

## 9.7 Rotors



Eppendorf centrifuges may only be operated with rotors that are intended for use with the corresponding centrifuge.

- ▶ Only use rotors that are intended for use with the corresponding centrifuge.

Please note the manufacturer's information on the centrifugation resistance of the sample tubes used (maximum *g*-force).

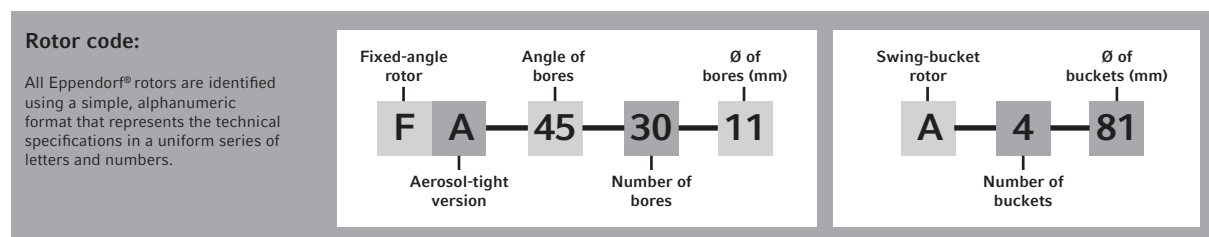
For ordering information, refer to the English and German version of the operating manual.

	Max. capacity	Max. g-force (rcf) or speed (rpm) without adapter	Notes
		Max. load per rotor bore <sup>(1)</sup>	
<b>Rotor FA-45-24-11</b>	24 micro test tubes of 1.5/2.0 ml each or spin columns. With adapters: <ul style="list-style-type: none"> <li>• 0.2 mL PCR tubes</li> <li>• 0.4 ml/0.5 ml micro test tubes</li> <li>• 0.6 mL Microtainers</li> </ul>	21.130 x g/ 15.000 rpm	<ul style="list-style-type: none"> <li>• Aerosol-tight<sup>(2)</sup> rotor lid (aluminum).</li> <li>• Spin columns available, better with rotor FA-45-18-11-kit.</li> </ul>
		3.75 g	
<b>Rotor FA-45-24-11-Special</b>	24 micro test tubes of 1.5/2.0 ml each or spin columns. With adapters: <ul style="list-style-type: none"> <li>• 0.2 mL PCR tubes</li> <li>• 0.4 ml/0.5 ml micro test tubes</li> <li>• 0.6 mL Microtainers</li> </ul>	21.130 x g/ 15.000 rpm	<ul style="list-style-type: none"> <li>• Aerosol-tight<sup>(2)</sup> rotor lid (aluminum).</li> <li>• PTFE-coated (particularly resistant to chemicals), marked: <i>coated</i>.</li> <li>• Spin columns available, better with rotor FA-45-18-11-kit.</li> </ul>
		3.75 g	
<b>Rotor F-45-18-11-Kit</b>	18 spin columns or 1.5/2.0 ml tubes. With adapters: <ul style="list-style-type: none"> <li>• 0.2 mL PCR tubes</li> <li>• 0.4 ml/0.5 ml micro test tubes</li> <li>• 0.6 mL Microtainers</li> </ul>	18.111 x g/ 15.000 rpm	<ul style="list-style-type: none"> <li>• Uniquely high edge, for all commercial spin columns. Also observe the note on centrifugation with open tube lids (see <i>Extreme strain on the centrifugation tubes on p. 11</i>).</li> </ul>
		3.75 g	
<b>Rotor F-45-32-5-PCR</b>	Four PCR strips (5/8) or 32 0.2 ml PCR vials.	18.615 x g/ 15.000 rpm	
		3.5 g	

(1) Maximum load per rotor bore for adapter + tube + contents.

(2) Aerosol tightness tested and certified by the Centre of Emergency Preparedness and Response, Health Protection Agency, Porton Down (UK) (see certificates at the end of this operating manual).

For the rotors and rotor lids labeled *coated*, color fluctuations may occur as a result of the production process. These fluctuations have no effect on service life or resistance to chemicals.



### 9.7.1 rcf display and calculation



Use the **rpm/rcf** key to switch the display of centrifugation speed between **g-force** (rcf) and **speed** (rpm). Ensure that the g-force displayed during switching is standardized to suit the rotor in question without an adapter. When adapters are used, the following maximum g-forces (rcf) can be achieved at maximum speed:

Rotor	Adapter	Max. centrifugation radius $r_{\max}$ [cm]	Max. g-force (rcf)
FA-45-24-11, FA-45-24-11-Special	Without adapter	8.4	21.130
	0.2 mL	6.3	15.848
	0.4 mL	8.4	21.130
	0.5 mL	7.3	18.363
	0.6 mL	8.4	21.130
F-45-18-11-Kit	Without adapter	7.2	18.111
	0.2 mL	5.1	12.829
	0.4 mL	7.2	18.111
	0.5 mL	6.1	15.345
	0.6 mL	7.2	18.111
FA-45-32-5-PCR	Without adapter	7.4	18.615

To determine the g-force (rcf) for a special adapter, you can perform a calculation according to DIN 58 970 with the following formula:

$$\text{rcf} = 1.118 \cdot 10^{-5} \cdot n^2 \cdot r_{\max}$$

n: Revolutions per minute (rpm)

$r_{\max}$ : Max. centrifugation radius in cm

**Example:**

In Rotor FA-45-24-11, the 0.5 ml adapter has a maximum radius of 7.3 cm. At 7,000 rpm, a maximum g-force of 4,000 x g is achieved.