

11 Technical data

11.1 Power supply

Centrifuge 5420

Mains/power connection	230 V, 50 Hz – 60 Hz 120 V, 50 Hz – 60 Hz 100 V, 50 Hz – 60 Hz
Current consumption	230 V: 2.1 A 120 V: 4.0 A 100 V: 4.2 A
Power consumption	230 V: 290 W 120 V: 270 W 100 V: 250 W
EMC: noise emission (radio interference)	230 V – EN 61326-1/EN 55011 – Class B 120 V – CFR 47 FCC Part 15 – Class B 100 V – EN 61326 – 1/EN 55011 – Class B
EMC: noise immunity	EN 61326-1 – basic electromagnetic environment
Overvoltage category	II
Protection class	I
Fuses – 230 V	250 V 4 A T HBC
Fuses – 120 V	250 V 8 A T HBC
Fuses – 100 V	250 V 8 A T HBC
Degree of pollution	2

11.2 Ambient conditions

Environment	For indoor use only. The surroundings must not be moist.
Ambient temperature	2 °C – 40 °C
Relative humidity	10 % – 75 %, non-condensing.
Atmospheric pressure	75 kPa – 106 kPa

11.3 Weight/dimensions

Dimensions	Width: 24.2 cm Depth: 34.6 cm Height: 21.5 cm
Weight without rotor	12.98 kg
Rotor weights:	
FA-24x2	772 g
F-32x0.2-PCR	460 g

11.4 Noise level

The noise level was measured in a sound measuring room with accuracy class 1 (DIN EN ISO 3745), frontally, at a distance of 1 m from the device and at lab bench height.

Noise level	< 56 dB(A)
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11.5 Application parameters

The following table contains acceleration times and deceleration times for the rotors of the Centrifuge 5420. The details were determined with the rotor at maximum load, for swing-bucket rotors with round bucket. Fluctuations may occur depending on the condition of the device and the load.

Tab. 11-1: Acceleration and deceleration time

Rotor	Acceleration time	Deceleration time
FA-24x2	15 s	15 s
F-32x0.2-PCR	15 s	15 s

Run time	10 s – 9:59 h, unlimited (∞) <ul style="list-style-type: none"> • 10 s – 2 min: can be set in increments of 10 s • 2 min – 10 min: can be set in increments of 30 s • 10 min – 9:59 h: can be set in increments of 1 min
Speed	100 rpm – 15060 rpm <ul style="list-style-type: none"> • 100 rpm – 5000 rpm: can be set in increments of 10 rpm • 5000 rpm – 15060 rpm: can be set in increments of 100 rpm
Relative centrifugal force	$1 \times g$ – $21300 \times g$ <ul style="list-style-type: none"> • $1 \times g$ – $3000 \times g$: can be set in increments of $10 \times g$ • $5000 \times g$ – $21300 \times g$: can be set in increments of $100 \times g$
Maximum load	Fixed-angle rotor: 24×2 mL
Maximum kinetic energy	4.09 kJ
Permitted density of the material for centrifuging (at maximum g -force (rcf) or rotational speed (rpm) and maximum load)	1.2 g/mL
Inspection obligation in Germany	No

11.6 Service life of accessories



CAUTION! Danger due to material fatigue.

If the service life is exceeded, it cannot be guaranteed that the material of the rotors and the accessories will withstand the stresses during centrifugation.

- ▶ Do not use any accessories which have exceeded their maximum service life.

All rotors and rotor lids can be used during the entire service life of the centrifuge if the following conditions are met:

- proper use
- recommended maintenance
- undamaged condition

Accessories	Maximum service life after initial setup	
Aerosol-tight rotor lid		3 years
Seals in the aerosol-tight rotor lid	50 autoclaving cycles	–
Adapter	–	1 year

The date of manufacture is stamped on the rotors and buckets in the format 2015-03 (= March 2015).

12 Rotors for the Centrifuge 5420



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

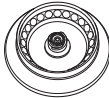
- ▶ Only use rotors that are intended for use with the corresponding centrifuge.










Only use rotors labeled **Centrifuge 5420**.

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

12.1 Rotor FA-24x2


Aerosol-tight fixed-angle rotor for 24 tubes

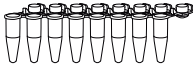

	Max. <i>g-force</i> :	21300 × <i>g</i>
	Max. rotational speed:	15060 rpm
Rotor FA-24x2	Max. load (adapter, tube and contents):	24 × 3.75 g

Tube	Tube Capacity	Adapter	Bottom shape Diameter	Max. <i>g-force</i> Max. rotational speed Radius
	Tubes per adapter/ rotor	Order no. (international)		
	PCR tube 0.2 mL 1/24	 5425 715.005	conical Ø 6 mm	15975 × <i>g</i> 15060 rpm 6.3 cm
	Micro test tube 0.4 mL 1/24	 5425 717.008	conical Ø 6 mm	21300 × <i>g</i> 15060 rpm 8.4 cm
	Micro test tube 0.5 mL 1/24	 5425 716.001	– Ø 8 mm	18510 × <i>g</i> 15060 rpm 7.3 cm
	Microtainers 0.6 mL 1/24	 5425 716.001	– Ø 8 mm	21300 × <i>g</i> 15060 rpm 8.4 cm
	Micro test tube 1.5 mL/2 mL –/24	–	conical Ø 11 mm	21300 × <i>g</i> 15060 rpm 8.4 cm

12.2 Rotor F-32x0.2-PCR

Fixed-angle rotor for PCR strips and PCR tubes

	Max. <i>g</i> -force:	18257 × <i>g</i>
	Max. rotational speed:	15060 rpm
Rotor F-32x0.2-PCR	Max. load (tube and contents):	32 × 3.5 g

Tube	Tube Capacity Vessels per rotor	Bottom shape Diameter	Max. <i>g</i> -force
			Max. rotational speed
			Radius
	PCR strips 8 × 0.2 mL or 5 × 0.2 mL 4 × 8 or 4 × 5	Conical Ø 6 mm	18257 × <i>g</i> 15257 rpm 7.2 cm
	PCR tube 0.2 mL 32	Conical Ø 6 mm	18257 × <i>g</i> 15257 rpm 7.2 cm