

LABORATORY EQUIPMENT



BALANCES



BBC 22

The BBI/BBC balances are equipped with fully automatic, internal calibration, which provides an optimal weighing reliability at any place of installation because of the built-in highly accurate motorized calibration weight. Self-calibration at the touch of a key!

BOECO BBC MODEL

Semi-Micro Analytical balance with motorized internal calibration weight

Model	Readability	Capacity	Pan size
BBC 22	0,00001 g	60 g	80 mm Ø
	0,0001 g	210 g	(dual range)



**BBI 31
BBI 32**

BOECO BBI MODELS

with motorized internal calibration weight

Model	Readability	Capacity	Pan size
BBI 31	0,0001 g	230 g	90 mm Ø
BBI 32	0,0001 g	110 g	90 mm Ø
BBI 41	0,001 g	600 g	115 mm Ø
BBI 51	0,01 g	6000 g	180 x 180 mm

The BBI models feature a large backlit display and a user-guidance which is carried out by short-text-terms. This allows the user to configure and operate the balance easily, almost without the instruction manual.

The BBI balances have a extremely short response time (2,5 sec. for models BBI 31+32 and 1 sec. for model BBI 41 and BBI 51)

The standard RS 232 interface allows to prepare an ISO/GLP conforming protocol.



BBI 41



BBI 51

The BBC/BBI analytical balances feature the latest edition of monolithic weighing technology, The BBC/BBI balances offer various application programs:

- ▶ counting
- ▶ weighing in percent
- ▶ net total (formulation)
- ▶ calculating
- ▶ mass unit conversion by toggling
- ▶ animal weighing / averaging
- ▶ different weight units (Grains, Pounds, Carats etc...)
- ▶ 3 years warranty for BBC 22, 5 years warranty for BBI models

The BBI/BBC balances are equipped with a RS-232 C interface port; overload protection; hanger for below-balance weighing; jack for connecting a rechargeable battery pack, AC adapter.



SDK 01

ACCESSORIES FOR BBC/BBI BALANCES

Code	Description
SDK 01	Kit for determination of density and the specific weight of solids and liquids. For models BBC 22, BBI 31, BBI 32
SPR 02	Printer (see also page 17)

The BBL balances series give you reliable weighing technology, speed, stability and high-quality craftsmanship with excellent price / performance in a really compact package.

The analytical balances feature a Monolithic Double Lever System, the precision balances a strain gauge weighing system. All Models provide automatic calibration by an external calibration weight.

The display is easy to read and the keys for control are logically arranged.

The BBL balances offer various application programs:

- ▶ counting
- ▶ weighing in percent
- ▶ net total formulation
- ▶ mass unit conversion by toggling
- ▶ animal weighing
- ▶ different weight units (Grains, Pounds, Carats etc...)
- ▶ 3 years warranty

BBL 54, 61, 62, 63, 64 and 71 can be used as „portable balances“, because they can weigh using a standard 9-V block battery installed inside the balance instead of using an AC outlet. The balance shuts off automatically after 2 minutes of non-use to extend the battery life.

The BBL balances can be equipped optionally with a RS-232 interface for a connection with a printer or PC.

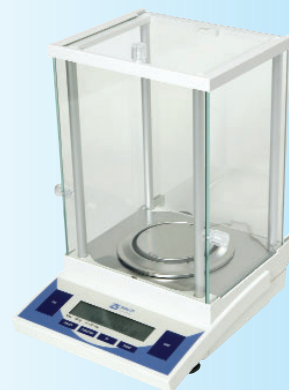
BOECO BBL MODELS

Model	Readability	Capacity	Pan size
BBL 31	0,0001 g	210 g	80 mm Ø
BBL 32	0,0001 g	120 g	80 mm Ø
BBL 41	0,001 g	300 g	100 mm Ø
BBL 42	0,001 g	150 g	100 mm Ø
BBL 51	0,01 g	3000 g	174 x 143 mm
BBL 52	0,01 g	1500 g	174 x 143 mm
BBL 53	0,01 g	610 g	116 mm Ø
BBL 54	0,01 g	310 g	116 mm Ø
BBL 61	0,1 g	6100 g	174 x 143 mm
BBL 62	0,1 g	3100 g	174 x 143 mm
BBL 63	0,1 g	1500 g	174 x 143 mm
BBL 64	0,1 g	600 g	174 x 143 mm
BBL 71	1,0 g	6000 g	174 x 143 mm

All BBL models are supplied with jack for connecting a rechargeable battery pack and an AC adapter.

BBL 31

BBL 32



BBL 41

BBL 42



BBL 53

BBL 54



BBL 51

BBL 52

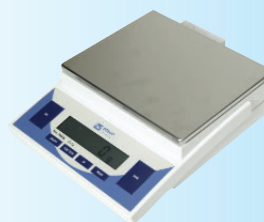
BBL 61

BBL 62

BBL 63

BBL 64

BBL 71

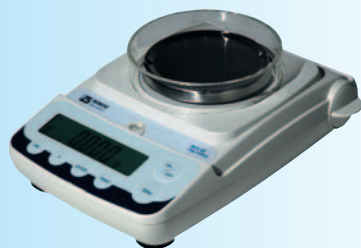


ACCESSORIES FOR BBL BALANCES

Code	Description
SDA 02	RS-232 interface, for precision balances
SDA 03	RS-232 interface, for analytical balances (BBL 31+32)
SWE 21	Calibration weight, 200 g; E2 for BBL 31, BBL 41
SWE 22	Calibration weight, 100 g; E2 for BBL 32
SWE 63	Calibration weight, 100 g; F2 for BBL 54, BBL 41
SWE 62	Calibration weight, 500 g; F2 for BBL 53, BBL 64
SWE 61	Calibration weight, 1000 g; F2 for BBL 63, BBL 62
SWE 45	Calibration weight, 100 g; F1 for BBL 42
SWE 44	Calibration weight, 1000 g; F1 for BBL 52
SWE 42	Calibration weight, 2000 g; F1 for BBL 51
SWE 41	Calibration weight, 5000 g; F1 for BBL 71, BBL 61

CALIBRATION WEIGHTS

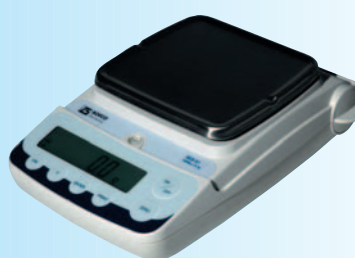




BEB 43



BEB 55

BEB 53
BEB 61

Our range of economical portable balances designed to lead the way in providing precision weighing at a great price. Extensive application programs for use in the lab, field, industrial or educational environments. Quick accurate weighing powered by state-of-the art microprocessor technology ensures balance stability and reproducible results.

- ▶ Large easy to read high contrast LCD
- ▶ Sealed easy to clean keypad
- ▶ Stainless steel weighing pan
- ▶ Compact design
- ▶ Level indicator and adjustable feet
- ▶ Automatic calibration with external weight
- ▶ Applications include unit conversion, parts counting % weighing, display hold, totalising and specific gravity function
- ▶ Capable of displaying multiple modes:
grams, carat, pound, ounces, troy ounces, Tael - Hong Kong, Tael - Singapore, Tael - Taiwan, grain, pennyweight, Tael - China and newton
- ▶ Supplied with power adaptor
- ▶ Security eyelet
- ▶ Battery saving sleep mode
- ▶ 2 years warranty

BOECO BEB MODELS

Model	Readability	Capacity	Pan size
BEB 43	0,001 g	120 g	97 mm Ø
BEB 55	0,01 g	210 g	97 mm Ø
BEB 53	0,01 g	610 g	142 x 130 mm
BEB 61	0,1 g	5000 g	142 x 130 mm

◀ The models BEB 43, BEB 55 and BEB 53 have a calibration weight included in the scope of delivery

BOECO BLC MODELS

Our range of low-cost balances, an alternative for most basic weighing applications.

- ▶ Simple three-key operation
- ▶ Large weighing pan
- ▶ Energy saving mode
- ▶ Usable with single 9V battery or power supply (both not supplied)
- ▶ Multiple weigh units
- ▶ Choose from: grams, ounces, pounds/ounces, pennyweight or troy ounces
- ▶ Parts counting application
- ▶ 2 years warranty



BLC

Model	Readability	Capacity	Pan size
BLC 500	0,1 g	500 g	138 x 138 mm
BLC 3000	1 g	3000 g	138 x 138 mm

BOECO MOISTURE ANALYZER BMO 35

The comfortable way to determine moisture content of water, alcohol, fat, oil, etc., in

- ▶ food
- ▶ construction materials
- ▶ wood or paper
- ▶ chemicals or pharmaceuticals
- ▶ environmental analysis
- ▶ 3 years warranty

The BMO 35 moisture analyzer is fast, reliable, fully automatic and easy to use. After lowering the hood, two powerful infrared dark radiators begin drying the sample.

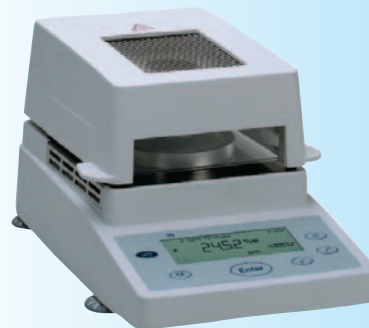
Featuring high milligram accuracy, it provides absolute reproducibility. The results can be printed in compliance with GLP protocols. The BMO 35 displays the results in % moisture, % dry weight, as a ratio - or as the weight itself.

New and easy symbols guides the user through the whole menu and applications.

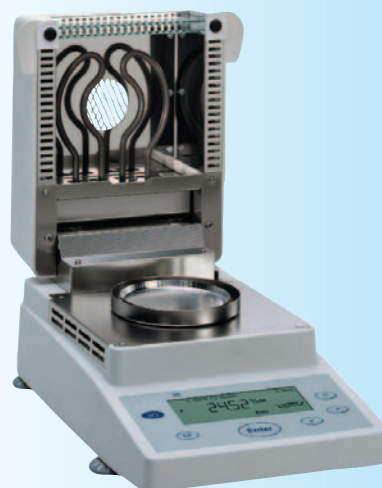
Endpoint determination will be done fully automatic. No need to program shut-off parameters. The drying process will be monitored constantly and the BMO 35 stops the drying process automatically when the weight of the sample is reached.

Specification

Max. weighing capacity	35 g
Accuracy	1 mg
Reproducibility, average:	
Initial sample wt. from 1g and up	± 0,2 %
Initial sample wt. from 5g and up	± 0,05 %
Readability	0,01 %
Analysis mode	Fully automatic
Timer setting	0,1-99 min.
Temperature setting in 1-degree increments	40-160 C°
Operate guidance	By Icons
Interface port for data transfer to a printer	RS-232C
Housing (W x D x H)	224x366x191 mm
Weight	5,8 kg



BMO 35



BMO 35

Model	Accuracy	Capacity
BMO 35	0,001 g	35 g

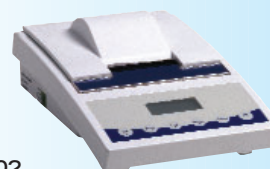
ACCESSORIES FOR BMO 35

Code	Description
SMO 01-1	Round, aluminium sample pans (box of 80)
SMO 01-2	Glass fiber filters (box of 80)
SMO 01-3	Calibration weight, 30 g

PRINTER SPR 02 FOR BOECO BALANCES

(for BBL models optional interface SDA 02 or SDA 03 required)

Code	Description
SPR 02	Printer with GLP/GMB function, date, time and statistical evaluation
SPR 01-1	Spare set of paper rolls (5 per box)
SPR 01-2	Spare ink ribbon cassette



SPR 02

SPECTROPHOTOMETERS



S-20
S-22



BOECO MODELS S-20 VIS & S-22 UV/VIS

The S-20 and S-22 are high quality, low cost measurement systems for routine analysis in QC applications, education and training.

- ▶ Wavelength ranges:
320 - 1000 nm (S-20)
198 - 1000 nm (S-22)
- ▶ Bandwidths:
8 nm (S-20)
6 nm (S-22) (over UV range)
- ▶ In-built wavelength calibration
- ▶ Automatic 0%T setting during all calibration routines
- ▶ Dual display - wavelength & photometric result
- ▶ Full interfacing capability (bi-directional RS 232 interface)
- ▶ Versatile sampling system
- ▶ Simple operation
- ▶ Ideal for Routine Analysis
- ▶ First quality at affordable prices
- ▶ Manufactured under ISO 9000 norms
- ▶ CE mark for electromagnetic compatibility

The BOECO Model S-22 has a unique xenon lamp which has the advantage of offering a broad spectral source with extended life. This enables the running costs for the S-22 to be minimised over the lifetime of the spectrophotometer, since there are no deuterium and tungsten lamps to replace.

- ▶ Single lamp with guaranteed 3 year life time
- ▶ Self calibrating lamp at 3 wavelengths
- ▶ 10 times more UV light energy
- ▶ Blazed holographic grating

Code	Description
BOE 8630501	Model S-20 Vis Spectrophotometer, 230V, with pack 100 10x10mm plastic cuvettes, mains lead, 10x10 cell holder & manual
BOE 8630531	Model S-20 Vis Spectrophotometer, 110V, with pack 100 10x10mm plastic cuvettes, mains lead, 10x10 cell holder & manual
BOE 8635001	Model S-22 UV/Vis Spectrophotometer, 230V, with pack 100 10x10mm plastic cuvettes, mains lead, 10x10 cell holder & manual
BOE 8635031	Model S-22 UV/Vis Spectrophotometer, 110V, with pack 100 10x10mm plastic cuvettes, mains lead, 10x10 cell holder & manual

Specifications

	S-20 Vis	S-22 UV/Vis
Wavelength:		
Range:	320 - 1000 nm	198 - 1000 nm
Resolution:	1nm	1nm
Accuracy	± 2 nm	± 2 nm
Bandwidth	8 nm	6 nm over UV range
Absorbance:		
Range:	-0.300 to 1.999 A	-0.300 to 1.999A
Resolution	0.1 %	0.1 %
Stray Light	<0,5% @ 340 nm	<0.5% @ 340 nm
Photometric Accuracy	± 1%	± 1%
Concentration:		
Range	-300 to 1999 Concentration	-300 to 1999 Concentration
Resolution	0.1 / 1	0.1 / 1
Units	ppm, mg/l, g/l, M, %, blank	ppm, mg/l, g/l, M, %, blank
Factor	0 to 999.9, 1000 to 9999	0 to 999.9, 1000 to 9999
Photometric Noise Levels	<1%	<1%
Photometric Stability	1%/Hour after warm-up	1%/Hour after warm-up
Readout	Custom Liquid Crystal Display	Custom Liquid Crystal Display
Outputs	Analog (0 to 1999mV) / RS232 serial port	Analog (0 to 1999mV) / RS232 serial port
Light Source	Tungsten Halogen 20W 12V	Xenon Lamp module
Input Voltage	115/230V AC -20% +10%	115/230V AC -20% +10%
Input Power	<50W	<50W
Size:	365(W)x272(D)x166(H) mm	365(W)x272(D)x166(H) mm
Weight:	6 kgs	6 kgs

BOECO S-24 VIS SPECTROPHOTOMETER

- Concentration and kinetic measurements
- Spectrum Scanning from 320 to 1000 nm
- Quantitation using up to 6 standards
- 200 method memory (50 per mode)

The BOECO S-24 is a advanced measuring system with modes for Photometrics, Concentration, Quantitation, Kintetics and Scanning. The S-24 will meet the demands of a wide range of applications especially those in the clinical, veterinary environmental, general QC and performance testing areas.

With a memory capacity of 50 methods for each mode, the fully open operating system ensures compatibility with reagent kits from most manufacturers, as well as enabling full customisation to the operators's choice of chemistries and operating procedures.

The simple to use but feature rich spectrophotometer can be adapted to meet your current and future requirements through it's novel customisable menus. Activating the Supervisors Security functions, that enable that all the Set-up options to be locked without the entry of a security code number, can further enhance the integrity of your work.

In the Photometrics mode, Absorbance, Transmission and Wavelength are displayed simultaneously on the readout so no changing is required. Simple concentration measurements using a single standard or factor can be made in the Concentration mode. A Quantitation mode allows more complex concentration methods to be programmed, using up to six standards to create a calibration curve. For each curve fit option a linearity correlation co-efficient is calculated.

A real-time graphical display of Kinetic measurements is shown along with the calculated concentration vale and other relevant data.

The Spectrum Scanning mode allows scans to be made across any selected portion of the 320 to 1000 nm range.

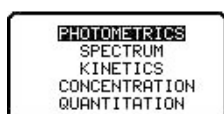
The auto-ranging Absorbance axis allows scans to be commenced with no prior knowledge of the peak Absorbance level expected.

The S-24 has a analogue output that can be used to drive chart recorders and other analogue recording or conversion devices, as well a bi-directional RS 232 serial port for connection to serial printers and computers.

The optional S-24 software allows full emulation of the instrument functions on a PC including the import of results and download of methods. An electrically heated cuvette holder and control unit is available, as well as a water heated cuvette holder and a thermostatically controlled water circulator. The external programmable sipper pump ensures faster and safer sample handling.

The large sample compartment enables a wide range of sampling devices to be fitted. Cuvette holders from 10 mm to 100 mm in path length, a four-position roraty cuvette holder, and test tubes from 12.5 to 25 mm diameter can all be accommodated.

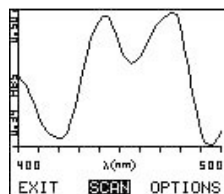
Code	Description
BOE 8636001	Model S-24 Spectrophotometer, supplied with a pack of 100 10 x 10 mm plastic cuvettes, mains lead, 10 x 10 mm cuvette holder and manual, for use on 230 V, 50/60 Hz
BOE 8636031	Model S-24 Spectrophotometer, supplied with a pack of 100 10 x 10 mm plastic cuvettes, mains lead, 10 x 10 mm cuvette holder and manual, for use on 110 V, /60 Hz



MAIN MENU



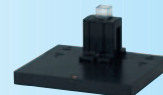
KINETIC RESULTS



WAVELENGTH SCAN



S-24 VIS



10MM CUVETTE HOLDER
(SUPPLIED AS STANDARD WITH PRODUCT)

Instrument Specifications:

Wavelength Range:	320 to 1000nm
Resolution:	1nm
Accuracy:	±2nm
Spectral Bandwidth:	8nm
Absorbance Range:	-0.300 to 1.999A
Transmittance Range:	0 to 199.9%
Concentration Range:	-300 to 1999Conc.
Selectable Resolution:	1, 0.1, 0.01 or 0.001
Calibration:	Blank with a single standard or factor
Memory:	50 methods
Quantitation Range:	-300 to 1999Conc.
Selectable Resolution:	1, 0.1, 0.01 or 0.001
Calibration:	Blank with up to 6 standards
Curve Correction:	Linear regression, interpolati on or linear regression through zero
Memory:	50 methods
Kinetics:	Graphical and calculated concentration value
Selectable Resolution:	1, 0.1, 0.01 or 0.001
Calibration:	Against standard and factor
Correlation Factor:	r squared value displayed with result
Memory:	50 methods and 5 graphed results
Spectrum:	any range between 320 and 1000 nm
Scan Data Internal:	1, 2 or 5 nm selectable
Analysis:	Absorbance and wavelength of peaks and valleys
Memory:	50 methods and 5 scans
GLP:	Real time clock and calender Operator ID Supervisor security (locks all set up parameters) Method display lock
Readout:Custom	LCD Graphics
Outputs:	Analogue (0 to 1.999V d.c.) RS232 serial port
Light source:	Tungesten Halogen lamp
Operating Temperature:	5°C to 40°C
Maximum	RH:80%
Input voltage:	115/230V a.c. -20% +10% 50/60Hz
Input power:	<50W
Size:	365(w)x272(d)x160(h) mm
Weight:	6kg



S-30

Instrument Specifications:

Transmittance	
Range:	0 to 199.9%
Resolution:	0.1%
Stray light	<0.5% @ 340nm and 220nm
Photometric accuracy:	±1%
Absorbance	
Range:	-0.300 to 1.999A
Resolution:	0.001A
Photometric stability:	<0.002A Hr after 30 minute warm up
Photometric noise:	<0.001A @ 0A @ 400nm
Concentration	
Range:	-300 to 9999
Resolution:	1, 0.1, 0.01 or 0.001
Units:	ppm, mg/l, g/l, M, %, µg/l, µg/ml, mg/ml, ng/ml or blank(mode specific)
Wavelength	
Range:	198 to 1000nm
Resolution:	1nm
Accuracy:	±2nm
Repeatability:	±0.5nm
Bandwidth:	5nm typical @ 270nm (8nm over full wavelength range)
Factor:	0 to 199.9, 1000 to 9999
Readout:Custom	LCD Graphics
Outputs:	Analogue (0 to 1.999V d.c.) / RS232 serial port
Light source:	Xenon flash lamp module
Operating Temperature:	5°C to 40°C
Maximum	RH:80%
Input voltage:	115/230V a.c. -20% +10% 50/60Hz
Input power:	<50W
Size:	365(w)x272(d)x160(h) mm
Weight:	6kg

BOECO S-30 LIFE SCIENCE ANALYSER

- ▶ Pre-programmed for DNA Analysis
- ▶ DNA Purity Scan
- ▶ Established Protein Methods Pre-Loaded
- ▶ Standard UV/vis Spectrophotometer Functions

The BOECO S-30 has been designed specifically for the scientist whose primary interest is the study of DNA and Proteins. Optimised for low volume analysis, the BOECO S-30 is capable of determining DNA levels as low as 70ng with samples as low as 50ul using special cuvettes and the micro-cuvette holder.

All routinely used DNA calculations are pre-programmed into BOECO S-30. It will automatically calculate purity ratios at 260/280nm or 260/230nm both with an optional background correction wavelength (default at 320nm).

Concentrations of ssDNA, dsDNA, RNA and Oligonucleotides are clearly displayed on the large multi-function LCD display. In addition a 100nm purity scan may be run to clearly show the status of any samples.

The on-board software enables all the common protein measurement methodologies to be run directly with the minimum set-up time. Included are the Bradford, Biuret, BCA, Lowry, Bicinchoninic and direct UV methods, standard settings can be used immediately or modified and stored for future use.

Where BOECO S-30 is used in a multi-user or unskilled user environment a Supervisor Security mode can be activated which looks all the set-up options without the entry of a pin code.

As well as these general life science applications BOECO S-30 can also be used as a standard UV/Vis spectrophotometer with Absorbance and Transmission readings being given across the wavelength range from 198 to 1000nm.

Code	Description
BOE 8636001	Model S-30 dedicated Spectrophotometer, for DNA/RNA oligonucleotide and protein analysis, supplied with mains lead, 8 x UV plastic cuvettes, cell holder and instruction manual, for use on 230 V, 50/60 Hz
BOE 8636031	Model S-30 dedicated Spectrophotometer, for DNA/RNA oligonucleotide and protein analysis, supplied with mains lead, 8 x UV plastic cuvettes, cell holder and instruction manual, for use on 110 V / 60 Hz

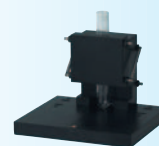
ACCESSORIES SPECTROPHOTOMETER

Code	Description
BOE 63510	S-22 / S-24 PC software on CD ROM (compatible with Windows 98™ and above)
BOE 631001	S-24 PC software on CD ROM (compatible with Windows 98™ and above)
BOE 542009	Interface cable
BOE 633001	Heated cuvette system (cuvette holder and external control unit), supplied with interconnection cables, instruction manual, mains cables for EU, UK and USA. Universal voltage and frequency.
BOE 632001	External sipper pump supplied with inlet and outlet tubing, mains cable and instruction manual 230V/50Hz
BOE 632031	External sipper pump supplied with inlet and outlet tubing, mains cable and instruction manual 110V/60Hz
BOE 630005	Adjustable path length cuvette holder (10 – 100mm)
BOE 630204	10mm cuvette holder (supplied as standard with product)
BOE 630304	Micro-cuvette holder with reduced aperture
BOE 636024	S-30 cuvette holder adapter
BOE 630020	Test tube holder (12.5 – 13.5mm diameter)
BOE 630022	Test tube holder (15.5 – 16.5mm diameter)
BOE 630021	Test tube holder (24 – 25.5mm diameter)
BOE 634001	4 position rotary cuvette holder
BOE 648001	Water heated cuvette holder
BOE 033290	Storage Case
BOE 630028	Dust Cover
BOE 012075	Tungsten halogen lamp (S-20, S-24)
BOE 012094	Xenon Lamp module (S-22, S-30)
BOE 035088	Calibration Set Visible
BOE 035091	Calibration Set UV/Visible

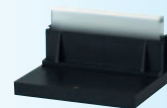
Cuvettes:

HEL 6030-OG/10	Macro Cuvette without lid, Optical glass, 10 mm light path
HEL 6030-UV/10	Macro Cuvette without lid, Quartz glass, 10 mm light path
HEL 100-OS/10	Macro Cuvette with PTFE lid, Optical glass, 10 mm light path
HEL 100-OS/20	idem with 20 mm light path
HEL 100-OS/40	idem with 40 mm light path
HEL 100-OS/50	idem with 50 mm light path
HEL 100-OS/100	idem with 100 mm light path
HEL 6040-OG/10	Semi-Micro Cuvette without lid, Optical glass, 10 mm light path
HEL 6040-UV/10	Semi-Micro Cuvette without lid, Quartz glass, 10 mm light path
HEL 105-202-QS/15	Ultra-Micro Cuvette with PE stopper, Quartz glass, 10 mm light path, Centre height 15 mm Chamber volume 50 µl, Filling volume 70 µl
HEL 174-OS/10	Semi-Micro Flow-Through cuvette, Optical glass with in/outlet tubes, Volume 1500 µl
HEL 178.010-OS/10	Micro Flow-Through cuvette, Optical glass with in/outlet tubes, Volume 80 µl
BOE 2711110	Disposable Macro Cuvettes, PS, 10 mm light path, pack of 100 pcs.
BOE 2712120	Disposable Semi-Micro Cuvettes, PS, 10 mm light path, pack of 100 pcs.
BRA 759150	Disposable UV Semi-Micro Cuvettes, PS, Wavelength as from 22 to 900 nm 10 mm light path, pack of 100 pcs.
BRA 759220	Disposable UV Micro Cuvettes, PS, Center height 15 mm, Vol. 70 µl up to 550 µl Wavelength as from 22 to 900 nm 10 mm light path, pack of 100 pcs.

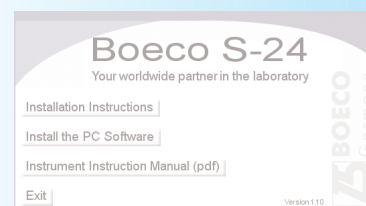
Water test kits for the S-24 are available on request.



TEST TUBE HOLDER



ADJUSTABLE PATH LENGTH
CUVETTE HOLDER (10 – 100MM)



HEATED CUVETTE SYSTEM
(CUVETTE HOLDER AND EXTERNAL CONTROL UNIT)



EXTERNAL SIPPER PUMP



HEL 100-OS/100



HEL 100-OS/10



HEL 174-OS/10

SHAKER AND STIRRER



V1 PLUS

BOECO BOECO VORTEX MIXER V 1 PLUS

Vortex mixer V1 plus with variable speed control. Continuous operation as well as with automatic starter, triggered by pressing the attachment. Incl. standard attachment for test tubes up to 20 mm Ø

Specification

Kind of motion:	orbital, 4 mm
Speed range (1/min):	300 - 3000 1/min
Time of acceleration:	3 s
Tube's capacity:	1,5-50ml
Speed display:	scale (min/max)
Switch:	touch / continuous mode
Overall size:	80 x 140 x 70 mm
Weight:	0,9 kg
Power:	12 V. 500 mA (External power adapter)

Code	Description
BOE 8055000	Vortex mixer V1 plus, AC Adapter 220V
BOE 8055100	Vortex mixer V1 plus, AC Adapter 110V



MMS 3000

BOECO MAGNETIC STIRRER MMS 3000

Motor drive magnetic stirrer MMS-3000, with stainless steel plate and speed regulation up to 3000 rpm. A optional to be ordered detachable support rod allows to fix different sensors (temperature, pH etc. inside the Liquid.

Specification

Speed range:	0 - 3000 1/min
Max. stirring volume:	up to 2,0 L
Platform size:	150 mm diam.
Platform material:	stainless steel
Support rod height:	320 mm
Overall size:	165 x 200 x 65 mm
Weight:	1,2 kg
Power:	12 V. 300 mA (External power adapter)

Code	Description
BOE 8056500	Magnetic stirrer MMS-3000, AC Adapter 220V
BOE 8056510	Magnetic stirrer MMS-3000, AC Adapter 110V
BOE 8056501	Detachable support rod



MSH 300

BOECO MAGNETIC STIRRER WITH HOTPLATE MSH 300

Motor drive Magnetic stirrer with aluminum hot plate for simultaneously stirring and heating of chemical reagents. Equipped with feed-back thermoregulation.

Specification

Speed range:	250 - 1250 1/min
Temperature regulation:	30 - 330 C°.
Max. stirring volume:	Up to 2,0 L
Hot Platform size:	150 x 150 mm
Hot Platform material:	aluminium
Overall size:	170 x 210 x 95 mm
Heating power:	600 Watts
Weight:	2,5 kg

Code	Description
BOE 8057000	Magnetic stirrer with hotplate MSH 300, 220V
BOE 8057100	Magnetic stirrer with hotplate MSH 300, 110V

BOECO MAGNETIC STIRRER WITH HOTPLATE MSH 420

Motor drive Magnetic stirrer with all in one glass-ceramic hot plate for simultaneously stirring and heating of chemical reagents.

The Glass-ceramic top plate is easy to clean, chemical-resistant, corrosion-resistant and scratch resistant.

The MSH 420 provides LED Indicators for Power, Heating and Stirring.

Specification

Speed range:	60 - 1110 1/min
Temperature regulation:	ambient temperature to 450 C°.
Max. stirring volume:	up to 15,0 L.
Hot Platform size:	200 x 200 mm
Hot Platform material:	glass-ceramic
"Hot Top" indicator:	a "Hot" light illuminates if the temperature on the hot plate exceeds 55°C
Over-Heat protection:	The heating power will cutoff in abnormal situations by limiting top plate temperature to 550 °C, and light flash
Overall size:	320 (W) x 210 (D) x 105 (H) mm
Heating power:	750 Watts
Weight:	3,6 kg

Code	Description
BOE 8054000	Magnetic stirrer with hotplate MSH 420, 220V
BOE 8054100	Magnetic stirrer with hotplate MSH 420, 110V



MSH 420

BOECO SUNFLOWER MINI-SHAKER 3D

Sunflower mini Shaker 3D with adjustable speed and constant angle of mixing. Very small and ideal for private diagnostics

Incl. black non-slip rubber mat

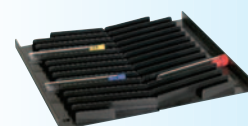
Specification

Kind of motion:	three-dimensional orbital movement
Angle:	7 °
Speed range:	10 - 30 rpm
Speed display:	scale (min/max)
Platform size:	200 x 200 mm
Overall size:	85 x 150 x 80 mm
Max Loading:	500 g
Weight:	1,0 kg
Power:	12 V. 300 mA (External power adapter)

Code	Description
BOE 8058000	Sunflower Mini Shaker 3D, AC Adapter 220V
BOE 8058100	Sunflower Mini Shaker 3D, AC Adapter 110V
BOE 8050100	TP-26 tube attachment, for tubes 13 x 75 mm



3D



TP-26

BOECO ROTATOR RS-24

Mini-rotator with vertical rotation of the platform for soft mixing of test tubes, microtubes and vacutainers.

Incl. Standard platform PRS-22 for 22 tubes up to 15 mm diam.

Specification

Speed range:	5 - 30 1/min.
Digital Timer:	from 1 min to 23 H 59 min
Overall size:	310 x 40 x 175 mm
Weight:	1,5 kg
Power:	12 V. 500 mA (External power adapter)

Code	Description
BOE 8024000	Rotator RS-24, with platform PRS-22
	AC adapter 220V 50/60 Hz
BOE 8024100	Rotator RS-24, with platform PRS-22
	AC adapter 110V 60 Hz
BOE 8073001	Platform PRS-4/12 (4x30 mm diam and 12x15 mm)



RS-24



MR-1

BOECO MINI-ROCKER SHAKER MR-1

provides gentle rocking motion. It is perfect for soft mixing of biological components. Incl. black non-slip rubber mat

Specification

Kind of motion: rocking with fixed 7° angle
Speed range: 7,5 - 30 rpm
Speed display: scale (min/max)
Timer: digital, 1 min - 23h. 59 min.
Platform size: 200 x 200 mm
Overall size: 220 x 205 x 120 mm
Max Loading: 500 g
Weight: 1,6 kg
Power: 12 V. 500 mA (External power adapter)

Code	Description
BOE 8058500	MR-1, Mini-rocker Shaker, AC Adapter 220V
BOE 8058510	MR-1, Mini-rocker Shaker, AC Adapter 110V



PSU-2T
PLUS



BOECO MICROTITER PLATE SHAKER PSU -2T PLUS

specially designed for medical diagnostic. Orbital shaking platform IPP-2 with a holding mechanism for 2 standard microtiter plates. The variable speed control provides a optimally adapted speed range from 150 to 1000 rpm with a orbit of 2 mm. .

Specification

Orbit size: 2 mm
Speed range: 150 - 1000 1/min
Speed display: scale (min/max)
Timer: digital, 1 min - 23h. 59 min.
Overall size: 220 x 205 x 90 mm
Weight: 2,5 kg
Power: 12 V. 500 mA (External power adapter)

Code	Description
BOE 8052000	Microtiter Plate Shaker PSU 2T plus, AC adapter 220V
BOE 8052100	Microtiter Plate Shaker PSU 2T plus, AC adapter 110V
BOE 8052002	Platform IPP-4 for 4 Microtiter Plates

BOECO MICROPLATE INCUBATOR SHAKER PST-60 HL PLUS

The PST-60 HL plus provides orbital shaking of the samples and has a heating platform for 2 x 96 wells microplates and an upper heating lid. The display indicates simultaneous set and actual time, temperature and shaking speed. The PST-60 HL plus is ideal for a variety of cytochemistry, immunochemistry, biochemistry and research applications.

Specification

Temperature regulation range: 25°C 60 °C
Accuracy: ± 0,1 °C
Temp. Uniformity over the platform: ± 0,2 °C
Time of thermoblock heating from RT till 37°C: 15 - 20 min.
Orbit : 2 mm
Speed regulation: 250 -1200 rpm / increment 10 rpm
Timer with sound signal: 0 min - 96 hrs, increment 1 min
Platform dimensions: 250 x 150 mm
Platform capacity: 2 x 96 wells microplates
Power (external) : DC 12 V. 4,16 A
Size : 270 x 260 x 125 mm
Weight : 6,0 kg



PST-60 HL
PLUS

Code	Description
BOE 8072000	Microplate Incubator Shaker PST-60 HL plus, AC 100-240V 50/60 Hz

BOECO WATER THERMOSTAT-BATH WB-4MS

The WB-4MS provides a temperature stabilization up to 0,1 °C due to a built-in magnetic stirrer (regulated speed 300-1000 rpm)
The display indicates simultaneous set and actual temperature, time and RPM.

With its specification and easy operation it is designed for chemical, pharmaceutical, medical and biological research

Specification

Temperature range: + 25°C+ 100 °C
Temperature stability: ± 0,1 °C
Temperature setting: digital
Temperature display: LCD
Stainless steel bath: 4 L.
Lid: Stainless steel with plastic cover
Size : 340 x 170 x 200 mm
Weight : 3,6 kg

Code	Description
BOE 8035000	Water thermostat-bath WB-4MS, 220V, 50/60 Hz
BOE 8035100	Water thermostat-bath WB-4MS, 110V, 60 Hz



WB-4MS

BOECO BIOROTATOR RS-MULTI

is a intelligent rotator for soft mixing microtubes and vacutainers
The BioRotator RS-Multi provides 3 types of motion, which can be used separately (except for vortex mode, which works in conjunction with reciprocal motion mode) and consecutively in a cycle:

1. Orbital motion

simple even circular motion - common type of motion used in Rotators.
Adjustable speed from 5 to 30 rpm.

2. Reciprocal motion

vertical rotation with changing direction of rotation.
Adjustable turning angle (from 15° to 90°, increment 15°) sets the limits for this type of motion. The speed is the same as set for rotational motion (from 5 to 30 rpm). In this type of motion there is a pause function (from 0 to 5 sec., increment 1 sec.) settable in the Vortex/pause mode.

3. Vortex motion

intensive mixing of samples at high speed with small amplitude - Vortex motion. The vortex mode is necessary for intensive mixing in and it is provided to decrease adhesion of solutions with tube surface, which is especially important for conducting microquantity research when the sample weight may be equal to the adhesion force. The Vortex Mode has a adjustable turning angle of 0° to 5° (increment 1°) and the timer has a pause function from 0 to 5 sec., increment 1 sec.)

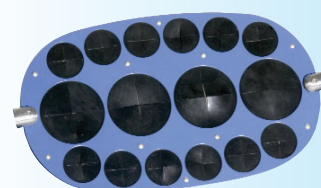
Specification

Standard platform Capacity: 22 (Microtubes and vacutainers)
Power (external): 12 V, 500 mA
Size: 310mm x 110mm x 175 mm
Weight: 1,6 kg

Code	Description
BOE 8073000	BioRotator Multi, with platform PRS-22 AC adapter 220V 50/60 Hz
BOE 8073100	BioRotator Multi, with platform PRS-22 AC adapter 110V 60 Hz
BOE 8073001	Platform PRS-4/12 (4x30 mm diam and 12x15 mm)



BIOROTATOR
RS-MULTI



PRS-4/12



OS-20 WITH PP-4 PLATFORM

BOECO UNIVERSAL ORBITAL SHAKER OS-20

Compact, low-profile, orbital laboratory shaker for versatile applications in the fields of biotechnology, microbiology and medical diagnostics. The OS-20 provides gentle rotational mixing and precise circulation at each point of the platform. Variable digital displayed speed control from 50-250 rpm. Digital timer for setting a time interval and continuous operation.

Specification

Kind of motion:	orbital
Orbit size:	20 mm
Speed regulation:	50 - 250 rpm
speed display:	digital (LED)
Timer:	from 1 min to 999 min / continuous
Time display:	digital (LED)
Max load:	2,5 kg excl. attachment
Power:	12V. 500 mA (External power adapter)
Overall size	
(w/o attachment):	265 x 270 x 70 mm
weight:	3,9 kg.

Code	Description
BOE 8059000	Universal Orbital Shaker OS-20, AC Adapter 220V
BOE 8059100	Universal Orbital Shaker OS-20, AC Adapter 110V



OS-10 WITH UP-12 PLATFORM

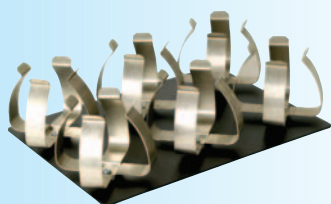
BOECO UNIVERSAL ORBITAL SHAKER OS-10

compact, powerful and quiet microprocessor controlled orbital laboratory shaker for many general purpose shaking application. Speed and time setting are easy and during operation the LCD status display clearly indicates both set and actual speed, plus set and elapsed time.

Specification

Kind of motion:	orbital
Orbit size:	10 mm
Speed regulation:	50 - 350 rpm
speed display:	digital (LCD)
Timer:	from 1 min to 96 hours / continuous
Time display:	digital (LCD)
Max load:	3 kg excl. attachment
Power:	12V. 500 mA (External power adapter)
Overall size	
(w/o attachment):	270 x 260 x 85 mm
weight:	3 kg

Code	Description
BOE 8069000	Universal Orbital Shaker OS-10, AC Adapter 220V
BOE 8069100	Universal Orbital Shaker OS-10, AC Adapter 110V



PLATFORM P-6/250

ACCESSORIES FOR OS-20 AND OS-10

Code	Description
BOE 8059001	Dish platform PP-4 with rubber mat for petri dishes, culture flasks etc.
BOE 8059002	Universal platform UP-12 for all kind of flasks 260 x 180 mm, stainless steel with variable clamping rolls and rubber mat. Numbers of flasks at the platform 100- 150 ml flasks max 12-9 pieces 200- 250 ml flasks max 6-4 pieces 500-1000 ml flasks max 4-2 pieces
BOE 8059003	Platform P-6/250 with fixed clamps for 6 flasks 250/300 ml.

BOECO PROGRAMMABLE ORBITAL SHAKER MULTI PSU-20

The Multi PSU 20 is a powerful and extremely quiet shaker with 3 types of motion, which can be used separately but also in a consecutive realisation of different motion types in a cyclical principle. The Multi PSU-20 has a microprocessor control which allows real-time program correction, indication of set and actual speed, angle and time, operation timer in the display.

1. Orbital motion



simple even circular motion - common type of motion used in shakers. Adjustable speed from 30 to 250 rpm.

2. Reciprocal motion



vertical rotation with changing direction of rotation. Adjustable turning angle (from 15° to 360°, increment 30°) sets the limits for this type of motion. The speed is the same as set for rotational motion (from 30 to 250 rpm).

3. Vortex motion of the platform (vibration)



intensive mixing of samples at high speed with small amplitude - Vortex motion.. Adjustable turning angle of 0° to 5° (increment 1°)

Specification

Kind of motion:	orbital
Orbit size:	20 mm
Speed regulation:	20 - 250 rpm
speed display:	digital (LCD)
Timer:	from 1 min to 96 hours / continuous
Time display:	digital (LCD)
Max load:	15 kg
Power:	12V. 800 mA (External power adapter)
Overall size (w/o attachment):	485 x 520 x 140 mm
weight:	13,5 kg

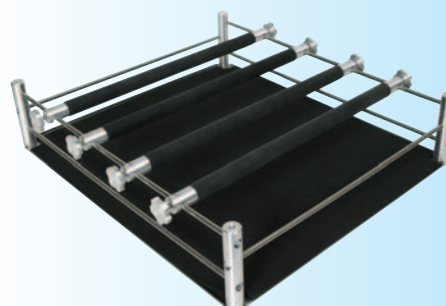
Code	Description
BOE 8080000	Programmable Orbital Shaker PSU-20, AC Adapter 220V
BOE 8080100	Programmable Orbital Shaker PSU-20, AC Adapter 110V

Accessories

BOE 8080010	Universal platform UP-400 for all kind of flasks 400 x 400 mm, stainless steel with 4 variable clamping rolls and rubber mat.	
BOE 8080005	tray, platform made out of Aluminium, 360 x 360 mm with holes to accommodate clamps for Erlenmeyer flasks, separating funnels and test tube racks	
BOE 8080012	4 level platform PP-20-4, 480 x 380 mm	
BOE 8081001	Spring clamp, 25 ml max.:	36 pcs.
BOE 8081002	Spring clamp, 50 ml max.:	36 pcs.
BOE 8081003	Spring clamp, 100 ml max.:	25 pcs.
BOE 8081004	Spring clamp, 250 ml max.:	16 pcs.
BOE 8081005	Spring clamp, 500 ml max.:	9 pcs.
BOE 8081006	Spring clamp, 1000 ml max.:	9 pcs.
BOE 8081007	Spring clamp, 2000 ml max.:	4 pcs.
BOE 8081009	Holding device for Separating funnels 250-1000 ml	



PSU-20 WITH TRAY PLATFORM



PLATFORM UP-400



PLATFORM PP-20-4



SPRING CLAMPS



HOLDING DEVICE FOR SEPARATING FUNNELS

BOECO COMBI-SPIN, FVL-2400

this combination of a centrifuge and a vortex mixer for Micro test tubes is specially designed for the genetic engineering researches (especially for PCR-diagnostics experiments). It can be used also in biochemical clinical laboratories as well as microbiological and industrial biotechnology laboratories. Combi-Spin ensures the possibility for the simultaneous mixing and separation of the samples, using centrifuge and mixing modules

Specification

Rotation speed (constant): 2400 rpm
 Max RCF: from the middle of the test tube 300 x g
 from the bottom of the test tube 700 x g
 Continuous operation time: < 60 min.
 Accessories included: 1 rotor for 12 x 1,5 ml
 1 rotor for 12 x 0,5 and 0,2 ml
 Overall size: 190 x 235 x 125 mm
 Weight: 2,1 kg

Code	Description
BOE 8071000	Combi-Spin, FVL-2400 plus, 220V 50/60 Hz
BOE 8071100	Combi-Spin, FVL-2400 plus, 110V 60 Hz
BOE 8071001	SR-16, rotor for 2 x 8-well 0,2 ml microtest strips



SR-16

COMBISPIN
FVL-2400

BOECO THERMAL CYCLER BIOCYCLER TC-S

is a thermal cycler for DNA probes with a combined block for 25 pcs. of 0,2 ml tubes and 16 pcs of 0,5 ml tubes

Specification

Temperature control range: +4...+99,9 °C
 Temperature increment: 0,1 °C
 Heating hood temperature: 50 - 105 °C
 Ramping speed: up to 3 °C/sec
 Number of programmable files: 100 files
 File settings:
 - Number of steps in a file: up to 12
 - Number of steps in a cycle: up to 3
 - Number of cycles: up to 3
 - Number of cycle repetitions: up to 99
 - Step time: 1 sec. - 99 min.
 - Step time increment: 1 sec.
 Programmable file number: up to 100 files
 Power, max: 130 W
 Size: 240 x 260 x 165 mm
 Weight: 4,50 kg

Code	Description
BOE 8082000	Thermal cycler Biocycler TC-S, 200/240V 50/60 Hz
BOE 8082100	Thermal cycler Biocycler TC-S, 110/120V 50/60 Hz



TC-S

BOECO THERMO-SHAKER FOR MICROTUBES, TS-100

is a space saving, compact and cost-efficient solution for shaking and temperature control of small samples in 0,5 ml., 1,5 ml and 2,0 ml microtubes. The TS-100 is microprocessor controlled and has a display which indicates simultaneous set and actual time, temperature and shaking speed.

Specification

Orbit size:	2 mm
Temperature range:	25°C - 100 °C
Speed range:	250 - 1400 1/min, increment 10 rpm
Timer with sound signal:	digital, 1 min - 96 h, increment 1 min
Power (external):	DC 12 V. 4, A
Overall size:	205 x 230 x 130 mm
Weight:	3,25 kg

Code	Description
BOE 8064000	Thermo-Shaker for microtubes TS-100, without blocks, AC 100-240V 50/60 Hz
BOE 8064001	Interchangeable block, SC-18 for for 20x0,5 ml and 12 x 1,5 ml microtubes
BOE 8064002	Interchangeable block, SC-20 for for 20x1,5 ml microtubes
BOE 8064003	Interchangeable block, SC-20N for for 20x2,0 ml microtubes
BOE 8064004	Interchangeable block, SC-18/02 for for 20x0,2 and 12 x 1,5 ml microtubes



TS-100



SC-20

BOECO DRY BLOCK THERMOSTAT TDB-100

is a compact easy-to-use dry block thermostat designed long incubation processes at various temperatures. The universal aluminium block can accommodate 3 microtubes tubes. The TDB-100 is microprocessor controlled and has a display which indicates simultaneous set and actual temperature and time.

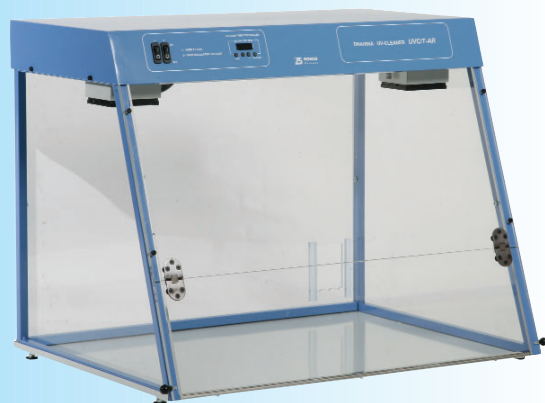
Specification

Temperature control range:	+25..+100 °C
Setting resolution:	0,1 °C
Nominal regulation accuracy:	± 0,5 °C
Independent timer with sound signal:	1 min - 96 hrs
Block capacity:	24 x 2/1,5 ml, 15 X 0,5 ml and 10 x 0,2 ml microtubes
Block diameter/depth:	130 / 45 mm
Power, max:	200 W
Size :	210 x 230 x 110 mm
Weight:	3,1 kg

Code	Description
BOE 8083000	Dry Block Thermostat TDB-100, 200/240V 50/60 Hz
BOE 8083100	Dry Block Thermostat TDB-100, 110/120V 50/60 Hz



TDB-100



UVC/T-AR

BOECO PCR WORKSTATION WITH UV AIR RECIRCULATOR, TYPE UVC/T-AR

For the preparation of PCR reactions and many other methods in molecular biology, a contamination-free working environment is required. The UVC/T-AR PCR Workstation is designed for DNA/RNA decontamination in the Laboratory working place.

The UVC/T-AR is a Bench top model, constructed from metallic skeleton and Plexiglas and has a painted metal working place and a digital timer control of UV exposure. One open 15 W UV-lamps substantially decreases contamination level during UV-exposure (15-20 min).

White 15 W lamp provides local illumination of the working place and ensures good conditions for visual control of operation.

The Model UVC/T-AR includes not only traditional UV source for direct lighting the surface of the inner working place of the PCR-box, but also additional UV air flow cleaner (UV - recirculator) for biosafety DNA decontamination to protect the user from direct UV-light during operation.

UV-recirculator consists of a UV lamp, fan and dust filters organized in special box for maximum increasing (1000 x fold) density of UV-light leading sufficiently to effectivity of DNA inactivation. UV-recirculator generates 100 volumes of the PCR per 1 hour air flow exchange giving maximum aseptic conditions inside the box.

Advantages

No HEPA filters-Ozone free high density UV decontamination
Long Living UV Lamps (8000 hrs)-No Noise, low energy consumption-
Compact bench top for Personal labs

The PCR workstation UVC/T-AR is recommended for labs working in the fields of DNA analysis, genetic engineering, molecular biology.

Specification

Direct UV-lamp light:	TUV 15 W (long life -8000hr) under timer control, one open UV lamp)
Radiation type:	Ultraviolet (254 nm), ozone free UV-recirculator under control of the switch 2 located on the front panel of the Box
Visible light lamp:	TLD 15W for lighting of the working place of the Box
Plexiglass type:	Polymethylmethacrylate, Altuglas EX5.5.
Optical transmission (visible light):	92%
UV-protection:	Provided
Thickness of plexiglass:	sides 4 mm upper front side 8 mm
LED time controller of UV-exposure:	0 - 24 h
Working place:	650x475 mm
Overall size:	690x515x555 mm
Power:	230 V, 50/60 Hz, 60W
Weight:	27.0 kg

Code	Description
BOE 8040000	PCR Workstation UVC/T-AR, 230V, 50/60 Hz

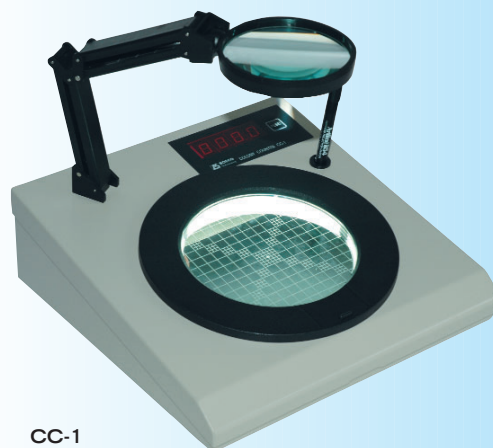
BOECO COLONY COUNTER CC-1

is suitable for counting bacteria growing on agar contained Petri dishes.

Built-in electronic register, operated by any pen. Every time a count is registered the beeper gives and audible signal to verify entry.
The pressure sensor system provides uniform sensitivity over the whole of working field;
A reset button provides immediate zeroing of the 4-digit counter
Flexible adjuster accepts 10 cm to 15cm petri dishes
The adjustable focusing arm allows the 1.5x magnifying glass to be placed at various angles of working position
The background plate can be changed to white or black for easy counting
Ring-shaped lamp provides uniform working field illumination
The number of counts is capable of being registered to maximum of 4-digits i.e. 9999, and displayed on bright red LED.

Specification

Working Principle: Pressure sensor system provides uniform sensitivity over the whole working field
Readout: 4-digit bright red, 0,6" LED display
Modes of Counting: Marking pen Counting (any pen)
Switch pen Counting (optional)
Dimension: 30 cm x 33 cm x 10 cm (W x D x H)
Power: 115 / 230 VAC, 50/60 Hz
Net Weight: 5 kgs.



CC-1

Code	Description
BOE 5157000	Colony Counter CC-1, with 1,5x standard lens, adjustable focusing arm, marking pen, power cord

BOECO VACUUM PUMP R-300

is a piston-powered, oil-free vacuum pump, adaptable to many laboratory requirements.

Quiet and low vibration

Directly motor driven without transmission mechanism and quality rubber feet keep the noise level only at approx 54 dB.

Compact and light weight.

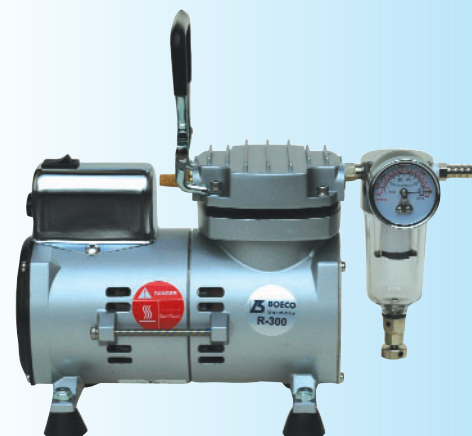
Aluminium die-cast and precise construction make the R-300 so small and compact, weight only 4,1 kg

Clean and maintenance free

Oil-free design makes the R-300 clean and maintenance free, we guarantee two years of 3000 working hours of free service parts (Excluding moisture filter)

Specification

Max. vacuum:	600 mm hg	
Vacuum speed (2,5 L tank):	50 Hz	60 Hz
200 mmHg:	3 sec	
300 mmHg:	5 sec	
400 mmHg:	8 sec	
500 mmHg:	14 sec	
600 mmHg:	25 sec	
Max flow rate:	13 l/min	15 l/min
Motor rotation:	1400 rpm	600 rpm
Horse power:	1/8 HP	
Pole:	4 P	
Net weight:	4.1.kgs	
Port thread:	5/16 inch	
Noise level:	54db	



R-300

Code	Description
BOE 8830000	BOECO R-300 vacuum pump 220V, 50/60 Hz
BOE 8830100	BOECO R-300 vacuum pump 110 V, 60 Hz

Accessories

BOE 88330001	Filtration unit for 47-50 mm membrane filter with vacuum-resistant flask, capacity 1 litre
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FILTRATION UNIT

HEATING MANTLES

- ▶ for operating temperatures up to 450 °C
- ▶ for glass flasks, round bottom up to 20 L.
- ▶ flexible glass yarn heating element
- ▶ plastic coated metal housing
- ▶ thermally insulated and grounded
- ▶ predrilled threaded hole on rear allows connection of the clamp KM-SK (accessory)

BOECO LabHEAT® KM-M SERIES

1,5 m power supply (earthed) cable with heating-zone switch



KM-M

Volume ml/l	Flask ø mm	power W	heating zones	Order No. 220V AC	Order No. 110V AC
50	51	55	1	BOE 91000050	BOE 91500050
100	64	100	1	BOE 91000100	BOE 91500100
250	85	150	2	BOE 91000250	BOE 91500250
500	105	200	2	BOE 91000500	BOE 91500500
1	131	300	2	BOE 91001000	BOE 91501000
2	166	500	2	BOE 91002000	BOE 91502000
3	185	600	2	BOE 91003000	BOE 91503000
4	207	750	2	BOE 91004000	BOE 91504000
5	223	860	2	BOE 91005000	BOE 91505000
6	236	1000	2	BOE 91006000	BOE 91506000
10	279	1400	2	BOE 91010000	BOE 91510000
20	345	2000	2	BOE 91020000	BOE 91520000



KM-ME

BOECO LabHEAT® KM-ME SERIES

designed identical to series KM-M, but in addition equipped with a built-in heating-zone switch and a power controller which allows a continuous adjustment of the heater power.

Volume ml/l	Flask ø mm	power W	heating zones	Order No. 220V AC	Order No. 110V AC
50	51	55	1	BOE 92000050	BOE 92500050
100	64	100	1	BOE 92000100	BOE 92500100
250	85	150	2	BOE 92000250	BOE 92500250
500	105	200	2	BOE 92000500	BOE 92500500
1	131	300	2	BOE 92001000	BOE 92501000
2	166	500	2	BOE 92002000	BOE 92502000
3	185	600	2	BOE 92003000	BOE 92503000
4	207	750	2	BOE 92004000	BOE 92504000
5	223	860	2	BOE 92005000	BOE 92505000
6	236	1000	2	BOE 92006000	BOE 92506000
10	279	1400	2	BOE 92010000	BOE 92510000
20	345	2000	2	BOE 92020000	BOE 92520000



ACCESSORIES

Code	Description
BOE 970000001	Support clamp KM-SK for the attachment of the metal-cased heating mantles to support rod or within support wall.

WATER STILLS

DEST-4

standard water stiller with integrated low-water cut-out, continuous production of high pure water, free of dissolved metals and pyrogens

Specification

Distillate flow rate	aprox 4 l/h
Conductivity of distilled water (20 °C)	2,5 µS/cm
Wattage	2.600 W
Heater element:	Silica heater
Material of glass parts	Borosilicate glass 3.3
Water consumption:	aprox 60 l/hr
Weight	aprox 4,5 kg

Code

BOE 8704000

Description

DEST-4, 220 V



DEST-4

DEST-3M PLUS

reliable water stiller with stainless steel boiler and element and borosilicate condenser. Integrated low-water cut-out, continuous production

Specification

Distillate flow rate	aprox 3 l/h
Conductivity of distilled water (25 °C)	2,5 µS/cm
Wattage	2.400 W
Heater element:	Stainless steel (AISI 304)
Material of glass parts	Borosilicate glass 3.3
Water consumption:	aprox 50 l/hr
Weight	aprox 2,5 kg

Code

BOE 8703100

BOE 8703101

Description

DEST-3M plus 220 V

DEST-3M plus 110 V



DEST-3M PLUS

BOECO WS 3500 / WS 7500

Stainless steel water still with low-water and over heating cut-out

Specification

	WS 3500	WS 7500
Distillate flow rate	aprox 3,5 l/h	aprox 7,5 l/h
Conductivity of distilled water (20 °C)	aprox 2,5 µS/cm	
Heater	3 KW	6 KW
Cooling water:	approx. 30 l.	approx. 60 l.
Material: Inner part	Stainless steel	
Outer part	Stainless Steel & Powder Coating	
Switch	Main Power with Pilot lamp and Water flow switch	
Sealing	Silicone Gasket	
Safety	Low Water & Over Heating Cut-Out	

Code

BOE 8703500

BOE 8703501

BOE 8707500

Description

WS 3500, 220 V

WS 3500, 110 V

WS 7500, 220 V



BOECO WS 3500 / WS 7500



BOECO
PORTABLE PH/MV
METER
MODEL PT-370

BOECO PORTABLE PH/MV METER MODEL PT-370

- ▶ pH, Absolute and Relative mV ranges
- ▶ Automatic or Manual calibration
- ▶ Automatic or Manual Temperature Compensation
- ▶ Simultaneous pH and temperature reading
- ▶ 32 reading data storage
- ▶ Environmentally protected case to IP65
- ▶ Power on self test routine

The Model PT-370 is a general purpose, hand held pH/mV meter offering a 1 or 2 point pH calibration and automatic buffer recognition with manual override. The custom liquid crystal display simultaneously shows temperature compensated pH readings or electrode potential and temperature. Calibration errors are clearly indicated, together with the parameter in error.

An indication of battery life is also permanently shown on the display. An automatic switch off facility helps to conserve battery life.

The instrument is housed in a robust, ergonomically designed case protected to IP65.

The PT-370 will be delivered incl. the following standard accessories:
1 x ATC probe, each 1 x 100 ml Buffer solution pH 4,01, pH 7,00
1 x Batteries (fitted), 1 x Operating Manual, 1 x Carrying case

Code	Description
BOE 5190370	Portable pH/mVMeter, Model PT-370 in carrying case with standard accessories



BT-600

BOECO LABORATORY MICROPROCESSOR PH/ORP METER, MODEL BT-600

- ▶ Parallel temperature and function mode indication.
 - ▶ Auto-Read: Fast and precise indication of stable measuring results.
 - ▶ Auto-Test: Automatic function test of the instrument upon being turned on.
 - ▶ Automatic temperature compensation: with a temperature sensor.
 - ▶ Auto calibration: fully automatic calibration with Tech., NIST or ASY. Buffer
- (Pre-set Tech. Buffer Values: pH 2.00; 4,01; 7,00; 12.00)
(Pre-set NIST. Buffer Values: pH 1,68; 4,01; 6,86; 9,18; 12,46)
If selecting Tech. And NIST. Buffer, single-, two-, and three-point calibration can be done. If selecting ASYmmetry Buffer, single- or two-point Calibration can be done
- ▶ Error codes: automatic prompt trouble-shooting actions with error codes on the display.
 - ▶ Automatic memorization of the latest calibrated value.
 - ▶ Data logger and RS-232 output

The BT-600 will be delivered incl. the following standard accessories:
1 x ATC probe, each 1 x 500 ml Buffer solution pH 4,01, pH 7,00
1 x 6V Ac adaptor, 4 x 1,5 V Batteries (size AA), 1 x Operating Manual,
1 x Flexible electrode holder

Code	Description
BOE 5196000	Laboratoy pH/mV/ORP Meter, Model BT-600, 220V
BOE 5196001	Laboratoy pH/mV/ORP Meter, Model BT-600, 110V

Specification

	PT-370	BT-600
Modes:	pH, mV, °C	pH, mV, °C
Ranges:	-2 to 16 pH -1999 to +1999 mV -10...105 °C	-2,00 to 16,00 / 2.000 to 16.000 pH -1999 to +1999 / -1999,9...+1,999,9 mV -10...+110 °C
Resolution:	pH mV Temp.	0,01 / 0,001 pH 1 / 0,1 mV 0,1 °C
Accuracy:	pH mV Temp.	0,01 / 0,001 pH ± 0,5 mV ± 0,4 °C
Temperature Compensation	Automatic 0 to 100 °C	Automatic with PT1000/NTC30K Manual
Display:	0,5" LCD with mode display	large backlit LCD, pH/mV parallel Temperature indication with function display.
Auto Function:	Auto buffer Auto calibration	Auto-Test, Auto-Read, Auto Buffer & Temp.registration, Auto Calibration (you can choose Tech., NIST and ASY Buffer) Error Code indication
Input Impedance:	10 ¹² Ωohms	10 ¹² Ωohms
RS 232 interface	no	yes
Data Storage:		500 sets
Power Requirement:	2 x AA batteries	4 x AA batteries or with AC adaptor
Battery life:	500 hours	100 hours
Dimensions:	175x75x35 mm (LxWxH)	220x190x70 mm (LxWxH)
Weight:	0,25 kg	0,8 kg

BOECO ELECTRODES

The electrodes are not included with the pH meters and have to be ordered separately:

Basic pH combination electrode BA 25, Noryl plastic shaft, gel electrolyte, 0...14 pH, -5...80°C, with BNC plug, 1m cable, fibre diaphragm.

Code	Description
BOE 5095695	Basic pH combination electrode BA 25

Basic pH combination electrode BA 17, glass shaft, liquid electrolyte, 0...14 pH, 0...100°C, with BNC plug, 1m cable. With leak proof refill opening, platinum diaphragm

Code	Description
BOE 5095626	Basic pH combination electrode BA 17

**BOECO ELECTRODES**



WATERPROOF PEN PH TESTER WITH
EXCHANGEABLE ELECTRODE

PH TESTER

Waterproof Pen PH Tester with exchangeable electrode

Specification:

Range:	0,0 – 14,0 pH
Resolution:	0,01 pH
Accuracy:	±0,05 pH
Calibration:	1 point
Operating temp:	0 – 50 °C
Power:	DC 3 x 1,5 V (Button Battery)
Dimensions :	150 x 22 x 20 mm

Code

BOE 5190901

BOE 5190114

Description

Waterproof Pen PH Tester

Spare electrode

PH METER

Pocket pH-Meter with direct BNC electrode

Specification:

Range:	0,0 – 14,0 pH
Resolution:	0,1 pH
Accuracy:	0,1 pH
Calibration:	Two points at 4,01 pH plus 6.86 or 9.18 pH
Connection:	Direct BNC
Power:	4 button batteries SR 44
Battery Life:	300-500 hrs
Dimensions:	135 (L) x 47 (W) x 20 (H) mm
Weight:	165 gr.

Specification electrode:

Measuring Range:	0,0 – 14,0 pH
Temp. Range:	0 – 60 °C
pH value of zero point:	7 ± 1 pH
Impedance:	< 120 mΩ (at 25°C)
Size:	160 mm length
Plug:	BNC
Junction:	Fiber/Ceramic
Reference cell:	Ag/AgCl, KCL/gel
Application:	General Lab use with pHmeters

Code

BOE 5190000

BOE 5190014

Description

Pocket-pH meter, complete with BNC electrode

Spare BNC electrode



POCKET PH-METER
WITH DIRECT BNC ELECTRODE

PH INDICATORS

pH-Fix is the most popular indicator stick for all purposes. The indicator dyes are chemically bound to the cellulose fibres, avoiding bleeding even in strong alkaline samples. Presentation: Box of 100 sticks 6 x 85 mm

Code

M-N 92110

Description

pH-Fix 0,14, pH Graduation 1,0

The budget priced universal indicator papers can be used for most standard applications. For each pH-value these papers show a single colour which can be matched with the colour scale at an interval of 1 pH-unit.es. Presentation: Reel of 5 m length and t mm width

Code

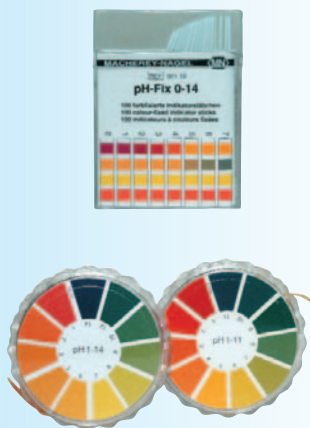
M-N 90201

M-N 90204

Description

pH-Universal Indicator Paper, pH 1-11,
pH Graduation 1,0

pH-Universal Indicator Paper, pH 1-14,
pH Graduation 1,0/2,0



PH INDICATORS

BOECO PORTABLE CONDUCTIVITY/TDS MODEL CT-470

- ▶ Automatic Range Selection for optimum resolution
- ▶ Automatic or Manual Calibration
- ▶ 32 reading Data Storage
- ▶ Conductivity and TDS Modes
- ▶ Power on self test routine
- ▶ Environmentally protected case to IP65

The Model CT-470 is a fully featured, hand held Conductivity/TDS meter offering calibration on standard solutions or by direct cell constant entry. The custom liquid crystal display simultaneously shows temperature compensated conductivity or TDS and temperature.

The best conductivity/TDS range is automatically selected for optimum resolution and temperature compensated using an adjustable temperature coefficient.

The reference temperature can also be set to 18, 20 or 25°C.

Calibration errors are clearly indicated, together with the parameter in error.

An indication of battery life is also permanently shown on the display. An automatic switch off facility helps to conserve battery life.

The instrument is housed in a robust, ergonomically designed case protected to IP65.

Specifications:

Conductivity

Ranges	6 automatically selected 0 to 1999mS*
Resolution	0.01µS to 1mS*
Accuracy	±0.5% ±2 digits

TDS

Ranges	6 automatically selected 0 to 1999g/l*
Resolution	0.01mg/l to 1g/l*
Accuracy	±0.5% ±2 digits

Temperature

Ranges	-10 to 105°C/14 to 221°F
Resolution	0.1°C/1°F
Accuracy	±0.5°C/±1°F
ATC & Manual ranges	0 to 100°C/32 to 212°F

Cell constant	0.01 to 19.99
EC ratio (TDS)	0.50 to 0.80
Reference temperature	18, 20, 25°C
Temperature coefficient	0.00 to 4%/°C
Auto std recognition	10µS, 84µS, 1413µS, 12.88mS
Power	2AA cells
Size (lxwxh) (mm)	175x75x35
Weight (g)	250g

The CT-470 will be delivered incl. the following standard accessories:

- 1 x Epoxy bodied waterproof conductivity Cell K=1
- 1 x Batteries (fitted)
- 1 x Operating Manual
- 1 x carrying case

Code

BOE 5190470

Description

Portable Conductivity/TDS Meter, Model PT-370 in carrying case with Conductivity Cell K=1



BOECO PORTABLE CONDUCTIVITY/TDS
MODEL CT-470

CENTRIFUGES

BOECO HEMATOCRIT CENTRIFUGE H-240

High-speed bench-top centrifuge for microhematocrit determinations with brushless frequency drive.
At 16.060 g sedimentation is completed in just a little over 6 minutes.

The H-240 centrifuge includes a segmented hematocrit rotor for 24 capillaries. With the segmented Hematocrit rotor every capillary has its own chamber. If a capillary breaks, the fragments stay in this chamber or segment without affecting other capillaries.

The lid of the rotor is evaluation disc and cover in one.
The hematocrit value can be read off the lid/evaluation disc right after centrifugation.



BOECO HEMATOCRIT CENTRIFUGE H-240



Controls and displays

- ▶ Quick-entry foil keypad
- ▶ Easy-to-read, digital display
- ▶ Display of current parameter values
- ▶ Easy entry of the parameters
- ▶ RPM in increments of 100
- ▶ Running time in minutes, max. 99 min

Safety

- ▶ Lid locking and holding device
- ▶ Emergency lid lock release
- ▶ Motor overheating protection
- ▶ Imbalance switch-off
- ▶ Standstill indication
- ▶ Metal Housing

Technical details

Max RPM (speed) / RCF:	13.000 rpm / 16.060 RCF
Noise level:	≤ 58 dB(A)
Dimensions in mm (HxWxD):	247 x 275 x 330
Net weight:	approx 10 kg
Radio interference:	EN 55011 ISM class B
Immunity:	EN 50082-1

The H-240 conforms to safety regulations such as IEC 1010-2-2, or the CE mark and all relevant EC standards and DIN norms and has been manufactured under ISO 9001:2000

Code

BOE 02104-13

Description

BOECO centrifuge H-240, 208-240V, 50/60 Hz, with hematocrit rotor and lid as evaluation disc



haematocrit rotor with lid as evaluation disc included.

capacity	75 µl
Capillaries	1,5 x 75 mm
 Rotor and Lid as evaluation disc incl.	
Cat.-No.	—
capillaries per rotor	24
RCF	16,060
radius in mm	85
run-up in sec	9
run-down in sec	16 17

BOECO CENTRIFUGE S-8

Practical and handy the S-8 is the ideal centrifuge for small sample volumens. It is supplied with a 8-place angle steel rotor, which accommodates various tube systems as well as 15 ml glass tubes without adapters. The centrifuge is microprocessor controlled

Controls and displays

- ▶ During centrifugation the actual values of the parameters are indicated
- ▶ Entry of the running parameters via foil keypad
- ▶ Speed display in RPM x 100, input in steps of 100
- ▶ Time t/min: 1 - 99 min, continuous operation
- ▶ Speed display in RPM x 100, input in steps of 100
- ▶ Impulse key: For short centrifugation operations
- ▶ Open lid key

Safety

- ▶ Lid locking and holding device
- ▶ Emergency lid lock release
- ▶ Motor overheating protection
- ▶ Imbalance switch-off
- ▶ Double-walled plastic housing is mounted on a solid metal chassis. The transparent lid is made of Polycarbonate Resins

The S-8 conforms to safety regulations such as IEC 1010-2-2, or the CE mark and all relevant EC standards and DIN norms and has been manufactured under ISO 9001:2000

Technical details

Max RPM (speed) / RCF:	6000 rpm / 3.421 RCF
Noise Level:	≤ 54 dB(A) (dependent on rotor)
Dimensions in mm (HxWxD):	216 x 231 x 292
Net weight:	approx 4 kg
Radio interference:	EN 55011 ISM class B
Immunity:	EN 61000-6-1

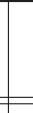
Code

Description

BOE 02002-13	BOECO centrifuge S-8, 208-240V, 50/60 Hz, complete with 8-place angle rotor
BOE 02002-12	BOECO centrifuge S-8, 100-127V, 50/60 Hz, complete with 8-place angle rotor

Reducing part

BOE 01054-A	For 5 ml tubes (12 x 75 mm)
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capacity in ml	4	5	15	15	blood collection / urine tubes			
dimensions Ø x L mm	10 x 88	12/13 x 75	17 x 100	17 x 120	max 17 x 100			
 n=6,000 min ⁻¹ Rotor included								
								
Cat.-No.	06305	01054-A	-	-	-			
tubes per rotor	8	8	8	4	8			
RCF	2,817	2,697	3,461	3,461	3,461			
radius in mm	70	67	86	86	99			
run-up in sec	26							
run-down in sec	 37  121							



BOECO CENTRIFUGE S-8

BOECO CENTRIFUGE M-24 A

Powerful, space-saving, low-noise, reliable and microprocessor-controlled microlitre centrifuge with brushless frequency drive.

Controls and displays

- ▶ During centrifugation the actual values of the parameters are indicated
- ▶ Entry of the running parameters via foil keypad
- ▶ Speed display in RPM x 100
- ▶ Time t/ min: 1 - 99 min, continuous operation
- ▶ Impulse key: For short centrifugation operations
- ▶ Open lid key

Safety

- ▶ Lid locking and holding device
- ▶ Emergency lid lock release
- ▶ Motor overheating protection
- ▶ See-through glass in the lid
- ▶ Imbalance switch-off
- ▶ Double-walled plastic housing and lid are mounted on a solid metal chassis.

The M-24 A conforms to safety regulations such as IEC 61010 or the CE mark and all relevant EC standards and DIN norms and has been manufactured under ISO 9001:2000

Technical details

Max RPM (speed) / RCF: 14.000 rpm / 17.530 RCF
 Noise level: ≤ 59 dB(A) (dependent on rotor)
 Radio interference: EN 55011 ISM class B
 Immunity: EN 61000-6-1
 Dimensions in mm: 199 (H) x 231 (W) x 292 (D)
 Net weight: approx 6 kg

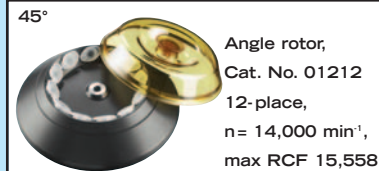
Code

Description

BOE 01204-13	BOECO centrifuge M-24 A, 230V, 50/60 Hz, without rotor
BOE 01204-12	BOECO centrifuge M-24 A, 120V, 50/60 Hz, without rotor



BOECO CENTRIFUGE
M-24 A



Angle rotor,
Cat. No. 01212
12-place,
n = 14,000 min⁻¹,
max RCF 15,558

capacity in ml	1.5	0.5/0.8	0,2 /0.4	2.0
dimensions Ø x L mm	11x38	8x30/45	6x18/45	11x38
 n = 14,000 min ⁻¹ Cat.-No. 01212	 with high speeds we recommend to use adapter No. 02031			
Cat.-No.	—	02023	02024	—
tubes per rotor	12			
RCF	15,558			
radius in mm	71			
run-up in sec	20			
run-down in sec	 25  243			



Angle rotor,
Cat. No. 01218
18-place,
n = 14,000 min⁻¹,
max RCF 15,996

capacity in ml	1.5	0.5/0.8	0,2 /0.4	2.0
dimensions Ø x L mm	11x38	8x30/45	6x18/45	11x38
 n = 14,000 min ⁻¹ Cat.-No. 01218	 with high speeds we recommend to use adapter No. 02031			
Cat.-No.	—	02023	02024	—
tubes per rotor	18			
RCF	15,996			
radius in mm	73			
run-up in sec	20			
run-down in sec	 25  360			



Angle rotor,
Cat. No. 01224
24-place, 2-row
n = 14,000 min⁻¹,
max RCF 17,530

capacity in ml	1.5	0.5/0.8	0,2 /0.4	2.0
dimensions Ø x L mm	11x38	8x30/45	6x18/45	11x38
 n = 14,000 min ⁻¹ Cat.-No. 01224	 with high speeds we recommend to use adapter No. 02031			
Cat.-No.	—	02023	02024	—
tubes per rotor	24			
RCF	17,530			
radius in mm	80			
run-up in sec	24			
run-down in sec	 25  394			

BOECO CENTRIFUGES M-240 / M-240R

The M-240 and M-240R rank among the fastest centrifuges in their class – with a maximum speed of 14,000 rpm and an RCF of 18,626.

Not only are they fast, the M-240R also refrigerates quickly: to +4°C with the Fast Cool function in 10 to 15 minutes.

Even thermosensitive samples can be gently centrifuged thanks to highly reliable refrigeration. Best separation results are guaranteed with the smooth-running, high-performance motor featuring a maintenance-free frequency drive. With the optional autoclavable and aerosol-tight accessories, even infectious materials can be processed safely for both the user and the environment.

User-Friendliness

- ▶ Automatic lid locking
- ▶ Quick-entry foil keypad
- ▶ Easy-to-read, digital display
- ▶ Display of current parameter values
- ▶ Select key for parameter selection
- ▶ Impulse key for short centrifuging
- ▶ Open lid key
- ▶ RCF key
- ▶ Twist knob to enter values
- ▶ RPM in increments of 10
- ▶ Running time in minutes, max. 99 min
- ▶ Temperature in increments of 1°C (M-240R)
- ▶ 4 programmable memories

Refrigeration (M-240R)

- ▶ Infinitely variable setting from –10 °C to +40 °C
- ▶ Fast Cool function in 10 - 15 min to +4 °C
- ▶ Stand-by mode maintains the set temperature
- ▶ Automatic refrigeration switch-off when the lid is opened

Safety

- ▶ Lid dropping protection
 - ▶ Lid locking and holding
 - ▶ Emergency lid lock release
 - ▶ Motor overheating protection
 - ▶ Chamber overheating protection
 - ▶ Imbalance switch-off
 - ▶ Standstill indication
- with the refrigerated model M-240R the LED in the Open key lights up
with the M-240 the lid opens automatically after the rotor has come to a standstill

The M-240 / M-240R conform to safety regulations such as IEC 1010-2-2, all relevant EC standards and DIN norms and have been manufactured under ISO 9001:2000

Technical details

	M-240	M-240R
Max RPM (speed) / RCF	14000 RPM / 18.626 RCF	
Noise Level	≤ 59 dB (A)	≤ 52 dB(A)
(dependent on rotor)		
Dimensions in mm (HxWxD)	260 x 275 x 344	260 x 281 x 547
Net weight	approx 11,5 kg	28 kg
Radio interference		EN 55011 ISM class B
Immunity		EN 61000-6-2

Code	Description
BOE 02400-13	BOECO centrifuge M-240, 220-240V, 50-60 Hz, without rotor
BOE 02400-12	BOECO centrifuge M-240, 100-127V, 50-60 Hz, without rotor
BOE 02405-13	BOECO refrigerated centrifuge M-240R, 220-240V, 50-60 Hz, without rotor
BOE 02405-12	BOECO refrigerated centrifuge M-240R, 100-127V, 50-60 Hz, without rotor



BOECO CENTRIFUGE M-240R



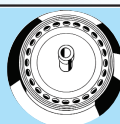
BOECO CENTRIFUGE M-240RR

Rotors for M-240 and M-240 R

50°



Angle rotor,
Cat. No. 02424
24-place,
 $n = 14,000 \text{ min}^{-1}$,
max RCF 18,626

capacity in ml	1.5	0.5/0.8	0,2 /0.4	2.0
dimensions Ø x L mm	11x38	8x30/45	6x18/45	11x38
				
$n = 14,000 \text{ min}^{-1}$ Cat.-No. 02424	with high speeds we recommend to use adapter No. 02031			
Cat.-No.	—	02023	02024	—
tubes per rotor	24			
RCF	18.626			
radius in mm	85			
run-up in sec	13			
run-down in sec	 15  412			
temperature °C ¹⁾	+4			

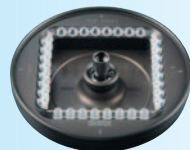
45°



Angle rotor,
Cat. No. 02430
30-place,
 $n = 14,000 \text{ min}^{-1}$
max RCF 17.749

capacity in ml	0,5
dimensions Ø x L mm	8 x 30
	
$n = 14,000 \text{ min}^{-1}$ Cat.-No. 02430	
Cat.-No.	—
tubes per rotor	30
RCF	17.749
radius in mm	81
run-up in sec	10
run-down in sec	 13  398
temperature °C ¹⁾	+4

45°



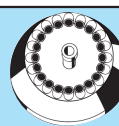
Angle rotor, for
PCR tubes and
strips
Cat. No. 02418
32-place, 4x 8
 $n = 14,000 \text{ min}^{-1}$
max RCF 12,490

capacity in ml	0,2
dimensions Ø x L mm	6 x 18 PCR strips
	
$n = 14,000 \text{ min}^{-1}$ Cat.-No. 02418	
Cat.-No.	—
tubes per rotor	32 4 x 8
RCF	12,490
radius in mm	57
run-up in sec	9
run-down in sec	 13  315
temperature °C ¹⁾	+4

40°



Angle rotor,
illustrated with
optional lid 0E2040
for cryo tubes
Cat. No. 02426
20-place
 $n = 14,000 \text{ min}^{-1}$
max RCF 18,407

capacity in ml	1,8
dimensions Ø x L mm	cryo tubes
	
$n = 14,000 \text{ min}^{-1}$ Cat.-No. 02426	
Cat.-No.	—
tubes per rotor	20
RCF	18,407
radius in mm	84
run-up in sec	13
run-down in sec	 15  412
temperature °C ¹⁾	+4

Optional for rotor 02424, 02430 and 02426



Lid (Cat. No. 02425
with bio-containment
autoclavable



Lid (Cat. No. 02423
with bio-containment
autoclavable,
phenol-resistant

BOECO CENTRIFUGE C-28 A

The non-refrigerated microprocessor-controlled C-28 A is the ideal bench-top centrifuge for performing daily routine tasks in doctors' laboratories and small hospitals. But because of the wide range of accessories the C-28 A can also be used for sample preparation in research and industrial laboratories.

The centrifuge has a brushless frequency drive (no carbon brushes). A special locking device allows effortless opening and closing of the lid with just one hand.

Controls and displays

- ▶ During centrifugation the actual values of the parameters are indicated
- ▶ Entry of the running parameters via water-protected foil keypad
- ▶ Speed display in RPM x 100, input in steps of 100
- ▶ Time t/min: 1 - 99 min, continuous operation
- ▶ Impulse key: For short centrifugation operations

Safety

- ▶ Housing and lid of metal finished in a scratch and impact resistant coating
- ▶ Centrifuge chamber of stainless steel
- ▶ Lid locking and holding device
- ▶ See-through glass in the lid
- ▶ Emergency lid lock release
- ▶ Imbalance switch-off
- ▶ Easily exchangeable rotors
- ▶ Automatic rotor recognition

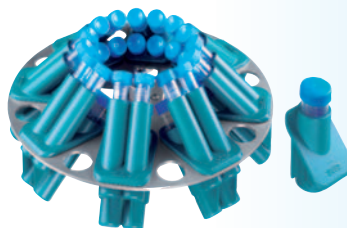
The C-28 A conforms to safety regulations such as IEC 61010 or the CE mark and all relevant EC standards and DIN norms and has been manufactured under ISO 9001:2000

Technical details

Max RPM (speed) / RCF	6000 rpm / 4.186 RCF
Noise Level	< 58 dB (A) (dependent on rotor)
Dimensions in mm	257 (H) x 366 (W) x 430 (D)
Net weight	approx 25 kg
Radio interference	EN 61000-6-3 ISM class B,
Immunity	EN 61000-6-1

Code	Description
BOE 01206-13	BOECO centrifuge C-28 A, 230-240V, 50-60 Hz, without rotor
BOE 01206-12	BOECO centrifuge C-28 A, 110-127V, 60 Hz, without rotor

capacity in ml	15	15	50	12	50	50
dimensions Ø x L mm	17 x 100	17 x 120	29 x 115	17 x 100	29 x 115	29 x 107
 n=4,000 min ⁻¹ Cat.-No. 01418						
	+ 00716	+ E2109	+ E2110	+ 00716		
						
Cat.-No.	01467	01467	01468	01467	01468	
tubes per rotor	32	32	8	32	8	
RCF	2,540	2,594	2,486	2,540	2,486	
radius in mm	142	145	139	142	139	
run-up in sec	36					
run-down in sec	43 101 200					



Rotor 01418 with 01467



BOECO CENTRIFUGE C-28A

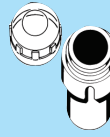


**Swing-out rotor, 4-place,
n= 4,000 min⁻¹,
RCF 2,665,
for max. 4 x 100 ml.**

capacity in ml	5	9	9	15	15	20	25	45	50	50
dimensions Ø x L mm	12/13x75	14 x 100	14 x 100 13 x 90	17 x 100	17 x 100	21 x 100	24 x 100	31 x 100	34 x 100	34 x 100
										
n=4,000 min ⁻¹ Cat.-No. 01624										
Cat.-No.	01372	01370	01741	01369	01742	01346	01745	01345	01308	01746
tubes per rotor	68	20	40	16	28	8	8	4	4	4
RCF	2,164	2,308	2,415	2,308	2,415	2,361	2,415	2,361	2,290	2,415
radius in mm	121	129	135	132	129	132	137	132	128	137
run-up in sec	22									
run-down in sec	 25  110									

 braked
run-down
at level 9
 unbraked
run-down

Please take
care not to
exceed the
tubes' max.
permissible
RCF!

capacity in ml	1	3	5/6/7	10	9/15	25	30	50	50	85	100	15	50	1.6 - 7	4 - 10	
dimensions Ø x L mm	6x45 rhesus	10 x 60	12 x 82/100	16 x 80	14/17 x 100	24 x 100	26 x 95	29 x 107	34 x 100	38 x 106	44 x 100	17 x 120	29 x 115	13x75/100	16x75/100	
lid 01382																
Cat.-No. 01381											rubber insert 					
Cat.-No.	01339	01343	01383	01348	01329	01330	04417	04416	01331	01396	00761	01347	01384	01383	01348	
tubes per rotor	108	36	20	16	16	4	4	4	4	4	4	4	4	20	16	
RCF	2,594	2,630	2,558	2,522	2,540	2,433	2,451	2,630	2,397	2,612	2,558	2,665		2,558	2,522	
radius in mm	145	147	143	141	142	136	137	147	134	146	143	149		143	141	
run-up in sec	30															
run-down in sec	 25  110															



**Swing-out rotor, 4-place 01324, illustrated
with suspension 01398 and adapter 01483
n= 4,000 min⁻¹, RCF 3,305,
for max. 4 x 100 ml.**

capacity ml	9	15	2,6-2,9	4-5,5	9-10	10	4-7	15	50	12	50	
dimensions Ø x L mm	14x100	17x100	13x65	15x75	16-92	15-102	16 x 75	17x120	29x115	17x100	29x115	
												
			+ 2 x 00716				+ 00716					
Cat.-No. 01398												
Cat.-No.	01482		01482		01482		01482	01483	01484	01482	01484	
tubes per rotor	16							16	4	16	4	
RCF	2,522		2,272		2,522		2,397	2,612	2,576	2,522	2,576	
radius in mm	141		27		141		134	146	144	141	144	
run-up in sec	30											
run-down in sec	 30  220											

capacity ml	1.5/2.0	1	3/4	5	6/7	9/15	25	50	100	10	30	50	85	15		50	12	25	30	50
dimensions Ø x L mm	11 x 38	6 x 45 rhesus	10x60/88	13x75	13x82/100	14/17x100	24 x 100	34 x 100	44 x 100	16x80/100	26x95	29x107	38x106	17x120		29x115	17x100	25 x90	25x110	29x115
lid No. 01382 biocontainment ⁵⁾																				
Cat.-No. 01390																				
Cat.-No.	01351	01339	01343	01383	01383	01329	01330	01331	00761	01348	04417	04416	01396	01356	01347	01384	06311	01363	01365	06318
tubes per rotor	20	108	36	20	20	16	4	4	4	16	4	4	4	12	4					
RCF	2,415	2,558	2,594	2,522	2,522	2,504	2,397	2,379	2,522	2,486	2,415	2,594	2,576	2,630				2,308	2,630	
radius in mm	135	143	145	141	141	140	134	133	141	139	135	145	144	147				132	150	
run-up in sec	30																			
run-down in sec	☐ 30 ☐ 220																			

90°



Swing-out rotor, 8-place,
n = 4,000 min⁻¹, RCF 2,415,
for 8 x 15 ml,
stainless steel,
with suspensions No. 01644,
PA, fibreglass
reinforced.

capacity in ml	5	10	10	15
dimensions Ø x L mm	12/13x75	17 x 70	13 x 100	17 x 100
 n=4,000 min ⁻¹ Cat.-No. 01611				
				
Cat.-No.	01131	01132	01643	01644
tubes per rotor	8	8	8	8
RCF	1,914		2,415	
radius in mm	107		135	
run-up in sec	20			
run-down in sec	 25  144			



Swing-out rotor, 12-place,
n = 4,000 min⁻¹, RCF 2,680,
for 12 x 15 ml, stainless
steel, with suspensions No.
01621, PA, fibreglass
reinforced.

capacity in ml	5	10	15
dimensions Ø x L mm	12/13 x 75	17 x 70	17 x 100
n=5,000 min ⁻¹ Cat.-No. 01628			
Cat.-No.	01127	01122	01621
tubes per rotor	12	12	12
RCF	2,232	2,259	2,680
radius in mm	125	126	150
run-up in sec	16		
run-down in sec	25 110		

45°



Swing-out rotor, 8-place,
n = 4,000 min⁻¹,
RCF 2,469,
for 8 x 50/15 ml,
stainless steel, with
suspensions, aluminium.

capacity in ml	15	50
dimensions Ø x L mm	17 x 120	29 x 115
n=4,000 min ⁻¹ Cat.-No. 01617		
Cat.-No.	01462A	—
tubes per rotor	8	
RCF	2,469	
radius in mm	138	
run-up in sec	22	
run-down in sec	25 110	

90°



Swing-out rotor, 6-place,
n = 4,000 min⁻¹,
RCF 2,701,
for 6 x 50/15ml Falcon
tubes, stainless steel, with
suspensions, PA, fibreglass
reinforced.

capacity in ml	15	50
dimensions Ø x L mm	17 x 120	29 x 115
n=4,000 min ⁻¹ Cat.-No. 01619		
Cat.-No.	01462A	—
tubes per rotor	6	
RCF	2,701	
radius in mm	151	
run-up in sec	22	
run-down in sec	22 110	



Angle rotor,
Cat. No. 01620 A
6-place,
n = 6,000 min⁻¹,
max RCF 4,186.
illustrated with adapter set
01646

capacity in ml	10	15	30	50	50/75	85	15	50
dimensions Ø x L mm	16 x 80	17 x 100	26 x 95	29 x 107	34 x 100 35 x 105	38 x 106	17 x 120	29 x 115
 n=6,000 min ⁻¹ Cat.-No. 01620A								
								
Cat.-No.	01448	01451	01447	01446	01463	–	01466	01646
tubes per rotor	12	6	6	6	6	6	6	6
RCF	3,904	3,958	3,824	4,025	4,146	4,186	3,958	
radius in mm	97	99	95	100	103	104	99	
run-up in sec	19							
run-down in sec	 22  104							

4) Adapter set, 6-place, for conical 50 ml tubes with screw cap



Angle rotor,
Cat. No. 01613
12-place,
n = 6,000 min⁻¹, max
RCF 4,146

capacity in ml	5	15	15
dimensions Ø x L mm	12/13 x 75	17 x 100	17 x 120
 n=6,000 min ⁻¹ Cat.-No. 01613			
			
Cat.-No.	01054A	—	—
tubes per rotor	12	12	6
RCF	3,300	4,146	
radius in mm	86	103	
run-up in sec	13		
run-down in sec	 15  104		



Cyto rotor, 4-place and 6-place suitable for C-28 A
more information is available in a detailed cyto brochure.

braked run-down at level 9
 unbraked run-down

Please make sure not to exceed the
tubes max. permissible RCF. For
glass tubes the max RCF is 4,000



BOECO CENTRIFUGE U-320



BOECO CENTRIFUGE U-320R

BOECO CENTRIFUGES U-320 / U-320R

Because of their comprehensive range of accessories, the U-320 and U-320R centrifuges are the perfect universal centrifuges for routines in basic research and R&D laboratories of the pharmaceutical and biotechnical industry. The microprocessor controlled centrifuges have a brushless frequency drive (no carbon brushes) and a motorized lid locking.

Performance

- ▶ High RCF
- ▶ Extremely short run-up and run-down times

Design

- ▶ Metal housing, Metal Lid
- ▶ Stainless steel centrifuging chamber
- ▶ Viewing port in the lid

Refrigeration (U-320R)

- ▶ Infinitely variable setting from -20°C to $+40^{\circ}\text{C}$
- ▶ Fast Cool function

User-Friendliness

- ▶ Automatic lid locking
- ▶ Emergency lid-lock release
- ▶ Easily exchangeable rotors
- ▶ 10 programmable memories
- ▶ 9 acceleration and braking ramps, or unbroken run-up or run down time

Safety

- ▶ Lid locking and holding during rotor run
- ▶ Emergency lid lock release
- ▶ Motor overheating protection
- ▶ Chamber overheating protection (with U-320R)
- ▶ Imbalance switch-off
- ▶ Automatic rotor recognition
- ▶ Lid dropping protection

Controls and displays

- ▶ During centrifugation the actual values of the parameters are indicated
- ▶ Change-over RPM/RCF: by entering the rotor radius r/mm the Centrifuge will calculate/indicate speed or RCF.
- ▶ Time preselection in steps of minutes and seconds / Continuous operation
- ▶ Temperature $T/^{\circ}\text{C}$: Input in increments of 1°C
- ▶ Impulse key: For short centrifugation operations

The U-320 / U-320R conform to safety regulations such as IEC 61010 or the CE mark and all relevant EC standards and DIN norms and have been manufactured under ISO 9001:2000

Technical details

	U-320	U-320 R
Max RPM (speed) / RCF:	15000 RPM / 21.382 RCF	
Noise Level:	$\leq 68 \text{ dB (A)}$	$\leq 58 \text{ dB(A)}$
(dependent on rotor)		
Dimensions in mm (HxWxD):	346 x 395 x 520	346 x 401 x 695
Net weight:	approx 29 kg	52 kg
Radio interference:		EN 55011 ISM class B
Immunity:		EN 61000-6-2

Code	Description
BOE 01401-13	BOECO centrifuge U-320, 230-240V, 50-60 Hz, without rotor
BOE 01401-12	BOECO centrifuge U-320, 110-127V, 60 Hz, without rotor
BOE 01406-13	BOECO refrigerated centrifuge U-320R, 230-240V, 50-60 Hz, without rotor
BOE 01406-12	BOECO refrigerated centrifuge U-320R, 110-127V, 60 Hz, without rotor



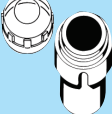
Swing-out rotor, 4-place,
n= 4,000 min⁻¹,
RCF 2,665,
for max. 4 x 100 ml.



capacity in ml	5	9	9	15	15	20	25	45	50	50
dimensions Ø x L mm	12/13x75	14 x 100	14 x 100	17 x 100	17 x 100	21 x 100	24 x 100	31 x 100	34 x 100	34 x 100
										
n=4,000 min ⁻¹ Cat.-No. 01624										
Cat.-No.	01372	01370	01741	01369	01742	01346	01745	01345	01308	01746
tubes per rotor	68	20	40	16	28	8	8	4	4	4
RCF	2,164	2,308	2,415	2,308	2,415	2,361	2,415	2,361	2,290	2,415
radius in mm	121	129	135	132	137	132	137	132	128	137
run-up in sec	20									
run-down in sec	 25  390									
temperature °C ¹⁾	- 17									

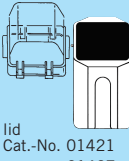
 braked
run-down
at level 9
 unbraked
run-down

Please take care
not to exceed
the tubes' max.
permissible RCF!
1) Lowest attain-
able temperature
in the U-320 R
at max. speed.

capacity in ml	1	3	5/6/7	10	9/15	25	30	50	50	85	100	15	50	1.6 - 7	4 - 10
dimensions Ø x L mm	6x45 rhesus	10 x 60	12 x 82/100	16 x 80	14/17 x 100	24 x 100	26 x 95	29 x 107	34 x 100	38 x 106	44 x 100	17 x 120	29 x 115	13x75/100	16x75/100
 Cat.-No.01381															
											 rubber insert				
Cat.-No.	01339	01343	01383	01348	01329	01330	04417	04416	01331	01396	00761	01347	01384	01383	01348
tubes per rotor	108	36	20	16	16	4	4	4	4	4	4	4	4	20	16
RCF	2,594	2,630	2,558	2,522	2,540	2,433	2,451	2,630	2,397	2,612	2,558	2,665		2,558	2,522
radius in mm	145	147	143	141	142	136	137	147	134	146	143	149		143	141
run-up in sec	30														
run-down in sec	 25  390														
temperature °C ¹⁾	- 15														



Swing-out rotor, 4-
place, No 01494,
n= 5,000 min⁻¹,
max. RCF 4,193,
illustrated with buckets
01427

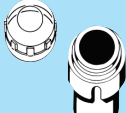
capacity ml	1.5/2.0	1	3	5	6	7	9	15	25	50	15	25	30	50
dimensions Ø x L mm	11 x 38	6 x45 Rhesus	10 x 60	13 x 75	12 x 82	12 x 100	14 x 100	17 x 100	24 x 100	34 x 100	17 x 120	25 x 90	25 x 110	29 x 115
														
														
Cat.-No.	05277	01357	01327	01732	05229	05230	05237	05231	05232	05233	05275	01731	05272	05276
tubes per rotor	36	120	48	32	48	48	24	24	8	4	4	8	4	4
RCF	4,109	4,081	4,053	4,025	4,053	3,941					4,165	3,969	4,025	4,053
radius in mm	147	146	145	144	145	141					149	142	144	145
run-up in sec	30													
run-down in sec	 32  600													
temperature °C ¹⁾	- 7													

2) When using these tubes, bucket 01427 cannot be closed with lid 01421



Swing-out rotor, 4-place,
No 01494,
n= 5,000 min⁻¹,
max. RCF 4,193,
illustrated with buckets 01425

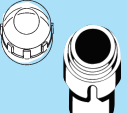
capacity ml	1.5/2.0	1	3	5	6/7	9/15	25	50	100	50	50	1.6 -7	4 - 10
dimensions Ø x L mm	11 x 38	6 x 45 Rhesus	10 x 60	13 x 75/82	12x82/100	14/17x100	24 x 100	34 x 100	44 x 100	29 x 115	29 x 115	13 x 75/100	16 x 75/100
													
													
Cat.-No. 01425													
Cat.-No.	01444	01432	01433	01438	01434	01431	01435	01436	01437	01443	01737	01438	01441
tubes per rotor	36	144	56	28	48	28	8	4	4	4	4	28	
RCF	3,885	3,969	3,913						3,801	4,081		3,913	
radius in mm	139	142	140						136	146		140	
run-up in sec	30												
run-down in sec	 32  600												
temperature °C. 1)	- 10												

capacity ml	1.5/2.0	1	3	5	6/7	9/15	25	50	100	10	30	50	85	15	50	12	25	30	50
dimensions Ø x L mm	11 x 38	6 x 45 rhesus	10x60	13x75	13x82/100	14/17x100	24 x 100	34 x 100	44 x 100	16x80/100	26x95	29x107	38x106	17x120	29x115	17x100	25 x90	25x110	29x115
 lid No. 01382 biocontainment ⁵⁾																			
																			
Cat.-No. 01430																			
Cat.-No.	01351	01339	01343	01383	01383	01329	01330	01331	00761	01348	04417	04416	01396	01347	01384	06311	01363	01365	06318
tubes per rotor	20	108	36	20	20	16	4	4	4	16	4	4	4			4			
RCF	3,857	4,081	4,137	4,025	4,025	3,997	3,829	3,801	4,025	4,025	3,857	4,137	4,109		4,193		3,689		4,193
radius in mm	138	146	148	144	144	143	137	136	144	144	138	148	147		150		132		150
run-up in sec																			
run-down in sec																			
temperature °C ¹⁾																			



Swing-out rotor, 4-place, 01324 illustrated with suspension 01398 and adapter 01483 n= 4,000 min⁻¹, RCF 3,305, for max. 4 x 100 ml.

capacity ml	9	15	2,6-2,9	4-5,5	9-10	10	4-7	15	50	12	50
dimensions Ø x L mm	14x100	17x100	13x65	15x75	16-92	15-102	16 x 75	17x120	29x115	17x100	29x115
 Cat.-No. 01398											
											
Cat.-No.	01482	01482	01482	01482	01482	01482	01482	01483	01484	01482	01484
tubes per rotor											
RCF											
radius in mm											
run-up in sec											
run-down in sec											
temperature °C ¹⁾											

capacity ml	1.5/2.0	1	3/4	5	6/7	9/15	25	50	100	10	30	50	85	15		50	12	25	30	50
dimensions Ø x L mm	11 x 38	6 x 45 rhesus	10x60/88	13x75	13x82/100	14/17x100	24 x 100	34 x 100	44 x 100	16x80/100	26x95	29x107	38x106	17x120		29x115	17x100	25 x90	25x110	29x115
lid No. 01382 biocontainment ⁵⁾ 																				
																				
Cat.-No 01390																				
Cat.-No.	01351	01339	01343	01383	01383	01329	01330	01331	00761	01348	04417	04416	01396	01356	01347	01384	06311	01363	01365	06318
tubes per rotor	20	108	36	20	20	16	4	4	4	16	4	4	4	12	4					
RCF	3,056	3,237	3,283	3,192	3,192	3,170	3,034	3,011	3,192	3,147	3,056	3,283	4,260	3,328			3,689		4,193	
radius in mm	135	143	145	141	141	140	134	133	141	139	135	145	144	147			132		150	
run-up in sec	30																			
run-down in sec	 30  220																			
temperature °C ¹⁾	-6																			



Swing-out rotor, 8-place, n= 4,000 min⁻¹, RCF 2,415, for 8 x 15 ml, stainless steel, with suspensions No. 01644, PA, fibreglass reinforced.

capacity in ml	5	10	10	15
dimensions Ø x L mm	12/13x75	17 x 70	13 x 100	17 x 100
 n=4,000 min ⁻¹ Cat.-No. 01611				
				
Cat.-No.	01131	01132	01643	01644
tubes per rotor	8	8	8	8
RCF		1,914		2,415
radius in mm		107		135
run-up in sec				20
run-down in sec				20 155
temperature °C ¹⁾				-16



Swing-out rotor, 12-place, n= 5,000 min⁻¹, RCF 4,187, for 12 x 15 ml, stainless steel, with suspensions No. 01621, PA, fibreglass reinforced.

capacity in ml	5	10	15
dimensions Ø x L mm	12/13 x 75	17 x 70	17 x 100
 n=5,000 min ⁻¹ Cat.-No. 01628			
			
Cat.-No.	01127	01122	01621
tubes per rotor	12	12	12
RCF	3,488	3,530	4,187
radius in mm	125	126	150
run-up in sec			16
run-down in sec			16 360
temperature °C ¹⁾		-15	-10

45°



Swing-out rotor, 8-place,
n= 5,000 min⁻¹,
RCF 3,875,
for 8 x 50/15 ml,
stainless steel, with
suspensions, aluminium.

capacity in ml	15	50
dimensions Ø x L mm	17 x 120	29 x 115
n=5,000 min ⁻¹ Cat.-No. 01617		
Cat.-No.	01462A	—
tubes per rotor	8	
RCF	3,875	
radius in mm	138	
run-up in sec	20	
run-down in sec	19 380	
temperature °C ¹⁾	- 10	

90°



Swing-out rotor, 6-place,
n= 4,000 min⁻¹,
RCF 2,701,
for 6 x 50/15ml Falcon
tubes, stainless steel, with
suspensions, PA, fiberglass
reinforced.

capacity in ml	15	50
dimensions Ø x L mm	17 x 120	29 x 115
n=4,000 min ⁻¹ Cat.-No. 01619		
Cat.-No.	01462A	—
tubes per rotor	6	
RCF	2,701	
radius in mm	151	
run-up in sec	20	
run-down in sec	22 265	
temperature °C ¹⁾	- 15	



Swing-out rotor,
2-place, n=4,000 min⁻¹,
RCF 2,218,
for microtitre plates,
aluminium, coated,
with suspensions No.
01453, stainless steel.

	microtitre plate	culture plate	deep well plate	MS	QP
n=4,000 min ⁻¹ Cat.-No. 01460					
Cat.-No.	01453				
plates per rotor	10	8	8	2	2
RCF	2,218				
radius in mm	124				
run-up in sec	40				
run-down in sec	45 1.130				
temperature °C ¹⁾	-6				



Swing-out rotor,
4-place,
n= 4,000 min⁻¹,
RCF 1,896,
for microtitre
plates, rotor and
carriers No. 04345
of stainless steel.

	microtitre plate	culture plate
n=4,000 min ⁻¹ Cat.-No. 01645		
Cat.-No.	04345	
plates per rotor	4	
RCF	1,896	
radius in mm	106	
run-up in sec	20	
run-down in sec	19 800	
temperature °C ¹⁾	- 16	



Angle rotor,
Cat. No. 01620 A
6-place,
n= 9,000 min⁻¹,
max RCF 9,418.
illustrated with adapter set
01646

capacity in ml	10	15	30	50	50/75	85	15	50
dimensions Ø x L mm	16 x 80	17 x 100	26 x 95	29 x 107	34 x 100 35 x 105	38 x 106	17 x 120	29 x 115
 n=9,000 min ⁻¹ Cat.-No. 01620A								
						–		4) 
Cat.-No.	01448	01451	01447	01446	01463	–	01466	01646
tubes per rotor	12	6	6	6	6	6	6	6
RCF	8,784	8,784	8,603	9,056	9,327	9,418	8,965	
radius in mm	97	97	95	100	103	104	99	
run-up in sec	30							
run-down in sec	 30  970							
temperature °C ¹⁾	- 11							

4) Adapter set, 6-place, for conical 50 ml tubes with screw cap

1) Lowest attainable temp. in pre-cooled refrigerated centrifuges at max. speed

- braked run-down at level 9
 unbraked run-down

Please make sure not to exceed the tubes max. permissible RCF. For glass tubes the max RCF is 4,000



Angle rotor,
Cat. No. 01613
12-place,
n= 6,000 min⁻¹, max
RCF 4,146

capacity in ml	5	15	15
dimensions Ø x L mm	12/13 x 75	17 x 100	17 x 120
 n=6,000 min ⁻¹ Cat.-No. 01613			
Cat.-No.	01054A	—	—
tubes per rotor	12	12	6
RCF	3,300	4,146	
radius in mm	82	103	
run-up in sec	15		
run-down in sec	 15  570		
temperature °C ¹⁾	- 16		



Angle rotor,
Cat. No. 01615
12-place,
n= 12,000 min⁻¹,
max RCF 16,5821,

capacity in ml	5	15	15
dimensions Ø x L mm	12/13x75	17 x 100	17 x 120
 n=12.000 min ⁻¹ Cat.-No. 01615	 		
Cat.-No.	01054A	—	—
tubes per rotor	12	12	6
RCF	13,201	16,582	
radius in mm	82	103	
run-up in sec	40		
run-down in sec	 40  840		
temperature °C ¹⁾	-2		



capacity in ml	15	15	50	12	50	50
dimensions Ø x L mm	17 x 100	17 x 120	29 x 115	17 x 100	29 x115	29 x 107
 n=4,500 min ⁻¹ Cat.-No. 01418						
	+ 00716 	+ E2109 	+ E2110 	+ 00716 		
Cat.-No.	01467	01467	01468	01467	01468	
tubes per rotor	32	32	8	32	8	
RCF	3,215	3,283	3,147	3,215	3,147	
radius in mm	142	145	139	142	139	
run-up in sec	30					
run-down in sec	 30  640					
temperature °C ¹⁾	-11					



Angle rotor,
Cat. No. 01420
24-place,
n= 15,000 min⁻¹,
max RCF 21,382

capacity in ml	1.5	0.5/0.8	0,2 /0.4	2.0
dimensions Ø x L mm	11x38	8x30/45	6x18/45	11x38
Lid OE2040 incl. n=15,000 min ⁻¹ Cat.-No. 01420	with high speeds we recommend to use adapter No. 02031 			
Cat.-No.	—	02023	02024	—
tubes per rotor	24			
RCF	21,382			
radius in mm	85			
run-up in sec	25			
run-down in sec	24 550			
temperature °C ¹⁾	-4			



Angle rotor,
Cat. No. 01689
30-place,
n= 14,000 min⁻¹
max RCF 21,255

capacity in ml	1.5	0.5/0.8	0,2 /0.4	2.0
dimensions Ø x L mm	11x38	8x30/45	6x18/45	11x38
n=14,000 min ⁻¹ Cat.-No. 01689	with high speeds we recommend to use adapter No. 02031 			
Cat.-No.	—	02023	02024	—
tubes per rotor	30			
RCF	21,255			
radius in mm	97			
run-up in sec	35			
run-down in sec	31 770			
temperature °C ¹⁾	-0			

Optional for rotor 01420



Lid (Cat. No. 02425
with bio-containment
autoclavable



Lid (Cat. No. 02423
with bio-containment
autoclavable,
phenol-resistant

1) Lowest attainable temp. in pre-cooled refrigerated centrifuges at max. speed

- braked run-down at level 9
 unbraked run-down

Please make sure not to exceed the tubes max. permissible RCF. For glass tubes the max RCF is 4.000



Cyto rotor, 6-place, aluminium, coated with cyto
suspensions, suitable for
U-320 and U-320R more information is available in
a detailed cyto brochure.