**6.281 360**
STX2202	170 x 140		2200	0.01		1	**6.281 361**
STX421	diam. 120		420	0.1		1	**6.281 362** 3
STX621	170 x 140		620	0.1		1	**6.281 363**
STX2201	170 x 140		2200	0.1		1	**6.281 364**
STX6201	170 x 140		6200	0.1		1	**6.281 365**
STX8200	170 x 140		8200	1		1	**6.281 366** 4

Suitable accessories can be found in our online shop.

www.wenk-labtec.com

Portable Balances Navigator™

The rugged and multifunctional Navigator™ is a powerful balance for essential weighing applications as weighing, parts counting, percent weighing and checkweighing, providing high accuracy and repeatability for laboratory, industry and education.

OHAUS

- Backlit LCD display, digit size 20 mm
- 4 quick keys for easy operation of multiple weighing modes
- User-selectable external span calibration or linearity calibration, digital with external weight
- ABS housing with stainless steel weighing plate
- Stability indicator and low-battery indicator
- Optional RS232, USB or Ethernet interfaces

Please note:
Models with type suffix M are approved devices according to EN 45501 Class III

Scope of supply: Balance, mains adapter

4.668 242

4.668 245

Type	Capacity	Readability	Plate dimensions	Dimensions (W x D x H)	Weight	PK	Cat. No.
	g	g	mm	mm	kg		
NV222	220	0.01	Ø 145	204 x 230 x 70	1.0	1	**4.668 242** 1
NV422	420	0.01	Ø 145	204 x 230 x 70	1.0	1	**4.668 243**
NV622	620	0.01	Ø 145	204 x 230 x 70	1.0	1	**4.668 244**
NV221	220	0.1	190 x 144	204 x 230 x 70	1.0	1	**4.668 245** 2
NV621	620	0.1	190 x 144	204 x 230 x 70	1.0	1	**4.667 893**
NV1201	1200	0.1	190 x 144	204 x 230 x 70	1.0	1	**4.668 246**
NV2201	2200	0.1	190 x 144	204 x 230 x 70	1.0	1	**4.668 247**
NVT2201	2200	0.1	230 x 174	240 x 250 x 74	1.5	1	**4.668 248**
NVT4201	4200	0.1	230 x 174	240 x 250 x 74	1.5	1	**4.668 249**
NVT6201	6200	0.1	230 x 174	240 x 250 x 74	1.5	1	**4.668 251**
NVT2200	2200	1.0	230 x 174	240 x 250 x 74	1.5	1	**4.668 250**
NVT6200	6200	1.0	230 x 174	240 x 250 x 74	1.5	1	**4.668 252**
NVT12000	12000	1.0	230 x 174	240 x 250 x 74	1.5	1	**4.668 253**
NVT22000	22000	1.0	230 x 174	240 x 250 x 74	1.5	1	**6.275 499**
NVT1601M	1600	0.5	230 x 174	240 x 250 x 74	1.5	1	**4.668 254**
NVT3200M	3200	1.0	230 x 174	240 x 250 x 74	1.5	1	**4.668 255**
NVT6400M	6400	2.0	230 x 174	240 x 250 x 74	1.5	1	**4.668 256**
NVT16000M	16000	5.0	230 x 174	240 x 250 x 74	1.5	1	**4.668 259**

3 4 Digital weighing platforms KDP

Kern & Sohn

Universal weighing platforms for flexible connection into process chains. All recorded values can be transferred to the system as digital data using the available interfaces and processed further.
Searching and remote control of the balance using external control devices or computers with the KERN Communication Protocol (KCP). KCP is a standardised interface command structure for KERN balances and other instruments which allows you to recall and manage all relevant parameters and device functions. You can therefore simply connect KERN devices with KCP to computers, industrial control systems and other digital systems. In a large number of cases the KCP is compatible with the MT-SICS protocol. DAkkS calibration certificate optionally available.

- PRE-TARE function
- Freely programmable weighing unit
- Level indicator and levelling feet

Scope of supply: Digital weighing platform KDP, Software balance connection, universal mains adapter (EU, GB, CH, USA), KDP 300-3 additionally with draught shield

Specifications
Overall dimensions (W x D x H):	165 x 166 x 75 mm
Cable length:	1.2 m
Weight:	1.2 kg
Permissible ambient temperature range:	5 ... 35 °C
Material weighing plate:	
KPD 300-3	plastic, with conductive lacquer
KDP 3000-2, KDP 10K-4, KDP 10K-3	stainless steel
Data interface:	USB

Type	Weighing range	Readability	Reproducibility	Linearity	Plate dimensions	PK	Cat. No.
	g	g	g	± g	mm		
KDP 300-3	350	0.001	0.002	0.005	Ø 105	1	**4.671 671**
KDP 3000-2	3500	0.01	0.02	0.05	160 x 160	1	**4.671 672**
KDP 10K-4	10000	0.1	0.1	0.3	160 x 160	1	**4.671 673**
KDP 10K-3	10000	1	1	3	160 x 160	1	**4.671 674**

1

4.672 673

2
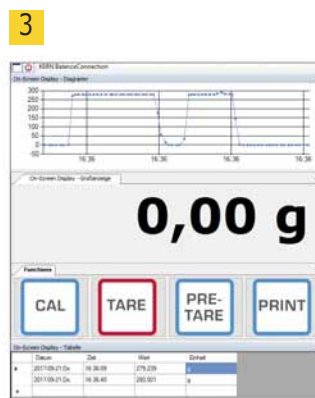
4.672 674

Compact Balances EK-AEP, Ex-protected

NEW

A&D Inst.

Compact, lightweight balance for precise weighing in potentially explosive atmospheres (zones 0, 1 and 2). Equipped with an optical data output for transferring measuring results to device in a distant, safe area.
- Easy-to-read backlit LCD display, digit size 16 mm
- Hygienic and chemically resistant stainless steel (SUS304) weighing pan
- Comparator function for faster and more accurate filling, packing, sorting, etc
- Adjustable response characteristics depending on the degree of drafts and vibrations at the location
- Multiple weighing units: g, oz, lb, ozt, ct, mom, dwt, gr, N, in addition to pcs (counting mode), % (percent mode), SG (specific gravity)
- Battery operation (4 x AA alkaline batteries 1.5 V, approx. 250 hours)
- Auto power OFF function

Please order fibre optic cable and optical communication interface AD-1611 separately.

Type	Capacity	Readability	Plate dimensions	Dimensions (W x D x H)	Net weight	PK	Cat. No.
	g	g	mm	mm	kg		
EK-300AEP	300	0.01	Ø 110	190 x 218 x 54	1.2	1	**4.672 673** 1
EK-3000AEP	3000	0.1	133 x 170	190 x 218 x 53	1.5	1	**4.672 674** 2
EK-12AEP	12000	1.0	133 x 170	190 x 218 x 53	1.5	1	**4.672 675**

Precision balance Type PCB

Kern & Sohn

Compact scale for your laboratory. Due to the Recipe and piece counting function, as well as the grand precision this scale is perfect for the daily use in the Laboratory.
- Protective working cover over keyboard and housing is enclosed o standard.
- Modern, backlit LCD display, digit height 15 mm
- Optional battery operation, 9V Block, not included.
- AUTO-OFF funktion to preserve the battery, can be switched off
- Stainless steel weighing plate, the models PCB 100-3, PCB 250-3 and PCB 350-3 has a plastic weighing plate

Overall (W x D x H):   163 x 245 x 85mm
Weight: approx. 1kg

Type	Plate dimensions	Capacity	Readability	Reproduci-bility	Linearity		PK	Cat. No.
	mm	g	g	g	± g			
PCB 100-3	Ø 81	100	0.001	0.001	0.003		1	**7.619 757** 3
PCB 250-3	Ø 81	250	0.001	0.001	0.005		1	**6.238 044**
PCB 350-3	Ø 81	350	0.001	0,002	0.005		1	**6.241 856**
PCB 200-2	Ø 105	200	0.01	0.01	0.02		1	**7.635 868** 4
PCB 1000-2	130 x 130	1000	0.01	0.01	0.03		1	**6.228 513**
PCB 2500-2	130 x 130	2500	0.01	0.01	0.05		1	**6.235 556**
PCB 3500-2	130 x 130	3500	0.01	0.02	0.05		1	**6.240 408**
PCB 1000-1	130 x 130	1000	0.1	0.1	0.2		1	**6.235 098** 5
PCB 2000-1	130 x 130	2000	0.1	0.1	0.2		1	**6.229 399**
PCB 6000-1	150 x 170	6000	0.1	0.1	0.3		1	**6.231 685** 6
PCB 10000-1	150 x 170	10000	0.1	0.1	0.3		1	**7.625 237**
PCB 6000-0	150 x 170	6000	1	1	2		1	**9.901 300**

3

7.619 757

4

7.635 868

5

6.235 098

6

6.231 685

1 Precision balance KB

Convenience model at an economical price   *Kern & Sohn*

- User guidance step by step in the display
- Freely programmable weighing units, e.g. display directly in special units such as the length of thread g/m,
  paper weight g/m², or similar
- Precise counting. The automatic reference optimization gradually improves the average value of the piece weighing
- Numerical tare deduction for container weighing. Useful when checking loads
- Ring-shaped draft shield standard, 90 x 40mm dia. x ht. for models with readability d = 0.001g

Also available with DKD certified calibration weight, thermal printer, statistics printer at additional cost.

Type	Capacity	Readability	Reproduci-bility	Linearity	Plate dimensions		PK	Cat. No.
	g	g	g	± g	mm			
KB 120-3N	120	0,001	0,001	0,003	Ø 81		1	**6.234 511**
KB 240-3N	240	0,001	0,001	0,003	Ø 81		1	**6.235 214**
KB 360-3N	360	0,001	0,002	0,005	Ø 81		1	**9.901 402**
KB 650-2N	650	0,01	0,01	0,03	130 x 130		1	**4.671 690**
KB 1200-2N	1200	0,01	0,01	0,03	130 x 130		1	**6.233 613**
KB 2000-2N	2000	0,01	0,01	0,03	130 x 130		1	**6.231 607**
KB 2400-2N	2400	0,01	0,01	0,03	130 x 130		1	**9.901 403**
KB 3600-2N	3600	0,01	0,02	0,05	130 x 130		1	**9.901 404**
KB 6500-1N	6500	0,1	0,1	0,3	150 x 170		1	**6.291 473**
KB 10K0.05N	10000	0,05	0,05	0,15	150 x 170		1	**9.901 405**
KB 10000-1N	10000	0,1	0,1	0,3	150 x 170		1	**9.901 406**

Precision balance EWJ

Verifiable entry level model in the upper laboratory class   *Kern & Sohn*

- Concept of easy use: All primary functions have their own key on the keypad
- Automatic internal adjustment time-controlled every 2 hours. Guarantees high degree of accuracy
  and makes the location irrelevant
- Compact size, practical for small spaces
- Capacity display: A bar lights up to show how much of the weighing range is still available
- RS-232 and USB interfaces for transferring weighing data to the PC, printer,
  USB sticks etc. Excluded the -SM   Models.

EWJ 300-3/EWJ 600-2SM/EWJ 600-2M: Draft shield with removable cover and opening for using a pipette,
with a weighing chamber of (W x D x H) 134 x 128 x 80 mm
EWJ 300-3H: Large glass draft shield with a weighing chamber (W x D x H) 175 x 155 x 217 mm

9.900 938

Type	Plate dimensions	Weighing range	Readability	Linearity	PK	Cat. No.
	mm	g	g	± g		
EWJ 300-3	Ø 80	300	0.001	0.005	1	**9.900 938** 2
EWJ 300-3H	Ø 80	300	0.001	0.005	1	**6.287 029**
EWJ 3000-2	Ø 120	3000	0.01	0.05	1	**6.283 420**

Balances, electronic, compact, 440 series

With features including formulation, piece counting programmes and high accuracy these   *Kern & Sohn*
balances are ideal for routine laboratory tasks. Safety cover for keyboard and housing
standard. Calibration adjustment programme maintains accuracy. LCD display with digit height 15 mm.
Can be battery operated (9 V Block). With stainless steel balance platform, except 440-21A.

Overall (W x D x H):	165 x 230 x 80mm
Weight:	approx. 1kg
Power supply:	100-240V, 50/60Hz

9.901 348

Type	Plate dimensions	Capacity	Readability	Reproduci-bility	Linearity		PK	Cat. No.
	mm	g	g	g	± g			
440-21A	81 dia.	60	0.001	0.001	0.003		1	**9.901 340**
440-33N	105 dia.	200	0.01	0.01	0.02		1	**9.901 348** 3
440-35N	105 dia.	400	0.01	0.01	0.03		1	**9.901 349**
440-35A	105 dia.	600	0.01	0.01	0.03		1	**9.901 341**
440-43N	130 x 130	400	0.1	0.1	0.2		1	**9.901 344** 4
440-45N	130 x 130	1000	0.1	0.1	0.2		1	**9.901 346**
440-47N	130 x 130	2000	0.1	0.1	0.2		1	**9.901 347**
440-49N	170 x 150	4000	0.1	0.1	0.3		1	**9.901 343**
440-49A	170 x 150	6000	0.1	0.1	0.3		1	**9.901 342**
440-51N	170 x 150	4000	1.0	1.0	2.0		1	**9.901 345**
440-53N	170 x 150	6000	1.0	1.0	2.0		1	**9.901 350**

9.901 344

1

9.901 011

Precision balances type EW-N and EG-N

Kern & Sohn

High quality laboratory balances, housed in a robust and stable plastic casing. With bar graph capacity display which shows the current available weighing range remaining. Fitted with protective working cover for casing and keyboard. Suitable for EC verification (only EG-N models, factory option at additional cost - details on request). Convenient, internal automatic calibration (only type EG-N) as well as extensive configuration and a menu of applications. Draught shield supplied with all 0.001g readability models. Additionally supplied with parts counting facility, percentage weighing function, flush-mounted platform. Optional available: Thermal printer, statistics printer, internal Akku-Pack, DKD calibration certificate for balance and optional test weight.

Type	Plate dimensions	External dimensions (W x D x H)	Capacity	Readability	Reproduci-bility	Linearity		PK	Cat. No.
	mm	mm	g	g	g	± g			
EW220-3NM	Ø 118	182 x 235 x 75	220	0.001	0.001	0.002		1	**9.901 007**
EW420-3NM	Ø 118	182 x 235 x 75	420	0.001	0.001	0.003		1	**9.901 008**
EW620-3NM	Ø 118	182 x 235 x 75	620	0.001	0.001	0.003		1	**9.901 009**
EW820-2NM	170 x 140	182 x 235 x 75	820	0.01	0.01	0.01		1	**9.901 010**
EW2200-2NM	180 x 160	192 x 275 x 87	2200	0.01	0.01	0.01		1	**9.901 011** [1]
EW4200-2NM	180 x 160	192 x 275 x 87	4200	0.01	0.01	0.02		1	**9.901 012**
EW6200-2NM	180 x 160	192 x 275 x 87	6200	0.01	0.01	0.03		1	**9.901 013**
EW12000-1NM	180 x 160	192 x 275 x 87	12000	0.1	0.1	0.2		1	**9.901 014**
EG220-3NM*	Ø 118	182 x 235 x 75	220	0.001	0.001	0.002		1	**9.901 018**
EG420-3NM*	Ø 118	182 x 235 x 75	420	0.001	0.001	0.003		1	**9.901 019**
EG620-3NM*	Ø 118	182 x 235 x 75	620	0.001	0.001	0.004		1	**9.901 015**
EG2200-2NM*	180 x 160	192 x 275 x 87	2200	0.01	0.01	0.01		1	**9.901 016**
EG4200-2NM*	180 x 160	192 x 275 x 87	4200	0.01	0.01	0.02		1	**9.901 017**

*calibratable
Outer dimensions without wind shield.

2   **3**

6.072 474   6.223 158

Printers for KERN ® balances

Kern & Sohn

For printing weights. Compatible for all balances with RS232 interface. Please state your balance model when ordering, so that the printer can be preconfigured in the factory to suit your balance.
Matrix needle printer for archiving: Not suitable for the PNS/PNJ and PES/PEJ models
Thermal printer with statistics functions: Not suitable for counting scales, EWJ models, PFB models and moisture analyzers

Description	Width	Depth	Height	Width paper strip		PK	Cat. No.
	mm	mm	mm	mm			
Matrix needle printer for archiving	100	180	106	57		1	**6.072 474** [2]
Matrix needle printer	106	158	40	44		1	**7.659 886**
Thermal printer, GLP capable	165	140	50	112		1	**6.223 158** [3]
Thermal printer with statistics functions	165	140	50	112		1	**6.255 389**

4

6.270 591

5

7.643 634

Precision balance PNS/PNJ

Kern & Sohn

With robust tuning fork weighing system for fast display of the weight value, accurate dosing and high mechanical load capacity.

- PNJ models with internal calibration function and guaranteed high accuracy, thus location-independent and ideal for mobile applications which require verification
- PNS models with external calibration function
- Capacity display: A bar lights up to show how much of the weighing range is still available
- Accurate counting: The automatic reference optimization gradually improves the average value of the part weight
- Compact dimensions, advantageous when space is limited
- Stainless steel weighing plate
- Models 600-3 and 600-3M have a large removable glass draft shield and a weighing chamber measuring (W x D x H) 172 x 171 x 160 mm.
- Large LCD display, digit height 16.5 mm
- Permissible ambient temperature range: 5 to 40 °C

Type	Plate dimensions	External dimensions (W x D x H)	Capacity	Readability	Reproduci-bility	Linearity	Weight	PK	Cat. No.
	mm	mm	g	g	g	± g	kg		
PNS 600-3	Ø 140	202 x 293 x 266	620	0.001	0.001	0.004	4.2	1	**6.281 583**
PNS 3000-2	190 x 190	196 x 293 x 89	3200	0.01	0.01	0.02	3.5	1	**6.284 227**
PNS 12000-1	190 x 190	196 x 293 x 89	12000	0.1	0.1	0.2	3.5	1	**6.284 228**
PNJ 600-3M*	Ø 140	202 x 293 x 266	620	0.001	0.001	0.004	4.2	1	**6.270 591** [4]
PNJ 3000-2M*	190 x 190	196 x 293 x 89	3200	0.01	0.01	0.02	3.5	1	**7.643 634** [5]
PNJ 12000-1M*	190 x 190	196 x 293 x 89	12000	0.1	0.1	0.2	3.5	1	**7.644 987**

*calibratable

1   Precision balances PR

The precision balances PR combine the basic weighing functions, weighing, piece counting and percent weighing with competitive performance, providing high accuracy and repeatability for laboratory, industrial and educational applications.

OHAUS

- Backlit LCD display
- 4 quick keys for easy operation of multiple weighing modes
- RS 232 interface
- User-selectable span calibration points
- Detachable stainless steel weighing platform
- Integrated weigh-below-hook
- Auto-tare
- Overload, underload and stability indicator

Please note:
Models with extra code /E with external calibration, all other models with internal calibration, models with extra code M are approved instruments according to EN 45501; OIML R76.

Specifications

Permissible ambient temperature:	10 … 30 °C
Weighing plate (Ø):	180 mm
Dimensions (W x D x H):	201 x 317 x 93 mm
Weight:	3.5 kg
Power supply:	100 … 240 V, 50/60 Hz

Type	Weighing range	Readability	Reproduci-bility	Linearity	PK	Cat. No.
	g	g	g	± g		
PR1602	1600	0.01	0.01	0.02	1	**4.668 281**
PR1602/E*	1600	0.01	0.01	0.02	1	**4.668 279**
PR1602M **	1600	0.01	0.01	0.02	1	**4.668 280**
PR2202	2200	0.01	0.01	0.02	1	**4.668 283**
PR2202/E*	2200	0.01	0.01	0.02	1	**4.668 282**
PR2202M **	2200	0.01	0.01	0.02	1	**4.668 284**
PR4202	4200	0.01	0.01	0.02	1	**4.668 286**
PR4202/E*	4200	0.01	0.01	0.02	1	**4.668 285**
PR4202M **	4200	0.01	0.01	0.02	1	**4.668 287**
PR4201	4200	0.1	0.1	0.2	1	**4.668 289**
PR4201/E*	4200	0.1	0.1	0.2	1	**4.668 288**
PR4201M **	4200	0.1	0.1	0.2	1	**4.668 290**
PR6201	6200	0.1	0.1	0.2	1	**4.668 292**
PR6201/E*	6200	0.1	0.1	0.2	1	**4.668 291**
PR6201M **	6200	0.1	0.1	0.2	1	**4.668 293**

*external calibration
**approved acc. to EN 45501; OIML R76

2   Precision balances PES/PEJ

Robust laboratory and industrial precision scale for heavy items.

Kern & Sohn

- Only PEJ: Automatic internal adjustment
- Only PES: Adjusting program CAL for quick setting of the balance accuracy, with an external test weight (must be purchased separately)
- Metal housing: robust and sturdy
- Weighing with tolerance range (checkweighing): Input of 2 upper and 2 lower limit values through 4 arrow keys. An audible and visual signal assists with the portioning, dispensing or grading
- Draught shield standard on all models with readout = 0.001 g, weighing space (W x D x H): 170 x 150 x 100 mm. Removable metal cover with pipette opening
- Underfloor weighing: load support with hook on the underside of the balance (only for models with a weighing plate size of 140x120 mm and 200x200 mm)
- Fluorescent display, bright with high contrast, digit height 13 mm
- Permissible ambient temperature: 10 °C/30 °C

Type	Plate dimensions	External dimensions (W x D x H)	Capacity	Readability	Reproduci-bility	Linearity	Weight	PK	Cat. No.
	mm	mm	g	g	g	± g	kg		
PES 620-3M	140 x 120	220 x 330 x 90	620	0.001	0.001	0.003	4	1	**7.651 840**
PES 2200-2M	200 x 200	220 x 339 x 80	2200	0.01	0.01	0.02	6	1	**6.225 841**
PES 4200-2M	200 x 200	220 x 339 x 80	4200	0.01	0.01	0.02	6	1	**6.229 872**
PES 6200-2M	200 x 200	220 x 339 x 80	6200	0.01	0.01	0.03	6	1	**6.236 499**
PES 15000-1M	200 x 200	220 x 339 x 80	15000	0.1	0.1	0.2	6	1	**7.920 074**
PES 31000-1M	250 x 220	260 x 330 x 113	31000	0.1	0.1	0.4	10	1	**6.237 670**
PEJ 620-3M*	140 x 120	220 x 330 x 90	620	0.001	0.001	0.003	4	1	**7.670 597**
PEJ 2200-2M*	200 x 200	220 x 339 x 80	2200	0.01	0.01	0.02	6	1	**7.623 390**
PEJ 4200-2M*	200 x 200	220 x 339 x 80	4200	0.01	0.01	0.02	6	1	**6.235 603**

*calibratable
Outer dimensions without wind shield.

1   Precision balances Pioneer® PX

High-performance, economical balances with high accuracy and repeatability for applications in laboratories, industry and education. For basic weighing, parts counting, percent weighing, dynamic weighing and density determination.

OHAUS

- 2 line, backlit LCD display
- 4 quick keys enable the most common weighing modes
- USB and RS 232 interface for data exchange with PCs and PLCs
- User-selectable span calibration points
- Real time clock with GLP/GMP data
- Cast metal lower housing, removable stainless steel weighing pan
- Integrated weigh-below-hook
- Auto-tare
- Many weighing units selectable, a custom unit can be defined
- Overload, underload and stability indicator
- 4 menu languages

Please note:
Models with extra code /E with external calibration, all other models with internal calibration, models with extra code M are approved instruments according to EN 45501; OIML R76.

Specifications

Permissible ambient temperature:	10 … 30 °C
Weighing plate (Ø):	180 mm
Height in draftshield:	235 mm
Dimensions (W x D x H):	209 x 321 x 98 mm
Weight:	3.5 kg
Power supply:	100 … 240 V, 50/60 Hz

Type	Weighing range	Readability	Reproduci-bility	Linearity		PK	Cat. No.
	g	g	g	± g			
PX3202	3200	0.01	0.01	0.02		1	**4.663 339**
PX3202/E*	3200	0.01	0.01	0.02		1	**4.663 338**
PX3202M **	3200	0.01	0.01	0.02		1	**4.663 340**
PX5202	5200	0.01	0.01	0.02		1	**4.663 342**
PX5202/E*	5200	0.01	0.01	0.02		1	**4.663 341**
PX5202M **	5200	0.01	0.01	0.02		1	**4.663 343**
PX4201	4200	0.1	0.1	0.2		1	**4.663 345**
PX4201/E*	4200	0.1	0.1	0.2		1	**4.663 344**
PX4201M **	4200	0.1	0.1	0.2		1	**4.663 346**

*external calibration
**approved acc. to EN 45501; OIML R76

Precision balance Type PLS/PLJ

Kern & Sohn

- ergonomically optimised keypad for left and right-handed users
- ring-shaped glass draught shield standard for all models with a weighing plate size of 110 mm dia. Removable metal cover with pipette opening. Weighing space 150 mm dia., height 60 mm
- The PLJ with a weighing plate size of 110 mm dia. also includes a rectangular draft shield with a weighing chamber of 160 x 140 x 205 mm
- count/weight switchover at the press of a button
- precise counting. The automatic optimisation of reference weight gradually improves the average value of the piece weight. The automatic optimisation of reference weight gradually improves the average value of the piece weight
- weighing with tolerance range Input of an upper/lower limit value. A visual signal assists with portion division, dispensing or grading
- percentage determination makes it possible to store a given weight value (100%) and to determine deviations from this target value in %
- density determination of liquids and solids with immediate display of the density on the display
- pre-Tare function for manual deduction of a known container weight. Useful for checking fill-levels

9.901 444

6.270 252

Type	Plate dimensions	Weighing range	Readability	Reproduci-bility	Linearity		PK	Cat. No.
	mm	g	g	g	± g			
PLS 420-3F	Ø 110	420	0.001	0.001	0,004		1	9.901 442
PLS 720-3A	Ø 110	720	0.001	0.001	0,002		1	9.901 413
PLS 1200-3A	Ø 110	1200	0.001	0.001	0,003		1	9.901 414
PLS 4200-2F	Ø 160	4200	0.01	0.01	0,04		1	9.901 422
PLS 6200-2A	Ø 160	6200	0.01	0.01	0,03		1	9.901 418
PLS 8000-2A	Ø 160	8200	0.01	0.01	0,04		1	9.901 443
PLS 20000-1F	200 x 175	20000	0.1	0.1	0,4		1	9.901 444 [1]
PLJ 420-3F	Ø 110	420	0.001	0.001	0,003		1	6.257 142
PLJ 720-3A	Ø 110	720	0.001	0.001	0,002		1	7.656 106
PLJ 1200-3A	Ø 110	1200	0.001	0.001	0,003		1	7.655 341
PLJ 2000-3A	Ø 110	2100	0.001	0.002	0,004		1	6.270 252 [2]
PLJ 4200-2F	Ø 160	4200	0.01	0.02	0,04		1	7.970 683
PLJ 6200-2A	Ø 160	6200	0.01	0.01	0,03		1	7.627 832
PLJ 720-3AM*	Ø 110	720	0.001	0.001	0,002		1	6.284 455
PLJ 6200-2AM*	Ø 160	6200	0.01	0.01	0,03		1	6.266 315

*calibratable

Precision balance Type PBS/PBJ

Kern & Sohn

- only PBJ: Automatic internal adjustment in case of a change in temperature or time-controlled at defined intervals
- Metal housing: robust and sturdy
- Large backlit, LCD display, digit height 14 mm
- Dosage aid: High-stability mode and other settings can be selected
- Weighing with tolerance range (checkweighting): Input of an upper/lower limit value. A visual signal assists with   portion division, dispensing or grading
- Totalizing of individual weighing results
- Identification number: 4 numeric positions, printed on calibration protocol
- Automatic data output to the PC/printer every time the balance is steady
- Draft shield standard, on all models with readout d = 0.001 g, weighing space (W x D x H): 180 x 193 x 87mm

Single-cell advanced technology:
- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behaviour
- Short stabilisation time: 3 sec
- Shock proof construction
- High corner load performance

Specifications

Overall dimensions, without draft shield (W x D x H):	209 x 322 x 78mm
Dimensions weighing space (W x D x H):	180 x 193 x 87mm
Permissible ambient temperature:	10°C/30°C
Weight:	approx. 3kg

7.657 889

6.245 038

Type	Readability	Capacity	Reproduci-bility	Linearity	Plate dimensions		PK	Cat. No.
	g	g	g	± g	mm			
PBS 620-3M	0,001	620	0,001	0,002	108 x 105		1	7.657 889 [3]
PBS 4200-2M	0,01	4200	0,01	0,02	170 x 180		1	6.255 611
PBS 6200-2M	0,01	6200	0,01	0,02	170 x 180		1	9.901 445
PBJ 620-3M	0,001	620	0,001	0,002	108 x 105		1	7.910 128
PBJ 4200-2M	0,01	4200	0,01	0,02	170 x 180		1	6.245 038 [4]
PBJ 6200-2M	0,01	6200	0,01	0,02	170 x 180		1	6.236 719
PBJ 8200-1M	0,1	8200	0,1	0,2	170 x 180		1	6.257 002

1

1   Precision Balances Adventurer® AX

- Fast stabilization and reliable operation to ensure solid weighing performance and accurate, repeatable results.
- Two USB ports with GLP/GMP tracking capabilities assist the monitoring and reporting of the data.
- The wide viewing angle 4.3" colour touchscreen provides access to all applications.
- Reduced footprint due to two piece, top-mounted draft shield doors
- The 0.01g models feature large weighing pans
- AutoCal™ automatic internal calibration system or traditional external calibration (external calibration models -/E)
- EC Type Approved models available
- Applications: Weighing (17 units + custom unit), parts counting, percentage weighing, check weighing, dynamic weighing, totalization/statistics, formulation, density determination, display hold.
- Display: 4.3" (109 mm) Full-colour VGA graphic touchscreen with user-controlled brightness,
- Operation: Mains operation.
- Communication: RS232, USB Host, USB Device (included). GLP/GMP compliant data output with real-time clock
- Construction: Die-cast metal base, ABS top housing, stainless steel pan, glass draft shield with two piece top mounted side doors and sliding top door (0.1 and 1mg models only), illuminated up-front level indicator, integral weigh below hook, security bracket, calibration lock, full housing in-use cover
- Design features: Two-piece, top mounted, space-saving draft shield with removable panels on 0.1mg and 0.001g models. AutoCal™ automatic internal calibration or external calibration. Level assist feature with illuminated level indicator. Selectable environmental and auto-print settings. Integral weigh below hook. Protective full housing in-use cover. Software lock switch.

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Type	Plate dimensions	Weighing range	Readability		PK	Cat. No.
	mm	g	g			
AX223	Ø 130	220	0.001		1	**6.268 208**
AX223/E	Ø 130	220	0.001		1	**6.266 893**
AX423	Ø 130	420	0.001		1	**6.268 210**
AX423/E	Ø 130	420	0.001		1	**6.268 212**
AX523	Ø 130	520	0.001		1	**6.268 213**
AX523/E	Ø 130	520	0.001		1	**6.268 215**
AX422	175 x 195	420	0.01		1	**6.280 937**
AX422/E	175 x 195	420	0.01		1	**6.280 938**
AX822	175 x 195	820	0.01		1	**6.280 939**
AX822/E	175 x 195	820	0.01		1	**6.280 940**
AX1502	175 x 195	1520	0.01		1	**6.268 218**
AX1502/E	175 x 195	1520	0.01		1	**6.268 220**
AX2202	175 x 195	2200	0.01		1	**6.267 263**
AX2202/E	175 x 195	2200	0.01		1	**6.268 222**
AX4202	175 x 195	4200	0.01		1	**6.268 223**
AX4202/E	175 x 195	4200	0.01		1	**6.268 225**
AX5202	175 x 195	5200	0.01		1	**6.268 226**
AX2201	175 x 195	2200	0.1		1	**6.280 941**
AX2201/E	175 x 195	2200	0.1		1	**6.280 942**
AX4201	175 x 195	4200	0.1		1	**6.280 943**
AX4201/E	175 x 195	4200	0.1		1	**6.280 944**
AX8201	175 x 195	8200	0.1		1	**6.280 945**
AX8201/E	175 x 195	8200	0.1		1	**6.280 946**

Precision balances Entris® II

- Modern sensors ensure very fast stabilisation time
- Automatic, internal calibration and adjustment function (isoCAL) for all "i" models
- Weighing platform made of stainless steel
- Excellent readability and operability with hybrid touch display
- Automatic detection of connected Sartorius accessories
- Direct data transfer to connected PCs with USB-C and RS232 interface without need of additional software
- 12 integrated applications with GLP/GMP-compliant protocol
- Easy to clean, high chemical resistance
- Multilingual interface

Sartorius Lab Instruments

1   Precision balances Entris® II

All models also available as approved versions for EU/France.

Sartorius Lab Instruments

Scope of supply: Precision balance, power supply unit, display protection cover

Specifications

Weighing platform:	182 x 182 mm
Dimensions (W x D x H):	219 x 317 x 94 mm
Power supply:	100 … 240 V, 50 … 60 Hz

Type	Capacity	Readability	Reproducibility	Linearity	Weight	PK	Cat. No.
	g	g	g	± g	kg		
BCE622-1S	620	0.01	0.005	0.006	4.3	1	**4.669 157**
BCE622i-1S	620	0.01	0.005	0.006	6.2	1	**4.669 160**
BCE822-1S	820	0.01	0.005	0.006	4.3	1	**4.669 181**
BCE822i-1S	820	0.01	0.005	0.006	6.2	1	**4.669 184**
BCE1202-1S	1200	0.01	0.005	0.006	4.3	1	**4.669 105**
BCE1202i-1S	1200	0.01	0.005	0.006	6.2	1	**4.669 108**
BCE2201-1S	2200	0.1	0.05	0.06	4.3	1	**4.669 113**
BCE2201i-1S	2200	0.1	0.05	0.06	6.2	1	**4.669 116**
BCE2202-1S	2200	0.01	0.005	0.006	4.3	1	**4.669 117**
BCE2202i-1S	2200	0.01	0.005	0.006	6.2	1	**4.669 120**
BCE3202-1S	3200	0.01	0.005	0.006	4.6	1	**4.669 129**
BCE3202i-1S	3200	0.01	0.005	0.006	6.2	1	**4.669 132**
BCE4202-1S	4200	0.01	0.005	0.006	4.6	1	**4.669 137**
BCE4202i-1S	4200	0.01	0.005	0.006	6.2	1	**4.669 140**
BCE5201-1S	5200	0.1	0.05	0.06	4.3	1	**4.669 145**
BCE5201i-1S	5200	0.1	0.05	0.06	6.2	1	**4.669 148**
BCE6200-1S	6200	1	0.5	0.6	4.3	1	**4.669 149**
BCE6200i-1S	6200	1	0.5	0.6	6.2	1	**4.669 152**
BCE6202-1S	6200	0.01	0.005	0.006	4.6	1	**4.669 153**
BCE6202i-1S	6200	0.01	0.005	0.006	6.2	1	**4.669 156**
BCE8200-1S	8200	1	0.5	0.6	4.3	1	**4.669 173**
BCE8200i-1S	8200	1	0.5	0.6	6.2	1	**4.669 176**
BCE8201-1S	8200	0.1	0.05	0.06	4.3	1	**4.669 177**
BCE8201i-1S	8200	0.1	0.05	0.06	6.2	1	**4.669 180**

2   Precision balances Entris® II with square windshield

High weighing space, easy access to weighing platform through side doors and upper sliding door. Specially coated windscreen against electrostatic charge.
All models also available as approved versions for EU/France.

Sartorius Lab Instruments

Scope of supply: Precision balance, power supply unit, display protection cover

Specifications

Readability:	1 mg
Reproducibility:	±1 mg
Linearity:	±0.6 mg
Weighing platform:	Ø 120 mm
Weighing space height:	240 mm
Dimensions (W x D x H):	219 x 317 x 345 mm
Weight:	6.3 kg
Power supply:	100 … 240 V, 50 … 60 Hz

Type	Capacity	PK	Cat. No.
	g		
BCE223-1S	220	1	**4.669 121**
BCE223i-1S	220	1	**4.669 124**
BCE323-1S	320	1	**4.669 133**
BCE323i-1S	320	1	**4.669 136**
BCE423-1S	420	1	**4.669 141**
BCE423i-1S	420	1	**4.669 144**
BCE623-1S	620	1	**4.669 161**
BCE623i-1S	620	1	**4.669 164**

1 2 3 Precision balances Cubis® II

Modular premium balances for research and development or analytical laboratories. TheCubis® II platform is a completely configurable, high-performance portfolio of both lab weighing hardware and software. The combinability of the display unit, weighing module, draft shield and software packages for various applications and functions allows the individual adaptation to all weighing tasks.

Sartorius Lab Instruments

- Monolithical weighing system
- Seamless connectivity to diverse laboratory information systems without the need of additional software
- Integrated climate sensor
- Status center notifications
- Full data integrity following ALCOA+ principles
- Supports all requirements for FDA directive 21 CFR part 11 and EU Annex 11 compliance
- Complete traceability via advanced audit trail and reporting function

MCE Essential User Interface:
- Large, high-contrast TFT touch display
- Factory-installed basic set of essential weighing applications
- Activated by touch key, touch-free using IR sensor or gesture sensor (optional)

MCA Advanced User Interface:
- Large 7" color touch display
- Factory-installed basic set of essential weighing applications
- Various QApp packages for optional software extension
- Activated by touch key, touch-free using IR sensor or gesture sensor (optional)

1

2

MCE

3

MCA

4 5 6 Precision balances Cubis® II

Sartorius Lab Instruments

- Automatic motorised leveling
- Draft shield:
O: Balance without draft shield
E: Small glass draft shield
R: Stainless steel draft shield

Height and weight depending upon weighing pan size, filter weighing pan and draft shield.
Verified balances and other configurations are available online or on request.

Type	With	Capacity	Readability	Plate dimensions	Dimensions (W x D x H)	Weight		PK	Cat. No.
		g	g	mm	mm	kg			
623S, MCA	E	620	0.001	140 x 140	240 x 425 x 122	5.9		1	**4.670 883**
3203S, MCA	R	3200	0.001	140 x 140	240 x 425 x 122	5.9		1	**4.670 873**
5203S, MCA	E	5200	0.001	140 x 140	240 x 425 x 122	5.9		1	**4.670 855**
2202S, MCA	O	2200	0.01	206 x 206	240 x 425 x 95	5.4		1	**4.670 866**
4202S, MCA	O	4200	0.01	206 x 206	240 x 425 x 95	5.4		1	**4.670 877**
6202S, MCA	O	6200	0.01	206 x 206	240 x 425 x 95	5.4		1	**4.670 856**
8201S, MCA	O	8200	0.1	206 x 206	240 x 425 x 95	5.4		1	**4.670 886**
12201S, MCE *	O	12200	0.1	206 x 206	240 x 425 x 95	5.4		1	**4.670 888**

* manual Leveling

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www.wenk-labtec.com

1   Analytical balance KERN ABS-N/ABJ-NM

The bestseller in analytical balances, now with high-quality single-cell weighing system and EC type approval (Type ending M)
- Only ABJ-NM: Automatic internal adjustment in the case of a change in temperature >2 °C or time-controlled every 4 hours
- Only ABS-N: Adjusting program CAL, external test weights at an additional price
- Dosage aid: High-stability mode and other filter settings can be selected
- Simple recipeweighing and documenting with a combined tare/print function. In addition, the mixing ingredients for the recipe are numbered automatically and printed out with their corresponding number and weight value
- Identification number: 4 numeric positions, printed on calibration protocol
- Automatic data output to the PC/printer each time the balance reaches a steady state
- Large LCD display, digit height 14 mm

Kern & Sohn

Single-cell advanced technology:
- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behaviour
- Short stabilisation time: Steady weight values within approx. 3sec under laboratory conditions
- Shock proof construction
- High corner load performance

Specifications

Overall dimensions (W x D x H):	210 x 340 x 325mm
Dimensions weighing space (W x D x H):	174 x 162 x 227mm
Permissible ambient temperature:	10°C/30°C
Net weight:	approx. 6kg

Type	Plate diam.	Capacity	Readability	Reproducibility	Linearity	PK	Cat. No.
	mm	g	mg	± mg	± mg		
ABS 80-4N	91	82	0.1	0.2	0.3	1	**9.901 451**
ABS 120-4N	91	120	0.1	0.2	0.3	1	**9.901 452**
ABS 220-4N	91	220	0.1	0.2	0.3	1	**9.901 453**
ABS 320-4N	91	320	0.1	0.2	0.3	1	**9.901 454**
ABJ 80-4NM	91	82	0.1	0.2	0.3	1	**9.901 455**
ABJ 120-4NM	91	120	0.1	0.2	0.3	1	**9.901 456**
ABJ 220-4NM	91	220	0.1	0.2	0.3	1	**6.257 572**
ABJ 320-4NM	91	320	0.1	0.2	0.3	1	**9.901 457**

2   Analytical balances ALS-A/ALJ-A

Analytical balances with large weighing ranges.
- Only ALJ-A: Automatic internal adjustment in the case of a change in temperature > 1.2 °C
- Only ALS-A: Adjusting program CAL for quick setting of the balance accuracy, external test weights at an additional price
- Ergonomically optimised keypad for le ft and righthanded users
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Compact size, practical for small spaces
- Percentage determination: makes it possible to store a given weight value (100 %) and to determine deviations from this target value
- Backlit LCD display, digit height 17 mm
- Weighing plate made of stainless steel

Kern & Sohn

Specifications

Overall dimensions, incl. draught shield (W x D x H):	210 x 340 x 330 mm
Weighing space (W x D x H):	160 x 140 x 205 mm
Net weight:	approx. 5.7 kg
Permissible ambient temperature (ALS-A/ALJ-A/ALJ-DA):	5 °C/35 °C
Permissible ambient temperature (ALJ-AM):	15 °C/30 °C

Type	Plate diam.	Weighing range	Readability	Reproducibility	Linearity	PK	Cat. No.
	mm	g	mg	± mg	± mg		
ALS 160-4A	80	160	0.1	0.1	0.3	1	**7.656 611**
ALS 250-4A	80	250	0.1	0.1	0.3	1	**6.254 783**
ALJ 160-4A	80	160	0.1	0.1	0.3	1	**6.261 152**
ALJ 160-4AM	80	160	0.1	0.2	0.3	1	**6.284 443**
ALJ 250-4A	80	250	0.1	0.1	0.3	1	**6.257 891**
ALJ 250-4AM	80	250	0.1	0.2	0.3	1	**6.269 644**
ALJ 310-4A	80	310	0.1	0.1	0.3	1	**6.284 459**
ALJ 500-4A	80	510	0.1	0.2	0.4	1	**4.658 462**
ALJ 200-5DA	80	82 / 220	0.01 / 0.1	0.04 / 0.2	0.1 / 0.2	1	**4.660 773**

1

6.310 582

Analytical balance ADB/ADJ

Compact analytical balance with special carat function. A low cost and space-saving balance that is easy to operate with an optimized 6-key control panel.

Kern & Sohn

- Only ADJ: Automatic internal adjustment in the case of a change in temperature >2 °C or time-controlled every 2 h
- Only ADB: Adjusting program CAL, external test weights at an additional price
- Large backlit LCD display
- Digit height 16 mm
- Glass draught shield with 3 sliding doors
- Stainless steel weighing plate
- Adapted to small space requirements

2

6.310 583

Specifications

Overall dimensions, incl. draught shield (W x D x H)
ADB/ADJ: 230 × 310 × 330 mm
ADB-C/ADJ-C: 205 × 310 × 210 mm
Dimensions weighing space (W x D x H):
ADB/ADJ: 170 × 160 × 205 mm
ADB-C/ADJ-C: 170 × 160 × 110 mm
Dimensions weighing plate (diam.): 90 mm
Permissible ambient temperature: 10 ... 30 °C

Type	Weighing range	Readability	Reproducibility	Linearity	Plate diam.	Plug type	Weight		PK	Cat. No.
	g	mg	± mg	± mg	mm		kg			
ADB 100-4	120	0.1	0.2	0.4	90	EU, UK, CH	4.4		1	**6.310 582** 1
ADB 200-4	210	0.1	0.2	0.4	90	EU, UK, CH	4.4		1	**6.282 811**
ADB 600-C3	120 (600 ct)	0.1 (0.001 ct)	0.2 (0,002 ct)	0.4 (0.004 ct)	90	EU, UK, CH	3.8		1	**6.310 583** 2
ADJ 100-4	120	0.1	0.2	0.4	90	EU, UK, CH	5.0		1	**6.275 587**
ADJ 200-4	210	0.1	0.2	0.4	90	EU, UK, CH	5.0		1	**6.275 588**
ADJ 600-C3	120 (600 ct)	0.1 (0.001 ct)	0.2 (0.002 ct)	0.4(0.004 ct)	90	EU, UK, CH	4.5		1	**6.275 589**

3

3 Balances, electronic, analytical, ABT series

Analytical and semi-microbalances which are suitable for verification.

Kern & Sohn

All models have automatic calibration adjustment function by internal, motor-driven,
calibration weight. It is possible to log ISO/GLP-compliant weighing or calibration data at any time via an accessory printer (not supplied) or data interface (bi-directional RS232-C).
Additionally, the balances have formulation, piece counting and percentage determination functions, as well as a flush-mounted weighing platform. All models are supplied with a modern, all-glass draught shield with sliding doors to the left, right and top.
Also available with DKD certified, ionizer, thermal printer, statistic printer at additional cost.

Single-cell advanced technology:
- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behavior
- Short stabilisation time: Steady weight values within approx. 4 sec under laboratory conditions
- Shock proof construction
- High corner load performance

Weighing pan, stainless steel: 80mm dia.
Weighing chamber (W x D x H): 168 x 172 x 223mm
Dimensions (W x D x H): 217 x 356 x 338mm
Mains adapter: 220V

Type	Plate diam.	Weighing range	Readability	Reproducibility	Linearity		PK	Cat. No.
	mm	g	mg	± mg	± mg			
ABT 120-4NM	80	120	0.1	0.1	0.2		1	**9.900 955**
ABT 220-4NM	80	220	0.1	0.1	0.2		1	**9.900 956**
ABT 320-4NM	80	320	0.1	0.1	0.3		1	**9.900 957**
ABT 100-5NM	80	101	0.01	0.05	0.15		1	**6.241 274**
ABT 120-5DNM	80	42 / 120	0.01 / 0.1	0.02 / 0.1	0.05 / 0.2		1	**9.900 958**
ABT 220-5DNM	80	82 / 220	0.01 / 0.1	0.05 / 0.1	0.1 / 0.2		1	**9.900 959**

1 Analytical balance ABP

This new generation of analytical balances combines the highest level of precision with *Kern & Sohn*
large weighing capacities. Thanks to the new Single-Cell Generation, the weighing result
is displayed in a fraction of the time with comparable models.
Together with the intuitively structured menu, this means that you can work efficiently and rapidly.

- Navigation pad for super quick navigating through the menus
- Automatic internal adjustment in the case of a change in temperature ≥ 1 °C or timecontrolled every 4 h, guarantees
  high degree of accuracy and makes the balance independent of its location of use
- The minimum weight of sample can be manually stored in the balance or automatically calculated, with warning
  message when the weighing is below this value
- Dosage aid: High-stability mode and other filter settings can be selected
- Simple recipe weighing and documenting with a combined tare/print function
- Menu language DE, GB
- Automatic data output to the PC/printer each time the balance is steady
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- DM-models: Incl. Multi-function weighing plate for minimising the effect of currents of air in the weighing space and
  for easy fixing and weighing of protruding samples as sample paper, PCR containers or micro centrifuge tubes

Specifications

Overall dimensions, incl. draught shield (W x D x H):	213 x 407 x 344 mm
Weighing space (W x D x H):	166 x 156 x 220 mm
Net weight:	8 kg
Power supply:	220 ... 240 V AC, 50 Hz

Type	Weighing range	Readability	Reproducibility	Linearity	Plate diam.	PK	Cat. No.
	g	mg	± mg	± mg	mm		
ABP 100-4M	120	0.1	0.1	0.2	91	1	**4.667 748**
ABP 200-4M	220	0.1	0.1	0.2	91	1	**4.667 749**
ABP 300-4M	320	0.1	0.1	0.3	91	1	**4.667 750**
ABP 100-5DM	52 / 120	0.01 / 0.1	0.02 / 0.1	0.03 / 0.3	91	1	**4.667 751**
ABP 200-5DM	102 / 220	0.01 / 0.1	0.02 / 0.1	0.03 / 0.3	91	1	**4.667 752**

Analytical balances Entris® II

The evolution of the Entris® balance series. The large portfolio offers the right model *Sartorius Lab Instruments*
for every weighing task. With many convenience functions for efficiency and accuracy
in the laboratory. Quality "Made in Germany".

- Modern sensors ensure very fast stabilisation time
- Automatic, internal calibration and adjustment function (isoCAL) for all "i" models
- Weighing platform made of stainless steel
- Excellent readability and operability with hybrid touch display
- Automatic detection of connected Sartorius accessories
- Direct data transfer to connected PCs with USB-C and RS232 interface without need of additional software
- 12 integrated applications with GLP/GMP-compliant protocol
- Easy to clean, high chemical resistance
- Multilingual interface

2 Analytical balances Entris® II

High weighing space, easy access to weighing platform through side doors and upper *Sartorius Lab Instruments*
sliding door. Specially coated windscreen against electrostatic charge.
All models also available as approved versions for EU/France.

Scope of supply: Analytical balance, power supply unit, display protection cover

Specifications

Readability:	0.1 mg
Reproducibility:	±0.1 mg
Linearity:	±0.06 mg
Weighing platform:	Ø 90 mm
Weighing space height:	240 mm
Dimensions (W x D x H):	219 x 317 x 345 mm
Weight:	6.2 kg
Power supply:	100 ... 240 V, 50 ... 60 Hz

Type	Weighing range	PK	Cat. No.
	g		
BCE64-1S	0.0001 ... 60	1	**4.669 165**
BCE64i-1S	0.0001 ... 60	1	**4.669 168**
BCE124-1S	0.0001 ... 120	1	**4.669 109**
BCE124i-1S	0.0001 ... 120	1	**4.669 112**
BCE224-1S	0.0001 ... 220	1	**4.669 125**
BCE224i-1S	0.0001 ... 220	1	**4.669 128**

1 Analytical balances Adventurer® AX

OHAUS

- Fast stabilization and reliable operation to ensure solid weighing performance and accurate, repeatable results.
- Two USB ports with GLP/GMP tracking capabilities assist the monitoring and reporting of the data.
- The wide viewing angle colour touchscreen provides access to all applications.
- Reduced footprint due to two pieces, top-mounted draft shield doors
- AutoCal™ automatic internal calibration system or traditional external calibration (external calibration models -/E)
- EC Type Approved models available
- Applications: Weighing (17 units + custom unit), parts counting, percentage weighing, check weighing, dynamic weighing, totalization/statistics, formulation, density determination, display hold.
- Display: 4.3" (109 mm) Full-colour VGA graphic touchscreen with user-controlled brightness,
- Operation: Mains operation.
- Communication: RS232, USB Host, USB Device (included). GLP/GMP compliant data output
- Construction: Die-cast metal base, ABS top housing, stainless steel pan, glass draft shield with two piece top mounted side doors and sliding top door, replaceable in-use cover
- Design features: Two-piece, top mounted, space-saving draftshield with removable panels on 0.1mg and 0.001g models. AutoCal™ automatic internal calibration or external calibration. Level assist feature with illuminated level indicator. Selectable environmental and auto-print settings. Integral weigh below hook. Protective full housing in-use cover. Software lock switch.

Specifications

Readability:	0.1 mg
Ø weighing plate:	90 mm
Power supply:	100…240 V/50/60 Hz

Type	Weighing range g	PK	Cat. No.
AX124	120	1	**6.268 193**
AX124/E	120	1	**6.268 195**
AX224	220	1	**6.268 196**
AX224/E	220	1	**6.268 198**
AX324	320	1	**6.268 199**

2 Analytical balances Quintix®

Sartorius Lab Instruments

Intuitive application guideance, start of applications with only one keystroke.
Maximum accuracy at all times. Made in Germany.

- The balance automatically adjusts istself when the pre-set temperature and time is exceeded
- Coloured Touchscreen Display
- Easy cleaning
- "Plug & Work" connectivity to printer or computer via USB port for simple GLP-compliant logging, direct data transfer to Microsoft® Windows programs without further software
- Password protection and supervisor lock for protection against unintentional changes
- Integrated underfloor weighing
- Easy cleaning: For cleaning of the windshield, the side windows, the sliding cover and all stainless steel parts are easily removable.
- Extra large adjustable feet for easy levelling

Specifications

Overall dimensions (W x D x H):	216 x 360 x 320mm
Height weighing space:	209mm
Permissible ambient temperature:	+10 to+30°C
Mains adapter:	100 - 240V, 50/60Hz

Type	Plate diam. mm	Weighing range g	Readability mg	Reproducibility ± mg	Linearity ± mg	PK	Cat. No.
QUINTIX64-1S	90	60	0,1	0,1	0,2	1	**6.262 848**
QUINTIX124-1S	90	120	0,1	0,1	0,2	1	**6.262 421**
QUINTIX224-1S	90	220	0,1	0,1	0,2	1	**6.262 424**

370

1   Printer for balances and moisture analysers

Data Printer, with GLP- and GMP-function for all Sartorius balances and moisture analysers. With alphanumeric dot-matrix printing unit (safety printing unit with 5x8 matrix) as well as the ASCII character set and application-specific special characters, for the documentation of weighing data. Membrane keyboard for easy and safe operation.

Sartorius Lab Instruments

Description	PK	Cat. No.
Printer	1	6.289 719
Printer paper, rolls of 50 m	5	7.100 679
Printer paper, rolls of 14 m	5	9.902 636

Analytical balances Explorer® EX

Highest performance, most technically advanced balance from OHAUS

OHAUS

- High resolution multi-lingual colour VGA touch display with icons for simple operation
- Programmable multi-functional touch-free sensors for cleanliness, speed and safety
- Multiple application modes plus library for storage of personal application settings
- External calibration, High capacity and EC type approved models also available
- Application: Weighing (17 units + custom units), Parts Counting, % weighing, Animal/Dynamic Weighing, Checkweighing, Filling, Totalization, Formulation, Differential weighing, Density determination, Peak hold, Ingredient costing, Pipette adjustment, Gross/Net/Tare Weighing
- Display: High resolution full-color VGA graphic display (5.7" diagonal), 4-wire resistive touch screen. QWERTY keyboard and numeric keypad to quickly input GLP and GMP data and other application data.
- Operation: Mains Operation
- Communication: Easy access communication ports including USB host, USB device, RS232 and an optional 4th port for either RS232 or Ethernet. GLP/GMP Data Output with Real Time Clock. Direct Data Transfer Function.
- Construction: Metal base, ABS top housing, stainless steel pan, anti-static glass draftshield with flip-top door, replaceable in-use cover, automatic draftshield doors on selected models
- Design features: 3-door frameless draftshield with removable panels on 0.1mg and 1mg models. Optional automatic draftshield doors on 0.1mg and 0.01mg models, with built in ionizer on 0.01mg automatic draftshield door models. Modular display design with adjustable angle (attach to base, wall or optional tower). AutoCal™ fully-automatic internal calibration system. Level assist feature with illuminated level indicator. Selectable environmental and auto-print settings. Integral weigh below hook. Protective in-use cover. Software lock switch.

9.902 371

6.268 205

Type	Plate dimensions	Weighing range	Readability		PK	Cat. No.
	mm	g				
EX124	Ø 90	120	0.1 mg		1	9.902 370
EX124/AD*	Ø 90	120	0.1 mg		1	6.268 206
EX125	Ø 80	120	0.01 mg		1	6.268 202
EX125D	Ø 80	52 / 120**	0.01 / 0.1 mg		1	6.268 201
EX223	Ø 130	220	1 mg		1	9.902 375
EX224	Ø 90	220	0.1 mg		1	9.902 371
EX224/AD*	Ø 90	220	0.1 mg		1	6.266 074
EX225D	Ø 80	120 / 220**	0.01 / 0.1 mg		1	6.268 203
EX225D/AD*	Ø 80	120 / 220**	0.01 / 0.1 mg		1	6.268 204
EX225/AD*	Ø 80	220	0.1 mg		1	6.268 205
EX324	Ø 90	320	0.1 mg		1	9.902 373
EX324/AD*	Ø 90	320	0.1 mg		1	6.268 207

*Automatic door
**Dual range

Accessories for analytical balance Explorer®

OHAUS

Type	PK	Cat. No.
Ethernet interface	1	9.902 361
Terminal extension cable	1	9.902 362
Density determination kit	1	9.902 363
Tower kit	1	9.902 364
Draft Shield Kit	1	9.902 366
USB Interface Cable (Type A to B)	1	9.902 368
Theft protection clamp	1	9.947 316

1

1 Analytical Balances PR

The analytical balance PR combines the basic weighing functions, weighing, piece counting and percent weighing with competitive performance, providing high accuracy and repeatability for laboratory, industrial and educational applications.

OHAUS

- Backlit LCD display
- Draftshield
- 4 quick keys for easy operation of multiple weighing modes
- RS 232 interface
- User-selectable span calibration points
- Detachable stainless steel weighing platform
- Integrated weigh-below-hook
- Auto-tare
- Overload, underload and stability indicator

Please note:
Models with extra code /E with external calibration. All other models are equipped with an internal calibration.
Models with extra code M are approved instruments according to EN 45501; OIML R76.

Specifications

Permissible ambient temperature range:	10 ... 30 °C
Height in draftshield:	205 mm
Dimensions (W x D x H):	201 x 317 x 303 mm
Weight:	4.5 kg
Power supply:	100 ... 240 V/50 ... 60 Hz

Type	Weighing range	Readability	Reproducibility	Linearity	Plate diam.	PK	Cat. No.
	g	mg	± mg	± mg	mm		
PR124	120	0.1	0.1	0.2	90	1	**4.668 265**
PR124/E *	120	0.1	0.1	0.2	90	1	**4.668 264**
PR124M **	120	0.1	0.1	0.2	90	1	**4.668 266**
PR224	220	0.1	0.1	0.2	90	1	**4.668 268**
PR224/E *	220	0.1	0.1	0.2	90	1	**4.668 267**
PR224M **	220	0.1	0.1	0.2	90	1	**4.668 269**
PR223	220	1.0	1.0	2.0	120	1	**4.668 271**
PR223/E *	220	1.0	1.0	2.0	120	1	**4.668 270**
PR223M **	220	1.0	1.0	2.0	120	1	**4.668 272**
PR423	420	1.0	1.0	2.0	120	1	**4.668 274**
PR423/E *	420	1.0	1.0	2.0	120	1	**4.668 273**
PR423M **	420	1.0	1.0	2.0	120	1	**4.668 275**
PR523	520	1.0	1.0	2.0	120	1	**4.668 277**
PR523/E *	520	1.0	1.0	2.0	120	1	**4.668 276**
PR523M **	520	1.0	1.0	2.0	120	1	**4.668 278**

*external calibration
**approved acc. to EN 45501; OIML R76

1	Analytical balances Pioneer® PX

High-performance, economical balances with high accuracy and repeatability for applications in laboratories, industry and education. For basic weighing, parts-counting, percent weighing, dynamic weighing and density determination.

OHAUS

- 2 line, backlit LCD display
- 4 quick keys enable the most common weighing modes
- Draftshield
- USB and RS 232 interface for data exchange with PCs and PLCs
- User-selectable span calibration points
- Real-time clock with GLP/GMP data
- Cast metal lower housing, removable stainless steel weighing pan
- Integrated weigh-below-hook
- Auto-tare
- Many weighing units selectable, a custom unit can be defined
- Models with removable side draftshield doors and static removal bar made from ABS
- Overload, underload and stability indicator
- 4 menu languages

Please note:
Models with extra code /E with external calibration. All other models are equipped with an internal calibration. Models with extra code M are approved instruments according to EN 45501; OIML R76. Models with extra code D are with dual range function.

Specifications

Permissible ambient temperature range:	10 ... 30 °C
Height in draftshield:	235 mm
Dimensions (W x D x H):	209 x 321 x 309 mm
Weight:	4.5 kg
Power supply:	100 ... 240 V/50 ... 60 Hz

Type	Plate diam.	Weighing range	Readability	Reproducibility	Linearity		PK	Cat. No.
	mm	g	mg	± mg	± mg			
PX125D ***	80	52 / 120	0.01 / 0.1	0.02 / 0.1	0.1		1	**4.663 320**
PX125DM **/***	80	52 / 120	0.01 / 0.1	0.02 / 0.1	0.1		1	**4.663 321**
PX85	80	82	0.01	0.02	0.1		1	**4.663 322**
PX85M **	80	82	0.01	0.02	0.1		1	**4.663 323**
PX225D ***	80	82 / 220	0.01 / 0.1	0.02 / 0.1	0.1		1	**4.663 324**
PX225DM **/***	80	82 / 220	0.01 / 0.1	0.02 / 0.1	0.1		1	**4.663 325**
PX124	90	120	0.1	0.1	0.2		1	**4.663 327**
PX124/E *	90	120	0.1	0.1	0.2		1	**4.663 326**
PX124M **	90	120	0.1	0.1	0.2		1	**4.663 328**
PX224	90	220	0.1	0.1	0.2		1	**4.663 330**
PX224/E *	90	220	0.1	0.1	0.2		1	**4.663 329**
PX224M **	90	220	0.1	0.1	0.2		1	**4.663 331**
PX323	120	320	1.0	1.0	2.0		1	**4.663 333**
PX323/E *	120	320	1.0	1.0	2.0		1	**4.663 332**
PX323M **	120	320	1.0	1.0	2.0		1	**4.663 334**
PX523	120	520	1.0	1.0	2.0		1	**4.663 336**
PX523/E *	120	520	1.0	1.0	2.0		1	**4.663 335**
PX523M **	120	520	1.0	1.0	2.0		1	**4.663 337**

*external calibration
**approved acc. to EN 45501; OIML R76
***Dual range

We can **supply** this
manufacturer's whole
product range !

1

4.671 854

Micro Balances BM

A&D Inst.

Analytical Balances with easy removal of static electricity via a built-in fan-free ionizer and anti-static windshield. Wide range of accessories for a variety of applications, e.g. holder for microcentrifuge tubes or aluminium vessels.
- Clearly readable, white-lit LCD display
- Large weighing chamber, suitable for flasks
- Integrated sensors for temperature, humidity and air pressure
- Internal calibration automatic, based on temperature change, manual, triggered by the operator
- Weighing units: g, mg, oz, ozt, ct, mom, dwt, GN, Tael, Tola, piece (counting),%
- Memory up to 200 data sets
- RS-232C interface and Quick USB Standard.

Specifications

Permissible ambient temperature range:	5 ... 40 °C
Height in draftshield:	252 mm
Dimensions (W x D x H):	259 x 466 x 326 mm
Weight:	approx. 10 kg
Power supply:	12 V, 1 A

Type	Weighing range	Readability	Reproducibility	Linearity	Plate diam.	PK	Cat. No.
	g	mg	± mg	± mg	mm		
BM-20	22	0.001	0.0025	0.010	25	1	**4.671 854** 1
BM-22	5.1 / 22	0.001 / 0.01	0.004 / 0.01	0.010 / 0.02	25	1	**4.671 855**
BM-252	250	0.01	0.03	0.10	90	1	**4.671 856**

2

3

MCE

4

MCA

2 3 4 Analytical balances Cubis® II

Sartorius Lab Instruments

Modular premium balances for research and development or analytical laboratories. The Cubis® II platform is a completely configurable, high-performance portfolio of both lab weighing hardware and software. The combinability of the display unit, weighing module, draft shield and software packages for various applications and functions allows the individual adaptation to all weighing tasks.

- Monolithical weighing system
- Seamless connectivity to diverse laboratory information systems without the need of additional software
- Integrated climate sensor
- Status center notifications
- Full data integrity following ALCOA+ principles
- Supports all requirements for FDA directive 21 CFR part 11 and EU Annex 11 compliance
- Complete traceability via advanced audit trail and reporting function

MCE Essential User Interface:
- Large, high-contrast TFT touch display
- Factory-installed basic set of essential weighing applications
- Activated by touch key, touch-free using IR sensor or gesture sensor (optional)

MCA Advanced User Interface:
- Large 7" color touch display
- Factory-installed basic set of essential weighing applications
- Various QApp packages for optional software extension
- Activated by touch key, touch-free using IR sensor or gesture sensor (optional)

5

5 Semi-micro- and analytical balances Cubis® II

Sartorius Lab Instruments

- Automatic motorised leveling
- Automatic glass draft shield with integrated ionizer

Height and weight depending upon weighing pan size, filter weighing pan and draft shield.
Verified balances and other configurations are available online or on request.

Type	Capacity	Readability	Plate dimensions	Dimensions (W x D x H)	Weight	PK	Cat. No.
	g	mg	mm	mm	kg		
225S, MCA	220	0.01	85 x 85	240 x 404 x 373	10.2	1	**4.670 853**
224S, MCA	220	0.1	85 x 85	240 x 425 x 373	8.2	1	**4.670 852**
524S, MCA	520	0.1	85 x 85	240 x 425 x 373	8.2	1	**4.670 879**
324S, MCE *	320	0.1	85 x 85	240 x 425 x 373	8.2	1	**4.670 899**

* manual glass draft shield

www.wenk-labtec.com

1   Ultra-micro- and micro balances Cubis® II

Sartorius Lab Instruments

- Titanium inner parts
- Automatic motorised levelling
- Automatic, motorized, round, glass draft shield with learning capability,
  illumination and integrated motion sensor

Height and weight depending upon weighing pan size, filter weighing pan and draft shield.
Verified balances and other configurations are available online or on request.

Specifications
Dimensions (W x D x H):   139 x 340 x 129 mm
Weight: 6.4 kg

Type	Weighing range	Readability	Plate dimensions	PK	Cat. No.
	g	mg	mm		
2.7S, MCA	2.1	0.0001	Ø 20	1	**4.670 864**
2.7S, MCA *	2.1	0.0001	Ø 50	1	**4.670 863**
6.6S, MCA	6.1	0.001	Ø 30	1	**4.670 882**
10.6S, MCA	10.1	0.001	Ø 30	1	**4.670 851**

* with filter draft shield

2   Platform balance DE-D

Kern & Sohn

Compact, lightweight construction suitable for production, warehouse, dispatch
department etc.. The display device positioned free-standing or can be mounted to the
wall. With the recipe function you can weigh the different ingredients of a mixture. PRE-TARE function for manual
subtraction of a known container weight. Protective working cover included with delivery.
- Large backlit LCD display, digit height 25 mm
- Optional battery operation, 9 V block, operating time up to 12 h
- Weighing plate stainless steel, painted steel base

Specification
Permissible ambient temperature: 5 ... 35 °C
Display device
Material: plastic
Dimensions (W x D x H):   225 x 110 x 45 mm
IP code: IP65

Type	max. load	Readability	Linearity	Min. piece weight (PW min)	Weight	Plate dimensions	PK	Cat. No.
	kg	g	± g	g/piece	kg	mm		
DE 6K1D	3 / 6	1 / 2	3 / 6	40	4,8	318 x 308 x 75	1	**6.251 045**
DE 15K2D	6 / 15	2 / 5	6 / 15	100	4,8	318 x 308 x 75	1	**6.262 467**
DE 35K5D	15 / 35	5 / 10	15 / 30	100	4,8	318 x 308 x 75	1	**7.628 620**
DE 60K10D	30 / 60	10 / 20	30 / 60	200	4,8	318 x 308 x 75	1	**6.255 790**
DE 60K10DL	30 / 60	10 / 20	30 / 60	200	16	522 x 406 x 98	1	**6.253 642**
DE 150K20D	60 / 150	20 / 50	60 / 150	400	5,0	318 x 308 x 75	1	**7.655 178**
DE 150K20DL	60 / 150	20 / 50	60 / 150	400	16	522 x 406 x 98	1	**7.639 620**
DE 150K20DXL	60 / 150	20 / 50	60 / 150	400	28	650 x 500 x 89	1	**7.654 881**
DE 300K50DL	150 / 300	50 / 100	150 / 300	2000	28	650 x 500 x 89	1	**6.280 971**
DE 6K0.5A	6	0.5	1.5	10	4,8	318 x 308 x 75	1	**6.253 821**
DE 12K1A	12	1	3	20	4,8	318 x 308 x 75	1	**7.655 229**
DE 24K2A	24	2	6	40	4,8	318 x 308 x 75	1	**6.240 150**
DE 60K5A	60	5	15	100	4,8	318 x 308 x 75	1	**6.242 923**
DE 120K10A	120	10	30	200	5,0	318 x 308 x 75	1	**6.242 589**
DE 15K0.2D	6 / 15	0.2 / 0.5	0.8 / 2	4	4,0	318 x 308 x 88	1	**6.239 797**
DE 35K0.5D	15 / 35	0.5 / 1	2 / 4	10	7	318 x 308 x 88	1	**7.656 917**
DE 60K1D	30 / 60	1 / 2	4 / 8	20	7	318 x 308 x 88	1	**6.254 014**
DE 150K2DL	60 / 150	2 / 5	8 / 20	40	15	522 x 403 x 83	1	**6.254 284**

1 Halogen Moisture Analyser DBS 60-3

Modern moisture analyser with 10 memories and graphic display   *Kern & Sohn*

- Halogen quartz glass heater 400 W
- Backlit LCD display, digit height 15 mm: Previous drying time, current temperature, unit for displaying the results, current moisture content in %, drying mode/Status display drying
- Observation window over the sample, useful during initial adjustment
- Internal memory for automatic sequence of 10 drying programs and 100 drying processes carried out
- The last value measured remains on the display until it is replaced by a new measurement
- Sample description for up to 99 samples, 2 digits, freely programmable, and is printed in the measuring protocol
- Date and time display as standard
- 10 sample plates included
- Table of applications: There are many practical examples in the operating instructions

Specifications

Readability:	0.01 % or 0.001 g
Weighing range, max:	60 g
Reproducibility, weight of sample 2 g:	0.15 %
Reproducibility, weight of sample 10 g:	0.02 %
Temperature range:	+50 to +200 °C
Dimensions (W x D x H):	204 x 336 x 167 mm

Type	PK	Cat. No.
DBS 60-3	1	**9.901 441**

Suitable accessories can be found in our online shop.

Moisture analyser DAB 200-2/DAB 100-3

Moisture analyser with user-friendly graphics display and 15 memories for drying   *Kern & Sohn*
programs.
- Halogen quartz glass heater 400 W
- Backlit LCD display, digit height 14 mm
- Display of: Drying process active, Active heating profile, Active switch-off criteria, Previous drying time, Current temperature, Moisture display in %, Interim result in moisture-%
- Observation window above the sample, useful during initial setting
- Internal memory for automatic sequence of 15 complete drying processes and 5 drying processes carried out
- The last value measured remains on the display until it is replaced by a new measurement
- 50 sample plates included

Specifications

Recommended humidity range:	5 ... 80 %
Temperature range:	40 ... 199 °C in steps of 1°C
Dimensions (W x D x H):	240 x 365 x 180 mm
Weight:	4.82 kg
Power supply:	230 V AC, 50 Hz

2 Moisture analyser DAB 200-2

Model with lower resolution, whereby the switch-off criterion is reached faster, which   *Kern & Sohn*
saves time. Ideal for quick tests and spot checks.

Specifications

Readability:	0.05 % or 0.01 g
Weighing range, max:	200 g
Reproducibility, weight of sample 2 g/10 g:	1.5 %/0.3 %

Type	PK	Cat. No.
DAB 200-2	1	**6.292 002**

3 Moisture analyser DAB 100-3

Kern & Sohn

Specifications

Readability:	0.01 % or 0.001 g
Weighing range, max:	110 g
Reproducibility, weight of sample 2 g/10 g:	0.15 %/0.02 %

Type	PK	Cat. No.
DAB 100-3	1	**6.281 836**

www.wenk-labtec.com

1   Moisture balances MB23 and MB25

The Moisture Analyzers MB-23 and MB-25 provide stable results with 0.1% or 0.05 % moisture resolution because of precision weighing technology. They are supplied with either an infra-red, or halogen, heating system. Applicable for most applications. Graphical interface control. No programming necessary.

OHAUS

- Halogen (MB-25) or infra-red (MB23) technology
- Sample holder included in MB25 but as option in MB23
- Delivered with 50 x 90 mm aluminium sample dishes and protective cover

Specifications	MB23 // MB25
Capacity:	110 g
Repeatability 3 g/10 g:	0.3 %/0.2 % // 0.2 %/0.05 %
Readability:	0.1 % or 0.01 g // 0.05 % or 0.005 g
Timer:	1 … 99 min, 30-second increments to 60 min
Temperature range:	50 … 160 °C
Operating temperature:	5 … 40 °C
Pan size (diam.):	90 mm
Dimensions (W x D x H):	170 x 130 x 280 mm
Net weight:	2.3 kg
Power supply:	100 - 240 V, 50/60 Hz

Type	PK	Cat. No.
MB23	1	9.947 604
MB25	1	9.947 605

2   Halogen Moisture balance MB27

Ideal for routine moisture determinations, that require precise results up to 0.01 % and high capacity up to 90 g. Optimal for applications e.g. in the food, agriculture, chemical and pharmaceutical sector. Easy setting of the parameters. Compact instrument with easy-to-clean heating chamber.

OHAUS

- Backlit LCD display
- Tare Range to capacity by subtraction
- Displays % moisture or % solids or weight (g), temperature, time
- Bidirectional interface(RS-232)

Specifications

Capacity:	90 g
Repeatability 3 g/10 g:	0.2 %/0.05 %
Readability:	0.01% or 0.001 g
Timer:	1 to 99 min, 30-second increments to 60 min
Temperature range:	50 … 160 °C (in 5 °C increments)
Operating temperature:	5 … 40 °C
Pan size (diam.):	90 mm
Dimensions (W x D x H):	170 x 280 x 140 mm
Weight:	2.3 kg
Power supply:	100 - 240 V, 50/60 Hz

Type	PK	Cat. No.
MB27	1	4.663 998

3   Accessories Moisture balances MB series

OHAUS

Description	For	PK	Cat. No.
Dot matrix printer	MB23/25/27/90/120	1	6.260 786
Protective cover	MB90/120	1	6.282 767
Disposable sample dishes, 90 mm	MB23/25/27/90/120	80	9.947 310
Glass fibre filter	MB23/25/27/90/120	200	9.947 312
Reusable Pan, 7 mm	MB23/25/27/90/120	3	6.282 770
Reusable Pan, 14 mm	MB23/25/27/90/120	3	6.282 771
Pan Holder	MB90/120	1	6.282 766
Cage	MB23/25/27/90/120	1	6.282 769
Scoop	MB90/120	1	6.282 768

1

6.282 764

2

6.282 765

Halogen moisture balances MB90 and MB120

OHAUS

Moisture Analysis Made Simple and Powerful.
- The precisely controlled halogen heating dries samples quickly and ensures uniform heating to yield fast, precise and repeatable results of 0.01 % readability
- Designed with effortless maintenance in mind; removable pan handler and heating chamber components that make cleaning quick and easy, no tools needed
- Icon-based menu navigation on the easy-to-read touchscreen display makes operating intuitive
- MB120's Temperature Guide analyzes a sample and determines the optimal drying temperature
- Applications: Percent Moisture Determination, Percent Moisture Regain Determination, Percent Solid Determination, Weighing
- Display 4.3": TFT color touchscreen display
- Operation: Power cord (included)
- Communication: RS232 with GLP/GMP data output, USB Host and USB Device (included)
- Construction: Metal base, ABS top housing, halogen heat source, stainless steel pan support, stainless steel pan handler, in-use cover

Design Features MB90: Three shut-off criteria (manual, timed or auto), two drying profiles (standard and fast), storage up to two methods, user guide, 40 to 200 °C heating temperature range (1 °C increments), 13 operational languages

Design Features MB120: Seven shut-off criteria (manual, timed, autofree %/s, autofree mg/s, A30, A60 and A90), four drying profiles (standard, fast, ramp and step), storage up to 100 methods and 1000 test results for all methods, user guide, 40 to 230 °C heating temperature range (1 °C increments), 13 operational languages

Specifications	**MB90 // MB120**
Capacity:	90 g // 120 g
Repeatability 3 g/10 g:	0.18 %/ 0.02 % // 0.05 %/0.015 %
Readability:	0.01 % or 0.001 g
Temperature range:	40 ... 200 °C // 40 ... 230 °C
Operating temperature:	10 ... 40 °C
Pan size (diam.):	90 mm
Dimensions (W x D x H):	210 x 350 x 180 mm
Weight:	5.23 kg
Power supply:	120 or 240 VAC, 50 ... 60 Hz

Type		PK	Cat. No.
MB90		1	**6.282 764** 1
MB120		1	**6.282 765** 2

3

3   Moisture Analyser MA35

Sartorius Lab Instruments

- Fully automatic heating of a sample by two powerful metal tubular-shaped heating elements (also called dark radiators)
- Particularly simple operator guidance using self-explanatory pictograms
- Sample quantity 5-15g
- % moisture content, % dry weight , ATRO value, g residue, mg weight loss
- Shutoff criteria (optional): fully automatic, timer setting (0.1-99min.), manual
- Access to sample chamber through hinged cover with large opening angle
- 1 program saved in a non-volatile memory (freely selectable parameters)
- Printout using an optional, external printer (Cat. No. 6.238 838)
- Fixed standard configuration GLP report for measuring results, calibration, adjustment (5 languages selectable)
- External calibration using optional weight sets
- Data interface RS232 C-S/V24-V28, 7 data bits (ASCII) 1 parity bit

Specifications

Readability:	0.01 % or 0.001 g
Weighing range, max:	35 g
Reproducibility, weight of sample 1g:	±0.2 %
Reproducibility, weight of sample 5g:	±0.05 %
Temperature range:	40 ... 160 °C, in increments of 1 °C
Power consumption:	400 VA
Dimensions (W x D x H):	224 x 366 x 191mm

Type	max. load g	Min. temp. °C	Max. temp. °C	PK	Cat. No.
MA35M-230N	35	40	160	1	**6.272 569**

www.wenk-labtec.com

1   Moisture Analyser MA160

The MA160 moisture analyzer is designed for quick and reliable determination of the   *Sartorius Lab Instruments*
moisture content of liquids, pastes and solids using the thermogravimetric method.
Suitable for the use in QA laboratories and for process control. For testing of foods, beverages, pharmaceuticals, chemicals, sugar, paper materials and products for environmental protection.
- High-performance AURI heating unit for homogeneous drying
- Heating elements are fast, extremely rugged and durable
- Exceptionally high-speed measurements (up to 30 % faster)
- Fast and precise method development
- Memory capacity for storage of methods and results
- Method import and export via SD card
- Reliable performance testing
- Effortless cleaning
- User-friendly operation
- Downward compatibility with MA150 and MA35

Specifications

Readability:	0.01 % or 0.001 g
Weighing range, max:	200 g
Reproducibility, 1 g/5 g:	±0.2 %/±0.05 %
Temperature range:	40 ... 200 °C (in 1 °C increments)
Recommended humidity range:	1 ... 99 %
Power consumption:	600 W
Dimensions (W x D x H):	215 x 400 x 210 mm
Weight:	6.2 kg
Power supply:	230 V

Type	PK	Cat. No.
MA160	1	**4.653 450**

Accessories for Moisture Analyser MA series

Sartorius Lab Instruments

Description	For	PK	Cat. No.
Disposable sample dishes, aluminium, round	MA35 / 37 / 100 / 160	80	**9.902 612**
Glass fibre filter, hard quality	MA35 / 37 / 100 / 160	80	**9.601 426**
Glass fibre filter, soft quality	MA35 / 37 / 100 / 160	200	**6.232 716**
Data printer (external)	MA35 / 37 / 100 / 160	1	**6.238 838**
Premium GLP printer	MA35 / 37 / 100 / 160	1	**6.284 497**
Data printer (built-in)	MA50 / 100	1	**9.902 611**
Data cable for printer	MA35 / 37 / 100 / 160	1	**6.261 483**
Temperature adjustment set	MA35 / 37 / 100 / 160	1	**6.282 022**
ReproEasy Pads	MA37 /160	10	**6.289 754**

OIML classes

Classes of Accuracy

Nominal value	E1	E2	F1	(Tolerance ±) F2	M1	M 2	M 3
1mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.006 mg	± 0.20 mg		
2mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.006 mg	± 0.20 mg		
5mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.006 mg	± 0.20 mg		
10mg	± 0.003 mg	± 0.008 mg	± 0.025 mg	± 0.008 mg	± 0.25 mg		
20mg	± 0.003 mg	± 0.010 mg	± 0.03 mg	± 0.10 mg	± 0.3 mg		
50mg	± 0.004 mg	± 0.012 mg	± 0.04 mg	± 0.12 mg	± 0.4 mg		
100mg	± 0.005 mg	± 0.016 mg	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	
200mg	± 0.006 mg	± 0.020 mg	± 0.06 mg	± 0.20 mg	± 0.6 mg	± 2.0 mg	
500mg	± 0.008 mg	± 0.025 mg	± 0.08 mg	± 0.25 mg	± 0.8 mg	± 2.5 mg	
1g	± 0.010 mg	± 0.03 mg	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg
2g	± 0.012 mg	± 0.04 mg	± 0.12 mg	± 0.4 mg	± 1.2 mg	± 4.0 mg	± 12 mg
5g	± 0.016 mg	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg
10g	± 0.020 mg	± 0.06 mg	± 0.20 mg	± 0.6 mg	± 2.0 mg	± 6.0 mg	± 20 mg
20g	± 0.025 mg	± 0.08 mg	± 0.25 mg	± 0.8 mg	± 2.5 mg	± 8.0 mg	± 25 mg
50g	± 0.03 mg	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg
100g	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg	± 50 mg
200g	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg	± 100 mg
500g	± 0.25 mg	± 0.8 mg	± 2.5 mg	± 8.0 mg	± 25 mg	± 80 mg	± 250 mg
1kg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg
2kg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1000 mg
5kg	± 2.5 mg	± 8.0 mg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2500 mg
10kg	± 5.0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg	± 1600 mg	± 5000 mg
20kg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1000 mg	± 3000 mg	± 10 g
50kg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2500 mg	± 8000 mg	± 25 g
100kg		± 160 mg	± 500 mg	± 1600 mg	± 5000 mg	± 16 g	± 50 g
200kg		± 300 mg	± 1000 mg	± 3000 mg	± 10 g	± 30 g	± 100 g
500kg		± 800 mg	± 2500 mg	± 8000 mg	± 25 g	± 80 g	± 250 g
1000kg		± 1600 mg	± 5000 mg	± 16 g	± 50 g	± 160 g	± 500 g
2000kg			± 10 g	± 30 g	± 100 g	± 300 g	± 1000 g
5000kg			± 25 g	± 80 g	± 250 g	± 800 g	± 2500 g

1 Calibration weights, class M1

Brass, finely turned (also available in stainless steel). Plastic box with internal foam support available on request. Also available with internationally recognised DAkkS calibration certification on request.

Kern & Sohn

Weight g	Accuracy ± mg	PK	Cat. No.
1	1.0	1	**9.900 501**
2	1.2	1	**9.900 502**
5	1.5	1	**9.900 505**
10	2.0	1	**9.900 510**
20	2.5	1	**9.900 512**
50	3.0	1	**9.900 515**
100	5.0	1	**9.900 520**
200	10	1	**9.900 522**
500	25	1	**9.900 525**
1000	50	1	**9.900 531**
2000	100	1	**9.900 532**
5000	250	1	**9.900 535**

Also available: Single weights or complete weight sets in OIML-classes E1, E2, F1, F2, M1, M2, M3.

2 Calibration weights, class F1, cylindrical

Stainless steel, polished. Plastic boxes with internal foam support or wooden boxes and internationally recognised DAkkS certificates are separately available.

Kern & Sohn

Weight g	Accuracy ± mg	PK	Cat. No.
1	0,1	1	**7.630 402**
2	0,12	1	**7.651 146**
5	0,16	1	**7.651 098**
10	0,2	1	**7.608 143**
20	0,25	1	**6.056 393**
50	0,3	1	**6.054 634**
100	0,5	1	**6.253 660**
200	1	1	**6.056 390**
500	2,5	1	**6.901 628**
1000	5	1	**6.229 584**
2000	10	1	**6.056 389**
5000	25	1	**6.054 631**

Also available: Single weights or complete weight sets in OIML-classes E1, E2, F1, F2, M1, M2, M3.

3 Calibration weights, class F1, compact shape

Stainless steel, polished. Plastic boxes with internal foam support or wooden boxes and internationally recognised DAkkS certificates are separately available.

Kern & Sohn

Weight g	Accuracy ± mg	PK	Cat. No.
1	0.1	1	**6.285 539**
2	0.12	1	**4.659 260**
5	0.16	1	**4.659 261**
10	0.2	1	**6.267 155**
20	0.25	1	**7.940 456**
50	0.3	1	**6.267 562**
100	0.5	1	**6.242 987**
200	1	1	**4.659 262**
500	2.5	1	**6.274 992**
1000	5	1	**6.236 357**
2000	10	1	**4.659 263**
5000	25	1	**6.275 891**

Also available: Single weights or complete weight sets in OIML-classes E1, E2, F1, F2, M1, M2, M3.

4 Calibration weights, class E2, compact shape

Stainless steel, polished. Plastic boxes with internal foam support or wooden boxes and internationally recognised DAkkS certificates are available separately.

Weight g	Accuracy ± mg	PK	Cat. No.
1	0.03	1	**6.233 989**
2	0.04	1	**6.234 003**
5	0.05	1	**7.639 008**
10	0.06	1	**7.653 221**
20	0.08	1	**7.653 222**
50	0.10	1	**6.233 196**
100	0.16	1	**6.233 990**
200	0.30	1	**6.233 991**
500	0.80	1	**6.233 992**
1000	1.60	1	**4.652 699**
2000	3.00	1	**7.653 223**
5000	8.00	1	**7.671 083**

Also available: Single weights or complete weight sets in OIML-classes E1, E2, F1, F2, M1, M2, M3.

1 Undergloves, Cotton

100% Cotton. Monofilament, ideal to wear under chemical protection gloves. 1 pair per pack. **Cat. I**

Size	Length mm	PK	Cat. No.
6	250	1	**6.235 155**
7	250	1	**7.623 809**
8	250	1	**9.005 222**
9	250	1	**7.625 555**
10	250	1	**7.623 881**
11	250	1	**7.623 810**
12	250	1	**9.005 223**
13	250	1	**6.224 187**

2 Balance brush

Oval.

Type	Size	Diam. mm	PK	Cat. No.
Brush	1	5	1	**2.600 069**
Brush	2	6	1	**6.266 807**
Brush	4	9	1	**6.074 169**
Brush	6	12	1	**6.266 808**
Brush set*	2, 4, 6		1	**6.266 825**

*consisting of one brush each size 2/6mm, size 4/9mm and size 6/12mm

3 Forceps with silicone-coated tips, stainless steel

Kern & Sohn

Type	Length mm	PK	Cat. No.
for weights 1mg to 200g, for E1 to F1	105	1	**9.900 790**
for weights 500g to 2kg, for E1 to F1	250	1	**6.054 809**

4 LLG weighing scoops, porcelain

Length mm	PK	Cat. No.
37	1	**9.115 350**
53	1	**6.241 255**
64	1	**9.115 351**

5 Weighing scoops, stainless steel 18/10

ISOLAB

Length mm	PK	Cat. No.
95	1	**6.238 169**
117	1	**6.238 170**
125	1	**6.238 171**

6 Weighing scoops, aluminium

Without counterweight.

Length mm	PK	Cat. No.
70	1	**9.301 006**
90	1	**9.301 008**
105	1	**9.301 010**
120	1	**6.203 560**

7 Weighing scoops, Borosilicate glass 3.3

Without counterweight.

Length mm	PK	Cat. No.
60	1	**9.301 026**
80	1	**9.301 028**
100	1	**9.301 030**

8 Weighing scoops, glass

Made of high quality Borosilicate glass 3.3. Ideal for powders or granules which are dispensed via the tubular stem.
Funnel shape for loss-free ejection of the weighing sample.

Scherf

Capacity ml	Length mm	PK	Cat. No.
3	80	1	**9.301 066**
6	85	1	**9.301 067**
10	110	1	**9.301 068**

1 Weighing boat parchment paper, Kjeldahl 609, nitrogen-free

Ideal for weighing and transporting all types of sample. Especially for determination of nitrogen according to Kjeldahl (e.g. determination of total protein content in foodstuff). Made of nitrogen-free parchment paper. Can be dropped into the Kjeldahl flask and be dissolved together with the sample.

Whatman

Type	Width mm	Length mm	Height mm	PK	Cat. No.
Kjeldahl 609	10	55	10	100	**9.069 011**

2 Weighing boats MN 808, Paper, nitrogen-free

Pack of 100 pieces.
Paper
Dimensions: 58mm x 10mm x 10mm

MACHEREY-NAGEL

Type	Length mm	Width mm	Height mm	PK	Cat. No.
MN 808	58	10	10	100	**9.301 069**

Other sizes and weighing aids available on request.

3 LLG-Weighing paper

- Not treated with nitrogen during production
- Smooth surface
- 45 g/m² paper
- Block of 500 sheets

Dimensions (D x W) mm	PK	Cat. No.
76 x 76	500	**6.272 246**
102 x 102	500	**6.272 247**
152 x 152	500	**6.272 248**

4 Weighing paper MN 226

Transparent, smooth. 40 g/m² paper
Block of 100 sheets.

MACHEREY-NAGEL

Type	Width mm	Length mm	PK	Cat. No.
MN 226	90	115	100	**9.058 975**

Further weighing aids available on request.

Weighing Papers, Grade 2122

The weigh paper sheets reliably allow samples to be transferred to scales without adding unwanted substances that could impact analytical results.
- Smooth surface allows samples to slide off with ease and not be retained on paper.
- Shiny pergamyne paper allows visual determination that all sample has been removed.
- Extremely thin (0.03 mm) and lightweight (40 g/m²) for safe and secure sample transport.
- No glue or additives (residue-free).

Note: This paper is not low in nitrogen. Therefore, it should not be used for Kjeldahl analysis.

Whatman

Dimensions (D x W) mm	PK	Cat. No.
150 x 150	500	**7.009 805**
100 x 100	500	**7.009 806**

5 Playing card rejects

Standard size for use as disposable sample carriers or spatulas. Pack size: 1 kg, not sorted.

Type	PK	Cat. No.
Printed and laminated on both sides	1	**9.190 940**

www.wenk-labtec.com

1   LLG-Weighing bottles with NS lid, Borosilicate glass 3.3

With writing area.
Available in tall or low shape.

Form	Capacity ml	Diam. mm	Height mm	NS	PK	Cat. No.
low	3	25	25	19/12	1	**9.300 151**
low	10	35	30	29/12	1	**9.300 152**
low	11	40	25	34.5/12	1	**9.300 150**
low	20	50	30	45/12	1	**9.300 153**
low	29	60	30	50/12	1	**9.300 154**
low	60	80	30	80/12	1	**9.300 155**
tall	9	25	40	19/12	1	**9.300 160**
tall	19	30	50	24/12	1	**9.300 161**
tall	42	35	70	29/12	1	**9.300 162**
tall	66	40	80	34.5/12	1	**9.300 163**
tall	105	50	80	45/12	1	**9.300 164**

2   Weighing bottles DURAN® tube, with NS stopper

DIN 12605. With white inscription label. Burned-in imprint of capacity and size. Available in high or low shape.

Nominal capacity ml	Form	Body diam. mm	Height mm	NS	PK	Cat. No.
6	low	25	25	24/12	1	**9.300 022**
15	low	40	25	40/12	1	**9.300 021**
15	low	35	30	34/12	1	**9.300 023**
30	low	50	30	50/12	1	**9.300 032**
45	low	60	30	60/12	1	**9.300 037**
80	low	80	30	80/12	1	**9.300 041**
8	tall	20	40	19/12	1	**9.300 345**
10	tall	25	40	24/12	1	**9.300 113**
20	tall	30	50	29/12	1	**9.300 118**
25	tall	35	50	34/12	1	**9.300 356**
30	tall	40	50	40/12	1	**9.300 357**
45	tall	40	65	40/12	1	**9.300 360**
45	tall	35	70	34/12	1	**9.300 123**
70	tall	40	80	40/12	1	**9.300 124**
110	tall	50	80	50/12	1	**9.300 127**

LLG-Sample dishes, Aluminium

High quality aluminium sample dishes, for moisture determination.

Description	Diam. mm	Height mm	PK	Cat. No.
Sample dishes	90	7	80	**6.282 670**
Sample dishes	100	7	80	**6.265 408** 3
Sample dishes with rim	100	7	80	**6.281 537** 4

6. 265 408   6.281 537

5   6   LLG-Weighing dishes, aluminium

Made from oil-free, lightweight aluminium. With a flanged, crimped wall for rigidity. Finger-tab handle can be etched for identification prior to weighing.

Ø mm	Height mm	PK	Cat. No.
43	12	100	**6.238 138**
57	14	100	**6.238 139**
70	16	100	**6.238 140**
101 *	8	50	**6.236 854**

* without Finger-tab handle

7   LLG-Weighing boats, diamond, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases.
Temperature range -10 to +70°C. Can be used with microwave moisture analysers.
Features a diamond shape that easily flexes for accurate pouring and a wide, flat bottom to resist tipping.

Capacity ml	Colour	Dimensions mm	PK	Cat. No.
5	white	55 x 35 x 6	1000	**9.900 788**
30	white	85 x 65 x 14	500	**9.950 194**
100	white	125 x 100 x 19	250	**9.950 195**
5	black	55 x 35 x 6	1000	**9.900 801**
30	black	85 x 65 x 14	500	**9.950 196**
100	black	125 x 100 x 19	250	**9.950 197**

1 LLG-Hexagonal weighing boats, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases.
Temperature range -10 to +70°C. Can be used with microwave moisture analyzers.
Bend flexible boats at points to form pour spouts. Flat bottoms to resist tipping.
Sloping sides provide accurate transfer.

Colour	Size	Dimensions mm	PK	Cat. No.
white	Small	38 x 25 x 9	500	9.900 893
white	Medium	64 x 51 x 19	500	9.900 894
white	Large	102 x 76 x 22	500	9.900 895
white	X-Large	127 x 89 x 31	500	9.900 896

2 LLG-Weighing boats, square, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases.
Temperature range -10 to +70°C. Can be used with microwave moisture analysers.
Boats are shallow with a wide, flat bottom to resist tipping. Rounded corners simplify transfer.

Capacity ml	Colour	Dimensions (W x D x H) mm	PK	Cat. No.
7	White	44 x 44 x 8	1000	9.900 785
100	White	80 x 80 x 24	1000	9.900 786
250	White	140 x 140 x 22	1000	9.900 787
7	Black	44 x 44 x 8	1000	9.900 789
100	Black	80 x 80 x 24	1000	9.900 791
250	Black	140 x 140 x 22	1000	9.900 800

3 Balance bench with granite slab

Constructed to absorb vibrations and oscillations, which would otherwise distort the *Kern & Sohn*
weighing result. With a granite slab positioned on absorbing rubber components as
surface for placing the analytical balance. The work surface surrounds the slab and offers many storage options.
The sturdy aluminium frame has four height-adjustable feet, which can be used to accurately level the balance bench
on an uneven floor. The inlet on front of the table offers the possibility to work at the bench in an ergonomic standing
or seated position without touching the table. All surfaces are easy and hygienic to clean.

Specifications

Dimensions (W x D x H):	800 x 650 x 800 mm (height adjustable)
Dimensions granite slab (W x D x H):	400 x 450 x 70 mm
Net weight:	approx. 55 kg

Description	PK	Cat. No.
Balance bench with granite slab	1	6.262 477
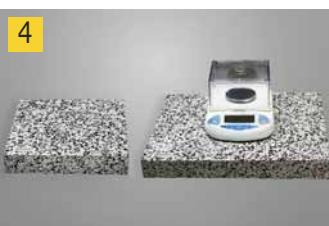
4 Anti-vibration platform, Vibrasorb

For absorbing and damping vibrations down to 16Hz. Comprises of a moulded terazzo *Bel-Art Products*
slab supported on four vibration absorbers with non-slip feet. Suitable for isolating
sensitive analytical instruments such as balances and microscopes. Will support up to 16kg.

- Polished surface
- Resists scratches and chemical attack

Width mm	Depth mm	Height mm	Weight kg	PK	Cat. No.
350	350	76	19	1	9.941 600
450	560	76	39	1	9.951 600

LLG-General purpose thermometers *economy*

Solid stem, with loop, capillary yellow enameled, graduation resistant against acids and alkalis. Red filling or environmentally friendly blue filling.

Measuring range	Graduations	Length	Diam.	Immersion depth	Charge	PK	Cat. No.
°C	°C	mm	mm		colour		
-10 ... +50	1	300	6	total	red	1	**9.237 010**
-10 ... +100	1	300	6	total	red	1	**9.237 011**
-10 ... +150	1	300	6	total	red	1	**9.237 012**
-10 ... +200	1	300	6	total	red	1	**9.237 013**
-10 ... +250	1	300	6	total	red	1	**9.237 014**
-10 ... +110	1	300	6	76 mm	blue	1	**9.237 015**
-10 ... +110	0.5	300	6	76 mm	blue	1	**9.237 016**
-10 ... +150	1	300	6	76 mm	blue	1	**9.237 017**
-10 ... +250	1	300	6	76 mm	blue	1	**9.237 018**
-10 ... +360	2	300	6	76 mm	blue	1	**9.237 019**
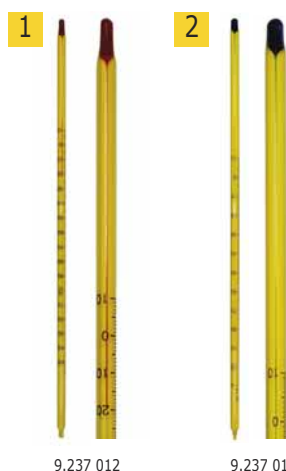
9.237 012   9.237 016

3   LLG-General purpose thermometer, red filling

Graduation resistant against acids and alkalies.

Measuring range	Graduations	Length	Diam.	Immersion depth	Capillary	PK	Cat. No.
°C	°C	mm	mm				
-35 ... +50	1	300	6 ±1	total	white enameled, round	1	**9.236 720**
-20 ... +110	1	300	6 ±1	total	white enameled, round	1	**6.206 594**
-20 ... +150	1	300	6 ±1	total	white enameled, round	1	**9.236 723**
-20 ... +150	1	300	6 ±1	76 mm	white enameled, round	1	**9.236 731**
-10 ... +110	1	260	6 ±1	total	yellow enameled, round	1	**9.236 721**
-10 ... +110	1	270	6 ±1	76 mm	yellow enameled, round	1	**9.236 727**
-10 ... +150	1	260	6 ±1	total	yellow enameled, round	1	**9.236 722**
-10 ... +200	1	300	6 ±1	total	yellow enameled, round	1	**9.236 724**
-10 ... +200	1	300	6 ±1	total	white enameled, round	1	**9.236 725**
-10 ... +200	1	300	6 ±1	76mm	white enameled, round	1	**9.236 730**
-10 ... +250	1	300	6 ±1	total	yellow enameled, round	1	**9.236 726**

4   LLG- General-purpose thermometers, red filling

Enclosed-scale type, with eyelet. With uncoated, prismatic measuring capillary.
Red spirit filling (except 9.235 265: blue).

Measuring range	Graduations	Length	Diam.	Immersion depth	PK	Cat. No.
°C	°C	mm	mm			
-10/0 ... +50	1	200	7 - 8	total	1	**9.235 245**
-10/0 ... +100	1	260	7 - 8	total	1	**9.235 250**
-10/0 ... +150	1	260	7 - 8	total	1	**9.235 255**
-10/0 ... +200*	1	300	7 - 8	total	1	**9.235 260**
-10/0 ... +250*	1	300	7 - 8	total	1	**9.235 265**

* Note: With these types the colour can fade after extended periods of use at higher temperatures.

5   LLG- General-purpose thermometers, green filling

Glass, solid stem, with loop, white backed. Environmentally friendly thermometer, with biodegradable, green spirit filling.

Measuring range	Graduations	Length	Diam.	Immersion depth	PK	Cat. No.
°C	°C	mm	mm	mm		
-10/0 ... +110	1.0	300	6-7	76	1	**9.235 275**
-10/0 ... +110	0.5	300	6-7	76	1	**9.235 276**
-10/0 ... +150	1.0	300	6-7	76	1	**9.235 277**
-10 ... +250	2.0	300	6-7	76	1	**9.235 278**
-10 ... +360	2.0	300	6-7	76	1	**9.235 279**

1

1 LLG-Precision thermometer, calibratable, red filling

Capillary: yellow enameled, round.

Measuring range °C	Graduations °C	Length mm	Diam. mm	PK	Cat. No.
-50 ... +50	1.0	280	6 ±1	1	9.236 800
-10 ... +100	1.0	305	6 ±1	1	9.236 783
-10 ... +150	1.0	305	6 ±1	1	9.236 784
-10 ... +200	1.0	350	6 ±1	1	9.236 788
-50 ... +50	0.5	300	6 ±1	1	9.236 801
-10 ... +100	0.5	270	6 ±1	1	9.236 785
-10 ... +150	0.5	350	6 ±1	1	9.236 786
-1 ... +101	0.1	610	6 ±1	1	9.236 790
-0 ... +50	0.1	420	6 ±1	1	9.236 787

2
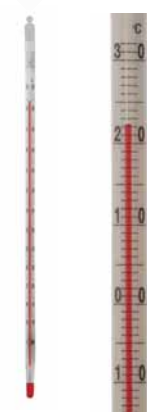
2 LLG-Low temperature thermometers, -200 to +30°C

Suitable for official calibration. Enclosed scale type, 8 to 9mm diameter, with translucent glass scale and Richter seal. Prismatic, uncoated measuring capillary. The -200 to +30°C thermometer has a luminous blue measuring capillary, and is pentane filled. Further thermometers are available, red toluene filled with uncoated measuring capillary. Graduated every 1°C.

Measuring range °C	Length mm	PK	Cat. No.
-50 ... +50	300	1	9.235 705
-100 ... +30	300	1	9.235 710
-200 ... +30	300	1	9.235 720

3

3 Thermometers, ground glass joint

With NS14.5/23 cone. Enclosed-scale type, NS 14.5/23. Translucent glass scale. Upper section approx. 11mm diameter, lower section 7.5mm diameter. Richter-top finish seal without button. Suitable for official calibration. Graduated every 1°C.

Measuring range °C	Graduations °C	Corpus mm	Immersion depth mm	Charge colour	PK	Cat. No.
-10 ... +150	1	250	52	red	1	9.236 021
-10 ... +15	0.5	350	52	red	1	9.236 022
-10 ... +25	1	300	52	blue	1	9.236 023
-10 ... +360	1	350	52	green	1	9.236 024
-10 ... +150	1	250	77	red	1	9.236 025
-10 ... +150	0.5	350	77	red	1	9.236 026
-10 ... +250	1	300	77	blue	1	9.236 027
-10 ... +360	1	350	77	green	1	9.236 028

(Built-in length = Immersion depth + 23 mm for ground joint)

4
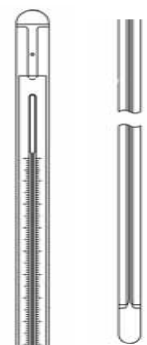
4 Precision ground thermometer, enclosed-scale type, with works calibration certificate

Acc. to DIN 12784, with standard ground joint NS 14.5/23. Enclosed-scale type, capillary: **transparent prismatic**, diam. top: 11 mm (±0.5 mm), suitable for calibration.

Ludwig Schneider

Measuring range °C	Graduations °C	Built-in length mm	Charge	Joint size NS	PK	Cat. No.
-10 ... +150	1	175	blue	14,5/23	1	6.289 969
-10 ... +150	1	200	blue	14,5/23	1	6.289 970

5

5 Adapter for thermometer, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3 according to DIN 12257 standard, ideal to use for thermometers with Ø 6 - 8 mm. Screw joint provides easy depth adjustment of thermometer. Seal material: NBR

ISOLAB

Adapter bore diam. mm	Cone NS	Neck thread GL	PK	Cat. No.
6 - 8	14/23	14	1	4.008 360
6 - 8	29/32	14	1	6.244 589

1   ASTM-Thermometers ACCU-SAFE, stem type

High precision and mercury free. ASTM-Thermometers with blue, environmental safety filling, suitable for calibration, immersion total. With DAkkS-calibration or works-calibration certificate on request.

Ludwig Schneider

Further types available on request, also in °F.

Measuring range °C	Graduations °C	Length mm	Immersion depth	Charge	Type ASTM	PK	Cat. No.
-38 ... +50	1,0	260	108	blue	S 5C	1	**9.236 850**
-20 ... +102	0,2	435	total	blue	S12C	1	**9.236 852**
-2 ... +80	0,2	415	total	blue	S15C	1	**9.236 854**
+34 ... +42	0,1	300	total	blue	S18C	1	**9.236 856**
+95 ... +103	0,1	300	total	blue	S22C	1	**9.236 858**
+19 ... +35	0,02	610	total	blue	S56C	1	**9.236 860**
-34 ... +49	0,5	300	total	blue	S58C	1	**9.236 862**
-18 ... +82	0,5	300	total	blue	S59C	1	**9.236 864**
-38 ... +2	0,1	401	total	blue	S62C	1	**9.236 866**
-8 ... +32	0,1	401	total	blue	S63C	1	**9.236 868**
+25 ... +55	0,1	* 401	total	blue	S64C	1	**9.236 870**
+50 ...+80	0,1	* 401	total	blue	S65C	1	**9.236 872**
+75 ... +105	0,1	* 401	total	blue	S66C	1	**9.236 874**
+95 ... +155	0,2	* 401	total	blue	S67C	1	**9.236 876**
+18,9 ...25,1	0,01	615	total	blue	S116C	1	**9.236 879**
23,9 ... 30,1	0,01	615	total	blue	S117C	1	**9.236 880**
38,6 ... 41,4	0,05	* 300	total	blue	S120C	1	**9.236 881**
-7 ... 105	0,5	300	total	blue	S130C	1	**9.236 882**
+20 ... +50	0,1	390	76	blue	S91C	1	**9.236 878**

*With auxiliary scale at 0 °C

2   Precision thermometer, calibrated, enclosed form

Capillary: colourless prismatic, diam. Ø 9 ±1 mm, environmentally friendly red filling, with DAkkS calibration certificate. 3 checkpoints.

Ludwig Schneider

Measuring range °C	Graduations °C	Length mm	Immersion depth	PK	Cat. No.
-10 ... +100	1	305	total	1	**4.658 575**
-10 ... +150	1	305	total	1	**4.658 580**
-10 ... +100	0,5	270	total	1	**4.658 576**
-10 ... +150	0,5	350	total	1	**6.289 516**
-5 ... +100	0,2	420	total	1	**4.658 577**
0 ... +50	0,1	420	total	1	**4.658 579**
-10 ... +50	0,1	420	total	1	**4.658 578**

3   Precision thermometer, calibrated, stem type

Capillary: yellow back round, diam. 6 ±1 mm, environmentally friendly red filling, with DAkkS calibration certificate, 3 points.

Ludwig Schneider

Measuring range °C	Graduations °C	Length mm	Immersion depth	PK	Cat. No.
-10 ... +100	1	305	total	1	**4.658 581**
-10 ... +150	1	305	total	1	**4.658 582**
-10 ... +100	0.5	270	total	1	**4.658 583**
-5 ... +100	0.2	420	total	1	**4.658 584**
0 ... +50	0.1	420	total	1	**4.658 585**
-10 ... +50	0.1	420	total	1	**4.658 586**

4   Thermometer holder

Bel-Art. PP.
For mounting standard glass thermometers onto the rims of containers. Temperature resistant up to 121 °C. Holds thermometer from 3.2 mm to 11 mm diam.

Type	PK	Cat. No.
BEL-ART	1	**9.207 922**

1 LLG-Exact-Temp thermometers

For monitoring critical temperature conditions in deep freezes, refrigerators, cold rooms, blood bank refrigerators, incubators and warming chambers.

- thermometer certifiable to National Standards
- supplied with works test certificate
- thermometer stem safely encapsulated in PTFE
- each thermometer is mounted in a square-shaped shatter-proof plastic bottle filled with a liquid to ensure accurate readings despite the opening and closing of instrument doors.
- each thermometer has an individual serial number.

LLG-Exact-Temp Standard thermometers, red spirit-filled

Measuring range °C	Length mm	Graduations °C	Bottle filling	PK	Cat. No.
-90 ... +20	145	1.0	Sand	1	**9.235 663**
-30 ... 0	125	0.50	Ethylene Glycol	1	**9.235 664**
-5 ... +20	145	0.50	Ethylene Glycol	1	**9.235 665**
-5 ... +15	125	0.50	Ethylene Glycol	1	**9.235 666**
+18 ... +50	135	0.50	Ethylene Glycol	1	**9.235 667**
+20 ... +130	135	1.0	Vermiculite	1	**9.235 668**
+35 ... +200	145	1.0	Vermiculite	1	**9.235 669**

LLG-Exact-Temp precision thermometers, blue spirit-filled

Measuring range °C	Graduations °C	Length mm	Bottle filling	PK	Cat. No.
-2 ... +10	0.10	180	Ethylene Glycol	1	**9.235 676**
+15 ... +30	0.10	180	Ethylene Glycol	1	**9.235 678**
+25 ... +45	0.10	190	Ethylene Glycol	1	**9.235 679**
+50 ... +115	0.10	200	Vermiculite	1	**9.235 680**

2 Digital Maxima-Minima-Thermometers Exact-Temp

The unbreakable plastic bottle is filled with a special medium to ensure accurate measurements even at open doors.

Ludwig Schneider

- Thermometers traceable to international standards (with certificate of conformance and accuracy)
- Accuracy: ±0.5°C, resolution 0.1°C
- Temperature units: °C or °F
- 3 display modes: maximum, minimum and ambient temperature
- Alarm function
- 3 m long cable (diameter: 1mm)
- Alkaline battery (AAA) included
- Breakage protected PETG plastic bottles (with 30ml ethylene glycol mixture)
- Bottles with magnets attached for easy wall or door mounting
- Individual serial numbers
- The instruments are available with works certificate on request.

Application	Measuring range °C	Certified Temperature °C	PK	Cat. No.
Freezers	-50 ... 70	-20	1	**9.236 710**
Freezing point	-50 ... 70	0	1	**9.236 711**
Refrigerators	-50 ... 70	4	1	**9.236 712**
Incubators/Water baths	-50 ... 70	37	1	**9.236 713**
Climate chambers	-50 ... 70	21	1	**9.236 714**

Mini temperature indicators

7.036 852

Testo

Self-adhesive, temperature-sensitive films that respond to certain temperature increases by changing colour. If the respective temperature is exceeded, the corresponding field changes colour permanently within 2-3 seconds. For monitoring products or processes where a certain maximum temperature should not be exceeded.

Specifications

Dimensions:	diam. 15 mm
Storing conditions:	max. 25 °C (storage in freezer recommended)

Temp. range °C	Accuracy	PK	Cat. No.
60 ... 82	±1.5 °C	10	7.036 852 [1]
88 ... 110	±1.5 °C	10	7.036 853
116 ... 138	±1.5 °C	10	7.036 854
143 ... 166	±2 °C (+143 ... +154 °C) ±(1 °C + 1 % of measured value) (remaining range)	10	7.036 855
171 ... 193	±(1 °C + 1 % of measured value)	10	7.036 856
199 ... 224	±(1 °C + 1 % of measured value)	10	7.036 857

Temperature indicators WarmMark™

4.668 451

Transport Control

Self-adhesive indicators to monitor temperature exceedance and duration, e.g. when transporting temperature-sensitive goods. The indicator reliably indicates whether the temperatures were above the selected temperature limit by red dots. In addition, the indicator provides information on the duration of the temperature exceedance (the time is based on a constant temperature overrun of 2 °C above the limit value of the indicator).

- Selection of different temperatures
- Clear display of temperature exceedances and the duration of the exceedance
- Self-adhesive, easy to apply
- ISO-certified
- Dimensions (W x D x H): 19 x 46 x 1.5 mm

Type	PK	Cat. No.
-18 °C	100	4.668 449
0 °C	100	4.668 450
8 °C	100	4.668 451 [2]
25 °C	100	4.668 452

Temperature indicators 3M™ Freeze Watch™

7.672 572

3M Deutschland

The Freeze Watch consists of a highly sensitive indicating liquid inside a specially designed ampule. The ampule fractures when exposed to freezing temperatures, irreversibly staining the paper backing of the ampule, reliably indicates if the product has been exposed to too high or too low a temperature.
- Selection of different temperatures
- Self-adhesive, easy to apply

Type	Temp. range °C	PK	Cat. No.
9800FW	-4 °C	400	4.668 640
9805FW	0 °C	400	7.672 572 [3]

Time/Temperature indicators 3M™ MonitorMark™

4.668 641

3M Deutschland

3M™ MonitorMark™ Time Temperature Indicator 9860C solves the challenge of monitoring thermal exposure of temperature-sensitive products during transportation and storage. The large indicator window displays exposure, the smaller windows to the right indicate for how long temperature exposure took place.
- Clear display of temperature exceedances and the duration of the exceedance
- Self-adhesive, easy to apply

| Type	Temp. range °C	For	PK	Cat. No.
9860C	10 °C	48 H	500	4.668 641 [4]
9860H	31 °C	1 Week	500	4.668 642
9860E	26 °C	48 H	500	4.668 643
9861A	10 °C	2 Week	500	6.274 756
9860D	10 °C	1 Week	500	6.284 635

1

9.246 310

2

9.246 314

5-step irreversible temperature strips Thermax®

5-step irreversible temperature measuring strips covering the temperature range 29 to 290°C.
Each strip measures 35 x 15mm.

Type	Measuring range °C	PK	Cat. No.
S	+29 ... +40	10	9.246 310 1
A	+37 ... +46	10	9.246 311
B	+49 ... +71	10	9.246 312
C	+77 ... +99	10	9.246 313
D	+104 ... +127	10	9.246 314 2
E	+132 ... +154	10	9.246 315
F	+160 ... +182	10	9.246 316
G	+188 ... +210	10	9.246 317
H	+ 216 ... +249	10	9.246 318
I	+249 ... +290	10	9.246 319

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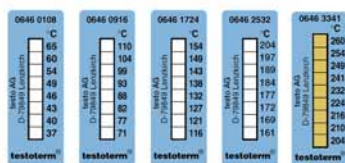
3   8-step irreversible temperature strips testoterm®

Strips for 8 temperatures. 5 types cover the measuring range +37 to +280 °C, *Testo*
each strip displays 8 different temperatures. Each strip measures 50 x 18mm.

Measuring range °C	PK	Cat. No.
+37 ... +65	10	9.246 002
+71 ... +110	10	9.246 003
+116 ... +154	10	9.246 004
+161 ... +204	10	9.246 005
+204 ... +260	10	9.246 006

4

4   Min/Max-Thermometer

- ivory plastic   *TFA Dostmann*
- beige
- with push button
- mercury-free

Type	Dimensions mm	Weight g	PK	Cat. No.
Min/Max-Thermometer, beige	85 x 45 x 232	88	1	9.241 134

5

5   LLG-Min/Max Thermometer with outdoor sensor

Digital thermometer with outdoor sensor.
- Two-tier LCD display
- Measuring temperature range -50°C to +70°C, can be switched to °F
- Display resolution 0.1°C
- Accuracy ±1°C
- Dimensions 110 x 70 x 20mm
- Display size 40 x 30mm
- AAA 1.5V battery included
- Length of the cable 190cm

Type	PK	Cat. No.
LLG Min/Max Thermometer with outdoor sensor	1	9.243 165

6

6   Maximum/Minimum Indoor/outdoor thermometer

Optimal for controlling of refrigerator and freezer temperatures. With temperature alarm.   *Amarell*

- Measuring range: -50 to +70°C
- Accuracy: 0.1°C
- External remote sensor cable PVC, length 3m
- Dimensions: approx. 65 x 67 x 23 mm

Type	PK	Cat. No.
Dual Thermo Max / Min with temperature alarm	1	6.273 798

Min/Max alarm thermometer, type 13030, digital

Display of 3 temperatures, with min/max alarm, memory date/time and pull-out stand. *Ludwig Schneider*
- Without Certificate: temperature sensor with 3 m cable, response time T 90 = 10 sec.
- With Certificate: temperature sensor with 3 m cable attached in 5 ml plastic bottle filled with ethylene glycol/water
  (for measuring delay/alarm lag during opened door). With serial number, certified at a defined temperature,
  certificate traceable to international standards (PTB, NIST, ILAC)

6.263 179

Type	Description	PK	Cat. No.
Without Certificate	-	1	6.263 179
With Certificate	for freezers, approved at -20 °C	1	6.261 440
With Certificate	for refrigerators, approved at +4 °C	1	6.261 441

2 Digital Maxima-Minima-Thermometer

Digital thermometer, wall hanging, for indoor or outdoor use. With blue, splash-proof *TFA Dostmann*
casing, selectable °C/°F ranges and battery.
weight: 161g

Width mm	Depth mm	Height mm	Description	PK	Cat. No.
75	44	115	-20 ... +50 °C	1	9.241 131

3 Laboratory Max./Min. thermometer

Display of current, highest and lowest temperature, hold function, alarm at freely adjustable temperature values optical
and audibly (upper/lower limit), selectable °C/°F readout. Supplied with table stand and magnet.
3V Lithium CR2032 button cell (acc. to EN 13485).

Specifications	LT101	LT102
Sensor:	NTC
Resolution:	0.1 °C
Response time t90:	appr. 15 seconds in water
Dimensions (L x W x H):	86 x 57 x 30 mm
Sensor tube (L x diam.):	100 x 3.5 mm	30 x 5 mm
Weight:	100 g

Type	Measuring range °C	Accuracy (±) °C	Cable m	PK	Cat. No.
LT101	-40 ... +200	2	1	1	6.234 373

Refrigerator thermometers TMX series

Digital minimum/maximum thermometers for monitoring refrigerator temperatures. *ebro*
Display of the current temperature and the set minimum/maximum limit values. Models
310 and 320 are equipped with an internal and an external temperature sensor, models 410 and 420 with
2 external temperature sensors.

- Visual and acoustic alarm when limit values are exceeded
- The external temperature sensor is located in a glycol bottle or in a metal capsule, depending on the device.
- With 3-point calibration option
- Incl. factory calibration certificate for -20 and 60 °C

4.666 540

Specifications

Temperature range external sensor:	-50 ... 70 °C
Temperature range internal sensor:	0 ... 50 °C
Resolution:	0.1 °C
Accuracy:	-20 ... 40 °C: ±0.5 °C/±1.0 °C for remaining temperature range
Cable length:	3 m
Housing material:	ABS
IP code:	IP 20
Dimensions (W x D x H):	100 x 23 x 110 mm
Power supply:	1 x AAA

4.666 541

Type	PK	Cat. No.
310, with internal and external sensor in glycol bottle	1	4.666 540
320, with internal and external sensor in metal capsule	1	4.666 541
410, with 2 external sensors in glycol bottle	1	4.666 542
420, with 2 external sensors in metal capsule	1	4.666 543

1 LLG-Digital pocket thermometer Type 12050

Measuring range -50 to +150°C, accuracy ±1°C. Probe made of stainless steel, 120 x 3.5mm, with protective plastic sleeve and clip, with battery 1 x 1.5V (LR44). Overall dimensions (L x W): 75 x 20mm.

Type	PK	Cat. No.
LLG-Digital pocket themometer Type 12050	1	**9.236 706**

2 LLG-Digital pocket themometer Type 12060

Measuring range -50 to +150 °C, accuracy ±1 °C. With hold function. Probe made of stainless steel, 125 x 3.5mm, with protective plastice sleeve and clip, with battery 1 x 1.5V (LR44). Dimensions (L x W): 60 x 20mm.

Type	PK	Cat. No.
LLG-Digital pocket themometer Type 12060	1	**9.236 701**

3 LLG-Digital pocket themometer Type 12070

Measuring range -50 to +300°C, accuracy ±1°C until 150°C, above ±2°C. With hold function. Probe 200 x 3.5mm with tip made of stainless steel, with adjustable protective plastic sleeve and clip, with battery 1 x 1.5V (LR44). Dimensions (L x W): 78 x 25mm.

Type	PK	Cat. No.
LLG-Digital pocket themometer Type 12070	1	**9.236 702**

4 Thermometer Pocket-Digitemp

Dostmann electronic

Waterproof instrument in plastic housing (food-grade).
Low budget, durable instrument for measuring temperature in air, gas, liquid and ductile substances (acc. to EN 13485).
Range of applications: Food (HACCP), industry and agriculture.
Features: waterproof, 1-second measuring frequency, Max-Min-Hold function, °C/°F-selectable.

Sensor:	NTC
Measuring range:	-40°C to +200°C
Resolution:	0.1°C
Accuracy:	±0.8°C (at 0°C to 100°C) others 1.5°C
Dimensions:	202 x 20 x 16mm (long version)
	150 x 20 x 16mm (short version)
Probe dimensions:	126 x 3.5mm (long version)
	75 x 3.5mm (short version)
Weight:	40g
Protection class:	IP65

Type	PK	Cat. No.
short version	1	**9.851 028**
long version	1	**9.851 029**

5 Digital pocket themometer ThermoJack/ThermoJack PRO

Dostmann electronic

Foldable pocket themometer, watertight. Ideal for measuring foods (acc. to EN13485), liquids etc. ThermoJack PRO with calibration certificate.

Type	Measuring range °C	Accuracy °C	Resolution °C	Probe	PK	Cat. No.
ThermoJack	-40 ... +250	± 0.5 (-20 ... +150)*	0.1	70	1	**9.851 997**
ThermoJack PRO	-50 ... +350	± 0.5 (-30 ... +150)*	0.1	110	1	**9.851 999**

*otherwise ±1.0°C or 1%, the larger value applies

1 Digital pocket thermometer TLC 700

1

The practical folding thermometer TLC 700 is suitable for measuring the core *ebro*
temperature during transport, storage and receiving of goods. Thanks to the foldable
penetration probe the waterproof thermometer (IP 65) can be stored safely.
The device is primarily characterized by its small size and the large display and comes with a calibration certificate.

Specifications

Measuring range/Resolution:	-30 to +220°C/ 0.1°C
Accuracy:	±0.5°C (-30 to +100°C)
	±1.0°C (remaining range)
Probe:	70mm
Battery type:	1 x 3V (CR 2032)
Dimensions (W x D x H):	118 x 33 x 15mm
Weight:	approx. 41g

Type	PK	Cat. No.
Digital pocket thermometer TLC 700	1	**9.908 018**

2 Digital hand held thermometer Type 12200

2

Waterproof. Measuring range -50 to +300°C/-58 to +572°F, accuracy ±1°C until 150°C above ±2°C. With hold function
and Max/Min function. Penetration probe made of stainless steel, 140 x 3.5mm with 1m cable and handle.
With battery 1 x 1.5V AAA. Overall dimensions (L x W): 140 x 75mm.

Type	PK	Cat. No.
Digital hand held thermometer Type 12200	1	**9.236 705**

Core Thermometer TTX 110

3

The robust and shock-resistant insertion thermometer TTX 110 are suitable for HACCP *ebro*
core temperature measurement during transport, storage and incoming goods department
in accordance with DIN EN 13485 as well as for laboratory temperature measurements.

- Battery included and replaceable by the user if required
- Splash-proof
- Factory calibration certificate
- Temperature probe for TTX 110 is permanently attached, needle Ø 3 mm, length = 90 mm, pointed

Specifications

Measuring range:	-50 to 350°C
Accuracy:	±0.8°C or ±0.8%, with the bigger value being applicable
Resolution:	0.1°C from -60°C to 199°C and 1°C for the remaining measuring range
Housing material:	ABS
Operating temperature:	-20°C to 50°C
Storage temperature:	-30°C to 70°C
Reaction time (90%):	5s
Dimensions:	90 x 42 x 17 mm (without probe)
Battery lifetime:	typical 100 h with uninterrupted use
Battery:	CR 2032, replaceable
IP code:	IP 55

6.230 658

Type	Description	PK	Cat. No.
TTX 110	Fixed probe without cable	1	**6.230 658** 3
TTX-WM	Wall holder for TTX 100/TTX 110	1	**9.908 026**

1

1 Digital hand held thermometer TTX 200

For measuring the core temperature with fixed probe with cable and handle.   *ebro*
- Very large display with large figures
- Easy handling, easy to read
- Replaceable battery
- Factory calibration certificate

Specifications

Temperature range:	-30 ... +199.9 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C (-30 ... +100 °C), otherwise ±1 %
Temperature sensor:	Type T
Sensor length/diam.:	120 mm/3 mm
Cable length:	600 mm
Housing:	ABS
Working temperature:	-20 .. +60 °C
Storage temperature:	-30 .. +70 °C
Dimensions (L x W x H):	127 x 60 x 16 mm (without sensor)
Weight:	approx. 220 g
Power supply:	CR 2032
Battery life time:	approx. 100 h (continuous use)
Protection class:	IP 55

Type	PK	Cat. No.
TTX 200	1	**6.291 272**

2

2 Hand held thermometer Type 13100

Digital temperature measuring device with 2 input channels, incl. 1 sensor with flat plug   *Ludwig Schneider*
(measuring range up to approx. +150 °C, cable length: 3 m). For measuring sensors
type K (NiCr-Ni). Measuring range: -200...+1370 °C/-328...+2498 °F. Resolution: 0.1 °C/F.
Accuracy: ±0.1 %. With hold function, with max/min memory and automatic switch-off after 30 min.
With PC interface and bag. Battery: 1 x 9 V block. Dimensions: 184 x 64 x 30 mm

Description	PK	Cat. No.
Hand held thermometer Type 13100	1	**9.236 715**
Power adapter (100-240V, 50-60Hz)	1	**9.236 716**
Insertion sensor with handle type K, measuring range: -50 to +600°C (±2.5°C)	1	**9.236 717**
Insertion/immersion sensor with handle type K, measuring range: -100 to +200 °C (±2.5 °C)	1	**6.313 326**
Immersion sensor with handle type K, measuring range: -100 to +800 °C (±2.5 °C)	1	**6.313 337**
Surface sensor with handle type K, measuring range: -50 to +400°C (±2.5°C)	1	**9.236 718**
90° Surface sensor with handle type K, measuring range: -50 to +400°C (±2.5°C)	1	**9.236 719**

3

3 Precision hand-held measuring instrument Type 13760

NEW

Precision hand-held measuring instrument with Pt100 temperature sensor and data   *Ludwig Schneider*
logger function for resistance thermometers.
- Functions: °C/°F selection, min/max memory, freeze display, calibration mode, data logger, automatic switch-off
- Relative measurement: saves the last measured temperature and shows the difference to the most similar
  measurement
- Display: date/time, backlit, battery status
- Pt100 temperature sensor 4-wire, class A, IEC751 (replaceable)

Scope of supply: Thermometer, Pt100 temperature sensor, carrying case, power adapter

Specifications

Measuring range:	-100 ... +400 °C
Accuracy:	±0.2 °C (-50 ... +150 °C)
Resolution:	0.01 °C
Ambient temperature:	0 ... +50 °C
Memory:	16000 values
Material Thermometer/Probe:	plastic/platinum
Dimensions Thermometer (W x D x H)/Probe (Ø x L):	185 x 65 x 36 mm/5 x 230 mm
Cable length:	1.5 m
Power supply:	9 V battery or 9 V DC power adapter

Type	PK	Cat. No.
13760	1	**6.313 342**

394

1   Core thermometer Testo 106

Ideal for quick, simple core temperature measurements in various fields, e.g. restaurants, hotels, service kitchens, supermarkets etc. Wide measurement range and highly accurate. With Auto-Hold function for final reading.
Includes sensor protection cap and battery. Calibration certificate on request.

The testo 106-T1 kit also contains a TopSafe protective case and a holster clip for belt or wall.

Testo

Specifications

Temperature range (°C):	-50 to +275
Accuracy ±1 digit (°C):	±1% of measurement value (+100 to +275)
	±0.5 (-30 to +99.9)
	±1 (-50 to -30.1)
Resolution (°C):	0.1
Battery type:	Lithium (CR2032)

Type	PK	Cat. No.
Testo 106	1	**9.718 208**
Testo 106-T1 Kit	1	**9.718 209**
TopSafe protective sleeve (IP67)	1	**9.718 232**

2   Digital thermometer ama-digit ad 15 th

- Available in five colours
- Precise and cost-effective
- With stainless steel sensor approx. 30 x 2.5 mm (L x dia)
- With battery

Amarell

Colour	Dimensions (W x D x H) mm	Temp. range °C	Resolution temperature °C	PK	Cat. No.
blue	90 x 60 x 25	-40 ... 120	0.1	1	**6.077 362**
yellow	90 x 60 x 25	-40 ... 120	0.1	1	**6.084 555**
red	90 x 60 x 25	-40 ... 120	0.1	1	**6.084 856**
green	90 x 60 x 25	-40 ... 120	0.1	1	**6.200 783**
black	90 x 60 x 25	-40 ... 120	0.1	1	**9.243 101**

3   Digital thermometer ama-digit ad 20 th

Temperature range: -50 to +300°C. Resolution 0.1°C from -50 to +180°C, 1°C for the rest of the range. Dimensions (W x D x H) 90 x 60 x 25mm. With battery. For appropriate temperature probes see order no. 9.243 111 to 114.

Amarell

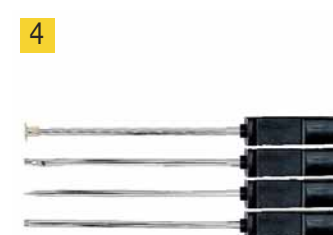| Type	PK	Cat. No.
ama-digit ad 20 th	1	**9.243 102**

4   Temperature probes, Pt100 for ama-digit ad 20 th

Class A. Stainless steel sheathed probe, approx. 105 x 3mm L x dia.
With handle and approx. 1m cable.

Amarell

Type	PK	Cat. No.
Pt100 immersion probe	1	**9.243 111**
Pt100 penetration probe	1	**9.243 112**
Pt100 surface probe	1	**9.243 113**
Pt100 air probe	1	**9.243 114**

5   Temperature measuring instrument testo 108

- Easy operation and handling
- Instrument and probe waterproof (IP67)
- Conform to HACCP and EN 13485
- Universally applicable

Testo

Specifications

Measuring range:	-50 to +300 °C
Accuracy:	±0.5 °C (-30 to +70 °C)
	±0.5 °C ±0.5 % of mv (Remaining Range)
Resolution:	0.1 °C
Battery type:	3 x AAA

Description	PK	Cat. No.
testo 108	1	**6.254 472**

1

1 Stem thermometer, bluetooth H-B®, stainless steel

NEW

Monitor the temperature of critical environments remotely with Bluetooth wireless data transfer from the thermometer to the THERMSmart app (available for iPhone and Android devices).

Bel-Art Products

- Maximum signal distance is approximately 40 meters
- Alarm sounds to alert user if temperature falls outside of the set parameters
- Includes countdown timer function
- Alarm and timer settings savable for reuse
- LCD screen
- Includes certificate of compliance indicating accuracy for 4 temperature points and multi-language (English, French, German, Italian, Portuguese and Spanish) instructions
- Individually serialised and RoHS compliant
- Batteries included (CR2032)

Specifications

Temperatur range:	-50 ... 300 °C
Accuracy:	±1 °C (0 - 40 °C)
	±2 °C (-50 - 0 °C, 40 - 200 °C)
	±2 % (>200 °C)

Type	PK	Cat. No.
Stem thermometer, bluetooth	1	**4.674 979**

2

2 Temperature meter, digital, testo 925

Without probe. Economical. Very robust. With 1 measuring input.
With battery and calibration protocol. For °C, °F, °K. Hold function and battery display.

Testo

Digital thermometers, testo 925, accessory probes:
- Waterproof immersion/penetration probe
- Precise and rapid, waterproof immersion probe
- Rapid reaction surface probe
- Robust, economical, air probe

Measuring range:	-50 to +1000°C
Sensor:	Type K (NiCr-Ni)
Accuracy:	-40 to +900°C : ±0.5°C, ±0.3%
	remaining range: ±0.7°C, 0.5%
Battery:	9V, 6F22

Type	PK	Cat. No.
Temperature meter, digital, testo 925	1	**9.851 324**
TopSafe testo 925, protective cover against impact and dust	1	**9.718 011**
Immersion / penetration probe	1	**9.718 200**
Immersion probe	1	**9.718 202**
Surface probe	1	**9.718 222**
Air probe	1	**9.718 230**

3

3 Thermocouples with TC adapter for testo 925

Flexible, TC adapter type K.

Testo

Length mm	Material	PK	Cat. No.
800	Fibre glass	1	**9.851 724**
1500	Fibre glass	1	**7.036 710**
1500	PTFE	1	**7.036 711**

396

Digital thermometer testo 110

Without probe. For use with accessory NTC sensor probes (option). For control measurements in the food industry and laboratories. Features: switchable °C readout, with Hold function, low battery indicator and battery saving automatic switch-off after a period without use. With battery and calibration certificate.
Accuracy: System accuracy using immersion/penetration probes.

Testo

Measuring range:	-50 to +150 °C
Sensor:	±0.2 °C (-20 to +80 °C)
	±0.3 °C (Remaining Range)
Accuracy:	0.1 °C
Battery:	9V block battery

9.851 300

Description	Measuring range °C	PK	Cat. No.
Digital thermometer testo 110	-50 ... +150	1	**9.851 300** 1
TopSafe (IP68 protective boot)		1	**9.718 020**
NTC foodstuffs sensor	-35 - +120	1	**9.851 714**
NTC immersion/penetration probe, diam. 4mm, length 110mm	-50 ... +150	1	**9.851 716**
NTC surface probe, with widened measuring tip, diam. 5mm, length 115mm	-50 ... +150	1	**9.851 720**
NTC air probe, robust, diam. 5mm, length 115mm	-50 ... +125	1	**9.851 723**
Robust food penetration probe with special handle, diam. 5mm, length 115mm	-25 ... +150	1	**9.851 352**

2   Electronic Contact Thermometer GFX 460

ebro

Attributes:
- high accuracy through fuzzy logic algorithm
- minimizes temperature overshoot
- suitable for all magnetic stirrers

Safety features: Probe failure identification, Probe limit warning.
Safety and control circuit according to DIN 12878 Class 1 and 2

Also suitable for Heidolph Magnetic stirrers MR-Hei Standard constructed up to June 2014.

Specifications

Measuring range:	-50 to +300 °C
Resolution:	1 °C
Accuracy:	±1 °C
Measuring rate:	1s
Measuring probe:	Pt1000
Operating temperature:	-5 to +60 °C
Storage temperature:	-30 to +70 °C
Type of control:	Fuzzy logic control
IP code:	IP 65
Connection:	5-pin diode plug DIN 45322
Display:	Background illumination LED display for control status
Power supply:	external 9-12 V d.c., 20 mA
Dimensions (W x D x H):	54 x 22 x 110 mm without probe
Housing material:	Polyamide, acid-resistant
Weight:	approx. 150 g

Type	Description	PK	Cat. No.
GFX 460	with V2A probe, 205 x 3 mm L x dia.	1	**9.908 056**
GFX 460-G	with glass-coated probe, 235 x 7 mm L x diam.	1	**9.908 057**
GFX 460-B	without probe	1	**6.235 187**
Relay box		1	**9.908 059**

1

1   Laboratory Thermometer TFX 410-1/TFX 420

Robust and impact resistant temperature measurement device for Pt 1000 penetration probe (connection Lemo size 0). TFX 420 with MIN, MAX & Hold function. For control measurements in laboratories, food sector, storage and incoming goods. For temperature determination of air, liquids, plastic substances and food. Conform to HACCP and DIN EN 13485. With battery and factory calibration certificate.
- Probes made of stainless steel, for temperatures up to +400 °C
- Accuracy: exceeds DIN IEC 584, class 1

ebro

Specifications:

Measurement range TFX 410-1/TFX 420:	-50 ... +300 °C/-50 ... +400 °C
Accuracy:	±0.3 °C
Resolution:	0.1 °C
Sensor:	Pt 1000 (connection Lemo size 0)
Housing material:	ABS
Certificate:	3-point factory calibration
Operating temperature:	-25 °C to +50 °C
Storage temperature:	-30 °C to +70 °C
Automatic switch-off:	After 2 hours, optional
Dimensions (L x W x H):	54 x 22 x 109 mm (without probe)
Weight:	Approximately 90 g
Battery:	3.0 V Lithium, replaceable
Battery lifetime:	Approximately 5 years
IP code:	IP 67

Type	Description	Length mm	Diam. mm	PK	Cat. No.
TFX 410-1	Laboratory thermometer (without probe)			1	**6.207 171**
TFX 410-1 + TPX 400-150	Laboratory thermometer with probe			1	**6.243 018**
TFX 410-1 + TPX 440	Laboratory thermometer with probe			1	**6.224 896**
TFX 420 + TPX 400-150	Laboratory thermometer with probe			1	**6.243 019**
TPX 100	Blunt probe, without cable	120	3	1	**9.908 021**
TPX 200	Pointed probe, without cable	120	3	1	**6.251 438**
TPX 200-20	Pointed probe, without cable	200	3	1	**9.908 022**
TPX 200-30	Pointed probe, without cable	300	3	1	**9.908 023**
TPX 200-40	Pointed probe, without cable	400	3	1	**9.908 024**
TPX 400	Pointed probe with 60 cm silicone cable (red) and grip	120	3	1	**6.233 543**
TPX 400-150	Pointed probe with 150 cm silicone cable (red) and grip	120	3	1	**6.254 169**
TPX 400-40	Pointed probe with 40 cm silicone cable (red) and grip	120	3	1	**9.908 025**

2

2   Precision thermometer TFX 430

Features:
- high accuracy
- four-wire measuring system
- waterproof IP67
- approx. 5 years battery life
- factory calibration certificate
- different probes for different applications

ebro

Specifications

Measuring range:	-100 to +500 °C
Accuracy:	±0.05 °C (from -50 to +199.99 °C); remaining measuring range: ±0.2 °C
Resolution:	0.01°C (from -100 to +199.99 °C); remaining measuring range: 0.1 °C
Operating temperature:	-20 to +50 °C
Storage temperature:	-30 to +70 °C
Probes:	Pt100
Measurement interval:	1 to 15 secs, adjustable
Battery:	Lithium 3V, 1Ah, Type CR2477
Deactivation:	Automatically after 2 hours, deactivatable
Dimensions:	109 x 54 x 22 mm
Weight:	approx. 90 g
IP code:	IP 67
Housing material:	ABS

Type	Description	PK	Cat. No.
TFX 430	Precicion-Thermometer, without probe	1	**9.908 075**
TFX 430 + TPX 130	Precicion-Thermometer, with Pt100 probe (length 130 mm, 3 mm diam., blunt)	1	**9.908 076**
TFX 430 + TPX 230	Precicion-Thermometer, with Pt100 probe (length 200 mm, 3 mm diam., pointed)	1	**9.908 077**
TFX 430 + TPX 330	Precicion-Thermometer, with Pt100 probe (length 190 mm, 8 mm diam., glass-coated)	1	**9.908 078**
TPX 130	Probe, Pt100, length 130mm, 3mm dia., blunt	1	**6.235 806**
TPX 230	Probe, Pt100, length 200 mm, 3mm diam., pointed	1	**6.233 571**
AX 110	Extention cable, length 1 m, silicone for TFX 430	1	**6.226 725**

1 Temperature data logger Type 15210

Ludwig Schneider

Temperature data logger with 4 channels, suitable for temperature sensors type K, J, E, T, N, R, S.
- Functions: °C/°F selection, min/max/AVG memory, freeze display, hi/low alarm, Bluetooth, data logger, automatic switch-off
- Display: 4 channels at the same time, date/time, backlit, battery status
- Data transfer via Bluetooth or USB

Scope of supply: Data logger, 2 x cable sensors type K with flat plug (1 m length), software, Bluetooth adapter, micro USB cable, carrying case

Specifications

Temperature range:	-200 ... +1370 °C
Resolution:	0.1 °C (> 600 °C 1 °C)
Accuracy:	±0.1 % (> 600 °C 0.7 °C) of measured value
Memory:	32000 data per input
Dimensions (L x W x H):	187 x 75 x 29 mm
Weight:	290 g
Power supply:	4 x 1.5 V battery UM-4 or AAA

Type	PK	Cat. No.
15210	1	**6.313 339**

2 Combination Infrared and Penetration Thermometer TLC 750i

ebro

Handy, waterproof infrared thermometer with large measurement range for non-contact measurement of the surface temperature and secure core temperature measurement with the folding penetration probe. For time-saving, precise temperature measurements at incoming goods, production and storage of diverse goods and food. Conform to HACCP and DIN EN 13485. With battery and factory calibration certificate.

- Display with backlight for reading in dark environments
- Display can be upside down for reading from both sides
- Double laser pointer

Specifications

Measurement range:	-50 to +250 °C
Accuracy infrared:	±4 °C (-50 to -30.1 °C)
	±2.5 °C (-30 to -18.1 °C)
	±1.5 °C (-18 to -0.1 °C)
	±1.0 °C (0 to +65 °C)
	±2.0 °C or 2 % (+65 to +250 °C)
Accuracy penetration probe:	±0.5 °C (-30 to +99 °C)
	otherwise ±1 °C (1 %), larger value applies
Resolution:	0.1 °C
Distance : spot ratio:	8 : 1
Sensor:	Type T
Operating temperature:	-25 to +50 °C
Dimensions (L x W x H):	169.5 x 44 x 23 mm
Weight:	approx. 140 g
Battery:	2 x AAA (Micro), replaceable
Deactivation:	automatically after 15 sec., deactivatable
IP code:	IP 65

Type	PK	Cat. No.
TLC 750i	1	**6.289 927**

1   Infrared thermometer, DualTemp Pro, with penetration probe

For simple, rapid, non-contact, temperature measurement.
- dual display
- wide measurement ranges:
- infra-red: -33 to +250°C
- conventional penetration probe: -55 to + 250°C
- measuring spot:distance ratio 2.5:1
- Max./ Min., Hold functions
- auto-off after 15 secs.
- belt-clip included
- accessories: certificate of calibration & pilot drill for taking measurements from frozen items

Resolution:	0.2°C
Accuracy (IR):	-33°C to 0°C ±1.0°C ±0.1/1°C
	0°C to +65°C ±1.0°C
	+65°C to +200°C ±1.5%
Accuracy (penetration probe):	below -5°C ±1.0°C
	-5°C to +65°C ±0.5°C
	above +65°C ±1%
Spectral sensitivity:	6 to 14μm
Adjustable emissivity:	0.10 to 1.00
Operating temperature:	0 to 50°C
Battery:	Lithium cell CR2032
Dimensions:	24.2 x 39.8 x 156mm
Weight:	380g (incl. packaging)

Type	PK	Cat. No.
DualTemp Pro	1	**9.851 023**

2   Infrared-Thermometer Slim Flash

Non-contact temperature measurement via infrared. Response time 1 second.   *Dostmann electronic*
Measuring range -33 to +199°C, Accuracy ±2°C or 2%, incl. CR2032 button cell.

Type	PK	Cat. No.
Infrared-Thermometer Slim Flash	1	**9.851 998**

3   Infra-red thermometer ScanTemp 385

With IR thermometers you can measure surface temperature. A short response time and non-contact measurement are key advantages. ideal for monitoring applications such as:
- moving parts (running paper webs…)
- registering the surface temperature of gears and motors
- checking live electrical parts (components, transformers…)
- newly coated or painted parts
- food and corrosive substances

Specifications

Temperature range:	-35°C … 365°C
Precision:	±2% or 2 °C, the higher value counts
Response time:	< 1 sec
Spectral sensitivity:	6 … 14μm
Operating temperature:	0 … 50 °C
Optical resolution:	12:1
Laser:	Spot laser
Dimensions (L x W x H):	147.9 x 112.6 x 41.4mm
Weight:	150 g (incl. packaging)
Battery:	2 x 1.5V AAA Batteries

Type	PK	Cat. No.
ScanTemp 385	1	**9.851 996**

1   Infra-red thermometer with double-laser sighting, ScanTemp 485

For contact-free measuring of surface temperature, highest precision due to special glass lens, with double-laser sighting.

TFA Dostmann

Specifications

Temperature range:	-50 ... +800°C
Precision:	±2 % or 2 °C, the higher value counts
Response time:	0.5 seconds
Dimensions (L x W x H):	42 x 85 x 152 mm
Weight:	140 g
Battery:	1x 9V battery included

Type	PK	Cat. No.
ScanTemp 485	1	**6.240 840**

2   Infrared Thermometers TFI 260/TFI 54

Non-contact measurement of the surface temperature with infrared. Ideal for fast and secure measurements of moving or energized parts and food. With batteries and factory calibration certificate.

ebro

Specifications:

Measurement range:	-60 °C to +550 °C
Accuracy:	±2 °C or 2 % (at 0 °C to +550 °C), whichever is larger
Resolution:	0.1 °C
Distance : spot ratio:	12:1
Operating temperature:	0 °C to +50 °C
Response time:	1 sec.
Emissivity factor:	0.95 fixed (0.1 to 1.0 possible)
Dimensions (L x W x H):	153 x 115 x 48 mm (TFI 260)
	144 x 117 x 43 mm (TFI 54)
Weight (with batteries):	177 g (TFI 260), 180 g (TFI 54)
Battery:	2 x 1.5 V AAA, replaceable
IP code:	IP 20 (TFI 260), IP 54 (TFI 54)

Type	Description	PK	Cat. No.
TFI 260	Infrared thermometer	1	**6.272 762**
TFI 54	Splash water proof infrared thermometer	1	**9.908 032**

3   Infra-red thermometers, testo 830-T1

NEW

Infrared thermometer for non-contact measurement of surface temperatures. Laser measurement point marker and large optics for exact measurement even at medium distances.
- Fast recording of measurement values at 2 measurements per second
- Adjustable emissivity
- 2 adjustable alarm limit values
- Hold function and display of min./max. values

Testo

Scope of supply: Thermometer, batteries, works calibration certificate

Specifications

Measuring range:	-30 ... +400 °C
Accuracy:	±1.5 °C or 1.5 % of measured value (+0.1 ... +400 °C)
	±2 °C or ±2 % of measured value (-30 ... 0 °C)
	larger value counts
Resolution:	0.1 °C
Measuring spot marking:	1-point-laser
Distance to measured spot:	10:1
Dimensions (W x D x H):	38 x 75 x 190 mm
Weight:	200 g
Power supply:	9 V block batterie

Type	PK	Cat. No.
testo 830-T1	1	**9.718 418**

1   Disposable data logger TempMate-S1

The single-use data logger TempMate-S1 with its built-in USB connector, is the ideal *Dostmann electronic* solution for low-cost temperature monitoring of transports. TempMate-PDF loggers directly useable with pre-programmed configuration or reprogrammable with Tempbase Software according to each customer's specifications. To download the recorded data, simply connect TempMate-S1 directly to the USB port. A PDF and CSV report will automatically be generated, covering temperature graph, detailed data list and statistical information. No hardware (cable, interface) or software is required.

- Auto generating PDF and CSV format data report
- 110 days run time 16.000 measurements, 10 minuteinterval
- Reprogrammable with Tempbase Software free of charge
- Up to 5 alarm points configurable
- Integrated USB connector
- LED Alarm indicators
- Serial number sticker
- Inclusive certificate
- Food proof according to HACCP

Specifications

Temperature Range:	-30 ... 70 °C
Accuracy:	±0.5 °C at -20 ... +40 °C/±1.0 °C in remaining range
Resolution:	0.1 °C
Data Memory:	16.000 measurements
Recording Cycle:	110 days
Sampling Interval:	10 min
Shelf Life:	24 months
Dimensions (L x W x H):	80 x 47 x 7 mm
Weight:	14.6 g
IP code:	IP 67/NEMA 6
Certifications:	Calibration Certificate, EN 12830 S, T, C, D, 1

Type	PK	Cat. No.
TempMate-S1	1	**6.285 049**

2   Data Logger LOG32T

The LOG32T is perfectly designed for product transportation or storage applications. *Dostmann electronic* Ambient conditions in power plants.
- Memory size: 60 000 measurements
- Usable without software (default settings) (15-minute-interval, without alarm settings)
- Optional free of charge software download for alarm setting and free adjustable recording interval (30sec to 24h)
- Automatic PDF creation
- Battery lifetime > 3 years (recording interval >15 minutes)
- Status and Alarm-LEDs, acoustic signal
- Includes wall mount
- HACCP (EN12830) conform
- IP65 watertight

Specifications

Measuring range:	-40 ... +70°C
Accuracy:	±0.5°C (-10 ... +40°C), otherwise ±1.0°C
Resolution:	0.1°C
Memory:	60 000 measurements
Interface:	USB (integr.)
Housing:	ABS
Dimensions (L x W x H):	100 x 19 x 19mm
Weight:	70g
Battery:	1 x 3.6 Volt Lithium ½ AA

Type	PK	Cat. No.
LOG32T	1	**9.726 431**

Data Logger EBI 20-T1/EBI 20-TE1

9.908 069

ebro

Applications:
- transport
- storage monitoring
- refrigeration areas and coldrooms

Features:
- waterproof
- visual Alarm
- max/min values on display
- stores 40.000 readings, can be read off at any time
- replaceable battery

Scope of supply:
EBI 20-T1: Temperature Logger
EBI 20-T1-Set: Temperature Logger, evaluation software, Interface
EBI 20-TE1: Temperature Logger with external probe
EBI 20-TE1-Set: Temperature Logger with external sensor, evaluation software, Interface

Specifications

Measuring range temperature:	-30 to +70 °C
Accuracy, temperature:	±0.5 °C (-20 to +40 °C); ±0.8 °C for remaining measuring range
Resolution temperature:	0.1 °C
Memory:	40.000 samples
Sensor:	NTC
Operating temperature:	-30 to +70 °C
Storage temperature:	-40 to +70 °C
Measuring period:	1 minute to 24 hours
Measuring mode:	immediate loop measurement, measurement from starting point, start immediately until memory full, start/stop measuring, start when button pressed
Battery:	3V lithium (CR 2450), can be replaced by user
IP code:	IP 67
Housing:	ABS
Dimensions:	69 x 48 x 22 mm
Weight:	approx. 45 g

6.240 382

Type	PK	Cat. No.
EBI 20-T1	1	9.908 069 1
EBI 20-T1-Set	1	9.908 073
EBI 20-TE1	1	6.228 382
EBI 20-TE1-Set	1	6.240 382 2

3   Temperature data logger LOG200

Dostmann electronic

- Memory size: 150.000 measurements
- Usable without software (default settings) (15-minute-interval, without alarm settings)
- Automatic PDF creation
- Free adjustable recording interval: 10 seconds to 24 hours
- Max-Min-Display memory (resettable)
- Time marking functions for measuring results
- Movement sensor for shock recording e.g.: door or windows closing
- Battery lifetime approx. 4 years (recording interval >15 minutes)
- Includes wall mount
- Status- and Alarm-LEDs
- HACCP conformity according EN 12830

Free software LogConnect, for configuring (alarms, interval, changing display settings) or LogGraph2 for comfortable graphical and tabular display of measured values, incl. drag and zoom. Software is available as download.

Specifications

Measuring range:	-40 to +70 °C
Accuracy:	0.1 °C
Precision:	±0.5 °C (-20 to +50 °C), otherwise ±1.0 °C
Interface:	USB (integr.)
Housing:	Plastic (ABS)
Battery:	1 x 3.6 Volt Lithium 1/2 AA
Dimensions:	91.5 x 42 x 20 mm
Weight:	approx. 70 g

Type	PK	Cat. No.
LOG200	1	6.284 757

1

7.626 604

Mini data logger testo 174T

Testo

The mini data logger for temperature, testo 174T, is ideal for accompanying transports.
Simply positioned close to the goods, e. g. in containers and refrigerated rooms, the data
logger monitors temperature continuously, securely and unobtrusively.
The free software ComSoft testo 174 allows fast programming of the data logger and easy analysis.

- High data integrity, even with empty battery
- Large measurement data memory
- Watertight in accordance with IP65
- Compact and robust
- Conforms to EN12830
- Issue of alarms via display
- Data transfer to the PC via USB interface
- Reliable temperature measurement for the monitoring of sensitive goods and cold chain during storage and transport

testo 174T: Mini data logger, 1-channel, incl. wall bracket, battery (2 x CR 2032 Lithium) and calibration protocol.
testo 174T-Set: Mini data logger, 1-channel, incl. USB interface for programming and reading out the logger, wall bracket, battery (2 x CR 2032 lithium) and calibration protocol.

Specification

Probe type:	Internal NTC temperature sensor
Measuring range:	-30 to +70°C
Accuracy:	±0.5°C
Resolution:	0.1°C
Operating temperature:	-30 to +70°C
Storage temperature:	-40 to +70°C
Battery type:	2 x 3V button cell (2 x CR 2032 lithium), can be changed by user
Battery life:	500 days (15 min measuring cycle, +25°C)
Protection class:	IP65
Meas. cycle:	1min - 24h (can be selected)
Memory:	16.000 readings
Software:	can be used with Windows XP, Vista, Win7

Type	PK	Cat. No.
testo 174T	1	**7.626 604** 1
testo 174T-Set	1	**7.626 614**

2

2   Temperature logger LOG200E

NEW

Dostmann electronic

Data logger with motion sensor, integrated USB interface for automatic PDF output and
wall mount. For internal temperature measurement and recording. With connection for
an external PT100 temperature sensor.

- Freely adjustable recording interval from 10 seconds to 24 hours
- Min- and Max-values can be reset in the display
- Time marking function ("Time Marker") during data recording
- With movement sensor for shock recording
- Memory for approx. 60000 measurements
- Automatic output as PDF file, device can also be used without software
- No driver installation needed
- Status and alarm LEDs, with buzzer
- Display can be switched off
- Battery life > 4 years at > 15 min measuring interval
- Software available for download on the manufacturer's website (free of charge)

Temperature sensors are available as accessory.

Scope of supply: Data logger, wall mount, battery, USB cover, screws and dowels

Specifications

Temperature range internal:	-40 ... 70 °C
Temperature accuracy internal:	±0.4 °C (-10 ... 40 °C), otherwise ±1 °C
Temperature range external:	-200 ... 850 °C
Temperature accuracy external:	±0.2 °C or 0.3 % (the greater value applies)
Temperature resolution:	0.1 °C
Housing:	ABS
Dimensions (W x D x H):	42 x 20 x 91.5 mm
Weight:	70 g
Power supply:	1/2 AA 3.6 V

Type	PK	Cat. No.
LOG200E	1	**6.311 945**

www.wenk-labtec.com

Standard PDF Data Logger EBI 300

PDF data logger with different temperature sensors.   *ebro*
- For temperature monitoring related to HACCP/IFS issues or other perishable goods
- Transportation of fresh, cool and deep cool products
- Monitoring of fridges and deep freezers
- Evaluation without software, PDF are automatically generated
- Minimise training, user errors and IT costs using EBI 300's simple, easy to use design and standard software.
- Ensure data integrity since no data manipulation is possible
- EN 12830, ATP, VO(EG) 37/2005 Compliant
- Factory calibration certificate included
- Programmable via the free online configurator at www.ebi300.com
- No separate interface for programming and reading

EBI 300: PDF data logger with internal temperature sensor
EBI 300 TE: PDF data logger with external temperature sensor, internal temperature sensor can be used additionally.
EBI 300 TH: PDF data logger with external humidity and temperature sensor, internal temperature sensor can also be used.

7.655 865

6.266 910

6.266 911

Specifications

Ambient Temperature:	-30 to +70 °C
Measuring range Temp. EBI 300/300 TH:	-30 to +70 °C
Measuring range Temp. EBI 300 TE:	-35 to +70 °C
Measuring range Humidity EBI 300 TH:	0 to 100 % r.F.
Accuracy Temperature:	±0.5 °C (-20 to +40 °C), ±0.8 °C for remaining range
Accuracy Humidity:	±3 % (10 to 90 % rh), ±5 % for remaining range
Resolution Temperature/Humidity:	0.1°C/0.1 % rh
Memory:	40.000 samples
Sensor:	NTC for temperature
Battery life time:	up to two years
Measuring period:	1 minute to 24 hours
Maximum Start Delay:	72 h
Housing material:	Polycarbonate
Measuring modes:	Start/Stop, endless loop, start with button
Alarms:	2 values, high and low limits
Weight:	35 g
IP code:	IP 65

Type	PK	Cat. No.	
EBI 300	1	**7.655 865**	1
EBI 300 TH	1	**6.266 910**	2
EBI 300 TE	1	**6.266 911**	3

1

9.908 098

High Precision PDF Data Logger EBI 310

PDF data logger with different temperature sensors. Compared to the EBI 300, the EBI 310
is characterized by shorter measuring intervals and higher storage capacity.

ebro

- Automatic pdf-report creation with temperature/time values
- Transport of drugs, inoculants, blood products and primary products
- Transport of all temperature sensitive products
- Storage of reference samples in refrigerators and deep-freezers
- "Traffic light principle" by limit exceeded
- IQ/OQ procedures through standardized software and standard reporting process possible
- GMP, pharmaceutical law compliant; EN 12830, ATP, VO (EG) 37/205 compliant, 21 CFR Part 11 conform
  (Winlog.basic)
- Programmable via the free online configurator at www.ebi300.com

EBI 310: Data logger with internal temperature sensor
EBI 310 TE: Data logger with external precision temperature sensor, internal temperature sensor can be used additionally. Measurements in high and low temperature range
EBI 310 TH: Data logger with external humidity and temperature sensor, internal temperature sensor can be used additionally. Monitoring the relative humidity in storage and transport
EBI 310 DI: Data logger with external precision temperature sensor, internal temperature sensor can be used additionally. Precise temperature measurement for dry ice and freezers. Logger also works in dry ice.
EBI 310 TX: Data logger with temperature dual adapter for two exchangeable temperature sensors
(not included in the scope of supply), internal temperature sensor can be used additionally.

Specifications

Ambient Temperature:	-30 to +75 °C
Measuring range Temp. EBI 310/310 TH:	-30 to +75 °C
Measuring range Temp. EBI 310 TE:	-200 to +250 °C
Measuring range Humidity EBI 310 TH:	0 to 100 % rh
Accuracy Temperature:	±0.2 °C (-30 to +30 °C); ±0.5 °C for remaining range
Accuracy Humidity EBI 310 TH:	±3 % (10 to 90 % rh)
Resolution Temperature/Humidity:	0.1 °C/0.1 % rh
Memory Capacity:	120.000 measurements
Sensor:	Pt1000/NTC
Battery life time:	up to two years
Measuring period:	1 s to 24 h
Maximum Start Delay:	72 h
Housing material:	Polycarbonate
Measuring modes:	Start/Stop, endless loop, start with button
Alarms:	5 values
Weight:	35 g
IP code:	IP 65

Type	PK	Cat. No.
EBI 310	1	9.908 098
EBI 310 TE	1	6.266 913
EBI 310 TH	1	6.266 912
EBI 310 DI	1	6.282 436
EBI 310 TX	1	7.643 731

2   **3**

9.908 017   6.281 570

Accessories for PDF Data Logger EBI 300/EBI 310

ebro

Type	Description	PK	Cat. No.
EBI 300-WM2	Wall Bracket	1	9.908 017
EBI 300 WM3	Wall Bracket, stainless steel	1	6.281 570
TPC 300	Replacement probe for EBI 300 TE	1	9.908 027
TPX 220	Replacement probe for EBI 310 TE	1	9.908 099
TPX 250	Replacement probe for EBI 310 DI	1	9.908 100
TPH 500	Replacement probe for EBI 310 TH	1	6.263 842
AH 300	Stainless Steel-Sinter-Filter	1	6.281 569

Wireless temperature data loggers EBI 25-T/TE

Wireless temperature data loggers for storage rooms and refrigerated cabinets.   *ebro*

- Readout via wireless interface
- Replaceable battery
- High protection class IP67
- LCD display
- Memory for 288 values

EBI 25-T: with internal NTC temperature sensor
EBI 25-TE: with external NTC temperature sensor

The IF 400 base station and the Winlog.web/Winlog.wave PC software (see "Accessories for EBI 25 data loggers) are required for programming and evaluating the EBI 25-T/TE data loggers.

Scope of delivery: temperature data logger, operating manual

1

6.252 642

Specifications

Sensor:	NTC
Channels:	1
Measuring cycle:	1 min. ... 24 Hrs. user definable
Measuring range EBI 25-T:	-30 ... 60 °C
Measuring range EBI 25-TE:	-40 ... 85 °C
Accuracy EBI 25-T (±1 digit):	±0.5 °C (-20 ... 40 °C)
	±0.8 °C (40.1 ... 60 °C)
Accuracy EBI 25-TE (±1 digit):	±0.5 °C (-20 °C ... 40 °C)
	±0.8 °C (-30 °C ... -20 °C; 40 °C ... 60 °C)
	±1.5 °C (-40 °C ... -30 °C; 60 °C ... 85 °C)
Resolution:	0.1 °C
IP code:	IP 67
Battery life:	approx. 2 years
Operation and storage temperature:	-30 ... 60 °C/-40 ... 85 °C
Dimensions (W x D x H):	48 x 27 x 95 mm
Power supply:	1 x Lithium battery 3.6 V, replaceable

Type	Description	PK	Cat. No.
EBI 25-T	with internal temperature sensor	1	6.252 642 **1**
EBI 25-TE	with external temperature sensor	1	6.252 678

Temperature data logger testo 175 T3

Temperature data logger with 2 connections for external temperature sensors, e.g.   *Testo*
immersion sensor, surface or air sensor. Data is stored even if the battery is changed or empty.

- Suitable for rough environmental conditions
- Protected against splashing and jetting water
- With the appropriate temperature sensors, temperatures from -50 to 1000 °C can be measured and recorded
- Memory for 1 million values
- With easy-to-read LCD display
- Battery life up to 3 years
- With Mini USB connection and SD card slot
- Software for reading out the values is available as free download on the manufacturer's website

2

6.243 831

Scope of delivery: Temperature data logger with 2 connections for external temperature sensors type T and type K, flexible immersion probe type K, wall bracket, lock, batteries and calibration protocol.

Specifications

Channels:	2 x external
Measurement cycle:	10 sec. ... 24 Hrs. user definable
Measuring range:	-50 ... 1000 °C
Accuracy ±1 digit:	±0.5 °C (-50 ... 70 °C)
	±0.7 % (+70.1 ... 1000 °C)
Resolution:	0.1 °C
Protection class:	IP65
Battery life:	3 years
Operation and storage temperature:	-20 ... 55 °C
Dimensions (W x D x H):	55 x 30 x 95 mm
Power supply:	3 x AAA

Type	Description	PK	Cat. No.
testo 175 T3	Device only	1	6.243 831 **2**
testo 175 T3	testo 175 T3 incl. flexible immersion probe, type K	1	6.268 630

1 Wireless temperature data logger EBI 25-TX

Wireless temperature data logger for low temperatures. With external temperature sensor.

ebro

- Measuring range down to -200 °C
- External temperature sensor with 3 m cable
- Readout via wireless interface
- Replaceable battery
- High protection class IP67
- LCD display
- Memory for 288 values

The IF 400 base station and the Winlog.web/Winlog.wave PC software (see "Accessories for EBI 25 data loggers) are required for programming and evaluating the EBI 25-TX data logger.

Scope of delivery: temperature data logger, operating manual

Specifications

Sensor:	PT1000, Binder series 620
Channels:	1
Measuring cycle:	1 min. ... 24 Hrs. user defineable
Measuring range:	-200 ... 199.9 °C
Accuracy (±1 digit):	±2.0 °C (-200 °C ... -100 °C)
	±0.5 °C (-100 °C ... -20 °C)
	±0.2 °C (-20 °C ... 60 °C)
	±0.5 °C (60 °C ... 199.9 °C)
Resolution:	0.1 °C
IP code:	IP 67
Battery life:	approx. 2 years
Operation and storage temperature:	-30 ... 60 °C/-40 ... 85 °C
Dimensions (W x D x H):	48 x 27 x 95 mm
Power supply:	1 x Lithium battery 3.6 V, replaceable

Type	Description	PK	Cat. No.
EBI 25-TX	With external temperature sensor	1	**7.659 065**

2 Temperature/Humidity logger LOG32TH

- Memory size: 60 000 measurements
- Usable without software, 5-minute-interval default setting
- With free software, free adjustable recording interval: 30 seconds to 24 hours
- Automatic PDF creation (no drivers required)
- Battery lifetime >2 years (recording interval >5 minutes)
- Status and Alarm-LEDs
- Includes wall mount

TFA Dostmann

Application profile:
The LOG 32TH is perfectly designed for product transportation or storage applications.
- Quality surveillance in laboratories during production in storage areas
- Monitoring conditions in manufacturing facilities
- Maintaining product storage according to HACCP
- Ambient conditions in power plants
- Monitoring of fridges for the pharmaceutical industry

Specifications

Measuring range:	-40 to +70°C
Accuracy:	0.1°C
Precision:	±0.5°C (-10 to +40°C), otherwise ±1.0°C
Measuring range:	0 to 100%R.H.
Resolution:	0.1% R.H.
Accuracy:	±3% R.H. (40 to 60%), ±3.5% R.H. (20 to 40% and 60 to 80%), otherwise ±5% R.H.
Interface:	USB (integr.)
Housing:	Plastic (ABS)
Battery:	1 x 3.6V ½ AA Lithium
Dimensions:	100 x 19 x 19mm
Weight:	70g

Type		PK	Cat. No.
LOG32TH		1	**9.726 422**

1 Temperature/Humidity data logger LOG 210

- PDF-data logger with display
- Memory size: 100.000 measurements
- Usable without software (default settings) (5-minute-interval, without alarm settings)
- Automatic PDF creation
- Movement sensor for shock recording e.g.: door or windows closing
- Free adjustable recording interval: 10 seconds to 24 hours
- Max-Min-Display memory (resettable)
- Time marking functions for measuring results
- Battery lifetime approx. 4 years (recording interval >15 minutes)
- Status- and Alarm-LEDs
- Includes wall mount

Dostmann electronic

Free software LogConnect, for configuring (alarms, interval, changing display settings) or LogGraph2 for comfortable graphical and tabular display of measured values, incl. drag and zoom. Software is available as download.

Specifications
Temperature

Measuring range:	-40 to +70 °C
Accuracy:	0.1 °C
Precision:	±0.5 °C (0 to +60 °C), otherwise ±1.0 °C

Humidity

Measuring range:	0 to 100 % R.H.
Resolution:	0.1% R.H.
Accuracy:	±3 % R.H. (40 to 60 %), ±3.5 % R.H. (20 to 40 % and 60 to 80 %), otherwise ±5 % R.H.
Interface:	USB (integr.)
Housing:	Plastic (ABS)
Battery:	1 x 3.6 Volt Lithium ½ AA
Dimensions:	91.5 x 42 x 20 mm
Weight:	approx. 70 g

Type	PK	Cat. No.
LOG210	1	**6.284 758**

2 Temperature and humidity logger LOG210 TC

NEW

Dostmann electronic

Data logger with motion sensor, integrated USB interface for automatic PDF output and wall mount. For measurement and recording of temperature and humidity and 2 connections for external type K thermocouples.
- Freely adjustable recording interval from 10 seconds to 24 hours
- Min- and Max-values can be reset in the display
- Time marking function ("Time Marker") during data recording
- With movement sensor for shock recording
- Memory for approx. 60000 measurements
- Automatic output as PDF file, device can also be used without software
- No driver installation needed
- Status and alarm LEDs, with buzzer
- Display can be switched off
- Battery life > 4 years at > 15 min measuring interval (free of charge)
- USB interface for data transfer
- Software available for download on the manufacturer's website

Temperature and humidity sensors are available separately.

Scope of supply: Data logger, 2 thermocouples type K (1 m length), wall mount, battery, USB cover, screws and dowels

Specifications

Temperature range internal:	-40 ... 70 °C
Temperature accuracy internal:	±0.5 °C (0 ... 60 °C), otherwise ±1 °C
Temperature range external:	-150 ... 1370 °C
Temperature accuracy external:	±0.5 °C or 0.5 % (the greater value applies)
Temperature resolution:	0.1 °C
Humidity range:	0 ... 100 % r.H.
Humidity accuracy:	±3 % r.H. (40 ... 60 % r.H.), ±3.5 % r.H., (20 ... 40 and 60 ... 80 % r.H.), otherwise ±5 % r.H.
Humidity resolution:	0.1 % r.H.
Housing:	ABS
Dimensions (W x D x H):	42 x 20 x 91.5 mm
Weight:	70 g
Power supply:	1/2 AA 3.6 V

Type	PK	Cat. No.
LOG210 TC	1	**6.311 944**

1

9.908 070

Temperature/Humidity data logger EBI 20-TH1

ebro

Applications:
- reliable temperature and temperature/humidity recording
- transport
- storage monitoring
- refrigeration areas and coldrooms

Features:
- excellent price/performance ratio
- visual Alarm
- max/min values on display
- stores 40.000 readings, can be read off at any time
- replaceable battery

Specifications

Measuring range temperature:	-30 to +70°C
Measuring range humidity:	0% to 100% R.H.
Accuracy, temperature:	±0.5°C (-20 to +40°C); ±0.8°C for remaining measuring range
Accuracy, humidity:	±3% R.H. (10 to 90% R.H.)
Resolution temperature:	0.1°C
Resolution humidity:	0.1% R.H.
Memory:	40.000 samples
Sensor:	NTC for temperature/capacitive for humidity
Measuring period:	1 minute to 24 hours
Measuring mode:	immediate loop measurement, measurement from starting point, start immediately until memory full, start/stop measuring, start when button pressed
Battery:	3V lithium (CR 2450), can be replaced by user
IP code:	IP 52
Housing:	ABS
Dimensions:	69mm x 48mm x 22mm

Type	PK	Cat. No.
EBI 20-TH1	1	**9.908 070** 1
EBI 20-TH1-Set	1	**9.908 074**

2

6.239 884

Temperature/Humidity data logger testo 174 H

Testo

The mini data logger for temperature and humidity, testo 174 H, is ideal for monitoring temperature and humidity sensitive goods in storage. The testo 174 H also monitors building climate, continuously, securely and unobtrusively. The free software ComSoft basic allows fast programming of the data logger and easy analysis.
- Humidity sensor with long-term stability
- High data integrity, even with empty battery
- Display of the current temperature or humidity value
- Issue of alarms via display
- Data transfer to the PC via USB interface

testo 174H: Mini data logger, 2-channel, incl. wall bracket, battery (2 x CR 2032 lithium) and calibration protocol.
testo 174H-Set: Mini data logger, 2-channel, incl. USB-interface for programming and reading out the logger, wall bracket, battery (2 x CR 2032 lithium) and calibration protocol.

Specification

Probe type:	NTC temperature sensor and internal capacitive humiditiy sensor
Measuring range:	0 to 100% RH, -20 to +70°C
Accuracy:	±0.5°C, ±3% RH
Resolution:	0.1% RH, 0.1°C
Operating temperature:	-20 to +70°C
Storage temperature:	-40 to +70°C
Battery type:	2 x CR 2032 lithium
Battery life:	1 year (15 min measuring cycle, +25°C)
Protection class:	IP20
Meas. cycle:	1min to 24h (can be selected)
Memory:	16000 readings
Software:	ComSoft basic (Windows)

Type	PK	Cat. No.
testo 174H	1	**6.239 884** 2
testo 174H-Set	1	**6.239 883**

1   Temperature/Humidity data logger LOG 110

Large display for actual value, battery status display, easy to use software. *Dostmann electronic*
Perfect designed instrument for transportation or storage.
- quality surveillance in laboratories, at the production or in the storage
- ambient conditions in manufacturing facilities
- monitoring from storages after HACCP
- ambient conditions in power plants
- monitoring of fridges for the pharma industry
- memory for 60 000 data sets

Please order Software with USB-Cabel separately (9.726 413)

Specifications
Temperature
Measuring range:	-30 to +70 °C
Accuracy:	0.1 °C
Precision:	±0.5 °C (0 to +40 °C), otherwise ±0.7 °C

Humidity
Measuring range:	0 to 99 % R.H.
Resolution:	0.1% R.H.
Accuracy:	±3 % R.H.
Housing:	Plastic (ABS)
Battery:	1 x CR2032 3 V
Dimensions:	92 x 55 x 21mm
Weight:	95 g (incl. packaging)
Alarm function:	Alarm for too low or too high temperature and/or humidity values
	Calibration reminder

Type	PK	Cat. No.
LOG 110	1	**9.726 412**

2   Wireless temperature data logger EBI 25-TH

Wireless temperature and humidity data logger. With internal temperature sensor and *ebro*
external humidity sensor.

- Readout via wireless interface
- Replaceable battery
- LCD display
- Memory for 288 values per channel

The IF 400 base station and the Winlog.web/Winlog.wave PC software (see "Accessories for EBI 25 data loggers)
are required for programming and evaluating the EBI 25TH data logger.

Scope of delivery: temperature and humidity data logger, operating manual

Specifications
Sensors:	Temperature: NTC/Humidity: capacitive
Channels:	1 x internal, 1 x external
Measuring cycle:	1 min ... 24 Hrs..
Temperature measuring range:	-30 ... 60 °C
Humidity measuring range:	0 ... 100 % r.H
Temperature accuracy (±1 digit):	±0.5 °C (-20 °C ... 40 °C)
	±0.8 °C (40.1 ... 60 °C)
Humidity accuracy (±1 digit):	±3 %
Temperature resolution:	0.1 °C
Humidity resolution:	0.1 % r.H
IP code:	IP 20
Battery life:	approx. 2 years
Operation and storage temperature:	-30 ... 60 °C/-40 ... 85 °C
Dimensions (W x D x H):	48 x 27 x 95 mm
Power supply:	1 x Lithium battery 3.6 V, replaceable

Type	PK	Cat. No.
EBI 25-TH	1	**7.656 516**

1

1   Temperature/Humidity/Pressure data logger LOG 220

Dostmann electronic

- PDF-data logger with display
- Memory size: 60.000 measurements
- Usable without software (default settings) (5-minute-interval, without alarm settings)
- Automatic PDF creation
- Free adjustable recording interval (10 seconds to 24 hours
- Max-Min-Display memory (resettable)
- Time marking functions for measuring results
- Movement sensor for shock recording e.g.: door or windows closing
- Battery lifetime approx. 4 years (recording interval >15 minutes)
- Includes wall mount
- Status- and Alarm-LEDs

Free software LogConnect, for configuring (alarms, interval, changing display settings) or LogGraph2 for comfortable graphical and tabular display of measured values, incl. drag and zoom. Software is available as download.

Specifications
Temperature
Measuring range:	-40 to +70 °C
Accuracy:	0.1 °C
Precision:	±0.5 °C (0 to +60 °C), otherwise ±1.0 °C

Humidity
Measuring range:	0 to 100 % R.H.
Accuracy:	0.1% R.H.
Resolution:	±3 % R.H. (40 to 60 %), ±3.5 % R.H. (20 to 40 % and 60 to 80 %), otherwise ±5 % R.H.

Pressure
Measuring range:	300 to1100 hPa
Accuracy:	0.1 hPa
Precision:	±1 hPa (900 to 1100 hPa), otherwise 0.5 % of end value
Interface:	USB (integr.)
Housing:	Plastic (ABS)
Power supply:	1 x 3.6 Volt Lithium ½ AA
Dimensions:	91.5 x 42 x 20 mm
Weight:	approx. 60 g

Type	PK	Cat. No.
LOG220	1	**6.284 759**

2

2   Data logger LOG32THP

Dostmann electronic

Temperature-humidity-pressure logger with integrated USB-interface and automatic PDF-creation, inclusive wall mount.
- Memory for 3 x 60.000 measurements
- Useable without software (default settings with 5 minuteintervals)
- Automatic PDF creation (no drivers required), optional software download
- Free adjustable recording interval 30 seconds up to 24 hours (via Software Log Connect)
- Battery lifetime > 2 years (recording interval >15 minutes)
- Statusand alarm-LEDs, includes wall mount

Specifications
Measuring range:	-40 ... +70 °C, 0 ... 99 %rh, 300 ... 1100 hPa
Accuracy:	±0.5 °C (-10 ... 40 °C) ±3 % (40 ... 60 % rh), ±1 hPa (900 ... 1100 hPa) otherwise 0.5 %
Resolution:	0.1 °C/0.1 %rh/0.1 hPa
Memory:	3x 60 000 measurements
Interface:	USB (intergr.)
Housing:	ABS
Dimensions (L x W x H):	102 x 20 x 21 mm
Weight:	70 g
Battery:	1x 3.6 V lithium 1/2 AA

Type	PK	Cat. No.
LOG32THP	1	**7.971 350**

1   Temperature, humidity, pressure and CO_2 logger LOG220E

NEW

Dostmann electronic

1

Data logger for temperature, humidity and pressure recording with an external connection for a CO_2 sensor or humidity, pressure and temperature sensor. Incl. wall mount.

- Freely adjustable recording interval from 10 seconds to 24 hours
- Min- and Max-values can be reset in the display
- Time marking function ("Time Marker") during data recording
- With movement sensor for shock recording
- Memory for approx. 60000 measurements
- Automatic output as PDF file, device can also be used without software
- No driver installation needed
- Status and alarm LEDs, with buzzer
- Display can be switched off
- Battery life > 4 years at > 15 min measuring interval
- USB interface for data transfer
- Software available for download on the manufacturer's website (free of charge)

Temperature, pressure humidity and CO_2 sensors are available separately.

Scope of supply: Data logger, wall mount, battery, USB cover, screws and dowels

Specifications

Temperature range internal:	-40 ... 70 °C
Temperature accuracy internal:	±0.5 °C (0 ... 60 °C), otherwise ±1 °C
Temperature range external:	-200 ... 850 °C
Temperature accuracy external:	±0.2 °C or 0.3 % (the greater value applies)
Temperature resolution:	0.1 °C
Humidity range:	0 ... 100 % r.H.
Humidity accuracy:	±3% r.H. (40 ... 60 % r.H.), ±3.5 % r.H. (20 ... 40 % and 60 ... 80 % r.H.), otherwise ±5 % r.H.
Humidity resolution:	0.1 %
Pressure range:	300 ... 1100 hPa
Pressure accuracy:	±1 hPa (900 ... 1100 hPa), otherwise 0.5 % of end value
Pressure resolution:	0.1 hPa
Housing:	ABS
Dimensions (W x D x H):	42 x 20 x 91.5 mm
Weight:	70 g
Power supply:	1/2 AA 3.6 V

Type	PK	Cat. No.
LOG220E	1	**6.311 947**

We can **supply** this
manufacturer's
whole
product range !

LLG
Lab Logistics Group

DOSTMANN electronic GmbH

1 LLG-Short period timer with alarm

Easy-to-use combination timer and stopwatch, with large display and alarm function from/up to 99 min. and 59 sec. With magnet for easy fixing. Battery LR 44 inclusive.

Dimensions (Ø x H):	54 x 16.5mm
Weight:	approx.40g

Type	PK	Cat. No.
LLG-Short period timer with alarm	1	**9.260 150**

2 LLG-Timer Cube

With 4 pre-set countdown times. Place the cube with the desired time facing up and the counting down starts immediately.

- Pulsing LED when timer is counting
- Automatically rotating flip display shows the remaining time
- After expiration, the elapsed time is displayed until the alarm ends
- Optional pre-alarm shortly before time expires

Dimensions (W x H x D):	60 x 60 x 60 mm
Weight:	58 g
Power supply:	2 x 1.5 V AAA (not incl.)

Type	PK	Cat. No.
5-15-30-60 minutes	1	**6.291 217**

3 LLG-Timer pro

NEW

The LLG-Timer pro can be used simultaneously as real time clock and timer. The countdown timer also runs when time is visible.

- Big 6-digit LCD display
- Digital stopwatch (counting up)
- Short timer (counting down)
- With memory function
- Stopwatch and countdown up to 23 h 59 min. 59 sec.
- Optical and acoustic alarm when timer expires
- Incl. magnet for mounting, hanging bracket and stand (fold-out)

Dimensions (W x H x D):	82 x 68 x 20.5 mm
Weight (with battery):	82 g
Power supply:	2 x AAA 1.5 V (not included)
Warranty:	12 months

Type	PK	Cat. No.
LLG-timer pro	1	**6.311 351**

4 LLG-Dual-Timer, 2-channel

NEW

The LLG-Dual-Timer offers two separate timers in one instrument. One fixed time can be stored per channel.

- Big 6-digit LCD display
- Digital stopwatch (counting up)
- Short timer (counting down)
- With memory function
- Stopwatch with tenths of a second
- Stopwatch and countdown up to 99 h 59 min. 59 sec
- Optical (red LED) and acoustic alarm (2 volume levels), when timer expires
- Incl. magnet for mounting, hanging bracket and stand (fold-out)

Dimensions (W x H x D):	97 x 79 x 21 mm
Weight (with battery):	95 g
Power supply:	2 x AAA 1.5 V (not included)
Warranty:	12 months

Type	PK	Cat. No.
LLG-Dual-Ttimer	1	**6.311 350**

1   LLG-Timer Triple pro

The LLG-Timer Triple pro offers three separate timers in one instrument. One time can be stored per channel. This Timer can be used simultaneously as real time clock and timer. The countdown timer also runs when time is visible.

- Big 6-digit LCD display
- Digital stopwatch (counting up)
- Short timer (counting down)
- With memory function
- Stopwatch and countdown up to 23 h 59 min. 59 sec.
- Optical and acoustic alarm when timer expires
- Incl. magnet for mounting, hanging bracket and stand (fold-out)

Dimensions (W x H x D):	68 x 88.7 x 16.2 mm
Weight (with battery):	87 g
Power supply:	2 x AAA 1.5 V (not included)
Warranty:	12 months

Type	PK	Cat. No.
LLG-Timer Triple pro	1	**6.313 417**

2   LLG-Timer with Triple Alarms, 1-channel

Choice of vibration, sound and/or light alarms makes this timer perfect for high noise locations.

- Vibration, light and loud buzzer sound alarms can function at one time, or be independently turned off
- Maximum run time: 19 hours: 59 minutes/99 minutes: 59 seconds;
- Timer accuracy: ±7 seconds/day
- Count direction: up/down; displays elapsed time after countdown
- Last time set memory
- Key press confirmation feature gives an audible indication of data entry
- Lay it flat on a bench, use the flip-open stand for a vertical view, carry it on a lab coat with the convenient pocket clip, or use the magnetic back for metal surface attachment
- Requires two AAA batteries (included)
- Individually tested, inspected, and calibrated using NIST
- Includes Certificate of Calibration with unique report number, stated corrections and standard used for the calibration, and multi-language instructions (English, French, German, Italian, Portuguese and Spanish)

Dimensions (W x H x D):	45 x 75 x 20 mm (without clip portion)

Type	PK	Cat. No.
LLG Timer with Triple Alarms, 1-channel	1	**6.266 707**

3   LLG-Timer with White Board, 4 channel

This four-channel timer has a built-in white board that helps keeping track of time and other critical information.

- Audible alarm for each channel
- Built-in white board and dry erase marker with eraser tip (included) helps keep track of crucial information
- Programs: hours/minutes; Displays: hours/minutes/seconds
- Maximum run time: 23 hours: 59 minutes
- Timer accuracy: ±5 seconds/day
- Count direction: up/down; displays elapsed time after countdown
- Last time set memory
- Key-press confirmation feature gives an audible indication of data entry
- Lay flat on a bench, use the flip-open stand for a vertical view, or use the magnetic back for metal surface attachment
- Requires two AAA batteries (included)
- Individually tested, inspected, and calibrated using NIST
- Includes Certificate of Calibration with unique report number, stated corrections and standard used for the calibration, and multi-language instructions (English, French, German, Italian, Portuguese and Spanish)

Dimensions (W x H x D):	114.3 x 88.9 x 25.4 mm

Type	PK	Cat. No.
LLG Timer with White Board, 4 channel	1	**6.266 706**

1   Interval timer with alarm

Benchtop mechanical timer. Suitable for standing, hanging and in addition on the back of two magnets, which allows the fitting of metal parts. Casing and rotary setting knob are white, the dial is black. Running time max. 60mins. Metal movement.

Dimensions (W x H x D):   70 x 70 x 40 mm

Type	PK	Cat. No.
Interval timer with alarm	1	**9.260 020**

2   Short period timer Timer II

Electronic timer and stopwatch with large display and 10-key setting. Counts up or down from 10 hours to 1 second. With pocket clip, bench stand, magnetic attachment and AAA 1.5V battery.

Dimensions (W x H x D):   60 x 70 x 25mm
Weight: 95g

Type	PK	Cat. No.
Timer II	1	**9.851 027**

3   Electronic timer clock

Amarell

Count down/count up timer with loud alarm signal at end of timed period. With Clock, Stopwatch and Memory functions. Timer up to 24 hours. Fittings: magnet, stand and clip. With battery.
Dimensions (W x H x D):   68 x 53 x 20 mm

Type	PK	Cat. No.
Electronic Timer Clock	1	**9.235 145**

4   3-channel-short period timer

Dostmann electronic

Indispensable for laboratories. Triple timer with large display.
- Indicates three separate times simultaneously, Measuring range: 1sec to 20hours
- Stopwatch function
- Integrated quartz watch
- Supplied with magnet and clip
- Operating temperature: 0 to 50 °C
- Battery 1.5V AAA inclusive

Dimensions (W x H x D):   71 x 88 x 24mm
Weight: 115g

Type	PK	Cat. No.
3-channel timer	1	**6.233 690**

5   Laboratory Short period timer Compact

Hanhart

Compact.
Countdown/Countup.
Digital reading, with alarm and repeat function.
12hr. clock function.
Countdown and countup display: 23hrs, 59mins, 59secs.
Battery SR 44 inclusive.
Dimensions (W x H x D):   64 x 60 x 16 mm
Weight: 40 g

Type	PK	Cat. No.
Compact	1	**9.262 071**

Crown stopper, mechanical

Impact resistant, dustproof and water resistant.   *Hanhart*
With diamond-turned metal case. 55mm diameter. Built-in strap ring.

Type	Measuring capacity hr: min: sec	PK	Cat. No.
Crown stopper 1 / 5 s	00:30:00	1	9.262 005
Crown stopper 1 / 10 s	00:15:00	1	9.262 010

9.262 005

Stopwatch Amigo, mechanical

Impact resistant. Unbreakable spring movement. 55mm diameter ABS case.   *Hanhart*
Supplied with 120cm lanyard.

Type	Measuring capacity hr: min: sec	PK	Cat. No.
Amigo 1/5 s	00:30:00	1	9.262 411
Amigo 1/10 s	00:15:00	1	6.205 734

9 262 411

3   Stopwatch, digital

1/100 seconds, split time, clock, date with weekday, hourly chime, alarm with snooze   *TFA Dostmann*
function, lanyard.
Measuring range: Time up to 23h, 59min, 59sec. Dimensions (W x H x D): 65 x 79 x 21mm,
weight: 50g, incl. 1x 1.5V LR44 battery, EK-EL

Type	PK	Cat. No.
Stopwatch	1	9.851 018

4   Stopclock, analogue, Mesotron

Quartz-accurate timer with large, analogue display.   *Hanhart*
Measuring range: 0 to 60 secs, 0 to 60 mins. Inner scale 1 to 100 secs/100 mins. 110 mm dia.
Battery life over 18 months with a 1.5 V button cell.

Dimensions (W x D x H):	130 x 40/95 x 175 mm
Weight:	375 g

Type	PK	Cat. No.
Mesotron	1	9.262 080

5   Radio controlled wall clock

- Highest precision radio-controlled clock   *Dostmann electronic*
- Analogue display with second hand
- Digital display of date
- Large dial
- Ideal for home, office, waiting room, lobby or entrance hall and as a gift
- Ø 300mm
- Battery included 1.5 V AA

Type	PK	Cat. No.
Radio controlled wall clock	1	9.851 019

1

1 Thermohygrometer, analogue

Synthetic hair, spun metal case with dial and brass hanging ring.

TFA Dostmann

Measuring range

Relative humidity:	0 to 100%
Temperature:	-15 to 55ºC
Wieght:	105g

Diam. mm	PK	Cat. No.
100	1	**9.726 403**

2

2 Thermohygrometer

Universal application thermohygrometer with outdoor probe and stand/attachment device. Accessory wall mounting (screws or adhesive tape) are available on request.

Amarell

Specifications

Measuring range:	0 to +50 x 0.1°C
	switchable to °F
	20 to 99 x 1% R.H.
Dimensions (W x D x H):	approx. 65mm x 20mm x 97mm

Type	PK	Cat. No.
Thermohygrometer	1	**9.235 135**

3

3 Digital Thermo-/Hygrometer EXACTO

NEW

For monitoring temperature and humidity. With display of min and max values.

TFA Dostmann

- Permanent display of daily maximum and minimum values with automatic reset after 24 hours.
- Additional max/min memory with manual reset
- Calibration function
- Backlighting
- With magnet, stand and mounting hole
- Precision sensor
- Stainless steel frame

Specifications

Temperature range:	-20 ... 70 °C
Temperature accuracy:	±1 °C
Temperature resolution:	1 °C
Humidity range:	1 ... 99 %
Humidity accuracy:	±3 % at 35 ... 75 %, otherwise ±5 %
Humidity resolution:	1 %
Power supply:	2 x 1.5 V AAA (not included in scope of supply)
Dimensions (W x D x H):	74 x 26 x 90 mm
Weight:	106 g

Type	PK	Cat. No.
EXACTO	1	**4.670 846**

1   Digital wireless thermometer/hygrometer INFO

TFA Dostmann

For monitoring outdoor temperature and room temperature/humidity. Display of minimum and maximum values and observation over an individual period.

- Wireless transmission of outdoor temperature via transmitter (max. 80 m)
- Indication of indoor temperature and humidity
- Permanent display of maximum and minimum values with manual reset
- Additional max/min memory with automatic reset after 24 hours
- Precision sensor
- 80 m range of the transmitter

Scope of supply: Wireless thermometer, temperature transmitter
Specifications

Temperature range (internal):	-10 ... 60 °C
Temperature range (external):	-40 ... 60 °C
Temperature accuracy:	±1 °C
Humidity range:	10 ... 99 %
Humidity accuracy:	±3 % at 35 ... 75 %
Transmission frequency:	433 MHz
Power supply:	2 x 1.5 V AA
Dimensions (W x D x H):	77 x 22 x 86 mm
Weight:	70 g

Type	PK	Cat. No.
Thermometer/hygrometer INFO	1	**4.670 847**

2   Thermohygrometer, TA 100

TFA Dostmann

- Very fast humidity sensor
- Dewpoint and max./min. function
- °C/°F-switchable
- Hi-Lo alarm with red warning LED

Specifications
Temperature

Measuring range:	-40°C to +70°C
Display resolution:	0.1°C
Accuracy:	±1°C
Humidity	
Measuring range:	1% to 99% R.H.
Display resolution:	0.1%
Accuracy:	±4% from 35% to 75% remaining range ±5%
Working temperature:	-40°C to +70°C
Batteries:	2 x 1.5 Volt AAA
Dimensions:	105mm x 105mm x 44mm
Weight:	150g (incl. packaging)

Type	PK	Cat. No.
TA 100	1	**9.726 405**

3   Digital thermo-hygrometer for room and outdoor measurement

TFA Dostmann

For simultaneous monitoring of indoor and outdoor temperature/humidity.

- Measurement of outdoor data via cable sensor (cable length approx. 1.5 m)
- Display of minimum and maximum values and observation over a freely selectable period of time
- Min-/Max function
- For hanging and standing

Scope of supply: Thermo-hygrometer, battery
Specifications

Temperature range:	-10 ... 60 °C
Temperature accuracy:	±0.8 °C at 10 ... 30 °C, otherwise ±1 °C
Temperature resolution:	0.1 °C
Humidity range:	10 ... 99 %
Humidity accuracy:	±3.5 % at 30 ... 80 %, otherwise ±5 %
Humidity resolution:	1 %
Power supply:	1 x 1.5 V AAA
Dimensions (W x D x H):	102 x 21 x 110 mm
Weight:	144 g

Type	PK	Cat. No.
Digital thermometer/hygrometer	1	**9.726 418**

3. Analytical measurement and testing
GENERAL CATALOGUE EDITION 21
Climate and environment measurement/Hygrometer-Special climate meters

1

9.726 964

Thermohygrometer testo 608

Continuous monitoring of indoor climate   *Testo*

The economic thermohygrometer testo 608-H1 measures humidity, temperature and dewpoint continuously. The large display is easy to read even at a distance. With wall mounting and table holder for flexible positioning. The accurate testo 608-H2 alarm hygrometer reliably indicates when humidity and temperature limits have been exceeded, for example in greenhouses, warehouses, cleanrooms, museums, laboratories etc.

- Continuous display of temperature and humidity or dewpoint
- With dew point calculation and max/min display
- Battery monitoring

Additional features testo 608 H2:
- LED alarm, warns if limits are exceeded
- High accuracy ±2%rH

Specifications	**testo 608-H1 // testo 608-H2**
Measuring rate:	18sec
Battery type:	9V block battery
Dimensions:	111 x 90 x 40mm
Housing:	ABS
Display:	LCD, 2 lines
Sensor type NTC:	
Measuring range:	0 ... 50 °C // -10 ... 70 °C
Accuracy (at 25°C):	±0.5 °C (±1 digit)
Resolution:	0.1 °C
Sensor type testo humidtiy sensor capacitive:	
Measuring range:	+10 ... 95 % rH // 2 ... 98 % rH
Accuracy (at 25°C):	±3 % rH // ±2 % rH
Resolution:	0.1% rH
Operating temperature:	0 ... 50 °C // -10 ... 70 °C

Type		PK	Cat. No.
testo 608-H1		1	**9.726 964** 1
testo 608-H2		1	**9.726 965**

2

2   Digital Anemometer

For the measurement of wind speed (in m/s, km/h, mph, knots, ft/min), maximum and average wind speed, indication of temperature (in °C or °F). LCD backlight display. Auto/Manual power off. Useful for the functional check of fume hoods and safety cabinets.

Wind speed range:	0.2 to 30 m/s
Resolution:	0.1 m/s
Accuracy:	±5 %
Temperature range:	-10 ... +45 °C (-14 ...+ 113 °F)
Power supply:	3V CR2032 (included)

Height mm	Width mm	Depth mm		PK	Cat. No.
104	58	19		1	**6.264 198**

1   Sound level meter SU 130, class II

Sound level meter for noise measuring.   *SAUTER*
- Delivered in a hard carrying case
- Multi measuring functions: Lp: Standard sound level measuring function, Leq: Energy equivalent sound level measuring mode (type A), Ln: Shows the deviation from a pre-defined limit in %
- Selectable methods of evaluation: A: As sensitive as the human ear, C: Sensitive for noisier environmental, conditions, where there are machines, plant, motors etc., F: For areas where sound intensity does not vary
- Function to set limits: Programmable target value for go/no-go test values
- Track function for continuous recording of variable environmental conditions
- Peak Hold Mode to capture peaks
- Internal memory for measured values, for 30 measurements. Can be displayed on the PC
- Data interface RS-232, included

Specifications
Measuring range

Lp A:	30 to 130 dB
Lp C/Lp F:	35 to 130 dB
Leq:	30 to 130 dB
Ln:	0 to 100 %
Readability:	0.1 dB
Dimensions (W x D x H):	236 x 63 x 26 mm
Net weight:	approx. 170 g
Power supply:	4 x 1.5 V AAA (not included)

Type	PK	Cat. No.
Sound level meter SU 130, class II	1	**6.270 977**

2   Sound level meter class I and II

For measurements for workplaces which are outdoors, e.g. at airports, on building sites,   *SAUTER*
in road construction etc. with broad access to spectrum thanks to the highly-accurate
24-Bit A/D converter.

- Different sound pressure levels can be selected, such as, for example, Laeq, LcPeak, LaF, LaFMax, LaFMin, SD, SEL, E
- The optimised analogue frontend switch reduces the ambient noise and increases the linear measuring range
- Three profiles and 14 user-defined measurements can be calculated in parallel with different frequency and time weighting
- LN statistics and display of the graph showing the progression of time
- User-defined integral interval measurement up to a maximum of 24 hours is possible
- Frequency weighting (filter) A, B, C, Z
- Time interval during measurement: F (fast), S (slow), I (pulse)
- Freely-definable limits for the output of an optical alarm signal
- Peak Hold Mode to capture peaks
- Octavo function for targeted sound analysis
- Track function with graphic display of a measurement
- Calibration mode (with optional calibrator)
- Trigger mode: Analogue signal to switch the device on or off with 3.5 mm plug
- Automatic measurement for timer function is possible
- Measured value recording frequency selectable: 10, 5, 2 Hz
- Data transfer using MicroSD (4 GB), RS-232 or USB
- Option of fitting a column on the rear of the housing, ¼ thread

Scope of supply: Sound level meter, memory card, hard carrying case

Specifications

	SW 1000 // SW 2000
Measuring capacity linear:	20 ... 134 dB // 25 ... 136 dB
Frequency range:	0.003 ... 20 kHz // 0.02 ... 12.5 kHz
Sensitivity:	50 m V/Pa // 40 m V/Pa

Type	PK	Cat. No.
SW 1000, class I	1	**6.311 638**
SW 2000, class II	1	**4.676 252**

1

1 Light measuring instrument SO

Light measuring instrument for precise light measurement up to 200.000 Lux   *SAUTER*
- Measures illumination in the workplace
- Helps to determine whether a workstation has insufficient light or whether there is too much light
- Photo sensor: silicon diode
- Cosine correction for angular incident light
- Sturdy protective cover for the photo sensor
- Increased service life: Impact protection through a protective casing
- Track function for continuous recording of variable environmental conditions
- Peak Hold Mode to capture peaks
- Selectable measuring units: fc (foot-candle), lx
- AUTO-OFF function
- Delivery in a robust box

Specifications

Measuring range/Readability:	200 lx/0.1 lx
	2000 lx/1 lx
	20000 lx/10 lx
	200000 lx/100 lx
Measuring frequency:	2 Hz
Cable length (Photo sensor):	approx. 1 m
Dimensions (W x D x H):	100 x 60 x 28 mm
Net weight:	approx. 250 g
Power supply:	9 V Block (not included)

Type	PK	Cat. No.
Light measuring instrument SO	1	**6.259 057**

2 CO_2 Meter, Air CO_2ntrol 5000

With data logger function, ideal for monitoring the CO_2 concentration in buildings.   *Dostmann electronic*
- Logger function saves the data as a CSV file on Micro SD card
- LEDs for visual identification of CO_2 concentration
- Displays temperature, Humidity and CO_2 content
- Individual alarm setting
- Bench- and wall mounting

Scope of supply: Meter incl. USB mains adapter and Micro SD card

Specifications

CO_2 range:	0 ... 5000 ppm
Resolution:	1 ppm (0-1000 ppm), 5 ppm (1001-2000 ppm), 10 ppm (>2000 ppm)
Accuracy:	±50 ppm or 5 % larger value applies, >3000 ppm ±7%
Temperature range:	0 ... 50 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C
Relative humidity:	5 ... 95 %
Resolution:	1 %
Accuracy:	±5 %
Display:	7 segment LCD
Housing:	Plastic
Dimensions:	120 x 66 x 33 mm
Weight:	103 g (without mains adapter)
Power supply:	100-240 VAC 50/60 Hz

Type	PK	Cat. No.
Air CO_2ntrol 5000	1	**6.291 253**

2

www.wenk-labtec.com

<table>
<tr><td>1</td><td>Precision handheld instruments P700 series</td><td>1</td></tr>
</table>

For temperature, moisture and airflow.   *Dostmann electronic*
For highly accurate temperature measurements with USB PC online interface.
(Optional: Windows SmartGraph software for graphical and tabular documentation, etc). Integral probe calibration for sensor tolerance compensation. Min.- Max.- Hold- and AVG- functions. The large LCD shows two measurements synchronously, even temperature differences can be displayed (P705, P755, P755-Log, P770).

Specifications
General (all models):
USB interface, Max-Min memory, Hold function, true average calculation over a freely selectable period, Auto-off function, measured quantities can be freely assigned to instrument channels, comprehensive calibration options (selectable 1-point, 2-point or 3-point calibration), large display with bar graph for simultaneous display of 2 measured values

P700/P705:
1/2 measurement channels (Pt100 4-wire probe, thermocouples type J, K, L, N, T, R, S), measurement ranges and accuracies: Pt100:-200 to +850°C (±0.1 °C -100 to +200°C, otherwise ±0.1% of measurement value) thermocouples, DIN types (-200 to +1760°C)

P710/P715:
1/2 measurement channels (Thermocouples type K, J, L, N, T), measurement ranges and accuracies: -200 to +1370°C (±0.2 °C from 0 to +200 °C, ±0.5 °C to 1000 °C, otherwise ±1.0 °C of measurement value)
Thermocouples acc. to EN 60584

P750/P755/P755-Log:
1/2 measurement channels (Pt100 4-wire probe, thermocouples type J, K, L, N, T, R, S, moisture, flow), measurement ranges and accuracies: Pt100: -200 to +850°C (±0.03°C -50 to +200°C, ±0.05°C -200 to +200°C, otherwise ±0.05% of measurement value), thermocouples, DIN type (types J, K, L, N, T 0 to 200 °C, ±0.3°C, +200 to +1000°C ±1.0 °C, otherwise ±1.5°C;
type R, S ±1.0 °C +0.1% of measurement value) humidity 0 to 100% R.H. (±1.5%R.H.), flow 0 to 40 m/s (±0.5% of measurement value +1.0% of final value)

P770:
2 measurement channels (Pt100, thermocouples type J, K, L, N, T, R, S, moisture, flow), measurement ranges and accuracies: Pt100: -200 to +850°C (±0.1 °C -100 to +200°C, otherwise ±0.1% of measurement value) thermocouples, DIN types, humidity 0 to 100%R.H. (±1.5%R.H.), flow 0 to 40 m/s (±0.5% of measurement value)
Dimensions (L x W x D)/ weight: 200 x 85 x 40mm/300g

P700-P755 for Ex-use Zone 1 and Zone 2 according to ATEX approval II 2 G Ex ib IIB T4 Gb available on request.

Type	Description	PK	Cat. No.
P700	1 channel, Pt100	1	9.852 000
P705	2 channel, Pt100	1	9.852 001
P710	1 channel thermocouples Type K, J, L, N, T	1	9.852 002
P715	2 channell thermocouples Type K, J, L, N, T	1	9.852 003
P750	1 channel, Pt100, moisture, dew piont, flow	1	9.852 004
P755	2 channel, Pt100, moisture, dew point, flow	1	9.852 005
P755-Log	2 channel, Pt100, moisture, dew point, flow, with datalogger for 6000 values	1	9.852 006
P770	2 channel, Pt100, moisture, dew point, flow	1	9.852 007
P770-Log	2 channel, Pt100, moisture, dew point, flow, with datalogger for 6000 values	1	9.852 008

Accessories for hand-held meters Serie P700

Description	PK	Cat. No.
Immersion probe Pt100, -50 to +350°C, Cl. B, 150x3mm	1	9.851 935
Immersion probe Pt100, -50 to +350°C, Cl. B, 300x3mm	1	9.851 936
Immersion probe Pt100, -200 to +450°C, ±0.03°C, 150x3mm	1	9.851 937
Immersion probe Pt100, -200 to +450°C, ±0.03°C, 300x3mm	1	9.851 938
Insertion probe Pt100, -50 to +350°C, Cl. B, 150x4mm	1	9.851 948
Immersion probe NiCr-Ni/Type K, -40°C to +1100°C, Cl. 1, 300x1.5mm	1	9.851 949
Surface probe NiCr-Ni/Type K, T90 3 sec., -65 to +550°C, 150 x 15.0mm	1	9.851 961
Temp. / relative Humidity -40 to 80°C / 0 to 100%, 120x20mm	1	9.851 954
Airflow Turbine probe 0 to 20m/s, diam. 22 x 28mm, 150mm lg.	1	9.851 955
Software DE-Graph for 95 / 98 / 2000 / NT / Vista	1	9.851 925
P700 adapter for type K probe with mini plug	1	9.851 995
Service case suitable up to 3 probes & accessories	1	9.851 924
ISO certificate for temperature CERT	1	9.851 992
PC-Cable for USB port	1	6.242 171
Power supply 230 V	1	9.851 959

1   Thermometer testo 440 Laboratory kit

Testo

Laboratory kit with Pt100 probe for reliable and precise temperature measurement and documentation. Particularly suitable for use in corrosive media due to the laboratory probe, whose coating is made of the tried-and-tested DURAN® laboratory glass. The testo 440 air velocity & IAQ measuring instrument automatically detects the connected probes, and the stored, structured measurement menus makes work considerably easier in a wide variety of applications. For example it can be used to optimally adjust air conditioning and ventilation systems.

- Structured measurement menu for long-term measurements
- Internal data storage and USB port for flexible data export
- Parallel connection of up to three probes possible: one Bluetooth® probe, one wired probe and one temperature probe with thermocouple type K connection
- Versatile, expandable with an extensive selection of digital probes

Scope of supply: Climate measuring instruments, 3x AA batteries, USB cable and calibration protocol, glass-coated digital Pt100 laboratory probe, basic case for testo 440 and 1 probe

Specifications

Temperature measuring range (NTC):	-50 ... +400 °C
Accuracy:	±0.3 °C (-50 ... 300 °C)
	±0.4 °C (300.01 ... 400 °C)
Resolution:	0.01 °C
Memory:	7500 measurement protocols
testo 440	
Operating/storage temperature:	-20 ... +50 °C
Dimensions (W x D x H):	65 x 32 x 154 mm
Weight:	250 g
Power supply:	3 x Mignon, Type AA
Pt100 probe	
Operating/storage temperature:	-5 ... 45 °C/-20 ... 60 °C
Cable length:	1.6 m
Dimensions (L x Ø):	200 x 6 mm
Weight:	160 g

Type	PK	Cat. No.
testo 440 Laboratory kit	1	**6.314 325**

Probes for Climate measuring instrument testo 440

Testo

Description	Measuring range °C	PK	Cat. No.
Fume cupboard probe (digital), wired	0 ... +50	1	**6.312 182** 2
Laboratory probe glass-coated (digital) with Pt100 temperature sensor	-50 ... +400	1	**6.312 183** 3
Immersion/Piercing probe (digital) with Pt100 temperature sensor	-80 ... +300	1	**6.312 184**

6.312 182

6.312 183

3. Analytical measurement and testing
Density determination/Density meter

1 LLG-Precison-Hydrometer, Alcoholmeters, with thermometer, calibratable

Measuring range, graduation: 0.1% vol, with thermometer 0 to +30°C, graduation: 0.5°C, calibrated at 20°C.
Filling: blue. Overall length: 380mm

Type	Measuring range % vol	PK	Cat. No.
1	0 - 10	1	9.236 810
2	10 - 20	1	9.236 811
3	20 - 30	1	9.236 812
4	30 - 40	1	9.236 813
5	40 - 50	1	9.236 814
6	50 - 60	1	9.236 815
7	60 - 70	1	9.236 816
8	70 - 80	1	9.236 817
9	80 - 90	1	9.236 818
10	90 - 100	1	9.236 819

2 Hydrometers, relative density (S.G.)

Shot poised. Without thermometer. Reference temperature: +20°C.

Length mm	Measuring range g / ml	Sub-divisions g / ml	PK	Cat. No.
280	0.600 - 0.800	0.002	1	9.004 006
280	0.800 - 1.000	0.002	1	9.004 008
280	1.000 - 1.200	0.002	1	9.004 010
280	1.200 - 1.400	0.002	1	9.004 012
280	1.400 - 1.600	0.002	1	9.004 014
280	1.600 - 1.800	0.002	1	9.004 016
300	0.700 - 1.000	0.005	1	9.004 057
300	1.000 - 1.500	0.005	1	9.004 060
300	1.500 - 2.000	0.005	1	9.004 065

Further models availlable on request.

3 Hydrometers, Baumé

Baumé type. Shot poised. Without thermometer. Reference temperature: +15°C.

Length mm	Measuring range Bé	Sub-divisions Bé	PK	Cat. No.
260	0 - 5	0.1	1	9.004 305
220	0 - 10	1.0	1	9.004 310
230	0 - 15	1.0	1	9.004 315
230	0 - 20	1.0	1	9.004 320
250	0 - 30	1.0	1	9.004 330
250	0 - 40	1.0	1	9.004 340
280	0 - 50	1.0	1	9.004 350
300	0 - 70	1.0	1	9.004 370

Further models availlable on request.

4 Hydrometers, density

DIN 12791 (and BS718). M100 series. Shot poised.
Without thermometer. Reference temperature: +20 °C.

Length mm	Measuring range g / ml	Sub-divisions g / ml	PK	Cat. No.
250	0.800 - 0.900	0.002	1	9.004 108
250	0.900 - 1.000	0.002	1	9.004 109
250	1.000 - 1.100	0.002	1	9.004 110
250	1.100 - 1.200	0.002	1	9.004 111
250	1.200 - 1.300	0.002	1	9.004 112
250	1.300 - 1.400	0.002	1	9.004 113
250	1.400 - 1.500	0.002	1	9.004 114
250	1.500 - 1.600	0.002	1	9.004 115

Further models availlable on request.

1   Hydrometers, density

Shot poised. Without thermometer. Reference temperature: +20°C.

Length	Measuring range	Sub-divisions		PK	Cat. No.
mm	g / ml	g / ml			
160	0,760 - 0,820	0.001		1	**9.004 153**
160	0,820 - 0,880	0.001		1	**9.004 154**
160	0,880 - 0,940	0.001		1	**9.004 155**
160	0,940 - 1,000	0.001		1	**9.004 156**
160	1,000 - 1,060	0.001		1	**9.004 157**
160	1,060 - 1,120	0.001		1	**9.004 158**
160	1,120 - 1,180	0.001		1	**9.004 159**
160	1,180 - 1,240	0.001		1	**9.004 160**
160	1,240 - 1,300	0.001		1	**9.004 161**
160	1,300 - 1,360	0.001		1	**9.004 162**
160	1,360 - 1,420	0.001		1	**9.004 163**

Further models availlable on request.

2   ASTM Hydrometers

Precision hydrometers acc. to ASTM E2995-14 for determination of density for mineral oil, with thermometer "mercury free".   *Ludwig Schneider*

Hydrometer with thermometer, error-limit for density: ±0.5 kg/m³, with thermometer -20 to +65°C in 1°C, blue filling, error-limit ±1°C. With works calibration on request. With blue, environmental friendly filling of thermometers. Each item packed in plasic tubes for breakage protection.

Length	Measuring range	Reference temperature	Scale		PK	Cat. No.
mm	kg/m³	°C				
380	600 - 650	15	0,5		1	**6.267 132**
380	650 - 700	15	0,5		1	**6.267 133**
380	700 - 750	15	0,5		1	**6.267 134**
380	750 - 800	15	0,5		1	**6.267 135**
380	800 - 850	15	0,5		1	**6.267 136**
380	850 - 900	15	0,5		1	**6.267 137**
380	900 - 950	15	0,5		1	**6.267 138**
380	950 - 1000	15	0,5		1	**6.267 139**
380	1000 - 1050	15	0,5		1	**6.267 140**
380	1050 - 1100	15	0,5		1	**6.267 141**
380	775 - 825	15	0,5		1	**6.267 142**

3   Hydrometers, high-quality plastics, PC

Hydrometers made of high-quality plastics (polycarbonate).   *Ludwig Schneider*
- Breakage protected (no glass breakage)
- Fully made of resistant polycarbonate (PC)
- High transparency (like glass), easy-to-read scales
- High precision and reproducibility
- Suitable for applications in food, pharmaceutical and cosmetic industries as well as many others
- Measuring units: specific gravity, density, Oechsle, % mass, Brix, saturation, ° Baumé, etc.
- Made in Germany
- Works certificate available on request (option)
- Food safety according to HACCP

For	Length	Measuring range	Reference temperature	Scale		PK	Cat. No.
	mm		°C				
Density	300	1,000 - 1,220 g/cm³	20	0,002 g/cm³		1	**9.236 840**
Density	300	1,200 - 1,420 g/cm³	20	0,002 g/cm³		1	**9.236 841**
Density	300	1,400 - 1,620 g/cm³	20	0,002 g/cm³		1	**9.236 842**
Salt saturation	300	0 - 100°	20	1°		1	**9.236 843**
Sodium chloride	300	0 - 26,4 %mas.	20	0,2 %		1	**9.236 847**
Sugar / Salt	250	0 - 12 °Bé	15	0,2 °Bé		1	**9.236 844**
Sugar / Salt	250	0 - 12 °Bé	20	0,2 °Bé		1	**6.291 763**
Sugar / Salt	300	0 - 25 °Bé	15	0,2 °Bé		1	**7.658 786**
Sugar / Salt	250	9 - 21 °Bé	15	0,2 °Bé		1	**9.236 845**
Sugar / Salt	250	19 - 31 °Bé	15	0,2 °Bé		1	**9.236 846**
Sugar / Salt	250	29 - 41 °Bé	15	0,2 °Bé		1	**6.273 071**
Sugar / Salt	250	49 - 61 °Bé	15	0,2 °Bé		1	**7.980 963**
Sugar	300	0 - 35 %mas./Brix	20	0,5 %mas.		1	**9.236 848**
Sugar	300	0 - 50 %mas./Brix	20	0,5 %mas.		1	**9.236 849**

1 Hydrometer jars, glass

With spout and base.

Diam. mm	Height mm	PK	Cat. No.
38	150	1	9.950 034
38	200	1	9.950 035
50	200	1	9.950 036
50	250	1	9.950 037
50	300	1	9.950 038
63	350	1	9.950 039

2 Pycnometers, BLAUBRAND®, Borosilicate glass 3.3.

DIN ISO 3507, gay-lussac type. Including individual certificate. Adjusted. *BRAND*
Reference temperature 20°C. With NS10/19 capillary stopper. Stopper top ground and
polished. Inscription in highly contrasting blue enamel. The volume in cm³ is specified to a precision of 3 decimal
places. Calibrated to contain. Every pycnometer is calibrated with its own stopper; hence, stoppers are not
interchangeable. Each bottle and its stopper is marked with an unique matching identification number.

Nom. capacity cm³	PK	Cat. No.
5	1	9.277 305
10	1	9.277 310
25	1	9.277 325
50	1	9.277 350
100	1	9.277 400

3 Pycnometers, Borosilicate glass 3.3., incl. DAkkS calibration certificate

BLAUBRAND®. The volume in cm³ is specified to a precision of 3 decimal places. Every *BRAND*
pycnometer is calibrated with its own stopper, hence, stoppers are not interchangeable.
Each bottle and its stopper is marked with an unique matching identification number.
All BLAUBRAND® density bottles are supplied with one accompanying individual certificate in the original packaging.

- DIN ISO 3507
- Gay-lussac pattern calibrated
- Calibrated to contain (TC, In)
- Reference temperature 20°C
- With NS10/19 capillary stopper
- Top of stopper ground and polished
- Inscriptions in high contrast blue enamel

Nom. capacity cm³	PK	Cat. No.
5	1	6.238 790
10	1	6.258 623
25	1	6.801 879
50	1	6.073 163
100	1	4.667 799

4 Pycnometers, calibrated, Borosilicate glass 3.3.

ISO 3507. Individually calibrated to contain (In) to 0.001ml. Net volume capacity is *ISOLAB*
engraved on the body. Each bottle is calibrated together with its stopper. In order to
differentiate easily, both the body and the stopper have the same code numbers printed on themselves.

Capacity ml	PK	Cat. No.
5	1	4.008 327
10	1	6.241 602
25	1	4.008 328
50	1	6.241 603
100	1	4.008 329
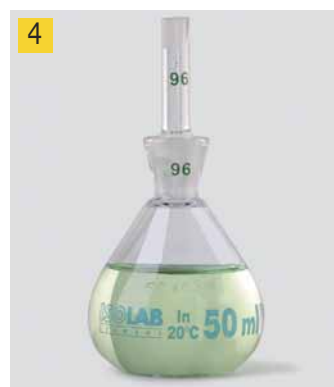
1 Pycnometers

According to ISO 2811, DIN 53 217, ASTM D1475.

Capacity ml	Material	PK	Cat. No.
100	Stainless steel	1	6.223 204
50	Stainless steel	1	6.205 559

2 Pycnometer heads with/without wide-neck bottle

For density determinations (raw density) of bitumen-like materials and mineral materials.   *Lenz*
Consists of 1000ml wide-neck bottle with conical shoulder and NS joint neck, and pycnometer head.
Material: head made of DURAN® tubing, bottle: DURAN®

Type	NS	Capacity ml	PK	Cat. No.
Pycnometer head with conical shoulder bottle	45/27	500	1	6.235 849
Pycnometer head with conical shoulder bottle	60/37	1000	1	6.070 510
Pycnometer head without conical shoulder bottle	45/27		1	6.401 224
Pycnometer head without conical shoulder bottle	60/37		1	6.079 436

Density meters Densito/DensitoPro

Robust density meters for mobile use with easy handling and user guidance. Ideal for   *Mettler-Toledo Online*
rapid and accurate routine measurements in quality assurance, incoming and outcoming
goods inspection.

DensitoPro equipped with RFID and barcode reader for rapid and reliable tracing of samples.

- Automatic sampling pump
- Available measurement scales: API, °Baumé, Brix, density, Ethanol, H_2SO_4, proof (US and IP),
  °Plato, specific gravity, user-defined concentration
- Automatic temperature compensation
- Memory for up to 1100 results
- Backlit measuring cell
- Adjustable limits with customisable colours in the display
- Bright display with good readability

Specifications

Density range:	0 ... 3 g/cm³
Resolution:	0.0001 g/cm³
Accuracy:	±0.001 g/cm³
Sample temperature range:	0 ... 50 °C
Resolution.	0.1 °C
Accuracy:	±0.2 °C
Sample volume:	2 ml
Memory:	1100 samples
Display:	2.4" colour display, backlit
Interfaces:	USB-A, USB-C
Power supply:	Removable and rechargeable Li-Ion batteries

6.291 652   6.291 653

Type	PK	Cat. No.
Densito	1	6.291 652 3
DensitoPro with RFID and barcode reader	1	6.291 653 4

1 Density meters DMA 35

NEW

Anton Paar

Portable, digital measuring device for the determination of density, relative density and concentration.
DMA 35 EX and DMA 35 EX Petrol are certified according to ATEX for applications in hazardous environments.

- On-site measurements for fast reactions
- Oscillator principle (borosilicate glass oscillator)
- Sample filling via manual filling pump or syringe
- Complete data control through traceability
- Viscosity correction for measurements also on highly viscous samples
- Gesture control for one-handed measurement
- Recognition of results outside the tolerance limit
- Measuring of density, relative density, alcohol concentration, sugar/extraction concentration, API functions,
  H_2SO_4 concentration, ten programmable custom-specific measuring units
- Robust case with exchangeable cell
- 3 years warranty

Scope of supply: Density meter, filling tube, adapter for syringe filling, syringes, transportation case,
rubber protection for measuring cell, 3 x batteries, allen key, instructions.

Specification

Density range:	0 ... 3 g/cm³
Resolution:	0.0001 g/cm³
Accuracy:	±0.001 g/cm³
Sample temperature range:	0 ... 100 °C
Temperature measurement range:	0 ... 40 °C
Resolution:	0.1 °C
Accuracy:	±0.2 °C
Reproducibility standard deviation (acc. to ISO 5725):	0.0007 g/cm³
Sample volume:	2 ml
Data memory:	1024 measurement results, 250 sample IDs, 30 measuring methods
Display:	coloured LCD, self-rotating
Interfaces:	Bluetooth®, RFID
Dimensions (W x D x H):	103 x 245 x 126 mm
Weight:	660 g
Power supply:	3 x Mignon alkaline batteries, 1.5 V LR06 AA
IP code:	IP 54

Type	PK	Cat. No.
DMA 35 Standard	1	**6.313 803**
DMA 35 EX	1	**6.313 804**
DMA 35 EX Petrol	1	**6.313 805**

2 Standards for density, kinematic and dynamic viscosity

NEW

Reagecon

To calibrate, control or validate all types of viscometers including capillary, flow cup,
rotational, falling ball, falling/rising object, stabinger and vibrational viscometers. Tested
and certified according to ASTM method D 2162, ASTM method D4052 and ISO 17025 (INAB Ref. 264T).
- Usable for fluids up to 100 °C
- In 500 ml glass bottle

Warning

H phrases: H413

Type	Density at 20 °C	Kinematic viscosity at 20 °C	Dynamic viscosity at 20 °C	PK	Cat. No.
N10	0.84	22.00	18.00	1	**4.675 405**
N100	0.87	320.00	280.00	1	**4.675 406**
N250	0.84	790.00	660.00	1	**4.675 407**
N35	0.87	88.00	76.00	1	**4.675 408**
N75	0.83	210.00	170.00	1	**4.675 409**
S20	0.84	43.00	36.00	1	**4.675 410**
S200	0.84	540.00	460.00	1	**4.675 411**
S60	0.86	160.00	140.00	1	**4.675 414**

Further products can be found in our online shop.

1   Density meter DMA 501

Anton Paar

Density meter for measuring of chemicals, pharmaceuticals, cosmetics and food. Suitable for samples with difficult properties like paste, inhomogeneous, sedimenting and particulate samples or aerosol sprays.
The DMA 501 contains all relevant concentration tables and formulas for calculating product specific parameters and the results are displayed in the appropriate unit. Automatic filling and measuring with the optional available industrial peristaltic pump possible.

- Camera image of the measuring cell (U-view™) for viewing the correct sample filling, whereby potential filling errors due to inhomogeneous samples, gas bubbles or paticles are automatically detected with the FillingCheck™ function
- Splash-proof front
- Fanless temperature control of the sample
- User-defined layouts of the measurement display with result outputs for individual requirements
- Documentation and traceability of data
- Elimination of external influences through the implementation of a standardised sample handling
- Integrated temperature and humidity sensor
- Integrated pressure sensor for adjustment
- Automatic full-range viscosity correction of results
- 3 years warranty

Specifications

Density measuring range/Accuracy:	0 ... 3 g/cm³/0.001 g/cm³
Reproducibility standard deviation (acc. to ISO 5725):	0.0004 g/cm³
Minimal sample volume:	approx. 1 ml
Temperature range/Accuracy:	15 ... 40 °C/0.3 °C
Display:	7 inches, TFT WVGA (800 x 480 Px), PCAP touchscreen
Interfaces:	1 x Ethernet, 3 x USB, 1 x RS-232
Dimensions (W x D x H):	265 x 375 x 180 mm
Weight:	13.5 kg
Power supply:	100 .. 240 V, 47/63 Hz, 24 V, 3 A

Type	PK	Cat. No.
DMA 501	1	**6.313 796**

6.313 797

2   Accessories for Density meters DMA 501

Anton Paar

Description	PK	Cat. No.
Peristaltic pump	1	**6.313 797**
Peristaltic pump highly resistant	1	**6.313 798**
Calibration according to ISO 17025	1	**6.313 799**

www.wenk-labtec.com

1   Density meter DS7700/DS7800 sets

Each set contains all necessary accessories from tube sets to nozzles and adapters to a splash guard for the manual sample supply. The devices are suitable for almost all liquids, emulsions, pastes, etc. thanks to the chemical-resistant sample-contacting parts made of borosilicate glass and PTFE. Depending on the set, samples are fed manually via syringe, semi-automatically via peristaltic pump or fully automatically via autosampler.

A.KRÜSS Optronic

Set 1: Low sample volume, samples of any degree of viscosity, semi-automatic drying, small Tygon tube set
Set 2: Low sample volume, samples of any degree of viscosity, aggressive samples, splash protection for addition of aggressive samples, tube sets suitable for every type of samples, semi-automatic drying, small Tygon and PTFE tube set
Set 3: Moderate to high sample volume, low to slightly viscous samples, semi-automatic sample feeding and cleaning, semi-automatic drying, large Tygon tube set
Set 4: High sample volume, low-viscous to slightly viscous samples, fully automatic sample supply and cleaning, fully automatic drying (no interchange of tubes required), large Tygon tube set
Set 5: High sample volume, low-viscous to slightly viscous samples, tube sets suitable for any kind of sample, fully automatic sample supply and cleaning, fully automatic drying (no interchange of tubes required), large PTFE tube set

Scope of supply: Density meter with drying unit, waste container, operating instructions, test report, set-dependent tube set, set-dependent peripheral devices

Specifications

Measuring range:	0 ... 3 g/cm³
Sample volume by manual injection:	0.9 ml
Temperature range/Accuracy:	10 ... 40 °C/±0.02 °C
Measurement time approx:	1 s
Ambient temperature:	10 ... 40 °C
Housing:	aluminium, powder-coated
Display:	5.7"-TFT-Touchscreen, 640 x 480 Pixel
Interfaces:	1x USB, 1x RS-232, 1x Ethernet
Power supply:	100 ... 240 V, 47/63 Hz
Power consumption (measuring mode):	25 W
Power consumption (max.):	120 W
Methods:	practically unlimited number of methods adjustable
Dimensions (W x D x H):	220 x 220 x 430 mm
Weight:	5.3 kg

Type	PK	Cat. No.
DS7700-1	1	**6.285 221**
DS7700-2	1	**6.285 222**
DS7700-3	1	**6.285 223**
DS7700-4	1	**6.311 902**
DS7700-5	1	**6.313 081**
DS7800-1	1	**6.285 224**
DS7800-2	1	**6.285 225**
DS7800-3	1	**6.285 226**
DS7800-4	1	**7.911 133**
DS7800-5	1	**6.311 903**

2   Combined density and refractometry index standards

For density and refractometer calibration in one step. Bottles can directly be used in SC1 and SC30 automation units. Coded with barcodes for fully automatic verification procedure in METTLER-TOLEDO LiQC systems.

Mettler-Toledo Online

⬦ **Danger**

H phrases: H304|EUH066

Type	Refractive Index at 20 °C	Density at 20 °C g/cm³	PK	Cat. No.
Water	1.333	0.998	1	**6.241 945**
Dodecane	1.422	0.749	1	**6.256 339**

Further products can be found in our online shop.

1 Dipping flow cups Frikmar

Aluminium. DIN 53211 viscometer. With brass nozzle or stainless steel (V2A) as indicated. For all types of liquid chemicals, varnishes, fluid enamels, gravure printing inks and leather dyes, oils, fats, foodstuffs etc.
Cup volume 100ml.

Flow nozzle mm	Material	PK	Cat. No.
3	brass	1	6.056 477
4	brass	1	9.149 898
5	brass	1	6.058 370
6	brass	1	6.056 922
8	brass	1	6.084 496
2	brass	1	6.055 115
4	stainless steel	1	6.205 982
6	stainless steel	1	6.800 186
5	stainless steel	1	7.653 197
3	stainless steel	1	7.673 361

2 Flow cups with fixed nozzle

With fixed nozzle made of stainless steel. Housing made of titanium anodised aluminum.

Flow nozzle mm	Description	Material	PK	Cat. No.
2	similar to DIN 53 211	Aluminium	1	6.057 808
3	similar to DIN 53 211	Aluminium	1	6.091 529
4	DIN 53 211	Aluminium	1	9.149 862
4	DIN 53 211	Stainless Steel	1	6.226 824
6	similar to DIN 53 211	Aluminium	1	6.301 841
8	similar to DIN 53 211	Aluminium	1	6.302 759
3	ISO 2431	Aluminium	1	6.223 165
4	ISO 2431	Aluminium	1	6.088 604
5	ISO 2431	Aluminium	1	6.901 466
6	ISO 2431	Aluminium	1	6.088 605

3 Immersion flow cup with fixed nozzle

With fixed nozzle from stainless steel or aluminium.

Flow nozzle mm	Acc. to	Material	PK	Cat. No.
4	DIN 53 211	Aluminium	1	9.149 894
6	similar to DIN 53 211	Aluminium	1	6.080 098
3	ISO 2431	Aluminium	1	6.705 831
4	ISO 2431	Aluminium	1	6.302 328
6	ISO 2431	Aluminium	1	6.314 566
5	ISO 2431	Aluminium	1	6.705 832
4	DIN 53 211	Stainless Steel	1	6.264 682
6	similar to DIN 53 211	Stainless Steel	1	6.225 937

4 Flow cups, without nozzles

For 2, 3, 4, 5, 6, 7 and 8mm outlet detachable nozzles, please order separately.
Flow cups and nozzles similar to DIN 53211.

Type	Flow nozzle mm	Material	PK	Cat. No.
Flow cups	-	Aluminium	1	9.149 860
Nozzle	2	Stainless Steel	1	9.149 872
Nozzle	3	Stainless Steel	1	9.149 873
Nozzle	4	Stainless Steel	1	9.149 874
Nozzle	5	Stainless Steel	1	9.149 875
Nozzle	6	Stainless Steel	1	9.149 876
Nozzle	7	Stainless Steel	1	9.149 877
Nozzle	8	Stainless Steel	1	9.149 878

Flow cup stands

Stainless steel.

Type	PK	Cat. No.
Flow cup stand, ring stand	1	9.149 881
Flow cup stand, tripod stand	1	9.149 884

9.149 881   9.149 884

1   Viscometers Ubbelohde, glass, kinematic

ISO 3105, DIN 51562.   *SI Analytics*
For manual (type 501 ..) or automatic (type 532 ..) measurements.
Constants documented in manufacturer's certificate.

Type	Capillary i.d.	Measuring range	Capillary	Constant	PK	Cat. No.
	mm	mm² / sec		K		
501 00	0,36	0,2 - 1	0	0,001	1	**9.268 100**
501 03	0,47	0 - 3	0c	0,003	1	**9.268 103**
501 01	0,53	0,8 - 5	0a	0,005	1	**9.268 101**
501 10	0,63	1,2 - 10	I	0,01	1	**9.268 110**
501 13	0,84	3 - 30	Ic	0,03	1	**9.268 113**
501 11	0,95	5 - 50	Ia	0,05	1	**9.268 111**
501 20	1,13	10 - 100	II	0,1	1	**9.268 120**
501 23	1,50	30 - 300	IIc	0,3	1	**9.268 123**
501 21	1,69	50 - 500	IIa	0,5	1	**9.268 121**
501 30	2,01	100 - 1000	III	1	1	**9.268 130**
501 33	2,65	300 - 3000	IIIc	3	1	**9.268 133**
501 31	3,00	500 - 5000	IIIa	5	1	**9.268 131**
501 40	3,60	1000 - 10000	IV	10	1	**9.268 140**
532 00	0,36	0,3 - 1	0	0,001	1	**7.023 176**
532 03	0,47	0,5 - 3	0c	0,003	1	**9.268 203**
532 01	0,53	0,8 - 5	0a	0,005	1	**9.268 201**
532 10	0,63	1,2 - 10	I	0,01	1	**9.268 210**
532 13	0,84	3 - 30	Ic	0,03	1	**9.268 213**
532 11	0,95	5 - 50	Ia	0,05	1	**7.023 177**
532 20	1,13	10 - 100	II	0,1	1	**9.268 220**
532 23	1,50	30 - 300	IIc	0,3	1	**9.268 223**
532 21	1,69	50 - 500	IIa	0,5	1	**7.023 178**
532 30	2,01	100 - 1000	III	1	1	**9.268 230**
532 31	3,00	500 - 5000	IIIa	5	1	**7.023 179**
532 33	2,65	300 - 3000	IIIc	3	1	**9.268 233**
532 40	3,60	1000 - 10000	IV	10	1	**9.268 240**

2   Viscometer holders

Type 05392. VA steel.   *SI Analytics*
Suitable for all Ubbelohde viscometers without TC sensors. For manual and automatic
measurements. Holds the viscometer perpendicularly. Accuracy <1°. Protects the viscometer from damage.

Type	PK	Cat. No.
05392	1	**9.268 790**

3   Digital viscometer VISCO/VISCO-895

Compact and easily carried with one hand. Fully digital display allows for anyone to   *ATAGO*
easily read results. Capable to measure with only a small amount of sample. Easy set-up
and simple, one-button operation. Capable of taking measurements with containers other than the included beakers.
VISCO-895: Aluminium model with reduced weight (895 g).

Scope of supply:
VISCO/VISCO-895 Package A: Viscometer with adapter for cups, 50 paper cups and 50 plastic cups
VISCO/VISCO-895 Package B: Viscometer with Ultra Low Adapter for low viscosity samples (1 to 2000 mPas)

Specifications

Measuring range Viscosity	A1: 50 to 200.000 mPas/50 to 200.000 cP
	A2: 100 to 600.000 mPas/100 to 600.000 cP
	A3: 500 to 2000.000 mPas/500 to 2000.000 cP
Measuring range Torque:	0.0 to 100.0% (recommended: 10.0 to 100.0 %)
Speed:	0.5 to 250 rpm
Working temperature:	10 to 40 °C
Dimensions (W x D x H):	120 x 120 x 200 mm
Netweight:	1200 g
Power supply:	100-240 V, 50/60 Hz,
	4 x LR6/AA batteries

Type	PK	Cat. No.
VISCO	1	**6.286 453**
VISCO Package A	1	**6.286 454**
VISCO Package B	1	**6.286 455**
VISCO-895	1	**6.286 456**
VISCO-895 Package A	1	**6.286 457**
VISCO-895 Package B	1	**6.286 458**

B-ONE PLUS

FIRST PLUS

1 2 Viscometers B-ONE PLUS/FIRST PLUS

The rotational viscometer determines the viscosity of liquids by the torque with different measuring spindles. With the B-ONE PLUS, you can determine measurement times for thixotropic products. When entering the density of the product, the kinematic viscosity can also be determined. The viscometer is used mainly in the areas of cosmetics, pharmacy, colour production and chemistry.

Lamy Rheology SARL

Delivery as a single unit or with the spindle sets L1-L4 or R2-R7.
- Measurement at different speeds
- Viscosity range up to 240 000 000 mPas
- 7" touch screen
- Different spindle sets
- Easy to use
- Wide range of applications
- Stable stand
- Display settings: viscosity, speed, torque, measuring time, measurement geometry
- Viscosity unit cp or mPas
- Language French, English, Russian, Spain

FIRST PLUS additionally with:
- PT100 for accurate temperature measurement
- Connections for RS232, USB, LAN
- Software optional

Specifications

Rotation speed:	0.3 ... 250 rpm
Torque range:	0.05 ... 13 mNm
Torque range LR versions:	0.005 ... 0.8 mNm
Temperature range FIRST PLUS:	-50 ... 300 °C
Accuracy:	±1 % of full scale
Repeatability:	±0.2 %
Viscosity range B-ONE PLUS	
with spindles L1 - L4/R2- R7:	15 ... 2 000 000 mPas/100 ... 240 00 000 mPas
Dimensions head (L x W x H):	180 x 135 x 250 mm
Dimensions stand (L x W x H):	280 x 200 x 30 mm
Rod length:	500 mm
Weight:	6.7 kg
Power supply	90-240 VAC, 50/60 Hz

Type	Viscosity range mPas	PK	Cat. No.
B-ONE PLUS LR with L-1 to L-4 spindle set	15 - 22 000 000	1	**4.659 126**
B-ONE PLUS with R-2 to R-7 spindle set	100 - 240 000 000	1	**4.659 127**
FIRST PLUS with L-1 to L-4 spindle set	15 - 22 000 000	1	**4.659 129**
FIRST PLUS with R-2 to R-7 spindle set	200 - 240 000 000	1	**4.659 130**

Viscometers ViscoQC

These viscometers cover the entire viscosity range with three models:
L for low viscosity, R for medium viscosity and H for highly viscous samples.

Anton Paar

- Digital levelling function for verification of the alignment
- Magnetic spindle coupling for a quick exchange of spindles
- Automatic spindle recognition Toolmaster™ prevents errors in spindle selection
- T-Ready™ automatically displays the adjustment of the sample temperature
- Automatic speed search TruMode™ finds the right speed for unknown samples
- Automatic spindle protection detection TruGuard™ for automatic detection of the guard
- Predefined modes/methods: manual mode TruMode™, stop at specific torque/specific temperature
- Data transfer via V-Collect PC software Dymo® LabelWriter™

Scope of supply: Viscomerter, Toolmaster™, magnetic coupling, 4 spindles (R and H) or 6 spindles (L) out of AISI 316L, tripod, power supply unit, USB-cable, data collection software V-Collect, printed SOP, instructions

Specifications

Temperature range:	15 ... 80 °C
Accuracy:	±1 %
Repeatability:	±0.2 %
Dimensions (L x W x H):	361 x 281 x 444 mm
Weight:	6.2 kg
Power supply:	100 ... 240 V, 47/63 Hz, 24 V, 3 A

Viscometers ViscoQC 100

NEW

Anton Paar

- 3.5" colour LC display
- Direct print/export

6.313 808

Type	Viscosity range mPas	Max. torque Ncm		PK	Cat. No.
ViscoQC 100 - L	15 ... 6000000	0.00673		1	6.313 808
ViscoQC 100 - R	100 ... 40000000	0.07187		1	6.313 809
ViscoQC 100 - H	800 ... 320000000	0.57496		1	6.313 810

Viscometers ViscoQC 300

NEW

Anton Paar

- 7" colour LC display
- Data memory (up to 999 measurements)
- Print/export from data memory, PDF-export, CSV-table, LIMS page printer (USB or network)
- Predefined modes/methods: stop at specific viscosity, speed/temperature scan
- All methods with QS-Limit-function, instructions
- User, user groups
- Upgradeable software packages (V-Curve and/or V-Comply)

6.313 811

Type	Viscosity range mPas	Max. torque Ncm		PK	Cat. No.
ViscoQC 300 - L	15 ... 6000000	0.00673		1	6.313 811
ViscoQC 300 - R	100 ... 40000000	0.07187		1	6.313 812
ViscoQC 300 - H	800 ... 320000000	0.57496		1	6.313 813

3 Viscosimeters ROTAVISC

Viscosimeters with a large range of functions to determine the viscosity of liquids in all areas of application, ranging from laboratory to quality control. The devices are suited for different viscosity ranges and are available with or without controlling software.

IKA

- Highest measurement accuracy
- Stepless speed adjustment
- 4.3" TFT display
- Digital level
- Simple ramp function
- With connection for ext. PT100 sensor

Scope of supply: Viscosimeter incl. standard spindle set, protective bracket, temperature sensor and ROTASTAND stand. ADVANCED models include labworldsoft 6 Visc software for controlling different devices, eg. temperature control systems and other measuring devices

Specifications

Rotation speed:	0.01 ... 200 rpm
Temperature range:	-30 ... +300 °C
Accuracy:	1 %
Repeatability:	0.2 %
Stroke max.:	200 mm
Dimensions stand (L x W x H):	351 x 372 x 629 mm
Weight:	7.1 kg
Power supply:	100 ... 240 V, 50/60 Hz
Protection class acc. to DIN EN 60529:	IP 40

Type	Viscosity range mPas	Torque mNm		PK	Cat. No.
ROTAVISC lo-vi Complete	1 ... 6,000,000	0.0673		1	4.662 322
ROTAVISC me-vi Complete	100 ... 40,000,000	0.7187		1	4.662 323
ROTAVISC hi-vi I Complete	200 ... 80,000,000	1.4374		1	4.662 324
ROTAVISC hi-vi II Complete	800 ... 320,000,000	5.7496		1	4.662 325
ROTAVISC lo-vi Advanced	1 ... 6,000,000	0.0673		1	4.664 317

1

1 Measuring instrument for viscosity analysis ViscoClock plus

SI Analytics

The ViscoClock plus is an electronic timing unit for glass capillary viscometers used to determine kinematic and relative viscosity. Succeeding the well-proven ViscoClock, the new instrument features data storage and simpler handling. The ViscoClock plus is designed for SI Analytics Ubbelohde (DIN; ASTM; Micro) and Micro Ostwald viscometers.
To determine absolute kinematic viscosities, viscometers have to be used which are calibrated for automatic measurements. The ViscoClock plus automatically measures the flow time of temperature-stabilized liquids in capillary viscometers by means of infrared light barriers.
The viscometer including a sample is inserted into the ViscoClock plus and immersed into a thermostatic bath for temperature stabilization. After thermostating, the sample is pumped into the measuring bulb, and the flow time is detected automatically. The large display enables easy read-off of flow times and additional information: date, time, sample ID and viscometer ID.
The ViscoClock plus can be used in all SI Analytics bath types.

ViscoClock plus: Electronic timing unit for glass capillary viscometers, power supply 100-230 V and manual pump.
ViscoClock plus M1: Device incl. thermostatic bath for temperatures from +10 to +60 °C
**ViscoClock plus M2:** Device incl. thermostatic bath for temperatures from -40 to +150 °C

Specifications

Measuring range:	Up to 999.99 secs./resolution 0.01 sec.
Timing accuracy:	±0.01 sec. ±1 digit
Measuring range viscosity:	0.35 to 10000 mm²/sec. (cSt)
USB interface:	For connecting an USB stick or a printer (TZ 3863)
Operating temperature:	Stand: -40 to +150 °C
	Electronic measuring unit: +10 to +40 °C
Dimensions (W x D x H):	approx. 90 x 30 x 515 mm
Weight:	approx. 450 g (without viscometer)
	Power pack approx. 220 g

Type	PK	Cat. No.
ViscoClock plus	1	**6.285 151**
ViscoClock plus M1, 230 V	1	**6.272 199**
ViscoClock plus M2, 230 V	1	**6.272 224**

2
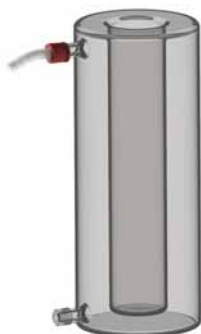
2 Thermostat vessel for ViscoClock plus, DURAN®

NEW

SI Analytics

For tempering of samples in a viscometer, as an alternative to a special glass-panelled bath thermostat. ViscoClock plus has to be connected via hoses to a suitable thermostat bath circulator. For safety reasons, the range of measuring temperatures is restricted to ±15 °C compared to room temperature. The use of an additional magnetic stirrer is recommended.

Specifications

Temperature range:	10 ... 40 °C
Accuracy:	±0.05 K
Tubing olive (diam.):	10.5 mm
Magnetic stirring bar:	approx. 40 mm

Type	PK	Cat. No.
ViscoClock plus VZ 6574	1	**6.314 326**

1   Digital force gauge FK

Robust Push/Pull force gauge for simple measurement.   *SAUTER*
- Turnable display: automatic direction identification
- Secure operability due to ergonomic design
- Peak-hold function to capture peaks (value is "frozen" for approx. 10 seconds)
  or Track function mode for a continuous measurement indication
- Selectable measuring units: N, lb, kg, oz
- Auto-Power-Off
- Can be mounted on all SAUTER test stands

Specifications

Precision:	0.5 % of Max
Internal measuring frequency:	1000 Hz
Overload protection:	200 % of Max
Thread:	M8
Dimensions (W x D x H):	195 x 82 x 35 mm
Net weight:	approx. 0.72 kg
Power supply:	230 V, 50/60 Hz

Type	Measuring range (max.)	Readability		PK	Cat. No.
	N	N			
FK 25.	25	0.01		1	**6.270 956**
FK 50.	50	0.02		1	**6.270 957**
FK 100.	100	0.05		1	**6.270 958**
FK 250.	250	0.1		1	**6.270 023**
FK 500.	500	0.2		1	**6.255 717**
FK 1K.	1000	0.5		1	**6.270 959**

2   Digital force gauge FL-S

NEW

Universal digital force gauges with integrated measuring cell.   *SAUTER*

- Turnable display with backlight
- Can be mounted on all SAUTER test stands
- Metal housing
- Selectable measuring units: N, kN, kg, oz, lb
- Real time or Peak Hold Mode to observe transcients or capture peaks
- Capacity display: A bar lights up to show how much of the measuring range is still available
- Measuring with tolerance range (limit-setting function):Upper and lower limiting can be programmed,
  in pull and push direction. The process is supported by an acoustic and visual signal
- Internal memory for up to 500 measurements
- Continuous analogue output: Linear voltage signal in relation to the load (-2 up to +2 V)

Scope of supply: Digital force gauge, hard carrying case, 3 standard attachments (FL 2K: with external measuring cell, tension loops and pressure plates, without standard attachments)

Type	Measuring range (max.)	Readability		PK	Cat. No.
	N	N			
FL 5	5	0.002		1	**4.676 244**
FL 10	10	0.005		1	**4.676 245**
FL 20	25	0.01		1	**4.676 246**
FL 50	50	0.02		1	**6.275 873**
FL 100	100	0.05		1	**4.676 247**
FL 200	250	0.1		1	**4.676 248**
FL 500	500	0.2		1	**4.676 249**
FL 1K	1000	0.5		1	**4.676 250**

3   Test stand TVL-XS, manual

NEW

The redesigned, superfine spindle enables exact testing in a force-measurement range up   *SAUTER*
to 100 N in particularly fine steps and, in conjunction with the fine-dosing crank,
ensures safe, reliable operation. For testing of low levels of force with short distances,
such as, testing keyboard overlays, biological samples, blister packs.

- For vertical and horizontal use
- High level of security with repeated measurements
- Large base plate with various holes for fixture mountings
- Suitable for all SAUTER force measuring device up to 100 N (not included with the delivery)

Specifications

Travel distance per knob rotation (one turn):	2 mm
Dimensions (W x D x H):	300 x 250 x 160 mm
Net weight:	4.5 kg

Type	Measuring range (max.)		PK	Cat. No.
	N			
TVL-XS	100		1	**4.676 251**

1 | Shore hardness testers HB/HD

Shore hardness testers for hardness determination of plastics through penetration measurement

SAUTER

- Typical application: Measurement of penetration depth (Shore).
- Material thickness of the sample, min. 4 mm
- Particularly recommended for internal comparison measurement. Standard calibrations e. g. to DIN 53505 are not possible because of very narrow standard tolerances
- Can be attached to the test stands TI-AC (for Shore A and Shore A0) and TI-D (for Shore D)

Shore A for rubber, elastomers, neoprene, silicone, vinyl, soft plastics, felt, leather and similar materials
Shore A0 for foams, sponges
Shore D for plastics, formica, epoxides, plexiglass etc.

Shore D   Shore A0   Shore A

2 | Shore hardness testers, analogue, HB

Compact handheld durometer for plastics with drag indicator.

SAUTER

- Max mode: Holds the maximum value in the display
- Point mode: Shows one instant value
- Screws to screw on to the TI: M7 fine thread
- Delivered in a plastic carrying case

Specifications

Precision:	3 % of max. measured value
Dimensions (W x D x H):	60 x 25 x 115 mm
Net weight:	approx. 160 g

Type	Measuring range HS	Readability HS	PK	Cat. No.
HBA 100-0.	100 HA	1,0 HA	1	6.284 083
HBD 100-0.	100 HD	1,0 HD	1	6.270 975

3 | Shore Hardness Testers, Digital, HD

Compact handheld durometer for plastics with digital display.
- Large display with backlight
- Selectable: AUTO-OFF function or continuous operation, charge indicator
- Delivered in a hard carrying case

SAUTER

Specifications

Precision:	1 % of max. measuring value
Dimensions (W x D x H):	162 x 65 x 38 mm
Net weight:	173 g

Type	Measuring range HS	Readability HS	PK	Cat. No.
HDA 100-1.	100 HA	1,0 HA	1	4.665 533
HD0 100-1.	100 HA0	1,0 HA0	1	4.665 590
HDD 100-1.	100 HD	1,0 HD	1	4.665 591

4 | Hardness comparison plates for Shore hardness testers, HB/HD

SAUTER

4.664 627

Description	PK	Cat. No.
7 plates for Shore A, tolerance up to ±2 HA	1	4.664 627
3 plates for Shore D, tolerance up to ±2 HD	1	6.290 428

Leeb hardness tester, mobile

NEW

SAUTER

1

The Leeb hardness tester measures metallic samples and offers mobility and flexibility compared to stationary tabletop devices and testing devices with internal sensor.

- External impact sensor
- All measurement directions possible (360°) thanks to an automatic compensation function
- Internal memory for up to 600 data groups
- Mini statistics function: displays the measured result, the average value, the impact direction, date and time
- Measurement value display: Rockwell (Type A, B, C), Vickers (HV), Shore (HS), Leeb (HL), Brinell (HB)
- Automatic unit conversion: The measuring result is automatically converted into all specified hardness units
- Measuring with tolerance range (limit-setting function):Upper and lower limiting can be programmed
- Acoustic and visual signal
- Matrix display: Backlit multi-function display
- Robust metal housing

4.676 255

Scope of supply:
HK-D: Mobile Leeb hardness tester, hard carrying case
HK-DB: Mobile Leeb hardness tester, hard carrying case, standard block for calibration, hardness approx. 800 HLD

Specifications
Measuring range: 170 ... 960 HL
Readability: 1 HL

Type	PK	Cat. No.
HK-D	1	**4.676 255** 1
HK-DB	1	**4.676 256**

2 Digital torque measurment

NEW

SAUTER

2

For torque testing of bottles and other packaging with screw tops. Quick pin system: The four bottle mounts are pushed in, instead of being screwed in, to save time. This allows you to reconfigure quickly for other bottle sizes.

- Can be used in both directions of rotation
- Metal housing
- Capacity display: A bar lights up to show how much of the measuring range is still available
- Peak hold mode to capture peaks
- Function to set limits: Input of an upper/lower limit value
- Visual and acoustic signal
- AUTO-OFF function
- Back-lit LCD graphic display
- Internal data memory saves up to 500 measurements
- Memory contents can be transferred to the PC using optional software
- USB and RS 232 data interfaces
- Rubber feet with anti-slip feature

Scope of supply: Digital torque measurment, four bottle mounts with rubber coat, sturdy carry case

Type	Measuring range	Readability	PK	Cat. No.
DA 1-4	1 Nm	0,0002	1	**4.676 253**
DA 5-3	5 Nm	0,001	1	**4.676 254**
DA 10-3	10 Nm	0,002	1	**6.285 947**

We can supply this manufacturer's whole product range !

LLG
Lab Logistics Group

SAUTER

6.285 921

6.285 934

4.668 456

USB Hand held microscopes for industry

Dino-Lite digital USB microscopes are powerful, portable and easy to use for many different applications in the Industry and for Material Sciences. Most models have a polarizer for working with reflective objects. In addition to the standard white light LEDs, ultraviolet or infrared LED models are available for specific samples and applications.

Dino-Lite

- USB 2.0, maximum 30 fps
- 1.3 or 5 MP image resolution
- Edge sensor for very low image errors or vignetting
- Extended Depth of Field (EDOF)
- Extended Dynamic Range (EDR)
- Automatic Magnification Reading (AMR)
- Adjustable Polariser
- Flexible-LED-Control (FLC)

Scope of supply: Carrying pouch, Software CD for Windows and Mac OS (not for EDOF, EDR models), calibration slide, manual

Type		Resolution	Mag-nification	Lighting	PK	Cat. No.
AM4113ZT		1,3 MP	10x ... 70x, 200x	LED, white	1	6.285 921
AM4113ZTL		1,3 MP	10x ... 90x	LED, white	1	6.285 926
AM4113T-FV2W		1,3 MP	10x ... 70x, 200x	LED, UV 375 nm, white	1	6.286 111
AM4113T-FVW	*	1,3 MP	10x ... 70x, 200x	LED, UV 390/400 nm, white	1	6.285 933
AD4113T-I2V	*	1,3 MP	20x ... 220x	LED, 390/400 nm UV + 940 nm IR	1	6.285 934
AM4115ZTL	***	1,3 MP	10x ... 140x	LED, white	1	6.272 603
AM4515ZT (AMR)	***	1,3 MP	20x ... 220x	LED, white	1	6.285 922
AM4515ZT4 (AMR)	***	1,3 MP	400x ... 470x	LED, white	1	6.285 931
AM4515T8 (AMR)	*/***	1,3 MP	700x ... 900x	LED, white	1	6.285 932
AM4515ZTL (AMR)	***	1,3 MP	10x ... 140x	LED, white	1	6.285 927
WF4515ZT (AMR)	**/***	1,3 MP	20x ... 220x	LED, white	1	4.668 455
AM4815ZT (EDOF, EDR)	***	1,3 MP	20x ... 220x	LED, white	1	6.285 923
AM4815ZTL (EDOF, EDR)	***	1,3 MP	10x ... 140x	LED, white	1	6.285 928
WF4915ZT (AMR, EDOF, EDR, FLC)	**/***	1,3 MP	20x ... 220x	LED, white	1	4.668 456
AM7515MZT (AMR, FLC)	***	5,0 MP	20x ... 220x	LED, white	1	6.285 924
AM7515MZTL (AMR, FLC)	***	5,0 MP	10x ... 140x	LED, white	1	6.285 929
AM7515MT8A (AMR, FLC)	***	5,0 MP	800x ... 900x	LED, white, coaxial	1	4.668 454
AM7915MZT (AMR, EDOF, EDR, FLC)	***	5,0 MP	20x ... 220x	LED, white	1	6.285 925
AM7915MZTL (AMR, EDOF, EDR, FLC)	***	5,0 MP	10x ... 140x	LED, white	1	6.285 930

*without polarizer
**with WIFI streamer
***Edge

6.285 944
6.275 263

Accessories for USB Hand held microscopes

Dino-Lite

Description	PK	Cat. No.
Table top stand with quick-release incl. extension arm	1	6.285 944
Metal stand, vertical and horizontal positioning	1	6.275 263

www.wenk-labtec.com

1 Zoom Stereo Microscope SMZ-Series

Motic

Convincing optical performance combined with compact footprint and robust mechanics
for various industrial applications.
- Greenough Type
- Trinocular head, 45° inclined, 360° rotating
- Fixed optical split 50:50
- Widefield eyepieces WF10X/23 mm, incl. eyecups (SMZ-171), widefield eyepieces WF10X/20 mm,
  incl. eyecups (SMZ-161)
- Coarse focus, adjustable
- Black/White stage plate (SMZ-171) and dust cover
- Plain stand
- Head holder without light

SMZ-161-TP: 6.1 Zoom ratio, working distance 110 mm
SMZ-171-TP: 6.7:1 Zoom ratio, working distance 110 mm

Accessories and options available on request.

Type	Description	PK	Cat. No.
SMZ-161-TP	Trinocular	1	**6.287 151**
SMZ-171-TP	Trinocular	1	**7.659 855**
60T	LED ring illumination	1	**7.655 592**

Incident and transmitted light microscopes Panthera TEC MAT

NEW 2

Motic

Incident and transmitted light microscopes for science materials, inspection of semiconductor
components, LCD displays and wafers, equipped with an intelligent brightfield/darkfield illumination
concept. The microscope models with additionally integrated LED transmitted light expand the
application options in the direction of complex composite materials.

- Tube type Siedentopf, swiveling
- Widefield oculars for spectacle wearers with diopter adjustment on both oculars
- CCIS® Plan Achromat & S-APO (PB free), DIN objectives
- Reversed coded nosepiece
- LED incident light illuminator with field and aperture diaphragm, with slots for polariser/analyser sliders
- With interchangeable illumination
- Motic LightTracer: Light memory, sleep mode (auto on-off), nosepiece LED light intensity and mode indicator
- Coaxial coarse and fine focusing system with tension adjustment
- Integrated power supply with sleep mode
- USB 2.0 for external camera power

Additional equipment depending on the model with bright field (transmitted light), segmentable dark field
(reflected light), polarization (reflected light)

Scope of supply: Dust cover, power cord, allen key, screws for metal extension support

4.672 116

Specifications

Inclination Tube:	25°
Angle of rotation Tube:	360°
Eyepieces:	Widefield UC-WF10X/22 mm
Nosepiece:	Quintuple
Objectives:	5X/0.13 (AA 20.3 mm), 10X/0.25 (AA 17.5 mm), 20X/0.40 (AA 8.1 mm), S-Apo 50X/0.80 (AA 1 mm)
Interpupillary distance:	48 ... 75 mm
Condenser:	LED condenser
Illumination:	3 W LEDs
Fine focus increment:	2 μm
Focusing stroke:	25 mm
Dimensions Stage (W x D):	300 x 180 mm
Dimensions (W x D x H):	410 x 300 x 450 mm
Net weight:	10.4 kg
Power supply:	110 ... 240 V, 50/60 Hz

Type	Description	PK	Cat. No.
TEC MAT BF	Trinocular, incident light	1	**4.672 116** 2
TEC MAT BF-T	Trinocular, incident / transmitted light	1	**6.311 821**

1 Polarisation microscope Panthera TEC POL

Powerful polarisation microscope for all material sciences. Maximum flexibility for all applications in polarisation microscopy, suitable for transparent as well as opaque samples from the education sector and industrial quality assurance.

Motic

- Tube type Siedentopf, swiveling
- Widefield oculars for spectacle wearers with diopter adjustment on both oculars
- CCIS® Plan achromatic objectives UC PL (strain-free)
- Reversed coded nosepiece with single centering holes
- Bertrand lens and slot for compensators
- Focusable and centerable Achromat Swing-out Abbe condenser N.A. 0.90/0.13 (strain-free) and rotatable polariser
- Illumination acc. to Köhler, with interchangeable illuminator
- Motic LightTracer: Light memory, sleep mode (auto on-off), nosepiece LED light intensity and mode indicator
- Coaxial coarse and fine focusing system with tension adjustment
- Compact, built-in mechanical stage
- Integrated power supply with sleep mode
- Visual camera output
- USB 2.0 for external camera power

Scope of supply: Microscope, dust cover, power cord, Allen key, blue filter, halogen bulb, LED module, adjustable key for nosepiece, interference color chart, screws for metal extension support

Specifications

Inclination Tube:	25°
Angle of rotation Tube:	360°
Eyepieces:	Widefield UC-WF10X/22 mm
Nosepiece:	Quintuple
Objectives:	4X/0.1 (AA 30.5 mm), 10X/0.25 (AA 17.4 mm), 40X/0.65/S (AA 0.6 mm), 60X/0.8/S (AA 0.35 mm)
Interpupillary distance:	48 ... 75 mm
Trinocular light split:	Fixed 50:50
Condenser:	N.A. 0.90/0.13 Abbe-Condenser
Illumination:	3 W LEDs/30 W Halogen
Fine focus increment:	2 µm
Focusing stroke:	25 mm
Dimensions Stage (W x D):	1 increment, 0.1 skale
Stage size (Ø):	160 mm
Dimensions (W x D x H):	410 x 300 x 395 mm
Net weight:	9.8 kg
Power supply:	110 ... 240 V, 50/60 Hz

Type	Description	PK	Cat. No.
TEC POL	Trinocular	1	**4.672 117**

2 Drying pads Grade 556Z

For retaining specimen visibility (50 sheets).

Whatman

Width mm	Length mm	PK	Cat. No.
37	100	1	**9.069 003**

3 Microscope Cleaning Kit

Content: 1 power blower, cotton swabs, cleaning liquid, cleaning cloth, lens cleaning paper, retractable brush

Motic

Type	PK	Cat. No.
Mikroscope Cleaning Kit	1	**6.280 087**

Melting point meters LLG-uni*MELT* 2 und 3

Ideal for determination of the melting point of powders up to 360 °C and substances that do not have a clear transparent melting point.
Both devices have a USB interface that permits printing a measuring protocol or generating a PDF file that corresponds to the demands of a contemporary QMS documentation.

Properties for both models:
- Digital temperature control on large display
- Selectable user language German or English
- Sample can be monitored through a magnifying glass with integrated light
- For capillaries with 1.4mm outer diameter
- Text display of error messages
- Keyboard covered with foil for easy cleaning
- USB port
- Height adjustable table stand
- Operating instructions in German, English, Spanish, French and Russian.
- Brief instructions right at the device
- Up to 3 measurements could be stored and printed as protocol at the same time
- The protocol contains all the relevant data of the probe, the measurement and the device

LLG-uni*MELT* 2: For visual, semi-automatic measurement with magnifying glass.
In this model, the melting point is determined visually (max. and then saved by pushing the "Save" key.
The value can be printed or stored by pushing the memory button and read on the display until the device is switched off or a new measurement is performed.

LLG-uni*MELT* 3: For visual measurement with magnifying glass or automatic measurement.
Either fully automatic or visual measurements, 1 sample each.
If you chose automatic measurement, additionally a transparency progression is printed. For visual measurement, only the melting point determined by you will be printed. The value can be stored by pushing the memory button and read on the display until the device is switched off or a new measurement is performed.

Scope of supply: Melting point meter, table stand, 100 melting point tubes, protection hood, USB-cable, Software.
Refill pack melting point tubes for LLG-uni*MELT* please order Cat. No. 9.208 131.

6.263 685

6.263 686

Specifications

Measuring range:	25.0 °C ... 360.0 °C
Resolution:	0.1 °C
Accuracy:	±0.4 °C
Reproducibility:	±0.3 °C
Heating rate at fast heating:	to 200 °C approx. 4 min; to 350 °C approx. 8 min
Heating rate when measuring:	1 °C/min
Magnifying glass:	20 dpt/3 x
Lighting:	2 x LED
Dimensions housing (W x D x H):	230 x 65 x 260 mm
Dimension table stand (W x H):	85 x 55 mm
Dimensions capillaries:	1.45 x 80 mm
Weight:	4.0 kg
Power supply:	88 ... 264 V, 50 Hz
IP code:	IP 20
Warranty:	3 years

Type	Description	PK	Cat. No.
LLG-uni*MELT* 2	Visual measuring / magnifier	1	**6.263 685** 1
LLG-uni*MELT* 3	Visual or automatical measuring	1	**6.263 686** 2
Melting point tubes	Sealed one end, length 80 mm, OD 1.45 mm	100	**9.208 131**

Further products can be found in our online shop.

3   Melting point Standards

High Purity range compatible with all Melting Point Instruments. Tested on a high specification melting point apparatus. Available as Single Melting Point Standard or as a Set of 3 different Standards. Glass bottles of 1 g. Sets include 3 bottles of 1 g.

Reagecon

⚠ **Warning**

H phrases: H302

Type	Description	PK	Cat. No.
RMP048	Benzophenone +47 to +49 °C	1	**6.260 428**
RMP082	Vanillin +81 to +83 °C	1	**6.286 189**
RMP236	Caffeine +235 to +237 °C	1	**6.261 675**
RMPSET1	Sulphanilamide, Caffeine, Vanillin	3	**6.259 500**

1

2

1 2 Melting point apparatus, Electrothermal IA 9100/9200/9300

Electrothermal

The updated and improved IA9000 Series Digital Melting Point Apparatus offers an easy way to measure the melting points of up to 3 samples simultaneously without sacrificing accuracy; the temperature resolution is within 0.1 °C. The starting temperature of the approximate melting range can easily be input via the membrane keypad using the simple intuitive menus.
The unit quickly heats up to this temperature and gives an optical and acoustic signal once it has been reached. When the operator then presses another key, the device begins to heat up at a constant rate (IA 9100 fixed at 1 °C/min., IA 9200 and IA 9300 adjustable between 0.2 to 10 °C/min. in increments of 0.1 °C).

Up to 4 melting points (IA 9300 up to 6 melting points) can be recorded and transferred to the memory as discreet temperatures for later recall on the display. Model IA 9200/9300 provides the opportunity for computer-supported data analysis. An accessory printer enables documentation of the results, date, time (real time) and sample number.

- Ergonomic design ideal for multiple users.
- Height-adjustable extension arm and a viewing head that may be rotated to suit each user.
- The viewing head holds a viewing magnifier that offers 8X magnification.
- The extension arm is completely collapsible and can be neatly folded away into the unit,
  so that the unit can be stored flat to save space.
- Each IA9000 series model comes supplied with a pack of 50 capillary tubes.

Dimensions (W x D x H):	200 x 350 x 85 mm
Weight:	2.5 kg
Input:	220 -240 V
Output:	15 V
Power:	45 W
Oven chamber illumination:	3 x white Super Flux LED's
Illuminous Intensity (per LED):	3500 Lux
Oven temperature range:	5 to 400°C
Digital thermometer sensor:	Platinum resistance thermometer (PT100)
Measuring range:	Amb. to 400 °C
Resolution:	0.1 °C
Accuracy:	±0.5°C at 20°C linearly to ±1.0°C at 350°C
Display:	12 x 2 backlit matrix LCD

Type	PK	Cat. No.
IA 9100	1	**9.830 441**
IA 9200	1	**9.830 442**
IA 9300	1	**9.830 443**
Capillary tubes, 1.5 mm Ø	100	**9.830 463**
Cold finger	1	**9.830 445**
Capillary tubes, 2.0 mm Ø	100	**9.830 447**
Printer with connection cable	1	**9.830 448**

3

3 Melting point apparatus, model SMP10/SMP20

Stuart

Supplied with 100 melting point tubes, open one end.
With BioCote, silver-based, antimicrobial protection.

Specification	**SMP10/SMP20**
Number of samples:	2
Temperature range:	Ambient to 300°C
Temperature accuracy:	±1.0°C at 20°C, ±2.5°C at 300°C
Display:	Three digit LED/Four digit LED
Display resolution:	1°C/0.1°C
Display hold facility:	No/ Yes
Ramp rates:	20°C per minute to plateau, 2°C per minute to melt/20°C per minute to plateau, variable between 1 and 10°C per minute to melt
Dimensions (w x d x h):	160 x 220 x 170mm
Net weight:	1.8kg
Electrical supply:	230V, 50Hz, 75W

Type	PK	Cat. No.
SMP10	1	**9.950 177**
SMP20	1	**9.830 430**

1 Melting Point Meter M5000

For powdery substances with a melting point up to 400 °C. A fan cooling allows fast measurements in every range of temperature. The display provides a clearly-arranged readout of all important measuring data.

A.KRÜSS Optronic

- Fully automatic measurement by means of transmission optics
- 1 capillary intake
- LCD display
- Alarm signal when reaching the melting point
- Fast cooling through integrated fan
- Digital display of all important data
- Display in German or English
- With RS-232 interface for printer CBM910
- Easy-to-clean membrane keypad

Scope of supply: Melting Point Meter, protective cover, 100 capillaries

Specifications

Temperature range:	25 ... 400 °C
Resolution:	0.1 °C
Accuracy:	±0.3 °C (25 ... 200 °C)
	±0.5 °C (200 ... 400 °C)
Preheating rate:	up to 300 °C approx. 4.0 min
	up to 400 °C approx. 7.5 min
Heating rate:	1 °C min^{-1}
Capillary-Ø:	1.4 mm
Capillary intake:	1
Dimensions (W x D x H):	220 x 340 x 150 mm
Weight:	4.1 kg
Power supply:	90 ... 264 V
IP code:	IP20

Type	PK	Cat. No.
M5000	1	**6.264 452**

2 Melting Point Meter M3000

The M3000 provides fast and easy examination of powdery substances with a melting point up to 360 °C. Due to the triple capillary intake, it is possible to analyse three samples within one measurement run. Thanks to the preheating rate and the integrated fan cooling, fast measurements are possible in any temperature range.

A.KRÜSS Optronic

- Semi-automatic measurement by means of 10x magnification optics
- 3 capillary intakes
- LCD display
- Monitoring of the illuminated sample via lens
- Fast cooling through integrated fan
- Digital display of all important data
- Display in German or English
- With RS-232 interface for printer CBM910
- Easy-to-clean membrane keypad

Scope of supply: Melting Point Meter, protective cover, 100 capillaries

Specifications

Temperature range:	30 ... 360 °C
Resolution:	0.1 °C
Accuracy:	±0.3 °C (30 ... 200 °C)
	±0.5 °C (200 ... 360 °C)
Preheating rate:	up to 300 °C approx. 4.0 min
	up to 360 °C approx. 7.5 min
Heating rate:	1 °C min^{-1}
Capillary-Ø:	1.4 mm
Capillary intake:	3
Dimensions (W x D x H):	210 x 230 x 360 mm
Weight:	4.3 kg
Power supply:	90 ... 264 V
IP code:	IP20

Type	PK	Cat. No.
M3000	1	**4.661 671**

1

1 Automatic Melting Point Apparatus, SMP50

Accurately and reliably determining the melting point of up to three samples simultaneously. *Stuart*
The SMP50 has a custom designed user interface based on an established Android platform for intuitive setup and navigation. All operation is via the 7" colour touchscreen. Once programmed, users can leave the SMP50 to complete the melt analysis independently, alternatively the melt can also be observed on the screen live or post melt. During post melt review additional measurement tags can be added if required, such as meniscus point or the automatically obtained result can be overwritten.
A generous 8 GB on board storage is included, which should comfortably hold approximately 300 melts files including videos. Results can also be transferred via USB stick on to PC or can be printed directly from the unit via the accessory printer.
The SMP50 features a useful storage drawer to house all standard capillary tubes.

All units are factory supplied with a calibration certificate showing individual serial number for traceability. The SMP50 also conforms to Pharmacopeia and GLP.

Specifications

No of samples:	3 simultaneously
Temperature range:	Ambient to 400 °C
Temperature resolution:	0.1 °C
Display:	7" HD Colour
Ramp rates:	0.1 to 20 °C in 0.1 °C increments
Temperature sensor:	PT1000 Platinum resistance
Memory:	8 GB (approx. 300 results with video)
Cool down time:	350 to 50 °C (approx. 12 min)
Heat up time:	50 to 350 °C (approx. 6 min)
Data transfer:	USB Flash drive
Sample level:	2 to 3 mm in 50 mm or 100 mm length capillaries
Weight:	4.6 kg
Power supply:	120-230 V, 50/60 Hz

2

Type	PK	Cat. No.
SMP50	1	**6.270 572**
Melting point tubes, closed at one end	100	**6.803 067**
Glass melting point tubes, closed at both ends	100	**9.950 400**
Printer SMP50	1	**6.283 461**

2 Melting point tubes

Capillary tubes for melting point analysis. Clear glass, different diameters and lengths. Special remarks are available. Other sizes on request.

Type	Ext. diam. mm	Int. diam. mm	Length mm	Material	PK	Cat. No.
Sealed one end	1.00	0.80	80	Duran®	100	**9.208 081**
Open both ends	1.00	0.80	80	Duran®	100	**9.208 080**
Sealed one end	1.00	0.80	100	Duran®	100	**9.208 101**
Open both ends	1.00	0.80	100	Duran®	100	**9.208 100**
Sealed one end	1.45	1.00	80	Soda glass	100	**9.208 131**
Closed both ends	1.50	0.90	100	Soda glass	100	**9.830 463**
Sealed one end	1.55	1.15	75	Soda glass	100	**9.208 076**
Closed both ends	2.00	1.50	100	Soda glass	100	**9.830 447**
Sealed one end	1.55	1.15	80	Soda glass	100	**6.055 754**
Sealed one end	1.35	0.95	80	Soda glass	100	**6.059 475**
Open both ends	1.35	0.95	60	Soda glass	100	**6.074 178**
Sealed one end	1.35	0.95	100	Soda glass	100	**6.078 107**
Open both ends	1.35	0.95	80	Soda glass	100	**6.207 066**
Open both ends	1.35	0.95	75	Soda glass	100	**6.207 196**
Open both ends	1.00	0.80	120	Soda glass	250	**6.264 147**
Open both ends	1.55	1.15	100	Soda glass	100	**7.602 577**
Melting point tubes	1.78	1.15	80	Soda glass	100	**9.830 053**
Melting point tubes	1.78	1.15	80	Soda glass	1000	**9.830 054**

3

3 Hot bench, Kofler system

Very easy to use. Various characteristics can be observed simultaneously. Linear temperature scale adjustment. Enables quick identification of organic substances. Supplied with test and standard material sets. CE marked. *Wagner & Munz*

Dimensions (W x D x H):	430 x 100 x 140mm
Supply requirements:	230 V/50 Hz, 100 W
Temperature range:	+50 to +260 °C

Type	PK	Cat. No.
Hot bench	1	**9.830 160**

www.wenk-labtec.com