# measurement instruments and instrumental techniques





# METRIA Lines the Lines the makes the property of the property

# Litmus paper strips

Basic indicator paper when a precise pH value is not needed. Blue litmus paper turns to red when a solution goes from basic to acidic while red litmus paper turns to blue when a solution goes from acidic to basic. Neutral litmus paper turns to blue when going to basic and red when going to acid. Each plastic box contains 10 booklets with 20 paper strips each

reference	description	pcs/pack	price/pack
LSPH-001-001	litmus blue indicator paper in strips	1	
LSPH-002-001	litmus red indicator paper in strips	1	
LSPH-003-001	litmus neutral indicator paper in strips	1	

# **METRIA**

# Universal pH test papers, roll

Universal pH test paper in rolls 5 m long and 7 mm wide. Each roll is stored in a plastic dispenser with a printed color scale with pH intervals of 1

reference	description	pcs/pack	price/pack	average price/pc
URPH-001-001	pH 1 - 11 paper roll	1		
URPH-002-001	pH 1 - 14 paper roll	1		
10 units "Saving package"				
URPH-001-010	pH 1 - 11 paper roll	10		
URPH-002-010	pH 1 - 14 paper roll	10		
50 units "Saving package"				
URPH-001-050	pH 1 - 11 paper roll	50		
URPH-002-050	pH 1 - 14 paper roll	50		



# METRIA

# pH indicator strips with 4 pads

Strips made of vinyle with 4 indicator pads prepared with a non-bleed system, therefore the resultant colour change will remain far longer and readable until the pads are dry, even with a highly alkaline solution. These strips provide an accurate method of measuring the pH of a solution and produce high quality results each time. 100 strips per pack

reference	description	pcs/pack	price/pack	average price/pc
STPH-311-001	pH 0.0 - pH 14.0, Interval: 1 pH	1		
STPH-312-001	pH 4.0 - pH 10.0, Interval: 0.5 pH	1		
STPH-313-001	pH 7.0 - pH 14, Interval: 0.5 pH	1		
10 units "Saving package"				
STPH-311-010	pH 0.0 - pH 14.0, Interval: 1 pH	10		
STPH-312-010	pH 4.0 - pH 10.0, Interval: 0.5 pH	10		
STPH-313-010	pH 7.0 - pH 14, Interval: 0.5 pH	10		

# Universal pH test papers, strips

Each plastic box contains 200 paper strips and a printed color scale for comparison

Zacii piasiis zaci saiina zaci papai siiipt ana a pinnoa saisi saas isi saiipanasii				
reference	type	pcs/pack	price/pack	
CSPH-001-001	pH 1 - 11, Interval: 1 pH	1		
CSPH-002-001	pH 1 - 14, Interval: 1 pH	1		
CSPH-003-001	pH 1.0 - pH 3.5, Interval: 0.5 pH	1		
CSPH-004-001	pH 3.6 - pH 5.1, Interval: 0.3 pH	1		
CSPH-005-001	pH 5.2 - pH 6.7, Interval: 0.3 pH	1		
CSPH-006-001	pH 6.8 - pH 8.3, Interval: 0.3 pH	1		
CSPH-007-001	pH 8.4 - pH 10.0, Interval: 0.3 pH	1		
CSPH-008-001	pH 4.0 - pH 8.0, Interval: 0.5 pH	1		







# Wine pH indicator strips

These indicator strips are specific for testing the pH of the juice prior to fermentation during wine production. 50 strips per pack

reference	range	interval	pcs/pack	price/pack
WSPH-001-001	pH 2.8 - 4.4	pH 2.8 - 3.2 - 3.6 - 4.0 - 4.4	1	



Simply and compact pH meter. pH range: 0 .. 14 pH, precision:  $\pm 0.1$ . Automatic temperature compensation (0-50 °C). Single point manual calibration. Fix electrode. 4 battery cells 1.5V LR44 (included). Dimensions:  $152 \times 29 \times 15$  mm. Weight: 50 g

reference	description	pcs/pack	price/pack
PHMT-600-001	pH meter, pH600	1	

# Pocket pH meter, water-tight

pH meter compact with interchangeable electrode and automatic temperature compesation. pH range: 0 .. 14 pH, precision:  $\pm 0.05$ . Temperature range: 0 - 60 °C, accuracy  $\pm 1$  °C. Calibration in 2 points (pH 4.01, 7.00 and 10.01). Water-tight. Warranty 1 year

reference	description	pcs/pack	price/pack
PHMT-030-001	pH meter, pHscan 30	1	
Spare parts			
PHMT-A30-001	spare electrode	1	

# "Portable pH meter, pH7 model

pH meter portable with automatic and manual temperature compensation. pH range: 0..14 pH and  $\pm 1000$  mV (redox). Standard BNC connector for pH and redox electrodes. Automatic calibration in 3 points (pH 4.01, 7.00 and 10.01). Includes transportation case, rubber case, buffer solutions (pH 4.01 and 7.00, electrode for general use with BNC fixed cable and CAT probe. Warranty 1 year. Delivery 1 week

reference	description	pcs/pack	price/pack
PHMT-007-001	pHmeter, pH7 , with electrode	1	
Spare parts			
PHMT-A07-001	spare electrode for pH7 and pH50+	1	

# "Desktop pH meter, pH50+ model

Desktop pH meter with automatic and manual temperature compensation (between 0 and 80 °C). pH range:  $0 \dots 14$  pH, resolution: 0,01 pH, accuracy  $\pm 0.02$  pH. Redox range:  $\pm 1000$  mV, resolution  $\pm 1$  mV. Standard BNC connector for pH and redox electrodes. Automatic calibration in 3 points (pH 4.01, 7.00 and 10.01). Backlit LCD display. Keypad resistant to water, bases and acids splashes. Stable measurement indication. Includes buffer solutions (pH 4.01 and 7.00), electrode arm, electrode for general use with BNC fixed cable and integrated CAT probe. Plastic body electrode, with gel electrolyte, pH range  $0 \dots 14$  and 0 - 60 °C. Warranty 3 years. Delivery 1 week

reference	description	pcs/pack	price/pack
PHMT-P50-001	pHmeter, pH50+, with electrode	1	
Spare parts PHMT-A07-001	spare electrode for pH7 and pH50+	1	





### METRIA



# **METRIA**













# Epoxy body pH electrode for educational use, Basic Line

Specially designed for educational market, combining quality at an affordable price. Minimum maintenance, less frequent calibrations and greater stability. Plastic body (epoxy). Reference element Ag/AgCl, gel non refillable electrolyte and fiber diaphragm. pH range 0 ... 14, maximum service temperature 60 °C. Dimensions: 120 x 12 mm. Fixed cable 1 m long with BNC connector

reference	conector	pcs/pack	price/pack
PHEL-EDU-001	1 m cable + BNC	1	



# Epoxy body pH electrode, general use

Plastic body (epoxy), specially designed for general use in portable pH meters. Reference element Ag/AgCl, gel non refillable electrolyte and porous teflon diaphragm. pH range 0 ... 14, maximum service temperature 80 °C. Dimensions: 120 x 12 mm. Available with two types of connections: BNC connector with fixed cable (length: 1 m) or S7 connector (delivery without connecting cable, please order separately)

reference	conector	pcs/pack	price/pack
PHEL-PB1-001	1 m cable + BNC	1	
PHEL-PS1-001	\$7	1	



# Glass body pH electrode, general use

For general use. Aqueous solutions. Reference element Ag/AgCl, liquid refillable electrolyte (3M KCl/AgCl) and annular ceramic diaphragm. pH range 0 ... 14, maximum service temperature 80 °C. Dimensions:  $120 \times 12 \text{ mm}$ . Available with two types of connections: BNC connector with fixed cable (length: 1 m) or S7 connector (delivery without connecting cable, please order separately)

reference	conector	pcs/pack	price/pack
PHEL-GB1-001	1 m cable + BNC	1	
PHEL-GS1-001	\$7	1	



# Epoxy body pH electrode, intensive use

Plastic body (epoxy), specially designed for general use in portable pH meters and also for industrial uses. Reference element Ag/AgCl, gel non refillable electrolyte and double porous teflon diaphragm. pH range 0 ... 14, maximum service temperature 80 °C. Dimensions:  $120 \times 12$  mm. Available with two types of connections: BNC connector with fixed cable (length: 1 m) or S7 connector (delivery without connecting cable, please order separately)

reference	conector	pcs/pack	price/pack
PHEL-PB2-001	1 m cable + BNC	1	
PHEL-PS2-001	\$7	1	



### Glass body pH electrode, intensive use

For general use and high accuracy measurements in liquids and non aqueous samples. Reference element Ag/AgCl, liquid refillable electrolyte (3M KCl/AgCl) and double ceramic diaphragm. pH range 0 ... 14, maximum service temperature 80 °C. Dimensions: 120 x 12 mm. Available with two types of connections: BNC connector with fixed cable (length: 1 m) or S7 connector (delivery without connecting cable, please order separately)

reference	conector	pcs/pack	price/pack
PHEL-GB2-001	1 m cable + BNC	1	
PHEL-GS2-001	\$7	1	



# Glass body pH electrode, semi micro applications

Glass body electrode, specially designed for measuring pH in very small sample volumes or narrow vessels. Reference element Ag/AgCl, liquid refillable electrolyte (3M KCl/AgCl) and frit ceramic diaphragm. pH range 0 ... 14, maximum service temperature 80 °C. Stem dimensions: 90 x 4,5 mm. Available with two types of connections: BNC connector with fixed cable (length: 1 m) or S7 connector (delivery without connecting cable, please order separately)

reference	conector	pcs/pack	price/pack
PHEL-GB3-001	1 m cable + BNC	1	
PHEL-GS3-001	\$7	1	

# METRIA

# Epoxy body pH electrode, dificult samples

Specially designed for measuring difficult samples: dairy products, viscose samples, creams, surface measurements (paper, Agar, skin, ...). Reference element Ag/AgCl, partial gel refillable electrolyte (3.5M KCl/AgCl) and teflon diaphragm. pH range 0 ... 14, maximum service temperature 80 °C. Dimensions:  $120 \times 12 \text{ mm}$ . Available with two types of connections: BNC connector with fixed cable (length: 1 m) or S7 connector (delivery without connecting cable, please order separately)

reference	conector	pcs/pack	price/pack
PHEL-PB4-001	1 m cable + BNC	1	
PHEL-PS4-001	\$7	1	



# Glass body pH electrode for high temperature measurements

Specially designed for high temperature measurements and for industrial pipeline. Reference element Ag/AgCl, gel non refillable electrolyte and double teflon diaphragm. pH range 0 ... 14, maximum service temperature 130 °C. Dimensions: 120 x 12 mm. Fixed cable 1 m long with BNC connector

reference	conector	pcs/pack	price/pack
PHFL-GB6-001	1 m cable + BNC	1	



# Penetration pH electrode for solids and semi-solids

Penetration food probe specially designed for measuring pH of: meat, cheese and semi solids. Robust Teflon Bodied. Reference element Ag/AgCl, gel non refillable electrolyte and teflon diaphragm. pH range 0 ... 14, maximum service temperature 60 °C. Dimensions: 75 x 8 mm. Available with two types of connections: BNC connector with fixed cable (length: 1 m) or S7 connector (delivery without connecting cable, please order separately)

reference	conector	pcs/pack	price/pack
PHEL-PB5-001	1 m cable + BNC	1	
PHEL-PS5-001	\$7	1	



### Cable for electrodes with \$7 head

BNC conector cable for electrodes with S7 head

			_
reference	length	pcs/pack	price/pack
	, and the second	. , .	. , ,
PHAC 001 001	1 m	1	



### labkem



# lab**kem**



# lab**kem**



# lab**kem**



# Conservation electrode solutions

Electrolyte solutions for	Electrolyte solutions for the conservation of the electrode and enzymatic cleaning solution for the membrane electrode			
reference	description	package	price/pack	
POCL-30A-250	Potassium chloride 3M	P 250 ml		
POCL-A0A-250	Potassium chloride 3M+AgCl - re-fillable electrodes	P 250 ml		
SCME-00A-250	Electrode cleaning solution (Pepsin)	P 250 ml		

# pH Buffer solution

Colored solutions to prevent mistakes. Certificate of analysis to be downloaded at www.labbox.com. Certificates traceable to SRM from NIST. Variation table of pH/temperature on the label. Use within 12-15 months of opening

reference	type	package	price/pack
PHBS-004-250	pH 4,00 $\pm$ 0,01 (20 °C) - red	P 250 ml	
PHBS-004-1K0	pH 4,00 $\pm$ 0,01 (20 °C) - red	P 1000 ml	
PHBS-007-250	pH 7,00 $\pm$ 0,01 (20 °C) - yellow	P 250 ml	
PHBS-007-1K0	pH 7,00 $\pm$ 0,01 (20 °C) - yellow	P 1000 ml	
PHBS-009-250	pH 9,21 $\pm$ 0,01 (20 °C) - colourless	P 250 ml	
PHBS-009-1K0	pH 9,21 $\pm$ 0,01 (20 °C) - colourless	P 1000 ml	
PHBS-010-250	pH 10,00 $\pm$ 0,01 (20 °C) - blue	P 250 ml	
PHBS-010-1K0	pH 10,00 $\pm$ 0,01 (20 °C) - blue	P 1000 ml	

# pH buffer solution with measuring chamber

Bottle with a separate measuring chamber, "twin-neck". No other containers are required during the calibration process and subsequent cleaning thereof, preserving the purity of the buffer solution. Colored solutions to prevent mistakes. Certificates traceable to SRM from NIST. Variation table of pH / temperature on the label. Use within 12-15 months of opening

reference	type	package	price/pack
PHBW-004-500	pH 4,00 ± 0,01 (20 °C) - red	P 500 ml	
PHBW-004-1K0	pH 4,00 $\pm$ 0,01 (20 °C) - red	P 1000 ml	
PHBW-007-500	pH 7,00 $\pm$ 0,01 (20 °C) - yellow	P 500 ml	
PHBW-007-1K0	pH 7,00 $\pm$ 0,01 (20 °C) - yellow	P 1000 ml	
PHBW-009-500	pH 9,21 $\pm$ 0,01 (20 °C) - colourless	P 500 ml	
PHBW-010-500	pH 10,00 $\pm$ 0,01 (20 °C) - blue	P 500 ml	

# pH Buffer capsule

Twist the capsule, open and pour the granules in 100ml of DI (deionised) water, shake the solution so the granules dissolve and the solution is ready to use. Once made up the buffer should last approximately one week, before it's too weak to use. NIST certified. Tolerance margin of  $\pm$  0,02 if used with deionised water. Tests show the same results even if the volume is not totally accurate, no need to measure with an exact volumetric flask and a pipette. If to use as a side information it can be used with distilled water and even tap water

reference	type	pcs/pack	price/pack	average price/pc
PHBC-004-010	pH 4,01 $\pm$ 0,02 (25 °C)	10		
PHBC-007-010	pH 7,00 $\pm$ 0,02 (25 °C)	10		
PHBC-009-010	pH 8,96 $\pm$ 0,02 (25 °C)	10		
PHBC-010-010	pH 10,01 ± 0,02 (25 °C)	10		

# Pocket conductivity meter, basic series

Range: 0 to 1990  $\mu$ S/cm, res.: 10  $\mu$ S/cm and accuracy  $\pm 2\%$  full scale. Single point manual calibration. Automatic temperature compensation from +5 up to +50 °C. Built in a one-piece casing. Battery type: 4 x 1.5V LR44 (included). Dimensions: 150 x 30 x 24 mm, weight 85 g

reference	range	pcs/pack	price/pack
COMT-601-001	0 - 1990 μS/cm	1	

# Pocket conductivity meter, water-tight

Compact Conductivity meter with interchangeable cell and automatic temperature compensation (0 - 50 °C). Conductivity range according to model: 1,0 - 199.9  $\mu$ S/cm, 10 - 1999  $\mu$ S/cm or 0,1 - 19.99 mS/cm, accuracy  $\pm$ 1% F.S. (full scale). Single point calibration. Auto-power off feature helps you effectively conserve battery life. Watertight. Warranty 1 year

reference	resolution	calibration solutions	range	pcs/pack	price/pack
COMT-020-001	0,1 μS	146 µS	$1.0 - 199.9 \mu\text{S/cm}$	1	
COMT-030-001	1 μS	1413 µS	10 - 1999.9 µS/cm	1	
COMT-040-001	0,01 mS	12,88 mS	0.1 - 19.9 mS/cm	1	

# "Portable conductivity meter, COND7 series

Portable conductivity meter with automatic and manual temperature compensation. Range:  $0 - 19.99 \,\mu\text{S/cm}$ ,  $0 - 199.9 \,\mu\text{S/cm}$ ,  $200 - 1999 \,\mu\text{S/cm}$ ,  $2.00 - 199.9 \,m\text{S/cm}$ Automatic calibration in 4 points (84, 1413  $\mu\text{S/cm}$ , 12.88 y 111 mS/cm) and manual calibration in 5 points. Includes transportation case, rubber case, two buffer solutions and conductivity cell for general use (K=1) with automatic temperature compessation. Warranty 3 years. Delivery 1 week

reference	description	pcs/pack	price/pack
COMT-007-001 Spare parts	conductivity meter, COND7, with probe	1	
COMT-A02-001	conductivity cell for COND7 and COND51+	1	

# "Desktop conductivity meter, COND51+ series

Desktop conductivity meter with manual or automatic temperature compensation (between 0 and 99 °C). Available ranges (range is automatically chosen): 0,0 - 200,0  $\mu$ S/cm, 200,0 - 2000  $\mu$ S/cm, 2,00 - 20,00 mS/cm, 20,0 - 200,0 mS/cm, accuracy  $\pm 1$  % full scale. Automatic and manual calibration with automatic recognition of 4 conductivity solutions: 84, 1413 mS / cm and 12.88, 111.8 mS / cm. Stable measurement indication. Includes sensor support, two buffer solutions and conductivity cell with integrated temperature sensor (K=0,1 - 1,0 - 10,0 selectable). Keypad resistant to water, bases and acids splashes. Backlit LCD. Warranty 3 years. Delivery 1 week

reference	description	pcs/pack	price/pack
COMT-P51-001	conductivity meter, COND51+, with probe	1	
Spare parts			
COMT-A02-001	conductivity cell for COND7 and COND51+	1	

# **Conductivity solution**

In practical bottle with integrated cup. Eliminates the need to transfer to other containers and allows economical dosing in each calibration. Tolerance  $\pm 1\%$  of the declared value. Certificates traceable to SRM from NIST. With variation table of conductivity / temperature on the label. Use within 12 months of opening

reference	type	package price/pack
COSS-084-500	84 μS (25 °C)	P 500 ml
COSS-147-500	1 <i>47</i> µS (25 °C)	P 500 ml
COSS-1K4-500	1413 μS (25 °C)	P 500 ml
COSS-012-500	12,88 mS (25 °C)	P 500 ml















# lab**kem**





# "Multiparameter tester, PC5 series

A single compact device to mesure pH, mV, conductivity, TDS, salinity and temperature. With interchangeable probe. pH range:  $-2 ext{ ... } 16,00 ext{ pH}$ , accuracy  $\pm 0.01 ext{ pH}$  and  $1 ext{ ... } 3 ext{ points}$  calibration. mV (redox) mesuring range:  $\pm 500$ . Conductivity range:  $0 - 200 ext{ µS/cm}$ ,  $0 - 2000 ext{ µS/cm}$ ,  $0 - 20,00 ext{ mS/cm}$ , accuracy:  $\pm 0.5 ext{ %}$  (value reading) and  $1 ext{ ... } 3 ext{ points}$  calibration. Temperature range:  $0 - 50 ext{ °C}$ , accuracy  $\pm 0.2 ext{ °C}$ . TDS range:  $0,1 ext{ mg/L} - 10 ext{ g/L}$ , accuracy:  $0,5 ext{ %}$  (value reading). Salinity range:  $0,01 - 10 ext{ ppt}$ . Water-tight, IP 67. Warranty 2 years. Delivery 1 week

reference	description	pcs/pack	price/pack
MPMT-005-001	multiparameter tester, PC5	1	
Spare parts  MPMT-A05-001	spare electrode	1	

### Thermometer

Chemical thermometers filled with colored liquid (without mercury)

reference	range	accuracy	Ø	1	pcs/pack	price/pack	average
			(mm)	(mm)			price/pc
THER-060-001	-10 +60 °C	± 1 °C	6	250	1		
THER-110-001	-10 +110 °C	± 1 ℃	6	300	1		
THER-150-001	-10 +150 °C	± 1 ℃	6	300	1		
THER-200-001	-10 +200 °C	± 1 ℃	6	305	1		
10 units "Saving pack	age"						
THER-060-010	-10 +60 °C	± 1 ℃	6	250	10		
THER-110-010	-10 +110 °C	± 1 ℃	6	300	10		
THER-150-010	-10 +150 °C	± 1 ℃	6	300	10		
THER-200-010	-10 +200 °C	± 1 ℃	6	305	10		
50 units "Saving pack	age"						
THER-060-050	-10 +60 °C	± 1 ℃	6	250	50		
THER-110-050	-10 +110 °C	± 1 °C	6	300	50		
THER-150-050	-10 +150 °C	± 1 ℃	6	300	50		
THER-200-050	-10 +200 °C	± 1 ℃	6	305	50		

# **Thermometer**

Yellow enameled rod. Filled with red colored liquid (without mercury). Partial immersion (76 mm). Laboratory-tested accuracy

reference	range	readability	accuracy	Ø	- 1	pcs/pack	price/pack	
				(mm)	(mm)			price/pc
THER-60A-010	-10 + 60 °C	± 0,5 °C	± 1 °C	6 - 7	305	10		
THER-11A-010	-20 + 110 °C	± 1 °C	$\pm$ 2 °C	6 - 7	305	10		
THER-15A-010	-20 + 150 °C	± 1 °C	$\pm$ 2 °C	6 - 7	305	10		

# Thermometer with precision and traceability certificate

Yellow enameled rod. Filled with blue colored organic liquid (without mercury, ecologically safe). Indelible printing scale resistant to chemical products. Triangular ring to prevent the thermometer from rolling. Partial immersion at 76 mm. Connected to the 3 following calibration channels: MRA/ILAC (COFRAC, DKD...), NIST and GOST

reference	range	readability	accuracy	Ø		pcs/pack	price/pack
				(mm)	(mm)		
THER-60C-001	-10 + 60 °C	± 0,5 °C	$\pm$ 0,8 °C	6 - 7	305	1	
THER-11C-001	-20 + 110 °C	± 1 °C	± 1 °C	6 - 7	305	1	
THER-15C-001	-20 + 150 °C	± 1 °C	± 2 °C	6 - 7	305	1	
	THER-60C-001 THER-11C-001	THER-60C-001 -10 + 60 °C THER-11C-001 -20 + 110 °C	THER-60C-001 -10 + 60 °C ± 0,5 °C THER-11C-001 -20 + 110 °C ± 1 °C	THER-60C-001 -10 + 60 °C ± 0,5 °C ± 0,8 °C THER-11C-001 -20 + 110 °C ± 1 °C ± 1 °C	THER-60C-001     -10 + 60 °C     ± 0,5 °C     ± 0,8 °C     6 - 7       THER-11C-001     -20 + 110 °C     ± 1 °C     ± 1 °C     6 - 7	THER-60C-001         -10 + 60 °C         ± 0,5 °C         ± 0,8 °C         6 - 7         305           THER-11C-001         -20 + 110 °C         ± 1 °C         ± 1 °C         6 - 7         305	THER-60C-001         -10 + 60 °C         ± 0,5 °C         ± 0,8 °C         6 - 7         305         1           THER-11C-001         -20 + 110 °C         ± 1 °C         ± 1 °C         6 - 7         305         1







# Thermometer with cover

Thermometers filled with colored liquid (without mercury) and protected inside a cover to avoid any breakage in freezers or oven

reference	range	readability	l (mm)	type	pcs/pack	price/pack
THES-120-001	0 +120 °C	±1 ℃	300	stainless steel shielded (A)	1	
THES-200-001	+80 +200 °C	±1 ℃	300	stainless steel shielded (A)	1	
THES-040-001	-40 +40 °C	±1 ℃	170	aluminum shielded (B)	1	
THES-041-001	-40 +40 °C	±1 ℃	170	plastic shielded (C)	1	

# Digital thermometer with probe sensor TP3001

Fixed probe made of stainless steel, 145 mm long. Temperature unit °C/°F. Range: -50 +300 °C (-58 +572 °F), resolution 0.1 °C/°F. Hold function included (temperature hold in display). Power supply: 1 battery cell G13. Dimensions: 235 x 22 mm, weight 25 g. Includes PVC protection cover

reference	range	type	pcs/pack	price/pack
THER-D30-001	-50 +300 °C	straight	1	

# **Digital indoor thermometer DC108**

Thermo-hygrometer with wall and table holder. Temperature unit  $^{\circ}$ C/ $^{\circ}$ F. Temperature range: -10 up to +50  $^{\circ}$ C (+14 +122 $^{\circ}$ F), resolution 0.1  $^{\circ}$ C/ $^{\circ}$ F. Humidity mesuring range: 20% to 90% with 1% resolution. Functions: maximum temperature, minimum temperature and comfort area. Power supply: 1 battery 1.5 V type AAA. Dimensions: 91 x 85 x 20 mm, weight 96 g

reference	range	accuracy	pcs/pack	price/pack
THER-D31-001	-10 +50 °C	±1 °C	1	

# Digital indoor/outdoor thermometer DC105

Thermo-hygrometer with table holder. Double display for indoor and outdoor temperature. Sensor probe cable for outdoor long 1 m. Temperature unit  $^{\circ}$ C/°F. Indoor temperature range: -10 up to +50  $^{\circ}$ C (+14-122  $^{\circ}$ F), resolution 0.1  $^{\circ}$ C/°F. Outdoor temperature range: -50 up to +90  $^{\circ}$ C (-58+194  $^{\circ}$ F), resolution 0.1  $^{\circ}$ C/°F. Humidity mesuring range: 20% to 90% with 1% resolution. Functions: maximum temperature, minimum temperature and comfort area. Power supply: 1 battery cell AAA 1.5 V. Dimensions: 98 x 58 x 13 mm, weight 78 g

reference	range	accuracy	pcs/pack	price/pack
THER-D32-001	-50 +90 °C	±1 °C	1	

# Infrared laser digital thermometer, -33 °C up to +250 °C

Range: -33°C up to +250 °C, resolution 0.1 °C. Accuracy: 2 °C or  $\pm 2\%$ . Answer time 1 s and adjustable emissivity from 0.05 up to 1.00. Optical resolution: 6:1. Service temperature: 0 °C up to +50 °C. Dimensions:  $104 \times 60 \times 22$  mm, weight 63 g. Power supply: 2 battery cell CR 2032. Warranty 1 year

reference	range	accuracy	pcs/pack	price/pack
THER-L02-001	-33 +250 °C	± 2 °C	1	

# Infrared laser digital thermometer, -33 °C up to +500 °C

Range: -33 °C up to  $\pm$ 500 °C. Accuracy: 1 °C or  $\pm$ 1% from  $\pm$ 15 °C and  $\pm$ 35 °C, for the remaining temperatures 2 °C or  $\pm$ 2%. Laser pointer type II, answer time 1 second. Optical resolution: 12:1. Illuminated screen. Operating environment: 0  $\pm$ 50 °C. Dimensions: 175 x 80 x 39 mm, weight 180 g. Power supply: 2 battery cell 1,5 V AAA. Bag included. Warranty 1 year

reference	range	accuracy	pcs/pack	price/pack
THER-L03-001	-33 +500 °C	± 1 °C / ± 2 °C	1	

















# ESCORT



# ESCORT















# "Thermo data logger with internal sensor

Thermo data logger storing up to 16.240 readings. Range: -40 °C up to +70 °C, resolution 0.1 °C and accuracy  $\pm 0.3$  °C from -10 °C to +70 °C, for the remaining temperatures  $\pm 0.5$  °C. Large LCD displays the minimum, maximum, average and time out of specifications. Data can be downloaded to PC with mini USB cable and activation through push button. No interface or proprietary software required, only a PDF reader. IP65. Power supply: 3V Lithium battery. Warranty 2 years

reference	range	type	pcs/pack	price/pack
LOGT-16K-001	-40 +70 °C	16.240 readings	1	

# "Data logger with internal temperature and humidity sensor

Temperature and humidity data logger that can store up to 16.240 readings. Temperature measuring range: -40 °C up to +80 °C, resolution 0.1 °C and accuracy  $\pm 0.3$  °C from -10 °C to +80 °C, for the remaining temperatures  $\pm 0.5$  °C. Humidity measuring range: 0% to 100% with 0.1% resolution and accuracy  $\pm 3\%$  from 10 to 90%, for the remaining range  $\pm 4\%$ . Large LCD displays the minimum, maximum, average and time out of specifications. Data can be downloaded to PC with mini USB cable and activation through push button. It generates reports in PDF downloadable with the Console Plus software (included). IP51. Power supply: 3V Lithium battery. Warranty 2 years

reference	range	type	pcs/pack	price/pack
LOGH-16K-001	-40 +80 °C / 0-100% HR	16.000 readings	1	

# "Data logger iLOG series with internal temperature and humidity sensor

32000 lectures. Temperature measuring range -40°C to 70°C, resolution  $0.1^{\circ}$ C and accuracy  $\pm 0.3^{\circ}$ C. Humity measuring range 2% to 98%, resolution  $0.1^{\circ}$ % and accuracy  $\pm 0.3^{\circ}$ 6. LCD displays the minimum, maximum, average and time out of specifications. Data can be downloaded to PC with LOGH-A01-001 (not included) and managed with Console Plus software. IP51. Power supply: 3,6V Lithium battery LS14250 1/2AA. Warranty 2 years

reference	type	pcs/pack	price/pack
LOGH-32K-001	data logger iLOG	1	
LOGH-A01-001	interface USB connection for iLOG series includes Console Plus software	1	

# Digital thermohygrometer with remote sensor

Sending the data through radio from a remote probe. Temperature measuring range indoor: -10°C to 50°C, resolution 0.1°C, outdoor: -20°C to 50°C, resolution 0.1°C. Humity measuring range: indoor 20% to 95%, resolution 1%, outdoor 20% to 99%, resolution 1%. Includes remote sensor with transmission range up to 30 m (open space). Maximum and minimum record with auto-reset every 24h. Power supply: 2x AAA batteries (not included). Dimensions: 137 x 97 x 19 mm

reference	type	pcs/pack	price/pack
HIGR-D23-001	digital thermohygrometer with remote sensor	1	
Accessories and spare parts HIGR-A23-001	additional remote sensor	1	

# "Portable thermometer, Temp 7 Pt100 model

Range: -200 °C up to +999 °C, resolution 0.1 °C from 99,9 °C up to +199.9 °C (1 °C for the remaining temperatures). Probe included (Warning: probe measurements limits may be different than the thermometer). Fonctions: maximum, minimum, hold and automatic switch off. LCD screen. Battery life:> 750 hours. Dimensions:  $196 \times 86 \times 33$  mm, weight 295 g. Includes a rubber cover and transportation case. IP56. Warranty 3 years. Delivery 1 week

reference	description	pcs/pack	price/pack
THER-D22-001	thermometer with immersion probe Ø3 x 200 mm, -50° C up to +400 °C	1	
THER-D26-001	thermometer with penetration probe Ø4 x 150 mm, -50 °C up to +400 °C	1	



# **Commercial grade density hydrometers**

Not standardized. Reading below meniscus. Calibrated at 20°C. Unit: g/ml. Length: 300 mm. These instruments are not delivered with calibration certificates

reference	range (g/ml)	accuracy (g/ml)	division (g/ml)	T.S. (mN/m)	pcs/pack	price/pack
HYDR-060-001	0.600-0.700	±0.002	0,001	20	1	
HYDR-070-001	0.700-0.800	±0.002	0,001	25	1	
HYDR-080-001	0.800-0.900	±0.002	0,001	30	1	
HYDR-090-001	0.900-1.000	±0.002	0,001	35	1	
HYDR-100-001	1.000-1.100	±0.002	0,001	55	1	
HYDR-110-001	1.100-1.200	±0.002	0,001	55	1	
HYDR-B65-001	0.650-1.000	±0.005	0,005	26/55	1	
HYDR-10B-001	1.000-2.000	±0.010	0,01	55/75	1	



# **Baume hydrometers**

Unit: °Bé. Length: 280 mm. These instruments are not delivered with calibration certificates

reference	range (°Be)	accuracy (°Be)	division (°Be)	T.S. (mN/m)	pcs/pack	price/pack
Calibrated at 15°C				. , ,		
HYBE-010-001	0-10	±0.2	0,1	55	1	
HYBE-020-001	10-20	±0.2	0,1	55	1	
HYBE-030-001	20-30	±0.2	0,1	55	1	
HYBE-040-001	30-40	±0.2	0,1	75	1	
HYBE-050-001	40-50	±0.2	0,1	75	1	
HYBE-060-001	50-60	±0.2	0,1	75	1	
HYBE-070-001	60-70	±0.2	0,1	75	1	
Calibrated at 20°C						
HYBE-210-001	0-10	±0.2	0,1	55	1	
HYBE-220-001	10-20	±0.2	0,1	55	1	



# High precision alcoholometer

According to ISO 4801 and NF B 35-515 standards. Calibrated at 20°C. Unit: Ethanol in %vol. Length: 350 mm. These instruments are delivered with a certificate of conformity

reference	range	accuracy	division	T.S.	pcs/pack	price/pack
reference	(%vol)	(%vol)	(%vol)	(mN/m)	pcs/pack	price/pack
	(70001)	(70001)	(70001)	(11114/111)		
ALCO-000-001	0-10	±0.1	0,1	72,6	1	
ALCO-010-001	10-20	±0.1	0,1	50,5	1	
ALCO-020-001	20-30	±0.1	0,1	41,4	1	
ALCO-030-001	30-40	±0.1	0,1	35,4	1	
ALCO-040-001	40-50	±0.1	0,1	31,7	1	
ALCO-050-001	50-60	±0.1	0,1	29,4	1	
ALCO-060-001	60-70	±0.1	0,1	27,9	1	
ALCO-070-001	70-80	±0.1	0,1	26,7	1	
ALCO-080-001	80-90	±0.1	0,1	25,6	1	
ALCO-090-001	90-100	±0.1	0,1	24,2	1	
Range finder						
ALCO-RF1-001	0-100 %Vol/GL/Tralles	±1	1	72	1	
ALCO-RF1-001	10-44 Cartier	±0.5	0.5	24	ı	



### **Mechanical timer 60 minutes**

Countdown mechanical timer	with	alarm
----------------------------	------	-------

reference	description	pcs/pack	price/pack

TIME-M01-001

mechanical timer 60'





# measurement instruments and instrumental techniques

# METRIA



# Countdown timer and clock 24 hours

Clock function, timer countdown up to 23 h 59' 59" with alarm and chronometer. Three hold positions: with a magnet in metallic surfaces, with a clothing pin and with a kickstand to remain standing. Battery cell included

reference	description	pcs/pack	price/pack	average price/pc
TIME-W24-001	24 h clock watch digital timer	1		
10 units "Saving package"				
TIME-W24-010	24 h clock watch digital timer	10		

# **METRIA**



# Countdown timer 100 minutes

Timer countdown up to 99' 59" with alarm. Three hold positions: with a magnet in metallic surfaces, with a clothing pin and with a kickstand to remain standing. Battery cell included

reference	description	pcs/pack	price/pack	average price/pc
TIME-100-001	100 minutes digital timer	1		
10 units "Saving package"				
TIME-100-010	100 minutes digital timer	10		

# METRIA





# **Digital chronometer PC-1001**

Functions: chronometer, watch, alarm and calendar. Chronometer resolution: 1/100" for the first 30 minutes of timing, and then in 1 second increment up to maximum of 24 hours. Digital LCD display and lanyard to hang on your neck. Power supply: 2 battery cell LR44 (included). Dimensions:  $88.5 \times 62.5 \times 22.5$  mm, weight 55 g

reference	description	pcs/pack	price/pack
TIME-D03-001	digital chronometer 30', 1/100"	1	

### **Digital chronometer PC-6008**

Functions: chronometer, countdown, watch, alarm, calendar, podometer (pacer). Total time 9 h 59' 59.99", 1/100" intervals. Partial time (Lap) and accumulated time (Split). 180 memories. Auto-switch off for a longer battery cell life. Digital LCD display and lanyard to hang on your neck. Power supply: 1 battery SR44 (included). Dimensions:  $85 \times 55 \times 25$  mm, weight 100 g

reterence	description	pcs/pack	price/pack
TIME-D04-001	digital chronometer 10 h, 1/100"	1	
Domester.			

### **Batteries**

# NEW

## For office and laboratory equipment

			-
b			
<b>8</b>			

reference	description	pcs/pack	price/pack	average price/pc
BTTY-D3A-010	Duracell Industrial LR03 (AAA) alkaline battery case, 10 pcs	10		
BTTY-D2A-010	Duracell Industrial LR06 (AA) alkaline battery case, 10 pcs	10		
BTTY-KCR-005	Kodak CR2032 lithium button cell battery, in strips, 5 pcs	5		
BTTY-VLR-010	Vinnic LR44 alkaline battery, in strips, 10 pcs	10		
BTTY-F36-001	Fullwat 3.6 V ER14250 (1/2AA) lithium battery	1		

# **METRIA**





ABBE analogic refractometer for measuring refractive index (RI), Brix % and Temperature with good accuracy and a wide measuring range. Very easy to move due to its reduced dimensions (270x180x370mm) and weight (3,5 kg) and also very easy to use. Includes high resistant aluminium portable case for transportation

reference	type	range	accuracy	pcs/pack	price/pack
ABRF-111-001	RI / Brix / Temp.	1,30000-1,70000 / 0-95% / 0-60	±0,0005 / ±0,25% / ±1°C	1	

# MEIN

# Portable Analogue Refractometer

Analogue hand-held refractometer with Automatic Temperature Compensation (ATC) and high precision. Anti-rolling design, comfortable eyepiece with perfect fit, easy-to-clean prism and protective flap for the prism opening. Measures: Brix grade, Probable Alcohol, specific gravity, Baume grade and KMW grade (Babo). Includes case with screwdriver and pipette

reference	type	range	readability	pcs/pack	price/pack
PREF-B20-001	Brix	0-20 %	0,1%	1	
PREF-B32-001	Brix	0-32 %	0,2%	1	
PREF-B50-001	Brix	0-50 %	0,5%	1	
PREF-B82-001	Brix	45-82 %	0,5%	1	
PREF-B92-001	Brix	58-92 %	0,2%	1	
PREF-WN1-001	Vino	0-140 Oe / 0-25 KMW (Babo) / 0-32% Mas Sacch	1 Oe / 0,2 KMW / 0,2%	1	
PREF-WN5-001	Vino	0-190 Oe / 0-38 KMW (Babo) / 0-44% Brix	2 Oe / 0,5 KMW / 0,5%	1	
PREF-WN7-001	Vino	30-140 Oe / 0-25 KMW (Babo) / 0-32% Brix	1 Oe / 0,2 KMW / 0,2%	1	
PREF-AL6-001	Alcohol (AP)	0-25%VOL / 0-20 Baume / 0-40% Brix	0,2% / 0,2 / 0,2%	1	
PREF-AI7-001	Alcohol (AP)	0-32% Brix / 1,000 - 1,120 sg	0,2% / 0,001	1	







# Portable Digital Refractometer METRIA RSD

Digital hand-held refractometer with Automatic Temperature Compensation (ATC)  $5^{\circ}$ C- $40^{\circ}$ C, automatic power management and high precision. Temperature measurement range from 0 to  $40^{\circ}$ C (0,5 $^{\circ}$ C accuracy). Large backlit colour TFT display, user-defined zero setting function, ergonomic durable design and anti-interference from light. Measurement of Brix grade, refractive index (RI), Oechsle, mass S/W, probable alcohol (AP) and KMW (Babo). Net weight 200g, power supply 2xAAA (1,5 V). Compliance with IP65 standards, CE and ROHS. Warranty 1 year

reference	type	range	readability	accuracy	model	pcs/pack	price/pack
PDRF-R45-001	Brix / RI	0-45% / 1,3330- 1,4098	0,1 / 0,0001	±0,2 / ±0,0003	RSD200	1	
PDRF-R85-001	Brix / RI	0-85% / 1,3330- 1,5100	0,1 / 0,0001	±0,5 / ±0,0005	RSD500	1	
PDRF-RM5-001	Oe (Germany) / Oe(Swiss) / Mass S/W / Vol AP / KMW	3-150 / 0-150 / 0-35% / 0-22% / 0-25	1 / 1 / 0,1 / 0,1 / 0,1	±1 / ±1 / ±0,2/ ±0,2 / ±0,2	RSD205	1	







# "Spectrophotometer, visible, ONDA V-10 PLUS

For education, general use and routine analysis. Components that guarantee an excellent performance. Wavelength lecture directly on the screen. Auto zero and blank. Measurement of absorbance, transmittance and concentration. Quantitative: standard curve and coefficient methods. Pre-aligned lamp design, which ensures an easy exchange by the user. Includes software to extend the applications to the curve and standard kinetics. LCD screen (128 x 64 pixels). Sheath. Trackable Standard DAkkS Certificate. Wavelength range: 325 - 1000 nm. Bandwidth: 4 nm. Optical system: single beam. Grid: 1200 lines/mm. Wavelength accuracy:  $\pm$  2 nm. Repeatability:  $\pm$  1 nm. Resolution: 0,5 nm. Photometric mode: %T, Abs, Conc and Factor. Detector: silicon photodiode. Standard cell holder for 4 square 10 mm cells (4 optical glass cells included). Light source: tungsten. Lamp lifespan: 2000 hours approx. USB port (for PC remote control) and parallel port (for direct printing). Optional: professional software for data exportation to spreadsheet, color intensity analysis and tonality according to specific methods for OIV-MA-AS2-07B wines (SPTR-A01-001). Weight: 8 kg. Dimensions (mm): 440 x 360 x 180. 85-265 V / 50-60 Hz. Warranty 2 years.

See the spare parts available for this spectrophotometer and the data sheet on our website: www.labbox.com

reference	description	pcs/pack	price/pack
SPTR-V01-001	spectrophotometer, visible, ONDA V-10 PLUS	1	
Accessories			
SPTR-A01-001	professional software	1	
SPTR-A02-001	thermal printer for ONDA spectrophotometers	1	





# measurement instruments and instrumental techniques

# <u>METRIA</u>

# Standard (macro) spectrophotometer cuvette with lid

Available in quartz (LB Q) for use within 200 - 2500 nm (includes Ultraviolet) and optical glass (LB OG) for use within 320 - 2500 nm



reference	composition	light	internal	vol.	pcs/pack	price/pack	average
		path	width	(ml)			price/pc
Made of quartz							
MALQ-001-002	LB Q	1 mm	10	0,35	2		
MALQ-002-002	LB Q	2 mm	10	0,7	2		
MALQ-005-002	LB Q	5 mm	10	1,7	2		
MALQ-010-002	LB Q	10 mm	10	3,5	2		
MALQ-020-002	LB Q	20 mm	10	7	2		
MALQ-040-002	LB Q	40 mm	10	14	2		
MALQ-050-002	LB Q	50 mm	10	17,5	2		
Made of optical glass							
MALG-001-002	LB OG	1 mm	10	0,35	2		
MALG-002-002	LB OG	2 mm	10	0,7	2		
MALG-005-002	LB OG	5 mm	10	1,7	2		
MALG-010-002	LB OG	10 mm	10	3,5	2		
MALG-020-002	LB OG	20 mm	10	7	2		
MALG-040-002	LB OG	40 mm	10	14	2		
MALG-050-002	LB OG	50 mm	10	17,5	2		

# METRIA

# Semi-micro spectrophotometer cuvette with lid

Available in quartz (LB Q) for use within 200 - 2500 nm (includes Ultraviolet) and optical glass (LB OG) for use within 320 - 2500 nm

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
SMLQ-010-002	LB Q	10 mm	4	1,4	2		
SMLG-010-002	LB OG	10 mm	4	1,4	2		



# Micro spectrophotometer cuvette with lid

Available in quartz (LB Q) for use within 200 - 2500 nm (includes Ultraviolet) and optical glass (LB OG) for use within 320 - 2500 nm

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
MILQ-010-002	LB Q	10 mm	2	0,7	2		
MILG-010-002	LB OG	10 mm	2	0,7	2		



# Standard (macro) spectrophotometer cuvette with PTFE stopper

For volatile samples. Available in quartz (LB Q) for use within 200 - 2500 nm (includes Ultraviolet) and optical glass (LB OG) for use within 320 - 2500 nm

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
MASQ-010-002	LB Q	10 mm	10	3,5	2		
MASG-010-002	LB OG	10 mm	10	3,5	2		



# For 12 cuvettes (path length 10 mm)

**Cuvette holder** 

reference	h	1	W	pcs/pack	price/pack
	(mm)	(mm)	(mm)	. ,.	. ,.
CUVP-012-001	15	170	50	1	





# Semi-micro spectrophotometer cuvette with PTFE stopper

For volatile samples. Available in quartz (LB  $\,\mathrm{Q}$ ) for use within 200 - 2500 nm (includes Ultraviolet) and optical glass (LB  $\,\mathrm{OG}$ ) for use within 320 - 2500 nm

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
SMSQ-010-002	LB Q	10 mm	4	1,4	2		
SMSG-010-002	LB OG	10 mm	4	1,4	2		

**METRIA** 

# Micro spectrophotometer cuvette with PTFE stopper

For volatile samples. Available in quartz (LB  $\,$ Q) for use within 200 - 2500 nm (includes Ultraviolet) and optical glass (LB  $\,$ GG) for use within 320 - 2500 nm

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
MISQ-010-002	LB Q	10 mm	2	0,7	2		
MISG-010-002	LB OG	10 mm	2	0,7	2		



# Disposable spectrophotometer cuvette

Available in optical polystyrene (PS) for use within 340 - 800 nm and in PMMA for use within 280 - 800 nm

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
Standard (macro) type	(A)						
MAPS-010-100	PS	10 mm	10	4,5	100		
MAPM-010-100	PMMA	10 mm	10	4,5	100		
Semi-micro type (B)							
SMPS-010-100	PS	10 mm	10	2,5	100		
SMPM-010-100	PMMA	10 mm	10	2,5	100		



# Standard (macro) fluorometer cuvette with lid

Cuvette with 4 polished faces available in quartz (LB Q) or optical glass (LB OG)

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
MALQ-F10-002	LB Q	10 mm	10	3,5	2		
MALG-F10-002	LB OG	10 mm	10	3,5	2		



**METRIA** 



# Standard (macro) disposable fluorometer cuvette

Cuvette with 4 polished faces available in optical polystyrene (PS) for use within 340 - 800 nm and in PMMA for use within 280 - 800 nm

reference	composition	light path	internal width	vol. (ml)	pcs/pack	price/pack	average price/pc
MAPS-F10-100	PS	10 mm	10	4,5	100		
MAPM-F10-100	PMMA	10 mm	10	4,5	100		



