PHOENIX Instrument
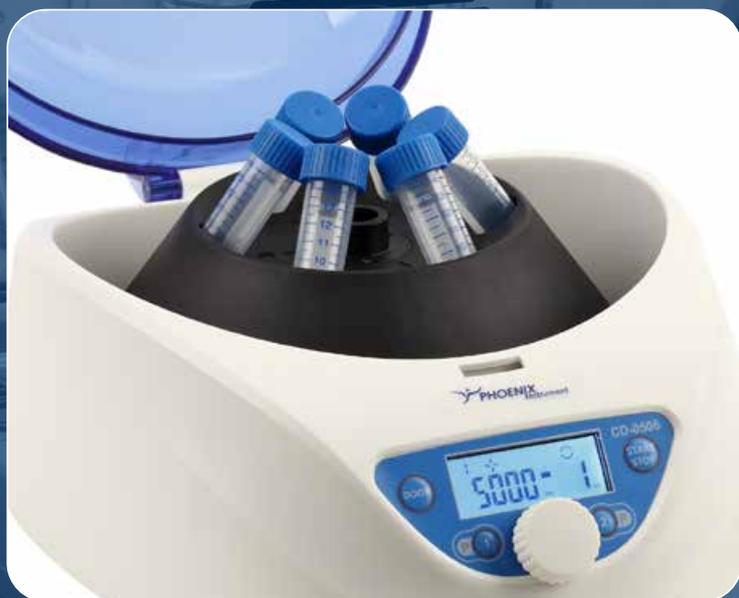## Lab Solutions

Stirrer

Temperature Instruments

Ozone Generators

Mixer

Shaker

Centrifuges

Liquid Handling

Lab Jacks

Electrodes

Rotatory Evaporator

Electrochemistry

Balances

Catalog 2024

![PHOENIX Instrument — Lab Solutions logo]

Idea

PHOENIX INSTRUMENT GmbH starts with a new concept to comply customer demands for high-quality but also well-priced laboratory instruments.

Implementation

Absolute customer orientation and satisfaction is the focus of all activities of PHOENIX INSTRUMENT.

Your Benefit

As our customer you will take advantage of our long market experience, the attractive prices and the short delivery times.

We guarantee comprehensive and competent consultations in all aspects and will always listen to your wishes, ideas and suggestions.

It goes without saying that PHOENIX INSTRUMENT offers a technical service, if required.

Phoenix Instrument GmbH was founded in 2010 by Christian Lieske and Marco Riemer.

Together we have more than 50 years of experience in the distribution of laboratory instruments.

It is our goal to provide instruments with a high quality standard for the daily demand in all kind of laboratories at a good price and a decent service.

We supply our products through a close network of qualified laboratory distributors to allow an easy access to our products. It goes without saying that we are always at your disposal for a personal advice.

Logistics Center in Garbsen

Our logistics center is conveniently located between the highways A2 und A7 in the industrial area of Garbsen near Hannover. Starting point of worldwide shipping. Reliable, fast and flexibel.

![Phoenix Instrument - Lab Solutions logo]

Stirrer

A variety of magnetic Stirrer with and without heating function.

Shaker

Shaker, Rotator, Mixer and Roller for gentle, but intensive sample mixing.

Centrifuges

Centrifuge are used to separate liquid and solid particles or components in a liquid mixture.

Liquid Handling

Pipettes with variable and fix volume, Pipette filler, Dispenser, Aspiration systems.
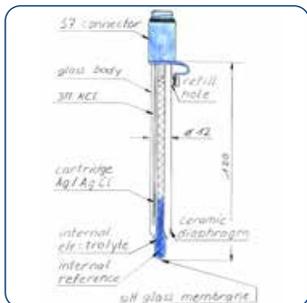
Temperature Instruments

Incubators, Ovens, Waterbaths, Incubation Shaker, Circulation Baths, Climatic Chambers.

Stirrer

Magnetic Stirrer

The magnetic stirrers from Phoenix Instrument offer the right devices for all areas of daily laboratory routine. You have the choice between digital or analogue devices.

Both variants are available with or without heating function. Most of the stirrers with heating function have an integrated control function.

The comprehensive extensive range of accessories extends from the stand rod and temperature sensor to protective covers and reactor attachments.

www.phoenix-instrument.de • Tel. +49 5131 90818 -30

Magnetic Stirrer

RSM-ECO

- analog Magnetic stirrer
- stepless speed regulation from 300 to 2,000 rpm
- chemical resistant surface
- compact, sealed housing
- silent, vibration free use
- maintenance-free Motor
- includes holder for pH-electrodes

RSM-10A

- analog Magnetic stirrer
- compact construction
- sealed housing (IP42)

RSM-10B

- digital Magnetic stirrer
- compact construction
- sealed housing (IP42)

2 years warranty

Technical Data	RSM-10A	RSM-10B	RSM-ECO
Stirring volume (H_2O)	3 l		1.5 l
Speed	50 - 1,500 rpm	200 - 1,500 rpm	300 - 2,000 rpm
Plate dimension ø	135 mm		120 mm
Plate material	Plastic		
Motor	DC, brushless		
Display	analog	LED	analog
Max. stirring bar length	50 mm		40 mm
Voltage • Frequency	100 - 240 VAC • 50/60 Hz		
Power	10 W	15 W	7,2 W
Protection class acc. EN60529	IP 42		IP 21
Weight	1.5 kg		0.6 kg

Magnetic Stirrer / Magnetic Stirrer with heating function

RSM-01S

• Typical magnetic stirrer in a modern Design
• sturdy metal housing IP 42
• high stirring power and volume (20 Liter)

RSM-01HS · RSM-01HP

2 years warranty

• classic, analogue magnetic stirrer
• stirring plate in stainless steel or covered with porcelain
• sturdy design (metal housing, IP 42)
• high stirring volume (20 Liter)

RSM-02HSP · RSM-02HPP

• magnetic stirrer of the latest generation
• connector for PT-1000, integrated control function
• digital adjustment with backlit Display
• RS 232 to control the stirrer and to transfer data
• indicator for hot surface, even when stirrer is shut-off
• comprehensive range of accessories
• high stirring volume (20 Liter)

Technical Data	RSM-01S	RSM-01HS	RSM-01HP	RSM-02HSP	RSM-02HPP
Stirring volume (H_2O)			20 L		
Speed		50 - 1,500 rpm		100 - 1,500 rpm	
Temperature range	-		RT+5 to 340 °C		
Heating power	-		500 W		
Temperature accuracy	-	-	-	1 °C	1 °C
Plate dimension ø			135 mm		
Plate material	Stainless steel		Stainless steel with porcelain surface	Stainless steel	Stainless steel with porcelain surface
Motor			DC, brushless		
Display		analog		LCD	
Interface	-	-	-	RS-232	
Max. stirring bar length			80 mm		
Connector for temperatur sensor	-	-	-	yes	
Safety temperatur	-		420 °C		
Voltage • Frequency		100 - 240 VAC • 50/60 Hz			
Power	30 W		550 W		
Protection class acc. EN60529			IP 42		
Dimension			160 x 280 x 85 mm		
Weight	2.9 kg	3 kg	3.1 kg	3.1 kg	3.2 kg

PHOENIX *instrument*

Lab Solutions

Magnetic Stirrer with heating function

RSM-04H

• analog Magnetic stirrer with integrated control function
• Temperature sensor PT-1000 included
• sturdy full metal housing
• backlit digital display or LED
• glass ceramic hotplate (180 x 180 mm)
• hot plate warning, even when the stirrer is shut-off

RSM-05H

• digital Magnetic stirrer with integrated control function
• temperature sensor PT-1000 included
• sturdy full metal housing with large glass ceramic
  hot plate (180 x 180 mm)
• hot plate warning, even when the stirrer is shut-off
• high stirring volume (20 Liter)

2 years warranty

RSM-06H

• up to 30 liter stirring volume, Powerfull
  brushless DC motor
• large glass ceramic plate for excellent
  chemical resistant performance and
  efficient heat transfer
• LCD display for precise monitoring of
  speed and temperature
• connector for external temperature
  sensor PT-1000
• digital speed control of 100 - 1,500 rpm,
  max. heating plate temperature 500 °C
• hotplate warning even when the stirrer is off
• data connector: The SD card records the
  instrument's running data in real time
• timing function: the running time of the
  instrument can be set
• high stirring volume (30 Liter)

Technical Data	RSM-04H	RSM-05H	RSM-06H
Stirring volume (H$_2$O)	10 L	20 L	30 L
Speed		100 - 1,500 rpm	
Temperate range		RT+5 to 550 °C	RT+5 to 500 °C
Heating power		1,000 W	1,350 W
Temp. Accuracy	5 °C		1 °C
Plate dimension		184 x 184 mm	254 x 254 mm
Plate material		Glass ceramic	
Motor		DC, brushless	
Dispaly	LED		LCD
Interface	-	RS-232	SD-Card
Max. stirring bar length		80 mm	
Connector for temperature sensor		yes	
Safety temperature		580 °C	540 °C
Voltage • Frequency		200 - 240 VAC • 50/60 Hz	
Power		1,050 W	1,400 W
Protection class acc. EN60529		IP 21	
Dimension	215 x 340 x 110 mm		330 x 425 x 140 mm
Weight	5.9 kg		7.2 kg

Magnetic Stirrer with heating function

RSM-10HS / RSM-10HP

- LED-Display for accurate regulation of speed and temperature
- digital controled speed and temperature
- indicator for hot surface, even when stirrer is shut-off
- connector for PT-1000
- hotplate made of stainless steel or with porcelain surface
- compact construction, sealed housing (IP42)

2 years warranty

RSM-14HP

- LCD-Display for accurate regulation and digital control of speed and temperature
- indicator for hot surface, even when the stirrer is shut-off
- connector for PT-1000
- hotplate made of Aluminum
- integrated temperature control function
- compact construction, sealed housing (IP42)

Technical Data	RSM-10HS	RSM10HP	RSM-14HP
Stirring volume (H$_2$O)	3 L		5 L
Speed	200 - 1,500 rpm		
Temperate range	RT+5 to 280 °C		RT+5 to 340 °C
Heating power	500 W		
Temp. accuracy	2 °C		1 °C
Plate dimension	135 mm ø		140 x 140 mm
Plate material	Stainless steel	Stainless steel with porcelain surface	Aluminium with porcelain surface
Motor	DC, brushless		
Dispaly	LED		
Interface	-	-	-
Max. stirring bar length	50 mm		
Connector for temperature sensor	yes		
Safety temperature	320 °C		420 °C
Voltage • Frequency	100 - 240 VAC • 50/60 Hz		
Power	515 W		510 W
Protection class acc. EN60529	IP 21		
Dimension	155 x 215 x 100 mm		180 x 320 x 108 mm
Weight	2.1 kg	2.2 kg	3.2 kg

![PHOENIX instrument - Lab Solutions]

Multiposition Stirrer

RSM-03-4KH

• digital 4-position magnetic stirrer with integrated controller function
• connection for external PT-1000
• each stirring point can be controlled separately
• temperature sensors and columns are included in delivery
• hotplate made of stainless steel with porcelain surface
• hotplate warning even when the stirrer is turned off
• maintenance-free, brushless DC Motor

2 years warranty

RSM-03-10K

• analog 10-place Magnetic stirrer
• stepless speed control from 50 to 1,100 rpm
• stainless steel plate with silicone films, anti-slip and anti-corrosion

RSM-03-10KH

• with heating function

Technical Data	RSM-03-4KH	RSM-03-10K	RSM-03-10KH
No. of stirring points	4	10	
Stirring volume (H_2O)	4 x 10 L	10 x 0.4 L	
Speed	200 - 1,500 rpm	50 to 1,100 rpm	
Temperate range	RT+5 to 340 °C	-	RT+5 to 120 °C
Heating power	4 x 500 W	-	470 W
Temp. accuracy	1 °C	-	-
Plate dimension	4 x 135 mm	180 x 450 mm	
Plate material	Stainless steel with porcelain surface	Stainless steel with silicon film	
Motor	DC, brushless		
Dispaly	digital	analog	
Max. stirring bar length	40 mm		
Connector for temperatur sensor	yes	no	
Safety temperature	420 °C	-	140 °C
Voltage / Frequency	100 - 240 VAC / 50/60 Hz		
Power	4 x 515 W	490 W	20 W
Protection class acc. EN60529	IP 20		
Dimension	700 x 270 x 130 mm	185 x 555 x 65 mm	
Weight	11.9 kg	5.9 kg	6.1 kg

Accessories Magnetic Stirrer

RSM-E 100	Carrier plate to be used for hotplate stainless steel (RSM-01/02HS)
RSM-E 105	Fixing ring to be used for hotplate stainless steel (RSM-01/02HS)

RSM-E 110	Red quarter pie, 11-holes, Ø 15.2 mm, depth 19 mm, to be used with RSM-E 100/105
RSM-E 120	Purple quarter pie, 4-holes, Ø 28 mm, depth 24 mm, to be used with RSM-E 100/105
RSM-E 130	Blue quarter pie, 4-holes, Ø 28 mm, depth 30 mm, to be used with RSM-E 100/105
RSM-E 140	Black quarter pie, 4-holes, Ø 28 mm, depth 42.8 mm, to be used with RSM-E 100/105
RSM-E 150	Green quarter pie, 8-holes, Ø 17.75 mm, depth 25.5 mm, to be used with RSM-E 100/105
RSM-E 160	Golden quarter pie, 4-holes, Ø 21.6 mm, depth 31.7 mm, to be used with RSM-E 100/105

RSM-E 165	Aluminum alloy bead bath block 500 ml, with 500 ml beads for RSM-02HSP
RSM-E 166	Aluminum alloy bead bath block 1,000 ml, with 1,000 ml beads for RSM-02HSP
RSM-E 167	Aluminum alloy beads 1 kg (500 ml)

RSM-E 170	Reaction block for round flasks 50 ml
RSM-E 172	Reaction block for round flasks 100 ml
RSM-E 174	Reaction block for round flasks 250 ml
RSM-E 176	Reaction block for round flasks 500 ml
RSM-E 178	Reaction block for round flasks 1,000 ml

RSM-E 200	Stirrer bar, 10 x 6 mm, 1 pc
RSM-E 205	Stirrer bar, 15 x 8 mm, 1 pc
RSM-E 210	Stirrer bar, 20 x 8 mm, 1 pc
RSM-E 215	Stirrer bar, 25 x 8 mm, 1 pc
RSM-E 220	Stirrer bar, 30 x 8 mm, 1 pc
RSM-E 225	Stirrer bar, 40 x 8 mm, 1 pc
RSM-E 230	Stirrer bar, 50 x 8 mm, 1 pc
RSM-E 235	Stirrer bar, 65 x 8 mm, 1 pc
RSM-E 240	Stirrer bar, 80 x 13 mm, 1 pc

RSM-E 310	Stirrer bar remover

Quarter Pies on Carrier Plate

Accessories Magnetic Stirrer

RSM-E 320   Temperature sensor PT-1000 for RSM-02HP/HS - RSM-10HP/HS-RSM-05H
RSM-E 320G   Temperature sensor PT-1000, Glass coated

RSM-E 330   Stand holder for PT-1000 for RSM 01/02/04/05
RSM-E 335   Stand holder for PT-1000 for RSM-10

RSM-E 340   Protection cover for RSM01/02 without hotplate
RSM-E 350   Protection cover for RSM01/02 with hotplate
RSM-E 355   Protection cover for RSM10 with hotplate

Stand Holder Kit

Bath Block

Reaction Block for Round Flasks

Shaker

Shaker, Rotator, Disk Mixer, Roller, Stirrer

Whether gentle agitation, horizontal or orbital shaking or the intensive mixing of media, our shaker, roller, rotator and mixers offer the right device for all application and areas of daily laboratory routine.

Thanks to the extensive range of accessories, the instruments can be configured individually for every task.

![Phoenix Instrument Lab Solutions logo]

Digital Orbital Shaker RS-OS 6

RS-OS 6

- compact laboratory shaker for a maximum load of 3 kg
- safe stand
- delivery includes fixed bowl attachment
- continuous or timer operation
- maintenance-free, brushless motor

2 years warranty

Technical Data	RS-OS 6
Shaking movement	orbital
Shaking diameter	20 mm
Speed	40 - 200 rpm
Motor	DC, brushless
Timer-function	yes
Operation	Timer / Continous
Display	LED / LED
Adjustment Speed / Time	digital
Dimension	295 x 350 x 125 mm
Dimension Plattform	268 x 268 mm
Protection class	IP 21
Voltage • Frequency	100 - 240 VAC • 50/60 Hz
Dimension	3.1 kg

Digital Orbital and Linear Shaker RS-OS · RS-LS

RS-OS 10/20 · RS-LS 10/20

• compact shaker with a maximum capacity of 2.5/ 7.5 kg
• backlit display for easy adjustment of time and speed
• fix stand with anti-slipping feet
• adjustable safety speed
• RS 232-interface to control the shaker and
  to transfer data
• comprehensive range of accessories

2 years warranty

RS-OS-10/20

Technical Data	RS-OS 10	RS-OS 20	RS-LS 10	RS-LS 20
Shaking movement	orbital		linear	
Shaking diameter	4 mm	10 mm	4 mm	10 mm
Max. shaking weight	2.5 kg	7.5 kg	2.5 kg	7.5 kg
Speed	100 - 800 rpm	100 - 500 rpm	100 - 800 rpm	100 - 500 rpm
Timer-function	yes, 1 - 1.199 min			
Operation	Timer / Continous			
Dispaly Speed / Time	LCD / LCD			
Adjustment Speed / Time	digital			
RS-232	yes			
Dimension	340 x 300 x 100 mm	420 x 370 x 100 mm	340 x 300 x 100 mm	420 x 370 x 100 mm
Dimension Plattform	240 x 240 mm	320 x 320 mm	240 x 240 mm	320 x 320 mm
Protection class	IP 21			
Voltage • Frequency	100 - 240 VAC • 50/60 Hz			
Weight	7.9 kg	13.4 kg	7.9 kg	13.4 kg

Digital Sea-Saw Shaker RS-RR 10 and 3D-Shaker RS-RD 10

RS-RR 10 · RS-RD 10

- gentle sample mixing
- sturdy construction
- backlit display
- simultaneous display of speed and time
- fix stand with anti-slipping feet
- attachment included
- comprehensive range of accessories

2 years warranty

Technical Data	RS-RR 10	RS-RD 10
Shaking movement	Sea-saw	3D orbital
Shaking angel	±9 °	
Max. speed	10 - 70 rpm	
Dispaly	LCD	
Timer-function	yes, 1 - 1.199 min	
Operation	Timer / Continous	
Max. shaking weigt	10 kg	5 kg
Dimension	420 x 370 x 106 mm	420 x 370 x 200 mm
Dimension Platform	320 x 320 mm	
Ambient temperature	5 - 40 °C	
Protection class	IP 21	
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	13.9 kg	15.1 kg

Shaker Accessories

RSS-E 100	Universal attachment with clamping rolls OS/LS 5, 10, RS-RS 5 and RS-DS 5
RSS-E 105	Base plate for OS/LS 5, 10, RS-RS 5, RS-DS 5 to be used with Erlenmeyer fixing clips
RSS-E 110	Universal attachment with vertical adjustable clamping rolls OS/LS 10
RSS-E 115	Dish attachment for OS/LS 5, 10, RS-RS 5 and RS-DS 5, incl. fixing belts
RSS-E 160	Dish attachment for OS/LS 5, 10, RS-RS 5 and RS-DS 5, 20 x 30 cm, incl. fixing belts
RSS-E 165	Dish attachment for OS/LS 5, 10, RS-RS 5 and RS-DS 5, 28 x 28 cm, incl. fixing belts
RSS-E 168	Connector to use 2 disk modules/ 4pcs
RSS-E 180	Silicone mat for dish attachment RSS-E 115 for 10× 5-10ml tubes
RSS-E 181	Silicone mat for dish attachment RSS-E 115 for 4× 50ml tubes
RSS-E 182	Silicone mat for dish attachment RSS-E 220 for 16× 5-15ml tubes
RSS-E 183	Silicone mat for dish attachment RSS-E 220 for 6× 50ml tubes
RSS-E 200	Universal attachment with clamping rolls OS/LS 20
RSS-E 205	Base plate for OS/LS 20 to be used with Erlenmeyer fixing clips
RSS-E 210	Universal attachment with vertical adjustable Clamping rolls OS/LS 20
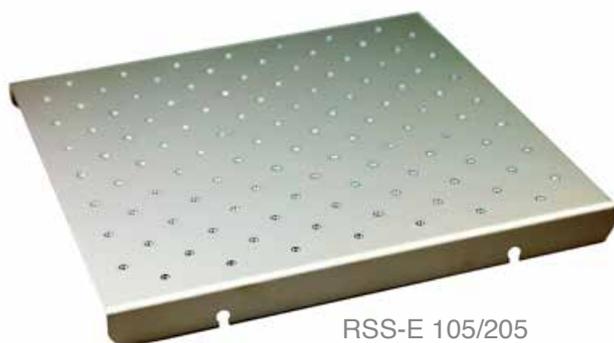
RSS-E 100/200

RSS-E 105/205

Maximum load for attatchment RSS-E 105/205 with fixing clips for Erlenmeyer flasks

Fixing clips	25 ml	50 ml	100 ml	250 ml	500 ml
RSS-E 105	18	18	9 (12)*	6 (8)*	4 (5)*
RSS-E 205	28	28	16	9 (12)*	9

* Erlenmeyer flasks overlapping

RSS-E 220

Shaker Accessories

RSS-E 120   Fixing clip for Erlenmeyer flask 25 ml volume
RSS-E 125   Fixing clip for Erlenmeyer flask 50 ml volume
RSS-E 130   Fixing clip for Erlenmeyer flask 100 ml volume
RSS-E 135   Fixing clip for Erlenmeyer flask 200/250 ml volume
RSS-E 140   Fixing clip for Erlenmeyer flask 500 ml volume
RSS-E 141   Fixing clip for Erlenmeyer flask 1,000 ml volume

RSS-E 145   Clamping rolls for RSS-E 100
RSS-E 245   Clamping rolls for RSS-E 200

RSS-E 250   Erlenmeyer flask with baffle 100 ml volume
RSS-E 251   Erlenmeyer flask with baffle 250 ml volume
RSS-E 252   Erlenmeyer flask with baffle 500 ml volume

RSS-E 253   Cultur flask with baffle 100 ml volume
RSS-E 254   Cultur flask with baffle 250 ml volume
RSS-E 255   Cultur flask with baffle 500 ml volume

RSS-E 120

RSS-E 125

RSS-E 130

RSS-E 135

RSS-E 140

Fixing Clips for Erlenmeyer Flasks

Incubation Shaker IS-OS 20

IS-OS 20

- forced recirculation
- spring-loaded shelf included
- adjustable safety temperature
- cover made of 8 mm acrylic glass
- extensive range of accessories

2 years warranty

Technical Data	IS-OS 20	IS-OS 30
Temperature range / resolution	RT +5 to 60 °C / 0.1 °C	4 to 60 °C / 0.1 °C
Temperature homogeneity at 37°C	± 0.5 °C	± 0.5 °C
Temperature variation at 37°C	± 0.1 °C	± 0.1 °C
Timer	99:59 min / continuous operation	
Shaking speed	40 … 300 rpm	
Amplitude of platform movement	20 mm	
Capacity (Erlenmeyer Flasks)	7 x 500 ml 4 x 1,000 ml	12 x 500 ml
Dimension platform	320 x 320 mm	450 x 450 mm
Power	500 W	1,300 W
Dimension	500 x 610 x 470 mm	610 x 950 x 540 mm
Material of hood / thickness	Plexiglas / 8 mm	
Weight	40 kg	90 kg
Adjustable safety temperature	yes	
Recognition open hood	yes	
Voltage • Frequency	230 VAC • 50/60 Hz	

Incubation Shaker IS-OS 30

IS-OS 30

- forced recirculation
- spring-loaded shelf included
- adjustable safety temperature
- cover made of 8 mm acrylic glass
- extensive range of accessories

2 years warranty

Max. load for the spring-loaded shelf

	IS-OS 20	IS-OS 30
Erlenmeyer flasks 250 ml	9	12
50 ml Flacon-tubes	25	37

Max. load of base plate

	IS-OS 20	IS-OS 30
Erlenmeyer flasks 50 ml	28	49
Erlenmeyer flasks 100 ml	23	36
Erlenmeyer flasks 250 ml	13	18
Erlenmeyer flasks 500 ml	8	16
Erlenmeyer flasks 1,000 ml	4	9
Erlenmeyer flasks 2,000 ml	1	4

Incubation Shaker Accessories

ISS-E 200	attachment with 4 clamping rolls for IS-OS20
ISS-E 205	base plate to be used with fixing clips for IS-OS20
ISS-E 220	dish attachment with non-slip mat for IS-OS20
ISS-E 300	attachment with 4 clamping rolls for IS-OS30
ISS-E 305	base plate to be used with fixing clips for IS-OS30
ISS-E 320	dish attachment with non-slip mat for IS-OS30
ISS-E 130	fixing clip for Erlenmeyer flask 100 ml volume
ISS-E 135	fixing clip for Erlenmeyer flask 200/250 ml volume
ISS-E 140	fixing clip for Erlenmeyer flask 500 ml volume
ISS-E 145	fixing clip for Erlenmeyer flask 1,000 ml volume
ISS-E 150	fixing clip for Erlenmeyer flask 2,000 ml volume

Rotator RS-RR 20 and Disk Mixer RS-RD 20

2 years warranty

RS-RR 20

RS-RR 20 · RS RD 20

- instrument will be supplied incl. tube holder (RS-RR20) or disk mixer (RS-RD 20)
- dual-Use - rotator RS-RR 20 can also be used as disk mixer
- fix stand with anti-slipping feet
- backlit display to adjust speed and time
- comprehensive range of accessories

Technical Data	RS-RR 20	RS-RD 20
Movement	Rotation	Rotation Disk
Rotation angle	-	0 - 90 °
Speed	10 - 70 rpm	
Timer-function	yes	
Operation	Timer / Continous	
Dispaly Speed / Time	LCD / LCD	
Adjustment Speed / Time	digital / digital	
Dimension	510 x 190 x 260 mm	250 x 190 x 260 mm
Protection class	IP 21	
Power	40 W	
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	8.9 kg	5.8 kg

RS-RD 20

![Phoenix Instrument Lab Solutions logo]

Analog Rotator and Disk Mixer RS-RR 5 · RS-RD 5

RS-RR 5 · RS-RD 5

• accessories for 1.5/2 ml, 15 ml and 50 ml tubes are included
• variable Speed
• compact construction
• adjustable feet
• easy to clean

2 years warranty

RS-RR 5

RS-RD 5

Maximum assembling RS-RR 5 and RS-RD 5

Fixing clips	1.5 / 2 ml	15 ml	50 ml
RS-RR 5	34	20	12
RS-RD 5	48	8	8

Technical Data	RS-RR 5	RS-RD 5
Movement	Rotation	Rotation Disk
Rotation angle	-	fix angle
Speed	5 - 80 rpm	
Timer-function	-	
Operation	continous	
Dispaly Speed / Time	Scala / Scala	
Adjustment Speed / Time	analog / analog	
Dimension	530 x 150 x 190 mm	2,200 x 300 x 310 mm
Protection class	IP 21	
Power	20 W	
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	2.9 kg	3.1 kg

Rotator and Disc Mixer Accessories

RSE-RR 05	Rotator module for RS-RR 20, 48 x 1.5 ml tubes, horizontal mixing
RSE-RR 10	Rotator module for RS-RR 20, 24 x 15 ml tubes, horizontal mixing
RSE-RR 15	Rotator modul for RS-RR 20, 24 x 50 ml tubes, horizontal mixing
RSE-RR 25	Rotator modul for RS-RR 20, 32 x 1,5 ml tubes, vertical mixing
RSE-RR 30	Rotator modul for RS-RR 20, 16 x 15 ml tubes, vertical mixing
RSE-RR 35	Rotator modul for RS-RR 20, 16 x 50 ml tubes, vertical mixing
RSE-RD 05	Disk modul for RS-RD 20, 60 x 1.5 ml tubes
RSE-RD 10	Disk modul for RS-RD 20, 16 x 15 ml tubes
RSE-RD 15	Disk modul for RS-RD 20, 8 x 50 ml tubes
RSE-RD 50	Adapter to use several disk modules
RSE-RD 20	12 x 1.5/2 ml holding clips for RS-RR 5 and RS-RD 5
RSE-RD 22	12 x 15 ml holding clips for RS-RR 5 and RS-RD 5
RSE-RD 24	12 x 50 ml holding clips for RS-RR 5 and RS-RD 5
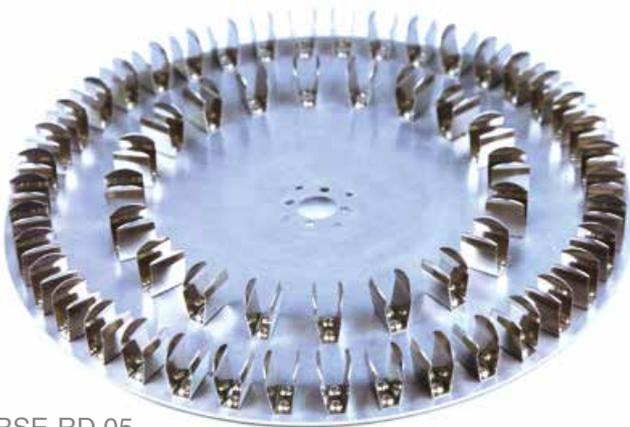
RSE-RD 05

RSE-RD 50

RSE-RR 5
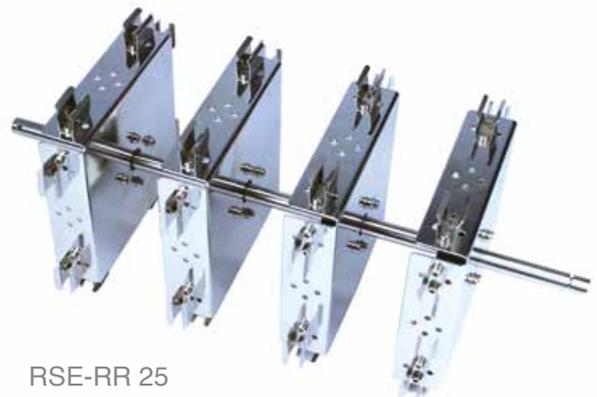
RSE-RR 25

Tube Roller RS-TR 5 / RS-TR 10

RS-TR 5 / RS-TR 10

• gentle mixing
• easy to use
• easy cleaning
• timer function (RS-TR 10 only)
• LCD display (RS-TR 10 only)

RS-TR 5

2 years warranty

Technical Data	RS-TR 5	RS-TR 10
Movement	Rocking amd rolling	
No. of rolls / Length	6 / 280 mm	
Amplitude	24 mm	
Speed	20 - 70 rpm	10 - 70 rpm
Motor	DC, brushless	
Timer-function	-	yes
Operation	continous	Timer / continous
Display Speed / Time	Scale	LCD / LCD
Adjustment Speed / Time	analog / -	digital / digital
Dimension	260 x 490 x 110 mm	
Protection class	IP 21	
Power	25 W	30 W
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	5.5 kg	5.6 kg

RS-TR 10

Vortexer and Micro Plate Mixer RS-VF 10 · RS-VA 10 and RS-MM 10

RS-MM 10

- compact Mixer suitable for 96er Micro titer plates
- adjustable speed
- various top frames available for RS-MM 10

2 years warranty

RS-VF 10 · RS-VA 10

- touch- or continuous
- variable speed 0 - 2,500 rpm (RS-VA 10)
- anti-slipping feet
- various top frames available for RS-VA 10
- sturdy cast housing

Technical Data	RS-VF 10	RS-VA 10	RS-MM 10
Shaking movement		orbital	
Shaking movement		4 mm	4.5 mm
Speed	2,500	100 - 2,500	50 - 1,500
Speed adjustment	-	knob	knob
Max. load		-	0.5 kg
Dimension		127 x 160 x 130 mm	150 x 80 x 260 mm
Protection class acc. EN60529		IP 21	
Dimension		155 x 215 x 100 mm	180 x 320 x 108 mm
Weight		3.5 kg	
Voltage • Frequency		100 - 240 VAC • 50/60 Hz	

Vortexer and Microplate Mixer - Accessories

RSV-E 10	Universal top plate for tubes and vessels up to 30 mm Ø for Vortexer
RSV-E 12	Holding bar for RSV-E 20 – 40
RSV-E 15	100 mm plate with rubber mat for RSV-E 20-40, RSV-E 44
RSV-E 18	DNA -attachment 20 Tubes 10,5 mm Ø, Material PP
RSV-E 20	Adapter for 48 Tubes 6 mm Ø, to be used with RSV-E 15
RSV-E 25	Adapter for 15 Tubes 10 mm Ø, to be used with RSV-E 15
RSV-E 30	Adapter for 12 Tubes 12 mm Ø, to be used with RSV-E 15
RSV-E 35	Adapter for 8 Tubes 16 mm Ø, to be used with RSV-E 15
RSV-E 40	Adapter for 8 Tubes 20 mm Ø, to be used with RSV-E 15
RSV-E 44	Universal top plate for tubes and vessels up to 99 mm Ø for Vortexer
RSV-E 46	Rubber foot
RSV-E50	Attachment for micro plate mixer to be used with RSV-E20-40, RSV-E44
RSV-E 55	Microtiterplate-attachment for one plate for RS-MM 10
RSV-E 57	Microtiterplate-attachment for two plates for RS-MM 10
RSV-E 60	Vortexer universal attachment for tubes and vessels up to 99 mm Ø incl. RSV-E 15
RSV-E 65	Vortexer attachment with Microtiterplate RSV-E55

RSV-E 15

RSV-E 20-40

RSV-E 44

RSV-E 55

RSV-E 18

Overhead Stirrer RSO-20/40 (analog and digital)

RSO-20/40A

- digital speed readout
- stepless speed adjustment
- sturdy construction
- very quiet operation
- safety circuit

RSO-20/40D

- digital stirrer with LCD-display
- microprocessor-controlled
  speed accuracy
- smooth start procedure
- selectable display of speed/torque
- RS 232 Interface

RSO-40D

2 years warranty

RSO-20A

Technical Data	RSO-20A	RSO-40A	RSO-20D	RSO-40D
Max. stirring quantity (H_2O)	20 L	40 L	20 L	40 L
Speed	50 - 2,200 rpm, stepless			
Speed accuracy	-	-	±3	±3
Speed dispaly	LED	LED	LCD	LCD
Max. viskosity	10,000 mPas	50,000 mPas	10,000 mPas	50,000 mPas
Max. torque	30 Ncm	60 Ncm	30 Ncm	60 Ncm
ø Chuck range	0.5 - 10 mm			
Push trough shaft	yes			
Fastening on stand	Extension 16 mm			
Torque dispaly	no		yes	
Dimension	82 x 220 x 186 mm			
Weight	2.5 kg	3.5 kg	2.5 kg	3.5 kg
Protection class	IP 42			
Motor rating input	70 W	130 W	70 W	130 W
Motor rating output	50 W	100 W	50 W	100 W
Voltage • Frequency	200 - 240 VAC • 50/60 Hz			

Overhead Stirrer - Accessories

RSO-E 07	Plate stand
RSO-E 10	Propeller stirrer with 4 blades, stirrer diameter 50 mm, shaft diameter 8 mm, shaft length 400 mm
RSO-E 11	Paddle stirrer, stirrer diameter 70 mm, shaft diameter 8 mm, shaft length 400 mm
RSO-E 12	Propeller stirrer with a flexible blade, stirrer diameter 60 mm, shaft diameter 8 mm, shaft length 400 mm
RSO-E 13	Centrifugal stirrer, stirrer diameter 90 mm, shaft diameter 8 mm, shaft length 400 mm
RSO-E 20	Propeller stirrer PTFE-coated with 4 blades, stirrer diameter 65 mm, shaft diameter 6 mm, length 350 mm
RSO-E 21	Propeller stirrer PTFE-coated with 2 blades, stirrer diameter 70 mm, shaft diameter 6 mm, length 350 mm
RSO-E 22	Paddle stirrer PTFE-coated, stirrer diameter 70 mm, shaft diameter 6 mm, length 350 mm
RSO-E 23	Centrifugal stirrer PTFE-coated, stirrer diameter 90 mm, shaft diameter 6 mm, length 350 mm
RSO-E 30	Strap clamp for vessels up to 200 mm, incl. Boss head clamp

RSO-E07

RS0-E10   RS0-E11   RS0-E12   RS0-E13

Thermoshaker RS-TS 5 and RS-TS10

RS-TS 5 / RS-TS 10

- quick change of blocks due to magnetic holder
- automatic block recognition
- 9 programs
- efficient mixing
- precise temperature control
- heating and cooling function (depending on model)
- Wide range of block
- easy calibration

2 years warranty

RS-TS 10

Technical Data	RS-TS 5	RS-TS 10
Functions	Heating & mixing	Heating, cooling & mixing
Temp. range	RT to 99.9 °C	5 below RT to 99.9 °C
Temperature accuracy	±0.5 °C	
Overheat protection	150 °C	
Timer	0 min - 99.5 h	
Max. Heating speed	5.5 °C / min	
Max. Cooling speed	5 °C / min (100 °C-RT)	
Max. Cooling speed	-	0.5 °C / min (below RT)
Speed range	300 - 1,500 rpm	
Mixing orbit	3-orbital	
Adjustment Speed / Time	digital	
Dimension	200 x 235 x 120 mm	
Weight	7.3 kg	
Voltage • Frequency	200 - 240 VAC • 50/60 Hz	

Thermoshaker - Accessories

		Hole (d x h)	Max. Speed	Lid
TSB-10	Heating block 24 x 0.5 ml	8.1 x 36 mm	1,500 rpm	yes
TSB-15	Heating block 24 x 1.5 ml conical	10.9 x 30.8 mm	1,500 rpm	yes
TSB-20	Heating block 24 x 2 ml	10.9 x 30.8 mm	1,500 rpm	yes
TSB-25	Heating block 8 x 5 ml	13.6 x 42 mm	1,500 rpm	no
TSB-30	Heating block 8 x 5 ml, conical	17 x 51.5 mm	1,400 rpm	yes
TSB-35	Heating block 8 x 15 ml	16.9 x 80 mm	800 rpm	no
TSB-40	Heating block 4 x 50 ml	29.6 x 80 mm	600 rpm	no
TSB-45	Heating block 96 well PCR Plates without frame		1,500 rpm	yes
TSB-50	Heating block 96/384 Mikrotiter plate		1,500 rpm	yes

TSB-10

TSB-25

TSB-40

TSB-15

TSB-30

TSB-45

TSB-20

TSB-35

TSB-50

Centrifuges

Mini-Centrifuge CD-1008

The CD-1008 is a small and powerful mini centrifuge which fits on every laboratory bench. Compact, small and very quiet running (<45 dB) is it the ideal instrument for small analysis. For safety reasons it is running only with a closed lit.

CD-1008 G (green), **CD-1008 B** (blue)

- Two lid colors, green and blue
- Max. speed of 7,000 rpm
- Comes with 2 ml x 8 and PCR8 x 2 rotors
- Dual door interlock design
- DC motor drive
- Quiet running, noise level ≤45 dB
- The rotor is seated on a tapered shaft which facilitates easy removal
- Ideal for quick spin downs and micro filtration
- The centrifuge starts and stops by closing and opening lid or using the on/off switch

CD-1008 G

CD-1008 B

2 Years Warranty

Accessories

CD08-8-2	Rotor, 8 x 1.5/2 ml
CD08-2-PCR8	Rotor, 2 x 8 x 0.2 ml PCR
CD08-A02	Adapter, 2 ml to 0.2 ml, 8 pcs
CD08-A05	Adapter, 2 ml to 0.5 ml, 8 pcs

Technical Data	CD-1008
Speed	7,000 rpm
Max. RCF	2,680 g
Time	continous
Noise	<45 dB (A)
Dimension	15 x 15 x 12 cm
Weight	0.5 kg
Max. capacity	8 x 2 ml
Shipping includes	CD 08-2, CD 02-PCR 8
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	20 W

Mini-Centrifuge CD-1012

This centrifuge is ideal for quick spins, microfiltration of samples, cell separations and many other routine laboratory procedures.

CD-1012

- Max. Speed 10,000 rpm (7,490 g)
- OLED display may switch speed and time;
- DC motor drive smooth and quiet operation.
- Safe, endurable and robust rotor with clamp locking design easy to operate
- Wide voltage technology the speed is not affected by voltage fluctuations high speed accuracy.
- Compatible with 0.5/1.5/2mL×12 tubes+4×PCR8 strips 0.2 mL×44 PCR tubes.
- Central button can adjust the motor speed and supports soft braking and instant stop modes
- Simple appearance and structure, only weight 1.5 kg

CD-1012

2 Years Warranty

Technical Data	CD-1012
Speed	2,000 - 10,000 rpm
Increment	1.000 rpm steps
Max. RCF	6,708 g, 1.5/2 ml; 6,596 - 7490 g, PCR8 stripes
Capacity	12 x 0.5/1.5/2 mL, 4×PCR8 strips, 44 x 0.2 mL PCR tubes
Runtime	10 sec - 20 min
Noise	<58 dB (A)
Dimension (D x W x H)	210 x 180 x 130 mm
Weight	1.5 kg
Shipping includes	Rotor and adapter
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	40 W

Low Speed Centrifuge CD-0506

The new centrifuge CD-0506, supplied with a built in fixed angle rotor which can hold up to 6 tubes each 15 ml / 10 ml / 7 ml / 5 ml / 1.5/2 ml. It is widely used for blood or urine separation in medical routine practice in hospitals, clinics or research institutes.

CD-0506

- Speed range from 300 - 5,000 rpm
- Rotor speed can be set and displayed by rpm or G-force
- Defined program by knob will be stored and activated when power on
- Two programs P1/P2, easy to start the procedure by one key
- Two deceleration speeds setting to meet different requirements
- Easy-to-read processing display and sound alert
- Automatic lid-lock release after running
- Maintenance-free brushless DC motor
- Rotor and Adapter included

2 Years Warranty

CD-0506

Technical Data	CD-0506
Speed	300 - 5,000 rpm
Increment	10 rpm
Max. RCF	2,600 g
Timer	0.5-99 minutes, continous
Noise	< 54 dB (A)
Dimension (DxWxH)	24 x 30 x 18 cm
Weight	5.2 kg
Max. Capacity	6 x 15 ml
Rotor	54° fix angle
Safety	Door interlock, overspeed detector, automatic internal diagnosis
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	70 W
Shipping includes	Rotor and adapter

Centrifuge CD-0412-50

Whether in environmental, biological or analytical laboratories - in all areas of the laboratory world there is a need to centrifuge samples up to 50 ml quickly and cost-effectively.

With the CD-0412-50, Phoenix Instrument offers exactly the right centrifuge for these requirements. The rotor has 6 holes for 15 ml tubes and 6 holes for 50 ml tubes. This means that it can be universally equipped with either 15 ml plastic tubes or 50 ml plastic tubes.

CD-0412-50

- Fix angle rotor (54°) for 6 x 50 ml or 6 x 15 ml
- Automatic self-diagnosis to control all functions
- backlit LCD-display for easy-read out of parameter such as Speed, RCF and time
- easy, intuitive operation
- Timer function 0.5 - 99 minutes
- Timer starts after the selected speed is reached
- Quick spin function
- Lid with electric lock and automatic release function to save processing time and prevent sample overheating
- Maintenance free brushless motor

2 Years Warranty

CD-0412-50

Accesories

CD-A6-50P   Rotor 6 x 15 ml or 6 x 50 ml

CD04-R50P   Plastic tubes with round bottom, 50 ml

Technical Data	CD-0412-50
Speed	300 - 4,000 rpm
Increment	100 rpm steps
Max. RCF	1,800 g
Timer	0.5 - 99 minutes, continous
Noise	<54 dB (A)
Dimensions	30 x 35 x 20 cm
Weight	6 kg
Capacity	6 x 15 ml or 6 x 50 ml
Rotor	54° fix angle
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	70 W
Shipping includes	CD-A6-50P

High Speed Micro Centrifuges CD-2012

High speed micro-centrifuge range is widely used in physical and chemistry analysis, biochemistry, cellular and molecular biology, clinical Labs and blood donation centers, and is ideal for high-end research applications: Sedimentation of cells and viruses, Separation of sub-cellular organelles, Isolation of macromolecules such as DNA, RNA, proteins or lipids.

The CD2012 is a high speed micro centrifuge with a 12-place rotor for 1.5 / 2ml tubes - or smaller through the use of adapters. The brushless DC motor drives quickly and effortlessly up to a maximum speed of 15,000 rpm. Easy control and handling is guaranteed by clearly arranged operating knobs and the backlit display.

2 Years Warranty

CD-2012

- Max. speed of 15,000 rpm (increment 100 rpm)
- The max. RCF is 15,100 g
- User-friendly large LCD display shows running information
- Both RPM or G-force can be set and displayed
- The parameters can be modified after the set speed is reached
- Time from 0.5 - 99 minutes or continuous
- Easy-to-read display and sound alerts
- Conforms to all international standards and regulation
- max. Capacity 12 x 2 ml (Rotor incl in delivery)
- Dimensions: 26 x 25 x 14 cm
- Weight: 6 kg

Accessories

CD12-2P	Rotor with lit, 12 x 1.5 / 2 ml
CD12-A02	Adapter, 2 ml to 0.2 ml, 24 pcs
CD12-A05	Adapter, 2 ml to 0.5 ml, 24 pcs

CD-2012

Technical Data	CD-2012
Speed	15,000 rpm
Max. RCF	15,100 g
Timer	0.5-99 minutes, continous
Noise	< 56 dB (A)
Dimension (DxWxH)	24 x 30 x 18 cm
Weight	6 kg
Max. Capacity	12 x 2 ml
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	100 W
Shipping includes	CD 12-2P

24 Place High Speed Micro Centrifuge CD-3024

The high speed Micro centrifuge CD-3024 has a capacity of 24 x 2 ml, 18 x 5 ml or 36 x 0.5ml. Easy handling and control is guaranteed with the backlit LCD-Display and the clear operation panel.
For safety reasons the centrifuges are equipped with dual door interlock, self-control of speed and temperature. All rotors are bio-safe and the centrifuges are manufactured in accordance with all international standards and regulations.

CD-3024

- Self diagnostic, control of speed and temperature
- User-friendly large LCD display shows running information
- Both RPM or G-force can be set and displayed
- The parameters can be modified after the set speed is reached
- The short spin function is used for quick spins by pressing and holding PULSE key
- Timer starts once the target speed reached, for accurate separation time
- Rotor CD24-24-2 included in the delivery

2 Years
Warranty

CD-3024

Accesories

CD12-A02	Adapter, 2 ml to 0.2 ml, 24 pcs.
CD12-A05	Adapter, 2 ml to 0.5 ml, 24 pcs.
CD24-A02-36	Adapter, 0.5 ml to 0.2 ml, 36 pcs.
CD24-18-5	Rotor with lid for CD-3024, 18 x 5 ml, aerosol-tight
CD24-12-5V	Rotor with lid for CD-3024, 12 x 5 ml (conical), aerosol-tight
CD24-24-2	Rotor with lid for CD-3024, 24 x 1,5/2 ml, aerosol-tight
CD24-36-05	Rotor with lid for CD-3024, 36 x 0,5 ml, aerosol-tight
CD24-4-PCR8	Rotor with lid for CD-3024, 4 x 8 x 0,2 ml PCR

Technical Data	CD-3024
Speed	200 - 15,000
Increment	10 rpm steps
Max. RCF	21,380 g
Timer	0.5 - 99 minutes, continous
Noise	< 54 dB (A)
Dimension (DxWxH)	37 x 28 x 27 cm
Weight	12 kg (without rotor)
Max. Capacity	18 x 5 ml, 24 x 2 ml, 36 x 0.5 ml
Voltage • Frequency	220 - 240 V • 50 Hz
Power	100 W
Shipping includes	CD 24-24-2

Refrigerated High Speed Centrifuge CD-3124R

The new refrigerated high speed Micro centrifuge CD-3124R has a capacity of 24 x 2 ml, 18 x 5 ml or 36 x 0.5 ml. Easy handling and control is guaranteed with the backlit LCD-Display and the clear operation panel.

For safety reasons the centrifuges are equipped with dual door interlock, self-control of speed and temperature. All rotors are bio-safe and the centrifuges are manufactured in accordance with all international standards and regulations.

CD-3124R

- automatic lid locking
- Pre-cooling system
- environmentally friendly cooling unit
- Maximum speed also below 4 °C
- 9 programme memory locations
- bio-safe rotors, lid with 3-fold safety device
- Aluminium rotors autoclavable at 121 °C
- rotors from 0.2 - 5 ml available
- Condensate tank
- high safety standard
- MCA test by TÜV Rheinland
- Acceleration and deceleration time: 25s↑ / 25s↓, adjustable in 9 steps
- Rotor CD24-24-2 (24 x 2 ml) included

2 Years Warranty

CD-3124R

Accessories

CD12-A02	Adapter, 2 ml to 0.2 ml, 24 pcs.
CD12-A05	Adapter, 2 ml to 0.5 ml, 24 pcs.
CD24-A02-36	Adapter, 0.5 ml to 0.2 ml, 36 pcs.
CD24-18-5	Rotor with lid for CD-3124, 18 x 5 ml
CD24-12-5V	Rotor with lid for CD-3124, 12 x 5 ml
CD24-24-2	Rotor with lid for CD-3124, 24 x 1.5/2 ml
CD24-36-05	Rotor with lid, 36 x 0.5 ml
CD24-4-PCR8	Rotor with lid, 4 x 8 x 0.2 ml PCR

Technical Data	CD-3124R
Speed / Increment	200 - 15,000 rpm / 100 rpm steps
Max. RCF	21,380 g
Timer	30 s - 99 min, continous
Capacity	24 x 1.5/2 ml, 36 x 0.5 ml, 12 x 5 ml, 18 x 5 ml, 4 x 8 x 0.2 ml
Temperature	-20 to +40 °C
Dimension (WxDxH)	34 x 56 x 29 cm
Weight	30 kg
Noise	< 56 dB (A)
Voltage • Frequency	200 - 240 V • 50/60 Hz
Power	500 W
Shipping includes	CD24-24-2 (24 x 2 ml)

Clinical Centrifuge CD-0412

Conforms to international safety standards and regulations. The clinical centrifuges have passed the explosion-proof test and marked with CE, TUV and FCC. MCA test according to IEC/EN61010-2-20 including explosion-proof and bio-safe tests.

Passed EN61010-2-101:2002 particular requirements for in vitro diagnostic (IVD) medical equipment. High strength plastic rotor and excellent balance technology to guarantee a quiet and stable operation.

Dual protection casing provides safe and reliable running. Brushless motor drive quickly and effortlessly accelerates the rotor to set speed.

CD-0412

- CPU controls all operating parameters including speed and time
- High accuracy of speed, excellent performance
- Operation can be timed from 30 seconds to 99 minutes or continuous running
- Timer commences once the set speed is reached, so the eparation time is more accurate
- Gentle braking at low speeds with efficient separation

2 Years Warranty

Accesories

CD04-8-15   Rotor, 8 x 15 ml
CD04-A15   Adapter, 12 pcs
CD04-A15 plug Adapter-mat, 12 pcs

CD-0412

Technical Data	CD-0412
Speed	300 - 4,500 rpm
Increment	100 rpm steps
Max. RCF	2,490 g
Timer	0,5 - 99 min, continous
Capacity	6 x 15 ml or 12 x 10 ml
Dimension (DxWxH)	26 x 25 x 14 cm
Weight	6 kg
Noise	< 54 dB (A)
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	70 W
Shipping includes	CD04-8-15

Centrifuge CD-0424

The new multi-purpose centrifuge CD-0424 is versatile and can be used in applications from clinical to biochemical for qualitative analysis of serum, plasma, blood, and urine.

CD-0424

- Maximum up to 4000rpm Speed can be set in RPM/RCF, with 3 customizable routines programs (Blood, Urine & Fecal)
- 3 acceleration level & 4 level deceleration
- Maximum capacity 50 mL × 4, Suitable for different sizes of blood collection tubes and centrifuge tubes for both, swing-out and fix angle rotor
- Quiet, compact, and convenient with Easy-to-read LCD display
- Automatic internal diagnosis and self-detection
- Maintenance-free brushless DC motor.

2 Years Warranty

CD-0424

Accesories

CD-S6-15   Swing rotor for CD-0424, 6 x 15 ml, max. 4,000 rpm
CD-S4-50   Swing rotor for CD-0424, 4 x 50 ml, max. 4,000 rpm
CD-24-15P   Fix angle rotor for CD-0424, 24 x 15 ml, max. 4,000 rpm
CD-A8-15P   Fix angle rotor for CD-0424, 8 x 15 ml, max. 4,000 rpm

CD-15-P30   Adapter 50 ml to 15 ml, for Tubes 17 x 120 mm and 13/16 x 100 mm Tubes, 4 pcs.
CD-15-P22   Adapter 15 ml to 13/16 x 100 mm, 24 pcs.
CD-A5-P17   Adapter 15 ml to 5 ml, 13 x 75 mm, 24 pcs.
CD-A2-P17   Adapter to 2 ml, 24 pcs.

Technical Data	CD-0424
Speed	500 - 4,000 rpm
Increment	100 rpm steps
Max. RCF	2,500 g
Timer	1 - 99 minutes, continous
Noise	< 62 dB (A)
Dimension (DxWxH)	37 x 44 x 27 cm
Weight	14.5 kg
Max. Capacity	4 x 50 ml
Rotor	Fix angle or swing rotor
Safety	Door interlock, overspeed detector, automatic internal diagnosis
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	70 W
Shipping includes	4 x 50 ml swing rotor and adapter

PHOENIX instrument
Lab Solutions

Hematocrit Centrifuge CH-1424

Hematocrit centrifuge with CH-24-HR rotor is used for determination of volume fractions of erythrocytes in blood and also for separation of micro blood and solution.

Hematocrit centrifuge with CH24-24-2 rotor is used for extraction of DNA and RNA.

CH-1424

- Speed range of 200-14,000 rpm, max. RCF 18,260 g
- Two rotors, hematocrit rotor with max. capacity 24 capillary tubes and 2 ml × 24 rotor
- Precise control speed and time with efficient separation
- Self diagnostic, control of speed and temperature
- User-friendly large LCD display shows running information
- Both RPM or G-force can be set and displayed

2 Years Warranty

CH-1424

Accesories

CH24-HR	Hematocrit rotor with lid and reading disk, 24 x capillary tubes
CH24-24-2	Rotor with lid, 24 x 1,5/2 ml
CD12-A02	Adapter, 2 ml to 0,2 ml, 24 Pcs
CD12-A05	Adapter, 2 ml to 0,5 ml, 24 Pcs

Technical Data	CH-1424
Speed	200 - 14,000 rpm
Increment	10 rpm steps
Max. RCF	18,260 g
Timer	0.5 - 99 minutes, continous
Noise	< 60 dB (A)
Dimension (DxWxH)	28 x 36 x 26 cm
Weight	10 kg (without rotor)
Max. Capacity	24 x capillary, 24 x 1.5/2 ml
Rotor	Hematocrit rotor: 24 x capillary
Voltage • Frequency	100 - 240 V • 50/60 Hz
Power	160 W
Shipping includes	CH24-H

Liquid Handling

Pipettes, Dispensers, Aspiration

Pipetting is one of the most important tasks in the laboratory.

Our new pipettes and pipette filler as well as the new Dispenser and Vacuum Aspiration systems offer a high level of ease of use at a very good price/performance ratio and the user must abstain neither from precision nor from an ergonomic design.

Variable and Fix Pipettes · Single & Multichannel Pipettes

Pipetting is one of the most important tasks in the laboratory. The new pipettes and pipette filler from PHOENIX INSTRUMENT offer a high level of ease of use at a very good price/performance ratio and the user must abstain neither from precision nor from an ergonomic design.

Smooth mechanism for easy volume setting and pipetting

Phoenix Pipettes

- lightweight, ergonomic, low force design
- suitable for both left and right-handed users
- easy to calibrate and maintain with tool supplied
- calibration certificate according to
  DIN ISO 12650
- easy volume adjustment
- smooth tip ejection
- compatible with a wide range of tips

Finger support,
for resting the pipette
in either hand

Tip ejector for easy ejection
without contamination

Clear readout of the volume
settings via digital display

Serial-no. on each Pipette for
better traceability

Durable tip cone with
good chemical resistance

Volume Display

Single Channel Pipettes LHP2

2 Years Warranty

Single Channel Pipettes LHP2-F
fix volume, autoclavable

Model	Volume (µl)	Inaccuracy (+/- in %)	Impression (< %)
LHP2-F5	5	1.30	1.20
LHP2-F10	10	0.80	0.80
LHP2-F20	20	0.60	0.50
LHP2-F25	25	0.50	0.30
LHP2-F50	50	0.50	0.30
LHP2-F100	100	0.50	0,30
LHP2-F200	200	0.40	0.20
LHP2-F250	250	0.40	0.20
LHP2-F500	500	0.30	0.20
LHP2-F1000	1,000	0.30	0.20
LHP2-F2000	2,000	0.30	0.15
LHP2-F5000	5,000	0.30	0.15

Single Channel Pipettes LHP2-V
variable volume, autoclavable

Model	Volume (µl)	Inaccuracy (+/- in %)	Impression (< %)
LHP2-V01	0.1 -2.5	3.00	3.00
LHP2-V05	0.5 - 10	1.50	1.50
LHP2-V2	2 - 20	1.20	1.00
LHP2-V5	5 - 50	0.90	0.60
LHP2-V10	10 - 100	1.00	0.40
LHP2-V20	20 - 200	0.80	0.30
LHP2-V50	50 - 200	0.80	0.30
LHP2-V100	100 - 1,000	0.70	0.25
LHP2-V200	200 - 1,000	0.70	0.25
LHP2-V1000	1,000 - 5,000	0.60	0.30

Measurements for all variable pipettes are made in the minimum, mean and maximum volume. The data shown are based on the mean volume.

LHP2-F100

LHP2-V1000

LHP-PS01

HiPette - Fully Autoclavable Mechanical Pipette LHP3

The new generation of fully autoclavable manual pipettes is lightweight, precise, stable and durable. It adopts new piston structure, metal screw structure and other technologies to reduce the pipetting resistance.

It can withstand high temperature and high-pressure sterilization, resist strong chemical corrosion and have a long service life. In addition, the volume lock helps achieve more precise pipetting operations.

Ultra-light Body: The weight is less than 75 g, which can reduce fatigue and bring a comfortable pipetting experience.

Accurate Pipetting: new piston seal structure combined with metal screw to achieve more accurate pipetting and effectively reduce the pressing force.

Complete sterilization: Strong materials ensure HiPette can fully autoclavable, UV sterilizable and resistant strong chemical corrosion.

Smooth Knob Adjustment: Light and smooth range adjustment.

One Key Volume Lock Setting: Prevent pipetting errors caused by touching the adjusting knob by mistake.

Volume Display Window: The counter increment is one thousandth of the range, no calibration required for pipetting less than 50,000 times.

With Filter Element: Reduce volatile reagents into pipette body; avoid liquid backflow and prevent piston corrosion.

Forward pipetting and reverse pipetting:
Calibration certificate according to DIN ISO 12650
Compatible with a wide range of tips

2 Years Warranty

Pipette Accessories

Pipette Tips

LHP-PS 10	Pipette Tips 0.5 - 20 µl , bag á 1,000 pcs
LHP-PS 12	Pipette Tips 1 - 200 µl yellow, bag á 1,000 pcs
LHP-PS 14	Pipette Tips 100 - 1000 µl blue, bag á 1,000 pcs
LHP-PS 16	Pipette Tips 1.0 - 5.0 ml, bag á 300 pcs
LHP-PS 18	Pipette tips 1.0 - 10.0 ml, bag á 100 pcs

Pipette Stands

LHP-PS01	Pipette stand linear, für 5 pipettes
LHP-PS02	Pipette stand round, für 6 pipetts

Single Channel Pipettes HighPette LHP3 variable volume, autoclavable

Model	Volume (µl)	Inaccuracy (+/- in %)	Impression (< %)
LHP3-V01	0.1 - 2.5	2.50	1.5
LHP3-V05	0.5 - 10	1.50	0.8
LHP3-V2	2 - 20	1.20	0.60
LHP3-V5	5 - 50	1.40	0.8
LHP3-V10	10 - 100	1.00	0.30
LHP3-V20	20 - 200	1.00	0.30
LHP3-V30	30 - 300	1.00	0.30
LHP3-V100	100 - 1,000	1.00	0.20
LHP3-V500	500 - 5,000	0.60	0.30
LHP3-1000	1 - 10 ml	0.80	0.20
LHP3-V2000	2 - 10 ml	0.80	0.20

Measurements for all variable pipettes are made in the minimum, mean and maximum volume. The data shown are based on the mean volume.

12- and 8- Channel Pipettes

LHP2-1220

2 Years
Warranty

Digital Volume Setting

12-Channel Pipettes
variable volume, autoclavable

Model	Volume (µl)	Inaccuracy (+/- in %)	Impression (< %)
LHP2-1210	0.5 -10	2.50	2.50
LHP2-1220	5 - 50	1.50	1.00
LHP2-1230	50 - 300	1.00	0.50

8-Channel Pipettes
variable volume, autoclavable

Model	Volume (µl)	Inaccuracy (+/- in %)	Impression (< %)
LHP2-810	0.5 -10	2.50	2.50
LHP2-820	5 - 50	1.50	1.00
LHP2-830	50 - 300	1.00	0.50

LHP-PH01 · Electonic Pipette Filler for all Pipettes up to 100 ml

The strong pump of the LHP-PH 01 offers 8 different aspirate speeds. The LCD-Display indicates the speed as well as the status of the rechargeable battery.

Aspiration and discharging will be controlled by two different knobs. The capacity of the strong accu is approx. 12 hours without charging.

The controler is equipped with a built-in hydrophob filter which is replaceable. A fatigue-proof over hours is not a problem. The units are delivered with charging cable and wall-holder.

LHP-PH01

LED-Display

Accessories Electronic Pipette Filler

LHP-PH10	3 x replaceable filter for electronic pipette filler, 0,45 μm
LHP-PH20	Replacement silicon adapter for electronic pipette filler
LHP-PH30	3 x Replacement filter 3 μm
LHP-PH42	Replacement battery for electronic pipette filler

2 Years Warranty

Technical Data	LHP-PH01
Aspirate speed	8, Display via LED
Battery	Li/Ion-battery, charging time approx. 2 h
Battery run time	Approx. 12 h (normal conditions)
Pipette type	Glas and plastic up to 100 ml
Display	LED to diplay speed and battery status
Filter	0,45 μm hydrophob

Pipette Controller for all Pipettes up to 100 mL
LHP-PH02 / 03 / 04 / 05

The well-priced pipette controller can be used for all pipettes up to 100 ml. Robust, but lightweight, easy to use and allow comfortable and precise pipetting.
It has an integral and replaceable 3 µm filter.

2 Years
Warranty

Model	
LHP-PH02	blue
LHP-PH03	red
LHP-PH04	green
LHP-PH05	yellow

Dispenser

The dispensers covers a volume range of 0.5 - 50 ml. They have an excellent chemical resistance and are fully autoclavable at 121 °C. Easy to clean and maintain.

Fully
autoclavable

Model	
LHD-V05	Dispenser 0.5 - 5 ml with adapter GL 25-45
LHD-V1	Dispenser 1-10 ml with adapter GL 25-45
LHD-V2	Dispenser 2.5 - 25 ml with adapter GL 25-45
LHD-V5	Dispenser 5 - 50 ml with adapter GL 25-45

PHOENIX instrument
Lab Solutions

Premium Bottle-Top Dispenser LHD-Plus

New developed and designed for safe, sturdy & stable dispensing directly from the bottle in the range of volumes up to 100 mL

Features

• High chemical compatibility with use of inert materials and glass/PTFE piston
• Easy to disassemble and clean for periodic maintenance
• Fully autoclavable at 121 °C to ensure sterility
• Available in 5 dispensing volume ranges from 0.5mL to 100mL
• Supplied with most popular adapters (S40, GL32, GL38, GL25, GL28)
• Fast, precise, and reproducible volume locking mechanism on a clear scale
• Reagent recovery function reduces reagent waste and prevents dripping when not in use
• 6 adapters to comfortably fit most laboratory reagent bottles
• Adjustable aspirating tube for different bottle height

Fully autoclavable

Model	
LHD-V05 Plus	Dispenser 0.5 - 5 ml with adapter GL 25-45
LHD-V1 Plus	Dispenser 1-10 ml with adapter GL 25-45
LHD-V2 Plus	Dispenser 2.5 - 25 ml with adapter GL 25-45
LHD-V5 Plus	Dispenser 5 - 50 ml with adapter GL 25-45
LHD-V10 Plus	Dispenser 10 -100 ml with adapter GL 25-45

Vacuum Aspiration System VAS-10

The new Vacuum Aspiration system VAS-10 is ideal for aspiration of liquids from all kind of vessels. The 4-Liter Aspiration bottle is autoclavable and can easily be removed from the system by the quick opening device. The integrated fluid level control prevents the over ow of the bottle. The maximum vacuum pressure of 600 mbar is free adjustable and adapts the system for many application.

Quick Opening Device

Fluid Level Control

Variable Handset

4 Liter Aspiration Bottle, autoclavable

Integrated Vacuum Pump

Adjustable Vacuum Pressure

VAS-10

Accessories
(included in VAS-10 and VAS-ECO)

VAS-E 20	1-chanel stainless steel tip 60 mm, Φ 1.5 mm
VAS-E 21	1-channel stainless steel tip 60 mm, Φ 2.5 mm
VAS-E 25	1-channel stainless steel tip 120 mm, Φ 1.5 mm
VAS-E 26	1-channel stainless steel tip 120 mm, Φ 2.5 mm
VAS-E 30	8-channel stainless steel tip 60 mm
VAS-E 35	200 µl tip adapter
VAS-E 36	1000 µl tip adapter
VAS-E 40	200 µl tip adapter, 8-channel

Technical Data	VAS-10
Vacuum (adjustable)	0 to -600 mbar
Aspiration volume air	15 l/min
Aspiration volume fluid	17 ml/s
Dimension	180 x 240 x 450 mm
Weight	3 kg
Voltage	100-240 VAC, 50/60 Hz
Bottle volume	4 Liter PE, autoclavable

Vacuum Aspiration System VAS-ECO

The new VAS-ECO extraction system is the low-cost alternative for all laboratory applications. Thanks to its compact design, the VAS-ECO fits in any fume cupboard and on any workbench.
The manual control unit can be flexibly at the touch of a button or in 2-stage continuous operation and the maximum negative pressure of 600 mbar can be freely adjusted. This allows it to be adapted to all tasks.

VAS-ECO

- Infinitely adjustable vacuum
- Extensive range of accessories
- compact design and 2 liter autoclavable bottle
- easy switching between manual and continuous suction
- the hydrophobic filter prevents contamination
  by aerosols and liquids
- Quiet, brushless motor

Additional Accessories
(VAS-10 and VAS-ECO)

VAS-E 05	Handset without accessories
VAS-E 10	Bottle for VAS-10, 4 Liter autoclavable
VAS-E 11	Cap for VAS-10 komplete
VAS-E 12	Bottle for VAS-ECO, 2 Liter autoclavable, incl. cap
VAS-E 20	1-channel stainless tip 60 mm, Φ 1.5 mm
VAS-E 21	1-channel stainless tip 60 mm, Φ 2.5
VAS-E 25	1-channel stainless tip 120 mm, Φ 1.5 mm
VAS-E 26	1-channel stainless tip 120 mm, Φ 2.5 mm
VAS-E 30	8-channel stainless tip 60 mm
VAS-E 35	200 µl tip adapter
VAS-E 36	1,000 µl tip adapter
VAS-E 40	200 µl tip adapter, 8-channel
VAS-E 42	Filter 0.45 µm, 1 pc.

Technical Data	VAS-ECO
Vacuum (adjustable)	-300 to -600 mbar
Aspiration volume air	8 l/min
Aspiration volume fluid	17 ml/s
Dimension	180 x 240 x 340 mm
Weight	2.8 kg
Voltage	100-240 VAC, 50/60 Hz
Bottle volume	2 Liter PE, autoclavable

VAS-ECO

Temperature Instruments

Ovens, Water Baths, Climatic Chambers

Ideal for everyday use in the processes of drying, sterilization and sample preparation, the ovens, incubators, water baths climatic chambers etc. are characterized by an accurate temperature control, great reliability and easy handling.

Super Series

New generation of color touch screen display with user friendly screens and icons - 8 programs storable with 8 steps each one recordable data on USB support with flash drive supplied for all ovens and incubators (except model TIN-TN30).

All on board

Color touch screen display for the selection of the various functions.

All parameters on a single screen: temperature, fan speed, time, program number and step, USB pendrive presence, date and time.

Easy to use

Simply and intuitive setting of all the operating parameters thanks to icons and symbols easy to understand.

The capacitive display ensures touch sensitivity and precision even when wearing gloves.

Programs

Professional controller equipped with 8 storable programs with 8 steps each one and a further basic program (PROG 0) with a single step.

Simple programming of all work steps in a single screen.

Safety of us

Settings menu with 3 access levels:

1 free and 2 protected by password to avoid accidental changes to "sensitive" machine parameters.

Recording and downloading data

Work cycles are automatically stored inside the instrument, always available for download thanks to the USB port.

With an USB flash drive inserted, registration takes place without capacity limits.

Temperature Instruments

Incubators and Ovens Basic Series

New version of Basic controller - 7 programs with 10 steps each one wide backlit LCD display easy setting of all operating parameter

The Incubator and ovens from Phoenix Instrument allow an easy setting of all operating parameters and optimal temperature control.

The large backlit display clearly shows in every moment the temperature set and that one inside as well as other parameters.

The introduction of user-friendly icons makes interpretation of the functions and commands extremely intuitive. Moreover, the limited number of adjustment keys ensures operability very simple and intuitive.

All our instruments are environmental-friendly with reduced power consumption and improved protection.
All instruments will be supplied with a calibration report.

Basic version

- 7 programs x 10 steps
- Repeatable working cycles
- Wide backlit LCD display
- Easy to read Icons
- Timer and continuous function
- Visual and sound alarm
- Fan speed control
- Program start delay
- Safety temperature for sample protection

Natural Convection Oven
from RT+5 to 300 °C

Ideal for everyday use in the processes of drying and sterilization, the natural convection ovens are characterized by a high load capacity and by the accurate temperature control.

The possibility to heat the samples up to 300 °C allows any type of sterilization process. The minimum heating times, the heating power properly dimensioned and the perfect tightness of the seals, ensure low energy consumption in every application.

Technical Data	TIN-TN30	TIN-TN50	TIN-TN115	TIN-TN200
Volume	30 Liters	50 Liters	115 Liters	200 Liters
Max. Temperature/Resolution	+200 / 0.1 °C	+300 / 0.1°C	+300 / 0.1°C	+300 / 0.1°C
Temp. homogeneity at 37 °C	±3.5 °C	±3.5 °C	±3.5 °C	±4 °C
Temperature variation at 37 °C	±0.5 °C	±0.5 °C	±0.5 °C	±0.7 °C
Heating time at 37 °C	14 min	16 min	18 min	20 min
Timer	99:59 / continuous operation			
Int. Dimension (WxHxD) in mm	320 x 320 x 285	400 x 420 x 330	520 x 495 x 450	650 x 640 x 495
No. of shelves (standard/max)	2/4	2/5	2/6	2/9
Min. distance between shelves	50 mm			
Max. load of shelves	10 kg	15 kg	20 kg	20 kg
Voltage / Power	230 V / 700 W	230 V / 1,000 W	230 V / 1,900 W	230 V / 2,100 W
Ext. Dimension (WxHxD) in mm	460 x 685 x 530	690 x 635 x 470	815 x 750 x 600	940 x 905 x 660
Weight	40 kg	53 kg	74 kg	103 kg
Safety class	3.1			

Forced Air Oven
from RT+10 to 300 °C

The forced air ovens TIN-TF 50, -TF 120,- TF 200 and -TF 400 control very efficiently the temperature starting from 10 °C above ambient temperature up to 300 °C.
The PID controller, with wide backlit color display, clearly shows in every moment the temperature set and that one inside as well as other parameters.

The forced air circulation, adjustable in three levels (High, Medium, Low), guarantees a perfect air replacement and homogeneity of temperature in every parts of the chamber.

A through hole of 5 mm diameter supplied as standard on the top side of the oven permits to introduce an external probe for the check or certification of the temperature.

Technical Data	TIN-TF50	TIN-TF120	TIN-TF200	TIN-TF400
Volume	50 Liters	120 Liters	200 Liters	400 Liters
Max. Temperature/Resolution	+300 / 0.1 °C			
Temp. homogeneity at 37 °C	±2%			
Temperature variation at 37 °C	±0.3 °C	±0.3 °C	±0.4 °C	±0.5 °C
Heating time at 37 °C	20 min	24 min	30 min	50 min
Timer	99:59 / continuous operation			
Int. Dimension (WxHxD) in mm	400 x 415 x 310	520 x 530 x 435	645 x 650 x 495	1000 x 800 x 500
No. of shelves (standard/max)	2/5	2/7	2/9	2/10
Min. distance between shelves	50 mm			
Max. load of shelves	15 kg	20 kg	20 kg	20 kg
Voltage / Power	230 V / 980 W	230 V / 1,900 W	230 V / 2,400 W	230 V / 3,200 W
Ext. Dimension (WxHxD) in mm	690 x 635 x 570	810 x 750 x 690	945 x 870 x 755	1285 x 1060 x 750
Weight	54 kg	74 kg	103 kg	160 kg
Safety class	3.1			

Natural Convection Incubators
from RT+5 to 70 °C

The organic materials used in the typical laboratory application require a constant and gentle heating. The temperature distribution in the incubators is obtained without forced air circulation but using only the natural convection, which does not stress the sample and allows its uniform growth.

The wide door glass window allows a constant check of the status of the samples inside the chamber without opening the door, thereby avoiding unnecessary heat loss and temperature changes.

Technical Data	TIN-IN16	TIN-IN35	TIN-IN55
Volume	16 Liters	35 Liters	55 Liters
Max. Temperature/Resolution	RT+10 to 70 / 0,1 °C		
Temp. homogeneity at 37 °C	±0.4 °C	±0.4 °C	±0.5 °C
Temperature variation at 37 °C	±0.3 °C	±0.3 °C	±0.3 °C
Heating time at 37 °C	18 min	22 min	25 min
Timer	99:59 / continuous operation		
Int. Dimension (WxHxD) in mm	270 x 230 x 255	360 x 300 x 320	400 x 360 x 385
No. of shelves (standard/max)	2/6	2/6	2/5
Min. distance between shelves	25 mm	30 mm	50 mm
Max. load of shelves	5 kg	7.5 kg	10 kg
Voltage / Power	230 V / 85 W	230 V / 125 W	230 V / 250 W
Ext. Dimension (WxHxD) in mm	530 x 370 x 400	620 x 440 x 460	660 x 500 x 545
Weight	23 kg	33 kg	42 kg
Safety class	2		

Natural Convection Incubators with higher volumes
from RT+10 to 70 °C

Incubators with higher volume, thanks to the optimal placing of the heating elements, ensure high performance in homogeneity and stability of temperature and the proper incubation of the samples.

The difference from the smaller models is the presence of the double door, with the inner glass full-width, which ensures a perfect observation of the samples in the chamber without unnecessary heat losses.

Double Door

TIN-IN200

Technical Data	TIN-IN120	TIN-IN200
Volume	120 Liters	200 Liters
Max. Temperature/Resolution	+70/0,1°C	
Temp. homogeneity at 37 °C	±0.5 °C	±0.5 °C
Temperature variation at 37 °C	±0.3 °C	±0.3 °C
Heating time at 37 °C	30 min	35 min
Timer	99:59 / continuous operation	
Int. Dimension (WxHxD) in mm	520 x 460 x 500	610 x 600 x 575
No. of shelves (standard/max)	2/7	2/9
Min. distance between shelves	50 mm	
Max. load of shelves	10 kg	
Voltage / Power	230 V / 350 W	230 V / 600 W
Ext. Dimension (WxHxD) in mm	780 x 610 x 645	875 x 755 x 710
Weight	61 kg	77 kg
Safety class	2	

Forced Air Incubators
from RT+5 to 80 °C

Our new forced air incubators control the temperature up to 80 °C very efficiently. It's possible in addition, set a program at 130 °C which allows the thermally sterilization of the chamber. The full wide internal glass door ensures perfect observation of samples without unnecessary and expensive heat losses.

The forced ventilation, adjustable on three levels (High, Medium, Low) guarantees a perfect air exchange and an excellent temperature homogeneity in all points of the chamber.

Technical Data	TIN-IF55	TIN-IF120	TIN-IF200	TIN-IF400
Volume	57 Liters	120 Liters	200 Liters	400 Liters
Max. Temperature/Resolution		+80 / 0.1 °C		
Temp. homogeneity at 37 °C	±0.2 °C	±0.4 °C	±0.4 °C	±0.5 °C
Temperature variation at 37 °C	±0.1 °C	±0.1 °C	±0.2 °C	±0.3 °C
Heating time at 37 °C	30 min	40 min	45 min	55 min
Timer		99:59 / continuous operation		
Int. Dimension (WxHxD) in mm	400 x 350 x 415	520 x 530 x 435	645 x 650 x 495	1000 x 800 x 500
No. of shelves (standard/max)	2/7	2/7	2/9	2/10
Min. distance between shelves		50 mm		
Max. load of shelves		20 kg		
Voltage / Power	230 V / 350 W	230 V / 600 W	230 V / 700 W	230 V / 1,500 W
Ext. Dimension (WxHxD) in mm	690 x 620 x 650	810 x 750 x 690	945 x 870 x 755	1,285 x 1,060 x 750
Weight	56 kg	74 kg	103 kg	160 kg
Safety class	2		2	

Accessories

… for Ovens

TIN-1000142 Steel wire shelf for TN 30
TIN-1000192 Steel holed platform applicable to wire shelf for TN 30

TIN-1000102 Steel wire shelf for TN 50 / TF 50
TIN-1000152 Steel holed platform applicable to wire shelf for TN 50 / TF 50

TIN-1000112 Steel wire shelf for TN 115 / TF 120
TIN-1000162 Steel holed platform applicable to wire shelf for TN 115 / TF 120

TIN-1000122 Steel wire shelf for TN 200 / TF 200
TIN-1000172 Steel holed platform applicable to wire shelf for TN 200 / TF 200

TIN-1000132 Steel wire shelf for TF 400
TIN-1000182 Steel holed platform applicable to wire shelf for TF 400

Steel wire shelf and holed platform

… for Incubators

TIN-1001112 Steel wire shelf for IN 16
TIN-1001122 Steel wire shelf for IN 35
TIN-1001132 Steel wire shelf for IN 55
TIN-1001142 Steel wire shelf for IN 120 / IF 120
TIN-1001152 Steel wire shelf for IN 200 / IF 200
TIN-1000132 Steel wire shelf for IF 400

TIN-1000182 Steel holed platform applicable to wire shelf for IF 400

TIN-1001172 Wheels for all Incubators and Ovens, Set of 4 pcs.

Water Baths WB-5 / WB-12 / WB-22
from RT+5 to 99 °C

The waterbaths are generally used in the laboratory to maintain the temperature of the samples constant. The water-baths WB series, thanks to the maximum operating temperature of 99 °C, meet the different needs of operators and therefore allow them to be used in numerous applications.

The model WB 22 pump ensures a faster and more uniform temperature distribution due to the recirculation pump which is equipped.
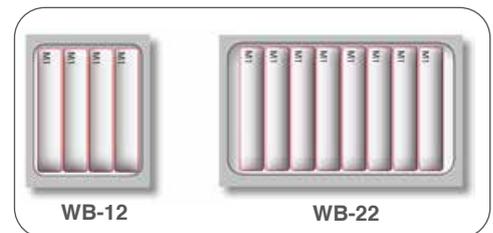
All water baths are equipped with a water drain.

WB-12 with rackTIN-1001822
(max. capacity 4 pcs.)

Technical Data	WB-5	WB-12	WB-22
Volume	5 Liters	12 Liters	22 Liters
Max. Temperature/Resolution	RT+5 to 99 °C / 0.1 °C		
Temp. homogeneity at 37 °C	±0.5 °C		
Temperature variation at 37 °C	±0.1 °C		
Overheating protection	yes		
Timer	99:59 / continuous operation		
Bottom plate Dimension (WxD)	270 x 120 mm	290 x 230 mm	470 x 290 mm
Max. number of Modules	2	4	8
Min. height with closed lid	150 mm		
Voltage / Power	230 V / 900 W		230 V / 1,100 W
Ext. Dimension (WxHxD) in mm	480 x 215 x 335	480 x 380 x 310	680 x 390 x 365
Weight	12 kg	12 kg	18 kg
Safety class	2		

Water drain

WB-12   WB-22

Maximum modules in place

Water Bath with Pump
from RT+5 to 85 °C

The models WB 22 and WB-40 with pump ensures a faster and more uniform temperature distribution due to the recirculation pump which is equipped.

Technical Data	WB-22-Pump	WB-40-Pump
Volume	22 Liters	40 Liters
Max. Temperature/Resolution	+85 °C / 0.1 °C	+85 °C / 0.1 °C
Temp. homogeneity at 37 °C	±0.2 °C	±0.5 °C
Temperature variation at 37 °C	±0.1 °C	±0.2 °C
Overheating protection	yes	
Timer	99:59 / continuous operation	
Bottom plate Dimension (WxD)	470 x 290 mm	620 x 380 mm
Max. number of Modules	8	16
Min. height with closed lid	150 mm	
Voltage / Power	230 V / 1,100 W	230 V / 2,200 W
Ext. Dimension (WxHxD) in mm	680 x 390 x 365	830 x 390 x 460
Weight	19 kg	28 kg
Safety class	2	

Inside the Chamber

Accessories

… for Water Baths

TIN-1001802 Rack 1 for tubes Ø13mm / 20 positions 1 Module
TIN-1001812 Rack 2 for tubes Ø18mm / 20 positions 1 Module
TIN-1001822 Rack 3 for tubes Ø31mm / 5 positions 1 Module
TIN-1001842 Rack 4 for tubes Ø56mm / 8 positions (biberon) 3 Modules
TIN-1001852 Rack 5 for blood bags / 5 positions 3 Modules

Shaking Water Bath
from RT+5 to 99 °C

The new Water bath SB35 with linear shaking function. Bath, lid, spring basket and support surface for samples are made entirely of stainless steel. Thanks to the flexibility of the universal spring support it is possible to insert different types of flasks, beakers, balloons or other recipients of different capacities and shapes.

Electronic regulation of the temperature with PID control and adjustment of the shaking speed by knob.

The instrument comes with a practical emptying tube and quick-fit valve for the periodic replacement of the liquid in the tank.

The practical basket fixing system allows easy cleaning and maintenance of the tub.

Water Drain

Technical Data	SB-35
Tank Volume	35 Liters
Max. Temperature/Resolution	+99 °C / 0.1 °C
Temp. homogeneity at 37 °C	±1.0 °C
Temperature variation at 37 °C	±0.5 °C
Overheating protection	yes
Timer	99:59 / continuous operation
Shaking Speed	0 … 150 rpm
Amplitude of platform Movement	30 mm
Spring Basket Dimension (WxHxD)	320 x 115 x 200 mm
Min. height with closed lid	150 mm
Voltage / Power	230 V / 1.250 W
Ext. Dimension (WxHxD)	645 x 350 x 355 mm
Weight	28 kg
Safety class	2

Temperature Instruments

Shaking Incubator IS-OS 20

The new shaking incubator IS-OS 20 combines two typical laboratory operations in one instrument: shaking and incubation of samples. Ideal for cell culture, solubility studies, extraction procedures and many other laboratory applications.

The built-in fan guarantees a uniform distribution of the temperature.

IS-OS 20 will be supplied with a standard platform equipped with flexible springs that can accommodate many types of flasks, beaker, tubes with different sizes.

Possible Load Steel Wire Shelf

	IS-OS 20	IS-OS 30
Erlenmeyer Flasks 250 ml	9	12
50 ml Flacon-Tubes	25	37

Possible Load of Plate

	IS-OS 20	IS-OS 30
Erlenmeyer Flasks 50 ml	28	49
Erlenmeyer Flasks 100 ml	23	36
Erlenmeyer Flasks 250 ml	13	18
Erlenmeyer Flasks 500 ml	8	16
Erlenmeyer Flasks 1,000 ml	4	9
Erlenmeyer Flasks 2,000 ml	1	4

Technical Data	IS-OS 20
Temperature Range/Resolution	RT+5 to 60 °C / 0.1 °C
Temp. homogeneity at 37 °C	±0.5 °C
Temperature variation at 37 °C	±0.1 °C
Adjustable safety temperature	yes
Timer	99:59 / continuous operation
Shaking Speed	40 … 300 rpm
Amplitude of platform Movement	20 mm
Capacity (Erlenmeyer Flasks)	7 x 500 ml or 4 x 1,000 ml
Dimension Platform (WxD)	320 x 320 mm
Voltage / Power	230 V / 500 W
Ext. Dimension (WxHxD)	500 x 470 x 610 mm
Weight	40 kg
Material hood / thickness	Plexiglas / 8 mm

Refridgerated Shaking Incubator IS-OS 30

IS-OS 30

- forced recirculation
- spring-loaded shelf included
- adjustable safety temperature
- cover made of 8 mm acrylic glass
- extensive range of accessories

IS-OS 30
4 to 60 °C / 0.1 °C
±0.5 °C
±0.1 °C
yes
99:59 / continuous operation
40 … 300 rpm
20 mm
12 x 500 ml
450 x 450 mm
230 V / 1,300 W
610 x 950 x 540 mm
90 kg
Plexiglas / 8 mm

Accessories for IS-OS 20 and IS-OS 30

ISS-E 200	Attachment with 4 clamping rolls for IS-OS 20
ISS-E 205	Base plate to be used with fixing clips for IS-OS 20
ISS-E 220	Dish attachment with non-slip mat for IS-OS 20
ISS-E 300	Atachment with 4 clamping rolls for IS-OS 30
ISS-E 305	Base plate to be used with fixing clips for IS-OS 30
ISS-E 320	Dish attachment with non-slip mat for IS-OS 30
ISS-E 130	Fxing clip for Erlenmeyer flask 100 ml volume
ISS-E 135	Fixing clip for Erlenmeyer flask 200 / 250 ml volume
ISS-E 140	Fixing clip for Erlenmeyer flask 500 ml volume
ISS-E 145	Fixing clip for Erlenmeyer flask 1,000 ml volume
ISS-E 150	Fixing clip for Erlenmeyer flask 2,000 ml volume

Circulation Baths
from -30 to +99.9 °C

All on board

Backlit display for simultaneously displaying of the set temperature, and all other operating parameters.

Precision

Precision PT100 probe and its inlet are standard supplied for an optimal temperature control of the external circuit. The instrument automatically recognizes the presence of the external probe

Ready to use

Pipe fittings, clamps and pipes with insulating material already supplied for an immediate use of the instrument.

External and internal

The instrument is equipped with an useful valve for selection of the external and internal circulation.

Easy maintenance

The frontal grill equipped by magnetic supports allows an easier cleaning and maintenance without the use of tools

Optimal space

The space inside the bath is fully usable thanks to optimal arrangement of the serpentine of cooling

Accessories

ICB-1002302   Set of two pipes of 2 meter with insulation, working range -40 to +60 °C complete with metal clamps for fastening to the pipe fittings.

CB-1002312   Set of four swivel wheels, two of which can be braked.

CB-1002322   Premixed thermal fluid ready for use, working range -30 to +80 °C Tank box 5 litres with plastic tap.

CB-1000252   Temperature sensor PT100 model PT56 TFE with 3m teflon cable. Working Range -100 to +300 °C (including cable).

Circulation Baths CB-5-10; CB-5-20 and CB-5-30
from -30 to +99.9 °C

The new refrigerated/heating circulating baths are suitable for temperature controlling of samples in a wide range of temperatures.

All the models are designed for external and internal applications, usable for tests in laboratories and industries.

Each instrument is standard equipped with a PT100 probe for temperature control in an external circuit.

The controller automatically recognizes the presence of the probe and determines the type of work inside or outside the tank.

Large Backlit Display

Technical Data	CB 5-10	CB 5-20	CB 5-30
Temperature Range	-10 to 99.5 °C	-20 to 99 °C	-30 to 99 °C
Temperature Resolution/Setting		0.1 °C	
Temperature stability at 20 °C	±0.3 °C	±0.2 °C	±0.2 °C
Timer		99:59 / continuous operation	
Cooling Capacity			
(20 °C)	0.37 KW	0.41 KW	0.44 KW
(10 °C)	0.33 KW	0.37 KW	0.40 KW
(0 °C)	0.30 KW	0.33 KW	0.37 KW
(-10 °C)	0.22 KW	0.28 KW	0.32 KW
(-20 °C)		0.16 KW	0.20 KW
(-30 °C)			0.15 KW
Max. pump pressure		0.35 bar	
Max. pump flow rate	3.2 l/min	6.5 l/min	6.5 l/min
Bath volume		5 liter	
Bath opening depth		150 x 160 x 150 mm	
External Dimension (WxHxD) in mm	290 x 570 x 710	380 x 670 x 840	380 x 670 x 840
Voltage/Power		230 V / 50 Hz	
Weight	34 kg	54 kg	54 kg

Climatic Chambers
Operation Range: 10 °C to 70 °C / 45 to 95 %RH

The climatic chambers are the ideal instrument to do stability and aging test on materials, simulation of environmental conditions and stress test in several fields such as: industry, food, textile, packaging, rubber/plastics, etc.

Thanks to the digital control by PID regulator of the temperature and of the humidity percentage, it's possible simulate many environmental situations and use of materials, and moreover test the forced aging effects. The external steel door is equipped of a wide glass window that permits the observation of the materials during test.

The stainless steel chamber with rounded corners, the shelves and their fixing system completely removable, make the chamber perfectly cleanable. A LED inner lamp for observation of the samples is included.

The standard supplied side through hole of 25 mm diameter allows to install probes inside the chamber.
Digital backlit alphanumeric LCD screen. Digital timer, clock and date for GLP functions.

Standard supplied mini printer for operating and set parameters output. Safety class 3.1 with double digital limiter of temperature and additional fluid expansion limiter.

Technical Data	CH-150	CH-250
Useable Volume	150 Liters	250 Liters
Temperature Range	-10 to 85 °C (without humidity) +10 to 70 °C (with humidity)	
Temperature Resolution	0.1 °C	
Temp. homogeneity in chamber	± 0.5 °C (without humidity) ± 1.5 °C (10 to 70 °C / 45 to 95% RH)	
Temperature variation on a point	± 0.2 °C (without humidity) ± 0,.5 °C (10 to 70 °C / 45 to 95% RH)	
Humidity Range	45 % - 95 %	
Humidity variation on a point	≤ 2% RH (10 to 70 °C / 45 to 95 %RH)	
Timer / programs	continuous mode / Programs 1-100 step	
Safety class	3.1	
Voltage / Power	230V / 2,200 W	
Internal Dimension (WxHxD)	550 x 670 x 405 mm	600 x 830 x 500 mm
Number of shelves (standard/max.)	3/10	3/12
Useful min. distance between shelves	45	
Max. load of shelf	10kg	
External Dimension (WxHxD)	690 x 1520 x 790 mm	740 x 1680 x 885 mm
External water tank dimensions (WxHxD)	370 x 340 x 560 mm	
Weight	145 kg	185 kg

Climatic Chambers
Operation range: 10 °C to 70 °C / 45 to 95 %RH

Accessories

CH-1001462   Steel wire shelf for climatic chamber CH 150

CH-1001472   Steel wire shelf for climatic chamber CH 250

CH-1000152   Hole Ø 25 mm complete of closing caps for climatic chambers CH 150/CH 250

CH-1000142   Hole Ø 50 mm complete of closing caps for climatic chambers CH 150/CH 250

CH-1009002   Paper Manual IQ/OQ

Cooled Incubator
Operation range: from 0 °C to 60 °C

The cooled incubator IC 150-R is ideal for every application in microbiological field. The wide range of temperature allows the growth of microorganisms in every environmental situation.

The removable shelves and rounded corners of the stainless-steel chamber, make the sonification processes easy.

The PID regulator guarantee an excellent control by microprocessor and the limited number of setting keys ensures an extremely simple and intuitive operability.

The instrument is standard equipped with a side through-hole diameter of 25 mm in order to install one or more temperature sensors inside the chamber.

The inner lamp for observation of the samples is standard supplied.

3 Years Warranty

Technical Data	IC-150-R
Useable Volume	150 Liters
Temperature Range	0 to 60 °C
Temperature Resolution	0.1 °C
Temperature homogeneity at 25 °C	± 0.5 °C
Temperature variation at 25 °C	± 0.1 °C
Recovery time at 25 °C	4 minutes
Timer	99:59 min and continuous mode
Safety class	3.1
Voltage / Power	230 V / 700 W
Internal Dimension (WxHxD)	500 x 800 x 360 mm
Number of shelves (standard/max.)	3/9
Useful min. distance between shelves	50 mm
Max. load of shelf	10 kg
External Dimension (WxHxD)	650 x 1350 x 620 mm
Weight	100 kg

Refrigerator and Freezer TIN-FR / FZ

Professional laboratory refrigerators and freezers, with digital display and electronic control, temperature alarms, door sensor and manual/automatic defrost (automatic only on FR series). Smart refrigerated instruments, the internal parameters can be adjusted according to customers demands. The highly efficient compressors contain "environment friendly" ecological gases, free of CFCs and HCFCs, in compliance with the directive 2014/68 / EU.

The internal dynamic ventilation system guarantees the best conditions for the storage of even the most sensitive materials, in compliance with the EN 60068-3 standard.

Three levels of alarms: acoustic, visual and remote with 0 potential contact. The small-sized models (110 liters internal useful volume) are suitable for environments with limited spaces and can be placed under the counter.
All models are equipped with internal Full-LED light and reversible door, blind or glass (only in the FR-G versions) and with key lock. Models with a volume of 260 L are equipped with wheels.

TIN-FZ 110

3 Years Warranty

TIN-FR110G with Glass Door

Technical Data	TIN-FR110 / TIN-FR110G	TIN-FR260 / TIN-FR260G	TIN-FZ110	TIN-FZ260
Volume	110 L	260 L	110 L	260 L
Temperature range	+2.0 to +8.0 °C	+2.0 to +8.0 °C	-25 to -10 °C	-25 to -10 °C
Resolution	0.1 °C	0.1 °C	0.1 °C	0.1 °C
Defrost function	Auto and manual	Auto and manual	manual	manual
Temperature variation in space	1.3 °C / 1.7 °C at 5 °C	1.9 °C / 2.2 °C at 5 °C	2.5 °C at 5 °C	2,1 °C at 5 °C
Gradient	1.3 °C / 1.7 °C at 5 °C	1.5 °C / 2.6 °C at 5 °C	1.5 °C at -20 °C	1,4 °C at -20 °C
Refrigreration	Dynamic (force ventilation)	Dynamic (force ventilation)	Dynamic (force ventilation)	Static (natural convection)
Door	closed / glass	closed / glass	closed	closed
Internal dimension	500 x 570 x 420 mm	500 x 1,290 x 420 mm	500 x 570 x 420 mm	500 x 1.290 x 420 mm
No. of shelves (standard/max)	3/3	6/7	3/3	6/7
Min. space between shelves	13 mm	13 mm	13 mm	13 mm
Max. load shelves	15 kg	15 kg	15 kg	15 kg
Ext. dimension	600 x 805 x 560 mm	600 x 1,525 x 560 mm	600 x 805 x 560 mm	600 x 1,525 x 560 mm
Weight	50 kg	75 kg	50 kg	75 kg
Voltage / Power	220-240 V / 120 W	220-240 V / 120 W	220-240 V / 120 W	220-240 V / 120 W

Digital Thermo Shaker RS-TS 5 / RS-TS 10

RS-TS 5 / RS-TS 10

- Fully programmable (9 programs)
- Precise temperature control for heating and cooling
- Real-time display of speed, temperature and time
- Excellent mixing (200-1,500 rpm)
- Quick interchange of blocks without tools and automatic block recognition
- Block equipped with a lid for heat preservation
- Temperature self-calibration

3 Years Warranty

TSB-10

TSB-25

TSB-40
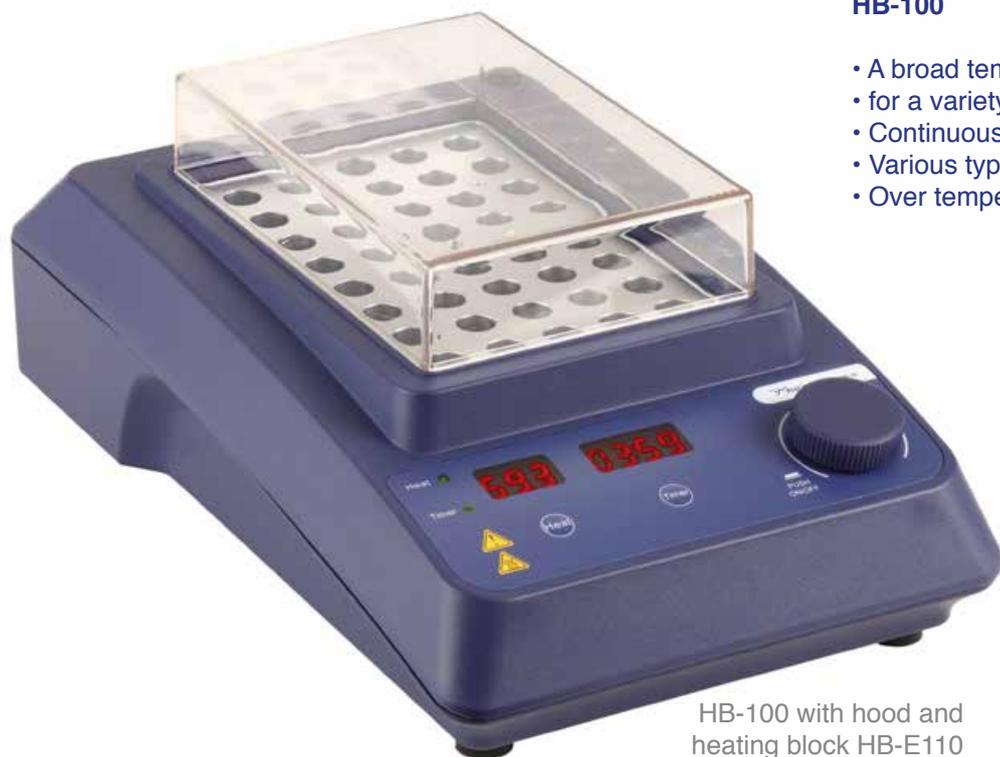
TSB-15

TSB-30

TSB-45

TSB-20

TSB-35

TSB-50

RS-TS 10

Accessories Thermo Shaker

		Hole (d x h)	Max. Speed	Lid
TSB-10	Heating Block 24 x 0.5 ml	8.1 x 36 mm	1,500 rpm	yes
TSB-15	Heating Block 24 x 1.5 ml	10.9 x 30,8 mm	1,500 rpm	yes
TSB-20	Heating Block 24 x 2 ml	10.9 x 30,8 mm	1,500 rpm	yes
TSB-25	Heating Block 8 x 5 ml	13.6 x 42 mm	1,500 rpm	no
TSB-30	Heating Block 8 x 5 ml, konical	17 x 51.5 mm	1,400 rpm	yes
TSB-35	Heating Block 8 x 15 ml	16.9 x 80 mm	800 rpm	no
TSB-40	Heating Block 4 x 50 ml	29.6 x 80 mm	600 rpm	no
TSB-45	Heating Block 96 well PCR plate borderless		1,500 rpm	yes
TSB-50	Heating Block 96/384 Mikrotiterplate		1,500 rpm	yes

Technical Data	RS-TS 5	RS-TS 10
Movement	orbital	
Amplitude	4 mm	
Temperature range	RT+5 to 99.9 °C	RT-15 to 99.9 °C
Temp. accuracy	0.5 °C	
Max. heating speed	5.5 °C / min	
Max. cooling speed	5 °C / min	
	-	0.5 °C / min
Speed	200 - 1,500 rpm	
Motor	DC, brushless	
Programs	9	
Display	TFT	
Adjustment	digital	
Power	200 W	
Dimension	200 x 235 x 120 mm	
Weight	7.3 kg	
Voltage • Frequency	200 - 240 VAC • 50/60 Hz	

Digital Dry Bath HB-100

Digital Dry Bath HB100 with various interchangeable heating blocks is ideal for molecular biology, histology, clinical, environmental and industrial laboratories, including melting and boiling point determination, enzyme reactions, incubation and activation of cultures, immunoassays, DNA denaturation, culture media tests, coagulation tests, blood-urea-nitrogen determinations and in-situ hybridizations.

HB-100

- A broad temperature range to 120 °C
- for a variety of applications
- Continuous and time operation
- Various types of optional block are available
- Over temperature protection

HB-100 with hood and heating block HB-E110

Temperature Instruments

Technical Data	HB-100
Temperature range	RT+5 to 120 °C
Temperature Setting range	25 - 120 °C
Temperature control accuracy	±0.5°C
Temperature display accuracy	0.1 °C
Temperature uniformity at 37 °C	±0.5 °C
Time setting range	0 min …99h 59min
Power	160 W
Display	LED
Dimension (WxDxH)	175 x 290 x 85 mm
Weight	3 kg
Permissible ambient temp.	10 - 40 °C
Permissible ambient humidity	<80% RH
Voltage • Frequency	200 - 240 VAC • 50/60 Hz

Accessories Heating Block HB-100

		Ø (mm)	Depht (mm)
HB-E100	54 x 0.2 ml tubes conical	5.4	15
HB-E105	40 x 0.5 ml tubes conical	8.2	26.4
HB-E108	40 x 1.5 ml tubes conical	11	34.7
HB-E110	40 x 2 ml tubes round	11	34.7
HB-E115	28 x 5/15 ml tubes conical	17	48
HB-E120	8 x 50 ml tubes conical	29.8	48
HB-E125	18 x 0.2 ml, 0.5 ml x 1.5/2 ml		
HB-E130	96 or 384 well plate		

Electrochemistry

The Perfect Combination

Instruments, aligned with the highest technological standards at an extremely competitive price.

A particular focus was put on easy handling during the daily routine.

pH
cond
multi

DHS - The Digital Revolution

DHS, **Digital High Sensor**, is our new pH-sensor technology. These electrodes have an internal chip and stores all relevant calibration data, date of last calibration, slope, model and production batch.

If you connect a DHS-electrode with an DHS instrument, all data will be transferred from the chip into the instrument and the user can start immediately with its measurements without any additional calibrations. The new DHS-electrodes do not need an internal battery and can be connected by a normal BNC-connector.

All instruments equipped with the new **DHS Technology** can also be equipped with normal analog pH-electrodes. PH measurement was never easier.

All electrodes can be maintained and calibrated by one central person in the lab.
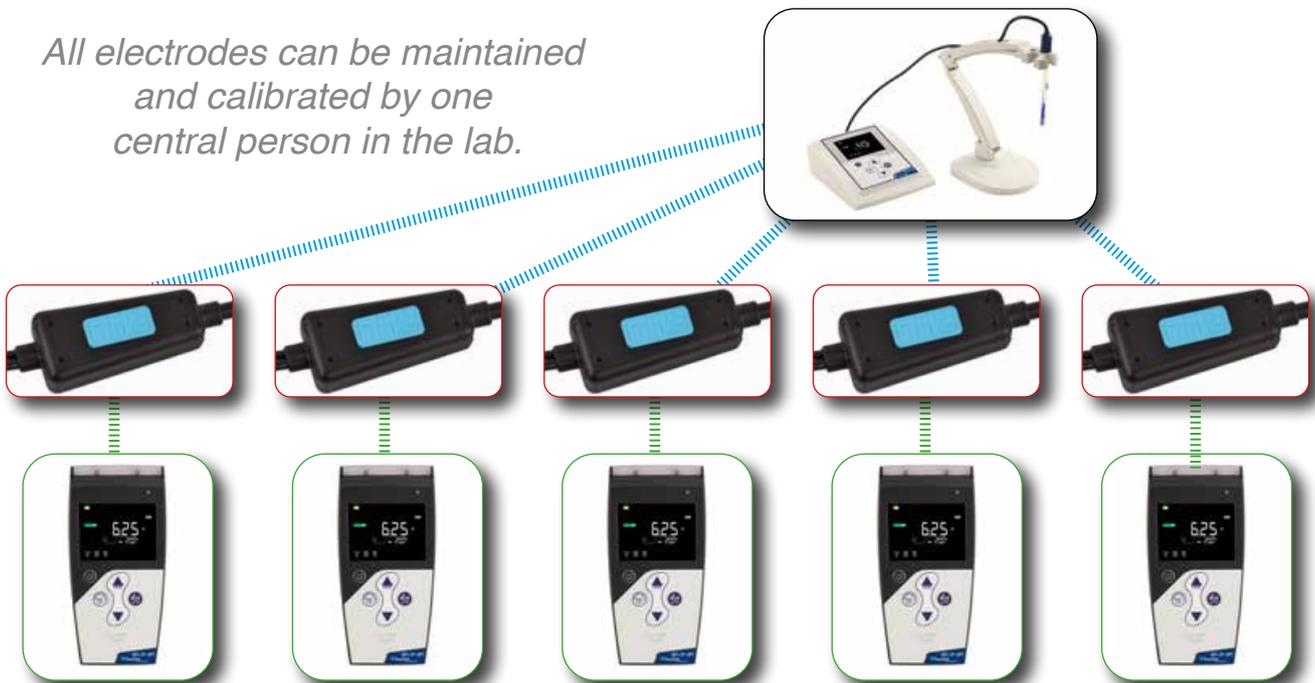
In use, every electrode will be allocated to one pH-meter

DHS - Digital High Sensor pH Electrode

Portable pH-Meter EC-21 pH and EC-26 pH

In the development of the new EC-21/EC-26 series, a particular focus was put on easy handling during daily routine. The high-resolution color display guides the user intuitively through all measurement and calibration processes.

EC-21 pH · EC-26 pH

- high-resolution colour display, adjustable brightness
- DHS function, automatic recognition of DHS and analogue sensors
- Display of pH/mV and temperature values
- automatic pH calibration up to 3 points
- automatic ORP 1-point calibration
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust transport case with all accessories

EC-21 pH

EC-26 pH

Additional for EC-26 pH

- GLP functions
- Data logger (automatic or manual) 1000 data records
- Connection to PC via micro-USB
- free DATA LINK +
- automatic brightness adjustment

Portable pH-Meter EC-21 pH and EC-26 pH

Available Sets

EC-21-pH-0   Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer solution, carrying case, accessories

EC-21-pH-1   Kit includes pH electrode 201T, pH buffer solution, carrying case and accessories

EC-21-pH-5   Kit includes pH electrode 201T-DHS, pH buffer solution, carrying case and accessories

EC-26-pH-0   Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer solution, carrying case, accessories

EC-26-pH-1   Kit includes pH electrode 201T, pH buffer solution, carrying case and accessories

EC-26-pH-5   Kit includes pH electrode 201T-DHS, pH buffer solution, carrying case and accessories

3 Years Instrument Warranty

Technical Data	EC-21 pH	EC-26 pH
Meas. range	0.00 … 14.00 pH	-2.00 … 16.00
Resolution	0.1 / 0.01 pH	
Calibration points	1 … 3	
Buffer resolution	USA, NIST and user defined	
Measuring range	±1,000 mV	-1,000 …1,900 mV
Resolution	1 mV	0.1 / 1 mV
Temp. measuring range	0.0 … 100 °C	-10 … 110 °C
Resolution / accuracy	0.1 / ± 0.5 °C	
GLP	no	yes
Calibration alarm	no	yes
Memory	no	1,000 data
Interface	no	Micro USB
IP-class	IP 57	
Dimension	185 x 85 x 45 mm	
Weight	400 g	

Set EC-26 pH 1

Basic Benchtop pH-Meter EC-31 pH and EC-36 pH

In the development of the new EC-31/EC-36 series, a particular focus was put on easy handling during the daily routine.
The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 pH

• high-resolution color display, adjustable brightness
• DHS function, automatic recognition of DHS and analogue sensors
• Display of pH/mV and temperature values
• automatic pH calibration up to 3 points
• automatic ORP 1-point calibration
• selectable stability parameter (low-medium-high)
• automatic and manual temperature compensation
• Protection class IP 54

3 Years Instrument Warranty

High Resolution Color Display EC-31 pH

Technical Data	EC-31 pH	EC-36 pH
Meas. range	0.00 …14.00 pH	-2.00 … 16.00 pH
Resolution	0.1 / 0.01 pH	
Calibration points	1 ... 3	
Buffer resolution	USA, NIST and user defined	
Measuring range	±1,000 mV	-1,000 … 1,900 mV
Resolution	1 mV	0.1 / 1 mV
Temp. measuring range	0.0 … 100 °C	-10 … 110 °C
Resolution / accuracy	0.1 / ± 0.5 °C	
GLP	no	yes
Calibration alarm	no	yes
Memory	no	1,000 data
Interface	no	Micro USB
IP-class	IP 54	
Dimension	170 x 145 x 60 mm	
Weight	530 g	

PHOENIX instrument
Lab Solutions

Basic Benchtop pH-Meter EC-31 pH and EC-36 pH

Additional for EC-36 pH

• GLP functions
• Data logger (automatic or manual) 1,000 data records
• Connection to PC via micro-USB
• free DATA LINK +

DATA LINK +

The software allows remote control of the instrument in measure mode.

It shows all information relating to the instrument and calibrations, data export at the end of the analysis (also in Exel and PDF format) and the display of measurements in the table and in graphic.

3 Years
Instrument Warranty

Available Sets

EC-31-pH-0   Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer solution, electrode holder

EC-31-pH-1   Kit includes pH electrode 201T, pH buffer solution, electrode holder

EC-31-pH-5   Kit includes pH electrode 201T-DHS, pH buffer solution, electrode holder

EC-36-pH-0   Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer Solution, electrode holder

EC-36-pH-1   Kit includes pH electrode 201T, pH buffer solution, electrode holder

EC-36-pH-5   Kit includes pH electrode 201T-DHS, pH buffer solution, electrode holder

Professional Benchtop pH Meter EC-45 pH

The large colored graphic display offers perfect readout and 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 5 languages.

The new **DHS-technology** allows the use of digital as well as analog electrodes. 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.

Only a few keys allow the user to control all functions in an intuitive and easy way. The EC-45 pH can be delivered with a stirrer.

EC-45 pH

• Display pH/mV and Temperature parameters simultaneously
• Resolution: 0.001 pH
• Automatic Calibration up to 5 points with automatic buffer recognition
• DHS-function, automatic recognition of DHS- and analog electrodes
• GLP and IQ-OQ manual available
• Large, colored graphic display
• 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
• Non-volatile memory holds up to 1,000 data points with date/ time in automatic (Data logger) or manual
• External keypad
• 2 x USB ports and 1 x RS-232 interface to transfer data at PC or printer and for external keyboard
• Instrument can be equipped with a magnetic stirrer
• IP54 rated housing handles splashes

3 Years Instrument Warranty
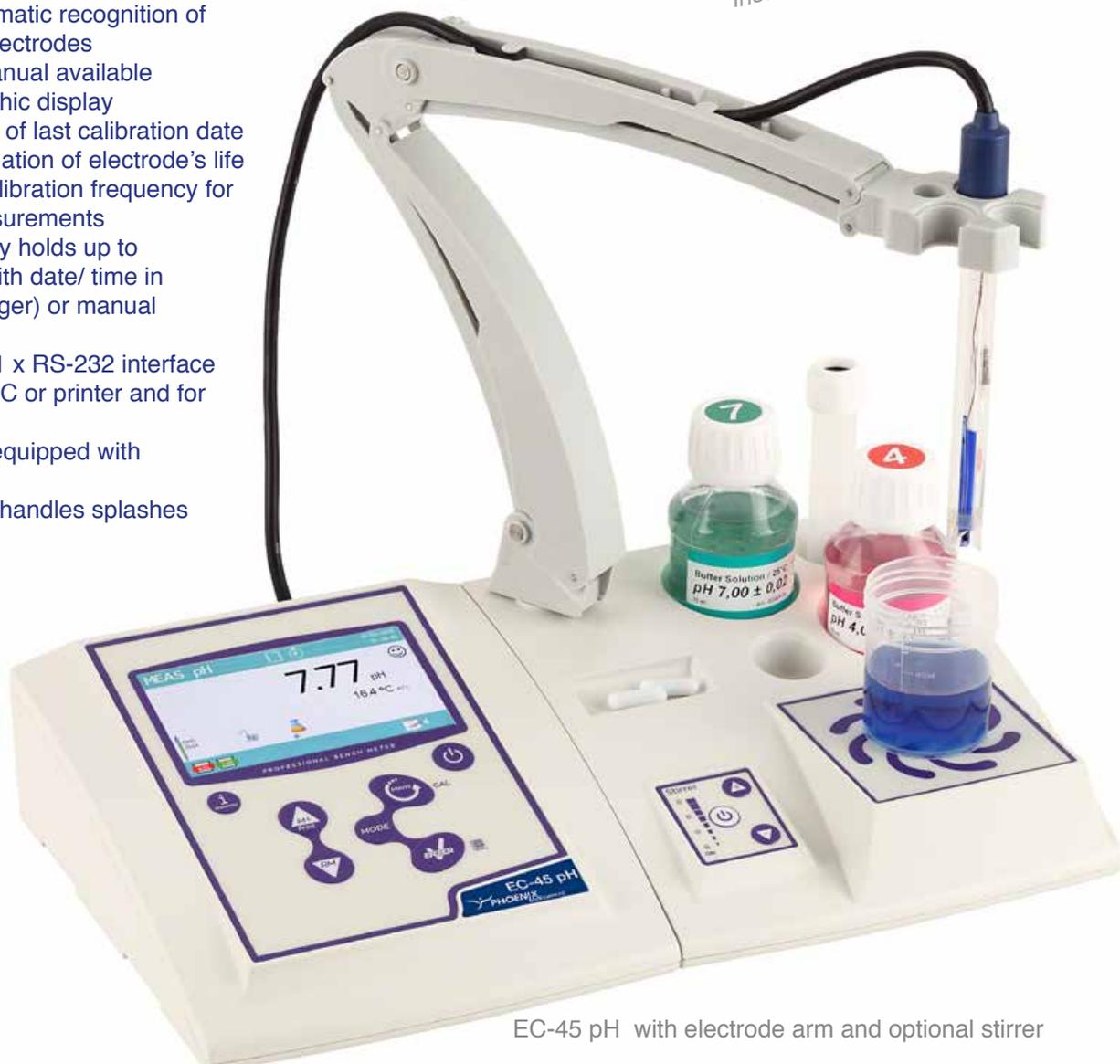
EC-45 pH with electrode arm and optional stirrer

Professional Benchtop Meter EC-45 pH

Available Sets

EC-45-pH-0   Kit without pH electrode, with cable S7/BNC, temperature probe NT55, DHS-function, pH buffer solution pH 7 and pH 4, electrodes arm, keypad, power supply and accessories

EC-45-pH-1   Complete kit includes pH electrode STANDARD, DHS-function, temperature probe NT55, S7/BNC 1 m cable, pH buffer solution pH 7 and pH 4, electrodes arm, power supply, keypad, accessories

EC-45-pH-2   Kit without pH electrode, with cable S7/BNC, temperature probe NT55, DHS-function, pH buffer solution pH 7 and pH 4, electrodes arm, power supply, keypad with magnetic stirrer

EC-45-pH-3   Complete kit includes pH electrode STANDARD, temperature probe NT55, S7/BNC 1 m cable, DHS-function, pH buffer solution pH 7 and pH 4, electrodes arm, keypad, power supply, with magnetic stirrer

EC-45-pH-5   Complete kit includes pH electrode STANDARD-DHS, DHS-function, temperature probe NT55, S7/BNC 1 m cable, pH buffer solution, electrodes arm, power supply, keypad and accessories

EC-45-pH-6   Complete kit includes pH electrode STANDARD-DHS, DHS-function, temperature probe NT55, S7/BNC 1 m cable, pH buffer solution, electrodes arm, power supply, keypad, accessories, with stirrer

1001502   Printer for EC-35 and EC-45

Optional Stirrer

Technical Data	EC-45 pH
Meas. range	-2 … 20 pH
Resolution	0.1 / 0.01. / 0.001 pH
Buffer solution	1…5 / USA, NIST, DIN, user defined
Calibration points	1 … 5
Buffer recocnition	yes
Measuring range	± 2,000 mV
Resolution	0.1 / 1 mV
Measuring range	-30.0 ….130.0 °C
Resolution	± 0.1 °C
DHS Electrode	yes
Buffer resolution	1.000 data
Timer	yes
GLP	yes
Interfaces	2 x USB, RS-232
Display	Colored graphic display
IP-class	IP 54
Power supply	Adapter 12 V DC
Weight	1,050 g, without stirrer
Dimension	165 x 195 x 68 mm

Electrochemistry

Portable Conductivity Meter EC-21 cond and EC-26 cond

In the development of the new EC-21/EC-26 series, particular emphasis was put on easy handling during daily routine.
The high-resolution color display guides the user intuitively through all measurement and calibration processes.

EC-21 cond · EC-26 cond

- high-resolution colour display, adjustable brightness
- DHS function, automatic recognition of DHS and analogue sensors
- Display of Conductivity/TDS and temperature values
- automatic Conductivity calibration up to 5 points
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust transport case with all accessories

EC-21 cond

EC-26 cond

Additional for EC-26 cond

- GLP functions
- Data logger (automatic or manual) 1,000 data records
- Connection to PC via micro-USB
- free DATA LINK +
- automatic brightness adjustment

Portable Conductivity Meter EC-21 cond and EC-26 cond

Available Sets

EC-21-cond-0 Kit without cell, with standard calibration solutions, carrying case and accessories

EC-21-cond-1 Complete kit includes cond. Cell 2301T with ATC, cable length 1m and BNC plug, standard calibration solutions, carrying case and accessories

EC-26-cond-0 Kit without cell, with standard calibration solutions, power supply, software PC-Link, USB cable, carrying case with accessories

EC-26-cond-1 Complete kit includes 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

3 Years
Instrument Warranty

Set EC-26 cond 1

Electrochemistry

Technical Data	EC-21 cond	EC-26 cond
Meas. range Conductivity	0.00 … 200 mS	
Accuracy	0.1 / 1 µS; 0.01 / 0.1 mS	
Calibration points	1 … 5	
Selectable cell constant	$0.1 – 1 – 10 \ cm^{-1}$	
Temp. range	0.0 … 100 °C	-10 … 110 °C
Resolution / accuracy	0.1 / ± 0.5 °C	
TDS meas. range	0.1 mg/l … 200 g/l	
GLP	no	yes
Calibration alarm	no	yes
Memory	no	1.000 data
Interface	no	Micro USB
IP class	IP 57	
Dimension	185 x 85 x 45 mm	
Weight	400 g	

Basic Benchtop Conductivity EC-31 cond and EC-36 cond

In the development of the new EC-31/EC-36 series, particular focus was put on easy handling during the daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 cond

• high-resolution colour display, adjustable brightness
• Display of Conductivity/TDS and temperature values
• automatic conductivity calibration up to 5 points
• selectable stability parameter (low-medium-high)
• automatic and manual temperature compensation
• Protection class IP 54

3 Years Instrument Warranty

EC-31 cond

Additional for EC-36 cond

• GLP functions
• Data logger (automatic or manual) 1,000 data records
• Connection to PC via micro-USB
• free DATA LINK +

Available Sets

EC-31-cond-0 Kit without cell, with standard calibration solutions, cell holder and accessories

EC-31-cond-1 Complete kit includes cond. Cell 2301T with ATC, cable length 1m and BNC plug, standard calibration solutions, cell holder and accessories

EC-36-cond-0 Kit without cell, with standard calibration solutions, power supply, software PC-Link, USB cable, cell holder and accessories

EC-36-cond-1 Complete kit includes cond. Cell 2301T wit ATC, cable length 1m and BNC plug, Standard calibration solutions, power supply, software PC-Link, USB cable, cell holder and accessories

Modell	EC-31 cond	EC-36 cond
Meas. range conductivity	0.00 … 200 mS	
Accuracy	0.1/1 µS; 0.01/0.,1 mS	
Calibration points	1 … 5	
Selectable cell constant	$0.1 - 1 - 10 \ cm^{-1}$	
Temp. range	0.0 … 100 °C	-10 … 110 °C
Resolution / accuracy	0.1 / ± 0.5 °C	
TDS meas. range	0.1 mg/l … 200 g/l	
GLP	no	yes
Calibration alarm	no	yes
Memory	no	1,000 data
Interface	no	Micro USB
IP class	IP 54	
Dimension	185 x 85 x 45 mm	
Weight	530 g	

Professional Conductivity Benchtop Meter EC-45 cond

The large colored graphic display offers perfect readout and shows all information that you need about measurement, buffers used for calibration, cell condition, GLP information and instrument's memory. Anyone can use this meter easily with its clear menu structure up to 5 languages.

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.

The instrument can be delivered with a stirrer.

3 Years Instrument Warranty

EC-45 cond
with stand and optional stirrer

Avaliable Sets

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 includes conductivity cell Glass-Pt VPT80/1, standard solution 1413 μS and 12,88 mS, cell holder, power supply and accessories

EC-45 cond 2   Kit without, with standard solution 1413 μS and 12,88 mS, cell holder and accessories, **with magnetic stirrer**

EC-45 cond 3   Kit includes cell Glass-Pt VPT80/1, standard solution 1413 μS and 12,88 mS, cell holder and accessories, **with magnetic stirrer**

Professional Conductivity Benchtop Meter EC-45 cond

EC-45 cond

- Display COND/TDS, Salinity and Temperature simultaneously
- Resolution: automatic scale
- GLP-conform
- external keypad
- 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 colored graphic display with indication of Calibration Standards and measurement's stability
- 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 1,000 data points with date and time Data logger
- 2 x USB ports and 1 x RS-232 interface to transfer data, software PC-Link to download data
- Instrument can be delivered with a magnetic stirrer
- IP54 Protection

3 Years Instrument Warranty

Magnetic Stirrer (optional)

Technical Data	EC-45 cond
Mesuaring range (cond)	0.00 - 20.00 - 200.0 - 2,000 µS
	2.00 - 20.00 - 200.0 - 1,000 mS
Resolution (cond)	Automatic full scale
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, user
Calibration points	1 … 4
Selectable cell constant	0.55 (4 ring) – 0.1 – 1 – 10
Cell type	4 rings - 2 rings
Reference temperature	15 … 30 °C
Temp. compensation	0.00 … 10.00 °C
Measuring range	-30.0 … 130.0 °C
Resolution	± 0.5 °C
TDS-measuring range	0 … 500 g/l
TDS-Faktor	0.40 … 1.00
Salinity	0.01 … 100 ppt
Resistivity	1 … 10 MΩ
Memory	1,000 data
Timer	yes
GLP	yes
Interfaces	2 x USB, RS-232
Display	Color graphic display
Ip protection	IP 54
Power supply	Adapter 12 V DC
Weight	1,050 g, without stirrer
Dimension	165 x 195 x 68 mm

Portable Multiparameter Meter EC-21 multi and EC-26 multi

In the development of the new EC-21/EC-26 series, a particular focus was put on easy handling during daily routine. The high-resolution color display guides the user intuitively through all measurement and calibration processes.

EC-21 multi · EC-26 multi

- high-resolution colour display, adjustable brightness
- Display of pH/mV, Conductivity/TDS, temperature values
- automatic Conductivity calibration up to 5 points
- automatic pH calibration up to 3 points
- automatic ORP 1-point calibration
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust transport case with all accessories

Additional for EC-26 multi

- GLP functions
- Data logger (automatic or manual) 1,000 data records
- Connection to PC via micro-USB
- free DATA LINK +
- automatic brightness adjustment

EC-21 cond

EC-26 cond

3 Years Instrument Warranty

Electrochemistry

Technical Data	EC-21 multi	EC-26 multi
Measuring range	0.00 … 14.00 pH	-2.00 … 16.00 pH
Accuracy	0.1 / 0.01 pH	
Calibration points	1 ... 3	
Buffer resolution	USA, NIST and user defined	
Measuring range cond	0.00 … 200 mS	
Accuracy cond	0.1/1 µS; 0.01/0.1 mS	
Calibration points	1 … 5	
Selectable cell constant	0.1 – 1 – 10 cm^{-1}	
Temperature meas. range	0.0 … 100 °C	-10 … 110 °C
Resolution / accuracy	0.1 / ± 0.5 °C	
TDS meas. range	0.1 mg/l … 200 g/l	
GLP	no	yes
Calibration alarm	no	yes
Memory	no	1,000 data
Interface	no	Micro USB
IP-class	IP 54	
Dimension	185 x 85 x 45 mm	
Weight	530 g	

Available Sets

EC-21-multi-0 Kit without pH-electrode, with conuctivity cell 2301T, with standard calibration solutions, Temperature sensor, cable S7/BNC, carrying case with accessories

EC-21-multi-1 Complete kit includes pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, carrying case and accessories

EC-21-multi-5 Kit incl. pH-electrode 201T-DHS and cond.-cell 2301T, solutions, standards, accessories in a case, with DHS-function

EC-26-multi-0 Kit without pH-electrode and cell, standard calibration solutions, power supply, software PC-Link, USB cable, carrying case with accessories

EC-26-multi-1 Kit includes pH-electrode 201T and cell 2301T with ATC, cable length 1m and BNC plug, standard cal. solutions, power supply, software PC-Link , USB- cable, carrying case with accessories

EC-26-multi-5 Kit incl. pH-electrode 201T DHS and cond.-cell 2301T, solutions, PC-link, USB-cable, accessories

Basic Benchtop Multi Meter EC-31 multi and EC-36 multi

In the development of the new EC-31/EC-36 series, a particular focus was put on easy handling during the daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 multi

• high-resolution colour display, adjustable brightness
• Display of pH/mV, Conductivity/TDS and temperature values
• automatic Conductivity calibration up to 5 points
• automatic pH calibration up to 3 points
• automatic ORP 1-point calibration
• selectable stability parameter (low-medium-high)
• automatic and manual temperature compensation
• Protection class IP 54

Additional for EC-36 multi

• GLP functions
• Data logger (automatic or manual)
  1,000 data records
• Connection to PC via micro-USB
• free DATA LINK +

Available Sets

EC-31-multi-0   Kit without pH-electrode, with conuctivity cell 2301T, with standard calibration solutions, Temperature sensor, cable S7/BNC, pH buffer solutions, electrode holder

EC-31-multi-1   Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holder

EC-31-multi-5   Complete kit include pH electrode 201T-DHS and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holder

EC-36-multi-0   Kit without pH-electrode, with conuctivity cell 2301T, with standard calibration solutions, Temperature sensor, cable S7/BNC, pH buffer solutions, electrode holder

EC-36-multi-1   Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holder

EC-36-multi-5   Complete kit include pH electrode 201T-DHS and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holde

3 Years Instrument Warranty

Technical Data	EC-31 multi	EC-36 multi
Measuring range	0.00 … 14.00 pH	-2.00 … 16.00 pH
Accuracy	0.1 / 0.01 pH	
Calibration points	1 … 3	
Buffer resolution	USA, NIST and user defined	
Measuring range cond	0.00 … 200 mS	
Accuracy cond	0.1/1 µS; 0.01/0.1 mS	
Calibration points	1 … 5	
Selectable cell constant	$0.1 - 1 - 10\ cm^{-1}$	
Temperature meas. range	0.0 … 100 °C	-10 … 110 °C
Resolution / accuracy	0.1 / ± 0.5 °C	
TDS meas. range	0.1 mg/l … 200 g/l	
GLP	no	yes
Calibration alarm	no	yes
Memory	no	1,000 data
Interface	no	Micro USB
IP-class	IP 54	
Dimension	185 x 85 x 45 mm	
Weight	530 g	

Professional Benchtop Multiparameter Meter EC-45 multi

The large colored graphic display shows all necessary information about measurement, calibration, standards, cell condition, GLP. Anyone can use this meter easily with its intuitive menu available in up to 5 languages.

The new DHS-technology allows the use of digital as well as analog electrodes. 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.

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

3 Years Instrument Warranty

EC-45 multi with Stirrer (optional)

Professional Benchtop Multiparameter EC-45 multi

EC-45 multi

- Display pH/mV,COND/TDS, Salinity and Temperature simultaneously
- Resolution: 0.1-0.001 pH; Auto range for Cold
- GLP-conform
- Selectable cell constant allows for use with 2 plate cell
- Large colored graphic display with indication of Calibration Buffers and measurement's stability
- Indication stability of the measurement with icon
- 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 1,000 data points with date and time in automatic (Data logger) or manual
- 2 x USB ports to transfer data at PC or printer and for external keyboard
- Software PC-Link to download data (included)
- external keypad
- Instrument can be delivered with magnetic stirrer
- IP54 protection

3 Years Instrument Warranty

Available Sets

EC-45-multi-2

Kit without pH electrode and cell, with cable S7/BNC, temp. probe NT55, pH buffer solution pH 7 and pH 4, conductivity solution 1413 μS and 12,88 mS, DHS-function, Keypad and accessories, **with magnetic stirrer**

EC-45-multi-3

Kit included pH electrode XS STANDARD S7, 1 mt cable S7/BNC, cell glass VPT 80/1 with ATC, DHS-function, pH buffer solution pH 7 and pH 4, standard conductivity solution 1413 μS and 12,88 mS, keypad and accessories, **with magnetic stirrer**

EC-45-multi-5

Kit included pH electrode XS STANDARD-DHS S7, 1 mt cable S7/BNC, cell glass VPT 80/1 with ATC, DHS-function, pH buffer solution pH 7 and pH 4, standard conductivity solution 1413 μS and 12,88 mS, keypad and accessories, **with magnetic stirrer**

Technical Data	EC-45 multi
Measuring range	-2 … 20 pH
Accuracy	0.1 / 0.01 / 0.001 pH
Buffer	1 … 5 /USA, NIST, DIN, User
Calibration points	1 … 5
Buffer recognition	yes
Meas. range	± 2,000 mV
Accuracy	0.1 / 1 mV
Meas. range	-20.0 … 120.0 °C
Accuracy	± 0.5 °C
DHS-Electrode	yes
Meas. range cond	0.00 - 20.00 - 200.0 - 2,000 µS
	2.00 - 20.00 - 200.0 - 1,000 mS
Accuracy cond	Automatic full scale
Buffer	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1 … 4, user
Selectable cell constant	0.1 – 1 – 10 cm^{-1}
Reference temperature	15 … 30 °C
Temp. compensation	0.00 … 100.0 °C
TDS-Meas. range	0 … 500 g/l
TDS-Factor	0.40 … 1.00
Salinity	0.01 … 100 ppt
Resistivity	0 … 20 MΩ
Memory	1,000 data
Timer	yes
GLP	yes
Interface	2 x USB, RS-232
Display	Color graphic display
IP-class	IP 54
Power supply	Adapter 12 V DC
Dimension	165 x 195 x 68 mm
Weight	1,050 g, without stirrer

Tester Serie EC-15
with replaceable sensor

Parameter
Measurement
stability indication

Buffer used
for calibration

IP 67 Waterproof

Only 3 Keys
to control
all functions

Transparent body

2 x 1,5 V AAA batteries
for long working time,
compatible with re-
chargeable batteries

Battery level

Temperature
reading

Easy push
button for
calibration
and setup

Replaceable sensor

Color parameter identification

pH/mV   Cond/TDS/SAL   pH/mV/Cond/TDS/SAL

• automatic calibration function incl. stability icon
• 3-color backlit LCD-display
  (Measurement – Calibration – Alarm)
• pH-electrodes and conductivity cells also
  available with cable
• IP 67 waterproof
• easy replaceable sensor
• 2 x 1,5 V AAA Batteries, Display of battery level

EC-15pH pH / mV / °C

• Measuring range: -2 …16 pH, Resolution: 0.01 pH
• 1 … 3 points calibration

EC-15pH Food pH / mV / °C

• Measuring range: -2 … 16 pH, Resolution 0.01 pH
• 1 … 3 points calibration
• with replaceable spear pH electrode

EC-15-COND Cond / TDS / Salinity / °C

• Cond scale: 0 … 200 μS - 0 … 2,000 μS - 0 … 20 mS
• 1 … 3 points calibration

EC-15-Multi pH / mV / Cond /TDS / Salinity / °C

• Measuring range: -2 … 16 pH, Resolution 0.01 pH
• 1 … 3 points calibration
• COND scale: 0 … 200 μS - 0 … 2,000 μS - 0 … 20 mS
• 1 … 3 points calibration

Large Backlit Display

During measure   In Calibration   Alarm condition

Electrochemistry

Tester Serie EC-15
with replaceable sensor

Avaliable Sets

EC-15-pH eco

Tester, 1 extra cap, batteries

EC-15-pH / pH Food

Tester, 1 extra cap, pH 7 and pH 4 buffer solution, storage solution, neck strap, paper towel, 2x 1.5V AAA batteries, box

EC-15-Cond eco

Tester, 1 extra cap, batteries

EC-15-Cond

Tester, 1 extra cap, 1413µS and 12,88mS cond. standard solution, neck strap, paper towel, 2x 1.5V AAA batteries, box

EC-15-Multi

Tester, 1 extra cap, pH 7 and pH 4 buffer solution, storage solution, 1413µS cond. standard solution, neck strap,paper towel, 2x 1.5V AAA batteries, box

Box EC-15 cond

Technical Data	EC-15pH / Food	EC-15 Cond	EC-15-Multi
pH Meas. range	-2 … 16 pH	-	-2 … 16 pH
pH resolution	0.01 pH	-	0.01 ph
Calibration points	1 … 3	-	1 … 3
Electrode condition alarm	yes	yes	yes
Stability meas. indication	yes	yes	yes
mV meas. range	± 1,000 mV	-	± 1,000 mV
mV resolution	0.1 / 1 mV	-	0.1 / 1 mV
Cond meas. range	-	0 - 200 µs; 0 - 2,000 µS; 0 - 20 mS	
Cond accuracy	-	Automatic scale	
Calibration points	-	1 … 3	
TDS meas. range	-	0.1 ppm … 10 ppt	
TDS relative accuracy	-	± 1% full scale	
Temperature range		0 … 50 °C	
Resolution		0.1 °C	
Dimension (Ø x L)	35 x 175 mm (pH) 35 x 210 mm (Food)	35 x 175 mm	35 x 175 mm
Weight		130 g	

Tester Serie EC-10

Avaliable Sets

EC-10-pH

Tester, 1 extra cap, pH 7 and pH 4 buffer solution, storage solution, neck strap, paper towel, 2 x 1.5 V AAA batteries, carrying case.

EC-10-Cond

Tester, 1 extra cap, 1x 55 ml 1413 μS and 12.88 mS cond. standard solution, neck strap, paper towel, 4 x 1.5 V AAA batteries, carrying case.

EC-10-pH-Eco

Tester, 1 extra cap, batteries

EC-10-Cond-Eco

Tester, 1 extra cap, batteries

EC-10

- Large LCD display
- IP 67 waterproof protection
- Buffers used for calibration indication
- Measurement stability indicator
- Automatic temperature compensation
- 4 x 1.5 V AAA batteries for long working time

compatible with rechargeable batteries

EC-10 pH   EC-10 cond

Display pH   Display Cond

Technical Data	EC-10pH	EC-10Cond
pH Meas. range	0 … 14	
pH resolution	0.1	
Calibration points	1 … 2	
Buffer recognition	3 USA buffer	
Electrode condition alarm		yes
Cond resolution		automatic scale
Calibration points cond		1 … 2
Cal. standard recocnition		1.413 µS, 12.88 mS
TDS meas. range		0.01 … 199,9 ppm
Auto off		after 8 minutes
Warranty		6 months
Dimension ø x L		35 x 175 mm
Weight		120 g

Electrodes

S7 connector

glass body

3M KCl

cartridge Ag / Ag Cl

internal electrolyte

internal reference

refill hole

ø 12

120

ceramic diaphragm

pH glass membrane
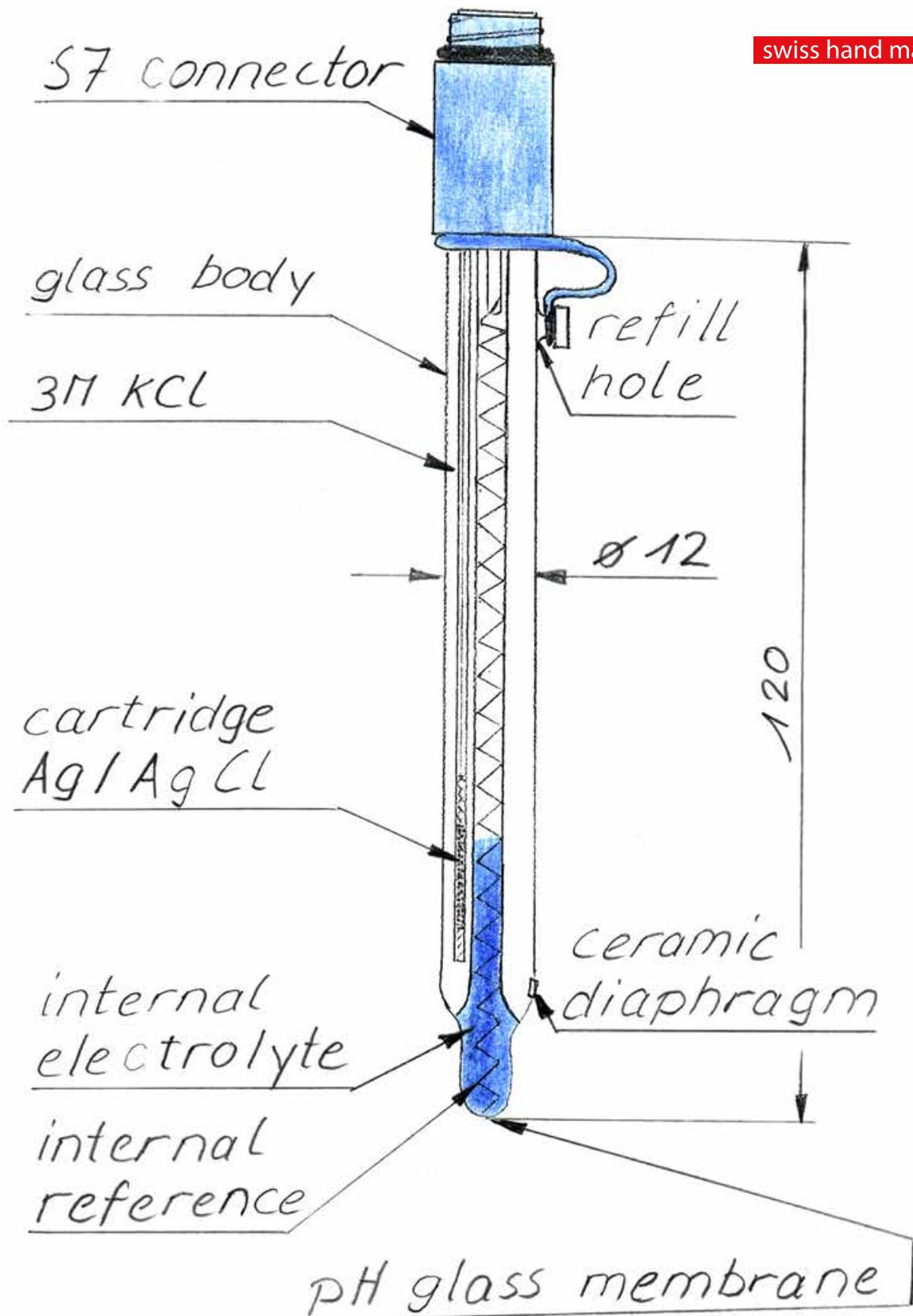
Field of application

	Gel	Polymer	Polymer Tip	Standard	Polymer Plast/201T	Standard HA	Flat	Standard HF	Food	2 Pore Slim	2 Pore	2 Pore F	Food Slim	Semimicro	Micro	Micro P	Flow
aqueous Emulsionen		•	•	•					•								•
aqueous Suspensionen		•	•	•					•								•
Bread- Pasta			•						•	•	•	•	•				
Brine	•	•	•	•	•				•								•
Butter									•	•	•	•	•				
Cheese										•	•	•	•				
Cosmetics		•	•	•		•			•								•
Cream		•	•						•								•
Detergents	•	•	•	•	•	•	•		•								•
Fruit juice		•	•	•					•								•
Fruits and Vegetables										•	•	•	•				
Galvanic exhaust		•	•			•											•
Jam		•	•						•		•						•
Leather							•										
Mayonnaise									•		•						•
Meat									•	•	•	•	•				
Milk									•	•	•	•	•				
Paint (waterbased)		•	•	•					•								•
Paint			•						•								•
Sample containing proteins		•	•						•		•		•			•	
Sample high alcalinity						•											
Sample high temperature*			•			•			•								
Sample small volume							•							•	•	•	
Sample with hydrofluoric Acid								•									
Semi-aqueous suspensions									•								•
Soap liquid		•	•	•					•								•
Soil			•							•	•	•	•				•
Solutions low-ionic strength																	•
Surfaces							•										
Titration			•						•								•
Titration, non aqueous																	•
TRIS-buffer			•														•
Viscous samples		•	•						•								•
Waste and Sewage		•	•		•	•											•
Water, distilled									•								•
Water, drinking	•	•	•	•	•				•								•
Wine		•	•	•					•								•
Yoghurt		•	•						•	•	•	•	•				•

* short time 100 °C

Electrodes

Electrodes for general laboratory application

GEL

Shaft Material	Glass
Connector	S7 Head
Electrolyte	Gel
Diaphragm	Ceramic
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	-10…60 °C

Model no. 1000203   GEL

POLYMER

Shaft Material	Glass
Connector	S7 Head
Electrolyte	Polymer
Diaphragm	Open pore
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	-10…80 °C

Model no. 1000223   POLYMER

POLYMER TIP

Shaft Material	Glass
Connector	S7 Head
Electrolyte	Polymer
Diaphragm	2 x Open pore
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	-10…80 °C

Model no. 1000443   POLYMER TIP

STANDARD

Shaft Material	Glass
Connector	S7 Head
Electrolyte	3M KCl
Diaphragm	Ceramic
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	-10…100 °C

Model no. 1000363   STANDARD

More standard versions

STANDARD HA

like Standard,
minimal Alkali-error

Model no. 1000423   STANDARD HA

STANDARD HF

like Standard,
suitable for samples with HF

Model no. 1000433   STANDARD HF

More versions with fix cable or temperature probe on demand

Electrodes for general laboratory application

POLYMER PLAST

Shaft Material	Epoxy
Connector	S7 Head
Electrolyte	Polymer
Diaphragm	1 x Ceramic and 1 x open pore
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	0…60 °C

Model no. 1000493   POLYMER PLAST

POLYMER PLAST BNC

Connector	Fix cable BNC

Model no. 1000503   POLYMER PLAST BNC

POLYMER PLAST DIN

Connector	Fix cable DIN

Model no. 1000513   POLYMER PLAST DIN

201T

Shaft Material	Epoxy
Connector	Fix cable
Electrolyte	Gel
Diaphragm	1 x Ceramic and 1 x open pore
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	0…60 °C
Temperature probe	yes, 30 kΩ with Cinch plug

Model no. 1002002   201T

FLAT

Shaft Material	Glass
Connector	S7 Head
Electrolyte	Polymer
Diaphragm	Teflon with 3 x open pore
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	0…60 °C

Model no. 1000413   FLAT

FLOW

Shaft Material	Glass
Connector	S7 Head
Electrolyte	3M KCl
Diaphragm	Teflon Sleeve
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	-10…80 °C

Model no. 1000373   FLOW

More versions with fix cable or temperature probe on demand

Electrodes

Electrodes for general laboratory application

SEMI MICRO

Shaft Material	Glass
Connector	S7 Head
Electrolyte	3M KCl
Diaphragm	Ceramic
Diameter	12 mm / 6 mm
Length	100 mm
pH-measuring range	0…14
Temperature range	0…100 °C

Model no. 1000383 — SEMI MICRO

100 mm — Ø 6 mm

MICRO

Shaft Material	Glass
Connector	S7 Head
Electrolyte	3M KCl
Diaphragm	Ceramic
Diameter	12 mm / 3 mm
Length	60 mm
pH-measuring range	0…14
Temperature range	0…100 °C

Model no. 1000213 — MICRO

60 mm — Ø 3 mm

MICRO P
like MICRO,
Electrolyte Glycerin KCL

Model no. 1000253 — MICRO P

60 mm — Ø 3 mm

Food Measurements Electrodes

FOOD

Shaft Material	Glass
Connector	S7 Head
Electrolyte	Glycerin KCL
Diaphragm	3 x Ceramic
Diameter	12 mm
Length	120 mm
pH-measuring range	0…14
Temperature range	-10…100 °C

Model no. 1000393 — FOOD

2 PORE

Shaft Material	Glass
Connector	S7 Head
Electrolyte	Polymer
Diaphragm	2 x Open pore
Diameter	12 mm / 6 mm
Length	35 mm
pH-measuring range	0…14
Temperature range	0…+60 °C

Model no. 1000333 — 2 PORE

35 mm — Ø 6 mm

More versions 2 PORE

2 PORE SLIM
like 2 PORE,
Diameter 4.5 mm

Model no. 1000283 — 2 PORE SLIM

35 mm — Ø 4.5 mm

More versions 2 PORE

2 PORE F
like 2 PORE, Shaft Material POM / Glass

50 mm
Ø 6 mm

Model no. 1000293   2 PORE F

2 PORE T - Fix cable
like 2 PORE, T-probe NTC 30 kΩ

Model no. 1000323   2 PORE F - Fix cable

2 PORE STEEL T - Fix cable
like 2 PORE, T-probe NTC 30 kΩ
Shaft Glass/stainless steel, Length 50 mm

Model no. 1000313   2 PORE STEEL T - Fix cable

2 PORE K

Shaft Material	Glass / Steel
Connector	S7 Head
Electrolyte	Polymer
Diaphragm	2 x Open pore
Diameter	12 mm / 4.5 mm
Length	35 mm
pH-measuring range	0…14
Temperature range	0…+60 °C

Model no. 1000303 - complete with knife   2 PORE K
1000343 - without knife
1000353 - Replaceable knife

FOOD SLIM

Shaft Material	Glass
Connector	S7 Head
Electrolyte	Glycerin KCL
Diaphragm	Ceramic
Diameter	12 mm / 6 mm
Length	25 mm
pH-measuring range	0…14
Temperature range	0…+100 °C

pH 0..14 | 0..+100°C
Refill: Protelyte

25 mm
Ø 6 mm
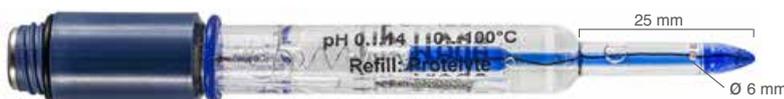
Model no. 1000243   FOOD SLIM

Redox Electrodes

STANDARD ORP

Shaft Material	Glass
Connector	S7 Head
Electrolyte	3M KCl
Diaphragm	3 x Ceramic
Diameter	12 mm
Length	120 mm
Range	+/- 2,000 mV
Temperature range	-10…100 °C

STANDARD ORP

Model no. 2000233   STANDARD ORP

PLAST ORP

Shaft Material	Epoxy
Connector	S7 Head or fix cable
Electrolyte	Gel
Diaphragm	Ceramic
Diameter	12 mm
Length	120 mm
Range	+/- 1,000 mV
Temperature range	0…60 °C

Model no. 2000663 - with S7 Head   PLAST ORP
2000673 - with fix cable BNC

Electrodes

Conductivity cells

VP 8 – VPT 80/1

Shaft / Plate	Glass / Platin
Cell constant	1 cm^{-1}
Diameter	12 mm
Length	120 mm
Range	10 µS…10 mS
Temperature range	0…80 °C

Model no. 3004062 - VP 8, w/o T-probe
3003352 - VPT 80/1, with T-probe

VP 8 - VPT 80/1

VPT 51/01

Shaft / Plate	PVC / Steel
Cell constant	0,1 cm^{-1}
Diameter	12 mm
Length	120 mm
Range	0.1 µS…1 mS
Temperature range	0…60 °C

Model no. 3004012 - VPT 51/01, with T-probe

VPT 51/01

VPT 80/10

Shaft / Plate	Glass / Platinum
Cell constant	10 cm^{-1}
Diameter	12 mm
Length	120 mm
Range	100 µS…200 mS
Temperature range	0…80 °C

Model no. 3004072 - VPT 80/10, with T-probe

VPT 80/10

VPT 80/4

Shaft Material	PVC
Electrodes	4 Graphit-Electrodes
Cell constant	0.5 cm^{-1}
Diameter	12 mm
Length	120 mm
Range	1 µS…200 mS
Temperature range	0…60 °C

Model no. 3003362 - VPT 80/4, with T-probe

VPT 80/4

2301T

Shaft / Plate	Epoxy / Platinum
Cell constant	1 cm^{-1}
Diameter	12 mm
Length	120 mm
Range	10 µS…100 mS
Temperature range	0…60 °C

Model no. 3004002 - 2301T, with T-probe

2301T

pH - Standard Electrodes

1000203	Gel	pH-electrode, gel-filled with ceramic diaphragma
1000223	Polymer	pH-electrode,polymer-filled with open pore diaphragma
1000443	Polymer Tip	pH-electrode,polymer-filled with double open pore diaphragma
1000363	Standard	pH standard electrode with ceramic diaphragma
1000423	Standard HA	like standard, minimal Alkali error
1000433	Standard HF	like standard, for samples with HF
1000263	STANDARD BNC	like standard, with fix cable BNC
1000273	STANDARD DIN	like standard, with fix cable DIN
1000473	STANDARD T - BNC	like standard, with fix cable BNC and Temperature sensor
1000463	STANDARD T DIN	like standard, with fix cable DIN and Temperature sensor
1000493	Polymer Plast	Polymer electrode with 1 ceramic and 1 x open pore diaphragma, epoxy body
1000503	Polymer Plast BNC	like Polymer, with fix cable BNC
1000513	Polymer Plast DIN	like Polymer, with fix cable DIN
1002002	201T	pH-electrode with epoxy body, temperature sensor and fix cable BNC
1002042	201 T DIN	pH-electrode with Temperature sensor and fix DIN-cable
1000413	Flat	pH-electrode for surface measurements, 3-hole diaphragma with Teflon
1000373	Flow	pH-electrode for viscous samples and low ion media, Teflon sleeve diaphragma
1000383	Semi-Micro	pH-electrode for test tube measurements
1000213	Micro	pH-electrode for small volume samples
1000253	Micro P	pH-electrode for small volume samples with protein, Electrolyte Glycerin
1005223	GEL Plast BNC	pH-electrode with epoxy body, fix BNC-cable and double diaphragma
1000393	FOOD	pH-electrode with Glycerin KCl electrolyte and 3 ceramic diaphragm
1000333	2 PORE	pH-electrode with 2 open pore diaphragma

More pH-Elektrodes on request

DHS pH - Standard Electrodes

1100103	201T DHS	pH-electrode with epoxy body, temperature sensor and fix cable BNC, DHS-function
1100123	STANDARD T - BNC DHS	pH standard electrode with ceramic diaphragma, fix BNC-cable and Temperature sensor, DHS-function
1100113	2 Pore T DHS	pH-electrode with 2 open pore diaphragma, Temperature sensor and fix BNC-cable, DHS-function

Electrodes

Electrodes for ORP Measurement

2000233	Standard ORP	electrode with platinum ring for ORP/Redox
2000663	Plast ORP	electrode with platinum pin for ORP/Redox
2000673	Plast ORP/BNC	electrode with platinum pin for ORP/Redox, fix cable BNC

Conductivity Cells

3004062	VP8	conductivity cell, cell constant c=1, fix cable BNC
3003352	VPT 80/1	conductivity cell, cell constant c=1, fix cable BNC, temperature sensor
3004012	VPT51/01	conductivity cell, cell constant c=0,1, fix cable BNC, temperature sensor for ultrapure water
3004072	VPT 80/10	conductivity cell, cell constant c=10, fix cable BNC, temperature sensor for sea water
3004002	2301T	conductivity cell, cell constant c=1, fix cable BNC, temperature sensor
3004002	EPT 4	conductivity cell, cell constant c=0,55, fix Multi-Pin cablel, T-Sensor 4-pole conductivity cell, 0.1 µS…1 S, *Only for EC-45-cond*

Conductivity Standards

800613	Conductivity Standard 84 µS/cm ± 1% / 25 °C, 500 ml bottle
800633	Conductivity Standard 1.413 µS/cm ± 1% / 25 °C, 500 ml bottle
800643	Conductivity Standard 12.880 µS/cm ± 1% / 25 °C, 500 ml bottle
850513	Conductivity Standard 5 µS/cm ± 0,1 / 25 °C, 300 ml bottle with N.I.S.T. certificate
850313	Conductivity Standard 5 µS/cm ± 0,1 / 25 °C, 300 ml bottle with DFM certificate
850303	Conductivity Standard 1.3 µS/cm ± 0,1 / 25 °C, 300 ml bottle with DFM certificate

Conductivity Standards

pH Buffer Solutions

800033	Buffer pH4, ± 0.01 / 25 °C, 250 ml bottle, red
800133	Buffer pH4, ± 0.01 / 25 °C, 500 ml bottle, red
800233	Buffer pH4, ± 0.01 / 25 °C, 5 Liter red
800043	Buffer pH7, ± 0.01 / 25 °C, 250 ml bottle, green
800143	Buffer pH7, ± 0.01 / 25 °C, 500 ml bottle, green
800243	Buffer pH7, ± 0.01 / 25 °C, 5 Liter green
800073	Buffer pH9.21, ± 0.02 / 25 °C, 250 ml bottle, blue
800173	Buffer pH9.21, ± 0.02 / 25 °C, 500 ml bottle, blue
800273	Buffer pH9.21, ± 0.02 / 25 °C, 5 Liter blue
800063	Buffer pH10 ± 0.02 / 25 °C, 250 ml bottle, clear
800163	Buffer pH10 ± 0.02 / 25 °C, 500 ml bottle, clear
800263	Buffer pH10, ± 0.02 / 25 °C, 5 Liter clear

pH-Buffer Solutions

pH Storage Solution

1008013	3M KCl-Solution, 500 ml

Redox Buffer

800303	250 ml Redox/ORP 200 mV ± 5 mV / 25 °C
800313	250 ml Redox/ORP 475 mV ± 5 mV / 25 °C
800323	500 ml Redox/ORP 475 mV ± 5 mV / 25 °C

*DAKKS certified
buffer solutions
are available as well*

Electrodes

More Accessories

1001733	Cable S7 / BNC 1 Meter
1001743	Cable S7 / DIN 1 Meter
1002012	Temperature sensor NT55
1000112	Elektrode holder
1001502	Printer for EC-36 and EC-45

Printer 1001502

Rotatory Evaporator

Rotatory Evaporator RE-100D

RE-100D

- Huge, easy-to-read LCD display, indicates temperature, speed and time
- Speed range from 20 to 280 rpm
- Large 5 l water/oil heating bath with heating temperature range of RT to 180 °C
- Heating bath with precise temperature control and adjustable safety circuit
- Patented condenser cooling surface 1,500 cm^2 with excellent cooling effect
- Motorized lift with quick-action, automatic release evaporating flask to top position in case of power failure
- Adjustable final position recognition to protect operator and sample against breakage
- Evaporating flask with an ejector, convenient to remove
- Available with timer function to precise control processing
- Interval operation left/right

Improved Cooler with 1,500 cm^2 cooling surface with excellent cooling effect

Motorized Lift with Safety Function in case of power failure

Huge Display showing all parameters

Huge 5 L Water/Oil-Bath up to 180 °C

Vacuum Pumps

RE-P 100   Vacuum membran pump, ultimate vacuum 8 mbar
RE-P 110   Vacuum-dosing block with manometer
RE-P 200   Pressure controlled vacuum-system, ultimate vacuum 2 mbar

RE-P 100

RE-P 110

RE-P 200

Accessories

RE-S 100   Vapor tube
RE-S 110   Seal

RE-S 200   Vertical glass set
RE-S 250   Vertical glass set, coated

RE-S 300   Evaporation flask 500 ml, NS29/32
RE-S 310   Evaporation flask 1,000 ml, NS29/32
RE-S 320   Evaporation flask 2,000 ml, NS29/32
RE-S 350   Evaporation flask 500 ml, NS29/32, coated
RE-S 360   Evaporation flask 1,000 ml, NS29/32, coated
RE-S 370   Evaporation flask 2,000 ml, NS29/32, coated

RE-S 400   Receiving flask 500 ml, KS35/20
RE-S 410   Receiving flask 1,000 ml, KS35/20
RE-S 420   Receiving flask 2,000 ml, KS35/20
RE-S 450   Receiving flask 500 ml, KS35/20, coated
RE-S 460   Receiving flask 1,000 ml, KS35/20, coated
RE-S 470   Receiving flask 2,000 ml, KS35/20, coated

RE-S 600   Foam brake

RE-S 650   Distilling spider with 5 flasks (100 ml)

More flasks, distilling spiders and further glass parts are available on request

Technical Data	RE-100D
Voltage • Frequency	100-240 V • 50/60 Hz
Power	1,400 W
Motor	brushless DC
Speed	20 - 280 rpm
Speed display	LCD
Temperature	RT to 180 °C
Accuracy Heating	± 1 °C
Heating power	1,300 W
Temperature display	LCD
Lift	Motor
Stroke	150 mm
Timer control	Yes
Time display	LCD
Operation time	1-999 min
Dimension	600 x 450 x 820 mm
Weight	19 kg
Ambient temperature	5 - 40 °C
Relative humidiy	80 %
Protection class	IP20

Rotatory Evaporator

Balances

Analytical and toploading Balances

Brilliant stability, and fast weighing results are guaranteed by the innovative construction of weighing cells in relation with the latest digital process technology.

AP - Series

The AP-series is the first line of semi-micro balances, equipped with the revolutionary UNIBLOC-weighing system. It guarantees brilliant stability, response and reliability characteristics.
The innovative and compact construction of the weighing cell in relation with the digital process technology enables fastest weighing results and highest stability.

AP-Series

- automatic adjustment to environmental conditions
- huge, user-friendly weighing chamber
- RS-232 interface
- easy handling of all procedures
- direct data transfer into Windows application by Windows direct function
- various application programs (e. g. formulation, counting, %, density determination)
- weighing in different units
- weighing below the balance
- GLP/GMP-conform protocol
- user-defined printing intervals
- protection cover as standard
- backlit display (only at 0.1 mg)
- aluminum die-cast housing
- EU verified on demand

5 Years Warranty

AP-224

Three calibration procedures

- fully automatic calibration after temperature deviation
- fully automatic calibration at user-defined time intervals
- calibration per push CAL-button with built-in calibration weight

Model	Accuracy	Capacity	Pan Size	Meas. Time	EU Verification
AP-225	0.01 mg / 0.1 mg	82 g / 220 g	80 mm	3/15 sec	no
AP-225V	0.01 mg / 0.1 mg	82 g / 220 g	80 mm	3/15 sec	yes
AP-125	0.01 mg / 0.1 mg	42 g / 220 g	80 mm	3/12 sec	no
AP-125V	0.01 mg / 0.1 mg	42 g / 220 g	80 mm	3/12 sec	yes
AP-324	0.1 mg	320 g	80 mm	3 sec	no
AP-324V	0.1 mg	320 g	80 mm	3 sec	yes
AP-224	0.1 mg	220 g	80 mm	3 sec	no
AP-224V	0.1 mg	220 g	80 mm	3 sec	yes
AP-124	0.1 mg	120 g	80 mm	3 sec	no
AP-124V	0.1 mg	120 g	80 mm	3 sec	yes

Balances

PHOENIX instrument
Lab Solutions

ASN / ABN - Series

The ASN / ABN-Series is the all-round analytical balance for the laboratory. It guarantees brilliant stability, response and reliability characteristics. The innovative and compact construction of the weighing cell in relation with the digital process technology enables fastest weighing results and highest stability.

ASN / ABN-Series

- huge, user-friendly weighing chamber
- easy handling of all procedures
- RS-232 interface
- direct data transfer into Windows application by Windows direct function
- various application programs (e. g. formulation, counting, %)
- GLP/GMP-conform protocol
- user-defined printing intervals
- aluminum die-cast housing
- protection cover as standard
- EU verified on demand

3 Years Warranty

ASN-224

Model	Accuracy	Capacity	Pan Size	Calibration	Meas. Time	EU Verification
ASN-324	0.1 mg	320 g	90 mm	internal	2 - 3 sec	no
ASN-224	0.1 mg	220 g	90 mm	internal	3 sec	no
ASN-224V	0.1 mg	220 g	90 mm	internal	3 sec	yes
ASN-124	0.1 mg	120 g	90 mm	internal	3 sec	no
ASN-124V	0.1 mg	120 g	90 mm	internal	3 sec	yes
ABN-224	0.1 mg	220 g	90 mm	extern	3 sec	no
ABN-124	0.1 mg	120 g	90 mm	extern	3 sec	no

BTG-224

The new neue analytical balance BTG-224 is ideal for all lab purpose. It combines easy handling, modern design and precise results.

BTG-224

- internal calibration
- reliable weighing system
- GLP-conform protocol
  (when connected to PC or printer)
- different user programs
- RS-232 Interface
- protection cover

3 Years Warranty

BTG-224

Technical Data	BTG-224
Capacity	220 g
Accuracy	0.1 mg
Reproducibility	0.1 mg
Linearity	0.2 mg
Meas. time	3 sec
Rechargeable Batteries	yes
Pan size	90 mm
Dimension	yes

Balances

BTA-Series

The BTA-Series is equipped with the revolutionary UNIBLOC-weighing system. It guarantees brilliant stability, response and reliability characteristics. The innovative and compact construction of the weighing cell in relation with the digital process technology enables fastest weighing results and highest stability.

BTA-Series

5 Years Warranty

- automatic adjustment to environmental conditions
- easy handling of all procedures
- RS-232 interface
- weighing in different units
- weighing below the balance
- direct data transfer into Windows application by Windows direct function
- various application programs (e. g. formulation, counting, animal weighing...)
- GLP/GMP-conform protocol
- user-defined printing intervals
- aluminum die-cast housing
- protection cover as standard
- backlit display
- EU verified on demand

Three calibration procedures

- fully automatic calibration after temperature deviation
- fully automatic calibration at user-defined time intervals
- calibration per push CAL-button with built-in calibration weight

BTA-6202

Model	Accuracy	Capacity	Pan Size	Meas. Time	EU Verification
BTA-1023	0.001 g	1,020 g	108 x 105 mm	3 sec	no
BTA-623	0.001 g	620 g	108 x 105 mm	3 sec	no
BTA-623V	0.001 g	620 g	108 x 105 mm	3 sec	yes
BTA-423	0.001 g	420 g	108 x 105 mm	3 sec	no
BTA-423V	0.001 g	420 g	108 x 105 mm	3 sec	yes
BTA-6202	0.01 g	6,200 g	170 x 180 mm	3 sec	no
BTA-6202V	0.01 g	6,200 g	170 x 180 mm	3 sec	yes
BTA-4202	0.01 g	4,200 g	170 x 180 mm	3 sec	no
BTA-4202V	0.01 g	4,200 g	170 x 180 mm	3 sec	yes
BTA-2202	0.01 g	2,200 g	170 x 180 mm	3 sec	no
BTA-2202V	0.01 g	2,200 g	170 x 180 mm	3 sec	yes
BTA-822	0.01 g	820 g	170 x 180 mm	3 sec	no
BTA-822V	0.01 g	820 g	170 x 180 mm	3 sec	yes
BTA-8201	0.1 g	8,200 g	170 x 180 mm	3 sec	no
BTA-4201	0.1 g	4,200 g	170 x 180 mm	3 sec	yes

PHOENIX instrument
Lab Solutions

BTB-Series

The BTB-Series is equipped with the revolutionary UNIBLOC-weighing system which guarantees brilliant stability, response and reliability characteristics. The innovative and compact construction of the weighing cell in relation with the digital process technology enables fastest weighing results and highest stability. Calibration per push on the CAL-button with an external calibration weight.

BTB-Series

- automatic adjustment to environmental conditions
- easy handling of all procedures
- RS-232 interface
- weighing in different units
- weighing below the balance
- direct data transfer into Windows application by Windows direct function

- various application programs
  (e. g. formulation, counting, %, animal weighing ...)
- user-defined printing intervals
- aluminum die-cast housing
- backlit display
- protection cover as standard

5 Years
Warranty

BTB-6202

External Calibration
3 seconds measuring time

Balances

Model	Accuracy	Capacity	Pan Size
BTB-623	0.001 g	620 g	108 x 105 mm
BTB-423	0.001 g	420 g	108 x 105 mm
BTB-6202	0.01 g	6,200 g	170 x 180 mm
BTB-4202	0.01 g	4,200 g	170 x 180 mm
BTB-2202	0.01 g	2,200 g	170 x 180 mm

BTC-Series

The brandnew BTC-Series sets new standards with the revolutionary weighing system UNIBLOC and the state-of-the-art design.

5 Years
Warranty

BTC-Series

- built-in calibration weight
- separate stability indication
- RS-232 interface
- huge weighing chamber with glass wind protection as standard
- fast and convenient handling with the new menu operating key
- direct data transfer into Windows application by Windows direct function
- various application programs (e. g. formulation, counting, %)
- new backlit display for more comfortable readings
- EU verified on demand

BTC-423V

Internal Calibration
2 seconds measuring time

Model	Accuracy	Capacity	Pan Size
BTC-423	0.001 g	420 g	110 mm
BTC-323	0.001 g	320 g	110 mm
BTC-223	0.001 g	220 g	110 mm

BTD-Series

The BTD-Series combines state-of the art design, easy handling, extensive equipment and brilliant weighing results delivered by using the revolutionary UNIBLOC-weighing system, to a unique standard balance.

BTD - Series

- calibration per push on the CAL-button with an external calibration weight
- separate stability indication
- RS 232 interface
- huge weighing chamber with glass wind protection as standard (mg-balances)
- fast and convenient handling with the new menu operating key
- direct data transfer into Windows application by Windows direct function
- various application programs (e. g. formulation, counting, %)
- new backlit display for more comfortable readings
- many models EU verified on demand

5 Years
Warranty

BTD-3202

External Calibration
2 seconds measuring time

Model	Accuracy	Capacity	Pan Size
BTD-423	0.001 g	420 g	110 mm
BTD-323	0.001 g	320 g	110 mm
BTD-223	0.001 g	220 g	110 mm
BTD-4202	0.01 g	4,200 g	167 x 181 mm
BTD-3202	0.01 g	3,200 g	167 x 181 mm
BTD-2202	0.01 g	2,200 g	167 x 181 mm

Balances

BTE-Series

State-of-art-design, smart handling, extensive equipment, top prices.

BTE-Series

• calibration per push on the CAL-button with an external calibration weight
• separate stability indication
• fast and convenient handling with the new menu operating key
• direct data transfer into Windows application by Windows direct function
• RS 232 interface
• various application programs (e. g. formulation, counting, %)
• new backlit display for more comfortable readings

BTE-622

External Calibration
2 seconds measuring time

Model	Accuracy	Capacity	Pan Size
BTE-622	0.01 g	620 g	110 mm
BTE-6201	0.1 g	6,200 g	160 mm
BTE-4201	0.1 g	4,200 g	160 mm

BTF-Series

The brandnew BTF-series offers an excellent economical alternative in the range of toploading balances with an accuracy of 0.001 g to 0.01 g.

BTF-Series

- internal calibration weight (BTF-1003i, BTF6202i, BTF-4202i)
- huge, backlit display
- glass ring protection as standard at mg-balances
- convenient and easy operation
- various application programs
- RS-232-interface

3 Years
Warranty

BTF-1003

3 seconds measuring time

Model	Accuracy	Capacity	Pan Size	Calibration
BTF-1003	0.001 g	1,000 g	110 mm	extern
BTF-1003i	0.001 g	1,000 g	110 mm	inten
BTF-6202	0.01 g	6,200 g	160 mm	extern
BTF-6202i	0.01 g	6,200 g	160 mm	inten
BTF-4202	0.01 g	4,200 g	160 mm	extern
BTF-4202i	0.01 g	4,200 g	160 mm	inten

Balances

PHOENIX instrument
Lab Solutions

BTG-Series

The brandnew BTG-series consists of multi-functional balances with a number of application programs. They are easy to handle and well-equipped. The internal rechargeable battery ensures a maximum of portability.

BTG-Series

- large, bright display
- intuitive and easy operation, large weighing pan
- Model BTG-303 with protection housing
- Calibration weight included
- various application programs
- RS-232 interface

3 Years Warranty

BTG-2002

BTG-303

External Calibration

Model	Accuracy	Capacity	Pan Size	Meas. Time
BTG-303	0.001 g	300 g	118 mm	2-3 sec
BTG-2002	0.01 g	2,000 g	188 x 148 mm	2 sec
BTG-6001	0.1 g	6,000 g	188 x 148 mm	2 sec

Entry-Level Model CB-2002 N and CB-6001 N

New entry-level balance for fast and reliable results at an affordable price.

CB-Serie

●
- backlit LCD - display
- rechargeable battery included
- various programs
- external calibration
- stainless steel pan

2 Years
Warranty

CB-2002 N

Technical Data	CB-2002 N	CB-6001 N
Capacity	2,000 g	6,000 g
Accuracy	0.01 g	0.1 g
Reproductibility	0.02 g	0.2 g
Linearity	+/- 0.03 g	+/- 0.2 g
Meas. time	3 sec	1.5 sec
Rechargeable batteries	yes	yes
Pan size	160 x 120 mm	192 x 143 mm

Balances

Moisture Analyzer BM-60

BM-60

- the large, backlit graphic display for easily read out even under poor lighting conditions
- the huge sample pan allows placing even larger samples on the instrument
- infrared quartz heater provides effective and homogen drying without interference
- auto-zero function ensures high accuracy measurements
- graphic display of the drying curves
- 5 different drying modes can be combined with 2 stop-functions

BM-60

Technical Data	BM-60
Capacity	60 g
Accuracy	0.001 g / 0.01 %
Reproducibility	0.002 g / 0.05 %
Pan size	95 mm
Meas. units	Gram, % Moisture, % Solids
Stabilisation time	2-3 sec
Internal memory	10 Programs, 100 Test results
Calibration	automatic external
Heating source	400 W-Halogen heater, 50 - 160 °C
Drying programs	Standard, Drying in steps, gentle and fast huge
Display	large backlit LCD display

Moisture Analyzer BM-65

The newly developed moisture analyzer BM-65 is characterized by numerous features, helping the user to make working and testing with the instrument easy and convenient.

BM-65

- large, backlit display for easy readouts
- various parameters can be displayed simultaneously
- automatic test function
- powerful 400 W halogen heater
- internal memory
- automatic test run after the lid is closed
- pan lifter makes placing and changing of probes easier
- bi-lingual menue
- RS232 interface

BM-65

3 Years Warranty

Technical Data	BM-65
Capacity	65 g
Accuracy	0.001 g / 0.01 %
Reproducibility	0.002 g / 0.05 %
Pan size	90 mm
Meas. units	Gram, % moisture, % solids, % moisture on dry bases (ATO %S)
Stabilisation time	4 sec
Internal memory	Up to 99 test results or 49 programable user setting
Calibration	external
Heating source	400 W-Halogen heater, 50 - 160 °C
Drying programs	standard one step up to 3 temp. stepping ramps
Display	large backlit LCD display

Balances

Accessories Weighing Technology

AAC01	Printer for all balances of the AP, ASN, ABN and BTA-BTE series
AAC02	Same as AAC01, plus alphanumeric keypad
AAC03	5 print ribbons, for both printer
AAC05	10 paper rolls for both printer

AAC10	Anti-static tool for all balances of the series AP, ASN, ABN and BTA-BTE
AAC11	Rechargeable accu for all balances of the series AP, ASN, ABN and BTA-BTEE
AAC15	Density determination kit for the AP, ASN and ABN series
AAC16	Glass float for AAC15
AAC18	5 protection cover for the keypad of AP series

AAC30	Density determination kit for models with large pan of the BTA and BTB series
AAC31	Density determination kit for models with small pan of the BTA and BTB series
AAC32	Glass float for AAC30 and AAC31

AAC36	5 protection cover for models with large pan for BTA and BTB series
AAC37	5 protection cover for models with small pan for BTA and BTB series
AAC38	Set for animal weighing for BTA and BTB series

AAC40	5 protection cover for balances with large pan for BTD series
AAC41	5 protection cover for the keypad of BTC- and BTD series
AAC45	5 protection cover for balances with large pan for BTE series
AAC46	5 protection cover for the keypad of the BTE series

Calibration Weights are available on request

Accessories Weighing Technology

AAC50   Carrying case for CA-Series
AAC51   Rechargeable accu for CA-series
AAC60   Sample pans aluminium (500 pieces) for BM-120
AAC63   Paper rolls (10 rolls) for AAC62

AAC70   Sample pans aluminium (250 per box) for BM-65
AAC71   Temperature calibration kit for BM-65
AAC73   Anti-theft lock for BM-65

AAC80   Weighing table made of granite, size: 900 x 600 x 750 mm

Table AAC80

Balances

Lab Jacks LJ-Series

Brand new line of Lab Jacks. Designed with a height-adjustable platform, for supporting and adjusting the height of general lab devices such as hot plates, water baths, etc.; as well as glassware; mainly made of aluminum alloy materials.
The lab jacks are provided with good corrosion resistance and resistance to many chemicals.

Features at a glance

• Easy adjustment with an adjusting wheel
• High stability and torsional rigidity
• stable stand
• High load carrying capacity and resilience
• Fully autoclavable at 121°C for sterile application
• 2 years warranty

LJ-01   LJ-02   LJ-03

Aluminum alloy

Technical Data	LJ-01	LJ-02	LJ-03
Base Size	80 x 76 mm	140 x 120 mm	150 x 121 mm
Vertical Lift	48 x 148 mm	58 x 242 mm	78 x 278 mm
Static Load	3.6 kg	10 kg	20 kg
Dynamic Load	2 kg	5,2 kg	8 kg

Adjusting wheel

Ozone - Generator OZ-10 · OZ- 30

Ozone (O_3) i is a very strongly oxidizing molecule made up of 3 oxygen atoms. It is present as a gas and decomposes very quickly to normal oxygen (O2) under normal conditions in the air.

OZ-10

Due to its high oxidizing effect, Ozone is one of the strongest disinfectants.

If it is artificially generated in an ozone generator, it can be used very effectively in the fight against bacteria, viruses, fungi, and spores.

In this way, entire rooms can be disinfected quickly and efficiently without the use of expensive chemicals and without a considerable amount of work.

Ozonation is carried out during non-working hours, e.g. at night.

A built-in timer automatically switches the ozone generator on and off at the desired time.

The next morning, the excess ozone has already dissipated, and the room can be reentered.

Now the room is ventilated and can be used normally.

OZ-10 · OZ-30

- Effective against bacteria, viruses, and germs
- Effective even in hard-to-reach places
- Fast, also unscheduled implementation
- No staff and chemical costs
- Flexible to use
- Low investment needs

Technical Data	OZ-10	OZ-30
Ozone emission	10 g/h	30 g/h
Ambient condition	0 - 40 °C	
Working humidity	70 %	
Airflow	150 m³/h	230 m³/h
Operation volume	100 m³	320 m³
Working surface at 2.8 m room height	36 m²	82 m²
Power	130 W	250 W
Voltage • Frequency	220 - 240 V • 50 Hz	
Weight	4 kg	6 kg
Dimension	120 x 380 x 260 cm	220 x 440 x 305 cm