



BOECO CENTRIFUGE M-240



BOECO CENTRIFUGE M-240R

## 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 15,000 rpm and an RCF of 21,382 they are not only 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 61010, all relevant EC standards and DIN norms and have been manufactured under ISO 9001:2008

### Technical details

|                                      | M-240                                    | M-240R          |
|--------------------------------------|------------------------------------------|-----------------|
| Max. RPM (speed) / RCF:              | 15,000 RPM / 21,382 RCF                  |                 |
| Noise level:<br>(dependent on rotor) | ≤ 59 dB (A)                              | ≤ 52 dB(A)      |
| Dimensions in mm (HxWxD):            | 260 x 275 x 344                          | 260 x 281 x 533 |
| Net weight:                          | approx 11,5 kg                           | 28 kg           |
| Emission / Immunity:                 | EN / IEC 61326-1 / class B / FCC class B |                 |

| Code         | Description                                                              |
|--------------|--------------------------------------------------------------------------|
| BOE 02400-13 | BOECO centrifuge M-240, 200-240 V, 50-60 Hz, without rotor               |
| BOE 02400-12 | BOECO centrifuge M-240, 100-127 V, 50-60 Hz, without rotor               |
| BOE 02405-13 | BOECO refrigerated centrifuge M-240R, 200-240 V, 50 Hz, without rotor    |
| BOE 02405-12 | BOECO refrigerated centrifuge M-240R, 100-127 V, 50-60 Hz, without rotor |

## Rotors for M-240 and M-240 R

40°



Angle rotor, 24-place

Cat. No. 02424B

$n = 15,000 \text{ min}^{-1}$

max RCF 21.382

Lid 0E3243 incl.

| 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                                                                             |
|  |  |  |  |  |
| $n = 15,000 \text{ min}^{-1}$                                                     | with high speeds we recommend to use adapter No. 02031                            |                                                                                   |                                                                                   |                                                                                   |
| Cat.-No. 02424B                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Cat.-No.                                                                          | —                                                                                 | 02023                                                                             | 02024                                                                             | —                                                                                 |
| tubes per rotor                                                                   | 24                                                                                |                                                                                   |                                                                                   |                                                                                   |
| RCF                                                                               | 21,382                                                                            |                                                                                   |                                                                                   |                                                                                   |
| radius in mm                                                                      | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |
| run-up in sec.                                                                    | 20                                                                                |                                                                                   |                                                                                   |                                                                                   |
| run-down in sec. <sup>2)</sup>                                                    | 28                                                                                |                                                                                   |                                                                                   |                                                                                   |
| temperature °C <sup>1)</sup>                                                      | +4                                                                                |                                                                                   |                                                                                   |                                                                                   |

45°



Angle rotor, 30-place,

Cat. No. 02430B

$n = 15,000 \text{ min}^{-1}$

max RCF 20.376

Lid 0E3243 incl.

| capacity in ml                                                                      | 0.5                                                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| dimensions Ø x L mm                                                                 | 8 x 30                                                                              |
|  |  |
| $n = 15,000 \text{ min}^{-1}$                                                       |                                                                                     |
| Cat.-No. 02430B                                                                     |                                                                                     |
| Cat.-No.                                                                            | —                                                                                   |
| tubes per rotor                                                                     | 30                                                                                  |
| RCF                                                                                 | 20,376                                                                              |
| radius in mm                                                                        | 81                                                                                  |
| run-up in sec.                                                                      | 19                                                                                  |
| run-down in sec. <sup>2)</sup>                                                      | 28                                                                                  |
| temperature °C <sup>1)</sup>                                                        | +4                                                                                  |

45°



Angle rotor, 24-place

Cat. No. 02428

$n = 15,000 \text{ min}^{-1}$

max RCF 21.382

Lid with bio-containment,  
autoclavable, phenol-re-  
sistant incl.

| capacity in ml                                                                    | 1.5                                                                               | 0.5/0.8                                                                           | 0.2 /0.4                                                                          | 2.0                                                                               | 1.5                                                                               | 2.0                                                                               |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| dimensions Ø x L mm                                                               | 11x38                                                                             | 8x30/45                                                                           | 6x18/45                                                                           | 11x38                                                                             | micro spin columns 11x38                                                          |                                                                                   |
|  |  |  |  |  |  |  |
| $n = 15,000 \text{ min}^{-1}$                                                     | with high speeds we recommend to use adapter No. 02031                            |                                                                                   |                                                                                   |                                                                                   | with high speeds we recommend to use adapter No. 02031                            |                                                                                   |
| Cat.-No. 02428                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Cat.-No.                                                                          | —                                                                                 | 02023                                                                             | 02024                                                                             | —                                                                                 | —                                                                                 | —                                                                                 |
| tubes per rotor                                                                   | 24                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| RCF                                                                               | 21,382                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| radius in mm                                                                      | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| run-up in sec.                                                                    | 20                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| run-down in sec. <sup>2)</sup>                                                    | 28                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| temperature °C <sup>1)</sup>                                                      | +4                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

The special raised rim of the rotor 02428 enables centrifugation of tubes with open lids. The rim supports the lids so they will not rip off during centrifugation.

Centrifugation with open tube lids is performed for example when spinning tubes with filter elements, so called „spin columns“

52.5° inner /  
40° outer



Angle rotor, 30-place,

Cat. No. 02427A

$n = 15,000 \text{ min}^{-1}$

max RCF 20.627

Lid 0E3243 incl.

| 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                                                                               |
|  |  |  |  |  |
| $n = 15,000 \text{ min}^{-1}$                                                       | with high speeds we recommend to use adapter No. 02031                              |                                                                                     |                                                                                     |                                                                                     |
| Cat.-No. 02427A                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cat.-No.                                                                            | —                                                                                   | 02023                                                                               | 02024                                                                               | —                                                                                   |
| tubes per rotor                                                                     | 30                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| RCF                                                                                 | 20,627                                                                              |                                                                                     |                                                                                     |                                                                                     |
| radius in mm                                                                        | 82                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| run-up in sec.                                                                      | 22                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| run-down in sec. <sup>2)</sup>                                                      | 30                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| temperature °C <sup>1)</sup>                                                        | +4                                                                                  |                                                                                     |                                                                                     |                                                                                     |

Optional for rotor 02424B, 02430B, 02426B and 02427A



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



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

45°



Angle rotor, 32-place, 4x 8

for PCR tubes and strips

Cat. No. 02418A

$n = 15,000 \text{ min}^{-1}$

max RCF 14,338

Optional Lid 0E3423

| capacity in ml                                                                      | 0.2                                                                                 |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| dimensions Ø x L mm                                                                 | 6 x 18                                                                              | PCR strips                                                                          |
|  |  |  |
| $n = 15,000 \text{ min}^{-1}$                                                       |                                                                                     |                                                                                     |
| Cat.-No. 02418A                                                                     |                                                                                     |                                                                                     |
| Cat.-No.                                                                            | —                                                                                   |                                                                                     |
| tubes per rotor                                                                     | 32                                                                                  | 4 x 8                                                                               |
| RCF                                                                                 | 14,338                                                                              |                                                                                     |
| radius in mm                                                                        | 57                                                                                  |                                                                                     |
| run-up in sec.                                                                      | 19                                                                                  |                                                                                     |
| run-down in sec. <sup>2)</sup>                                                      | 28                                                                                  |                                                                                     |
| temperature °C <sup>1)</sup>                                                        | +4                                                                                  |                                                                                     |

40°



Angle rotor, 20-place

for cryo tubes

Cat. No. 02426B

$n = 15,000 \text{ min}^{-1}$

max RCF 21,130

Lid 0E3243 incl.

| capacity in ml                                                                        | 1.8                                                                                   |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| dimensions Ø x L mm                                                                   | cryo tubes                                                                            |
|  |  |
| $n = 15,000 \text{ min}^{-1}$                                                         |                                                                                       |
| Cat.-No. 02426B                                                                       |                                                                                       |
| Cat.-No.                                                                              | —                                                                                     |
| tubes per rotor                                                                       | 20                                                                                    |
| RCF                                                                                   | 21,130                                                                                |
| radius in mm                                                                          | 84                                                                                    |
| run-up in sec.                                                                        | 19                                                                                    |
| run-down in sec. <sup>2)</sup>                                                        | 28                                                                                    |
| temperature °C <sup>1)</sup>                                                          | +4                                                                                    |