EBA 21
Small Centrifuge
Maximum performance in microlitre centrifugation coupled with reliability in daily laboratory tasks.

The EBA 21 is powerful and versatile not only in microlitre centrifugation. Equipped with a variable, maintenance-free frequency drive, this centrifuge generates a max. RCF of 25,718 at a speed of 18,000 min⁻¹.

With its wide range of rotors, the EBA 21 easily meets all demands placed on a small, high-performance centrifuge.

**PERFORMANCE**
- High RCF
  - up to 3,904 with 50 ml tubes
  - up to 25,718 with microlitre tubes
- Extremely short run-up and run-down times
- Wide range of accessories
  - angle and swing-out rotors
  - adapters for many different centrifuge tubes

**TECHNOLOGY**
- Twist lock for effortless opening and closing of the lid
- Ergonomically arranged controls and displays
- Viewing port in the lid
- 3 complete running programmes can be stored and recalled

**SAFETY**
- Metal housing and lid
- Centrifuging chamber of stainless steel
- Lid locking and holding
- Lid dropping protection
- Emergency lid lock release
- Imbalance switch-off
- Automatic rotor recognition
The fully developed up to date N control panel meets the requirements of the users and is extremely easy to operate.

**DIGITAL DISPLAY AND CONTROL PANEL**

**KEYPAD**

- Guides the user through the menu options.
- Increases the relevant value.
- Decreases the relevant value.

**IMPULS**
For short centrifugation steps.

**START**
Starts centrifugation.

**STOP**
Stops centrifugation manually.

**PROG**
Stores the program.

**RCF**
Switches from RPM to RCF display.
Entry of the RCF in increments of 10.
Input of rotor radius in mm in RCF mode.

- Entry of the run-up time in ramps 1-9
- Entry of the run-down time in ramps 1-9

An LED lights up:
- in the event of imbalance,
- as long as the rotor is rotating,
- when the lid can be opened on completion of the program.

**ENTRY OF THE PARAMETERS**

**PROG**
Program number. Three programmable memories are available.

**>RCF<**
Relative centrifugal force.

**RPM**
Speed indication. Entry in increments of 10.

**t/min:s**
Centrifugation time (max. 99 min : 59 sec).
### ROTORS AND ACCESSORIES

<table>
<thead>
<tr>
<th>Angle rotor, 6-place</th>
<th>Angle rotor, 12-place</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \pm 35^\circ )</td>
<td>( \pm 35^\circ )</td>
</tr>
<tr>
<td>( n = 6,000 \text{ min}^{-1} )</td>
<td>( n = 6,000 \text{ min}^{-1} )</td>
</tr>
<tr>
<td>max. RCF 4,025</td>
<td>max. RCF 4,146</td>
</tr>
</tbody>
</table>

| Cat. No. | 1116 | 1416 |

#### Table: Rotor Specifications

<table>
<thead>
<tr>
<th>Capacity in ml</th>
<th>7</th>
<th>15</th>
<th>25</th>
<th>50</th>
<th>9–10</th>
<th>10</th>
<th>1.6–5 ml</th>
<th>4–7 ml</th>
<th>15</th>
<th>50</th>
<th>30</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø x L in mm</td>
<td>12x100</td>
<td>17x100</td>
<td>24x100</td>
<td>34x100</td>
<td>16x92</td>
<td>15x102</td>
<td>13x75</td>
<td>13x100</td>
<td>17x120</td>
<td>29x115</td>
<td>26x96</td>
<td>29x107</td>
</tr>
</tbody>
</table>

| Cat. No. | 0578 | 0518 | 0519 | 0521 | blood collection / urine tubes | 0509 | 0513 | 0545 | 0546 |

<table>
<thead>
<tr>
<th>rotor Cat. No.</th>
<th>1116</th>
<th>1632</th>
<th>1635</th>
<th>1633</th>
<th>-</th>
<th>1635</th>
<th>1631</th>
<th>1641</th>
<th>1633</th>
<th>1634</th>
</tr>
</thead>
<tbody>
<tr>
<td>bore Ø x L in mm</td>
<td>13x92</td>
<td>17.5x95</td>
<td>26x88</td>
<td>35x96</td>
<td>17.5x95</td>
<td>17x98</td>
<td>30x98</td>
<td>26x88</td>
<td>29x95</td>
<td>12x90</td>
</tr>
<tr>
<td>tubes per rotor</td>
<td>18</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>max. RCF(^2)</td>
<td>3,944</td>
<td>3,783</td>
<td>3,703</td>
<td>4,025</td>
<td>3,783</td>
<td>2,978</td>
<td>3,824</td>
<td>3,824</td>
<td>3,703</td>
<td>3,904</td>
</tr>
<tr>
<td>radius in mm</td>
<td>98</td>
<td>94</td>
<td>92</td>
<td>100</td>
<td>94</td>
<td>74</td>
<td>94</td>
<td>95</td>
<td>95</td>
<td>92</td>
</tr>
<tr>
<td>run-up in sec</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>run-down in sec</td>
<td>27</td>
<td>624</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| capacity in ml | 5 | 15 | 1.1–1.4 | 2.6–3.4 | 2.7–3 | 4.5–5 | 4.9 | 7.5–8.5 | 9–10 | 10 | 1.6–5 | 4–7 | 8 | 8.5–10 | 15 |
| Ø x L in mm | 12x75 | 17x100 | 8x66 | 13x66 | 11x66 | 11x92 | 13x90 | 15x92 | 16x92 | 15x102 | 13x75 | 13x100 | 16x125 | 16x100 | 17x120 |

| Cat. No. | 0553\(^2\) | 0518 | 0519 | 0521 | blood collection / urine tubes | 0509 |

<table>
<thead>
<tr>
<th>rotor Cat. No.</th>
<th>1416</th>
<th>1632</th>
<th>1635</th>
<th>1633</th>
<th>-</th>
<th>1054-A</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>bore Ø x L in mm</td>
<td>13.5x60</td>
<td>17.7x88</td>
<td>13.5x60</td>
<td>17.7x88</td>
<td>13.5x60</td>
<td>17.7x88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tubes per rotor</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>max. RCF(^2)</td>
<td>3,300</td>
<td>4,146</td>
<td>3,300</td>
<td>4,146</td>
<td>3,300</td>
<td>4,146</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>radius in mm</td>
<td>82</td>
<td>103</td>
<td>82</td>
<td>103</td>
<td>82</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>run-up in sec</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>run-down in sec</td>
<td>23</td>
<td>391</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^2\) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote \(^2\) is 4,000.
**ROTORS AND ACCESSORIES**

### Angle rotor, 12-place

- **Angle**: 45°
- **n**: 18,000 min⁻¹
- **max. RCF**: 25,718
- **Cat. No.**: 1022

<table>
<thead>
<tr>
<th>Capacity (ml)</th>
<th>0.2</th>
<th>0.4</th>
<th>0.5</th>
<th>0.8</th>
<th>1.5</th>
<th>2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø x L (mm)</td>
<td>6x18</td>
<td>6x45</td>
<td>8x30</td>
<td>8x45</td>
<td>11x38</td>
<td></td>
</tr>
</tbody>
</table>

### Angle rotor, 24-place

- **Angle**: 40°
- **n**: 15,000 min⁻¹
- **max. RCF**: 21,382
- **Cat. No.**: 1024

<table>
<thead>
<tr>
<th>Capacity (ml)</th>
<th>0.2</th>
<th>0.4</th>
<th>0.5</th>
<th>0.8</th>
<th>1.5</th>
<th>2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø x L (mm)</td>
<td>6x18</td>
<td>6x45</td>
<td>8x30</td>
<td>8x45</td>
<td>11x38</td>
<td></td>
</tr>
</tbody>
</table>

### Angle rotor, 30-place

- **Angle**: 45°
- **n**: 14,000 min⁻¹
- **max. RCF**: 21,255
- **Cat. No.**: 1089-A

<table>
<thead>
<tr>
<th>Capacity (ml)</th>
<th>0.2</th>
<th>0.4</th>
<th>0.5</th>
<th>0.8</th>
<th>1.5</th>
<th>2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø x L (mm)</td>
<td>6x18</td>
<td>6x45</td>
<td>8x30</td>
<td>8x45</td>
<td>11x38</td>
<td></td>
</tr>
</tbody>
</table>

### Optional for rotor 1024

- **Lid**
  - Cat. No. 2423
  - with bio-containment
  - autoclavable
  - phenol-resistant

**Additional tubes e.g. stool tubes or spin columns on request.**

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5) Tested by the TÜV in conformity with DIN EN 61010, section 2-020.

7) For centrifugation at high speeds, we recommend to use form-fitting, phenol-resistant adapters 2031.
### ROTORS AND ACCESSORIES

#### Angle rotor, 12-place

- Angle: 35°
- \( n = 5,000 \text{ min}^{-1} \)
- max. RCF: 2,879

**Cat. No.** 1118

<table>
<thead>
<tr>
<th>capacity in ml</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \phi \times L ) in mm</td>
<td>12\times75</td>
<td>12\times82</td>
<td>12\times100</td>
</tr>
</tbody>
</table>

**Cat. No.** 0553² 0501² 0578²

<table>
<thead>
<tr>
<th>rotor Cat. No.</th>
<th>-</th>
</tr>
</thead>
</table>

- boring \( \phi \times L \) in mm: 12\times66
- tubes per rotor: 12
- max. RCF\(^2\): 2,879
- radius in mm: 103
- run-up in sec: 10
- run-down in sec: 13

#### Swing-out rotor, 8-place

- Angle: 55° (with carrier 1127)
- \( n = 5,000 \text{ min}^{-1} \)
- max. RCF: 2,999

**Cat. No.** 1114

<table>
<thead>
<tr>
<th>capacity in ml</th>
<th>5</th>
<th>10</th>
<th>2.6–3.4</th>
<th>2.7–3</th>
<th>4–5.5</th>
<th>1.6–5</th>
<th>4–7</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \phi \times L ) in mm</td>
<td>12\times75</td>
<td>17\times70</td>
<td>13\times65</td>
<td>11\times66</td>
<td>15\times75</td>
<td>13\times75</td>
<td>16\times75</td>
</tr>
</tbody>
</table>

**Cat. No.** 0553² 2079

<table>
<thead>
<tr>
<th>rotor Cat. No.</th>
<th>-</th>
</tr>
</thead>
</table>

- boring \( \phi \times L \) in mm: 13.2\times53 17.5\times53 13.2\times53 17.5\times53 13.2\times53 17.5\times53
- tubes per rotor: 8
- max. RCF\(^2\): 2,963 2,991 2,963 2,991 2,963 2,991
- radius in mm: 106 107 106 107 106 107
- run-up in sec: 9
- run-down in sec: 14 122

#### Swing-out rotor, 6-place

- Angle: 60° (with carrier 1122)
- \( n = 5,000 \text{ min}^{-1} \)
- max. RCF: 2,999

**Cat. No.** 1115

| capacity in ml | 5 | 6 | 10 | 15 | 1.1–1.4 | 2.6–3.4 | 2.7–3 | 4–5.5 | 4.9 | 7.5–8.5 | 9–10 | 1.6–5 | 4–7 | 8.5–10 |
|---------------|---|---|----|----|---------|---------|--------|--------|-----|---------|------|-------|------|------|-----|
| \( \phi \times L \) in mm | 12\times75 | 12\times82 | 17\times70 | 17\times100 | 8\times66 | 13\times65 | 15\times75 | 13\times90 | 15\times92 | 16\times92 | 13\times75 | 16\times75 | 16\times100 |

**Cat. No.** 0553² 0501² 2079 0518²

<table>
<thead>
<tr>
<th>rotor Cat. No.</th>
<th>-</th>
</tr>
</thead>
</table>

- boring \( \phi \times L \) in mm: 13.5\times60 17.5\times79 13.5\times60 17.5\times79 13.5\times60 17.5\times79
- tubes per rotor: 6
- max. RCF\(^2\): 2,068 2,376 2,711 2,068 2,711 2,068 2,543 2,711
- radius in mm: 74 85 97 74 97 74 91 97
- run-up in sec: 8
- run-down in sec: 12 72

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² Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²) is 4,000.
### Rotors and Accessories

#### Swing-out rotor, 8-place
- **Angle:** 90°
- **n:** 5,000 min⁻¹
- **max. RCF:** 2,879
- **Cat. No. (without carriers):** 1120

#### Swing-out rotor, 12-place
- **Angle:** 60°
- **n:** 5,000 min⁻¹
- **max. RCF:** 2,963
- **Cat. No. (without carriers):** 1126

#### Hematocrit rotor, 24-place
- **n:** 15,000 min⁻¹
- **max. RCF:** 21,382
- **Cat. No.:** 1450

<table>
<thead>
<tr>
<th>Capacity in ml</th>
<th>5</th>
<th>2.6–3.4</th>
<th>2.7–3</th>
<th>4–5.5</th>
<th>4–7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø x L in mm</td>
<td>12 x 75</td>
<td>12 x 82</td>
<td>17 x 70</td>
<td>13 x 65</td>
<td>11 x 66</td>
</tr>
</tbody>
</table>

#### Blood Collection Tubes
- **Cat. No.:** 0553
- **Cat. No.:** 0501
- **Cat. No.:** 2079

#### Standard Capillaries, Heparinised
- **Cat. No.:** 2074
- **Cat. No.:** 1072
- **Cat. No.:** 1071

#### Additional Tubes e.g. Stool Tubes or Spin Columns on Request.
- **Cat. No.:** 2077
- **Cat. No.:** 2074
- **Cat. No.:** 1072

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**Additional Information:**
- **Run-up in sec:** 10
- **Run-down in sec:** 117
- **Radius in mm:** 85
- **Capillaries per rotor:** 24
- **Max. RCF:** 21,382
- **Additional tubes e.g. stool tubes or spin columns on request.**
## TECHNOLOGY

<table>
<thead>
<tr>
<th>EBA 21</th>
<th><strong>Small centrifuge, without rotor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Power supply *) 220–240 V 1 ~ 110–127 V 1 ~</td>
</tr>
<tr>
<td></td>
<td>Frequency 50–60 Hz</td>
</tr>
<tr>
<td></td>
<td>Consumption 500 VA 550 VA</td>
</tr>
<tr>
<td></td>
<td>Emission EN 55011 group 1, class B, EN 61000-3-2, EN 61000-3-3, FCC class B</td>
</tr>
<tr>
<td></td>
<td>Immunity EN 61000-6-2</td>
</tr>
</tbody>
</table>

- **Max. capacity**: 6 x 50 ml
- **Max. RPM (speed)**: 18,000 min⁻¹
- **Max. RCF**: 25,718
- **Running time**: 1 sec – 99 min: 59 sec, continuous run, short cycle mode (impulse key)
- **Dimensions (H x W x D)**: 247 x 275 x 330 mm
- **Weight**: approx. 11 kg

**Cat. No.** 1004 1004-01

*) Other voltages on request.

Hettich centrifuges comply with all relevant EU standards in effect and conform to the European level of quality and safety for medical devices. Evidence is provided by national and international test marks such as IEC 61010 or the CE conformity. The ISO 9001:2008 and ISO 13485:2003 certificates accredited to the company bear witness to the extreme care and responsibility Hettich puts into the manufacturing of centrifuges and their accessories.