

Portable Multi Parameter Conductivity pH-Meter Bench Top Combination Meter



pH-Meter



Basic Meter



Combination Meter



Conductivity

Electrochemistry



The Perfect Combination

A new line of electrochemistry instruments has been developed, finding the right balance between a state-of-the-art design, innovative ideas in pH and conductivity measurement and easy use.

A famous Swiss producer has developed, exclusively for these instruments, a complete laboratory line of pH electrodes for every type of application.

All buffer solutions and calibration standards will be delivered with a NIST-certificate.

Electrochemistry

Portable pH-Meter Basic Benchtop pH-Meter

Professional Benchtop Meter

Portable Conductivity Meter Basic Benchtop Conductivity Meter

Professional Benchtop Conductivity Meter Portable Multi Meter

Professional Benchtop Multi Meter

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Portable pH-Meter EC-20-pH · EC-25-pH

An elegant and erdonomic case, with a practical soft rubber and IP57 protection, contains the best of technology. A large display (backlight for EC-25-pH) shows all information that you need. All the functional parameters of connected electrode, during measurement or calibration, are constantly checked and inform the operator for easy trouble-shooting. Only 4 keys (6 for EC-25-pH) allow the user to control all functions in an intuitive and easy way.



EC-20-pH · EC-25-pH

- Display of pH/mV and temperature Parameter simultaneously
- Selectable resolution: 0.1/0.01 pH
- Automatic calibration up to 3 points (2 Standard pH-Puffer Sets)
- Manual calibration up to 2 points (user-defined pH-Puffer)
- Stability parameter (Low-Med-High) for high accuracy measurements
- Large Display (backlit on EC-25) with indication of calibration buffers and measurements stability
- Memory with re-call of last calibration and information about electrode life Date and time on EC-25
- Waterproof IP57-protection
- Sturdy carrying case with all accessories to be used as a small portable lab
- Software PC-Link (included)

... additionally for EC-25-pH

- GLP
- CAL DUE: set of calibration frequency for high quality of measurements
- Data logger (automatic or manual) 500 data sets with date and time
- USB port and software PC-Link to download data (included)



EC-20-pH



- EC-25-pH-0 Kit without pH electrode, with temperature sensor inside and BNC, colored pH buffer solution, carrying case and accessories.
- EC-25-pH-1 Kit included pH electrode201T, cable S7/BNC, temperature probe NT55, colored pH buffer solution, carrying case and accessories.



 Image: Constrained state

 Image: Constate

 Image: Constate</

pH Electrode

EC-25-pH Kit

Technical Data EC-20-pH EC-25-pH Meas. Range/Resolution 0 - 14 pH / 0,1 - 0,01 -2 - 16 pH / 0,1 - 0,01 Calibration points 1-3 1-3 USA, NIST and User defined USA, NIST and User defined Buffer solutions GLP Yes Indication of slope and offset Yes Yes with date and time CALDUF Yes Yes mV measuring range ±1000 mV ±1999mV Resolution 1 mV 0,1mV(± 200 mV)1 mV above 0...100,0 °C Temperature measuring range -10...100,0 °C 0,1 °C / ± 0,5 °C 0,1°C/±0,5 °C Resolution/Accuracy Man/Auto 500 Data with time Memory **IP-class** Waterproof IP 57 Waterproof IP 57 Warranty Instrument 5 Years 5 Years





Basic Benchtop Meter EC-30-pH

The LCD back light display of the basic meter shows all information that you need about measurement, included icon for stability. Up to 3 point pH calibration with automatic recognition for USA buffers. Icon support all calibration editing function with alarm electrode diagnostics. Easy to use - Very competitive price - easy to calibrate.



EC-30-pH-0 Kit without pH-electrode, with Temperature sensor and BNC-plug, buffer solution pH4 and pH7, electrode holder. EC-30-pH-1 Kit with pH-elektrode 201T, cable S7/BNC, Temperature sensor NT55, buffer



solution pH4 and pH7, electrode holder.

Technical Data pH measuring range Resolution mV measuring range Resolution Temperature range Resolution Calibration points

Inputs Power supply Dimensions EC-30-pH 0 - 14 pH 0,1/0,01 pH ±2.000 mV 1 mV 0-100 °C 0,1 °C 1-3 USA, NIST, 2 Custom BNC, Jack phono (ATC) adapter 5 V / DC 155 x 180 x 60 mm, 500 g



Professional Benchtop Meter EC-40-pH · EC-45-pH

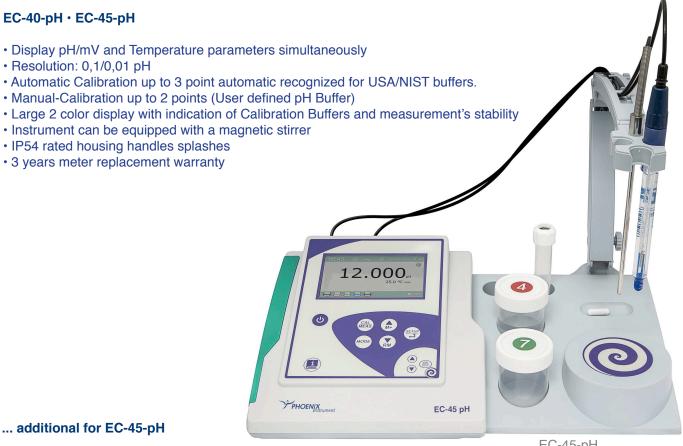
he large color display easy on to read shows all information that you need about measurement, buffers used for calibration, electrode's life, GLP information and instrument's memory. Anyone can use this meter easily with its clear menu structure up to 8 languages.

Easy to learn.

Up to 5 point pH calibration with automatic recognition for USA/NIST/DIN and User buffers. Icon support all calibration editing function with advanced electrode diagnostics.

Easy to calibrate.

Only a few keys allow the user to control all functions in an intuitive and easy way. Both instruments can be delivered with a stirrer.



- Selectable Resolution: 0,1/0,01/0,001 pH
- GLP and IQ-OQ manual available
- Automatic Calibration up to 5 point
- · Memory with re-call of last calibration date and time and information of electrode's life
- · CAL DUE: set of calibration frequency for high quality of measurements
- Stability Parameter (Low-Med-High) for high accuracy measurement
- Non-volatile memory holds up to 1000 data points with date/ time in automatic (Data logger) or manual
- 2x USB ports to transfer data at PC or printer and for external keyboard
- · Software PC-Link to download data (included)



EC-45-pH



Professional Benchtop Meter EC-40-pH · EC-45-pH

Various sets are available:

EC-40-pH-0	Kit without pH electrode, with cable S7/BNC, temperature probe NT55, colored pH buffer solution pH 7 and pH 4, electrode holder
EC-40-pH-1	Complete kit included pH electrode POLYMER. Cable S7/BNC, temperature probe NT55, colored pH buffer solution pH 7 and pH 4, electrode holder and accessories
EC-40-pH-2	Kit without pH electrode, with cable S7/BNC, temperature probe NT55, colored pH buffer solution pH 7 and pH 4, electrode holder, with magnetic stirrer
EC-40-pH-3	Complete kit included pH electrode POLYMER. Cable S7/BNC, temperature probe NT55, colored pH buffer solution pH 7 and pH 4, electrode holder, with magnetic stirrer
EC-45-pH-0	Kit without pH electrode, with cable S7/BNC, temperature probe NT55, colored pH buffer solution pH 7 and pH 4, electrodes arm, power supply and accessories
EC-45-pH-1	Complete kit included pH electrode STANDARD, temperature probe NT55, S7/BNC 1 m cable, colored pH buffer solution pH 7 and pH 4, electrodes arm, power supply and accessories
EC-45-pH-2	Kit without pH electrode, with cable S7/BNC, temperature probe NT55, colored pH buffer solution pH 7 and pH 4, electrodes arm, power supply, with magnetic stirrer
EC-45-pH-3	Complete kit included pH electrode STANDARD, temperature probe NT55, S7/BNC 1 m cable, colored pH buffer solution pH 7 and pH 4, electrodes arm, power supply, with magnetic stirrer



Technical Data	EC-40-pH	EC 45 pH
		EC-45-pH
Measuring range pH	0 - 14	-2 - 20
Resolution pH	0,1 / 0,01	0,001
Calibration Points	1 -3	1-5, automatic Buffer recognition
Buffer recognized	USA, NIST, 2 user defined	DIN, NIST, USA, 5 user defined
Temperature range	0 – 100 °C	-20 – 120 °C
Accuracy/Resolution Temperature	0,1/±0,2 °C	0,1/±0,2 °C
Measuring Range mV (Redox)	+/- 2000	+/- 2000
Accuracy/Resolution mV	0,1/1	0,1/1
Temperature compensation	Manual or automatic	automatic
Memory	No	1000 Data
Interface	BNC, ATC	2 x USB, BNC, ATC
Protection class	IP 54	IP 54
Power supply A	AC/DC adapter 9 V / 300 mA	AC/DC adapter 9 V / 300 mA
Dimensions	200 x 220 x 100 mm, 950 gr	200 x 220 x 100 mm, 950 gr



Conductivity Portable Meter EC-20 cond · EC-25 cond

A large display (backlight for EC-25 COND) shows all information that you need about the measurement, cell's life and instrument's memory. All the functional parameters of connected cell, during measurement or calibration, are constantly checked and inform theoperator for easy trouble-shooting.

Only 4 keys for COND 7 (6 for EC-25 cond) allow the user to control all functions in an intuitive and easy way. A practical USB port (EC-25-cond), covered to guarantee waterproof protection, allow to download data (with date of last calibration done) or power the instruments by Computer or with power supply 220V/USB included.



... additional for EC-25 cond

- · TDS measurement with adjustable factor
- GLP
- Memory recall of last calibration with control of cell constant, date and time
- CAL DUE : set of calibration frequency for high quality measurements
- Data logger, manual and automatic with 500 memory values with date and time
- USB port to download data and power by Computer or power supply (included)
- Software PC-Link to download data (included)





Conductivity Portable Meter EC-20 cond · EC-25 cond

Various sets are available:

- EC-20 cond 0 Kit without cell, with standard calibration solutions, carrying case and accessories
- EC-20 cond 1 Complete kit include cond. Cell 2301T with ATC, cable length 1m and BNC plug, standard calibration solutions, carrying case and accessories
- EC-25 cond 0 Kit without cell, with standard calibration solutions, power supply, software PC-Link, USB cable, carrying case with accessories
- EC-25 cond 1 Complete kit include cond. Cell 2301T with ATC, cable length 1m and BNC plug, Standard calibration solutions, power supply, software PC-Link to download data, USB cable, carrying case with accessories.



EC-25 cond



Technical Data Cond Meas. Range/ Resolution Calibration points Calibration standards

Cell constant selectable Temperature range Resolution TDS measuring range Resolution GLP CALDUE Memory Inputs IP-class Warranty Instrument **EC-20 cond** 0,0...199,9 mS $0,1/1 \ \mu\text{S} \ 0,01/0,1 \text{ mS}$ 1-4 $84 \ \mu\text{S} -1413 \ \mu\text{S} -12,88 \text{mS} -111,9 \text{mS}$ and 1 user defined $0,1 - 1 - 10 \text{ cm}^{-1}$ $0 - 100 \ ^{\circ}\text{C}$ $0,1 \ ^{\circ}\text{C} \ / \pm 0,5 \ ^{\circ}\text{C}$

Yes -BNC, Jack phono (ATC)

Waterproof IP 57 5 Years EC-25 cond -0,0...199,9 mS 0,1/1 μ S 0,01/0,1 mS 1-4 84 μ S -1413 μ S-12,88mS-111,9mS and 1 user defined 0,1 - 1 - 10 cm⁻¹ 0 - 100 °C 0,1° C / ± 0,5 °C

> Yes -Jack phono (

BNC, Jack phono (ATC) Waterproof IP 57 5 Years





PHOENIX

EC-30 cond

Basic Conductivity Benchtop Meter EC-30 cond

The LCD back light display easy on to read shows all information that you need about measurement, included icon for stability. Up to 4 point Conductivity calibration with automatic recognition. Easy to use - Very competitive price - easy to calibrate.

EC-30 cond

- · Display COND and Temperature parameters simultaneously
- Resolution: automatic scale
- Selectable cell constant allows for use with 2 plate cell
- Automatic calibration 1 to 4 points between
 4 conductivity standard values
- Indication stability of the measurement with icon
- Non-volatile memory holds up to 25 data points
- IP54 rated housing handles splashes
- 3 years meter replacement warranty

Various sets are available:

EC-30 cond 0 Meter without cell, incl, Cal-standards1413 μ S and 12,88 mS, Cellholder and accessories.

EC-30 cond

EC-30 cond 1 Meter with Con-cell 2301T incl. ATC, Cable 1m, Calibration standards 1413 μ S and 12,88 mS, Cellholder and accessories.



Technical Data EC-30 cond COND measuring range 0... 200,0 - 2000 µS / 2,00... 20,00 - 200,0 mS 0,1 - 1 µS / 0,01 - 0,1 mS Resolution Calibration points 1...4 Calibration standards ricongnized $84 \mu S - 1413 \mu S - 12,88 mS - 111,9 mS$ 0,1-1-10 cm⁻¹ Cell constant selectable 0,00...9,99 % / °C Temperature coefficient Reference temperature 25 °C Temperature measuring range 0....50,0 °C 0,1 °C Resolution / Accuracy Temperature compensation Automatic / manual 0...80 °C Memory 25 data LCD (Liquid Crystal Display) / backlight Display BNC and Jack phono (ATC) Inputs AC/DC adapter 9 V / 300 mA Power supply IP protection class IP 54 Dimensions / weight instrument 160 x 190 x 70 mm / 750 g



Professional Conductivity Benchtop Meter EC-40 cond · EC-45 cond

The large color display easy on to read shows all information necessary information about measurement, calibration, standards, cell condition, GLP. Anyone can use this meter easily with its intuitive menu available in up to 8 languages in the EC-45 cond. **Easy to learn.**

Up to 4 calibration points with buffer recognition. Icon support for all calibration functions and advanced electrode diagnostics. **Easy to calibrate.**

All functions can be controlled in an intuitive and easy way. Both instruments can be delivered with a stirrer.

EC-40 cond

- · Display COND/TDS and Temperature simultaneously
- · Resolution: automatic scale
- · Selectable cell constant allows for use with 2 plate cell
- · Automatic calibration 1 to 4 points between 4 conductivity standard values
- Manual-Calibration up to 1 points (User defined)
- Large 2 color display with indication of Calibration Standards and measurement's stability
- Instrument can be delivered with a magnetic stirrer
- IP54 Protection
- 3 years instrument warranty



... additional for EC-45 cond

- · Selectable cell constant allows for use with 2 or 4 plate cell
- GLP and IQ-OQ manual available
- Automatic and manual compensation of temperature with reference value 15...30 °C
- · Memory with re-call of last calibration date and time and information of cell constant
- · CAL DUE: set of calibration frequency for high quality of measurements
- Non-volatile memory holds up to 1000 data points with date and time in automatic (Data logger) or manual printer
- 2 x USB ports to transfer data and software PC-Link to download data (included)





Professional Conductivity Benchtop Meter EC-40 cond · EC-45 cond

Various sets are available:

EC-40 cond 0	Kit without cell, with standard solution 1413 μ S and 12,88 mS, cell holder and accessories
EC-40 cond 1	Kit included cell 2301T, standard solution 1413 μ S and 12,88 mS, cell holder and accessories
EC-40 cond 2	Kit without cell, with standard solution 1413 μ S and 12,88 mS, cell holder and accessories with magnetic stirrer
EC-40 cond 3	Kit included cell 2301T, standard solution 1413 μ S and 12,88 mS, cell holder and accessories with magnetic stirrer
EC-45 cond 0	Kit without conductivity cell, standard solution 1413 μS and 12,88 mS, cell holder and accessories
EC-45 cond 1	Kit included conductivity cell Glass-Pt VPT80/1, standard solution 1413 μ S and 12,88 mS, cell holder, power supply and accessories.
EC-45 cond 2	Kit without cell, with standard solution 1413 μ S and 12,88 mS, cell holder and accessories with magnetic stirrer
EC-45 cond 3	Kit included cell Glass-Pt VPT80/1, standard solution 1413 μ S and 12,88 mS, cell holder and accessories with magnetic stirrer



Technical Data	EC-40 cond	
Cond. Measuring range	0,00 – 200 mS	
Resolution cond	Automatic scale	
Relative accuracy	±0,5 % value reading	
TDS Measuring range	0,1 mg/L100 gr/L	
TDS factor	0.401.00	
Relative Accuracy	±0,5 % value reading	
Temperature range	0 – 100 °C	
Accuracy/Resolution Temp.	0,1/±0,2 °C	
Temperature compensation	Manual or automatic	
Temperature calibration	Yes	
Calibration points	14	
Calibration standards recognized	84, 1413 μS / 12.88, 111.8 mS	
Indication of cell condition	Yes	
GLP	No	
CALDUE	No	
Memory	No	
Interputs	BNC, ATC	
Protection class	IP 54	
Power supply	AC/DC adapter 9 V / 300 mA	
Dimensions	200 x 220 x 100 mm, 950 gr	

EC-45 cond 0,00....1000 mS Automatic scale ±0,5 % value reading 0,1 mg/L...500 gr/L 0.40...1.00 ±0,5 % value reading -20 – 200 °C 0,1/±0,2 °C Manual or automatic Yes 1....4 1 point user defined Yes Yes, with date and time Yes 1000 Data 2 x USB, BNC, ATC IP 54

AC/DC adapter 9 V / 300 mA AC/DC adapter 9 V / 300 mA 200 x 220 x 100 mm, 950 gr 200 x 220 x 100 mm, 950 gr



Portable Multi Meter EC-20 multi · EC-25 multi

Anewly designed portable meter with a large display (backlighted for EC-25 multi) showing all functional parameter and information. Only 4 keys (6 for EC-25 multi) allows the user to control all functions in an easy and intuitive way.

The instrument is IP-57 protected and will be delivered in an elegant and sturdy case, to be used as a small portable lab.

EC-20 multi

· Display pH/mV/Conductivity/TDS and Temperature parameters simultaneously

pH:

- Selectable resolution: 0,1/0,01 pH
- Automatic calibration up to 3 points with 2 selectable pH-buffer sets (USA and NIST)
- · Manual calibration up to 2 points with User-defined pH-Buffer
- Stability parameter (Low-Med-High) for high accuracy measurement

Conductivity:

- Automatic calibration from 1 to 4 points between 4 conductivity standard values
- Manual calibration at 1 point (User defined)
- Automatic and manual compensation of temperature with reference value 15...30 °C
- Large Display (backlight for EC-25) with indication of standards used for calibration and stability
- Waterproof IP57 protection
- Strong carrying case with all accessories to be used as a small portable laboratory



PHOEN X

... additional for EC-25 multi

- TDS measurement with adjustable factor
- GLP
- · Memory recall of last calibration with control of cell constant, date and time
- · CAL DUE: set of calibration frequency for high quality measurements
- Data logger, manual and automatic with 500 memory values with date and time
- USB port to download data and power by Computer or power supply (included)
- Software PC-Link to download data (included)



Portable Multi Meter EC-20 multi · EC-25 multi

Various sets are available:

- EC-20 multi 0 Kit without pH electrode, included cond. cell 2301 T with ATC, cable length 1m with BNC/Cinch plug, with temperature probe NT 55, BNC/S7 1mt cable, pH buffer and conductivity standard, carrying case and accessories
- EC-20 multi 1 Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, carrying case and accessories
- EC-25 multi 0 Kit without pH electrode, included cond. cell 2301 T with ATC, cable length 1m with BNC/Cinch plug, with temperature probe NT 55, BNC/S7 1mt cable, power supply, software PC-Link, pH buffer and conductivity standard, carrying case and accessories
- EC-25 multi 1 Kit include pH-electrode 201T and cell 2301T with ATC, cable length 1m and BNC plug, standard calibration solutions, power supply, software PC-Link, USB- cable, carrying case with accessories.





Technical Data pH meas. Range Resolution Calibration points Buffer recognized mV meas. range Resolution Cond Meas. Range/ Resolution Calibration points Calibration standards Cell constant selectable Temperature range Resolution TDS measuring range Resolution GI P CALDUE Memory Inputs IP-class Warranty Instrument

EC-20 multi 0,00...14,00 pH 0,1/0,01 pH 1...3 USA, NIST and user defined ±1.000 mV 1 mV 0,0...199,9 mS 0,1/1 µS 0,01/0,1 mS 1-4 84 µS -1413 µS-12,88 mS-111,9 mS and 1 user defined 0,1 - 1 - 10 cm⁻¹ 0 - 100 °C 0.1 °C / ± 0.5 °C _ Yes BNC, Jack phono (ATC) Waterproof IP 57 5 Years

0,1/0,01 pH 1...3 ±1.999 mV 0,1/1 mV

EC-25 multi

-2,00...16,00 pH

0,00...199,9 mS 0,01/0,1/1 μS 0,01/0,1 mS 1-4

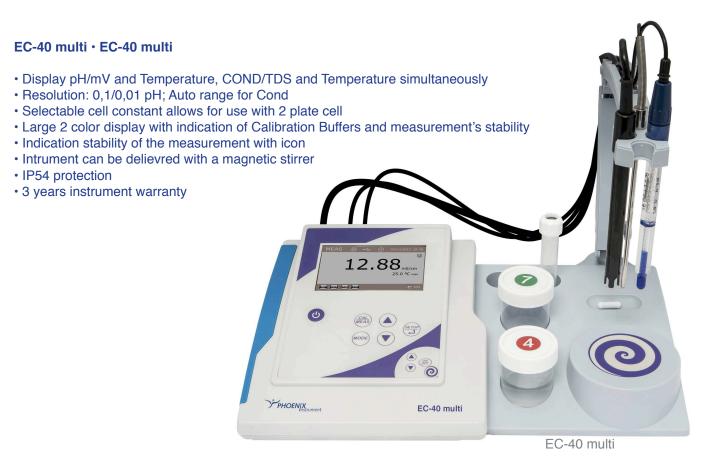
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-10 – 110 °C
0,1 °C / ± 0,5 °C
0...100 g/l
1% full scale
Yes
Yes
Man/Auto 500 Data with time
BNC, Jack phono (ATC), USB
Waterproof IP 57
5 Years
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Professional Benchtop Multi Meter EC-40 multi · EC-45 multi

The large color display easy on to read shows all information necessary information about measurement, calibration, standards, cell condition, GLP. Anyone can use this meter easily with its intuitive menu available in up to 8 languages in the EC-45-Multi. **Easy to learn**.

Up to 5-point pH-calibration and up to 4-point Conductivty calibration with automatic recognition of all standards. Icon support for all calibration functions and advanced electrode diagnostics. **Easy to calibrate** All functions can be controlled in an intuitive and easy way. Both instruments can be delivered with a stirrer.



... additional for EC-45 multi

- Display pH/mV and Temperature, COND/TDS/Salinity/Resistivity and Temperature simultaneously
- Selectable Resolution: 0,1/0,01/0,001 pH; Auto range for COND
- GLP and IQ-OQ manual available
- · Selectable cell constant allows for use with 2 or 4 plate cell
- · Memory with re-call of last calibration date and time and information of electrode's life
- CAL DUE: set of calibration frequency for high quality of measurements
- Stability Parameter (Low-Med-High) for high accuracy measurement
- Non-volatile memory holds up to 1000 data points with date and time in automatic (Data logger) or manual
- 2x USB ports to transfer data at PC or printer and for external keyboard
- Software PC-Link to download data (included)







Professional Benchtop Multi Meter EC-40 multi • EC-45 multi Available sets				
EC-40 multi 0	Kit without pH electrode and cell, with cable S7/BNC, temp. probe NT55, pH buffer solution pH 7, pH 4, conductivity solution 1413 μ S and 12,88 mS, power supply and accessories			
EC-40 multi 1	Kit included pH electrode XS Polymer, cell 2301T with ATC. Cable S7/BNC, pH buffer solution pH 7 and pH 4, conductivity solution 1413 μ S and 12,88 mS, power supply and accessories			
EC-45 multi 0	Kit without pH electrode and cell, with cable S7/BNC, temp. probe NT55, pH buffer solution pH 7 and pH 4, conductivity solution 1413 μ S and 12,88 mS, power supply and accessories			
EC-45 multi 1	Kit included pH electrode XS STANDARD S7, cell 2301T with ATC. Cable S7/BNC, pH buffer solution pH 7 and pH 4, conductivity solution 1413 μ S and 12,88 mS, power supply and accessories			

All kits are also avilable with magnetic stirrer. For further details please see our new pricelist for electrochemistry products or check on our website www.phoenix-instrument.de.



Technical Data	EC-40 multi	EC-45 multi
pH meas. Range	0-14	-2-20
Resolution	0.1 / 0.01 / ±0,01	0.1 / 0.01 / 0.001
Calibration points	13	14
Buffer recognized	USA, NIST, 2 user defined	USA, NIST, 5 user defined
mV meas. Range/Resolution	±2000/ 0,1/1	±2000/ 0,1/1
Cond. Measuring range	0,00 – 200 mS	0,001000 mS
Resolution cond	Automatic scale	Automatic scale
Relative accuracy	±0,5 % value reading	±0,5 % value reading
TDS Measuring range	0,1 mg/L100 gr/L	0,1 mg/L500 gr/L
TDS factor	0.401.00	0.401.00
Relative Accuracy	±0,5 % value reading	±0,5 % value reading
Temperature range	0 – 100 °C	-20 – 200 °C
Accuracy/Resolution Temp.	0,1/±0,2 °C	0,1/±0,2 °C
Temperature compensation	Manual or automatic	Manual or automatic
Temperature calibration	Yes	Yes
Calibration points Cond.	14	14
Calibration standards recognized	84, 1413 μS / 12.88, 111.8 mS	1 point user defined
Indication of cell condition	Yes	Yes
GLP	No	Yes, with date and time
CALDUE	No	Yes
Memory	No	1000 Data
Interputs	2xBNC, 2xATC	2x BNC, 2x ATC, 2 x USB
Protection class	IP 54	IP 54
Power supply	AC/DC adapter 9 V / 300 mA	
Dimensions	200 x 220 x 100 mm, 950 gr	200 x 220 x 100 mm, 950 gr

In addition to Electrochemistry Phoenix Instrument also offers Rotary Evaporator, Balances, Centrifuges, Liquid Handling, Stirrer, Mixer, Shakers, Incubators and Ovens











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