

KATALOG XS INSTRUMENTS

STORT UTBUD FRÅN
VÄRLDSLEDANDE TILLVERKARE

BOHLINS MASKINER har ett brett spektra av instrument för mätning från kända och välrenommerade företag.

I XS Instruments sortiment finns bland annat instrumentering för livsmedels-, kemisk-, farmaceutisk- och verkstadsindustri.

XS INSTRUMENTS

- Centrifuger
- Cirkulationstermostater
- Datalogger
- Klimatskåp
- Konduktivitetsmätare
- Omrörare
- Ozongenerator
- pH-elektroder
- pH-mätare
- Refraktometrar
- Spektrofotometrar
- Standarder
- Syremätare
- Temperaturmätare
- Ugnar
- Ultraljudsbad
- Vattenbad
- Vågar



CATALOGUE 2020

SECTORS

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OUR BRANDS



HOW TO ORDER

**BOHLINS
MASKINER**

info@bohlin-maskiner.se
Tel 08-83 08 80

Djupdalsvägen 18, 192 51 Sollentuna
bohlin-maskiner.se

pH METERS

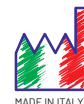


PORTABLE
INSTRUMENTS

WARRANTY
5
YEARS

BENCHTOP
INSTRUMENTS

WARRANTY
3
YEARS



HOW TO CHOOSE

	Violab pH 50	Violab pH 60	pH 8+	pH 80+
Resolution	0,01 pH	0,01 pH	0,01 pH	0,001 pH
Display	coloured LCD	coloured LCD	Coloured graphic	Coloured graphic
GLP	○	●	●	●
Calibration password	○	○	●	●
Calibration points	3	3	3	5
Calibration due alarm	○	●	●	●
Electrode status indication	○	○	●	●
Selective ION	○	○	○	●
Data logger	○	●	●	●
PC/Printer connection	○	●	●	●
Analog view	○	○	●	●
Alarm settings	○	○	●	●
Multilanguage	○	○	●	●
On-Line manual	○	○	○	●
External keyboard	○	○	○	●

pH 80+ DHS

- Resolution 0,1 / 0,01 / 0,001 pH
- Backlit coloured high-definition **graphic display**.
- **Data logger** auto and manual, up to **1000 savings in GLP**
- **On line guide** multilanguage
- Alphanumeric **password**
- Graphic **calibration report**

MAIN FEATURES

Automatic calibration up to 5 pH points according GLP with date and time.

IP54 keyboard.

Selectable buffer solutions NIST, USA, DIN or custom (5 values).

ISE calibration up to 5 points.

Calibration report and innovative graphic view of the status of the sensor.

Calibration points indications.

Intuitive menu. **Multilanguage menu**.

Entering company data, operator ID, sample ID and sensor ID via external keyboard (included).

Functions for setting alarms and analog view, "Hold reading" and "Stability" with titration and timed stability mode for ISE.

Calibration due alarm, self-diagnosis messages.

Alphanumeric **password for calibration** management and memory reset.

2 USB outputs for external keyboard connection (included) and PC. RS232 port for printer connection.

Magnetic stirrer with independent control. Quick manual online.

Data Link software freely downloadable from www.xsinstruments.com.



Measuring range:

pH: -2,000...20,000 (0,001 pH)

mV: -2000...+2000 (0,1 mV)

ISE: 0,001...19999ppm

Temperature: -20...120,0 °C (0,1 °C)

Equipped with:

S7/BNC cable, temperature sensor NT 55, electrode holder, buffers solutions, USB cable and power supply.

Name	Description	p/n
pH 80+DHS STIRRER	Complete with digital electrode XS Standard DHS , magnetic stirrer with adjustable speed	50001392
pH 80+DHS STIRRER	Complete with electrode XS Standard , magnetic stirrer with adjustable speed	50001402
pH 80+DHS STIRRER	Without electrode, with magnetic stirrer with adjustable speed	50001412
pH 80+DHS BASIC	Complete with digital electrode XS Standard DHS , without magnetic stirrer	50001442
pH 80+DHS BASIC	Complete with electrode XS Standard S7 , without magnetic stirrer	50001422
pH 80+DHS BASIC	Without electrode and magnetic stirrer	50001432
KEYBOARD	External soft keyboard with USB cable for 80+ Series	50001462
IQ-OQ MANUAL 80 SERIES	Printed manual IQ-OQ for XS 80 Series	50001472

pH 8 + DHS

- Resolution 0,1 / 0,01 pH
- Backlit coloured high-definition **graphic display**.
- **Automatic** and manual **temperature compensation**
- **Data logger** auto and manual, up to **1000 savings** in GLP

MAIN FEATURES

Digital bench multi parameter for pH, mV, ORP and temperature.
IP54 keyboard.

Automatic pH calibration from 1 to 3 points according to GLP with date and time.

Selectable buffer solutions NIST, USA and user definable (2 values).

Calibration report and innovative graphic view.

Calibrated points indication.

Manual and automatic **Data Logger** function, up to **1000 savings** with date / time according to GLP.

Intuitive parameter management via icons.

Multilanguage menu.

Functions for setting alarms and analog view,
"Hold-reading" and "Stability" with titration mode,
calibration due alarm, self-diagnosis messages.

USB output for PC connection and RS232 port for printer connection.

Numeric password for calibration management and memory deletion.

Magnetic stirrer with independent control.

Data Link software freely downloadable from www.xsinstruments.com.



Equipped with:

S7/BNC cable, temperature sensor NT 55, electrode holder, buffers solutions, USB cable and power supply.

Name	Description	p/n
pH 8 + DHS STIRRER	Complete with digital electrode XS Standard DHS , magnetic stirrer with adjustable speed	50001252
pH 8 + DHS STIRRER	Complete with electrode XS Standard , magnetic stirrer with adjustable speed	50001232
pH 8 + DHS STIRRER	Without electrode, with magnetic stirrer with adjustable speed	50001242
pH 8 + DHS BASIC	Complete with digital electrode XS Standard DHS , without magnetic stirrer	50001192
pH 8 + DHS BASIC	Complete with electrode XS Polymer , without magnetic stirrer	50001202
pH 8 + DHS BASIC	Without electrode and magnetic stirrer	50001212
MANUAL IQ-00 8 SERIES	Printed manual IQ-00 for XS 8+ Series	50001472

ACCESSORIES 8 / 80 SERIES

	Description	p/n
MAGNETIC STIRRER	Adjustable speed , with electrode holder and connection cable	50001132
PRINTER RS 232	External printer with normal paper for XS 60 VioLab / 8 / 80 series	50001502
POWER SUPPLY	Power supply 12V/1A for XS 8+ e 80+ series	50001512

pH 60 *Violab* **NEW**

- Resolution 0,1 / 0,01 pH
- Automatic and manual **temperature compensation**
- Coloured backlit high definition LCD display
- **Data logger** auto and manual , up to 1000 savings in GLP
- **Automatic calibration up to 3 points**
- **DHS digital sensors** management.

MAIN FEATURES

Professional bench meters with innovative **backlit high definition coloured LCD display**, with possibility of brightness adjustment.

Management of **DHS digital sensors**.

The **step by step guide** in setup and calibration allows a simple and immediate use of the device.

Automatic pH calibration with USA and NIST buffers, up to 3 points and 2 points defined by the user.

Automatic ORP calibration on 1 point.

Measurement **stability indication** and possibility to select 3 stability levels.

All operations are constantly monitored and shown to the operator by the **coloured LED** above the display and self-diagnosis messages.

GLP function: Date and time, recall of calibration data and function "Calibration due".

Data logger up to 1000 savings, manual and automatic, PC connection via micro-USB.

Data-Link + software available from www.xsinstruments.com.

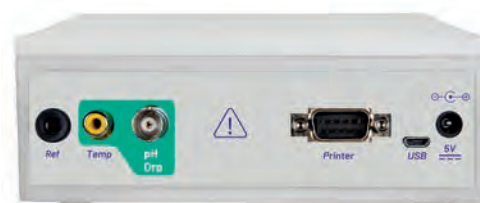
RS 232 external **printer connection**

Measuring range

pH: -2,00...16,00 (0,1 - 0,01 pH)

mV: -1000...+1999 (0,1 - 1 mV)

Temperature: -10...110,0 °C (0,1 °C)



Equipped with:

Electrode holder stand, pH and conductivity buffer solutions, USB cable, power supply and instructions for use.

Name	Description	p/n
pH 60 VIOLAB DHS ELECTRODE	Complete with digital electrode XS 201 T DHS , with temperature sensor integrated	50101102
pH 60 VIOLAB ANALOG ELECTRODE	Complete with electrode XS 201 T , with temperature sensor integrated	50101092
pH 60 VIOLAB WITHOUT ELECTRODE	With accessories, S7-BNC cable, temperature sensor NT 55, without electrode	50101112
PRINTER RS 232	External printer with normal paper for XS 60 / 8 / 80 series	50001502

pH 50 *Viola*lab **NEW**

- Resolution 0,1 / 0,01 pH
- Automatic and manual **temperature compensation**
- Coloured backlit high definition LCD display
- Automatic calibration up to 3 points
- DHS digital sensors management.

MAIN FEATURES

Professional bench meters with innovative **backlit high definition coloured LCD display**, with possibility of brightness adjustment. Management of **DHS digital sensors**.

The **step by step guide** in setup and calibration allows a simple and immediate use of the device.

Automatic pH calibration with USA and NIST buffers, up to 3 points and 2 points defined by the user.

Automatic ORP calibration on 1 point.

Measurement **stability indication** and possibility to select 3 stability levels.

All operations are constantly monitored and shown to the operator by the **coloured LED** above the display and self-diagnosis messages.



Measuring range

pH: 0,00...14,00 (0,1 - 0,01 pH)

mV: ± 1000 (1 mV)

Temperature: 0...100,0 °C (0,1 °C)



Coloured LCD Display

Equipped with:

Electrode holder stand, pH and conductivity buffer solutions, and instructions for use.

Name	Description	p/n
pH 50 VIOLAB DHS ELECTRODE	Complete with digital electrode XS 201 T DHS , with temperature sensor integrated	50101032
pH 50 VIOLAB ANALOG ELECTRODE	Complete with electrode XS 201 T , with temperature sensor integrated	50101002
pH 50 VIOLAB WITHOUT ELECTRODE	With accessories, S7-BNC cable, temperature sensor NT 55, without electrode	50101012

pH 70 Vio **NEW**

- Resolution 0,1 / 0,01 pH
- Coloured backlit high definition LCD display
- Automatic and manual **temperature compensation**
- **Data logger** auto and manual , **up to 1000 savings** in GLP
- GLP functions
- DHS digital sensors management.

MAIN FEATURES

Professional portable multiparameter with **innovative high-resolution colour display**, suitable to work in any conditions, thanks to the automatic and manual brightness adjustment.

The **step by step guide** in setup and calibration mode allows a simple and intuitive use of the device.

Automatic pH calibration with USA and NIST buffers up to 3 points and 2 points custom defined by the user.

Automatic ORP calibration in 1 point.

Measurement **stability indicator** and possibility of selecting 3 levels of stability.

All operations and errors are constantly monitored and shown to the operator via the **coloured LED** above the display.

GLP function: Date and time, recall of calibration data and function "Calibration due".

Data logger up to 1000 savings, manual and automatic, PC connect via **micro-USB**.

Data-Link + software available from www.xsinstruments.com.

Measuring range

pH: -2,00...16,00 (0,1 - 0,01 pH)

mV: -1000...+1999 (0,1/ 1 mV)

Temperature: -10...+110,0 (0,1 °C)

Equipped with;

coloured buffer solutions of pH and conductivity, USB cable and power supply, instructions for use and plastic carrying case.



pH 70 Vio Kit

Name	Description	p/n
pH 70 VIO DHS ELECTRODE	Complete with digital electrode XS 201 T DHS , with temperature sensor integrated	50110182
pH 70 VIO ANALOG ELECTRODE	Complete with electrode XS 201 T , with temperature sensor integrated	50110112
pH 70 VIO WITHOUT ELECTRODE	With accessories, S7-BNC cable, temperature sensor NT 55, without electrode	50110122
pH 70 VIO FOOD DHS	Complete with penetration digital electrode XS 2 Pore T DHS , for food applications	50110192
pH 70 VIO FOOD	Complete with penetration electrode XS 2 Pore T , for food applications	50110162
POWER SUPPLY	Power supply USB for XS 70 Vio Series	50010172

pH 7 Vio **NEW**

- Resolution 0,1 / 0,01 pH
- Coloured backlit high definition LCD display
- Automatic and manual **temperature compensation**
- **Data logger** auto and manual , **up to 1000 savings in GLP**
- **DHS digital sensors** management.

MAIN FEATURES

Professional portable multiparameter with **innovative high-resolution colour display**, suitable to work in any conditions, thanks also to the possibility to adjust automatically and manually contrast and brightness of the display. The guide onboard in setup and calibration mode allows a simple and intuitive use of the device.

Automatic pH calibration with USA and NIST buffers up to 3 points and 2 points custom defined by the user.

Automatic ORP calibration in 1 point.

Measurement stability indicator and possibility of selecting 3 levels of stability.

All operations and errors are constantly monitored and shown to the operator via the **coloured LED** above the display.

Measuring range

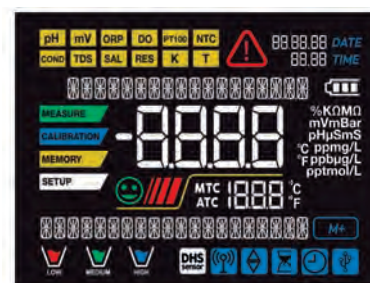
pH: 0,00...14,00 (0,1 - 0,01 pH)

mV: - 1000... + 1000 (1 mV)

Temperature: 0...+100,0 (0,1 °C)

Equipped with:

coloured buffer solutions of pH and conductivity, instructions for use and plastic carrying case.



Coloured LCD display

Name	Description	p/n
pH 7 VIO DHS ELECTRODE	Complete with digital electrode XS 201 T DHS , with temperature sensor integrated	50110072
pH 7 VIO ANALOG ELECTRODE	Complete with electrode XS 201 T , with temperature sensor integrated	50110012
pH 7 VIO WITHOUT ELECTRODE	With accessories, S7-BNC cable, temperature sensor NT 55, without electrode	50110022
pH 7 VIO FOOD DHS	Complete with penetration digital electrode XS 2 Pore T DHS , for food applications	50110082
pH 7 VIO FOOD	Complete with penetration electrode XS 2 Pore T , for food applications	50110032
pH 7 VIO GEL	Complete with pH Gel electrode + NT55 , plastic body, 1 m cable with BNC	50110062

ACCESSORIES pH

pH ELECTRODES

Name	Description	p/n
XS STANDARD DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Glass body and cylindrical membrane for general applications. Refillable KCl 3M electrolyte. Excellent chemical resistance and easy to clean. Included with serial number and certificate. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...100 °C	32200123
XS STANDARD PH ELECTRODE	pH Electrode combined with S7 head. Glass body, for general use. Refillable KCl 3M Electrolyte. Excellent chemical resistance and easy to clean. With serial number and certificate. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...100 °C.	32200363
XS POLYMER S7	Combined pH Electrode S7 head . Glass Body for general use. Cylindrical membrane. Polymer filling, open pore. For a fast response with high accuracy in samples that might contaminate normal diaphragms. Maintenance-free. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...80 °C	32200223
201 T DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Plastic body for general use. Gel Filling, ceramic diaphragm. Maintenance-free. Dimensions (LxØ) mm 120x12. pH 0...14 - Temperature 0...60 °C	32200103
201 T PH ELECTRODE	Combined pH electrode with NTC temperature sensor integrated. Epoxy body for general applications. Polymer filling with ceramic diaphragm. Maintenance-free. Fixed cable 1 mt., BNC + RCA plug. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature 0...60 °C	50002002
201 T / 5 PH ELECTRODE	Combined pH electrode with NTC temperature sensor integrated. Epoxy body for general applications. Polymer filling with ceramic diaphragm. Maintenance-free. Fixed cable 5 mt., BNC + RCA plug. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature 0...60 °C	50002022
XS 2 PORE DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Glass Body. Filled with polymer, maintenance-free. Penetration tip. Ideal for meats and cheese samples. Dimensions (LxØ) mm 35x6 - pH 0...14, Temperature 0...60 °C	32200113
XS 2 PORE T BNC + RCA	Glass Body. Filled with polymer, maintenance-free. With temperature sensor integrated NTC 30 KΩ, Penetration tip. Ideal for meats and cheese samples Fixed cable 1 mt length, pH 0...14, Temperature 0...60 °C	32200323
pH GEL ELECTRODE	Plastic body. For XS 7 / 70 Vio Series. Cable length 1 m, BNC plug. pH 0...14, Temperature 0...60 °C	32105223

REDOX ELECTRODES

REDOX ELECTRODE REDOX	Fix cable 1 m, BNC connector, epoxy body. Gel filling, double junction, maintenance-free. Ceramic diaphragm. Range ± 1.000 mV, Temperature 0...60 °C. Dimensions (LxØ) 120 x 12 mm	32105302
REDOX / 5 ELECTRODE REDOX	Fix cable 5 m, BNC connector, epoxy body. Gel filling, double junction, maintenance-free. Ceramic diaphragm. Range ± 1.000 mV, Temperature 0...60 °C. Dimensions (LxØ) 120 x 12 mm	32105102

CONNECTING CABLE

Connecting cable with **S7 head** and BNC plug for XS pH-meter.
Diameter 3 mm, length 1 m.

Name	Description	p/n
BNC	Cable S7-BNC 	33551733

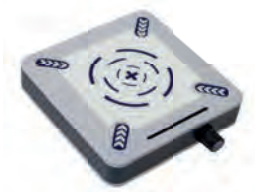




STORAGE SOLUTION

Name	Pack	p/n
Storage solutions for electrodes	55 ml	32208043
Storage solutions for electrodes	500 ml	32208053

TEMPERATURE SENSORS

NT 55 TEMPERATURE SENSOR	Temperature sensor NTC 30 K for XS instruments, for liquids and air.	50002012
NT 7P TEMPERATURE SENSOR	Temperature sensor NTC 30 K, penetration tip , diameter 4 mm, cable fix 1m	50011122

ACCESSORIES

Name	Description		p/n
ST 10 MAGNETIC STIRRER	Magnetic stirrer, adjustable speed, with rechargeable batteries, magnetic bar and power supply.		50000132
ELECTRODE HOLDER MOD: 3900	Flexible electrode holder		50000112
PRINTER	External printer with normal paper for XS 8 / 80 SERIES XS VIOLAB 60 power supply and RS 232 cable		50001502
POWER SUPPLY VIO - PORTABLE	Power supply and cable for XS Vio portable series		50010172
POWER SUPPLY VIOLAB - BENCHTOP	Power supply and cable for XS VioLab benchtop series		50001052

STANDARD BUFFER SOLUTION

With certificate of analysis downloadable from www.xsinstruments.com



○ SACHETS 25 ml

Name	Description	p/n
pH 4.01 (25°C)	Pack of 20 sachets 25 ml, red, with certificate of analysis	51102013
pH 7.00 (25°C)	Pack of 20 sachets 25 ml, green, with certificate of analysis	51102023
pH 10.01 (25°C)	Pack of 20 sachets 25 ml, with certificate of analysis	51102043
SET CAL pH BIS	Pack of 20 sachets 25ml (10 x pH 4.01 and 10 x pH 7.00)	51102203
SET CAL pH BIS	Pack of 20 sachets 25ml (7 x pH 4.01, 7 x pH 7.00 and 6 x pH 10.01)	51102213
STORAGE	Pack of 20 sachets 10 ml, pH/ORP Sensor Storage Solution	51102083
H₂O	Pack of 20 sachets 25ml, Distilled water for sensor cleaning	51102093

○ BOTTLE 250 ml with calibration compartment integrated

Name	Description	p/n
pH 4,01	±0,01 / 25°C - Red	51100033
pH 7,00	±0,01 / 25°C - Green	51100043
pH 10,01	±0,02 / 25°C - Uncoloured	51100063

○ BOTTLE 500 ml with calibration compartment integrated

Name	Description	p/n
pH 4,01	±0,01 / 25°C - Red	51100133
pH 7,00	±0,01 / 25°C - Green	51100143
pH 10,01	±0,02 / 25°C - Uncoloured	51100163



Brochures **XS Vio** and **XS VioLab** are available on our website www.xsinstruments.com

CONDUCTIVITY METER

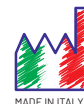


PORTABLE
INSTRUMENTS

WARRANTY
5
YEARS

BENCHTOP
INSTRUMENTS

WARRANTY
3
YEARS



HOW TO CHOOSE

	Violab COND 50	Violab COND 60	COND 8+	COND 80+
COND and TDS	●	●	●	●
Salinity	○	●	●	●
Resistivity	○	○	○	●
Ultra pure water compensation	○	○	○	●
Display	colour bcklit LCD	colour bcklit LCD	Colour graphic	Colour graphic
GLP Calibration	○	●	●	●
Calibration password	○	○	●	●
Calibration points	4	4	4	4
Calibration due alarm	○	●	●	●
Electrode status indication	○	○	●	●
Data logger	○	●	●	●
PC / Printer connection	○	●	●	●
Multilanguage menu	○	○	●	●
Online guide	○	○	○	●
External keyboard	○	○	○	●

COND 80+

- Resolution 0,01 μS
- Coloured backlit high definition LCD display
- Automatic and manual **temperature compensation**
- **Data logger** auto and manual , up to 1000 savings in GLP
- **Online guide** multilanguage
- **Alphanumeric password**

MAIN FEATURES

Simultaneous view of COND and temperature.
IP54 keyboard.

Automatic and manual EC calibration

with 4 standard recognition (84; 1413 μS , 12,88 and 111 mS) up to 4 points
with calculation of the different cell constants
and a standard defined by the user.

Automatic scale. Reference temperature (15...30°C).

Linear temperature coefficient(0,00...10,00%) and non linear
for ultra pure water. Selectable cell constant (C = 0,1- 1- 10,0).

Calibration points indications.

Intuitive menu. **Multilanguage menu.**

Entering company data, operator ID, sample ID and sensor ID via external keyboard (included). Functions for setting alarms and analog format, "Hold reading" and "Stability" with titration and timed stability mode for ISE.

Calibration due alarm, self-diagnosis messages. **Alphanumeric password** for calibration management and memory reset.

2 USB outputs for external keyboard connection (included) and PC. RS232 port for printer connection.

Magnetic stirrer with independent control. Quick manual online.

Data Link+ software freely downloadable from www.xsinstruments.com.



Measuring range:

Cond: 0,0 μS ...1000 mS (0,01 μS - automatic)

Resistivity: 1 Ω ...10 MW

Salinity: 0,01...100,0 ppt

TDS: 0,01 mg/l...500,0 g/l

Temperature: -20... +120,0 (0,1 °C)

Equipped with:

Electrode holder stand, conductivity standard, external keyboard, USB cable, power supply and user manual.

Name	Description	p/n
COND 80+ STIRRER	Complete with EC cell VPT 1 glass/platinum (C=1) with temperature sensor integrated, and magnetic stirrer with adjustable speed	50003402
COND 80+ STIRRER	Without EC cell, with magnetic stirrer with adjustable speed	50003412
COND 80+ BASIC	Complete with EC cell VPT 1 glass/platinum (C=1) with temperature sensor integrated, without magnetic stirrer	50003422
COND 80+ BASIC	Without EC cell and magnetic stirrer	50003432
KEYBOARD	Soft external keyboard for XS 80 Series	50001462
IQ-OQ MANUAL 80 SERIES	Paper manual IQ-OQ for XS 80 Series	50001472

COND 8 +

- Resolution 0,01 μS
- Coloured backlit high definition LCD display
- Automatic and manual **temperature compensation**
- **Data logger** auto and manual , **up to 1000 savings** in GLP

MAIN FEATURES

Digital bench multi parameter for COND, TDS, Salinity, **temperature**. IP54 keyboard.

Simultaneous display of COND and Temperature.

Automatic and manual conductivity calibration with recognition of 4 standards (84; 1413 μS , 12.88 and 111 mS) from 1 to 4 points with calculation of the different cell constants and a standard defined by the user.

Automatic scale, Reference temperature (15... 30 °C), Linear temperature coefficient (0.00 ... 10.00%), selectable cell constant (C = 0.1- 1- 10.0) .

Calibrated points indication.

Manual and automatic **Data Logger** function, **up to 1000 savings** with date / time according to GLP.

Intuitive parameter management via icons. Multilanguage menu.

Functions for setting alarms and displaying in analog format, "Hold-reading" and "Stability" with titration mode, **calibration due alarm**, self-diagnosis messages.

USB output for PC connection and RS232 port for printer connection.

Numeric password for calibration management and memory deletion.

Magnetic stirrer with independent control.

Data Link + software freely downloadable from www.xsinstruments.com.

Measuring range:

Cond: 0,0 μS ...200 mS (0,01 μS - automatic)

Salinity: 0,01...100,0 ppt

TDS: 0,01 mg/l...100,0 g/l

Temperature: -10...+110,0 (0,1 °C)

Equipped with:

Electrode holder stand, conductivity standard, USB cable, power supply and user manual.



Name	Description	p/n
COND 8 + STIRRER	Complete with epoxy EC cell 2301T (C=1) temperature sensor integrated, and magnetic stirrer with adjustable speed	50003232
COND 8 + STIRRER	Without EC cell, with magnetic stirrer with adjustable speed	50003242
COND 8 + BASIC	Complete with epoxy EC cell 2301T (C=1) temperature sensor integrated, without magnetic stirrer	50003202
COND 8 + BASIC	Without EC cell and magnetic stirrer	50003212
IQ-00 MANUAL 8 SERIES	Paper manual IQ-00 for XS 8 Series	50001472

ACCESSORIES 8 / 80 SERIES

Name	Description	p/n
PRINTER	External printer with normal paper for XS VIOLAB 60	50001502
STIRRER	Magnetic stirrer with adjustable speed for XS 8+ and 80+ series, complete with electrode holder and connecting cable	50001132

COND 60 *Viola*lab **NEW**

- Resolution 0,01 μ S
- Coloured backlit high definition LCD display
- Automatic and manual **temperature compensation**
- **Data logger** auto and manual , up to 1000 savings in GLP
- PC/Printer connection



MAIN FEATURES

Professional bench meters with innovative **backlit high definition coloured LCD display**, with possibility of brightness adjustment.

The **step by step guide** in setup and calibration allows a simple and immediate use of the device.

Automatic conductivity calibration up to 5 points (84; 147; 1413 μ S e 12,88; 111,8 mS) and 1 point custom.

Automatic resolution, reference temperature from 15 to 30 °C, and selectable cell constant (C= 0,1; 1; 10).

Indication of the calibrated points, with icons.

Measurement stability indication and possibility to select 3 stability levels.

All operations are constantly monitored and shown to the operator by the **coloured LED** above the display and **self-diagnosis messages**.

GLP function: Date and time, recall of calibration data and function "Calibration due".

Data logger up to 1000 savings, manual and automatic, PC connection via micro-USB.

Data-Link + software available from www.xsinstruments.com.

RS 232 external printer connection.

Measuring range

Cond: 0,0 μ S ...199,9 mS (0,01 μ S - automatic)

Salinity: 0,1 ppm ... 100 ppt

TDS: 0,01 mg/l...200 g/l

Temperature: - 10...+ 110,0 (0,1 °C)



Equipped with:

Electrode holder stand, conductivity standard, USB cable, power supply and instructions for use.

Name	Description	p/n
COND 60 VIOLAB WITH EC CELL	Complete with conductivity cell2301T , temperature sensor integrated, 1 m cable	50103072
COND 60 VIOLAB WITHOUT EC CELL	With accessories, without conductivity cell	50103082

COND 50 *Violab* **NEW**

- Resolution 0,01 μS
- Coloured backlit high definition LCD display
- Automatic and manual **temperature compensation**

MAIN FEATURES

Professional bench meters with **innovative backlit high definition coloured LCD display**, with possibility of brightness adjustment.

The **step by step guide** in setup and calibration allows a simple and immediate use of the device.

Automatic conductivity calibration up to 5 points (84; 147; 1413 μS e 12,88; 111,8 mS) and 1 point custom.

Automatic resolution, reference temperature from 15 to 30 $^{\circ}\text{C}$, and selectable cell constant ($C=0,1; 1; 10$).

Indication of the calibrated points, with icons.

Measurement **stability indication** and possibility to select 3 stability levels.

All operations are constantly monitored and shown to the operator by the **coloured LED** above the display and **self-diagnosis messages**.



Measuring range:

Cond 0,0 μS ... 199,9 mS (0,01 μS - automatic)

TDS: : 0,01 mg/l...200 g/l

Temperature: 0...+100,0 (0,1 $^{\circ}\text{C}$)

Equipped with:

Electrode holder stand, conductivity standard and instructions manual.

Name	Description	p/n
COND 50 VIOLAB WITH EC CELL	Complete with conductivity cell 2301T , temperature sensor integrated, 1 m cable	50103002
COND 50 VIOLAB WITHOUT EC CELL	With accessories, without conductivity cell	50103012

Cond 70 *vio* **NEW**

- Resolution 0,01 μS
- Automatic and manual **temperature compensation**
- **Automatic calibration** on 5 standard points and 1 custom
- **Data logger** auto and manual , **up to 1000 savings in GLP**
- Coloured backlit high definition **LCD display**
- **GLP functions**

MAIN FEATURES

Professional portable meter with innovative **backlit high definition coloured LCD display**, suitable to work in any conditions, thanks also to the possibility to adjust automatically and manually contrast and brightness of the display. The **step by step guide** in setup and calibration mode allows a simple and intuitive use of the device.

Automatic calibration of conductivity up to 5 points and 1 point custom defined by the user.

Adjustable reference temperature and selectable cell constant.

Indication with icons of the calibrated points.

Measurement **stability indicator** and possibility of selecting 3 levels of stability.

All operations and errors are constantly monitored and shown to the operator via the **coloured LED** above the display.

GLP function: Date and time, recall of calibration data and function "Calibration due".

Data logger up to 1000 savings, manual and automatic, PC connection via **micro-USB**.

Data-Link + software available from www.xsinstruments.com.

Measuring range:

Cond: 0,01 μS ... 200,0 mS (0,01 μS - automatic)

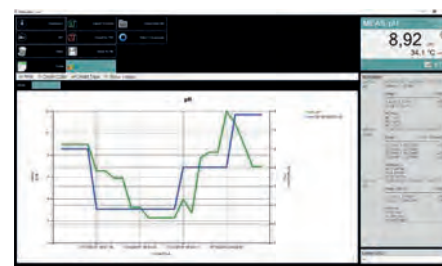
Salinity: 0,1 ppm ... 100 ppt

TDS: 0,01 mg/l ... 200,0 g/l

Temperature: -10...+110,0 (0,1 $^{\circ}\text{C}$)

Equipped with:

Conductivity standard, USB cable, power supply, user manual and carrying case.



Data Link Software

Name	Description	p/n
COND 70 VIO WITH CELL	Complete with conductivity cell 2301T with temperature sensor integrated . Cable 1 m	50110512
COND 70 VIO WITHOUT CELL	With temperature sensor NT55, cable S7-BNC and accessories, without conductivity cell	50110522

Cond 7 Vio **NEW**

- Resolution 0,01 μS
- Automatic and manual **temperature compensation**
- Coloured backlit high definition **LCD display**
- **Automatic calibration** on 5 standard points and 1 custom
- 3 selectable **cell constants**

MAIN FEATURES

Professional portable conductivity meter with innovative **backlit high definition coloured LCD display**, suitable to work in any conditions, thanks also to the possibility to adjust automatically and manually contrast and brightness of the display.

The **step by step guide** in setup and calibration mode allows a simple and intuitive use of the device.

Automatic calibration of conductivity up to 5 points and 1 point custom defined by the user.

Adjustable reference temperature and selectable cell constant.

Indication with icons of the calibrated points.

Measurement **stability indicator** and possibility of selecting 3 levels of stability.

All operations and errors are constantly monitored and shown to the operator via the **coloured LED** above the display.



Measuring range:

Cond: 0,1 μS ... 200 mS (0,01 μS - automatic)

TDS: 0,01 mg/l ... 200,0 g/l

Temperature: 0 ... 100,0 (0,1 °C)



Cond 7 Vio Kit

Equipped with:

Conductivity standard, user manual and carrying case.

Name	Description	p/n
COND 7 VIO WITH CELL	Complete with conductivity cell 2301T with temperature sensor integrated. 1 m cable	50110412
COND 7 VIO WITHOUT CELL	With temperature sensor NT55, cable S7-BNC and accessories, without conductivity cell	50110422

ACCESSORIES

CONDUCTIVITY CELL

Name	Description	p/n
VP 1 EC CELL	Cell in glass body with platinum plates C=1, fixed cable 1 mt. with BNC plug. Measuring range: 10µS...10 mS – Temperature 0...80 °C	50004062
VPT 1 EC CELL	Cell in glass body with platinum plates C=1, with temperature sensor integrated. Fixed cable 1 mt., BNC + RCA Cinch plug. Measuring range: 10µS...100 mS – Temperature 0...80 °C	50003352
VPT 01 EC CELL	Steel and PVC cell, C=0,1, with temperature sensor integrated. Fixed cable 1 mt., BNC + RCA plug. Measuring range: 0,1µS...1 mS – Temperature 0...60 °C	50004012
VPT 10 EC CELL	Cell in glass body with platinum plates C=10, temperature sensor integrated, fixed cable 1 mt. BNC + RCA Cinch plug. Measuring range: 100µS...200 mS..	50004072
NEW VPT 10 H EC CELL	Cell in glass body with platinum plates C=10, temperature sensor integrated, fixed cable 1 mt. BNC + RCA Cinch plug. Measuring range: 100µS...500 mS. Only for XS COND 80+	50003372
2301 T EC CELL	Cell in epoxy body C=1, with temperature sensor integrated. Fixed cable 1 mt. BNC+RCA cinch plug. Measuring range: 10µS...200 mS – Temperature 0...60 °C	50004002
2301 T / 5 EC CELL	Cell in epoxy body C=1, with temperature sensor integrated. Fixed cable 5 mt. BNC+RCA cinch plug. Measuring range: 10µS...200 mS – Temperature 0...60 °C	50004022
VPT SOIL EC CELL	Conductivity cell with temperature sensor integrated and penetration tip, C=1, for soil measurement, cable 1,5 m. Measuring range 10 µS...50 mS	50004082

BUFFER SOLUTIONS

With certificate of analysis downloadable from www.xsinstruments.com

○ SACHETS 25 ml

Name	Description	p/n
EC 1413 µS/cm (25°C)	Pack of 20 sachets, with certificate of analysis	51102053
EC 12880 µS/cm (25°C)	Pack of 20 sachets, with certificate of analysis	51102063
SET CAL COND	Includes 10 x EC 1.413 µS and 10 x EC 12.880 µS	51102223
COND REPLACEMENT	Includes 7 x EC 1.413 µS, EC 12.880 µS and 6 x deionized H2O	51102253
H2O	Pack of 20 sachets of deionized water	51102093



○ BOTTLE 500 ml , with calibration compartment

Name	Description	p/n
84 µS/cm (25°C)	N.I.S.T. Accuracy ±1%	51100613
147 µS/cm (25°C)	N.I.S.T. Accuracy ±1%	51100623
1413 µS/cm (25°C)	1278 µS/cm (20°C) – N.I.S.T. Accuracy ±1%	51100633
12.880 µS/cm (25°C)	11670 µS/cm (20°C) – N.I.S.T. Accuracy ±1%	51100643



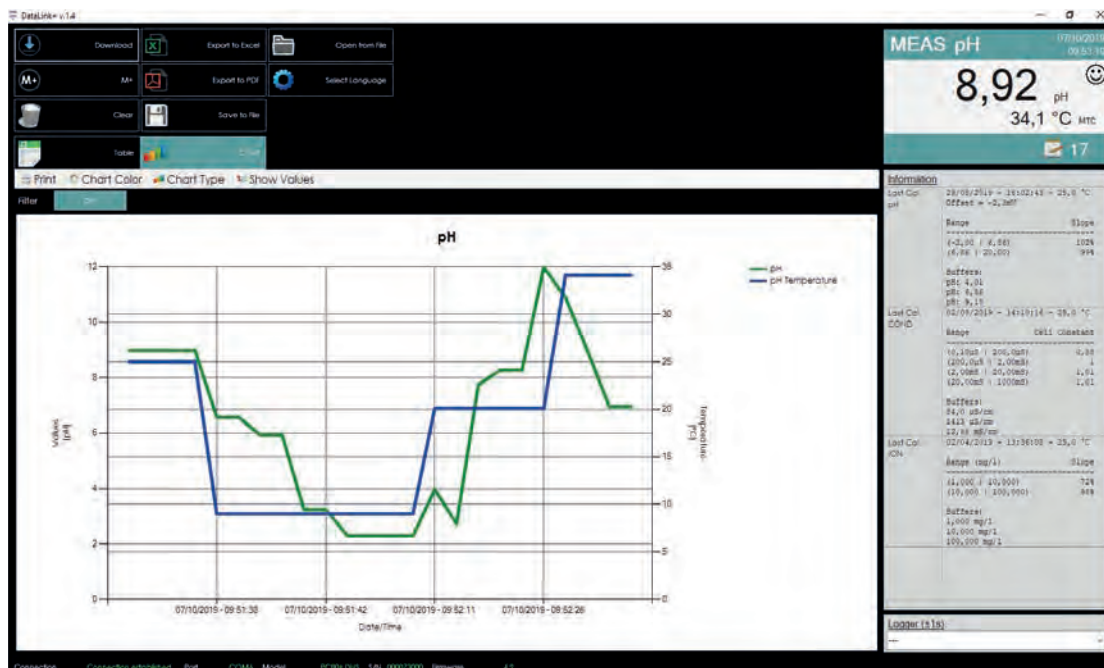
TEMPERATURE SENSOR

Name	Description	p/n
NT 55 TEMPERATURE SENSOR	Temperature sensor for XS VioLab series	50002012

ACCESSORIES

Name	Description	p/n
ST 10 MAGNETIC STIRRER	Magnetic stirrer, adjustable speed, with rechargeable batteries, magnetic bar and power supply.	50000132
ELECTRODE HOLDER MOD: 3900	Flexible electrode holder	50000112
PRINTER	External printer with normal paper for XS 8 / 80 SERIES XS VIOLAB 60 power supply and RS 232 cable	50001502
POWER SUPPLY VIO - PORTABLE	Power supply and cable for XS Vio portable series	50010172
POWER SUPPLY VIOLAB - BENCHTOP	Power supply and cable for XS VioLab benchtop series	50001052

DATA LINK +



On the software are shown all the informations about the instruments and calibrations, like slope and offset. It is possible to view all saved data in graphic form, to see the trend, or in table form. It is also possible to export datas in Excel and in PDF.

On the top right corner the real time view allows to check measurement directly on the PC.

Multilanguage: English - Italian - French - German - Spanish - Czech.

And then there are a lot of functions for the remote control of the instruments, like data saving and memory reset.

Software **Data Link +** available for free on our website www.xsinstruments.com.



Brochures **XS Vio** and **XS VioLab** are available on our website www.xsinstruments.com

MULTIPARAMETER

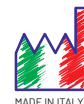


PORTABLE
INSTRUMENTS

WARRANTY
5
YEARS

BENCHTOP
INSTRUMENTS

WARRANTY
3
YEARS



HOW TO CHOOSE

	Violab PC50	Violab PC 60	PC 8+	PC 80+
pH Resolution	0,01 pH	0,01 pH	0,01 pH	0,001 pH
ION	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
COND e TDS	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Salinity	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Resistivity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Ultra pure water compensation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Display	colour backlit LCD	colour backlit LCD	colour graphic	colour graphic
Analogic view	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
GLP Calibration	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Calibration password	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Calibrations points	3	3	3	5
Calibration due alarm	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Electrode status indication	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Data logger	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
PC / Printer connection	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Multilanguage	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Online guide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
External keyboard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

PC 80+ DHS

- Resolution 0,1 / 0,01 / 0,001 pH - 0,01 μ S
- Backlit coloured high-definition **graphic display**.
- Data logger** auto and manual, up to 1000 savings in GLP
- On line guide** multilanguage
- Alphanumeric **password**
- Graphic **calibration report**

MAIN FEATURES

Simultaneous view of pH/COND and temperature.

Automatic calibration up to 5 pH points according GLP with date and time. IP54 keyboard.

Selectable buffers NIST, USA, DIN or custom (5 values). ISE calibration up to 5 points.

Calibration report and innovative graphic view of the status of the sensor.

Calibration points indications.

Automatic and manual EC calibration with 4 standard recognition (84; 1413 μ S, 12,88 and 111 mS) up to 4 points with calculation of the different cell constants and a standard defined by the user.

Automatic scale. Reference temperature (15...30°C).

Linear temperature coefficient (0,00...10,00%) and non linear for ultra pure water. Selectable cell constant (C = 0,1- 1- 10,0).

Calibration points indications.

Intuitive menu. **Multilanguage menu**.

Entering company data, operator ID, sample ID and sensor ID via external keyboard (included).

Functions for setting alarms and analog format, "Hold reading" and "Stability" with titration and timed stability mode for ISE.

Calibration due alarm, self-diagnosis messages.

Alphanumeric password for calibration management and memory reset.

2 USB outputs for external keyboard connection (included) and PC. RS232 port for printer connection.

Magnetic stirrer with independent control. Quick manual online.

Data Link software freely downloadable from www.xsinstruments.com.

Measuring range:

pH: -2,000...20,000 (0,001 pH)

mV: -2000...+2000 (0,1 mV)

ISE: 0.001...19999 ppm

Cond: 0,0 μ S ...1000 mS (0,1 μ S - automatic)

Resistivity: 1 Ω ...10 M Ω

Salinity: 0,01...100,0 ppt

TDS: 0,1 mg/l...500,0 g/l

Temperature: -20...120,0 °C (0,1 °C)

Equipped with:

S7/BNC cable, temperature sensor NT 55, electrode holder, buffer solutions, USB cable and power supply.



Name	Description	p/n
PC 80+DHS STIRRER	Complete with pH XS Standard DHS, EC cell VPT 1 glass/platinum (C=1) with temperature sensor incorporated, magnetic stirrer with adjustable speed.	50004232
PC 80+DHS STIRRER	Complete with pH XS Standard, EC cell VPT 1 glass/platinum (C=1) with temperature sensor incorporated, magnetic stirrer with adjustable speed.	50004242
PC 80+DHS STIRRER	Without pH electrode, conductivity cell VPT 1 glass/platinum (C=1) with temperature sensor incorporated, magnetic stirrer with adjustable speed.	50004252
PC 80+DHS STIRRER	With pH electrode XS Standard, without conductivity cell, magnetic stirrer with adjustable speed.	50004262
PC 80+DHS STIRRER	Without pH electrode, and without conductivity cell, with magnetic stirrer with adjustable speed.	50004272

PC 8 + DHS

- Resolution 0,1 / 0,01 pH - 0,01 μ S
- Backlit coloured high-definition **graphic display**.
- Automatic** and manual **temperature compensation**
- Data logger** auto and manual, up to **1000 savings** in GLP

MAIN FEATURES

Digital bench multi parameter **pH, mV, COND, TDS, Salinity, temperature**.
IP54 keyboard.

Simultaneous display of pH / COND and Temperature.

Automatic pH calibration from 1 to 3 points according to GLP with date and time.

Selectable buffer NIST, USA or custom (2 values).

Calibration report and innovative graphic view.

Calibrated points indication.

Automatic and manual conductivity calibration with recognition of 4 standards (84; 1413 μ S, 12.88 and 111 mS) from 1 to 4 points with calculation of the different cell constants and a standard defined by the user.

Automatic scale, Reference temperature (15... 30 °C),

Linear temperature coefficient (0.00 ... 10.00%), selectable cell constant (C = 0.1- 1- 10.0).

Calibrated points indication.

Manual and automatic **Data Logger** function, **up to 1000 savings with date / time** according to GLP.

Intuitive parameter management via icons. Multilanguage menu.

Functions for setting alarms and displaying in analog format, "Hold-reading" and "Stability" with titration mode, calibration due alarm, self-diagnosis messages.

USB output for PC connection and RS232 port for printer connection.

Numeric password for calibration management and memory deletion. Magnetic stirrer with independent control.

Data Link software freely downloadable from www.xsinstruments.com.

Measuring range:

pH: -2,00...20,00 (0,01 pH)

mV: -2000...+2000 (0,1 mV)

Temperature: -10...110,0 °C (0,1 °C)

Cond: 0,0 μ S ...200 mS (automatic)

Salinity: 0,01...100,0 ppt

TDS: 0,1 mg/l...100,0 g/l

Equipped with:

S7/BNC cable, temperature sensor NT 55, electrode holder, buffer solutions, USB cable and power supply.

Name	Description	p/n
PC 8 + DHS STIRRER	Complete with pH XS Standard DHS, EC cell VPT 1 glass/platinum (C=1) with temperature sensor incorporated, magnetic stirrer with adjustable speed.	50004132
PC 8 + DHS STIRRER	Complete with pH XS Standard, EC cell VPT 1 glass/platinum (C=1) with temperature sensor incorporated, magnetic stirrer with adjustable speed.	50004142
PC 8 + DHS STIRRER	Without pH electrode, conductivity cell VPT 1 glass/platinum (C=1) with temperature sensor incorporated, magnetic stirrer with adjustable speed.	50004152
PC 8 + DHS STIRRER	With pH electrode XS Polymer, without conductivity cell, magnetic stirrer with adjustable speed.	50004162
PC 8 + DHS STIRRER	Without pH electrode, and without conductivity cell, with magnetic stirrer with adjustable speed.	50004172

ACCESSORIES 8 / 80

Name	Description	p/n
PRINTER	External printer, normal paper with RS 232 cable	50001502
STIRRER	Magnetic stirrer with adjustable speed for 8+ e 80+ Series, complete with electrode holder and connecting cable	50001132
IQ-OQ MANUAL 8 SERIES	Paper IQ-OQ manual for XS 8 Series	50001472

PC 60 *Viola*lab **NEW**

- Resolution 0,1 / 0,01 pH - 0,01 μ S
- Automatic and manual **temperature compensation**
- **Data logger** auto and manual , up to 1000 savings in GLP
- PC/Printer connection
- DHS digital sensors management.

MAIN FEATURES

Professional bench meters with innovative **backlit high definition coloured LCD display**, with possibility of brightness adjustment.

Management of DHS digital sensors.

Possibility to select the parameters to show on the display.

The **step by step guide** in setup and calibration allows a simple and immediate use of the device.

Automatic pH calibration with USA and NIST buffers, up to 3 points and 2 points defined by the user.

Automatic ORP calibration on 1 point.

Automatic conductivity calibration up to 5 points (84; 147; 1413 μ S e 12,88; 111,8 mS) and 1 point custom.

Automatic resolution, reference temperature from 15 to 30 °C, and selectable cell constant (C= 0,1; 1; 10).

Indication of the calibrated points, with icons.

Measurement **stability indication** and possibility to select 3 stability levels.

All operations are constantly monitored and shown to the operator by the **coloured LED** above the display and self-diagnosis messages.

GLP function: Date and time, recall of calibration data and function "Calibration due".

Data logger up to 1000 savings, manual and automatic, PC connection via **micro-USB**.

Data-Link + software available from www.xsinstruments.com.

RS 232 external **printer connection**

Measuring range:

pH: -2,00...16,00 (0,01 pH)

mV: -1000...+1999 mV (0,1 mV)

Cond: 0,0 μ S ...200 mS (0,01 μ S - automatic)

Salinity: 0,1 ppm ... 100 ppt

TDS: 0,01 mg/l...200,0 g/l

Temperature: -10...110,0 °C (0,1 °C).

Equipped with:

Electrode holder stand, pH and conductivity buffer solutions, USB cable, power supply and user manual.



Name	Description	p/n
PC 60 VIOLAB DHS ELECTRODE	Complete with digital pH electrode XS 201 T DHS and conductivity cell 2301T (C=1), both with integrated temperature sensor	50103942
PC 60 VIOLAB ANALOGIC ELECTRODE	Complete with pH electrode XS 201 T and conductivity cell 2301T (C=1), both with integrated temperature sensor	50103952
PC 60 VIOLAB WITHOUT ELECTRODE	With conductivity cell 2301T (C=1), accessories, cable S7-BNC and temperature sensor NT 55 Without pH electrode	50103972

PC 50 *Violab* **NEW**

- Resolution 0,1 / 0,01 pH - 0,01 μ S
- Automatic and manual **temperature compensation**
- DHS digital sensors management.

MAIN FEATURES

Professional bench meters with innovative **backlit high definition coloured LCD display**, with possibility of brightness adjustment.

Possibility to select the parameters to show on the display.

The **step by step guide** in setup and calibration allows a simple and immediate use of the device.

Automatic pH calibration with USA and NIST buffers, up to 3 points and 2 points defined by the user.

Automatic ORP calibration on 1 point.

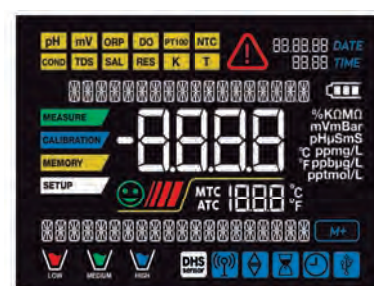
Automatic conductivity calibration up to 5 points (84; 147; 1413 μ S e 12,88; 111,8 mS) and 1 point custom.

Automatic resolution, reference temperature from 15 to 30 °C, and selectable cell constant (C= 0,1; 1; 10).

Indication of the calibrated points, with icons.

Measurement stability indication and possibility to select 3 stability levels.

All operations are constantly monitored and shown to the operator by the **coloured LED** above the display and self-diagnosis messages.



Coloured backlit LCD display

Measuring range:

pH: 0,00...14,00 (0,01 pH)

mV: -1000...+1000 (0,1 mV)

Cond: 0,0 μ S ...200 mS (0,01 μ S - automatic)

TDS: 0,01 mg/l...200,0 g/l

Temperature: 0...100,0 °C (0,1 °C).

Equipped with:

Electrode holder stand, pH and conductivity buffer solutions, power supply and user manual.

Name	Description	p/n
PC 50 VIOLAB DHS ELECTRODE + CELL	Complete with digital pH electrode XS 201 T DHS and conductivity cell 2301T (C=1), both with integrated temperature sensor	50103892
PC 50 VIOLAB ELECTRODE + CELL	Complete with pH electrode XS 201 T and conductivity cell 2301T (C=1), both with integrated temperature sensor	50103902
PC 50 VIOLAB WITHOUT ELECTRODE	With conductivity cell 2301T (C=1), accessories, cable S7-BNC and temperature sensor NT 55 Without pH electrode	50103912

PC 70 Vio **NEW**

- Resolution 0,1 / 0,01 pH - 0,01 μ S
- Automatic and manual **temperature compensation**
- **Data logger** auto and manual , up to 1000 savings in GLP
- GLP function
- DHS digital sensors management.

MAIN FEATURES

Professional portable multiparameter with **innovative high-resolution colour display**, suitable to work in any conditions, thanks to the automatic and manual brightness adjustment.

Possibility to select the parameters you want to show.

The **step by step guide** in setup and calibration mode allows a simple and intuitive use of the device.

Automatic pH calibration with USA and NIST buffers up to 3 points and 2 points custom defined by the user.

Automatic ORP calibration in 1 point.

Automatic calibration of conductivity up to 5 points and 1 point custom defined by the user.

Adjustable reference temperature and selectable cell constant.

Indication with icons of the calibrated points.

Measurement **stability indicator** and possibility of selecting 3 levels of stability.

All operations and errors are constantly monitored and shown to the operator via the **coloured LED** above the display.

GLP function: Date and time, recall of calibration data and function "Calibration due".

Data logger up to 1000 savings, manual and automatic, PC connection via micro-USB.

Data-Link + software available from www.xsinstruments.com.



PC 70 Vio Kit

Measuring range

pH: -2,00...16,00 (0,01 pH)

mV: -1000...+1900 (0,1 mV)

Cond: 0,01 μ S ... 200 mS (0,01 μ S - automatic)

Salinity: 0,1 ppm ... 100 ppt

TDS: 0,01 mg/l ... 200 g/l

Temperature: -10...110,0 °C (0,1 °C)

Equipped with:

Field support with 3 holes for electrodes, coloured buffer solutions of pH and conductivity, USB cable and power supply, instructions for use and plastic carrying case.

Name	Description	p/n
PC 70 VIO DHS ELECTRODE + CELL	With digital pH electrode 201 T DHS and conductivity cell 2301T, both with integrated temperature sensor and cable 1 m	50110872
PC 70 VIO ELECTRODE + EC CELL	With pH electrode 201 T and conductivity cell 2301T, both with integrated temperature sensor and cable 1 m	50110812
PC 70 VIO ONLY EC CELL	Without pH electrode. With conductivity cell 2301 T, temperature sensor NT55, S7-BNC cable and accessories	50110822

PC 7 *vio* **NEW**

- Resolution 0,1 / 0,01 pH - 0,01 μ S
- Automatic and manual **temperature compensation**
- DHS digital sensors management.

MAIN FEATURES

Professional portable multiparameter with **innovative high-resolution color display**, suitable to work in any conditions, thanks also to the possibility to adjust automatically and manually contrast and brightness of the display.

Possibility to select the parameters you want to show.

The **step by step guide** in setup and calibration mode allows a simple and intuitive use of the device.

Automatic pH calibration with USA and NIST buffers up to 3 points and 2 points custom defined by the user.

Automatic ORP calibration in 1 point.

Automatic calibration of conductivity up to 5 points and 1 point custom defined by the user.

Adjustable reference temperature and selectable cell constant.

Indication with icons of the calibrated points.

Measurement **stability indicator** and possibility of selecting 3 levels of stability.

All operations and errors are constantly monitored and shown to the operator via the **coloured LED** above the display.

Measuring range:

pH: 0,00...14,00 (0,01 pH)

mV: -1000...+1000 (0,1 mV)

Cond: 0,01 μ S ... 200 mS (0,01 μ S - automatic)

TDS: 0,01 mg/l ... 200 g/l

Temperature: 0...100,0 °C (0,1 °C)

Equipped with:

Field support with 3 holes for electrodes, coloured buffer solutions of pH and conductivity, instructions manual and plastic carrying case.



Connectors protected by the semitransparent case

Name	Description	p/n
PC 7 VIO DHS ELECTRODE + CELL	With digital pH electrode 201 T DHS and conductivity cell 2301T, both with integrated temperature sensor and cable 1 m	50110752
PC 7 VIO ELECTRODE + EC CELL	With pH electrode 201 T and conductivity cell 2301T, both with integrated temperature sensor and cable 1 m	50110712
PC 7 VIO ONLY EC CELL	Without pH electrode. With conductivity cell 2301 T, temperature sensor NT55, S7-BNC cable and accessories	50110722

PC ACCESSORIES

pH ELECTRODES

Name	Description	p/n
XS STANDARD DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Glass body and cylindrical membrane for general applications. Refillable KCl 3M electrolyte. Excellent chemical resistance and easy to clean. Included with serial number and certificate. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...100 °C	32200123
XS STANDARD PH ELECTRODE	pH Electrode combined with S7 head. Glass body, for general use. Refillable KCl 3M Electrolyte. Excellent chemical resistance and easy to clean. With serial number and certificate. Dimensions (LxØ) mm 120x 12 - pH 0...14 - Temperature -10...100 °C.	32200363
XS POLYMER S7	Combined pH Electrode S7 head . Glass Body for general use. Cylindrical membrane. Polymer filling, open pore. For a fast response with high accuracy in samples that might contaminate normal diaphragms. Maintenance-free. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...80 °C	32200223
201 T DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Plastic body for general use. Gel Filling, ceramic diaphragm. Maintenance-free. Dimensions (LxØ) mm 120x12. pH 0...14 - Temperature 0...60 °C	32200103
201 T PH ELECTRODE	Combined pH electrode with NTC temperature sensor integrated. Epoxy body for general applications. Polymer filling with ceramic diaphragm. Maintenance-free. Fixed cable 1 mt., BNC + RCA plug. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature 0...60 °C	50002002
201 T / 5 PH ELECTRODE	Combined pH electrode with NTC temperature sensor integrated. Epoxy body for general applications. Polymer filling with ceramic diaphragm. Maintenance-free. Fixed cable 5 mt., BNC + RCA plug. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature 0...60 °C	50002022

CONDUCTIVITY CELLS

Name	Description	p/n
VP 1 EC CELL	Cell in glass body with platinum plates C=1, fixed cable 1 mt. with BNC plug. Measuring range: 10µS...10 mS - Temperature 0...80 °C	50004062
VPT 1 EC CELL	Cell in glass body with platinum plates C=1, with temperature sensor integrated. Fixed cable 1 mt., BNC + RCA Cinch plug. Measuring range: 10µS...100 mS - Temperature 0...80 °C	50003352
VPT 01 EC CELL	Steel and PVC cell, C=0,1, with temperature sensor integrated. Fixed cable 1 mt., BNC + RCA plug. Measuring range: 0,1µS...1 mS - Temperature 0...60 °C	50004012
VPT 10 EC CELL	Cell in glass body with platinum plates C=10, temperature sensor integrated, fixed cable 1 mt. BNC + RCA Cinch plug. Measuring range: 100µS...200 mS..	50004072
VPT 10 H EC CELL	Cell in glass body with platinum plates C=10, temperature sensor integrated, fixed cable 1 mt. BNC + RCA Cinch plug. Measuring range: 100µS...500 mS. Only for XS COND 80+	50003372
2301 T EC CELL	Cell in epoxy body C=1, with temperature sensor integrated. Fixed cable 1 mt. BNC+RCA cinch plug. Measuring range: 10µS...200 mS - Temperature 0...60 °C	50004002
2301 T / 5 EC CELL	Cell in epoxy body C=1, with temperature sensor integrated. Fixed cable 5 mt. BNC+RCA cinch plug. Measuring range: 10µS...200 mS - Temperature 0...60 °C	50004022

TEMPERATURE SENSORS

Name	Description	p/n
NT 55 TEMPERATURE SENSOR	Temperature sensor NTC 30K for liquids and air	50002012
NT 7P TEMPERATURE SENSOR	Temperature sensor NTC 30K at penetration temp. sensor, diameter 4 mm, fixed cable 1 m	50011122

REDOX SENSORS

Name	Description	p/n
REDOX SENSOR	Electrode in epoxy body. Gel filling, double junction, maintenance-free. Ceramic diaphragm. Cable S7-BNC, 1 m. Dimensions (LxØ) mm 120X12 Measuring range: ± 1.000 mV, temperature 0...60 °C	32105302
REDOX / 5 SENSOR	Electrode in epoxy body. Gel filling, double junction, maintenance-free. Ceramic diaphragm. Cable S7-BNC, 5 m. Dimensions (LxØ) mm 120X12 Measuring range: ± 1.000 mV, temperature 0...60 °C	32105102

CONNECTION CABLE

Connecting cable with S7 head and BNC plug for XS pH-meter.
Diameter 3 mm, length 1 m.

Name	Description	p/n
BNC	Cable S7-BNC 	33551733

CALIBRATION KIT - SACHETS BUFFER SOLUTIONS

Name	Description	p/n
SET CAL pH BIS	It contains 10 x pH 4.01 and 10 x pH 7.00, 25 ml	51102203
SET CAL pH TRIS	It contains 7 x pH 4.01, 7 x pH 7.00, 6 x pH 10.01, 25 ml	51102213
SET CAL COND	It contains 10 x EC 1.413 μ S and 10 x EC 12.880 μ S, 25 ml	51102223
SET CAL PC	It contains 7 x pH 4.01 and 7.00, 6 x EC 1.413 μ S, 25 ml	51102233
REPLACEMENT pH	It contains 6 x pH 4.01, pH 7.00, H ₂ O, and 2 x Storage, 25 ml	51102243
REPLACEMENT COND	It contains 7 x EC 1.413 μ S, EC 12.880 μ S and 6 x deionized H ₂ O, 25 ml	51102253
REPLACEMENT PC	It contains 5 x pH 4.01, pH 7.00 and 1.413 μ S, 3 x H ₂ O, 25 ml and 2 x Storage 10 ml	51102263
STORAGE	Storage solutions for electrodes 55 ml	32208043
STORAGE	Storage solutions for electrodes 500 ml	32208053

ACCESSORIES

Name	Description	p/n
ST 10 MAGNETIC STIRRER	Magnetic stirrer, adjustable speed, with rechargeable batteries, magnetic bar and power supply.	50000132
HOLDER MOD: 3900	Flexible electrode holder	50000112
PRINTER	External printer with normal paper for 60 / 8 / 80 Series, power supply and RS 232 cable	50001502

Oxy 70 Vio **NEW**

- High accuracy with **low oxygen level**
- High resolution backlit *coloured* LCD Display
- **Automatic compensation** of temperature and pressure.
- **Data logger** *auto and manual*, **up to 1000 savings** in GLP
- GLP with *date and time of the last calibration*.
- **Auto calibration** DO 0%-100%
- **Optical sensor** *maintenance free*.

MAIN FEATURES

Professional **portable oxymeter with innovative backlit high-resolution colour display** for excellent data view in all conditions thanks to the possibility of automatically and manually adjusting the contrast and lighting of the display.

The guide onboard in setup and calibration mode allows a simple and intuitive use of the device.

Automatic calibration up to two points (0% - 100%).

Automatic compensation of temperature and barometric pressure, manual salinity.

Measurement stability indicator and possibility to select 3 stability levels.

All operations are constantly monitored and reported to the operator via the coloured LED above the display and the self-diagnosis messages.

GLP function: Date and time, recall of calibration data and function "Calibration due".

Data logger up to 1000 savings, manual and automatic, PC connection via micro-USB.

Data-Link + software available from www.xsinstruments.com.

Measuring range:

DO: 0,0...50 mg/l (0,01 / 0,1 mg/l)

Saturation: 0,0...400 % (0,1 / 1 %)

Barometric pressure: 0...1100 mbar

Temperature: -10...+110,0 °C

Equipped with:

0 Oxygen standard, , USB cable and power supply, user manual and plastic carrying case.



Optical sensor

Name	Description	p/n
OXY 70 VIO 2 mt	Complete with optical sensor OXY LD070, with temperature sensor integrated. Cable length: 2 m	50110302
OXY 70 VIO 10 mt	Complete with optical sensor OXY LD070, with temperature sensor integrated. Cable length: 10 m	50110312
LD070 / 2mt SENSOR	Optical sensor for OXY 70 Vio, with temperature sensor integrated. Cable 2 mt.	50010342
LD070 / 10mt SENSOR	Optical sensor for OXY 70 Vio, with temperature sensor integrated. Cable 10 mt	50010352
MEMBRANE	Replacement membrane for LD070	50010362
ARMOR STEEL	Steel armor for LD070 / 10 mt	50010372

Oxy 7 Vio **NEW**

- High resolution backlit *coloured* LCD Display
- Automatic compensation of temperature and pressure.
- Auto calibration DO 0%-100%
- Automatic resolution of the measure
- Polarographic sensor
- Polarization timer

MAIN FEATURES

Professional portable oxymeter with **innovative backlit high-resolution colour display** for excellent data view in all conditions thanks to the possibility of automatically and manually adjusting the contrast and lighting of the display.

The **step by step guide** in setup and calibration mode allows a simple and intuitive use of the device.

Automatic calibration up to two points (0% - 100%).

Automatic compensation of temperature and barometric pressure, manual salinity. Measurement **stability indicator** and possibility to select 3 stability levels.

All operations are constantly monitored and reported to the operator via the **coloured LED** above the display and the self-diagnosis messages.

Measuring range:

DO: 0,0...50 mg/l (0,01 / 0,1 mg/l)

Saturation: 0,0...400 % (0,1 / 1 %)

Barometric pressure : 0...1100 mbar (1 mbar)

Temperature: 0...+100,0 °C

Equipped with:

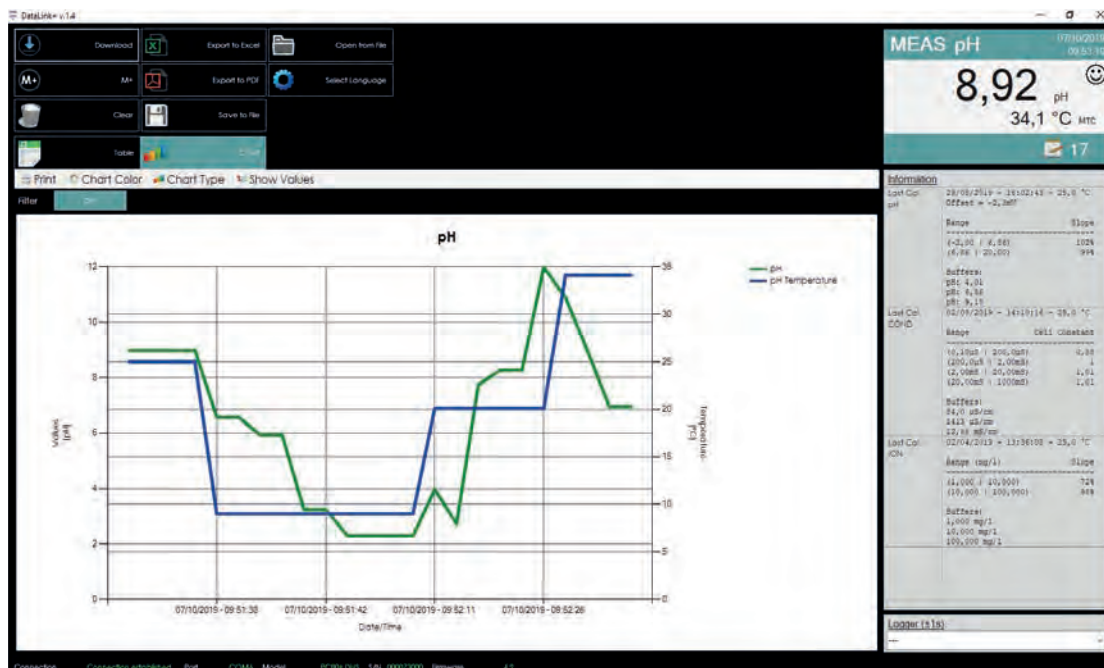
0 Oxygen standard, replacement membrane, user manual and plastic carrying case.



Polarographic sensor

Name	Description	p/n
OXY 7 VIO COMPLETE	Complete with polarographic sensor D07/3MT with temperature sensor integrated, cable length 3 m, 2 replacement membranes, refill solution (30ml), 0 Oxygen standard, user manual and carrying case	50110202
OXY 7 VIO ECO	Only instrument without oxygen sensor, in Ecopack with user manual.	50110212
D07 / 3mt SENSOR	Polarographic sensor, with temperature sensor incorporated. Cable 3m, 2 replacements membranes, refill solution (30ml)	50010242
MEMBRANE	Kit 2 replacement membranes for D07/3MT	50010252
ELECTROLYTE	Refill solution for D07/3MT (30 ml)	50010262
ARMOR PPE	PPE armor for D07/3MT	50010282
0% STANDARD	0 Oxygen standard - 1 bottle	50010292
0% STANDARD	0 Oxygen standard - 5 bottles pack	50010272

DATA LINK +



On the software are shown all the informations about the instruments and calibrations, like slope and offset. It is possible to view all saved data in graphic form, to see the trend, or in table form.

It is also possible to export datas in Excel and in PDF.

On the top right corner the real time view allows to check measurement directly on the PC.

Multilanguage: English - Italian - French - German - Spanish - Czech.

And there a lot of functions for the remote control of the instruments, like data saving and memory reset.

Software **Data Link +** available for free on our website www.xsinstruments.com.



Brochures **XS Vio** and **XS VioLab** are available on our website www.xsinstruments.com

BUFFER SOLUTIONS



XS GREEN LINE SOLUTIONS

CALIBRATION AND QUALITY

pH and conductivity measurements and redox potential are routine operations in most laboratories and processes. Reliability and accuracy of measurements are essential for the quality control. The XS Green Line Solutions range suits your needs and guarantees an impeccable calibration.



XS PROFESSIONAL

ASSURANCE AND ACCREDITATION

The more accurate the pH and conductivity measurements are, the more reliable the calibration solutions are. XS Professional solutions are a guarantee of metrological traceability of your measurement chain and are ideal for regulated areas. Traceability is ensured by the certifications of accredited external calibration laboratories UNI CEI EN ISO/IEC 17025. pH buffer solutions are DKD-DAkkS certified by calibration at the ZMK Zentrum für Messen und Kalibrieren. Conductivity standards are DANAK certified by calibration at the DFM Danish Institute of Fundamental Metrology. Upon request, it is available the Certification Report in accordance to ISO 17034.



XS BASIC

TRACEABILITY AND RELIABILITY

XS standard solutions are traceable to the IUPAC pH scale, using an unbroken chain of comparisons directly to NIST Standard Reference materials. Each solution is provided with the Certificate of Analysis of the GIORGIO BORMAC internal Laboratory, which guarantees quality, traceability and accuracy. XS Basic solutions are your perfect partner to verify your sensors and measurement systems every day.

XS PROFESSIONAL pH

All solutions are ISO 9001 - DAkkS/DKD certified (ACCREDIA equivalent).
The analysis certificate is always supplied free of charge.

○ BOTTLE 250 ml

Name	Description	p/n
pH 4.01	±0,01 / 25°C - Red	51300003
pH 7.00	±0,01 / 25°C - Green	51300013
pH 9.21	±0,02 / 25°C - Blue	51300023
pH 10.01	±0,02 / 25°C - Yellow	51300033

○ BOTTLE 500 ml

Name	Description	p/n
pH 4.01	±0,01 / 25°C - Red	51300103
pH 7.00	±0,01 / 25°C - Green	51300113
pH 9.21	±0,02 / 25°C - Blue	51300123
pH 10.01	±0,02 / 25°C - Yellow	51300133

XS PROFESSIONAL COND

With DFM (Accredia equivalent) and N.I.S.T traceability,
The Certificate is available on our website: www.xsinstruments.com



○ BOTTLE 300 ml Glass

Name	Description	p/n
1,3 µS/cm (25°C)	DFM. Accuracy ±0,1µS	51300303
5,0 µS/cm (25°C)	DFM. Accuracy ±0,1µS	51300313

○ BOTTLE 500 ml with built-in calibration compartment

Name	Description	p/n
84 µS/cm (25°C)	DFM. Accuracy ±1%	51300323
147 µS/cm (25°C)	DFM. Accuracy ±1%	51300333
1413 µS/cm (25°C)	1278 µS/cm (20°C) - DFM. Accuracy ±1%	51300343
12.880 µS/cm (25°C)	11670 µS/cm (20°C) - DFM. Accuracy ±1%	51300353

XS BASIC

BUFFER SOLUTIONS IN SACHETS

WITH N.I.S.T. TRACEABILITY.



○ SINGLE BUFFER

Name	Description	p/n
pH 4.01 (25°C)	Pack of 20 sachets 25 ml, red, with certificate of analysis	51102013
pH 7.00 (25°C)	Pack of 20 sachets 25 ml, green, with certificate of analysis	51102023
pH 10.01 (25°C)	Pack of 20 sachets 25 ml, with certificate of analysis	51102043
EC 1413 µS/cm (25°C)	Pack of 20 sachets 25 ml, with certificate of analysis	51102053
EC 12880 µS/cm (25°C)	Pack of 20 sachets 25 ml, with certificate of analysis	51102063
STORAGE	Pack of 20 sachets 10 ml, pH/ORP Sensor Storage Solution	51102083
H2O	Pack of 20 sachets 25ml, Distilled water for sensor cleaning	51102093

○ CALIBRATION SET

Name	Description	p/n
SET CAL pH BIS	Pack of 20 sachets 25ml (10 x pH 4.01 and 10 x pH 7.00)	51102203
SET CAL pH BIS	Pack of 20 sachets 25ml (7 x pH 4.01, 7 x pH 7.00 and 6 x pH 10.01)	51102213
SET CAL COND	Pack of 20 sachets 25ml (10 x EC 1.413 µS and 10 x EC 12.880 µS)	51102223
SET CAL PC	Pack of 20 sachets 25ml (7 x pH 4.01, 7 x pH 7.00 and 6 x EC 1.413 µS)	51102233
REPLACEMENT pH	Pack of 20 sachets 25ml (6 x pH 4.01, 6 x pH 7.00, 6 x H2O distilled water and 2x Storage 10 ml)	51102243
REPLACEMENT COND	Pack of 20 sachets 25ml (7 x EC 1.413 µS, 7 x EC 12.880 and 6 x H2O distilled water)	51102253
REPLACEMENT PC	Pack of 20 sachets 25ml (5 x pH 4.01, 5 x pH 7.00, 5 x 1.413 µS, 3 x H2O distilled water and 2 x Storage 10 ml)	51102263



DISPOSABLE BOTTLE 55 ml

Name	Description	p/n
pH 4,01	±0,01 / 25°C - Red	32383123
pH 7,00	±0,01 / 25°C- Green	32383133
pH 9,00	±0,02 / 25°C- Blue	32383143
pH 10,00	±0,02 / 25°C- - Uncoloured	32382903
465 mV	± 5mV / 25°C- Yellow	32383163
475 mV	± 5mV / 25°C- Yellow	32383153
EC 84 µS/cm	± 1% / 25°C - Uncoloured	60000613
EC 1413 µS/cm	± 1% / 25°C - Uncoloured	60000423
EC 12880 µS/cm	± 1% / 25°C - Uncoloured	60000433

pH BUFFERS

With N.I.S.T traceability.

The Certificate is available on our website: www.xsinstruments.com

○ BOTTLE 250 ml with built-in calibration compartment

Name	Description	p/n
pH 4,01	±0,01 / 25°C - Red	51100033
pH 7,00	±0,01 / 25°C - Green	51100043
pH 9,00	±0,02 / 25°C - Blue	51100053
pH 9,21	±0,02 / 25°C - Blue	51100073
pH 10,01	±0,02 / 25°C - Uncoloured	51100063



○ BOTTLE 500 ml with built-in calibration compartment

Name	Description	p/n
pH 4,01	±0,01 / 25°C - Red	51100133
pH 7,00	±0,01 / 25°C - Green	51100143
pH 9,00	±0,02 / 25°C - Blue	51100153
pH 9,21	±0,02 / 25°C - Blue	51100173
pH 10,01	±0,02 / 25°C - Uncoloured	51100163



○ POLITAINER 5000 ml (5 L)

Name	Description	p/n
pH 4,01	±0,01 / 25°C - Red	51100233
pH 7,00	±0,01 / 25°C - Green	51100243
pH 9,00	±0,02 / 25°C - Blue	51100253
pH 9,21	±0,02 / 25°C - Blue	51100273
pH 10,01	±0,02 / 25°C - Uncoloured	51100263

CONDUCTIVITY STANDARD

With N.I.S.T traceability and certificate downloadable from our website: www.xsinstruments.com

○ BOTTLE 300 ml glass

Name	Description	p/n
1,3 µS/cm (25°C)	N.I.S.T. Accuracy $\pm 0,1\mu\text{S}$	51100503
5,0 µS/cm (25°C)	N.I.S.T. Accuracy $\pm 0,1\mu\text{S}$	51100513



○ BOTTLE 500 ml with built-in calibration compartment

Name	Description	p/n
84 µS/cm (25°C)	N.I.S.T. Accuracy $\pm 1\%$	51100613
147 µS/cm (25°C)	N.I.S.T Accuracy $\pm 1\%$	51100623
1413 µS/cm (25°C)	1278 µS/cm (20°C) - N.I.S.T. Accuracy $\pm 1\%$	51100633
12.880 µS/cm (25°C)	11670 µS/cm (20°C) - N.I.S.T. Accuracy $\pm 1\%$	51100643



REDOX / ORP STANDARD

with built-in calibration compartment

Certificate downloadable from our website: www.xsinstruments.com

Name	Description	p/n
200 mV (25°C)	$\pm 5\text{mV}$ Bottle 250 ml	51100303
465 mV (25°C)	$\pm 5\text{mV}$ Bottle 55 ml	32383163
475 mV (25°C)	$\pm 5\text{mV}$ Bottle 250 ml	51100313
475 mV (25°C)	$\pm 5\text{mV}$ Bottle 500 ml	51100323
650 mV (25°C)	$\pm 5\text{mV}$ Politainer 5 l	51100333

CLEANING AND MAINTENANCE SOLUTIONS

Name	Pack	p/n
Solution 3M KCL	55 ml	32208003
Solution 3M KCL	500 ml	32208013
Solution GLYCERIN-KCl	55 ml	32208023
Solution KNO ₃ 1M for Electrode STANDARD Ag	55 ml	32208033
Solution STORAGE for Electrodes	55 ml	32208043
Solution STORAGE for Electrodes	500 ml	32208053
Solution PROTEINS CLEANING (PEPSIN) for FOOD application Electrodes	55 ml	32208063
Solution PROTEINS CLEANING (PEPSIN) for FOOD application Electrodes	250 ml	32208093
Solution DIAPHRAGM CLEANING (THIOUREA)	55 ml	32208073
Solution DIAPHRAGM CLEANING (THIOUREA)	250 ml	32208103
Solution REGENERATION (with HF) for pH Electrodes	55 ml	32208083



Brochures **XS Buffer solutions** is available on our website
www.xsinstruments.com

TESTER



WARRANTY
6
MONTHS
SENSOR

WARRANTY
1
YEAR
ELECTRONIC
PART



IP67
WATERPROOF



APPLICATIONS:

- FARMING
- WATER AND WASTEWATER TREATMENT
- HYDROPONIC CROPS AND AQUARIUMS
- ENVIRONMENTAL MONITORING
- POOLS AND THERMAL CENTERS
- FOOD AND BEVERAGE
- COOLING TOWER
- GALVANIC
- GRAPHIC INDUSTRY
- SCHOOLS

SELECTION GUIDE

	PX4	pH5	pH5FOOD	COND 5	ORP 5	PC 5	PC 6
pH	●	●	●	○	○	●	●
Redox	●	○	○	○	●	○	●
Conductivity	○	○	○	●	○	●	●
TDS	○	○	○	●	○	●	●
Salinity	○	○	○	●	○	●	●
Temperature	●	●	●	●	●	●	●
pH measuring range	-2 ... 16	-2 ... 16	-2 ... 16	-	-	-2...16	-2...16
Resolution	0.01	0.01	0.01	-	-	0.01	0.01
Calibration points	1...3	1...3	1...3	-	-	1...3	1...3
Stability indications	Yes	Yes	Yes	Yes	Yes	Yes	Yes
mV (pH) measuring range	-1000...+1900 mv	-1000...+1900 mv	-1000...+1900 mv	-	-	-1000 ...+1900mv	-1000...+1900 mv
Resolution	0.1 / 1 mv	0.1 / 1 mv	0.1 / 1 mv	-	-	0.1 / 1 mv	0.1 / 1 mv
mV (redox) range	-1000...+1900 mv	-	-	-	-1000...+1900 mv	-	-1000...+1900 mv
Resolution	0.1 / 1 mv	-	-	-	0.1 / 1 mv	-	0.1 / 1 mv
Calibration	1 point	-	-	-	1 point	-	1 point
COND measuring range	-	-	-	0,01uS...199,99 mS	-	0,01uS...199,99mS	0,01uS...199,99mS
Resolution	-	-	-	Auto	-	Auto	Auto
Calibratin point	-	-	-	1...3	-	1...3	1...3
Reference T	-	-	-	20 / 25 °C	-	20 / 25 °C	20 / 25 °C
TDS measuring range	-	-	-	0,01ppm...199,9ppt	-	0,01ppm...199,9ppt	0,01ppm...199,9 ppt
TDS factor	-	-	-	0.40 ... 1.00	-	0.40 ... 1.00	0.40 ... 1.00
Salinity measuring range	-	-	-	0,1 mg/l ... 100,0 g/l	-	0,1 mg/l...100,0 g/l	0,1 mg/l...100,0 g/l
Temperature range	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C	0 ... 60 °C
Display	3 colour	3 colour	3 colour	3 colour LCD	3 colour LCD	3 colour	3 colour
IP protection	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Sensor	Replaceable	Replaceable	Replaceable	Replaceable	Replaceable	Replaceable	Replaceable
Code	50014143	50014063	50014113	50014213	50014313	50014263	50014293



The KIT includes: sachets buffer solutions 25 ml, calibration cap, lanyard, tissue, quick manual and cardboard case.

pH 1

○ pH

MAIN FEATURES

IP67 watertight portable pH meter. Resolution 0.1 pH with microprocessor and fixed sensor. Push-button calibration on 1 or 2 points (choosing between pH 4, 7, 10). Wide LCD display with indication of the buffers used for calibration and measurement stability. **Automatic temperature compensation.** Auto power off function. **Self-diagnosis messages: low batteries, calibration errors.** Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too. 6-month warranty on electronic parts.

Measuring range: pH 0,0...14,0 (0,1 pH). Working temperature: 0..50°C

The KIT includes: standard buffer solutions sachets pH 7 and pH 4 , 25 ml, sachets storage solution, calibration cap, lanyard, tissue, quick manual and cardboard case.



Name	Description	p/n
pH 1 KIT	pH 1 Kit complete	50014013
pH 1 ECOPACK	pH 1, batteries 1,5 V AAA, lanyard, tissue	50014003

COND 1

○ Conductivity - TDS

MAIN FEATURES

IP67 watertight portable conductivity meter for Conductivity and TDS measurement. Indication of the buffers used for calibration and measurement stability. Auto power off function. Self-diagnosis messages. Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too. 6-month warranty on electronic parts.

Measuring range: COND 0,01 µS...200 mS; TDS 0,01 ppm...199,9 ppt. Working temperature: 0..50°C

The KIT includes: standard buffer solutions sachets 1413 µS e 12,88 mS 25 ml, lanyard, tissue, quick manual and cardboard case.



Name	Description	p/n
COND 1 KIT	COND 1 Kit complete	50014163
COND 1 ECOPACK	COND 1, batteries 1,5 V AAA, lanyard, quick manual	50014153

pH 5

○ pH - mV - T

MAIN FEATURES

IP67 watertight portable pH meter. Resolution 0,01 pH. Interchangeable electrode, temperature sensor and open partitions. **Wide 3-colour LCD display with indication of the buffers used for calibration and measurement stability.** Push-button calibration on 3 points with 5 values of USA buffers. mV reading for pH electrode diagnosis. **Temperature reading.** Auto power off function. **Automatic temperature compensation** (0...60 °C). Self-diagnosis messages: low batteries, calibration errors. Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too. 1 year warranty on electronic parts.

Measuring range: pH: -2,00...16,00 (Resolution 0,01 pH); mV: -1.000...+1.900 mV; °C: 0,0...60,0 (0,1 °C).

The KIT includes: 1 sachet x 25ml pH 7 and pH 4 buffer solution, 1 sachet of electrode storage solution, calibration cap, lanyard, tissue, quick manual and cardboard case.



Name	Description	p/n
pH 5 KIT	pH 5 Kit complete	50014063
pH 5 ECOPACK	pH 5, batteries 1,5 V AAA, lanyard and quick manual	50014053
pH 5 ONLY BODY	pH 5, without sensor	50014073
ELECTRODE pH	Replacement electrode for pH 5	50014403

pH 5 Food

○ pH - mV - T

MAIN FEATURES

IP67 watertight portable pH meter. Resolution 0,01 pH. Interchangeable polymer-tipped electrode, temperature sensor and open partitions for **measurements in the food industry.** **Wide 3-colour LCD display with indication of the buffers used for calibration and measurement stability.** Push-button calibration on 3 points with 5 values of USA buffers. mV reading for pH electrode diagnosis. **Temperature reading.** Auto power off function. **Automatic temperature compensation** (0...60 °C). Self-diagnosis messages: low batteries, calibration errors. Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too. 1 year warranty on electronic parts.

Measuring range: pH: -2,00...16,00 (Resolution 0,01 pH); mV: -1.000...+1.900 mV; °C: 0,0...60,0 (0,1 °C).

The KIT includes: 1 sachet x 25ml pH 7 and pH 4 buffer solution, 1 sachet of electrode storage solution, calibration cap, lanyard, tissue, quick manual and cardboard case



Name	Description	p/n
pH 5 Food KIT	pH 5 Food Kit complete	50014113
pH 5 Food ECOPACK	pH 5 Food with batteries 1,5 V AAA, lanyard, quick manual	50014123
ELECTRODE pH	Replacement electrode for pH 5 Food	50014423

COND 5

Conductivity - TDS - Salinity

MAIN FEATURES

IP67 watertight portable conductivity meter for Conductivity, TDS and Salinity measurement. High-durable interchangeable electrode. **Wide 3-color LCD display** with indication of the buffers used for calibration and measurement stability. Push-button calibration on 3 points with 3 standard values, choosing between 84, 1413 μS e 12,88 mS. Reading and automatic temperature compensation with $\text{TR} = 20/25^\circ\text{C}$ and adjustable coefficient $\text{TC} = 0,00...4,00\%/^\circ\text{C}$. TDS Factor: 0,40...1,00. Self-diagnosis messages. Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too. Auto power off function. 1-year warranty on electronic parts.

Measuring range: COND 0,01 μS ...200 mS; TDS 0,01 ppm...199,9 ppt; Salinity 0,1mg/l...100,0 g/.

The KIT includes: 1 sachet x 25ml 1413 μS and 12,88 mS buffer solution, calibration cap, lanyard, tissue, quick manual and cardboard case.



TESTER

Name	Description	p/n
COND 5 KIT	COND 5 Kit complete	50014213
COND 5 ECOPACK	COND 5, batteries 1,5 V AAA, lanyard and quick manual	50014203
COND 5 ONLY BODY	COND 5, without sensor	50014223
SENSOR COND	Replacement sensor for COND 5	50014413

ORP 5

Redox - T

MAIN FEATURES

IP67 watertight portable ORP/Redox meter. Resolution 0,1/1 mV. With microprocessor and interchangeable high-durable electrode. ORP calibration on one point defined by the user. Wide 3-color LCD display with indication of measurement stability. Auto power off function. **Temperature reading. Self-diagnosis messages.** Power supply with 2 x 1,5V AAA batteries included, compatible with rechargeable batteries too. 1 year warranty on electronic parts.

Measuring range: mV: -1.000...+1.900 mV; $^\circ\text{C}$: 0,0...60,0 (0,1 $^\circ\text{C}$).

The KIT includes: : 1 bottle x 55ml Redox 475 mV solution, 1 sachet of electrode storage solution, calibration cap, lanyard, tissue, quick manual and cardboard case.



Name	Description	p/n
ORP 5 KIT	ORP 5 Kit complete.	50014313
SENSOR REDOX	Replacement sensor for ORP 5	50014443

PX 4

○ pH - Redox - T

MAIN FEATURES

IP67 watertight portable pH and ORP/Redox meter. Resolution 0,01 pH and mV. With microprocessor and interchangeable combined electrode. **Wide 3-colour LCD display** with indication of the buffers used for calibration and measurement stability. **pH automatic calibration** on 3 points with 5 values of USA buffers and **ORP calibration** on 1 point defined by user. **mV reading for pH electrode diagnosis** and ORP/Redox measurement. **Temperature reading**. Auto power off function. **Automatic temperature compensation** (0...60 °C). Indication of measurement stability. Auto power off function. Temperature reading. Self-diagnosis messages: low batteries, calibration errors. Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too. 1 year warranty on electronic parts.

Measuring range: pH: -2,00...16,00 (0,01 pH); mV: -1.000...+1.900 mV; °C: 0,0...60,0 (0,1 °C).

The KIT includes: 1 sachet x 25ml pH 7 and pH4, 1 bottle x 55ml Redox 475 mV, 1 sachet of electrode storage solution, calibration cap, lanyard, tissue, quick manual and cardboard case.



Name	Description	p/n
PX 4 KIT	PX 4 Kit complete	50014143
PX 4 ECOPACK	PX 4 , batteries 1,5 V AAA, lanyard and quick manual	50014173
ELECTRODE pH + REDOX	Replacement sensor for PX 4	50014463

PC 5

○ pH - Conductivity- TDS - Salinity -T

MAIN FEATURES

IP67 watertight portable multiparameter for pH, Conductivity, TDS and Salinity measurement. Combined **interchangeable electrode**. Indication of the buffers used for calibration and measurement stability. Self-diagnosis messages. Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too. Auto power off function.

pH: Resolution 0,01 pH. Push-button calibration on 3 points with 5 values of USA buffers.

mV reading for pH electrode diagnosis.

COND: Push-button calibration on 3 points with 3 standard values, choosing between 84, 1413 µS e 12,88 mS. Adjustable coefficient TC= 0,00...4,00%/°C.

TDS Factor: 0,40...1,00.

Measuring range:

pH: -2,00...16,00 (0,01 pH);

mV: -1.000...+1.900 mV;

COND 0,01 µS...200 mS;

TDS 0,01 ppm...199,9 ppt;

Salinity 0,1mg/l...100,0 g/l;

T: 0,0...60,0°C (0,1 °C).

The KIT includes: 1 sachet x 25ml pH 7 and pH 4, 1 sachet of electrode storage, 1 sachet x 25ml 1413 µS buffer solution, calibration cap, lanyard, tissue, quick manual and cardboard case.



Name	Description	p/n
PC 5 KIT	PC 5 Kit complete	50014263
PC 5 ECOPACK	PC 5 , batteries 1,5 V AAA, lanyard and quick manual	50014253
ELECTRODE PC	Replacement electrode for PC 5	50014433

PC 6

○ pH-Redox - Conductivity- TDS - Salinity

MAIN FEATURES

IP67 watertight portable multiparameter for pH, ORP, Conductivity, TDS and Salinity measurement. High-durable combined interchangeable electrode. **Wide 3-colour LCD display** with **indication of the buffers used for calibration** and measurement stability. **Automatic temperature compensation** (0...100°C). Auto power off function. Self-diagnosis messages: low batteries, calibration errors. Power supply with 2 x 1.5V AAA batteries included, compatible with rechargeable batteries too.

1 year warranty on electronic parts.

pH: Resolution 0,01 pH. Push-button calibration on 3 points with 5 values of USA buffers and . ORP calibration on one point defined by the user.

mV reading for pH electrode diagnosis and ORP/Redox measurement.

COND: Automatic calibration on 3 points with 3 standard, choosing between 84, 1413 μS e 12,88 mS.

Automatic temperature compensation with TR= 20/25°C and adjustable coefficient

TC= 0,00...4,00%/°C.

TDS factor: 0,40...1,00.

Measuring range :

pH: -2,00...16,00 (0,01 pH);

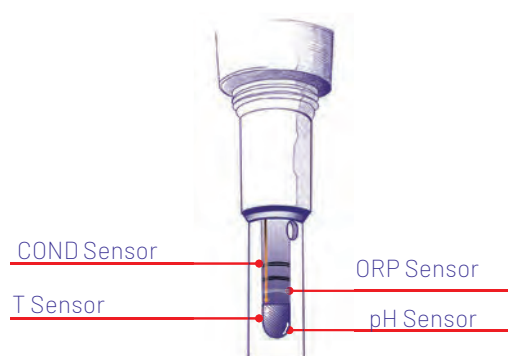
mV: -1.000...+1.900 mV;

COND 0,01 μS ...200 mS;

TDS 0,01 ppm...199,9 ppt;

Salinity 0,1mg/l...100,0 g/l; °

C: 0,0...60,0°C (0,1 °C).



The KIT includes: pH 7 and pH 4 buffer solutions (sachets 25 ml), storage solution in sachet, 1 x 55 ml Redox 475 mV solution, 1413 μS sachets 25 ml standard solution, calibration cap, lanyard, tissue, quick manual and cardboard case.

Name	Description	p/n
PC 6 KIT	PC 6 Kit complete	50014293
ELECTRODE PC	Replacement electrode for PC 6	50014483

Calibration buffer solutions

Name	Description	p/n
pH 4,01	1 bottle x 55 ml buffer solution. Accuracy $\pm 0,01$ pH	32383123
pH 7,00	1 bottle x 55 ml buffer solution. Accuracy $\pm 0,01$ pH	32383133
475 mV	1 bottle x 55 ml buffer solution for REDOX	32383153
1413 μS	1 bottle x 55 ml buffer solution	60000423
12 880 μS	1 bottle x 55 ml buffer solution	60000433
84 μS	1 bottle x 55 ml buffer solution	60000613

pH 5 Tester kit

○ pH - mV

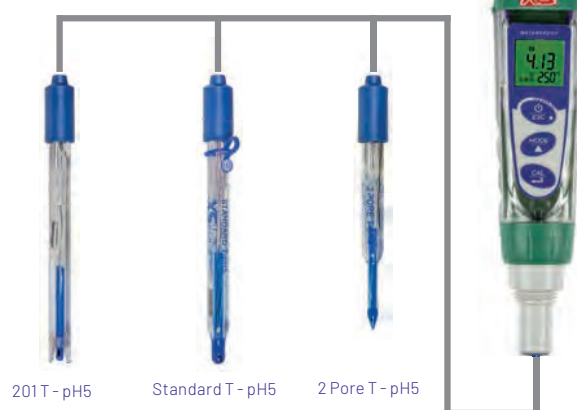
Sensor 

MAIN FEATURES

pH 5 tester KIT, without electrode.

It is possible to connect it with compatible electrode to make it a professional proper pH-meter.

The KIT included: pH5 only instrument body, buffer solutions 25 ml, storage solution sachets, lanyard, tissue, quick manual and cardboard case, suitcase and 2 batteries 1,5 V AAA. Without sensor.



Name	Description	p/n
pH 5 TESTER KIT	Instrument body only, 1 sachet x 25ml pH 7 and pH 4 buffer solution, 1 sachet of electrode storage solution, lanyard, tissue, quick manual, cardboard case and 2 1,5 V AAA batteries. Without sensor.	50014073
201 T pH 5	Plastic body pH electrode with temperature sensor for general uses, without maintenance. 1 mt fixed cable with connector for pH tester 5. pH 0...14 temperatura 0...60°C	50014603
STANDARD T pH 5	Combined glass body electrode with temperature sensor for general use, 3M KCl refillable. 1 m fixed cable with connector for pH tester 5. pH 0...14 temperatura -10...100°C	50014613
2 PORE T pH 5	Combined glass body electrode with temperature sensor for general use, maintenance-free polymer filling. 6 mm tip ideal for meat and cheese. 1 mt fixed cable with connector for pH tester 5. pH 0...14 temperatura 0...60°C	50014623

COND 5 Tester kit

MAIN FEATURES

COND 5 tester kit, without sensor.

It is possible to connect it with compatible electrode to make it a professional proper conductivity meter.

The KIT included: instrument, buffer solutions 1413 μ S and 12.88 mS in sachets 25 ml, lanyard, tissue, quick manual and cardboard case, suitcase and 2 batteries 1,5 V AAA. Without sensor.



Name	Description	p/n
COND 5 TESTER KIT	Instrument body only, 1 sachet x 25ml 1413 μ S and 12.88 mS buffer solutions, lanyard, tissue and cardboard case, with 2x 1,5V AAA batteries and quick manual Included. Without sensor.	50014223
2301 T COND 5	Conductivity cell C=1 for COND 5 conductivity meter with 2 electrodes with built-in temperature sensor, epoxy body, 1 mt cable, working range 10 μ S...100 mS - temperature 0...60°C	50014703
VPT SOIL COND 5	Conductivity cell with temperature probe, C = 1, for ground measurement, working range 10 μ S ... 50 mS, cable 1.5 m for COND 5	50014713

ELECTRODES



WARRANTY
6
MONTHS



DHS
Digital High Sensor

+ swiss hand made

QUALITY REPORT

The Standard and Flow models of the XS Sensor range are supplied with the individual quality certificate, with reference to the electrode serial number, shown on the internal label for traceability, according to GLP standards, of calibration and pH measurements.



XS sensor		QUALITY TEST REPORT	
Model	Electrode Type: <i>Elektrodetyp / Elektrodo</i>	STANDARD	
	Product number: <i>Produktnummer / Codice prodotto</i>	32200373	
	Serial number: <i>Seriennummer / Numero senale</i>	0009	
Batch	Batch number: <i>Charge/nummer / Numero di lotto</i>	444	
	Reading in pH 7 buffer ($0 \pm 20\text{mV}$): <i>Lesen im pH 7 / Lettura in pH 7*</i>	-5 mV	
Test results	Reading in pH 4 buffer ($174 \pm 20\text{mV}$): <i>Lesen im pH 4* / Lettura in pH 4*</i>	169 mV	
	Measuring range: <i>Messbereich / Range di misura</i>	0...14 pH	
Technical features	Temperature range: <i>Temperaturbereich / Range di temperatura</i>	-10...80 °C	
	Temperature sensor: <i>Temperatursensor / Sensore di temperatura</i>	-	
	Reference electrolyte: <i>Bezugselektrolyt / Elettrolita di riferimento</i>	KCl 3M	
	<small>* Measurements are performed in Certified Reference Materials. * Die Messungen werden in zertifizierten Referenzmaterialien durchgeführt. * Le misurazioni sono eseguite in materiali di riferimento certificati.</small>		
Date	Passed Quality Control <i>Bestanden Qualitätskontrolle / Controllo Qualità Effettuato</i>	16/02/2018	
	<small>This document is generated electronically and doesn't require any signature. Dieses Dokument ist elektronisch erzeugt und erfordert keine Unterschrift erforderlich. Questo documento è generato elettronicamente e non richiede alcuna firma.</small>		



Packaging of the electrodes with instructions and practical advice printed on the box

Serial number printed inside the electrode.

HOW TO CHOOSE THE RIGHT ELECTRODE

	GEL	POLYMER	POLYMER TIP	STANDARD	201T / POLYMER PLAST	STANDARD HA	FLAT	STANDARD HF	FOOD	2 PORE SLIM	2 PORE	2 PORE F	FOOD SLIM	SEMIMICRO	MICRO	MICRO P	MICRO SPECIAL	FLOW
Waste water		●	●		●	●												●
Deionized water									●									●
Tap water	●	●	●	●	●				●									●
Food									●	●	●	●	●					
Butter									●	●	●	●	●					
Samples with protein		●	●						●		●		●			●		
Alkali samples						●												
High temperature samples				●		●			●									
Samples in tube for NMR																	●	
small volume samples							●								●	●	●	
Samples with Hydrofluoric acid								●										
Viscous samples		●	●						●									●
Cosmetics		●	●	●		●			●									●
Cream		●	●						●									●
Detergents	●	●	●	●	●	●			●									●
Aqueous emulsions		●	●	●					●									●
Cheese										●	●	●	●					
Fruit and vegetables										●	●	●	●					
Milk		●	●						●	●	●	●	●					
Mayonnaise									●		●							●
Marmalade		●	●						●		●							●
Bread and pasta			●						●	●	●	●	●					
Leather							●											
Brine	●	●	●	●	●				●									●
Soap		●	●	●					●									●
Samples with low ionic strength																		●
Aqueous suspensions		●	●	●					●									●
Semi Aqueous suspensions									●									●
Fruit juice		●	●	●					●									●
Surfaces							●											
TRIS swab				●														●
Tip			●							●	●	●	●					●
Titulation				●					●									●
Non Aqueous titration																		●
Galvanic treatment		●	●			●												●
Water-based paints		●	●	●					●									●
Paints				●					●									●
Wine		●	●	●					●									●
Yogurt		●	●						●	●	●	●	●					●

DHS Electrodes

Digital High Sensor



Intelligent Sensor management

Digital High Sensors are the new pH sensors with internal chip, that store parameters, date of last calibration, model and production batch of the electrode. After connecting the pH DHS sensor to the instrument, with the same technology, all the data stored in the sensor chip are automatically transferred to the instrument and shown on the display.

After a new calibration of the DHS electrode, the data are automatically stored in the electrode chip. If we move this electrode to another DHS-enabled instrument, we can start working immediately and with extreme security as the data from the last calibration will automatically be transferred and used for pH measurements.

Our DHS electrodes have integrated temperature sensor, fixed cable with BNC and RCA connectors and work without an internal battery, this allow to store them as normal pH electrode and can be connected to any instrument with BNC and RCA connection.



Name	Description	p/n
201 T DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Plastic body for general use. Gel Filling, ceramic diaphragm. Maintenance-free. Dimensions (LxØ) mm 120x12. pH 0...14 - Temperature 0...60 °C	32200103



Name	Description	p/n
STANDARD DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Glass body and cylindrical membrane for general applications. Refillable KCl 3M electrolyte. Excellent chemical resistance and easy to clean. Included with serial number and certificate. Dimensions (LxØ) mm 120x12 - pH 0...14 Temperature -10...100 °C	32200123



Name	Description	p/n
FLOW DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Glass body. Refillable KCl 3M electrolyte. With Teflon sleeve diaphragm for measurements in suspensions and samples with low conductivity. With serial number and certificate. Dimensions (LxØ) mm 120x12. pH 0...14 Temperature -10...100 °C	32200133



Name	Description	p/n
2 PORE DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Glass Body. Filled with polymer, maintenance-free. Ideal for meats and cheese samples. Dimensions tip (LxØ) mm 35x6 - pH 0...14, Temperature 0...60 °C	32200113



Name	Description	p/n
2 PORE F DHS DIGITAL pH ELECTRODE	Digital pH electrode combined with DHS technology. Plastic body (PEEK) and glass membrane. Polymer filling, maintenance-free. Ideal for meat and cheese samples. Dimensions tip (LxØ) mm 35x6 - pH 0...14, Temperature 0...60 °C	32200143



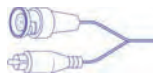

Laboratory electrodes

A very famous Swiss manufacturer developed a complete line of laboratory pH, ORP and conductivity electrodes with glass and plastic body. XS Sensors are available with S7 head or fixed cable with BNC or DIN connector plug.

For food application many models are equipped with temperature sensor included for a fast temperature compensation.

Some models have internal serial number and quality certificate to work in accordance with GLP rules



Name	Description		p/n
STANDARD S7	pH Electrode combined with S7 head. Glass body, for general use. Refillable KCl 3M Electrolyte. Excellent chemical resistance and easy to clean. With serial number and certificate. Dimensions (LxØ mm) 120x 12 - pH 0...14 Temperature -10...100 °C.		32200363
STANDARD BNC	With fixed cable 1 mt - BNC connector		32200263
STANDARD DIN	With fixed cable 1 mt - DIN connector		32200273
STANDARD T BNC + RCA	With temperature sensor NTC 30 KΩ, fixed cable BNC+RCA Cinch		32200473
STANDARD T DIN + BANANA	With temperature sensor NTC 30 KΩ, fixed cable DIN+banana 4 mm		32200463



Name	Description		p/n
STANDARD HA S7	pH electrode combined for minimal alkali error , S7 head. Glass body and cylindrical membrane. Refillable KCl 3M electrolyte. Excellent chemical resistance and easy to clean. With serial number and certificate. Dimensions (LxØ mm) 120x 12 - pH 0...14 Temperature -10...100 °C.		32200423



Name	Description		p/n
STANDARD HF S7	Combined pH electrode, S7 head. Glass body. With special membrane for measurements in samples containing hydrofluoric acid (0.01 M / 200 mg at 20 °C). Refillable KCl 3M electrolyte. Excellent chemical resistance and easy to clean. Dimensions (LxØ mm) 120x 12 - pH 0...14 Temperature -10...100 °C.		32200433



Name	Description	p/n
GEL S7	Combined pH electrode, S7 head. Body in glass for general applications. Cylindrical membrane. Gel Filling, maintenance-free. Dimensions (LxØ) mm 120x12 - pH 0...14 Temperature -10...60 °C	32200203



Name	Description	p/n
POLYMER S7	Combined pH Electrode S7 head. Glass Body for general use. Cylindrical membrane. Polymer filling, open pore. For a fast response with high accuracy in samples that might contaminate normal diaphragms. Maintenance-free. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...80 °C	32200223



Name	Description	p/n
POLYMER TIP S7	Combined pH electrode with tipped membrane for pH in the soil. S7 head. Glass body. Polymer filling, two open pores. For a fast response with high accuracy in samples may contaminate normal diaphragms. Maintenance-free. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...80 °C	32200443



Name	Description	p/n
FLOW S7	Combined pH electrode, S7 screw head. Glass body. Refillable KCl 3M electrolyte. With Teflon sleeve diaphragm for measurements in viscous samples with low conductivity. With serial number and certificate. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...80 °C	32200373
FLOW T BNC	With temperature sensor integrated NTC 30 KΩ fixed cable 1 mt lenght BNC+RCA Cinch	32200723
FLOW T DIN	With temperature sensor integrated NTC 30 KΩ fixed cable 1 mt lenght DIN+banana 4 mm	32200733





Name	Description	p/n
FLAT S7	Combined pH electrode, S7 head. Glass Body. Polymer filling. With flat membrane for surface measurements. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature 0...60 °C	32200413



Name	Description	p/n
SEMI MICRO S7	Combined pH electrode, S7 head. Glass body "micro 6". Refillable KCl 3M electrolyte. Suitable for measurements in test tubes. Dimensions tip (LxØ) mm 100 x 6 - pH 0...14 - Temperature 0...100 °C	32200383



Name	Description	p/n
MICRO S7	Combined pH electrode, S7 head. Glass body "micro 3". Refillable KCl 3M electrolyte. For small volume of samples <2 ml. Dimensions tip (LxØ) mm 60 x 3 - pH 0...14 - Temperature 0...100 °C	32200213



Name	Description	p/n
MICRO P S7	Combined pH electrode, S7 head. Glass body "micro 3". Refillable Glycerin KCl electrolyte. Suitable for small volumes in microbiological and biochemical applications. Dimensions tip (LxØ) mm 60 x 3 - pH 0...14 - Temperature 0...100 °C	32200253



Name	Description	p/n
MICRO SPECIAL S7	Combined pH electrode, S7 head, Glass body "micro 3". Refillable KCl 3M electrolyte. For small volume of samples <2 ml. Ideal for NMR tubes. Dimensions tip (LxØ) mm 180x3 - pH 0...14 - Temperature 0...100 °C	32200453

Electrodes for food applications



Name	Description	p/n
FOOD S7	Combined pH electrode with 3 diaphragm, S7 head. Glass body. Refillable Glycerin KCl electrolyte. For dairy and food applications. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature -10...100 °C	32200393



Name	Description	p/n
FOOD SLIM S7	Combined pH electrode, S7 head. Glass body. Refillable Glycerin KCl for sample containing proteins. 6 mm tip for penetration measurement. Dimensions tip (LxØ) mm 25x6 - pH 0...14 - Temperature -10...100 °C	32200243



Name	Description	p/n
ZAVATRODE S7	Combined pH electrode, S7 head. Glass body. Refillable Glycerin KCl for sample containing proteins. 4 mm tip for penetration measurements. Dimensions tip (LxØ) mm 120x4 - pH 0...14 - Temperature 0...60 °C	32200403



Name	Description	p/n
2 PORE S7	Combined pH electrode, S7 head. Glass body. Polymer filling, two open pores, maintenance free. Ideal for meat and cheese application. Dimensions tip (LxØ) mm 35x6 - pH 0...14 - Temperature 0...60 °C	32200333

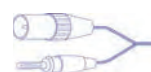
2 PORE T BNC + RCA	With temperature sensor integrated NTC 30 KΩ, fixed cable 1 mt length, BNC+RCA Cinch	32200323
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Name	Description	p/n
2 PORE SLIM S7	Combined pH electrode, S7 head. Glass body. Polymer filling. Two open pores, maintenance-free. Ideal for meat and cheese application. Dimensions tip (LxØ) mm 35x4,5 - pH 0...14 - Temperature 0...60 °C	32200283



Name	Description	p/n
2 PORE F S7	Combined pH electrode, S7 head. Plastic body (PEEK) and glass tip. Polymer filling, two open pores, maintenance-free. Ideal for meat and cheese application. Dimensions tip (LxØ) mm 35x6 - pH 0...14 - Temperature 0...60 °C	32200293
2 PORE F T BNC + RCA	With temperature sensor integrated NTC 30 KΩ fixed cable 1 mt., BNC+RCA.	32200703
2 PORE F T DIN + BANANA	With temperature sensor PT1000, fixed cable 1 mt., plug DIN+banana 4 mm	32200713



Name	Description	p/n
2 PORE STEEL T BNC + RCA	Combined pH electrode, steel body. Polymer filling, maintenance-free. Ideal for meat and cheese application or penetration measurement. With temperature sensor integrated NTC 30 KΩ, fixed cable 1 mt., BNC + RCA cinch plug Dimensions tip (LxØ) mm 50x6 - pH 0...14 - Temperature 0...80 °C	32200313
2 PORE STEEL T DIN + BANANA	With temperature sensor NTC 30 KΩ, fixed cable 1 mt., plug DIN + Banana 4mm.	32200643



Name	Description	p/n
2 PORE K S7	Combined pH electrode, S7 head. Steel body with replaceable blade. Polymer filling, two open pores, maintenance-free. Ideal for meat and cheese application or penetration measurement. Dimensions tip (LxØ) mm 35x6 - pH 0...14 - Temperature 0...60 °C	32200303
2 PORE K WITHOUT BLADE	Only electrode, without knife.	32200343
BLADE	Replaceable knife for 2 Pore K	32200353



Plastic electrodes for general use



Name	Description	p/n
POLYMER PLAST S7	Combined pH electrode, S7 head, with epoxy body. Good chemical resistant. Polymer filling, one open pore and one ceramic diaphragm, for a fast response in samples that contain substances that might contaminate the diaphragm. Maintenance-free. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature 0...60 °C	32200493
POLYMER PLAST BNC	With fixed cable 1 mt., BNC plug	32200503
POLYMER PLAST DIN	With fixed cable 1 mt., DIN plug	32200513



Name	Description	p/n
201 T BNC	Combined pH electrode with NTC temperature sensor integrated. Epoxy body for general applications. Polymer filling with ceramic diaphragm. Maintenance-free. Fixed cable 1 mt., BNC + RCA plug. Dimensions (LxØ) mm 120x12 - pH 0...14 - Temperature 0...60 °C	50002002
201 T DIN	With temperature sensor integrated NTC 30 KΩ, fixed cable 1 mt., DIN+ 2 Banana 4mm plug	50002052

Cleaning and maintenance solutions

Name	Pack	p/n
Solution 3M KCL	55 ml	32208003
Solution 3M KCL	500 ml	32208013
Solution GLYCERIN-KCl	55 ml	32208023
Solution KN03 1M for Electrode STANDARD Ag	55 ml	32208033
Solution STORAGE for Electrodes	55 ml	32208043
Solution STORAGE for Electrodes	500 ml	32208053
Solution PROTEINS CLEANING (PEPSIN) for FOOD application Electrodes	55 ml	32208063
Solution PROTEINS CLEANING (PEPSIN) for FOOD application Electrodes	250 ml	32208093
Solution DIAPHRAGM CLEANING (THIOUREA)	55 ml	32208073
Solution DIAPHRAGM CLEANING (THIOUREA)	250 ml	32208103
Solution REGENERATION (with HF) for pH Electrodes	55 ml	32208083

ORP Electrodes



Name	Description	p/n
STANDARD ORP S7	Combined pH electrode, S7 head. Glass body. Refillable KCL 3M Electrolyte. Platinum ring for ORP measurement. Dimensions (LxØ) mm 120x12 - Temperature -10...100 °C	32200233



Name	Description	p/n
STANDARD AG S7	Combined electrode, S7 head. Glass body. Refillable KNO ₃ 1M Electrolyte. Silver pin for argentometric titrations. Dimensions (LxØ) mm 120x12 - Temperature 0...80 °C	32200483



Name	Description	p/n
STANDARD KF S7	Glass Body, S7 head. Maintenance-free. Double platinum pin for KF and SO ₂ titrations. Dimensions (LxØ) mm 120x12 - Temperature 0...80 °C	32200523



Name	Description	p/n
PLAST ORP S7	S7 head, epoxy body. Gel filling, double junction, maintenance-free. Ceramic diaphragm. Dimensions (LxØ) mm 120x12 - Temperature 0...60 °C	32200663

PLAST ORP BNC	With fixed cable 1mt., BNC Plug	32200673
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Conductivity cells



Name	Description	p/n
VP 1 SENSOR	Cell in glass body with platinum plates C=1, fixed cable 1 mt. with BNC plug. Measuring range: 10µS...10 mS - Temperature 0...80 °C	50004062
VPT 1 SENSOR	Cell in glass body with platinum plates C=1, with temperature sensor integrated. Fixed cable 1 mt., BNC + RCA Cinch plug. Measuring range: 10µS...100 mS - Temperature 0...80 °C	50003352



Name	Description	p/n
VPT 01 SENSOR	Steel and PVC cell, C=0,1, with temperature sensor integrated. Fixed cable 1 mt., BNC + RCA plug. Range of measurement 0,1µS...1 mS - Temperature 0...60 °C	50004012



Name	Description	p/n
VPT 10 SENSOR	Cell in glass body with platinum plates C=10, temperature sensor integrated, fixed cable 1 mt. BNC + RCA Cinch plug. Measuring range: 100µS...200 mS.	50004072



NEW

Name	Description	p/n
VPT 10 H SENSOR	Cell in glass body with platinum plates C=10, temperature sensor integrated, fixed cable 1 mt. BNC + RCA cinch plug. Measuring range: 100µS...500 mS. Only for XS COND 80+	50003372



Name	Description	p/n
2301 T SENSOR	Cell in epoxy body C=1, with temperature sensor integrated. Fixed cable 1 mt. BNC+RCA cinch plug. Measuring range: 10µS...200 mS - Temperature 0...60 °C	50004002



Name	Description	p/n
VPT SOIL SENSOR	Conductivity cell with temperature sensor integrated, C=1, For measures in soil. Measuring range: 10 µS...50 mS	50004082

Cables and accessories

LABORATORY

Cables are provided with S7 head to screw at the electrodes head.

The plug choice is related to the instrument used. Diameter 3 mm, lenght 1 m.

Name	Description		p/n
BNC	Cable S7-BNC		33551733
DIN	Cable S7-DIN		33551743

PROCESS

Connecting cable for process electrodes. **Diameter 5 mm.**

Plug and lenght of the cable must be chosen based on the application.

Name	Description	p/n
CAVO 5 MM	Coaxial cable with antistatic sheath for electrodes, diameter 5mm	33550533
S7 HEAD	Only S7 head for 5mm cable	33412913
BNC	Only BNC plug for 5 mm cable	33412923
DIN	Only DIN plug for 5 mm cable	33550903

	Lenght	p/n
ASSEMBLED CABLE WITH S7 HEAD - OPEN WIRES	3 m	33550733
	5 m	33550663
	10 m	33550803

ASSEMBLED CABLE WITH S7 HEAD - BNC PLUG	1 m	33550673
	3 m	33550743
	5 m	33550563
	10 m	33550753

BALANCES



WARRANTY
2
YEARS



★ ★ ★ ★ ★
EU ★ ★ ★ ★ ★
Designed

ISO 9001
CERTIFIED



HOW TO CHOOSE

Resolution (g)	Capacity (g)	Model	Calibration	RS-232	Batteries	p/n
0,0001	220	BL 224 TOUCHSCREEN	Internal	●		27006013
0,0001	220	BL 224	Internal	●		27006003
0,0001	220	BL 224 BASIC	External	●		27005993
0,001	300	BL 303	External	●	●	27000513
0,001	110	BM 113 MOISTURE ANALIZER	External	●		27001303
0,01	600	BL 602	External	●	●	27000323
0,01	2.000	BL 2002 BASIC	External		●	27000303
0,01	2.000	BL 2002	External	●	●	27000313
0,1	3.000	BL 3001	External	●	●	27000113
0,1	6.000	BL 6001	External	●	●	27000123
0,1	30.000	BL 30K1	External		●	27000133
1	3.000	BW 3000 WATERPROOF	External		●	27001003
1	30.000	BL 30K	External	●	●	27001203
10	100.000	BL 100K	External	●		27001213

BL 224 TOUCH

- Touchscreen graphic display
- Capacity: 220 g
- Resolution: 0,0001 g (0,1 mg)

MAIN FEATURES

Analytical, digital balance of precision. Stainless steel pan. Protection case against air currents in laboratory. Upper opening for pipetting without having to remove the case. Standard RS 232 output for connection to PC or printer.

Provided with standard 220V power supply.

Supplied with external standard weight for calibration 200 g - F1 class.

Supplied with Certificate of calibration made with weights certified Accredia, including test of repeatability, linearity and decentred load.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 224 TOUCHSCREEN	INTERNAL	80	0,0002	± 0,0003	27006013

BL 224

- Capacity: 220 g
- Resolution: 0,0001 g (0,1 mg)

MAIN FEATURES

Analytical, digital balance of precision. Backlit display. Stainless-steel pan.

Protection case against air currents in laboratory. Upper opening for pipetting without having to remove the case. Piece counter mode, determination of %, formulations, pipette calibration function, statistics and density calculation (with optional accessory kit).

Standard RS 232 output for connection to PC or printer.

Provided with standard 220V power supply.

Supplied with Certificate of calibration made with weights certified Accredia, including test of repeatability, linearity and decentred load.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 224	INTERNAL	90	0,0002	± 0,0002	27006003

BL 224 BASIC

- Capacity: 220 g
- Resolution: 0,0001 g (0,1 mg)

MAIN FEATURES

Analytical, digital balance of precision. Backlit display. Stainless-steel pan. Protection case against air currents in laboratory. Upper opening for pipetting without having to remove the case. Standard RS 232 output for connection to PC or printer. Standard 220V power supply.

Supplied with external standard weight for calibration 100 g - E2class.

Supplied with Certificate of calibration made with weights certified Accredia, including test of repeatability, linearity and decentred load.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 224 BASIC	EXTERNAL	80	0,0003	± 0,0003	27005993

BL 303

- Capacity: 300 g
- Resolution: 0,001 g (1 mg)

MAIN FEATURES

Backlit display. Round pan with diameter 118 mm in stainless-steel.

Protection case against air currents in laboratory.

Upper opening for pipetting without having to remove the case.

Piece counter mode, determination of % and 21 different selectable measurement units.

Balance with dual power supply, AGM rechargeable battery and standard power supply.

Standard RS 232 output for connection to PC or printer.

Supplied with case and a weight of 100 g M1 class.

Provided with Certificate of calibration with weights Accredia certified, including test of repeatability, linearity and decentred load.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 303	EXTERNAL	118	0,001	± 0,003	27000513

BL 602

- Capacity: 600 g
- Resolution: 0,01 g

MAIN FEATURES

Technical, digital balance of precision. Backlit Display.

Round pan with diameter 118 mm in stainless-steel.

Protection case, easily removable, ideal for counting small pieces, protected from external disturbances.

Upper opening for pipetting without having to remove the case.

Piece counter mode, determination of % and 21 different selectable measurement units. Balance with dual power supply, AGM rechargeable battery standard power supply.

Standard RS 232 output for connection to PC or printer.

Supplied with case and 2 standard weights of 100 g M1 class.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 602	EXTERNAL	118	0,01	± 0,03	27000323

BL 2002

- Capacity: 2000 g
- Resolution: 0,01 g

MAIN FEATURES

Technical, digital balance of precision. Backlit Display.
 Rectangular stainless-steel pan.
 Piece counter mode, determination of % and 21 different selectable measurement units.
 Balance with dual power supply, AGM rechargeable battery and standard power supply.
 Standard RS 232 output for connection to PC or printer.
 Supplied with dust protection cover and a standard weight of 1 Kg M1 class.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 2002	EXTERNAL	188 x 148	0,01	± 0,02	27000313

BL 3001 / 6001

- Capacity: 3 Kg / 6 Kg
- Resolution: 0,1 g

MAIN FEATURES

Technical, digital balance of precision. Backlit Display.
 Rectangular stainless-steel pan mm 188 x 148.
 Piece counter mode, determination of % and 21 different selectable measurement units. Balance with dual power supply, AGM rechargeable battery and standard power supply.
 Standard RS 232 output for connection to PC or printer.
 Supplied with dust protection cover and a standard weight of 1 Kg M1 class.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 3001	EXTERNAL	188 x 148	0,1	± 0,2	27000113
BL 6001	EXTERNAL	188 x 148	0,1	± 0,2	27000123

BL 2002 BASIC

- The cheapest
- Capacity: 2000 g
- Resolution: 0,01 g (1 mg)

MAIN FEATURES

Technical, digital balance of precision with backlit Display.

Rectangular stainless-steel weighing plate mm 160 x 120.




Piece counter mode.

Balance with dual power supply, AGM rechargeable battery and standard power supply.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 2002 BASIC	EXTERNAL	160 x 120	0,02	± 0,03	27000303

ACCESSORIES

Name	Description		p/n
COVER	Protective cover for XS BALANCE compatible with the models: BL602, BL2002, BL3001, BL6001.		27000803
PRINTER RS 232	Thermal printer RS 232 for XS BALANCE		27000863
CALIBRATION REPORT	Accredited Calibration certificate Accredia for XS BALANCE. To be ordered together with the balance (when not already included)		27000903

BL 30K 1

- Capacity: 30 Kg
- Resolution: 0,1 g

MAIN FEATURES

Technical, digital balance of precision with backlit Display.
Rectangular stainless-steel weighing plate.
Piece counter mode, determination of % and different selectable measurement units.
Balance with dual power supply, AGM rechargeable battery and standard power supply.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 30K 1	EXTERNAL	320 x 260	0,2	± 0,2	27000133

BL 30K

- Capacity: 30 Kg
- Resolution: 1 g

MAIN FEATURES

Technical, digital balance of precision.
Rectangular stainless-steel weighing plate.
Piece counter mode, determination of % and different selectable measurement units.
Balance with dual power supply, AGM rechargeable battery and standard power supply. Standard RS 232 output for connection to PC or printer.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 30K	EXTERNAL	255 X 190	1	± 3	27001203

BL 100K

- Capacity: 100 Kg
- Resolution: 10 g

MAIN FEATURES

Technical, digital balance of precision.
Removable backlit Display.
Rectangular stainless-steel weighing plate.
Piece counter mode, determination of % and different selectable measurement units.
Standard 220V power supply.



Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BL 100K	EXTERNAL	300 X 400	10	± 10	27001213

BM 113

MOISTURE ANALYSER

- Capacity: 110 g
- Resolution: 0,001g



MAIN FEATURES

Precision thermobalance. Backlit Display.
Stainless steel round weighing plate with an external diameter of 90 mm.
GLP protocol.
Internal memory for automatic sequence of 15 drying programs.
Three drying methods: Soft, Standard, Fast.
Three switch-off methods: Auto, Manual, Timer.
400W Halogen lamp.
Standard RS 232 output for connection to PC or printer.
Supplied with: standard weight of 100 g for calibration and control, and 50 aluminium plates, and calibration report, including test of repeatability, linearity, decentred load and temperature check.

Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BM 113	EXTERNAL	90	40 - 199 °C	1 - 99 min	27001303
PLATES	Single use aluminium plates with external diam. 90 mm, 1 pack x 50 pieces				27000883

BW 3000

WATERPROOF

- Capacity: 3000 g
- Resolution: 1 g
- IP67
- Double display



MAIN FEATURES

IP67 watertight digital precision technical balance.
Dual display, one on the front and one in the back, very useful for assembly line work.
Stainless steel rectangular weighing plate with dimensions 220 x 180 mm.
Piece counter mode, determination of %
Metal outer case
Balance with dual power supply, AGM rechargeable battery and standard power supply.

Name	Calibration	Ø Plate (mm)	Repeatability (g)	Linearity (g)	p/n
BW 3000	EXTERNAL	220 X 180	1	± 1	27001003

ACCESSORIES

Name	Description	p/n
COVER	Protective cover for XS BALANCE compatible with the models: BL602, BL2002, BL3001, BL6001.	27000803
PRINTER RS 232	Thermal paper printer for XS BALANCE with RS 232 output.	27000863
CERTIFICATE	Accredited Calibration certificate Accredia for XS BALANCE. To be ordered together with the balance (when not already included)	27000903
WEIGHT 100 g	Weight 100 g in class M1 for XS Balances	27000813
WEIGHT 1 Kg	Weight 1000 g in class M1 for XS Balances	27000823

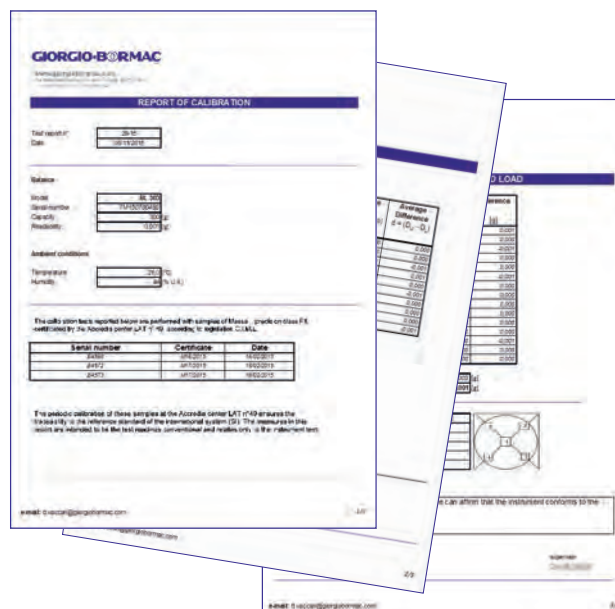
CALIBRATION REPORT

The certificate is filled in at Giorgio Bormac's company.
Certificated Accredia weights are used for testing the
balances.

On the Certificate are reported the test results of:

- **REPEATABILITY**
- **LINEARITY**
- **DECENTRED LOAD**
- **TEMPERATURE CHECK** (only BM 113)

According to Accredia guidelines for balance calibration



GIORGIO BORMAC
Innovative Metrology Solutions

REPORT OF CALIBRATION

Test report n°:
Date:

Balance:
Model:
Serial number:
Capacity:
Readability:

Ambient conditions:
Temperature: (°C)
Humidity: (% RH)

The calibration certificate reported herein was performed with samples of Mass - traceable to the FIM - certified by the National Institute of Standards and Technology (NIST).

Serial number	Certificate	Date
10001	10001	10/01/2019
10002	10002	10/01/2019
10003	10003	10/01/2019

The calibration of these samples at the Accredia center LMT 0143 ensures the traceability to the reference standard of the International System (SI). The measures in this report are reported to be the best possible conversion and realization of the International System.

email: info@giorgio-bormac.com

CENTRIFUGES



HOW TO IDENTIFY THE ACCESSORIES

FIRST LETTER

A = Fixed angle rotor
S = Swing out rotor
B = Bucket
SB = Swing out rotor + Buckets (KIT)
L = Lid of bucket
I = Insert for bucket
C = Cushion
RE = Reductor
T = Tube
PCR = PCR rotor

CENTRAL NUMBERS*

1° NUMBER = maximum number of tubes
2° NUMBER = capacity of the tube (ml)

Only in the reducers (RE), the central numbers identify the capacity reduction (ml); in case of only one central number, it represents the capacity.
In the PCR rotor the central numbers identify the number of PCR strips and the number of tubes for each single strip.

FINAL LETTER

F = Falcon® tube or conical bottomed tube included
P = Plastic round-bottomed tube included
G = Glass round-bottomed tube included
R = Suitable for round-bottomed tube
X = Additional bucket (long version)

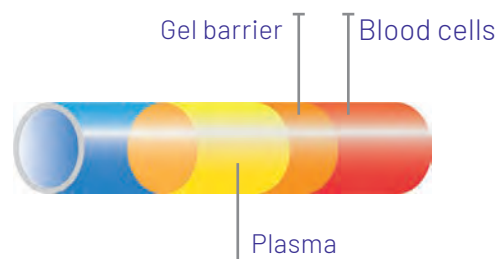
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|------------------|---|
| A 32-15 | Fixed-angle rotor for 32 – 15 ml tubes |
| S 4-175 | Swing out rotor for 4 buckets of 175 ml |
| B 16-5/7 | Aluminium bucket for 16 tubes of 5/7 ml |
| SB 4-175 | Kit composed by swing out rotor S 4-175 and 4 glasses B 175 of 175 ml |
| I 4-15R | Insert for 4 round-bottomed tubes of 15 ml |
| RE 50-15F | Conical bottomed reductor from 50 ml to 15 ml |
| B 50XF | Test tube rack extra version with Falcon® test tube 50 ml |

CENTRIFUGING

The centrifuges are instruments used in many laboratories to separate particles in liquid solutions or in liquids with a different density, using an artificial centrifugal field. The application of the centrifuges allows to develop a much higher force than the Earth's gravity, speeding-up the separation and sedimentation process.

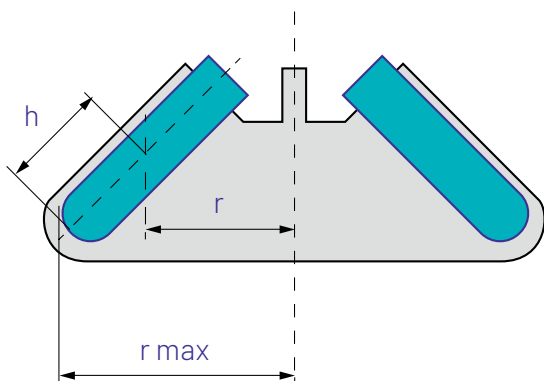
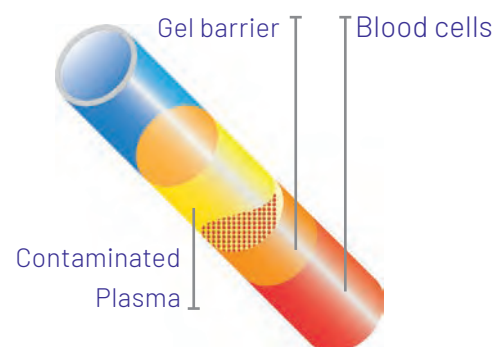
SWING OUT ROTORS (with variable angle)

During the centrifugation, the tubes turn into a perpendicular position with respect to the rotation axis of the rotor. Therefore, the distance and the time necessary for the sedimentation are higher, but the phases limits develop clearly and perpendicular. The swing out rotors are generally used to centrifuge a bigger quantity of samples at medium speed.



ANGLE ROTORS (with fixed angle)

The oblique angle of the tubes reduces the sedimentation distance, decreasing the necessary time for the separation of the phases, that are inclined with respect to the tube and less net. The angle rotors are generally used to centrifuge a smaller quantity of samples at high speed.



The simplified formula for the RCF is:

$$RCF = (n/1000)^2 \times r \times 11,18$$

where n = speed (rpm) and r = ray in cm

CALCULATION OF THE CENTRIFUGAL FORCE

Generally, the performances of a centrifuge are indicated following the maximum achievable speed. However, the speed indicates approximately the real force which developed in the centrifuged sample and which generates the separation. This power expresses as Relative Centrifugation Force (RCF). Its value indicates the multiple of times that the force exceeds the acceleration caused from the gravity "g". Looking at the formula here on the left, the RCF is directly proportional to the ray of the rotor and linked to the square of the speed. This means that the RCF doubles if the ray doubles and quadruples if the speed doubles.

Therefore, the performances of the centrifuges should be compared on values expressed in RCF only.

NEYA 8 Basic

- Max load capacity: 4x175 ml
- Maximum speed: 6000 rpm
- Automatic rotor detection
- Control of the maximum speed of the rotor
- Safety speed limiter function
- Backlit colour LCD display



MAIN FEATURES

Ventilated centrifuge with **automatic rotor detection**, check of presence of accessories and of allowed max. speed.

Speed limiter for laboratory safety. Contemporary visualisation of all centrifugal parameters.

Low number of keys, adjustment handle with confirming function and guide for an extremely intuitive operativity.

Equipped with brushless motor, maintenance free and silent.

Programmable speed from 500 to 6000 rpm (subjected to the placed rotor) with step of 50 rpm. Centrifugation time from 00:30 to 99:50 (mm:ss) with increases in 10 seconds or constantly function. Acceleration and deceleration adjustable on 3 levels.

Automatic locking system of the lid with possibility to recover the tubes in case of electric power absence.

Imbalance detection system with automatic functioning stop.

The centrifuge follows the directives EN61010-1; EN61010-2-020; EN61326-1.

Compact sizes to optimize the space in laboratory

The room access height of only 27,5 cm makes the loading and unloading operation of the centrifuge easy.

Power supply: 220V, 50 Hz.

Max. noisiness: 55 dB

Name	Max load	Max speed.	External dimensions (L x P x A)	Weight	p/n
NEYA 8 WITHOUT ROTOR	4 x 175 ml	6000 rpm	45 x 59 x 33 cm	40 Kg	40100302

NEYA 10 Professional

- Maximum loading capacity: 4x175 ml
- Maximum speed: 6000 rpm
- Automatic rotor detection
- Max speed control
- Safety speed limiter function
- Backlit display multicolor LCD

MAIN FEATURES

Ventilated centrifuge with **automatic rotor detection**, check of presence of accessories and of allowed max. speed.

Speed limiter for laboratory safety. Contemporary visualisation of all centrifugal parameters.

Low number of keys, adjustment handle with confirming function and guide for an **extremely intuitive operativity**.

Equipped with brushless motor, maintenance free and silent.

Programmable speed from 500 to 6000 rpm (subjected to the placed rotor) with step of 50 rpm. Centrifugation time from 00:30 to 99:50 (mm:ss) with increases in 10 seconds or constantly function.

Acceleration and deceleration adjustable on 3 levels.

Automatic locking system of the lid with possibility to recover the tubes in case of electric power absence.

Imbalance detection system with automatic functioning stop.

The centrifuge follows the directives **EN61010-1; EN61010-2-020; EN61326-1**.

Compact sizes to optimize the space in laboratory

The room access height of only 27,5 cm makes the **loading and unloading operation of the centrifuge easy**.

Power supply: 220V, 50 Hz.

Max. noisiness: 55 dB



NEYA 10 R

REFRIGERATED VERSION

Adjustable temperature from -10 °C to +40 °C (from +14 to +104 °F) with increases and decreases of 1 °C (or 1 °F).

"Precool" function for the fast cooling of the centrifuge

Power supply: 220V, 50 Hz.

Max. noisiness: 55 dB



Name	Max load	Max speed	External dimensions (L x P x A)	Weight	p/n
NEYA 10 WITHOUT ROTOR	4 x 175 ml	6000 rpm	45 x 59 x 33 cm	40 Kg	40100312
NEYA 10 R WITHOUT ROTOR	4 x 175 ml	6000 rpm	73 x 64 x 33 cm	70 Kg	40100332

NEYA 16 High Speed

- Maximum loading capacity:: 4x175 ml
- Maximum speed: 16000 rpm
- Automatic rotor detection
- Max speed control
- Safety speed limiter function
- Backlit display multicolor LCD

MAIN FEATURES

Ventilated or refrigerated centrifuge (CFC-free), with **automatic rotor detection**, check of presence of accessories and of allowed max. speed.

Speed limiter for laboratory safety. Contemporary visualisation of all centrifugal parameters.

Low number of keys, adjustment handle with confirming function and guide for an extremely intuitive operativity. Equipped with brushless motor, maintenance free and silent.

Programmable speed from 500 to 16000 rpm (subjected to the rotor placed) with step of 50 rpm.

RCF adjustable up to 21000 xg (subjected to the placed rotor).

Centrifugation time from 00:30 to 99:50 (mm:ss) with increases in 10 seconds or constantly function.

Acceleration and deceleration adjustable on 10 levels.

10 Programs with overwriting security system.

Centrifugal function SPIN.

Lighting and acoustic signal for after centrifugation.

Automatic locking system of the lid with possibility to recover the tubes in case of electric power absence.

Imbalance detection system with automatic functioning stop.

The centrifuge follows the directives **EN61010-1; EN61010-2-020; EN61326-1.**

Compact sizes to optimize the space in laboratory

The room access height of only 27,5 cm makes the **loading and unloading operation of the centrifuge easy.**

Max. noisiness: 55 dB

Power supply: 220V, 50 Hz.

Warranty: 24 months



NEYA 16 R

REFRIGERATED VERSION

Adjustable temperature from -10 °C to +40 °C (from +14 to +104 °F) with increases and decreases of 1 °C (or 1°F).

"Precool" function for the fast cooling of the centrifuge.











Name	Max load	Max speed	External dimensions (L x P x A)	Weight	p/n
NEYA 16 WITHOUT ROTOR	4 x 175 ml	16000 rpm	45 x 59 x 33 cm	40 Kg	40100322
NEYA 16R WITHOUT ROTOR	4 x 175 ml	16000 rpm	73 x 64 x 33 cm	70 Kg	40100342

SWING OUT ROTOR

Nome	Description	p/n
SB 4-175 KIT	Kit includes : Swing out rotor S 4-175 , maximum capacity 4 x 175 ml. Maximum speed 4.500rpm, RCF max. 3600xg. 4 buckets B 175 4 Biosafe lids L 175	40100502
L 175 SPARE PART COVER	Biosafe lid for bucket B 175.	40101522
B 175 SPARE PART GLASS	Aluminium bucket of 175 ml for rotor S 4-175.	40101512



HOW TO CHOOSE THE INSERT CONSIDERING THE TUBE

 I 12-2 Ø ≤ 10,6 mm H ≤ 42 mm	 I 7-5/7 Ø ≤ 13 mm H ≤ 116 mm	 I 7-10 Ø ≤ 16 mm H ≤ 114 mm	 I 4-15F Ø ≤ 17 mm H ≤ 120 mm
 I 4-15R Ø ≤ 17 mm H ≤ 110 mm	 I 1-50 SF Ø ≤ 29 mm H ≤ 116 mm	 I 1-50R Ø ≤ 30 mm H ≤ 110 mm	 I 1-100 Ø ≤ 46 mm H ≤ 102 mm

INSERTS FOR BUCKETS B 175 – KIT OF 4 PIECES - Tubes not included

Name	Description	Max Tubes	p/n
I 12-2	Kit of inserts (12 tubes each) of 1,5-2 ml type Eppendorf®	48	40100602
I 7-5/7	Kit of inserts (7 tubes each) from levy Vacutainer® of 5-7 ml. (Ø x L) 13x75 and 13x100 mm.	28	40100612
I 7-10	Kit of inserts (7 tubes each) from levy Vacutainer® of 10 ml. (Ø x L) 16x100 mm	28	40100622
I 4-15 F	Kit of inserts (4 tubes each) with conical bottom type Falcon® of 15 ml. (Ø x L) 17x120 mm	16	40100632
I 4-15 R	Kit of inserts (4 tubes each) with round bottom of 15 ml (Ø x L) 17x110 mm	16	40100642
NEW I 1-50 SF	Kit of inserts (1 tube each) with conical bottom type Falcon® of 50 ml (Ø x L) 29x116 mm. The insert is suitable with conical bottomed self-standing tubes.	4	40100682
I 1-50 R	Kit of inserts (1 tube each) with round bottomed of 50 ml. (Ø x L) 30x110 mm	4	40100662
I 100 R	Kit of inserts (1 tube each) with round bottomed of 100 ml. (Ø x L) 46x102 mm	4	40100672

TUBES

Name	Description	p/n
T 15F	Plastic tube type Falcon® of 15 ml (Ø x L) 17 x 120 mm	40003402
T 15G	Glass round bottomed tube of 15 ml (Ø x L) 17 x 110 mm (max. speed 3000 rpm)	40003412
T 15P	Plastic round bottomed tube of 15 ml (Ø x L) 17 x 102 mm	40003422
T 50F	Plastic tube type Falcon® of 50 ml (Ø x L) 29 x 116 mm	40003432
T 50G	Glass round bottomed tube of 50 ml (Ø x L) 30 x 110 mm (max. speed 3000 rpm)	40003442
T 50P	Plastic round bottomed tube of 50 ml (Ø x L) 30 x 100 mm	40003452
T 100G	Glass round bottomed tube of 100 ml (Ø x L) 46 x 102 mm (max. speed 3000 rpm)	40003462
T 100P	Plastic round bottomed tube of 100 ml (Ø x L) 46 x 100 mm	40003472
T 175	Plastic bottle with round bottom of 175 ml with screw lid (Ø x L) 57 x 97 mm	40003492

SWING OUT ROTOR

Name	Description	p/n
S 4-175 ONLY ROTOR	Swing out rotor maximum capacity 4 x 175 ml for aluminium carrier and buckets. Max. speed 4.500rpm, RCF max. 3.600 xg.	40101502
S 6-96 MP PLATES INCLUDED	Swing out rotor for microplates, maximum capacity of 6 plates of 96 wells. Maximum speed 3.200rpm, RCF max. 1.950 xg. Supplied with 2 trays.	40100522

S 4-175
ONLY ROTOR

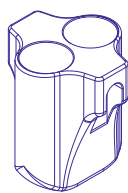
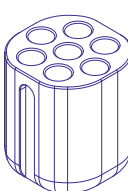
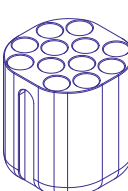
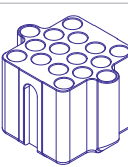


S 6-96 MP
PLATES INCLUDED






CARRIERS FOR SWING ROTOR S 4-175

MINIMUM ORDER QUANTITY 4 PIECES

Name	Description		Max n° of tubes	p/n
B 2-50 F	Carrier for 2 conical bottomed tube type Falcon® of 50 ml (Ø x L) 29x116 mm.		8	40101532
B 2-50 R	Carrier for 2 round bottomed tubes of 50 ml (Ø x L) 30x110 mm.		8	40101582
B 7-15 F	Carrier for 7 conical bottomed tubes type Falcon® of 15 ml (Ø x L) 17x120 mm.		28	40101542
B 7-15 R	Carrier for 7 round bottomed tubes of 15 ml (Ø x L) 17x110 mm.		28	40101592
B 12-10	Carrier for 12 collection tubes Vacutainer® of 10 ml (Ø x L) 16x110 mm.		48	40101552
B 14-5/7	Carrier for 14 collection tubes Vacutainer® of 5-7 ml (Ø x L) 13x100 mm.		56	40101562
B 16-5/7	Carrier for 16 collection tubes Vacutainer® of 5-7 ml (Ø x L) 13x75 mm.		64	40101572

HIGH CAPACITY FIXED ROTOR

Name	Description	Max. speed.	RCF max (xg)	n° of tubes max	p/n
A 32-15 N	 37° fixed angle rotor for 15 ml tubes	5200	4020	32	40100802
A 8-50	 37° fixed angle rotor for 50 ml tubes	6000	4800	8	40100812
A 6-100	 37° fixed angle rotor for 100 ml tubes	5000	3330	6	40100822






All the rotors are supplied without buckets.

BUCKETS- FOR HIGH CAPACITY ROTORS - TUBE INCLUDED

For rotor	Name	Description	p/n
A 32-15 MIN. 32 PZ	B 15 F	For conical bottomed tubes of 15 ml. Complete with Falcon® tube of 15 ml. (Ø x L) 17x120 mm	40101002
	B 15 G	For round bottomed tubes of 15 ml. Complete with glass tube of 15 ml. (Ø x L) 17x110 mm	40101012
	B 15 P	For round bottomed tubes of 15 ml. Complete with plastic tube of 15 ml. (Ø x L) 17x102 mm	40101022
A 6-50 MIN. 6 PZ	B 50 XF	for conical bottomed tubes of 50 ml. Complete with Falcon® tube of 50 ml (Ø x L) 29x116 mm	40101032
A 8-50 MIN. 8 PZ	B 50 XG	for round bottomed tube of 50 ml. Complete with glass tube of 50 ml (Ø x L) 30x110 mm	40101042
	B 50 XP	for round bottomed tubes of 50 ml. Complete with plastic tube of 50 ml. (Ø x L) 30x100 mm	40101052
A 6-100 MIN. 6 PZ	B 100 G	for round bottomed tubes of 100 ml. Complete with glass tube of 100 ml. (Ø x L) 46x102 mm	40101092
	B 100 P	for round bottomed tubes of 100 ml. Complete with plastic tube of 100 ml. (Ø x L) 46x110 mm	40101102

HIGH SPEED ROTOR

FOR NEYA 16 AND NEYA 16 R

Name	Description	Max speed (rpm)	RCF max (xg)	n° of tubes max	p/n
A 6-50 HIGH SPEED	 34° fixed angle rotor for 50 ml tubes. With BIOSAFE lid	9500	10050	6	40100862
A 12-5	 45° fixed angle rotor for 5 ml Eppendorf® tubes With BIOSAFE lid	14000	20380	12	40100832
A 24-2	 45° Fixed angle rotor for 1,5-2 ml Eppendorf® tubes With BIOSAFE lid	15000	21000	24	40100842
A 36-05	 37° fixed angle rotor for 0,5 ml Eppendorf® tubes With BIOSAFE lid	15000	21.000	36	40100852
PCR 4-8	 45° fixed angle rotor for PCR strip of 8 tubes With BIOSAFE lid	15000	21000	4	40100872

All the rotors are supplied without buckets.

REDUCTORS – COMPLETE WITH BUCKETS – TUBE INCLUDED

Name	Description	p/n
RE 15-5/7	Reductor for round bottomed tubes of 5/7 ml (Ø x L) 13x75 and 13x100 mm for rotor A32-15N	40101292
RE 50-15 F	Reductor for conical bottomed tubes type Falcon® of 15 ml. (Ø x L) 17x120 mm for rotor A 8-50 e A 6-50	40101322
RE 50-15 R	Reductor for round bottomed tubes of 15ml (Ø x L) 17x110 mm for rotor A 8-50 and A 6-50	40101332
RE 50-10	Reductor for round bottomed tubes of 10 ml (Ø x L) 16x100 mm for rotor A 8-50 and A 6-50	40101342
RE 100-50 F	Reductor for conical bottomed tubes of 50 ml type Falcon®, (Ø x L) 29x116 mm for rotor A 6-100	40101352
RE 100-50 R	Reductor for round bottomed tubes of 50 ml (Ø x L) 30x110 mm for rotor A 6-100	40101362
RE 100-15 F	Reductor for conical bottomed tubes of 15 ml type Falcon®, (Ø x L) 17x120 mm for rotor A 6-100	40101372
RE 100-15 R	Reductor for round bottomed tubes of 15 ml (Ø x L) 17x110 mm for rotor A 6-100	40101382

REDUCTOR – TUBE NOT INCLUDED

Nome	Description	p/n
RE 2-05	Reductor for microtubes of 0,5 ml for rotor A 24-2. Kit of 24 pieces	40101262
RE 2-02	Reductor for microtubes of 0,2 ml for rotor A 24-2. Kit of 24 pieces.	40101272
RE 05-02	Reductor for microtubes 0,2 ml for rotor A 36-05. Kit of 36 pieces	40101282

R-5S +

- Max load capacity 12X15 ml
- Max speed 5250 rpm
- Max RCF 4280xg
- Timer from 1 to 60 min or continuous

MAIN FEATURES

Ventilated centrifuge with LCD display to set the speed and time of centrifugation.

Low number of keys, adjustment handle with confirming function and guide for an extremely intuitive operativity.

Equipped with brushless motor, maintenance free and silent.

Programmable speed from 500 to 5250 rpm with step of 50 rpm.

Centrifugation time from 1 to 99 minutes with increases in 1 minute or constantly function.

Lower breaking time thanks to the function "BREAK"

Imbalance detection system with automatic functioning stop.

Automatic locking system of the lid with possibility to recover the tubes in case of electric power absence.

Compact sizes to optimize the space in laboratory.

The centrifuge follows the directives EN61010-1; EN61010-2-10

Power supply: 220V, 50 Hz.

Max. noisiness: 53 dB

Supplied with:

fixed angle aluminium rotor R-83A, 12x15 ml, steel buckets B 15-P and plastic round bottomed tubes T 15-P of 15 ml 17x100 mm.



R-83 A

Name	Load capacity	Max speed	External dimensions (L x P x A)	Weight	p/n
R-5S + CENTRIFUGE	12 X 15 ml	5250 rpm	33 x 37 x 28 cm	24 Kg	40000022

ACCESSORIES - FOR R-5S+

Name	Description	p/n
R-83 A ROTOR	Replacement rotor complete with tubes and buckets B 15-P	40000272
B 15-P CANISTER	Replacement metal bucket complete with plastic tube of 15 ml	40101022
B 15-F CANISTER	Spare part metal bucket complete with Falcon® tube of 15ml Max. 6 buckets to be placed into the internal spaces	40101002
RE 15-5/7	Reductor for round bottomed tubes of 5/7 ml (Ø x L) 13x75 and 13x100 mm for rotor R 83-A	40101292

MULTISPIN 12 - ULTRACOMPACT

- Max load capacity 6 X2 ml
- Max speed 12000 rpm
- Timer from 30 sec to 99 min

MAIN FEATURES

Ultra-compact minicentrifuge, equipped with silent induction motor and maintenance free; speed: adjustable from 1000 to 12,000 rpm with steps of 1000 in 1000 rpm.

Power supply: 220V, 50-60 Hz. Max. consumption: 30 W.

Max. noisiness: 45 dB.



Supplied with 2 rotors:

model A 6-2 able to hold simultaneously no. 6 tubes of 2 ml, no. 6 tubes of 0,5 ml, nr. 6 tubes of 0,2 ml;

model PCR 2-8 for no. 2 strips of 8 PCD tubes of 0,2 ml.

Name	Load capacity	Max speed	External dimensions (L x P x A)	Weight	p/n
MULTISPIN 12 MINICENTRIFUGE	6 x 2 ml	12000 rpm	122 x 176 x 196 mm.	1,5 Kg	40005012



STIRRERS



All these instruments have passed the rigorous quality and reliability tests that Giorgio Bormac prepares for each new product.

The manufacturer, ISO 9001 certified with registered office in P.R.C., has accepted to make the improvement changes requested by us.

With these premises we decided to use our brand : **ARGO LAB**.

Argo is the name of our dog, a black Labrador mongrel, which with its strength and loyalty brightens up our days in the office and at home.

This is why we want these tools to become reliable companions for your laboratory.

M2-A

MAIN FEATURES

Analog magnetic stirrer with **heating plate**.
Stainless steel plate with diameter of 135 mm.
Induction motor without maintenance. Degree of protection: IP 42.
Dimensions (W x H x D): 280x160x65mm.



Name	Volume	Speed	T Max heating	Power heating	p/n
M2-A	20 L	0...1500 rpm	340 °C	500 W	22002013

M2-D Pro

MAIN FEATURES

Digital magnetic stirrer microprocessor with **heating plate**.
Multifunction LCD display with continuous indication of speed and temperature.
3 pre-set operating modes, control and maximum temperature protection with visual alarm on the display, "Stirring" function control. Stainless steel plate with diameter of 135 mm.
Input for PT 1000 external temperature sensor, RS 232 interface for remote control.
Induction motor without maintenance.
Degree of protection: IP 42.
Dimensions (W x H x D): 280x160x65mm.



Name	Volume	Speed	T Max heating	Power heating	p/n
M2-D Pro	20 L	0...1500 rpm	340 °C	500 W	22002063

M3-D



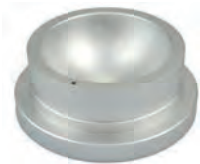







MAIN FEATURES

Digital magnetic stirrer microprocessor with **ceramic glass plate**.
LED display with continuous indication of temperature.
Accuracy $\pm 1^\circ\text{C}$ with internal sensor, $\pm 1^\circ\text{C}$ with external sensor.
Plate size 184 x 184 mm. **External sensor input for temperature PT 1000**.
Induction motor without maintenance.
Degree of protection: IP 42.
Dimensions (L x W x H): 215x360x112mm.



Name	Volume	Speed	T Max heating	Power heating	p/n
M3-D	10 L	0...1500 rpm	550 °C	1000 W	22003013

ACCESSORIES FOR MAGNETIC STIRRERS

Description		p/n
Adjustable support for PT 1000		22002523
PT 1000 probe, length 230 mm for stirrer M2-D Pro, M3-D		22002513
Reaction block for 100 ml round bottom flask		22002663
Reaction block for 250 ml round bottom flask		22002673
Reaction block for 500 ml round bottom flask		22002683
Black quarter pie 4 holes 40ml Ø 28 mm		22002623
Blue quarter pie 4 holes 30ml Ø 28 mm		22002613
Violet quarter pie 4 holes 20ml		22002603
Golden quarter pie 4 holes 16ml Ø 21,6 mm		22002643
Green quarter pie 6 holes 8ml Ø 17,8 mm		22002633
Red quarter pie 11 holes 4ml Ø 15,2 mm		22002593
Blue carrying plate for quarter pies		22002583
Plastic protective cover for stirrer M2-A, M2-D Pro		22002533



AM 20-D

MAIN FEATURES

Mechanical shaft stirrer with LED display.
 Safe stop function with indicator light for overheating motor.
 Upper passage hole for stirring shafts.
 Supplied with automatic spindle (Ø shaft max 10 mm).
 Protection degree IP 42. Power supply 220V. Warranty: 24 months.

Supplied without universal reaction block (check part no. 22005153).



Name	Stir Volume	Speed	Power	p/n
AM 20-D	20 L	50...2.200 rpm	50 W	22005013

AM 40-D Pro

MAIN FEATURES

Mechanical shaft stirrer with LCD display.
 Effort control with speed auto-adjustment.
 Torque trend display.
 Safe stop function with indicator light for overheating motor.
 Upper passage hole for stirring shafts.
 Supplied with automatic spindle (Ø shaft max 10 mm).
 Protection degree IP 42. Power supply 220V.

Supplied without universal reaction block (check part no. 22005153).



Name	Stir Volume	Speed	Power	p/n
AM 40-D PRO	40 L	50...2.200 rpm	100 W	22005043

ACCESSORIES for AM 20-D and AM 40-D PRO

Description	p/n
Universal plate stand for mechanical shakers. Supplied with clamp. Plate dimensions 200 x 315 mm, length shaft mm 800, diameter mm 18.	22005153
TYPE 1: Stirring shaft with floating blade. Shaft length 400 mm, width 89 mm	22005193
TYPE 2: Stirring shaft with fixed blade. Shaft length 400 mm, width 60 mm	22005173
TYPE 3: Stirring shaft with propeller blade. Shaft length 400 mm, width 50 mm	22005163
TYPE 4: Stirring shaft with 3 holes blade. Shaft length 400 mm, width 68 mm	22005183

Universal
plate



Type 1



Type 2



Type 3



Type 4



MIX

MAIN FEATURES

Mixer for test tubes, speed regulation from 0... 2,500 rpm.

Working at the touch or continuously.

Orbital shaking movement.

Eccentric motor with oil-free gears.

Degree of protection IP 21.

Dimensions (L x W x H): 127 x 160 x 130 mm. Weight: 3.5 kg.

220V power supply.



Name	Description	p/n
MIX	Vortex mixer	22008013



SKO-D XL

MAIN FEATURES

Shaking stirrer.

Double LCD display with indication of speed and time.

Stirring time adjustment from 1min. ...20 hours or continuous.

Exit RS 232 for remote control.

Maintenance-free brushless DC motor.

Plate dimensions: 320 x 320mm.

Overall dimensions (L x P x H): 420 x 370 x 100 mm. Weight: 13,5 Kg.

Protection degree IP 21. Power supply 220V.

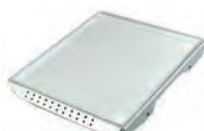


Supplied without any support.

Name	Movement	Max load	Speed	p/n
SKO-D XL ORBITAL	Orbital clockwise and counterwise	7,5 Kg	100...500 hit/min	22006013
SKO-D XL LINEAR	Linear amplitude 10 mm	7,5 Kg	100...350 hit/min	22006033
SKO-D XL 3D	3D clockwise and counterwise	5,0 Kg	10...70 hit/min	22006023

ACCESSORIES

Description	p/n
Support with anti-slip film	22006223
Universal support with 4 adjustable rollers	22006233
Additional roller for universal support	22006553
Drilled support for clips fixing	22006243
Fixing clip for flask volume 25 ml for fixing clip attachment. Max 28 clips	22006453
Fixing clip for flask volume 50 ml for fixing clip attachment. Max 16 clips	22006463
Fixing clip for flask volume 100 ml for fixing clip attachment. Max 16 clips	22006473
Fixing clip for flask volume 200/250 ml for fixing clip attachment. Max 9 clips	22006483
Fixing clip for flask volume 500 ml for fixing clip attachment. Max 9 clips	22006493



Dish attachment with non-slip mat



Universal attachment with 4 bars



Fixing clip attachment



SKI 4

- Working range: $+5^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
- Stirring speed: 40...300 rpm
- Stirring time: 1...9999 min (or continuous)
- Safety class 3.1 (DIN 12880)

MAIN FEATURES

Shaking incubator with orbital rotating movement.

Backlit wide LCD display with simultaneous viewing of the real and set temperature and of the stirring speed and time.

Temperature range adjustable from $37^{\circ}\text{C} \pm 0,1^{\circ}\text{C}$, temperature uniformity in space at $37^{\circ}\text{C} \pm 0,5^{\circ}\text{C}$.

Maximum stirring width 20 mm.

The instrument can be used as "incubator" (stirring = 0) and "shaking" mode only (Incubation = ambient temperature).

Universal platform with springs support, useful dimensions 320 x 320mm suitable for flasks, blocks, pipes and boxes with different dimensions. Supplied as standard.

Stirring standard capacity of nr. 7 flasks of 500 ml or nr. 4 flasks of 1000 ml (with universal support and platform).

Possibility to place a drilled support for flasks/blocks clips holder.

A wide 8 mm thick plexiglass dome for optimum viewing of samples, without loss of heat, equipped with gas springs for easy opening.

Shaking and heating block system for dome opening with automatic restart after closing.

Safety systems for overheating protection and safety variable flow expansion thermostat.

Safety class 3.1 (DIN 12880).

Maintenance-free induction motor. Overall dimensions (L x W x H): 500 x 610 x 470) mm. Weight: 40 Kg.

Power supply: 220V, nominal power 500 W.

Equipped with universal support and platform.



STIRRER

Name	Description	p/n
SKI 4	Incubator with shaking stirrer	41102012

ACCESSORIES

Description	p/n
Platform with no-slip mat	41102052
Universal platform with nr. 4 adjustable bars	41102042
Additional bar for universal platform	41102062
Holed platform for clips	41102112
Spring clips for 100 ml flasks for holed platform SKI 4. Max 16 clips	41102132
Spring clips for 200 / 250 ml flasks for holed platform SKI 4. Max 9 clips	41102142
Spring clips for 500 ml flasks for holed platform SKI 4. Max 9 clips	41102152
Spring clips for 1000 ml flasks for holed platform SKI 4. Max 4 clips	41102162
Spring clips for 2000 ml flasks for holed platform SKI 4. Max 4 clips	41102172

ARGO FILLER 3

MAIN FEATURES

Battery pipette filler, compatible with most of the plastic and glass pipettes from 0.1 to 100 ml, volumetric or graduated.

Exceptional aspiration and dispensing control thanks to compact and light design.

Ergonomic design of the handle providing easy usability.

Eight different speeds of selection and large LCD display showing low battery warning.

The knurled handle, the ambidextrous design, the concave buttons and an easy control assure an easy and comfortable use of the operator's hands for many hours.

The fully autoclavable mouth includes a silicone adapter and a 0,45 µm hydrophobic membrane filter.

The kit includes the benchtop stand and a wall-mounted holder, a power supply for the rechargeable batteries and nr. 1 filter, as spare part.



Name	Description	p/n
ARGO FILLER 3	Pipette filler	15100053
MEMBRANE FILTER SPARE PARTS	Membrane filters, hydrophobic 0,45µm. Kit of 10 pieces	15100573



ArgoLab stirrer brochures are available on our website www.xsinstruments.com , in PDF format.

THERMOSTATATION

ARGO LAB

WARRANTY
2
YEARS

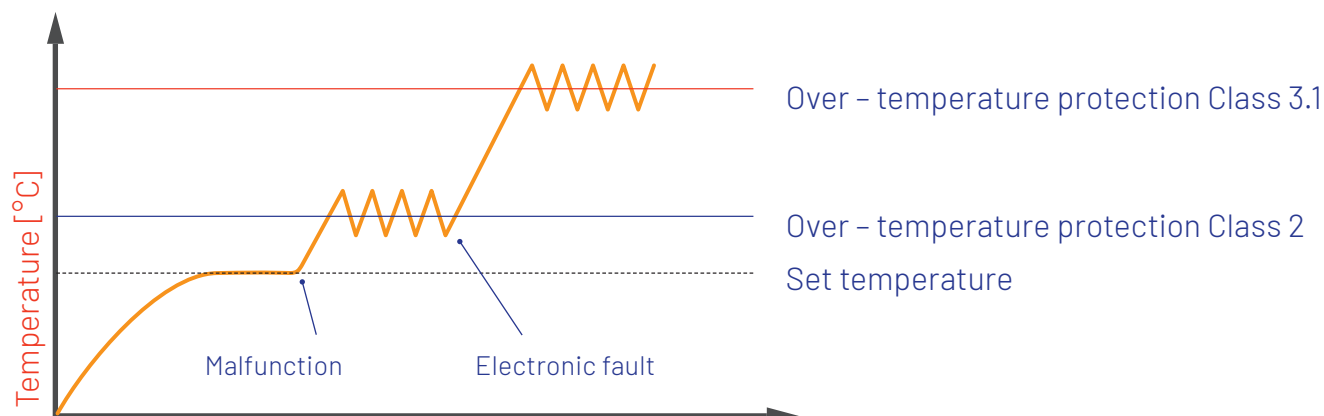


SAFETY CLASS 3.1

(STANDARD DIN 12880)

Double over-temperature protection: in case of exceeding in set temperature, an electronic and an electromechanical control, both adjustable by the operator, intervene in succession. Even in the event of an unlikely total breakdown, the second protection is able to interrupt quickly the power of the heating element, being constituted by a fluid expansion switch and a temperature probe, which are totally independent from the electronics. All Argolab instruments have a degree of protection of Class 2 at least.

The ovens and other instruments with more powerful heating elements are in Safety Class 3.1.



Super

PROJECT



All on board

Touch screen colour display for the selection of different functions. All parameters on a single screen: temperature, fan speed, time, program number and step, USB drive, date and time.



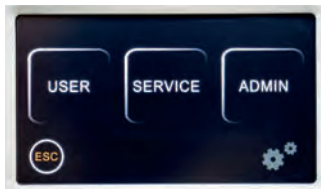
Easy to use

Easy and intuitive setting of all working parameters thanks to easy-to-understand icons and symbols. The capacitive display guarantees touch sensitivity and precision, even when wearing gloves.



Programs

Professional controller equipped with 8 storable programs with 8 steps each and an additional basic program (PROG 0) with single step. Simple programming of all working steps in a single screen.



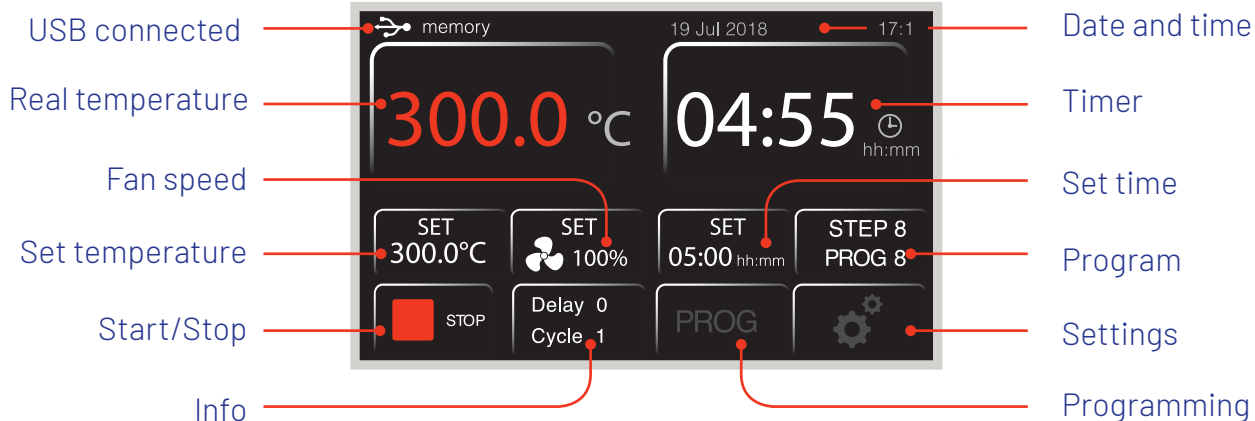
Safety of use

Setting menu with 3 access levels: no. 1 free and no. 2 protected by password in order to avoid accidental changes on the "sensitive" machine's parameters.



Recording and downloading data

The work cycles are automatically stored inside the instrument, always downloadable thanks to the USB port. With USB drive inserted, the recording takes place without capacity limits.



SERIE *Plus*



All in one

Backlit LCD display with all parameters in one screen: real temperature, set temperature, fan speed and running program



Intuitive reading

Easy reading of the most important parameters, thanks to the clear and logical distribution of numerical values, symbols and user-friendly icons.



Easy to use

The limited number of keys and setting steps ensures an extremely intuitive and fast operability



TCN SERIE *Super*

- Working range: +5 °C Ta ... +300 °C
- Colour touchscreen display
- 8 storable programs with 8 steps each
- Basic program single step
- Data recording and downloading

MAIN FEATURES

Natural convection oven ArgoLab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Minimum heating times and reduced heating power for low energy consumption in every application.

Recording of working data without limit on USB drive.

Safety class 3.1 (DIN 12880): maximum temperature regulator with fluid expansion.

Standard passage hole of Ø 5 mm (upper side) for insertion of an external temperature probe to control and/or certification of internal temperature.



Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.

Power supply 220 ± 10% V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument, USB drive for recording and downloading data.

TCN SUPER

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
TCN 50 SUPER	50	± 0,5	± 3,5	690 x 635 x 470	53	1000	41100502
TCN 115 SUPER	115	± 0,5	± 3,5	815 x 750 x 600	74	1900	41100512
TCN 200 SUPER	200	± 0,7	± 4,0	940 x 905 x 660	103	2100	41100522

TCN PLUS

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
TCN 30* PLUS	30	± 0,5	± 3,5	460 x 685 x 530	40	700	41100062
TCN 50 PLUS	50	± 0,5	± 3,5	690 x 635 x 470	53	1000	41100002
TCN 115 PLUS	115	± 0,5	± 3,5	815 x 750 x 600	74	1900	41100012
TCN 200 PLUS	200	± 0,7	± 4,0	940 x 905 x 660	103	2100	41100022

* Working range TCN 30: +10°C T amb. ... +200 °C

TCN SERIE Plus

- Working range: $+5^{\circ}\text{C}$ T_a ... $+300^{\circ}\text{C}$ *
- Backlit LED display
- 7 storable programs with 10 steps each
- Basic program *single* step

* except TCN 30: $+10^{\circ}\text{C}$ T_{amb} $+200^{\circ}\text{C}$

MAIN FEATURES

Natural convection oven Argolab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Minimum heating times and reduced heating power for low energy consumption in every application.

Safety class 3.1 (DIN 12880): maximum temperature regulator with fluid expansion.

Standard passage hole of $\varnothing 5$ mm (upper side) for insertion of an external temperature probe to control and/or certification of internal temperature.

Stainless steel chamber with rounded corners, supports and






shelves completely removable for an easy cleaning.

Power supply $220 \pm 10\%$ V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument.

ACCESSORIES FOR TCN (SUPER AND PLUS)

Description		p/n
Steel wire shelves for TCN 30		41100142
Steel wire shelves for TCN 50		41100102
Steel wire shelves for TCN 115		41100112
Steel wire shelves for TCN 200		41100122
Holed platform for oven TCN 30		41100192
Holed platform for oven TCN 50		41100152
Holed platform for oven TCN 115		41100162
Holed platform for oven TCN 200		41100172
Internal hole $\varnothing 25$ mm complete with closing cap (Only on the sides shown in the picture - position to choose)		41110152
Internal hole $\varnothing 50$ mm complete with closing cap (Only on the sides shown in the picture - position to choose)		41110142
Wheels for TCN 200. Kit of 4 pieces		41101172
Manual IQ-00		41119002

TCF SERIE *Super*

- Working range: +5 °C T_a ... +70 °C
- Colour touchscreen display
- 8 storable programs with 8 steps each
- Basic program single step
- Data recording and downloading

MAIN FEATURES

Forced air oven ArgoLab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Adjustable fan on 3 levels: High= 100% - Medium= 75% - Low= 50%
Minimum heating times and reduced heating power for low energy consumption in every application.

Recording of working data without limit on USB drive.

Safety class 3.1 (DIN 12880): maximum temperature regulator with fluid expansion.

Standard passage hole of Ø 5 mm (upper side) for insertion of



an external temperature probe to control and/or certification of internal temperature.

Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.

Power supply 220 ± 10% V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument, USB drive for recording and downloading data.

TCF SUPER

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
TCF 50 SUPER	50	± 0,3	± 2%	690 x 635 x 570	54	980	41100602
TCF 120 SUPER	120	± 0,3	± 2%	810 x 750 x 690	74	1900	41100612
TCF 200 SUPER	200	± 0,4	± 2%	945 x 870 x 755	103	2400	41100622
TCF 400 SUPER	400	± 0,2	± 2%	1285 x 1060 x 750	160	3200	41100632

TCF PLUS

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
TCF 50 PLUS	50	± 0,3	± 2%	690 x 635 x 570	54	980	41100202
TCF 120 PLUS	120	± 0,3	± 2%	810 x 750 x 690	74	1900	41100212
TCF 200 PLUS	200	± 0,4	± 2%	945 x 870 x 755	103	2400	41100222
TCF 400 PLUS	400	± 0,2	± 2%	1285 x 1060 x 750	160	3200	41100232

TCF SERIE **Plus**

- Working range: +5°C Ta ... +300 °C *
- Backlit LED display
- 7 storable programs with 10 steps each
- Basic program *single* step

MAIN FEATURES

Forced air oven ArgoLab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Adjustable fan on 3 levels: High= 100% - Medium = 75% - Low= 50%

Minimum heating times and reduced heating power for low energy consumption in every application.

Safety class 3.1 (DIN 12880): maximum temperature regulator with fluid expansion.

Standard passage hole of Ø 5 mm (upper side) for insertion of an external temperature probe to control and/or certification of in-

ternal temperature.

Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.




Power supply 220 ± 10% V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument



TEMPERATURE
THERMOSTATATION

ACCESSORIES TCF (SUPER AND PLUS)

Description		p/n
Steel wire shelves for TCF 50		41100102
Steel wire shelves for TCF 120		41100112
Steel wire shelves for TCF 200		41100122
Steel wire shelves for TCF 400		41100132
Holed platform for oven TCF 50		41100152
Holed platform for oven TCF 120		41100162
Holed platform for oven TCF 200		41100172
Holed platform for oven TCF 400		41100182
Internal hole Ø 25 mm complete with closing cap (Only on the sides shown in the picture - position to choose)		41110152
Internal hole Ø 50 mm complete with closing cap (Only on the sides shown in the picture - position to choose)		41110142
Wheels for TCF 200 and 400. Kit of 4 pieces		41101172
Manual IQ-00		41119002

ICN *SERIE Super*

- Working range: +5 °C Ta ... +70 °C
- Colour touchscreen display
- 8 storable programs with 8 steps each
- Basic program single step
- Data recording and downloading

MAIN FEATURES

Natural convection oven ArgoLab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Minimum heating times and reduced heating power for low energy consumption in every application.

Recording of working data without limit on USB drive.

Safety class 2 (DIN 12880)

Samples checking without heat loss: wide glass window door (ICN 16 ICN 35), double door (the internal one is made of glass) for the other models.

Standard passage hole of Ø 5,5 mm (upper side) for insertion of



an external temperature probe to control and/or certification of internal temperature.

Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.

Power supply 220 ± 10% V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument, USB drive for recording and downloading data.

ICN SUPER

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
ICN 16 SUPER	16	± 0,3	± 0,4	530 x 370 x 400	23	85	41101302
ICN 35 SUPER	35	± 0,3	± 0,4	620 x 440 x 460	33	125	41101312
ICN 55 SUPER	55	± 0,3	± 0,5	660 x 500 x 545	42	250	41101322
ICN 120 SUPER	120	± 0,3	± 0,5	780 x 610 x 645	61	350	41101332
ICN 200 SUPER	200	± 0,3	± 0,5	875 x 755 x 710	77	600	41101342

ICN PLUS

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
ICN 16 PLUS	16	± 0,3	± 0,4	530 x 370 x 400	23	85	41101002
ICN 35 PLUS	35	± 0,3	± 0,4	620 x 440 x 460	33	125	41101012
ICN 55 PLUS	55	± 0,3	± 0,5	660 x 500 x 545	42	250	41101022
ICN 120 PLUS	120	± 0,3	± 0,5	780 x 610 x 645	61	350	41101032
ICN 200 PLUS	200	± 0,3	± 0,5	875 x 755 x 710	77	600	41101042

ICN SERIE **Plus**

- Working range: $+5^{\circ}\text{C}$ T_a ... $+70^{\circ}\text{C}$ *
- Backlit LED display
- 7 storable programs with 10 steps each
- Basic program *single* step

MAIN FEATURES

Natural convection oven Argolab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Minimum heating times and reduced heating power for low energy consumption in every application.

Safety class 2 (DIN 12880)

Samples checking without heat loss: wide glass window door (ICN 16 ICN 35), double door (the internal one is made of glass) for the other models.

Standard passage hole of \varnothing 5,5 mm (upper side) for insertion of an external temperature probe to control and/or certification of internal temperature.

Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.

Power supply $220 \pm 10\%$ V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument.



Glass window

ACCESSORIES FOR ICN (SUPER AND PLUS)

Description		p/n
Steel wire shelves for ICN 16		41101112
Steel wire shelves for ICN 35		41101122
Steel wire shelves for ICN 55		41101132
Steel wire shelves for ICN 120		41101142
Steel wire shelves for ICN 200		41101152
Wheels for ICN 200. Kit of 4 pieces		41101172
Manual IQ-00		41119002

ICF

SERIE *Super*

- Working range: +5 °C Ta ... +80 °C
- Colour touchscreen display
- 8 storable programs with 8 steps each
- Basic program single step
- Data recording and downloading



MAIN FEATURES

Forced air incubator ArgoLab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator. Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Sterilisation special program at 130° C

Adjustable fan on 3 levels: High= 100% - Medium = 75% - Low= 50%

Minimum heating times and reduced heating power for low energy consumption in every application.

Recording of working data without limit on USB drive.

Minimum heating times and reduced heating power for low energy consumption in every application.

Recording of working data without limit on USB drive.

Safety class 3.1 (DIN 12880): maximum temperature regulator with fluid expansion.

Standard passage hole of Ø 5 mm (upper side) for insertion of an external temperature probe to control and/or certification of internal temperature.

Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.

Power supply 220 ± 10% V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument, USB drive for recording and downloading data.

ICF SUPER

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
ICF 120 SUPER	120	± 0,1	± 0,4	810 x 750 x 690	74	600	41100912
ICF 200 SUPER	200	± 0,2	± 0,4	945 x 870 x 755	103	700	41100922
ICF 400 SUPER	400	± 0,3	± 0,5	1285 x 1060 x 750	160	1500	41100932

ICF PLUS

Name	Volume (l)	Stability at 150 °C	Homogeneity at 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
ICF 120 PLUS	120	± 0,1	± 0,4	810 x 750 x 690	74	600	41100812
ICF 200 PLUS	200	± 0,2	± 0,4	945 x 870 x 755	103	700	41100822
ICF 400 PLUS	400	± 0,3	± 0,5	1285 x 1060 x 750	160	1500	41100832

ICF SERIE Plus

- Working range: $+5^{\circ}\text{C}$ T_a ... $+80^{\circ}\text{C}$ *
- Backlit LED display
- 7 storable programs with 10 steps each
- Basic program *single* step

MAIN FEATURES

Forced air incubator ArgoLab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator. Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Sterilisation special program at 130°C

Adjustable fan on 3 levels: High= 100% - Medium = 75% - Low= 50%

Minimum heating times and reduced heating power for low energy consumption in every application.

Safety class 3.1 (DIN 12880): maximum temperature regulator with fluid expansion.

Standard passage hole of \varnothing 5 mm (upper side) for insertion




of an external temperature probe to control and/or certification of internal temperature.

Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.

Power supply $220 \pm 10\%$ V - 50 Hz.

Supplied with: two steel wire shelves, calibration report at 150°C executed with certificated Accredia instrument.

ACCESSORIES FOR ICF (SUPER AND PLUS)

Description		p/n
Steel wire shelves for ICF 120		41100112
Steel wire shelves for ICF 200		41100122
Steel wire shelves for ICF 400		41100132
Holed platform for ICF 120		41100162
Holed platform for ICF 200		41100172
Holed platform for ICF 400		41100182
Internal hole \varnothing 25 mm complete with closing cap (Only on the sides shown in the picture - position to choose)		41110152
Internal hole \varnothing 50 mm complete with closing cap (Only on the sides shown in the picture - position to choose)		41110142
Wheels for ICF 200 and ICF 400. Kit of 4 pieces		41101172
Manual IQ-00		41119002

IC 150-R

- Working range: 0 ... +60 °C
- Volume 150 liters
- Backlit LED display
- 7 storable programs with 10 steps each
- Basic program single step

MAIN FEATURES

Air forced cooled incubator Argolab.

Simultaneous display of all operating parameters.

Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Safety class 3.1 (DIN 12880): maximum temperature regulator with fluid expansion.

Lateral internal passage hole of Ø 25 mm for insertion of one or more external temperature probes to control and/or certification of internal temperature. Stainless steel chamber with rounded corners, supports and shelves completely removable for an easy cleaning.

Power supply 220 ± 10% V - 50 Hz.

Supplied with: three steel wire shelves, calibration report at 25°C executed with certificated Accredia instrument.



IC 150-R

Name	Volume (l)	Stability at 150 °C	Homogeneity a 150 (°C)	External dim. LxAxP (mm)	Weight (kg)	Power (W)	p/n
IC 150-R PLUS	150	± 0,1	± 0,5	650 x 1350 x 620	100	700	41101512

ACCESSORIES IC 150-R

Description	p/n
Steel wire shelves for IC 150-R	41101562
Internal hole Ø 25 mm complete with closing cap (On upper and lateral sides only)	41110152
Internal hole Ø 50 mm complete with closing cap (On upper and lateral sides only)	41110142
Manual IQ-00	41119002

CH 150 / CH 250

CLIMATIC CHAMBER

- Working range RH: +45... +95 % RH
- Working range with humidity: +10 ... 70 °C
- Working range without humidity: -10 ... +85 °C
- Storable programs from 1 to 100 steps

MAIN FEATURES

Climatic chamber ArgoLab.

Backlit digital LCD.

Digital timer, clock with hour and date for GLP functions.

Standard supplied mini printer for operating and set parameters output.

Safety class 3.1(DIN 12880): maximum temperature regulator with fluid expansion.

Stainless steel chamber with rounded corners.

External steel door with wide glass window and led inner lamp for observation of the samples.

Lateral internal passage hole of Ø 25 mm for insertion of one or more external temperature probes to control and/or certification of internal temperature.

Power supply 220 ± 10% V - 50 Hz.

Temperature homogeneity in the chamber:

±0,5 °C (without humidity), ± 1,5 °C (10 °C ÷ 70 °C / 45 ÷ 95% RH)

Temperature variation over time:

±0,2 °C (without humidity), ± 0,5 °C (10 °C ÷ 70 °C / 45 ÷ 95% RH)

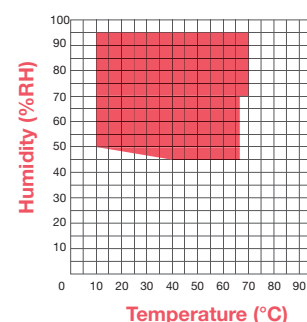
Humidity fluctuation:

≤ 2 % (10 °C ÷ 70 °C / 45 ÷ 95% RH)

Supplied with: three steel wire shelves, water tank for humidity generator.



T-H working range



Name	Volume (l)	External dimensions LxAxP (mm)	Weight (kg)	p/n
CH 150	150	690 x 1520 x 790	145	41101412
CH 250	250	740 x 1680 x 885	185	41101422

ACCESSORIES CH 150 / CH 250

Description	p/n
Steel wire shelves for CH 150	41101462
Steel wire shelves for CH 250	41101472
Internal hole Ø 25 mm complete with closing cap (Only on the sides shown in the picture - position to choose)	41110152
Internal hole Ø 50 mm complete with closing cap (Only on the sides shown in the picture - position to choose)	41110142
Manual IQ-00	41119002

CB 5 SERIES CIRCULATING BATH

- Working range: -30 / -20 / -10 ... +100 °C
- Volume: 5 liters
- External PT100 to control the temperature of the cycle
- Backlit LED display

MAIN FEATURES

Circulating bath Argolab

Simultaneous display of all operating parameters. Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Safety class 2 (DIN 12880): maximum temperature regulator with fluid expansion.

Standard passage hole of Ø 5 mm (upper side) for insertion of an external temperature probe to control and/or certification of internal temperature.

Contemporary circulation of the fluid inside and outside the tank to improve the thermic stability and inertia.

Automatic reading of the temperature of the external cycle through the probe PT100 supplied as standard.

Handy pipe to exclude the external circulation for an easy cleaning and maintenance.

Safety system in case of absence of the thermal fluid.

Internal stainless-steel tank, equipped with lid, easily accessible.



Power supply: 220 ± 10% V - 50 Hz.

Supplied with: probe PT100 for the external control of the temperature.

Set of two 2 mt. pipes with insulating material (working range -40...+60 °C), metal clamps, and pipe fittings.

MODELS

Name	Volume (l)	Working range (°C)	Dimensions LxAxP (mm)	Weight (kg)	p/n
CB 5-10	5	-10 ... +100	290 x 570 x 710	34	41102202
CB 5-20	5	-20 ... +100	380 x 670 x 840	54	41102212
CB 5-30	5	-30 ... +100	380 x 670 x 840	54	41102222

ACCESSORIES FOR CB

	Description	p/n
PIPES	Kit of two 2 mt. pipes with insulating material (working range -40...+60 °C), complete with metal clamps for fastening to the pipe fittings.	41102302
WHEELS	Kit of 4 swivel wheels, two of which can be braked	41102312
THERMAL FLUID	Pre-mixed ready-to-use thermal fluid, working range -30...+80 °C. 5 litres tank.	41102322
PT 56 TFE	External temperature probe in TFE for CB	51000252

WB SERIES

- Working range : +5°C Ta ... +85 / +100 °C
- Volume 12 / 22 / 40 liters
- Backlit LED display

MAIN FEATURES

Waterbath Argolab.

Safety class 2 (DIN 12880).

Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Internal tank and drilled bottom plate (removable) in high quality stainless steel.


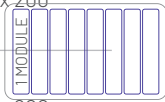
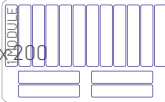
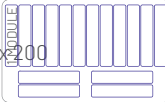


WB 22 Pump and WB 40 Pump ensure a faster and more uniform temperature distribution thanks to the recirculation pump.

Power supply: 220 ± 10% V - 50 Hz.

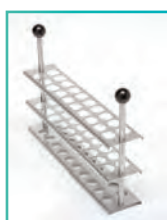
Supplied with: stainless steel lid with 5 mm hole for the passage of an external probe, drilled bottom plate and pipes kit for the tank emptying (only WB 22 and WB 40).

MODELS

Name	Volume (l)	Working range (°C)	Stability at 37 °C	Tank dimensions LxAxP (mm)	Disposition rack	p/n
WB 12	12	+5 Ta ... +100	± 0,1	300 x 240 x 200		41101602
WB 22	22	+5 Ta ... +100	± 0,1	500 x 295 x 200		41101712
WB 22 PUMP	22	+5 Ta ... +85	± 0,1	500 x 295 x 200		41101612
WB 40 PUMP	40	+5 Ta ... +85	± 0,2	645 x 395 x 200		41101622

ACCESSORIES FOR WB

Description	Modules	p/n
RACK 1 for pipes Ø13mm / 20 places	1	41101802
RACK 2 for pipes Ø18mm / 20 places	1	41101812
RACK 3 for pipes Ø31mm / 5 places	1	41101822
RACK 4 for pipes Ø56mm / 8 places (biberon)	3	41101842
RACK 5 for blood sachets / 5 places	3	41101852



RACK 1
Ø13mm



RACK 2
Ø18mm



RACK 3
Ø31mm



RACK 4
Ø56mm



RACK 5
for blood sachets

SB 35

SHAKING BATH

- Working range : $+5^{\circ}\text{C}$ Ta ... $+100^{\circ}\text{C}$
- Tank capacity: 35 litres
- Backlit LED display

MAIN FEATURES

Shaking bath Dubnoff Argolab.

Visual and acoustic alarms which can be silenced by the operator.

Digital timer with a range of programming 1 min - 99 h 59 min. and continuous working.

Possibility to set a delayed start of heating cycle.

"Safe temperature" function: working temperature limiter for sample protection.

Safety class 2 (DIN 12880).

Power supply: 230V/50Hz, weight: 28kg.



Supplied with: stainless steel lid with 5 mm hole for the passage of an external probe, universal basket with stainless steel spring supports, tank emptying pipe and quick-coupling valve for the periodic liquid replacement.

MODELS

Name	Volume (l)	Working range ($^{\circ}\text{C}$)	Stability a 37°C	Homogeneity a 37°C	Basket dimensions LxAxP (mm)	p/n
SB 35	35	± 5 Ta ... $+100$	$\pm 0,5$	± 1	320 x 115 x 200	41101732



DU - DIGITAL ULTRASONIC BATHS

- Working range : +5°C Ta ... +80 °C
- Backlit LED display
- Ultrasonic frequency: 40 KHz.
- Timer from 1 to 99 minutes.

MAIN FEATURES

Digital ultrasonic bath Argolab.

Bright digital controller and simultaneous indication of actual temperature and the set one.

Separated control of the ultrasonic power and time.

Temperature adjustment up to 80°C.

Adjustable timer from 1 to 99 minutes.

The valve for tank emptying is available on DU-100 model.

Supplied with: stainless steel mesh basket and lid, 1x 30 ml concentrate universal cleaner.



MODELS

Name	Volume (litri)	Heating power (W)	Ultrasonic power (W)	Tank dimensions LxPxH (mm)	Weight (kg)	p/n
DU-06	0,6	Not heating	50	150 x 85 x65	1,35	41300323
DU-32	3,2	100	120	240 x 135 x100	3,80	41300333
DU-45	4,5	200	180	300 x 150 x 100	4,40	41300343
DU-65	6,5	200	180	300 x 150 x150	5,40	41300353
DU-100	10	500	240	300 x 240 x150	8,20	41300363

CE-5700

MAIN FEATURES

No-heating digital ultrasonic bath with volume: 0,75L.

Particularly recommended for jewellers.

Digital display, touch screen panel,

Adjustable timer 90-180-280-380-480 Sec.

Ultrasonic frequency 42 KHz.

Tank dimensions (L x P x H) mm.

Supplied with: basket and cover, 1x 30 ml concentrate universal cleaner.



Name	Volume (L)	Ultrasonic power (W)	Tank dimensions LxPxH (mm)	Weight (Kg)	p/n
CE-5700	0,75	50	150 x 130 x 50	0,97	41300303

AU - ANALOGIC ULTRASONIC BATHS

- Working range : +5°C Ta ... +80 °C
- Ultrasonic frequency: 40 KHz.
- Timer from 1 to 30 minutes, or in continuos.

MAIN FEATURES

Analogic ultrasonic bath.
Temperature adjustment up to 80°C .
Adjustable timer from 1 to 30 minutes and infinite.
Ultrasonic frequency 40 KHz.


Supplied with: basket and cover, 1x 30 ml concentrate universal cleaner.



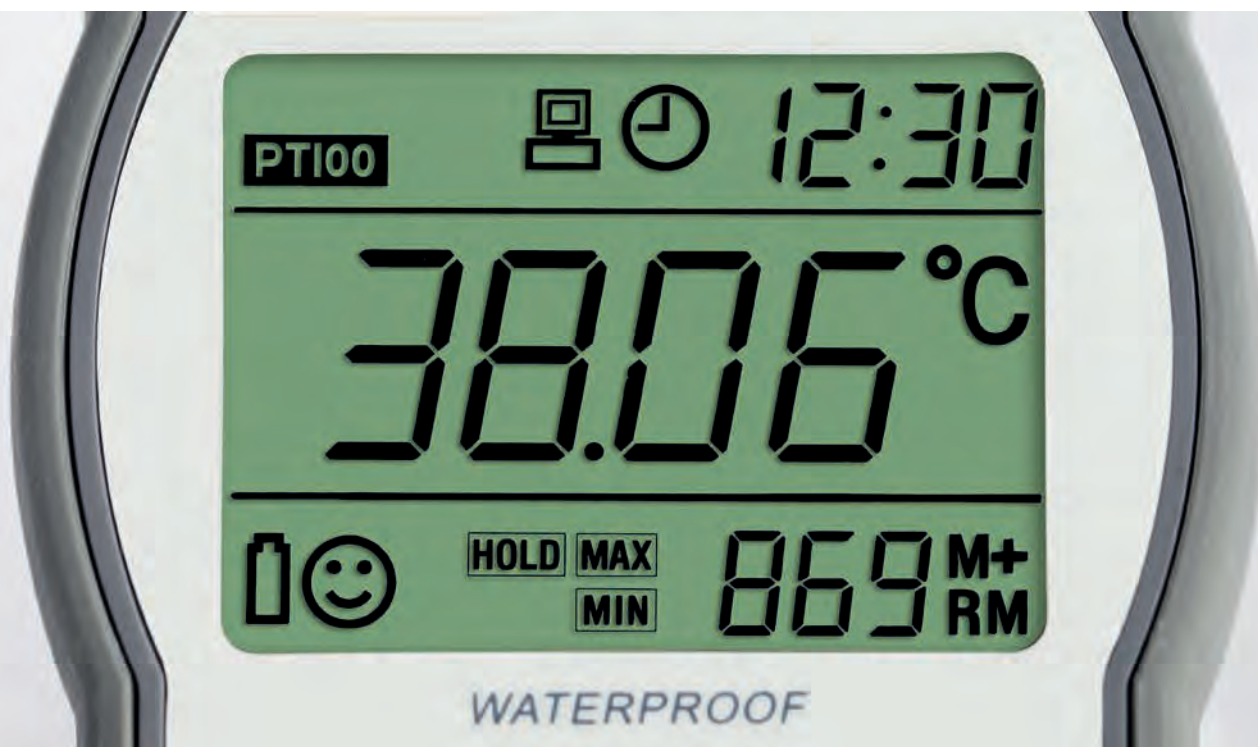
MODELS

Name	Volume (litri)	Heating power (W)	Ultrasonic power (W)	Tank dimensions LxPxH (mm)	Weight (kg)	p/n
AU-32	3,2	100	120	240 x 135 x100	3,80	41300403
AU-65	6,5	200	180	300 x 150 x150	5,40	41300413
AU-220	22	500	480	500 x 300 x 150	13,20	41300433
AU-450	45	1000	750	500 x 300 x 300	17,00	41300423

ACCESSORIES

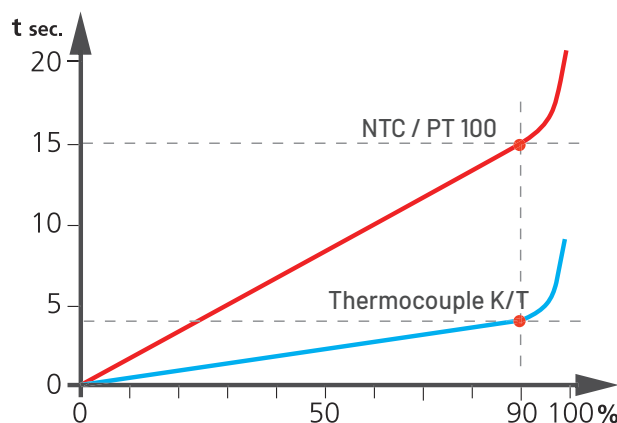
Name	Description		p/n
CLEANER	Universal cleaning solution. Bottle of 30 ml		41300253
CLEANER	Universal cleaning solution. Bottle of 500 ml		41300263
BECKER SUPPORT	For DU-45, with 2 holes		41300513
BECKER SUPPORT	For DU-65 e AU-65, with 2 holes		41300523
BECKER SUPPORT	For DU-100, with 4 holes		41300533
SS-200 SIEVE HOLDER	Holder for sieve cleaning Compatible with AU-450 model only. Holder for no. 5 sieves of 80 mm or no. 6 sieves of 60 mm thick.		41300203

THERMOMETERS



DATA SHEET

Sensor	Measuring range	Max tolerance	Class
THERMOCOUPLE K	-60...+1200 °C	$\pm 1,5^{\circ}\text{C}$ or $0,4\% T^*$	1
THERMOCOUPLE T	-40...+350 °C	$\pm 0,5^{\circ}\text{C}$ or $0,4\% T^*$	1
THERMISTOR NTC	+25...+85 °C -40...+125 °C	$\pm 0,5^{\circ}\text{C}$ $\pm 1^{\circ}\text{C}$	-
PT 100	-100 °C +0 °C +100 °C +200 °C	$\pm 0,35^{\circ}\text{C}$ $\pm 0,15^{\circ}\text{C}$ $\pm 0,35^{\circ}\text{C}$ $\pm 0,55^{\circ}\text{C}$	Class A
PT 100	-100 °C +0 °C +100 °C +200 °C	$\pm 0,16^{\circ}\text{C}$ $\pm 0,06^{\circ}\text{C}$ $\pm 0,16^{\circ}\text{C}$ $\pm 0,26^{\circ}\text{C}$	Class 1/5 DIN



T*=Measured temperature. Take the worst condition.

Response time for probe immersed in a liquid.

TEMP 70 PT100

- Resolution = 0,01 °C
- Measuring range = -200,0...+999,9 °C
- Data logger up to 1000 savings with date and time
- ACCREDIA certification (optional)
- IP protection: IP56



MAIN FEATURES

Portable Data Logger GLP thermometer, for probes PT 100.
Multifunction backlit display. Stability indicator of the measurement.
Date and time displaying. Adjustable measurement criteria stability (Low-Med-High).
Functions "freeze-reading" and reading of the MIN and Max values.
Calibration protected on 1 stage with indication of the adjustment made.
Automatic switch-off after 20 minutes of non-functioning (selectable).
Self-checking messages, rubber protection cover with bench holder.
USB port for PC connection and for the network power supply.

Always equipped with:

Carrying case, USB power supply, USB cable for PC connection and software PC
Link for data transfer and user manual.

Name	Measuring range	Resolution	Accuracy T	p/n
TEMP 70 PT100 WITHOUT PROBE	-200,0...+999,9 °C	0,01 °C (-99,99...+99,99°C) 0,1°C on the rest of the scale	±0,03°C (-99,99...+99,99°C) ± 0,1°C on the rest of the scale	50011082

TEMP 7 PT100

- Resolution 0,1 °C
- Temperature working range: -200 ... +999°C
- ACCREDIA certification (optional)
- IP protection: IP56



MAIN FEATURES

Portable thermometer, for probe PT100.
MIN e MAX values reading, Stability indicator of the measurement. Calibration protected on 1 stage with indication of the correction made "Freeze-reading" function and automatic switch-off after 20 minutes of non-functioning (selectable).
Self-checking messages, rubber protection cover with bench holder.
Resolution: 0,1 °C between -99,9...199,9 °C / over 1 °C.

Always equipped with:

Carrying case, batteries, user manual.

Name	Measuring range	Resolution	Accuracy T	p/n
TEMP 7 PT100 WITHOUT PROBE	-200,0...+999,9 °C	0,1 °C (-99,99...+99,99°C) 1°C	±0,3°C (-99,99...+99,99°C) ±1°C on the rest of the scale	50011012

PT100 SENSORS


PROBES WITH HANDLE



Name	Stem lenght	Stem diameter	Tip	Measuring range	Certification range	t ₉₀ sec	Precision class	p/n
PT56 L LIQUID AND AIR	200 mm	Ø= 3 mm		- 50 ... +400	- 50 ... + 300	30	A	51000202
PT56 C CONTACT	200 mm	Ø= 5 mm		- 50 ... +400	- 50 ... + 300	120	A	51000212
PT56 P PENETRATION	150 mm	Ø= 4 mm		- 50 ... +400	- 50 ... + 300	60	A	51000222
PT56 A AIR	200 mm	Ø= 4 mm		- 50 ... +250	- 50 ... + 150	60	A	51000232
PT56 L 1/5 DIN	200 mm	Ø= 3 mm		- 50 ... +400	- 50 ... + 300	30	1/5 DIN	51000242
PT56 /500 LIQUIDS AND AIR	500 mm	Ø= 6 mm		- 50 ... +400	- 50 ... + 300	60	A	51000262
PT56 /1000 LIQUIDS AND AIR	1000 mm	Ø= 6 mm		- 50 ... +400	- 50 ... + 300	60	A	51000272

PROBES WITHOUT HANDLE- PERFECT FOR OVEN AND INCUBATORS



Nome	Stem lenght	Stem diameter	Tip	Measuring range	Certification range	t ₉₀ sec	Precision class	p/n
PT56 TFE LIQUIDS AND AIR	100 mm	Ø= 4 mm		-100... +300 cable included	- 100 ... + 250	30	A	51000252

TEMP 7 NTC

- Resolution 0,1 °C
- Temperature measuring range: -50,0...+150,0 °C
- ACCREDIA certification (optional)
- IP Protection: IP56

MAIN FEATURES

Portable thermometer for thermistor probes NTC.
 MIN and MAX values reading, stability indicator of the measurement.
 Calibration protected on 1 stage with indication of the correction made.
 Freeze-reading and automatic switch-off after 20 minutes of non-functioning (selectable).
 Self-checking messages, rubber protection cover with bench holder.





Always equipped with:
 Carrying case, batteries, user manual.

Name	Description	p/n
TEMP 7 NTC WITHOUT PROBE	Portable thermometer	50011052
TEMP 7 NTC WITH PROBES FOR LIQUIDS / AIR	Portable thermometer with probe NT7L for liquids and air	50011062
TEMP 7 NTC WITH PROBES FOR LIQUIDS / AIR	Portable thermometer with probe NT7P with penetration point	50011092

PROBES NTC



Name	Stem lenght	Stem diameter	Tip	Measuring range	Certification range	t ₉₀ sec	p/n
NT7L LIQUIDS AND AIR	200 mm	Ø= 3 mm		- 50 ... +150	-50 ... +150	30	50011142
NT7P PENETRATION	150 mm	Ø= 4 mm		- 50 ... +150	-50 ... +150	30	50011122

TEMP 7 K/T

- Resolution = 0,1 °C
- Measuring range = -200,0...+1.350 °C
- ACCREDIA certification (optional)
- IP Protection: IP56

MAIN FEATURES

Portable thermometer for thermocouple type K and T.

MIN and MAX values reading. Stability indicator of the measurement.

Calibration protected on 1 stage with indication of the correction made.

"Freeze-reading" function and automatic switch-off after 20 minutes of non-functioning (switchable).

Self-checking messages, rubber protection cover with bench holder.



Always equipped with:

Carrying case, batteries, user manual.

Name	Measuring range	Resolution	Accuracy T	p/n
TEMP 7 K/T WITHOUT PROBE	K = -200,0...+1.350 °C T = 200,0...+400 °C	0,01 °C (-99,99...+99,99 °C) 0,1 °C on the rest of the scale	±0,1% of measure if < 150 °C ±0,25% of measure if > 150 °C	50011032



XS Portable thermometers brochures are available on our website www.xsinstruments.com

TERMOCOUPLE PROBES K


PROBES WITH HANDLE



Name	Stem lenght	Stem diameter	Tip	Measuring range	Certification range	t ₉₀ sec	Precision class	p/n
3K 220 LIQUIDS AND AIR	200 mm	Ø= 2 mm		- 60 ... +600	0 ... + 400	3	1	51000752
3K 320	200 mm	Ø= 3 mm		- 60 ... +800	0 ... + 600	3	1	51000762
3K 350	500 mm	Ø= 3 mm		- 60 ... +800	0 ... + 800	3	1	51000772
3K 6100	1000 mm FOLDING	Ø= 6 mm		- 60 ... +1100	0 ... + 1100	6	1	51000782
3K 6120	1200 mm FOLDING	Ø= 6 mm		- 60 ... +1100	0 ... + 1100	6	1	51000822
3K 650	500 mm FOLDING	Ø= 6 mm		- 60 ... +1100	0 ... + 1100	6	1	51000792
3K 415 P PENETRATION	150 mm	Ø= 4 mm		- 50 ... +600	0 ... + 600	3	1	51000832
3K 520 C CONTACT	200 mm	Ø= 5 mm		- 60 ... +600	0 ... + 400	15	1	51000802

PROBES WITHOUT HANDLE - PERFECT FOR TUBES AND HARD TO REACH HARD PLACES







Name	Stem lenght	Stem diameter	Tip	Measuring range	Certification range	t ₉₀ sec	Precision class	p/n
3K 1200 MANIPULABLE WIRE	2000 mm	Ø= 2 mm		- 60 ... +400	0 ... + 300	2	1	51000812

TERMOCOUPLE PROBES T

SUGGESTED FOR FOOD AND PHARMACEUTICAL INDUSTRY


PROBES WITH HANDLE



Name	Stem length	Stem diameter	Tip	Measuring range	Certification range	t ₉₀ sec	Precision class	p/n
3T 320 LIQUIDS AND AIR	200 mm	Ø= 3 mm		- 50 ... +350	-40 ... +300	2	1	51000902
3T 415 PENETRATION	150 mm	Ø= 4 mm		- 50 ... +350	-40 ... +300	3	1	51000912
3T 215 PENETRATION	150 mm	Ø= 2 mm		- 50 ... +350	-40 ... +300	2	1	51000942
3T 520 C CONTACT	200 mm	Ø= 5 mm		- 50 ... +350	-40 ... +300	5	1	51000922
3T 420 A AIR	200 mm	Ø= 4 mm		- 50 ... +250	-40 ... +200	3	1	51000932

PROBES WITHOUT HANDLE - PERFECT FOR OVEN AND INCUBATORS



Name	Stem length	Stem diameter	Tip	Measuring range	Certification range	t ₉₀ sec	Precision class	p/n
3T 210 LIQUIDS AND AIR	100 mm	Ø= 2,5 mm		- 50 ... +300	-40... +300	3	1	51000952

MINI 1 WAY

- Data logger Single Trip
- Working range : -40...+80 °C
- Memory : 13000 savings

MAIN FEATURES

Data logger with 1 channel, IP65 protection with internal temperature sensor.

Active LED (OK) and 4 LEDs for the 4 alarm thresholds.

Start with START button. Start button used also to mark an event.

Memory up to 13,000 measurements (interval 5 sec ... 24 hours). Internal battery (1 year battery life).

Working range: -40...+80 °C. **Resolution** 0,01°C. **Temperature accuracy** ±0,3°C (-10...+80°C), ±0,5°C (-40...-10°C).



Name	Description	Qty	p/n
MINI 1 WAY PREPROGRAMMED	Preprogrammed with alarm thresholds (LL = 0 °C, L = 2 °C, H = 8 °C, HH = 10 °C), 5 minute acquisition interval, STOP button not activated.	10 pcs	70101013
MINI 1 WAY PROGRAMMABLE ON REQUEST	Provide to Giorgio Bormac alarm thresholds with delays, the acquisition interval, and the activation or not of the STOP button.	10 pcs	70101003

MINI T - T1 - TH

- Working range T : -40...+80 °C
- Working range H : 0...100 % RH
- Resolution : 0,01 °C - 0,01 % RH
- Memory : 48000 measurements

MAIN FEATURES

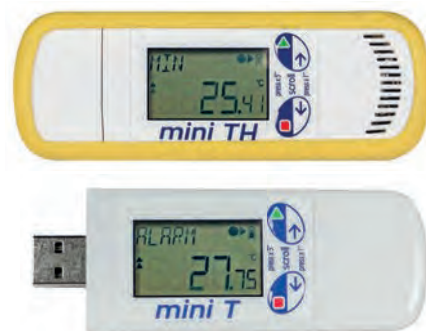
Temperature data logger. IP65 protection.

1 channel with internal or external sensor, and multifunction display for viewing: **current value and minimum, maximum and average temperature, time spent by the logger outside the set thresholds.** Marking an event on the logger via the Start button. Ability to store 48,000 measurements (interval 5 sec ... 24 hours). Internal battery (1 year battery life) replaceable. Start with START button with delayed start option. STOP button activated via software to manually stop the recording.

USB for connection to PC.

The MINI T1 Data Logger is equipped with an external pointed steel probe, Ø 4mm L = 80mm, with 1 meter cable.

Suitable for detections inside freezers.



Name	Range	Resolution	Accuracy	p/n
MINI T INTERNAL TEMPERATURE SENSOR	T: - 40 ...+80 °C.	0,01 °C	±0,3°C (-10...+80°C) / ±0,5°C (-40...-10°C).	70100003
MINI T1 EXTERNAL TEMPERATURE SENSOR	T: - 40 ...+80 °C.	0,01 °C	±0,3°C (-10...+80°C) / ±0,5°C (-40...-10°C).	70100103
MINI TH INTERNAL SENSOR TEMPERATURE + HUMIDITY	T - 40 ...+80 °C. H: 10...90 % RH	0,01 °C 0,01 % RH	T: ±0,3°C (-10...+80°C) / ±0,5°C (-40...-10°C) H: ±3%RH(+15 ... 25 °C) / ± 5% out of range	70100203

SPECTROPHOTOMETERS

VIS *AND* UV/VIS



Touchscreen

A 5" TFT high definition color display for a new level of experience. Easy user interface, built-in features (photometry, quantitation, spectrum scan). In addition: File management, System Utility and Performance verification.



Connectivity and Storage

USB Flash Drive connection for data and methods storage. PC remote control, RS-232 port for printer connection. Internal memory to save methods and data.



Access and maintenance

Removable front panel, anticorrosive material cell holder, drain hole inside the sample compartment: designed to protect the instrument from accidental spills, time wear and damages.



Lamp compartment

Removable top panel for an easier and faster access to the sources compartment, for a rapid inspection of the lamps, check of alignment and lamp replacement.



Multi-language user interface

Select your preferred language to improve the interactivity with Onda Touch instruments. Available languages: English, German, Spanish, French, Italian and Portuguese.

UV-31 SCAN

- UV / VISIBLE
- Coloured Display 5" TOUCH SCREEN
- Range 190 - 1100 nm
- Bandwidth 2 nm



MAIN FEATURES

Onda UV/VISIBLE Spectrophotometer.
2 nm bandwidth, single beam, Tungsten/Deuterium sources.
Flash memory USB port, multilanguage OS.

Features: photometry, quantitation, spectrum scan, file management, performance verification.

External dimensions: (LxPxA) 456x360x185mm. Weight: 10.7 kg.
Power supply: 100 - 240 V AC - 50/60 Hz - Power consumption: 120 W.

Always supplied with: 4 optical glass cells o.p. 10mm, 2 quartz cells o.p. 10mm, 10 mm 4-cell holder, power cable, dust cover, USB flash drive and Calibration Report.

Name	Range	Bandwidth	Beam	Source	p/n
UV-31 SCAN	190 - 1100 nm	2 nm	Single	Tungsten/Deuterium	11000082

V-11 SCAN

- VISIBLE
- Coloured Display 5" TOUCH SCREEN
- Range 320 - 1100 nm
- Bandwidth 4 nm



MAIN FEATURES

Onda VISIBLE Spectrophotometer.
4 nm Bandwidth, single beam, Tungsten sources
Flash memory USB port, multilanguage OS.

Features: photometry, quantitation, spectrum scan, file management, performance verification.

External dimensions: (LxPxA) 456x360x185mm. Weight: 10.5 kg
Power supply: 100 - 240 V AC, 50/60 Hz - Power consumption 75 W.

Always supplied with: 4 optical glass cells o.p. 10mm, 2 quartz cells o.p. 10mm, 10 mm 4-cell holder, power cable, dust cover, USB flash drive and Calibration Report.

Name	Range	Bandwidth	Beam	Source	p/n
V-11 SCAN	320 - 1100 nm	4 nm	Single	Tungsten	11000062

UV-21

- UV / VISIBLE
- Coloured Display 5" TOUCH SCREEN
- Range 195 - 1050 nm
- Bandwidth 4 nm



MAIN FEATURES

Onda UV/VISIBLE Spectrophotometer.

4 nm Bandwidth, single beam, Tungsten/Deuterium sources.

Flash memory USB port, multilanguage OS.

Features: photometry, quantitation, spectrum scan, file management, performance verification.

External dimensions: (LxPxA) 456x360x185mm. Weight: 10.7 kg.

Power supply: 100 - 240 V AC - 50/60 Hz - Power consumption: 120 W.

Always supplied with: 4 optical glass cells o.p. 10mm, 2 quartz cells o.p. 10mm, 10 mm 4-cell holder, power cable, dust cover, USB flash drive and Calibration Report.

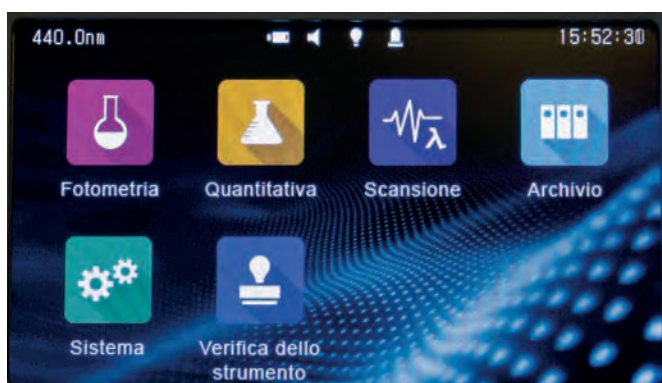
Name	Range	Bandwidth	Beam	Source	p/n
UV-21	195 - 1050 nm	4 nm	Single	Tungsten/Deuterium	11000072

SOFTWARE EASY UV FOR ONDA TOUCH SERIES

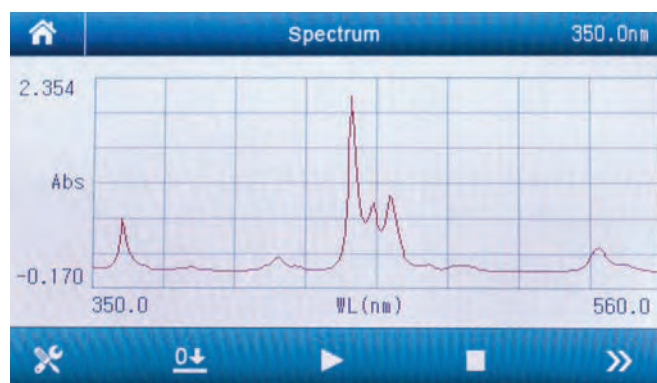
Easy UV is the application software based on Windows operating systems for the remote control of ONDA touch Series instruments. The application range, data analysis and file management function are greatly expanded, for example to clinical applications (hemoglobin oxygen saturation) and basic biotechnology research (UV methods for DNA/proteins, range DNA 0,2-70 µg/ml).

Functions:

Photometry, Quantitative, Kinetics, Multi wavelength, Spectrum scan, DNA/protein (UV methods).



Main Menu











Graphic view

ACCESSORIES

Name	Description	p/n
EASY UV SOFTWARE	Functions included: Photometry, Quantitative, Kinetics, DNA/protein, spectrum scan. Includes the installer CD, USB cable, USB dongle usage license key, User manual	11000972
MICRO PRINTER RS 232	Supplied with power supply, RS232 connection cable, roll of normal paper	11000442
IQ-OQ MANUAL	IQ-OQ paper manual for ONDA spectrophotometers. Filled in by Giorgio Bormac staff to order separately (cod. 11000959)	11000192
VISIBLE SOURCE REPLACEMENT LAMP	VISIBLE range source. Tungsten-Halogen lamp. Vertical filament.	11000912
VISIBLE SOURCE REPLACEMENT LAMP	VISIBLE range source. Tungsten-Halogen lamp. Horizontal filament.	11000942
UV SOURCE REPLACEMENT LAMP	UV range source. Deuterium lamp.	11000922
ADAPTOR TUBES 1 mm	Adaptor 10x10 for optical path tubes 1 mm Min. quantity order: 2 pcs	11000582
DUST COVER	for ONDA spectrophotometer	11000932

SUPPORTS

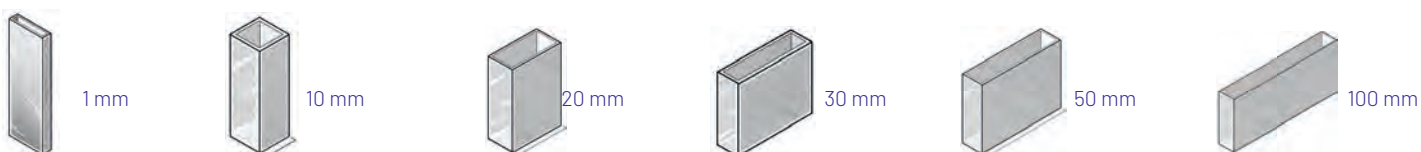
Description		p/n
4 position cell holder for up to 50mmx10mm square cuvettes		11000212
4 position cell holder for up to 100mmx10mm square cuvettes		11000222
Single position cell holder for micro-cells 10mmx10mm (central beam height: 15mm)		11000232
5° Reflectance measurements Support (minimum sample: 20mmx20mmx4mm, central beam height: 50mm)		11000412
Single position Solid sample holder (dimensions 50x30x2mm)		11000422
8 position automatic cell holder for up to 10 mm optical path square cuvettes		11000242
5 position automatic cell holder for 10mm-100mm optical path cuvettes		11000432
Test tube holder Ø 16mm, max height: 90mm, central beam height: 45mm		11000532

OPTICAL GLASS CELLS FOR VISIBLE - RANGE 335 - 2500 nm

Description	Dimensions (W x L x H) mm	Volume ml	p/n
Square cuvettes, optical glass, optical path o.p. 1mm. Set of 2 pcs	12,5 x 3,5 x 45	0,4	11000382
Square cuvettes, optical glass, optical path o.p. 10mm. Set of 4 pcs	12,5 x 12,5 x 45	3,5	11000252
Square cuvettes, optical glass, optical path o.p. 20mm. Set of 4 pcs	12,5 x 22,5 x 45	7	11000262
Square cuvettes, optical glass, optical path o.p. 30mm. Set of 4 pcs	12,5 x 32,5 x 45	10,5	11000272
Square cuvettes, optical glass, optical path o.p. 50mm. Set of 4 pcs	12,5 x 52,5 x 45	17,5	11000282
Square cuvettes, optical glass, optical path o.p. 100mm. Set of 4 pcs	12,5 x 102,5 x 45	35	11000292
Glass flow cuvette, optical path o.p. 10mm (beam height 15mm). Single position cell holder for micro-cells is required p/n 11000232	12,5 x 12,5 x 45	0,7	11000492

QUARTZ CELLS FOR UV - RANGE 190 - 2700 nm

Description	Dimensions (W x L x H) mm	Volume ml	p/n
Square cuvettes, quartz, optical path o.p. 1mm. 1 piece	12,5 x 3,5 x 45	0,4	11000522
Square cuvettes, quartz, optical path o.p. 10mm. Set of 2 pcs	12,5 x 12,5 x 45	3,5	11000302
Square cuvettes, quartz, optical path o.p. 20mm. Set of 2 pcs	12,5 x 22,5 x 45	7	11000312
Square cuvettes, quartz, optical path o.p. 30mm. Set of 2 pcs	12,5 x 32,5 x 45	10,5	11000322
Square cuvettes, quartz, optical path o.p. 50mm. Set of 2 pcs	12,5 x 52,5 x 45	17,5	11000332
Square cuvettes, quartz, optical path o.p. 100mm. Set of 2 pcs	12,5 x 102,5 x 45	35	11000342



SPECIAL CELLS- MICRO-CELLS HOLDER REQUIRED Part. No.11000232

Description	Dimensions (W x L x H) mm	Volume μl	p/n
MICRO-cell, quartz, optical path o.p. 10mm	12,5 x 12,5 x 45	100	11000352
MICRO-cell, quartz, optical path o.p. 10mm	12,5 x 12,5 x 45	200	11000362
MICRO-cell, quartz, optical path o.p. 10 mm	12,5 x 12,5 x 45	500	11000372
MICRO-cell, quartz, optical path o.p. 10mm	12,5 x 12,5 x 45	1000	11000392
FLOW-cell, optical glass, optical path 10 mm (central beam height:15 mm)	12,5 x 12,5 x 45	700	11000492
FLOW-cell, quartz, optical path 10mm (central beam height:15 mm)	12,5 x 12,5 x 45	700	11000502

quartz
100-200 μlquartz
500-1000 μl

flow

SIPPER and PELTIER SYSTEM NEW



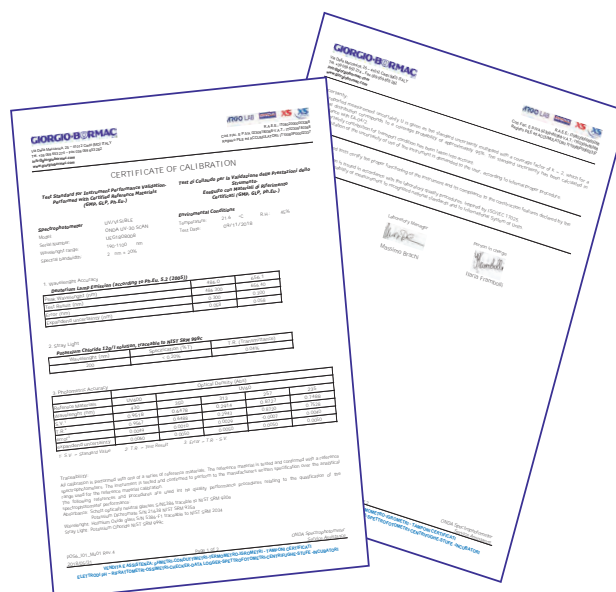
Name	Description	p/n
SIPPER A-1101 FLOWING SYSTEM	Flow cell system, complete with external unit, power cable, support for micro-cells, flow cell, silicone flushing pipes, adjustable flow rate from 1 to 8 ml/min. Outer dimensions (WxLxH) 270x170x115mm. Weight 3 kg. Power supply 40 V AC, 50/60 Hz.	11000552
PELTIER A-1201 THERMOSTATIC SYSTEM	System for constant temperature selectable range 10-60°C, complete with external unit, power cable, connection cable, thermostatic finned special support micro-cells, micro cell. Outer dimensions (WxLxH) 270x170x115mm. Weight 3 kg. Power Supply 240 V AC, 50/60 Hz.	11000562
SIPPER / PELTIER A-1001 COMBINED SYSTEM	Selectable constant temperature and flow cell system. Range 10-60°C, adjustable flow rate from 1 to 8 ml/min. Complete with external unit, power cable, connection cable, thermostatic finned special support micro-cells, flow cell, silicone flushing pipes. Outer dimensions (WxLxH) 270x170x115mm. Weight 3 kg. Power supply 240 V AC, 50/60 Hz.	11000572

CALIBRATION REPORT

All Onda spectrophotometers are supplied with a calibration report performed according to ISO 17025 requirements, to measure with traceability.

On the calibration report are reported:

- **WAVELENGTH ACCURACY**
- **PHOTOMETRIC ACCURACY**
- **STRAY LIGHT TEST**
- **MEASUREMENT UNCERTAINTY**
- **TRACEABILITY STATEMENT**



V-10 PLUS

- VISIBLE
- Range 325 - 1000 nm
- Bandwidth 4 nm

MAIN FEATURES

VISIBLE Spectrophotometer.

Single beam optical system, 4 nm bandwidth, Source: Tungsten. LCD Display, membrane keypad.

Spectral Resolution 0,1 nm, Photometric accuracy $\pm 0,5\%$ T,

Photometric accuracy $\pm 0,3\%$ T.

Photometric Range 0...200% T, -0,3...3 Abs, 0...1999 Conc.

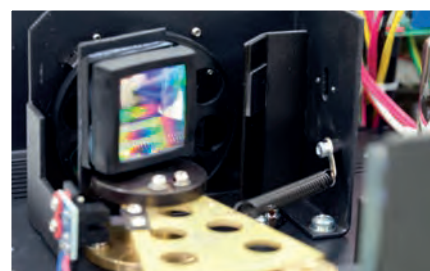
Functions: Transmittance, Absorbance, Concentration, Coefficients.

Outer dimensions (WxLxH) 490x360x210mm. Weight 12 kg.

Power supply 100 - 240 V AC, 50/60 Hz. Power consumption 75 W.

Provided with: Basic PC Software including the methods: Absorbance, Transmittance, Working Curve, Coefficient Method, Kinetics measurements.

Supplied with: 4 position sled cell holder for 10mm cuvettes, 4 optical glass square cuvettes optical path 10mm, EU power cable, Basic Software, dust cover, calibration report.



Monochromatic: grid from 1200 lines/mm

Name	Range	Bandwidth	Beam	Source	p/n
V-10 PLUS	325 - 1000 nm	4 nm	Single	Tungsten	11000052

ACCESSORIES FOR V-10 PLUS

Name	Description	p/n
PRO-WINE SOFTWARE	Software for V-10 PLUS (Includes the installer CD, USB cable, USB dongle usage license key, User manual). Necessary PC with Windows operating system and two USB ports.	11000962
SIPPER A-101 FLOWING SYSTEM	Flow cell system, complete with external unit, power cable, support for micro-cells, flow cell, silicone flushing pipes, adjustable flow rate from 1 to 15 ml/min. Outer dimensions (WxLxH) 270x170x115mm. Weight 3 kg. Power supply 240 V AC, 50/60 Hz	11000462
MICRO PRINTER RS 232	Thermal paper, supplied with power supply, connection cable, paper roll	11000452
MANUAL IQ-00	Paper manual IQ-00 for ONDA spectrophotometer. Filled in by Giorgio Bormac staff to order separately (part no. 11000959)	11000192
VISIBLE SOURCE REPLACEMENT LAMP	VISIBLE range Source. Tungsten-Halogen Lamp.	11000912
ADAPTOR TUBES 1mm	Adaptor 10x10 for optical path tubes 1 mm Min. quantity order: 2 pcs	11000582

SUPPORTS

Description	p/n
4 position cell holder for up to 50mmx10mm square cuvettes	11000212
4 position cell holder for up to 100mmx10mm square cuvettes	11000222
Single position cell holder for micro-cells 10mmx10mm (central beam height: 15mm)	11000232
Test tube holder (Ø 16mm, max height: 90mm, central beam height: 45mm)	11000402
5° Reflectance measurements Support (minimum sample: 20mmx20mmx4mm, central beam height: 50mm)	11000412
Single position Solid sample holder (dimensions 50x30x2mm)	11000422

CUVETTES FOR VISIBLE - RANGE 335 - 2500 nm

Description	Dimensions (W x L x H) mm	Volume ml	p/n
Square cuvettes, optical glass, optical path o.p. 1mm. Set of 2 pcs	12,5 x 3,5 x 45	0,4	11000382
Square cuvettes, optical glass, optical path o.p. 10mm. Set of 4 pcs	12,5 x 12,5 x 45	3,5	11000252
Square cuvettes, optical glass, optical path o.p. 20mm. Set of 4 pcs.	12,5 x 22,5 x 45	7	11000262
Square cuvettes, optical glass, optical path o.p. 30mm. Set of 4 pcs	12,5 x 32,5 x 45	10,5	11000272
Square cuvettes, optical glass, optical path o.p. 50mm. Set of 4 pcs.	12,5 x 52,5 x 45	17,5	11000282
Square cuvettes, optical glass, optical path o.p. 100mm. Set of 4 pcs	12,5 x 102,5 x 45	35	11000292
Glass flow cuvette, optical path o.p. 10mm (beam height 15mm). Single position cell holder for micro-cells is required p/n 11000232	12,5 x 12,5 x 45	0,7	11000492



1 mm



10 mm



20 mm



30 mm



50 mm



100 mm



ONDA brochure is available on our website
www.xsinstruments.com

REFRACTOMETERS



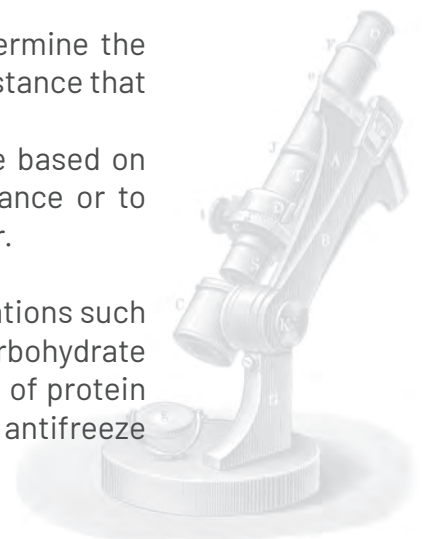
WARRANTY
2
YEARS



A refractometer is an optical measuring instrument used to determine the refractive index of a substance, or some physical property of a substance that is directly related to its refractive index.

It can be used to establish the identity of an unknown substance based on its refractive index, to establish the purity of a particular substance or to determine the concentration of one substance dissolved in another.

Commonly the refractometers are used to measure fluid concentrations such as the sugar content (Brix level) of fruits, vegetables, juices and carbohydrate drinks or for cutting fluids, specific gravity of urine, concentration of protein in the blood, degree of moisture in the honey (myelometer), salinity, antifreeze properties, industrial fluids.



DBR 95

- Measuring range 0,0..95,0 % Brix
- Simultaneous display of brix, temperature and refractive index

MAIN FEATURES

Portable and benchtop digital refractometer.
Automatic temperature compensation.
Self-calibrating system with water.
Sample volume 1ml.
Programmable MIN/MAX alarm threshold.
9 V rechargeable battery power.

Working range

BRIX= 0,00..95 % Brix ($\pm 0,3$ %),

Refractive index = 1,3330...1,5318 nD,

Temperature = 0..40 °C ($\pm 0,1$ °C).



Always equipped with:

Carrying case, power supply and USB cable, user manual.

Name	Description	Measuring range	Accuracy	p/n
DBR 95	Benchtop digital refractometer	0 - 95 % Brix	$\pm 0,3$ %	44000063

DBR 55 / DBR SALT

- Measuring range: 0,0..55,0 % Brix
- Salinity measuring range: 0,0..28,0 % Brix

MAIN FEATURES

Portable and benchtop watertight digital refractometer.
Backlit display.
Automatic temperature compensation 10,0..60,0 °C.
Self-calibrating system with water. Sample volume 0,5 ml.
Rubber cover and hard case.
Power supply 2 x 1,5 V (AAA Alkaline).
Dimensions 58 x 36 x 122 mm. Weight 150 g.



Name	Description	Measuring range	Accuracy	p/n
DBR 55	Benchtop digital refractometer	0,0..55,0 % Brix	$\pm 0,2$ %	44000073
NEW DBR SALT	Salinity digital refractometer	0,0..28,0 % Brix	$\pm 0,2$ %	44000053

DBR WINE

○ Measuring range: 0,0..55,0 % Brix

MAIN FEATURES

Portable and benchtop watertight digital refractometer.
Backlit display.
Automatic temperature compensation 10,0..60,0 °.
Self-calibrating system with water. Sample volume 0,5 ml.
Rubber cover and hard case.
Power supply 2 x 1,5 V (AAA Alkaline).
Dimensions 58 x 36 x 122 mm. Weight 150 g.

RANGE	Measuring range	Resolution
Brix	0.0 ~ 55.0%	0,1 %
Temperature	0°C ~ 70°C	0,1 %
Bé (Baumé)	0.0° ~ 29.8°	0,1 %
Babo	0.0° ~ 46.4°	1 %
Oe (Oechsle)	0° ~ 256°	0,1 %
TAVP *	0.0% ~ 37,9%	0,1 %

* ALCOHOL CONTENT BY VOLUME

Name	Description	Measuring range	Accuracy	p/n
DBR WINE	Benchtop digital refractometer	0,0..55,0 % Brix	±0,2 %	44000093



DBR COFFEE

App HMCoffee



○ Measuring range 0,0..26,0 % Brix

○ Bluetooth connection: downloadable App for data storage.

MAIN FEATURES

Portable and benchtop watertight digital refractometer.
Backlit display.
Automatic temperature compensation 10,0..60,0 °C.
Self-calibrating system with water. Sample volume 0,5 ml.
Rubber cover and hard case.

Power supply 2 x 1,5 V (AAA Alkaline).
Dimensions 58 x 36 x 122 mm. Weight 150 g.

Measuring range

BRIX = 0,00..26,00 % Brix (±0,2 %),

TDS = 0,00..23,00 % TDS (±0,1 %),

Temperature = 0..70 °C (±0,1 °C).

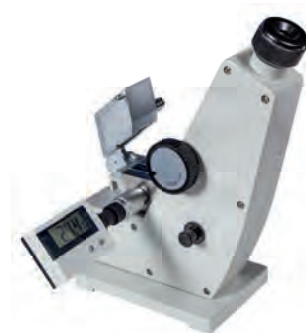
Name	Description	Measuring range	Accuracy	p/n
DBR COFFEE	Benchtop digital refractometer	0,0..26,0 % Brix	±0,2 %	44000083



OPTICAL REFRACTOMETERS



Lid with led



mod. 110 - ABBE

All refractometers are supplied with hard case and calibration screwdriver.

Model	Measuring range (% BRIX)	Features	p/n
101	Brix: 0-32 % ($\pm 0,2\%$)		43000013
101 ATC	Brix: 0-32 % ($\pm 0,2\%$)	Automatic temperature compensation	43000103
101 ATC LED	Brix: 0-32 % ($\pm 0,2\%$)	Automatic temperature compensation	43000203
102	Brix: 28-62% ($\pm 0,2\%$)		43000023
103	Brix: 0-80 % ($\pm 0,5\%$)		43000033
103 LED	Brix: 0-80 % ($\pm 0,5\%$)		43000223
104 HONEY	Brix : 58-92% Water : 12-27% Be : 38-43°	Triple scale	43000043
105 CLINIC	Serum : 0-12 g/dL Urine specific gravity: 1000 - 1050 nD Refraction index: 1,3330 - 1,3600	Triple scale	43000053
106 SALINITY	Sodium Chloride: 0-28% ($\pm 0,2\%$)		43000063
106 ATC SALINITY	Sodium Chloride: 0-100 ‰ Specific gravity: 1000-1070	Double scale Automatic temperature compensation	43000113
107 ATC WINE	Brix: 0-35 % Babo: 0-28%	Double scale Automatic temperature compensation	43000123
107 ATC LED WINE	Brix: 0-35 % Babo: 0-28%	Double scale Automatic temperature compensation	43000233
414 ATC ANTIFREEZE BATTERIES	Ethylene glycol: -50 °C / 0 °C Propylene glycol: -50 °C / 0 °C Cleaner: -40 °C / 0 °C Batteries fluid: 1.10 / 1.40 sg.	Automatic temperature compensation	43000173
NEW UREA	Brix: 0-40 %	Signal mark at 32% Brix	43000193

Accessories

		p/n
LID	Spare part lid for telescope refractometers without lighting	43000163
LID WITH LED	Spare part lid with LED lighting It allows a perfect reading even if there's no or low lighting The cover is interchangeable and can be installed on all the optical refractometers models.	43000003

Model	Measuring range	Features	p/n
110 ABBE	Brix: 0,0 - 95,0 % ($\pm 0,25\%$) nD: 1,3000 - 1,7000 ($\pm 0,0005\%$)	Bench refractometer with thermostatable prism. Complete with digital thermometer and calibration prism	43000133
THERMOMETER DIGITAL FOR ABBE	Replacement thermometer for Abbe 110		43000153