

ROTARY EVAPORATOR

BOECO ROTARY EVAPORATOR RVO 400 SD

- ▶ With digital display and control
- ▶ Water or oil bath
- ▶ Motorized lift
- ▶ Built in vacuum controller
- ▶ Variable inclination angle of evaporating flask
- ▶ With vertical or diagonal condenser
- ▶ fitted and designed for control and communication by PC

Technical details:

Evaporating flasks:	20 - 4000 ml.
Rotation speed:	0, 10 up to 280 rpm
Bath temperature:	max. 100°C for water filling max. 180°C for oil filling
Regulation accuracy:	± 1°C up to 100°C ± 3°C up to 180°C
Pressure measurement:	absolute
Pressure difference:	adjustable 1-5000 mbar.
Power supply:	230 V, ±10%, 50 Hz
Power input:	max. 2000 W (excluding vacuum pump)
Dimensions in mm (WxHxD):	650 x 900 x 360 (incl. glass)
Net weight:	approx 20 kg

The RVO 400 SD conforms to the CE mark and all relevant EC standards and DIN norms and has been manufactured under ISO 9001:2000

Code	Description
BOE 8090020	BOECO Rotary Evaporator RVO 400 SD, with heating bath, motorized lift, built in vacuum controller, digital measuring and control system with vertical condenser, 220 V
BOE 8090021	Idem for 110 V
BOE 8090030	BOECO Rotary Evaporator RVO 400 SD, with heating bath, motorized lift, built in vacuum controller, digital measuring and control system with diagonal condenser, 220 V
BOE 8090031	Idem for 110 V

Options:

BOE 8090005	Safety bath cover, Plexiglass
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CHEMICAL RESISTANT VACUUM PUMP

- ▶ 100 % oil-free transfer
- ▶ Pure transfer, evacuation and compression
- ▶ Chemically-resistant, suitable for highly aggressive or corrosive gases and vapors
- ▶ Maintenance-free
- ▶ Environmentally friendly
- ▶ Gas tight, leake rate approx. 6×10^{-3} mbar x l/s

Specification:

Delivery:	20 l/min
Vacuum:	8 mbar abs.
Pressure:	1 bar
Connectors for tube:	ID 10 mm
Permissible gas and ambient temp:	+5...+40°C
Motor protection:	IP 44
Weight:	7,1.kgs
Dimensions LxHxB:	312x207x154 mm

Code	Description
KNF 057501/026366	KNF LABOPORT® Diaphragm Vacuum Pump N 820.3FT.18, 220 V, 50 Hz, Pump head: PTFE, Diaphragm: PTFE-coated, Valves: FFPM;
KNF 057501/027170	Idem, 115V, 60 Hz



VACUUM PUMP N 86.3KN.18

is a mini single-head, dry-running diaphragm Vacuum Pump, adaptable to many laboratory requirements.

- ▶ 100 % oil-free transfer
- ▶ Pure transfer, evacuation and compression
- ▶ Maintenance-free
- ▶ Environmentally friendly
- ▶ High level of gas tightness

Specification N 86.3KN.18:

Delivery:	6 l/min
Vacuum:	100 mbar abs. / 684 mm hg
Pressure:	2,4 bar
Connectors for tube:	ID 4 mm
Permissible gas and ambient temp:	+5...+40°C
Motor protection:	IP 20
Weight:	1,9.kgs
Dimensions LxHxB:	164x141x90 m



N 86.3KN

Code	Description
KNF 046208/046242	KNF LABOPORT® Diaphragm Vacuum Pump N 86.3KN.18, 220 V, 50 Hz, Pump head: PPS, Diaphragm: EPDM, Valves: FPM;
KNF 046208/046241	Idem, 115V, 60 Hz

Options:

KNF 001787	Fine control valve (suction side)
KNF 001786	Fine control valve (pressure side)

BOECO VACUUM PUMP R-300

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

- ▶ quiet and low vibration
- ▶ Compact and light weight
- ▶ Oil free and Maintenance-free

Specification R-300:

Max. vacuum:	600 mm hg	50 Hz	60 Hz
Max flow rate:	17 l/min	20 l/min	
Motor rotation:	1450 rpm	1700 rpm	
Horse power:	1/8 HP		
Pole:	4 P		
Net weight:	4.1.kgs		
Port thread:	5/16 inch		
Noise level:	50db		



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

Filtration Accessories

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

SAR 16824	3-branch stainless steel manifold Capacity 3 x 100 ml funnels
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FILTRATION UNIT



MANIFOLD



PWB-4



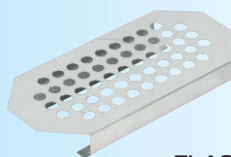
GABLED LID



FLAT LID



TEST TUBE RACK



FLASK TRAY

BOECO WATER BATH PWB-4

The personal advanced PID microprocessor controlled waterbath PWB-4 with its specification, easy operation and small foot print is designed for chemical, pharmaceutical, medical and biological routine laboratory use and as well as for research purpose.

Specification:

Temperature Range:	Room Temperature + 10°C+ 100 °C
Temperature Setting:	0,1 °C
Control Panel:	Easy setting and operating, adjustable temperature, alarm signal display Single Line 4 digitals LED
Temperature Display:	± 0,2
Uniformity:	± 0,2 (37°C)
Heating Time:	< 80 min (from RT 20°C to 95°C)
Input Power:	500 W
Overheat Protection:	The power will automatically be turned of when the internal temperature is over 110 °C
Stainless Steel bath:	4 L.
Bath Inner dimensions:	238 x 135 x 146 mm
Outer Dimension:	370 x 200 x 250 mm
Weight :	5,8 kg

Code

Description

BOE 8036000	Waterbath PWB-4, without lid, 220V, 50/60 Hz
BOE 8036100	Waterbath PWB-4, without lid, 110V, 60 Hz

Accessories

Code

Description

BOE 8036001	Gabled plastic lid
BOE 8036002	Flat stainless steel lid with concentric rings
BOE 8036018	Test tube rack st. steel with 41 x 18 mm ø holes
BOE 8036015	Test tube rack st. steel with 41 x 15 mm ø holes
BOE 8036003	Flask tray, stainless steel



PWB-4 WITH TEST TUBE RACK



PWB-4 WITH FLAT LID / CONCENTRIC RINGS



PWB-4 WITH GABLED PLASTIC LID

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

BOECO THERMO-SHAKER FOR MICROTUBES, TS-100

is a 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. 4,16 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
BOE 8064005	Interchangeable block, SC-24 for for 24x2,0 ml microtubes
BOE 8064006	Interchangeable block, SC-96A for for 96-well PCR microplate



TS-100 with block SC-18



SC-20

BOECO THERMO-SHAKER FOR MICROTUBES, TS-100C

is a heating and cooling thermomixer. Active cooling using peltier technology offers a temperature regulation range from +4 °C to + 100°C. Temperature control and mixing modes can be used simultaneously and independently. The TS-100C is microprocessor controlled and has a display which indicates simultaneous set and actual time, temperature and shaking speed. The low voltage power supply enables safe cold room or incubator operation. The TS-100C is applicable for DNA analysis, extraction of proteins, polysaccharids, lipids and other cell components

Specification:

Speed range:	250 - 1400 1/min, increment 10 rpm
Orbit size:	2 mm
Temperature range:	15°C below room temp. to +100 °C
Temperature setting range:	+4°C to 100°C
Average heating rate:	5 °C / min (from +25 to +100°C in 15 min)
Average cooling rate:	In the range from +100°C to RT
Timer with sound signal:	digital, 1 min - 96 h, increment 1 min
Power (external):	DC 12 V. 4,16 A
Overall size:	205 x 230 x 130 mm (W x D x H)
Weight:	4 kg

Code	Description
BOE 8064050	Thermo-Shaker for microtubes TS-100C, without blocks, AC 100-240V 50/60 Hz
BOE 8064051	Interchangeable block, SC-18C for for 20x0,5 ml and 12 x 1,5 ml microtubes
BOE 8064052	Interchangeable block, SC-20C for for 20x1,5 ml microtubes
BOE 8064053	Interchangeable block, SC-20NC for for 20x2,0 ml microtubes
BOE 8064054	Interchangeable block, SC-18/02C for for 20x0,2 ml and 12 x 1,5 ml microtubes
BOE 8064055	Interchangeable block, SC-24C for for 24x2,0 ml microtubes
BOE 8064056	Interchangeable block, SC-96AC for for 96-well PCR microplate



TS-100C with block SC-20C





COMBISPIN
FVL-2400

SR-16

BOECO COMBI-SPIN, FVL-2400 PLUS

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

BOECO THERMAL CYCLER TC-SQ

is a personal Thermal Cycler with compact structure and small footprint and a friendly user interface with big LCD display which gives reliable results for teaching and research laboratories. The TC-SQ provides superior performance especially in the cooling and heating speed, temperature control accuracy and uniformity of the block.



THERMAL CYCLER
TC-SQ

Specification:

Sample Capacity:	24 x 0,2 ml, 8-strip, 24 x 0,2 ml plate
Temperature control range:	+ 4 ~ +99 °C
Heating Rate (Max):	≥ 5,0 °C /sec
Cooling Rate (Max):	≥ 4,0 °C /sec
Block Temp. Uniformity:	≤ ± 0,3 °C
Block Temp. Accuracy:	≤ ± 0,3 °C
Temp. of Hot Lid:	30°C - 110 °C
Adjustability of Hot Lid Press:	Yes
Temp. Control Mode:	Block or Tube
Display:	320 x 240 LCD
Program Storage:	100 files
Max. Segments:	5 segments
Max. Program Steps:	16 steps
Max. Cycles:	99 cycles
Size:	297 (L) x 212 (W) x 200 (H) mm
Weight:	3,2 kg
Interface:	RS 232

Code	Description
BOE 8085240	Thermal cycler TC-SQ, 220-240 V, 50/60 Hz with sample block for 24 x 0,2 ml
BOE 8085241	Thermal cycler TC-SQ, 100-120 V, 50/60 Hz with sample block for 24 x 0,2 ml

Optional Block:

Code	Description
BOE 8085185	Sample Block for 18 x 0,5 ml

BOECO THERMAL CYCLER TC-PRO

is a multifunctional compact sized thermal cycler equipped with high end Peltier technology. His five interchangeable sample block give the BOECO TC-PRO an exceptional versatility for PCR methods using tubes, strip wells or plates. Its high ramping rate and precision temperature control provide fast, accurate results. The extra large display and user-friendly interface make operation easy. The unit automatically recognizes which sample block is in place, eliminating the need for an operator to manually supply this information. The instrument can work either by itself or with computer control. One computer can control up to 30 sets of the thermal cyclers.

Specification:

Temperature control range:	+ 4 ~ +99 °C
Heating Rate (Max):	≥ 4,0 °C /sec
Cooling Rate (Max):	≥ 4,0 °C /sec
Block Temp. Uniformity:	≤ ± 0,3 °C
Block Temp. Accuracy:	≤ 0,1 °C (55 °C), ≤ 0,2 °C (90 °C)
Temp. of Hot Lid:	20°C - 110 °C
Gradient Range:	1 °C - 30 °C
Temp. Control Mode:	Block or Tube
Program Storage:	≥ 100 files (No limitation with USB flash disk)
Max. Segments	5 segments
Max. Program Steps:	16 steps
Max. Cycles:	99 cycles
Power, max:	600 W
Size:	368 (L) x 250 (W) x 285 (H) mm
Weight:	6,3 kg (Main body) + 4,2 kg (block)
Interface:	USB, LAN
Operation System:	Windows 2000 / XP (Memory:> 256M, Hard disk: >10G, CPU: Pentium 4)



THERMAL CYCLER
TC-PRO

Code	Description
BOE 8085000	Thermal cycler TC-PRO, AC 110-240 V

Interchangeable Blocks:

Code	Description
BOE 8085001	Block 96G: 96 x 0,2 ml gradient block

This aluminium alloy block and hot lid is for 96 x 0,2 ml microplate or tube; 12 x 8 strip; 8 x 12 strip This block can be used run gradient temperature programs. The temperature and hot lid are adjustable

Code	Description
BOE 8085002	Block 384G: 384 wells plate gradient block

This aluminium alloy block and hot lid is for 384 well plates. This block can be used run gradient temperature programs. The temperature and hot lid are adjustable

Code	Description
BOE 8085003	Block 3048: mixed block, 30 x 0,5 + 48 x 0,2 ml

This aluminium alloy mixed block and hot lid is for a max of 30 x 0,5 ml 48 x 0,2 ml microtest tubes. The temperature and hot lid are adjustable

Code	Description
BOE 8085004	Block 48D: dual block, 2 x 48 x 0,2 ml

This module is two separate aluminium alloy blocks, both for 0,2 ml microtest tubes, but each with its own hot lid. Each block accepts a maximum of 48 tubes for a total of 96 tubes. The temperature and pressure of the hot lids are independently adjustable

Code	Description
BOE 8085005	Block 4I: block for 4 In Situ plates

This aluminium alloy block and hot lid is for 4 in situ plates. The temperature and hot lid are adjustable



BLOCK 96G



BLOCK 384G



BLOCK 3048



BLOCK 48D



BLOCK 4I