

# 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

## 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



MMS 3000



## 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



MSH 300

## 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
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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

specialy 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
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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

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

## 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



WB-4MS

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

## 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.)

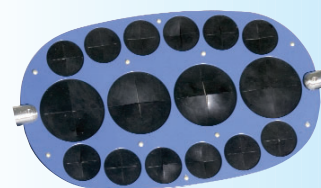
### Specification

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

## 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.



OS-20 WITH PP-4 PLATFORM

### 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

## 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.



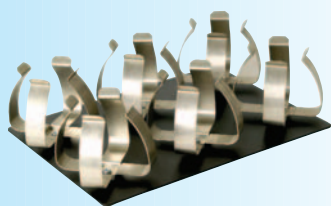
OS-10 WITH UP-12 PLATFORM

### 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

## ACCESSORIES FOR OS-20 AND OS-10



PLATFORM P-6/250

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

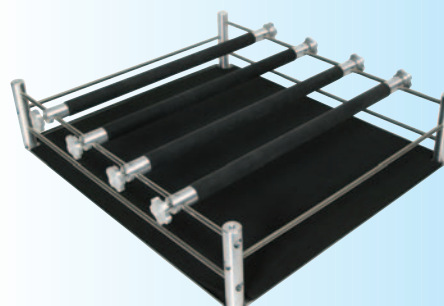
BOE 8080012	4 level platform PP-20-4, 480 x 380 mm
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BOE 8081001	Spring clamp, 25 ml max.:	36 pcs.
BOE 8081002	Spring clamp, 50 ml max.:	36 pcs.
BOE 8081003	Spring clamp, 100 ml max.:	25 pcs.
BOE 8081004	Spring clamp, 250 ml max.:	16 pcs.
BOE 8081005	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
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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