

11 Technical data

11.1 Power supply

Mains/power connection	230 V, 50 Hz – 60 Hz 120 V, 50 Hz – 60 Hz
Current consumption	230 V: 12,0 A 120 V: 12,0 A
Power consumption	230 V: Maximum 1650 W 120 V: Maximum 1440 W
EMC: Noise emission (radio interference)	230 V: EN 61326-1/EN 55011 – Class A 120 V: CFR 47 FCC Part 15 – Class A
EMC: Noise immunity	EN 61326-1 - industrial electromagnetic environment
Overvoltage category	II
Degree of pollution	2

11.2 Weight/dimensions

Dimensions	Width: 73,7 cm Depth: 70,7 cm Height: 40,3 cm
Weight without rotor	139 kg

Rotor weights:		Accessories without caps:	
S-4x1000	5300 g	High-Capacity Bucket	870 g
		Plate/Tube Bucket	895 g
		Round bucket	615 g
S-4xUniversal-Large	5220 g	Bucket	890 g
S-4x750	5100 g	Round bucket	605 g
		DWP bucket	700 g
FA-6x250	5300 g		
FA-6x50	3300 g		
FA-48x2	2500 g		
FA-20x5	2800 g		

11.3 Noise level

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

	Swing-bucket rotor	Fixed-angle rotor
Noise level at maximum rotor speed	< 60 dB(A)	< 67 dB(A)
	< 55 dB(A) (S-4×Universal-Large)	< 61 dB(A) (FA-6×50)

11.4 Ambient conditions

Environment	For indoor use only
Ambient temperature	10 °C – 40 °C
Relative humidity	10 % – 75 %, non-condensing
Atmospheric pressure	79,5 kPa – 106 kPa Use up to a height of 2 000 m above sea level.

11.5 Application parameters

Run time	10 s – 99:59 h, infinite (∞), • 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 – 99:59 h: can be set in increments of 1 min
Temperature	-11 °C – 40 °C
Relative centrifugal force	$1 \times g$ – $21\,194 \times g$ • $1 \times g$ – $3000 \times g$: can be set in increments of $10 \times g$ • $3000 \times g$ – $21\,194 \times g$: can be set in increments of $100 \times g$
Rotational speed	100 rpm – 13700 rpm • 100 rpm – 5000 rpm: can be set in increments of 10 rpm • 5000 rpm – 13700 rpm: can be set in increments of 100 rpm
Maximum load	Fixed-angle rotor: 6 × 250 mL Swing-bucket rotors: 4 × 1000 mL
Maximum kinetic energy	56000J
Permitted density of the material for centrifuging (at maximum g -force (rcf) or rotational speed (rpm) and maximum load)	1.2 g/mL 1.0 g/mL for rotor FA-6×250
Inspection obligation in Germany	Yes

11.6 Temperatures

Rotor	Temperature
S-4xUniversal-Large	
230 V	4 °C ±2 °C
120 V	6 °C ±2 °C

11.7 Acceleration and deceleration times

The following table lists acceleration times and deceleration times of the rotors of the Centrifuge 5920 R. 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.

Level 9: highest acceleration or strongest brake respectively

Level 0: little acceleration or unbraked deceleration respectively

Rotor		0	1	2	3	4	5	6	7	8	9
S-4xUniversal-Large 120 V devices	Acceleration time	≤ 594 s	≤ 425 s	≤ 271 s	≤ 185 s	≤ 136 s	≤ 106 s	≤ 96 s	≤ 85 s	≤ 79 s	≤ 72 s
	Deceleration time	≤ 1108 s	≤ 606 s	≤ 423 s	≤ 226 s	≤ 158 s	≤ 112 s	≤ 96 s	≤ 79 s	≤ 70 s	≤ 58 s
S-4xUniversal-Large 230 V devices	Acceleration time	≤ 608 s	≤ 434 s	≤ 278 s	≤ 187 s	≤ 136 s	≤ 100 s	≤ 87 s	≤ 74 s	≤ 66 s	≤ 57 s
	Deceleration time	≤ 1185 s	≤ 646 s	≤ 385 s	≤ 229 s	≤ 157 s	≤ 111 s	≤ 93 s	≤ 77 s	≤ 67 s	≤ 55 s
S-4x1000	Acceleration time	≤ 445 s	≤ 281 s	≤ 201 s	≤ 134 s	≤ 97 s	≤ 74 s	≤ 66 s	≤ 59 s	≤ 54 s	≤ 50 s
	Deceleration time	≤ 1000 s	≤ 440 s	≤ 252 s	≤ 163 s	≤ 116 s	≤ 83 s	≤ 73 s	≤ 62 s	≤ 53 s	≤ 45 s
S-4x750	Acceleration time	≤ 410 s	≤ 261 s	≤ 197 s	≤ 130 s	≤ 97 s	≤ 77 s	≤ 64 s	≤ 56 s	≤ 51 s	≤ 47 s
	Deceleration time	≤ 1049 s	≤ 416 s	≤ 227 s	≤ 162 s	≤ 115 s	≤ 89 s	≤ 69 s	≤ 59 s	≤ 51 s	≤ 42 s
FA-6x250 120 V devices	Acceleration time	≤ 973 s	≤ 611 s	≤ 435 s	≤ 285 s	≤ 209 s	≤ 159 s	≤ 126 s	≤ 105 s	≤ 88 s	≤ 71 s
	Deceleration time	≤ 1663 s	≤ 569 s	≤ 355 s	≤ 270 s	≤ 171 s	≤ 122 s	≤ 101 s	≤ 80 s	≤ 66 s	≤ 50 s
FA-6x250 230 V devices	Acceleration time	≤ 972 s	≤ 611 s	≤ 435 s	≤ 285 s	≤ 209 s	≤ 159 s	≤ 126 s	≤ 104 s	≤ 86 s	≤ 66 s
	Deceleration time	≤ 1670 s	≤ 562 s	≤ 354 s	≤ 248 s	≤ 168 s	≤ 119 s	≤ 99 s	≤ 79 s	≤ 66 s	≤ 49 s
FA-6x50	Acceleration time	≤ 319 s	≤ 212 s	≤ 156 s	≤ 106 s	≤ 78 s	≤ 58 s	≤ 51 s	≤ 43 s	≤ 39 s	≤ 33 s
	Deceleration time	≤ 857 s	≤ 334 s	≤ 225 s	≤ 161 s	≤ 113 s	≤ 82 s	≤ 71 s	≤ 56 s	≤ 48 s	≤ 37 s
FA-48x2	Acceleration time	≤ 254 s	≤ 171 s	≤ 126 s	≤ 86 s	≤ 65 s	≤ 49 s	≤ 43 s	≤ 37 s	≤ 33 s	≤ 28 s
	Deceleration time	≤ 680 s	≤ 231 s	≤ 160 s	≤ 115 s	≤ 85 s	≤ 62 s	≤ 52 s	≤ 45 s	≤ 39 s	≤ 31 s
FA-20x5	Acceleration time	≤ 307 s	≤ 208 s	≤ 153 s	≤ 104 s	≤ 77 s	≤ 57 s	≤ 50 s	≤ 42 s	≤ 37 s	≤ 31 s
	Deceleration time	≤ 815 s	≤ 292 s	≤ 203 s	≤ 143 s	≤ 102 s	≤ 76 s	≤ 64 s	≤ 52 s	≤ 45 s	≤ 36 s