Sigma 3-30KS
Sigma 3-30KHS

High Speed Centrifuge

- Refrigerated
- Refrigerated/heatable

www.sigma-zentrifugen.de

SIGMA
Speed
13744
14500
(max.)
min-1
RCF
19852
22096
(max.)
Rotor
Temperature
19
21
°C
Runtime
0:05:00
4:02
m:s
Select the speed
12310
19%

Extraordinary in every regard

Sigma is a leading international manufacturer of laboratory centrifuges for diverse sectors, including biotechnology, pharmaceutical, medical and environment analysis. Laboratories, institutions and companies everywhere in the world have been relying on premium Sigma quality – Made in Germany – for more than 40 years. The company stands for innovative products and development of durable, energy-efficient and especially user-friendly devices.

As excellent refinements of previous models, the Sigma 3-30KS and Sigma 3-30KHS incorporate many decades of experience in high-speed laboratory centrifuges. Positioned between the laboratory centrifuge and ultracentrifuge segments, these refrigerated benchtop centrifuges feature outstanding performance characteristics and excellent value for money.

The high RCF of more than 70,000 x g enables fast separation, even of microscopic particles and cell fragments. That makes the 3-30 centrifuge series especially suitable for high-speed applications in fields such as cellular biology, molecular biology, diagnostics and clinical biology, nanotechnology, research and genetics. The heatable version Sigma 3-30KHS is used in particular with specimens whose viscosity needs to be reduced during centrifugation.

Top ranking

Smooth running even at maximum speed

The Sigma 3-30KS and Sigma 3-30KHS centrifuges represent a unique combination of performance, versatility, and ease of use. With their high RCF, well-conceived controller and extensive range of accessories, they are suitable for even the most demanding applications in research and industry.

Thanks to the patented one-knob controller, automatic rotor recognition and imbalance detection, as well as capacity for 60 programs, these centrifuges are remarkably easy to use and highly versatile.

Even at maximum speed, the proven drive concept of the 3-30 series is very smooth and quiet in operation, with a low noise level of less than 57 dB(A) at more than 70,000 x g. High speeds and RCF values are barely perceptible, and the noise level is always pleasantly low.

These premium centrifuges additionally feature exceptionally long life and outstanding safety.

Sigma 3-30KS

- High-speed benchtop centrifuge
- Speed range up to 30,000 rpm
- Maximum RCF 70,121 x g
- User-friendly Spincontrol S controller
- Extra large TFT display
- 60 programs
- Compact, space-saving unit
- High-performance cooling
- Temperature setting range: -20 °C to +40°C
- Pre-cooling function "Rapid Temp"
- Rotor cooling also possible at standstill
- Low noise level
- Automatic rotor identification
- Zero-maintenance induction motor
- Motorised lid lock
- Automatic imbalance monitoring
- Rotor life monitoring for high safety
- Easily cleaned stainless steel chamber
- Window in lid for external speed monitoring
- Manufactured according to the latest national and international standards (e.g. EN 61010-2-020)

Sigma 3-30KHS

All features of the Sigma 3-30KS, plus:

- Heatable refrigerated centrifuge
- Standstill cooling or heating
- Temperature setting range: -20 °C to +60 °C

Option

- Inert gas version with inert gas injection system

sigma
3-30KS

Rotors and accessories

Many potential combinations for high flexibility

The special drive system of the Sigma 3-30 series is specifically designed for use at very high speeds. This concept allows the high speed device series to achieve RCF values above 70,000 x g with microliter tubes.

A total of 20 rotors are available, along with a wide range of accessories. The tube capacity extends from 0.2 ml to 94 ml in fixed-angle rotors or 0.2 ml to 100 ml in swing-out rotors. Microtiter and deep-well plates can also be centrifuged. Thanks to the extensive accessories, the centrifuges can be flexibly adapted to new or enhanced requirements. All compatible rotors can be autoclaved for 30 minutes at +121°C.

As a special feature, Sigma can produce custom accessories upon request. The rotors and accessories are made from certified high-grade materials to withstand the most severe stresses.

Swing-out rotors starting on page 9

▸ p. 9

Swing-out rotor 11171

- Max. capacity: 4 x 100 ml
- Max. speed (3-30KS / 3-30KHS): 5,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 3,969 x g
- Angle: 90°

▸ p. 11

Swing-out rotor 11134

- Max. capacity: 4 x 10 ml
- Max. speed (3-30KS / 3-30KHS): 10,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 10,956 x g
- Angle: 90°

▸ p. 12

Drum rotor 11136

- Max. capacity: 60 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 16,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 20,035 x g
- Angle: 90°

▸ p. 12

MTP swing-out rotor 11222

- Max. capacity: 6 microtiter plates
- Max. speed (3-30KS / 3-30KHS): 3,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 1,218 x g
- Angle: 90°

Fixed-angle rotors starting on page 13

▸ p. 13

Fixed-angle rotor 12115 for PCR strips

- Max. capacity: 96 x 0.2 ml conical
- Max. speed (3-30KS / 3-30KHS): 16,400 rpm
- Max. RCF (3-30KS / 3-30KHS): 29,468 x g
- Angle: 45° (both rows)

▸ p. 13

Fixed-angle rotor 12110

- Max. capacity: 12 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 30,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 65,403 x g
- Angle: 45°

Fixed-angle rotors starting on page 14

▸ p. 14

Fixed-angle rotor 12154

- Max. capacity: 24 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 26,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 61,973 x g
- Angle: 45°

▸ p. 14

Fixed-angle rotor 12131

- Max. capacity: 30 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 20,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 44,720 x g
- Angle: 45°

▸ p. 15

Fixed-angle rotor 12370

- Max. capacity: 36 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 28,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 70,121 x g
- Angle (upper / lower row): 30° / 50°

▸ p. 15

Fixed-angle rotor 12349

- Max. capacity: 48 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 15,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 25,155 x g
- Angle (upper / lower row): 25° / 53°

▸ p. 16

Fixed-angle rotor 12182

- Max. capacity: 12 x 5 ml conical
- Max. speed (3-30KS / 3-30KHS): 20,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 37,565 x g
- Biosafe with aluminium lid 17182 ☣
- Angle: 40°

▸ p. 16

Fixed-angle rotor 12111

- Max. capacity: 10 x 10 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 26,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 57,438 x g
- Angle: 35°

▸ p. 17

Fixed-angle rotor 12157

- Max. capacity: 20 x 10 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 16,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 28,048 x g
- Angle: 25°

▸ p. 17

Fixed-angle rotor 12311

- Max. capacity: 12 x 15 ml conical
- Max. speed (3-30KS / 3-30KHS): 15,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 24,903 x g
- Biosafe with aluminium lid 17935 ☣
- Angle: 25°

▸ p. 18

Fixed-angle rotor 12158

- Max. capacity: 6 x 30 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 26,200 rpm
- Max. RCF (3-30KS / 3-30KHS): 60,628 x g
- Angle: 29°

▸ p. 18

Fixed-angle rotor 12150

- Max. capacity: 6 x 50 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 21,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 41,415 x g
- Angle: 25°

▸ p. 19

Fixed-angle rotor 12310

- Max. capacity: 6 x 50 ml conical
- Max. speed (3-30KS / 3-30KHS): 15,500 rpm
- Max. RCF (3-30KS / 3-30KHS): 25,248 x g
- Biosafe with aluminium lid 17934 ☣
- Angle: 25°

▸ p. 19

Fixed-angle rotor 12156

- Max. capacity: 8 x 50 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 16,500 rpm
- Max. RCF (3-30KS / 3-30KHS): 29,220 x g
- Angle: 25°

▸ p. 20

Fixed-angle rotor 12155

- Max. capacity: 4 x 94 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 20,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 40,695 x g
- Angle: 26°

▸ p. 21

Fixed-angle rotor 12159

- Max. capacity: 6 x 94 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 15,500 rpm
- Max. RCF (3-30KS / 3-30KHS): 26,323 x g
- Angle: 25°

Swing-out rotor 11171

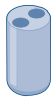
Round bucket 13299 (1 set = 2 pcs.)*

- Max. capacity: 4 x 100 ml
- Max. speed (3-30KS / 3-30KHS): 5,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 3,969 x g
- Max. tube length in middle of bucket without / with cap: 126 / 117 mm
- Hermetically closable with cap 17299
- Tmin at maximum speed: <4°C
- Angle: 90°

* Bucket not autoclavable

The regular greasing of the rotor bolts is no longer necessary – this minimises non-productive time and guarantees maximum safety.

Tube										
Rated capacity (filling volume) [ml]	0,5	1.5	2	5	5	6 (5)	7	10	10	10
Diameter x length [mm]	10.8 x 46.5	10.7 x 42	10.7 x 42	17 x 60	12 x 75	12 x 100	12 x 100	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1
Tube material	PP	PP	PP	PPCO	PS	Glass	Glass	PF	PC	PPCO
Item no.	Paediatrics	15008	15040	–	15060	15007	15027	15000	15010	15039
Adapter for round bucket 13299									
Bore diameter x length [mm]	11.1 x 35		17 x 52	13.5 x 52			16.5 x 56		
Tubes per adapter / rotor	4 / 16		3 / 12	5 / 20			4 / 16		
Centrifuging radius [mm]	137		139	139			138		
Item no.	14301*		14309	14302			14303		

Tube									
Rated capacity (filling volume) [ml]	10	10	14	14	15 (13)	15	25	25	25	30 (26)
Diameter x length [mm]	16 x 100	16 x 100	17 x 100	17 x 100	17 x 110	16.5 x 120	25 x 90	24 x 100	24 x 100	25.3 x 98
Tube material	Glass	Glass	PS	PP	Glass	PP	PP	Glass	Glass	PF
Item no.	15015	15024	15020	15023	15022	15115	–	15025	15026	15029
Adapter for round bucket 13299									
Bore diameter x length [mm]	16.5 x 56		17.5 x 67.5			17 x 76	25.5 x 56	25.5 x 58		
Tubes per adapter / rotor	4 / 16		3 / 12			2 / 8	1 / 4	1 / 4		
Centrifuging radius [mm]	138		140			126	138	140		
Item no.	14303		14307			14300**	14308	14304		

* If used with paediatric tubes, only partial loading is possible in some cases ** Only possible without cap 17299

Swing-out rotor 11171

Round bucket 13299 (1 set = 2 pcs.)*

- Max. capacity: 4 x 100 ml
- Max. speed (3-30KS / 3-30KHS): 5,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 3,969 x g
- Max. tube length in middle of bucket without / with cap: 126 / 117 mm
- Hermetically closable with cap 17299
- Tmin at maximum speed: <4°C
- Angle: 90°

* Bucket not autoclavable

Tube										
Rated capacity (filling volume) [ml]	30 (26)	30 (28)	30	30	50	50	50	50	50	50
Diameter x length [mm]	25.3 x 98	25.3 x 98	24 x 105	25 x 107	34 x 100	34 x100	35 x 100	34 x 100	28 x 115	29 x 117
Tube material	PPCO	PC	Glass	PP	Glass	Glass	Glass	PC	PP	PP
Item no.	15032	15030	15033	–	15045	15050	15056	15049	–	15151

Adapter for round bucket 13299					
Bore diameter x length [mm]	25.5 x 58	25.5 x 56	35.5 x 58	29.5 x 67	29.6 x 90
Tubes per adapter / rotor	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4
Centrifuging radius [mm]	140	138	140	139	142
Item no.	14304	14308	14305	14310*	14299

Tube				
Rated capacity (filling volume) [ml]	100 (75)	100 (90)	100	100
Diameter x length [mm]	44 x 100	44 x 100	44 x 100	45 x 100
Tube material	Glass	Glass	Glass	PC
Item no.	15078	15106	15100	15103

Adapter for round bucket 13299	
Bore diameter x length [mm]	45.1 x 98.5
Tubes per adapter / rotor	1 / 4
Centrifuging radius [mm]	139
Item no.	16051

* Only possible without cap 17299

Swing-out rotor 11171

Round bucket 13299 (1 set = 2 pcs.)*

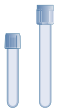
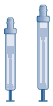
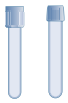
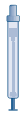
- Max. capacity: 4 x 100 ml
- Max. speed (3-30KS / 3-30KHS): 5,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 3,969 x g
- Max. tube length in middle of bucket without / with cap: 126 / 117 mm
- Hermetically closable with cap 17299
- Tmin at maximum speed: <4°C
- Angle: 90°

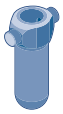
* Bucket not autoclavable

Swing-out rotor 11134

with four round buckets 13134

- Max. capacity: 4 x 10 ml
- Max. speed (3-30KS / 3-30KHS): 10,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 10,956 x g
- Tmin at maximum speed: <4°C
- Angle: 90°

Blood and urine tubes								
Rated capacity (filling volume) [ml]	1.1 – 1.4	2.7 – 5	1.6 – 6	1.8 – 7	4 – 8.5	6 – 10	10	9 – 10
Diameter x length with lid [mm]	8 x 82	11 x 82 – 108	13 x 81 – 106	13 x 81 – 107	15 x 91 – 108	16 x 107	15 x 118	16 x 108
Tube material	PP	PP	PP	PET	PP	PET	PP	PP
Item no.	–	–	–	–	–	–	–	–
Adapter for round bucket 13299							
Bore diameter x length [mm]	13.5 x 52				16.5 x 56		16.5 x 56	17.5 x 67.5
Tubes per adapter / rotor	5 / 20				4 / 16		4 / 16	3 / 12
Centrifuging radius [mm]	139				138		138	140
Item no.	14302*				14303		14303**	14307

Tube			
Rated capacity (filling volume) [ml]	10	10	10
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1
Tube material	PF	PC	PPCO
Item no.	15000	15010	15039
Adapter for round bucket 13134 			
Bore diameter x length [mm]	16.3 x 71		
Tubes per adapter / rotor	– / 4		
Centrifuging radius [mm]	95		
Item no.	–		

* Tube 13 x 107 mm only possible without cap 17299, ** Only possible without cap 17299

Drum rotor 11136

with aluminium lid 17898

- Max. capacity: 60 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 16,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 20,035 x g
- Hermetically closable with aluminium lid 17878
- Tmin at maximum speed: <4°C
- Angle: 90°

Swing-out rotor 11222

with 1 set (quantity 2) rectangular buckets 13222

- Max. plate height: 56 mm
- Max. speed (3-30KS / 3-30KHS): 3,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 1,218 x g
- Max. load per carrier: 337 g
- Tmin at maximum speed: <4°C
- Angle: 90°

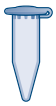
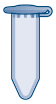
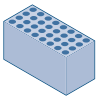
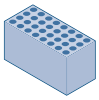
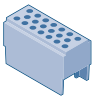
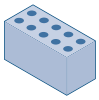
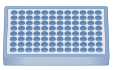
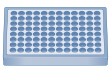
Tube						
Rated capacity (filling volume) [ml]	0.2	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.8 x 20	–	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42
Tube material	PP	–	PE	PP	PP	PP
Item no.	15042	PCR strips	15014	15005	15008	15040
Adapter						
for drum rotor 11136						
Bore diameter x length [mm]	6.2 x 17	6.2 x 17	6 x 46	8.1 x 21	11.2 x 39	
Tubes per adapter / rotor	32 / 192	4 x 8 / 24 x 8	20 / 120	10 / 60	10 / 60	
Centrifuging radius [mm]	48	48	70	52	70	
Item no.	14021	14021	14000	14020	14002	

Plate				
Description	MTP (without lid)	MTP (with lid)	DWP	PCR plate 96-fold
W x D x H [mm]	128 x 86 x 15	128 x 86 x 17.5	128 x 86 x 44.5	128 x 86 x 20
Adapter				
for rectangular bucket 13222				
Bore diameter x length [mm]	–			
Plates per rotor	6	6	2	4
Centrifuging radius [mm]	121			
Item no.	–			

* Only possible without cap 17299

Fixed-angle rotor 12115

with aluminium lid 17875

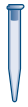
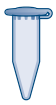
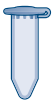
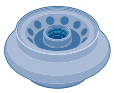
- Max. capacity: 96 x 0.2 ml conical
- Max. speed (3-30KS / 3-30KHS): 16,400 rpm
- Max. RCF outer row (3-30KS / 3-30KHS): 29,468 x g
- Max. RCF outer row (3-30KS / 3-30KHS): 24,958 x g
- Hermetically closable with aluminium lid 17875
- Tmin at maximum speed: <4°C
- Angle: 45° (both rows)

Fixed-angle rotor 12110

with aluminium lid 17834

- Max. capacity: 12 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 30,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 65,403 x g
- Hermetically closable with aluminium lid 17834
- Tmin at maximum speed: <4°C
- Angle: 45°

Tube		
Rated capacity (filling volume) [ml]	0.2	0.2
Diameter x length [mm]	5.8 x 20	–
Tube material	PP	–
Item no.	15042	PCR strips
Adapter for fixed-angle rotor 12115		
Bore diameter x length [mm]	6.3 x 15.5	6.3 x 16.5
Tubes per adapter / rotor	96	12 x 8
Centrifuging radius outer / inner row [mm]	98 / 83	98 / 83
Item no.	–	–

Tube					
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.8 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42
Tube material	PP	PE	PP	PP	PP
Item no.	15042	15014	15005	15008	15040
Adapter for fixed-angle rotor 12110 					
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 37.5	11.1 x 38.5
Tubes per adapter / rotor	1 / 12	1 / 12	1 / 12	1 / 12	– / 12
Centrifuging radius [mm]	61	63	63	64	65
Item no.	13021	13000	13002	13003*	–

* Recommended for RCF > 30,000 x g

Fixed-angle rotor 12154

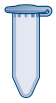
with aluminium lid 17829

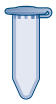
- Max. capacity: 24 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 26,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 61,973 x g
- Hermetically closable with aluminium lid 17829
- Max. speed for 4 °C: 23,000 min^{-1}
- Angle: 45°

Fixed-angle rotor 12131

with aluminium lid 17848

- Max. capacity: 30 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 20,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 44,720 x g
- Hermetically closable with aluminium lid 17848
- Max. speed for 4 °C: 18,400 min^{-1}
- Angle: 45°

Tube					
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.8 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42
Tube material	PP	PE	PP	PP	PP
Item no.	15042	15014	15005	15008	15040
Adapter for fixed-angle rotor 12154					
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 37.5	11.1 x 38.5
Tubes per adapter / rotor	1 / 24	1 / 24	1 / 24	1 / 24	– / 24
Centrifuging radius [mm]	78	80	80	81	82
Item no.	13021	13000	13002	13003*	–

Tube					
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.8 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42
Tube material	PP	PE	PP	PP	PP
Item no.	15042	15014	15005	15008	15040
Adapter for fixed-angle rotor 12131					
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 37.5	11.1 x 38.5
Tubes per adapter / rotor	1 / 30	1 / 30	1 / 30	1 / 30	– / 30
Centrifuging radius [mm]	96	98	98	99	100
Item no.	13021	13000	13002	13003*	–

* Recommended for RCF > 30,000 x g

Fixed-angle rotor 12370

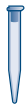
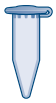
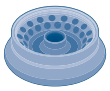
with 36 adapters 13003 and aluminium lid 17618

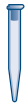
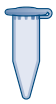
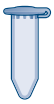
- Max. capacity: 36 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 28,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 70,121 x g
- Hermetically closable with aluminium lid 17618
- Max. speed for 4 °C: 23,700 min^{-1}
- Angle (upper / lower row): 30° / 50°

Fixed-angle rotor 12349

with aluminium lid 17349

- Max. capacity: 48 x 2 ml
- Max. speed (3-30KS / 3-30KHS): 15,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 25,155 x g
- Hermetically closable with aluminium lid 17349
- Tmin at maximum speed: <4°C
- Angle (upper / lower row): 25° / 53°

Tube					
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.8 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42
Tube material	PP	PE	PP	PP	PP
Item no.	15042	15014	15005	15008	15040
Adapter for fixed-angle rotor 12370 					
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 37.5	11.1 x 38.5
Tubes per adapter / rotor	1 / 36	1 / 36	1 / 36	1 / 36	– / 36
Centrifuging radius inner / outer row [mm]	76 / 76	78 / 78	78 / 78	79 / 79	80 / 80
Item no.	13021	13000	13002	13003*	–

Tube					
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.8 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42
Tube material	PP	PE	PP	PP	PP
Item no.	15042	15014	15005	15008	15040
Adapter for fixed-angle rotor 12349					
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 37.5	11.1 x 38.5
Tubes per adapter / rotor	1 / 48	1 / 48	1 / 48	1 / 48	– / 48
Centrifuging radius inner / outer row [mm]	96 / 96	98 / 98	98 / 98	99 / 99	100 / 100
Item no.	13021	13000	13002	13003*	–

* Recommended for RCF > 30,000 x g

Fixed-angle rotor 12182

with aluminium lid 17182

- Max. capacity: 12 x 5 ml conical
- Max. speed (3-30KS / 3-30KHS): 20,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 37,565 x g
- Biosafe with aluminium lid 17182
- Tmin at maximum speed: <4°C
- Angle: 40°

Fixed-angle rotor 12111

with aluminium lid 17835

- Max. capacity: 10 x 10 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 26,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 57,438 x g
- Hermetically closable with aluminium lid 17835
- Max. speed for 4 °C: 24,400 min^{-1}
- Angle: 35°

Tube					
Rated capacity (filling volume) [ml]	1.5	1.5 – 1.8	1.5	2	5
Diameter x length [mm]	11.7 x 34	12.3 x 49	10.7 x 42	10.7 x 42	17 x 60
Tube material	Glass	PP	PP	PP	PPCO
Item no.	HPLC	Cryo tube	15008	15040	–
Adapter for fixed-angle rotor 12182					
Bore diameter x length [mm]	12.5 x 28	12.7 x 32	11.1 x 38.5		17 x 52
Tubes per adapter / rotor	1 / 12	1 / 12	1 / 12		– / 12
Centrifuging radius [mm]	57	61	69		84
Item no.	14081	14080*	14082		–

Tube			
Rated capacity (filling volume) [ml]	10	10	10
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1
Tube material	PF	PC	PPCO
Item no.	15000	15010	15039
Adapter for fixed-angle rotor 12111			
Bore diameter x length [mm]	16.3 x 69		
Tubes per adapter / rotor	1 / 10		
Centrifuging radius [mm]	76		
Item no.	–		

** Only possible without lid 17182

Fixed-angle rotor 12157

with aluminium lid 17841

- Max. capacity: 20 x 10 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 16,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 28,048 x g
- Hermetically closable with aluminium lid 17841
- Tmin at maximum speed: <4°C
- Angle: 25°

Fixed-angle rotor 12311

with aluminium lid 17935

- Max. capacity: 12 x 15 ml conical
- Max. speed (3-30KS / 3-30KHS): 15,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 24,903 x g
- Biosafe with aluminium lid 17935
- Optimised for high speed tubes (BD, Corning, Eppendorf, TPP, etc.)
- Tmin at maximum speed: <4°C
- Angle: 25°

Tube

Rated capacity (filling volume) [ml]	10	10	10
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1
Tube material	PF	PC	PPCO
Item no.	15000	15010	15039

Adapter

for fixed-angle rotor 12157

Bore diameter x length [mm]	16.3 x 69
Tubes per adapter / rotor	– / 20
Centrifuging radius [mm]	98
Item no.	–

Tube

Rated capacity (filling volume) [ml]	15
Diameter x length [mm]	16.5 x 120
Tube material	PP
Item no.	15115

Adapter

for fixed-angle rotor 12311

Bore diameter x length [mm]	17.5 x 106
Tubes per adapter / rotor	– / 12
Centrifuging radius [mm]	99
Item no.	–

Cleanroom

Robust and resistant

Cleanroom coating
Available for all accessories

An extremely resistant cleanroom coating is available from Sigma for all aluminium buckets and rotors. This coating provides reliable corrosion protection for accessories, especially where aggressive chemicals are used. The cleanroom coating can even withstand exposure to sodium hydroxide and hydrochloric acid. The surfaces are also food-grade (FDA certified) and can easily be cleaned without residues.

Fixed-angle rotor 12158

with aluminium lid 17842

- Max. capacity: 6 x 30 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 26,200 rpm
- Max. RCF (3-30KS / 3-30KHS): 60,628 x g
- Hermetically closable with aluminium lid 17842
- Max. speed for 4 °C: 23,200 min^{-1}
- Angle: 29°

Fixed-angle rotor 12150

with aluminium lid 17837

- Max. capacity: 6 x 50 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 21,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 41,415 x g
- Hermetically closable with aluminium lid 17837
- Tmin at maximum speed: <4°C
- Angle: 25°

Tube						
Rated capacity (filling volume) [ml]	10	10	10	30 (26)	30 (26)	30 (28)
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1	25.3 x 98	25.3 x 98	25.3 x 98
Tube material	PF	PC	PPCO	PF	PPCO	PC
Item no.	15000	15010	15039	15029	15032	15030
Adapter for fixed-angle rotor 12158						
Bore diameter x length [mm]	16.5 x 70			25.7 x 82.5		
Tubes per adapter / rotor	1 / 6			– / 6		
Centrifuging radius [mm]	69			79		
Item no.	13059			–		

Tube										
Rated capacity (filling volume) [ml]	10	10	14	15	30 (26)	30 (28)	30	50 (38)	50 (43)	50
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	17 x 100	17.5 x 106	25.3 x 98	25.3 x 98	23.6 x 106	28.8 x 107	28.5 x 107	28.5 x 101.5
Tube material	PF	PPCO	PP	HS glass	PPCO	PC	HS glass	PPCO	PF	Stainless steel
Item no.	15000	15039	15023	15085	15032	15030	15086	15052	15051	13055
Adapter for fixed-angle rotor 12150										
Bore diameter x length [mm]	16.2 x 65		17 x 88	18 x 90	25.6 x 75		24.5 x 93	29 x 98		
Tubes per adapter / rotor	1 / 6		1 / 6	1 / 6	1 / 6		1 / 6	– / 6		
Centrifuging radius [mm]	52		79	79	69		82	84		
Item no.	13087		13062	16018	13086		16030	–		

Fixed-angle rotor 12310

with aluminium lid 17934

- Max. capacity: 6 x 50 ml conical
- Max. speed (3-30KS / 3-30KHS): 15,500 rpm
- Max. RCF (3-30KS / 3-30KHS): 25,248 x g
- Biosafe with aluminium lid 17934 ☣
- Optimised for high speed tubes (BD, Corning, Eppendorf, TPP, etc.)
- Tmin at maximum speed: <4°C
- Angle: 25°

Fixed-angle rotor 12156

with aluminium lid 17840

- Max. capacity: 8 x 50 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 16,500 rpm
- Max. RCF (3-30KS / 3-30KHS): 29,220 x g
- Hermetically closable with aluminium lid 17840
- Tmin at maximum speed: <4°C
- Angle: 25°

Tube						
Rated capacity (filling volume) [ml]	15	25	30	50 (38)	50 (43)	50
Diameter x length [mm]	16.5 x 120	25 x 90	25 x 107	28.8 x 107	28.5 x 107	29 x 117
Tube material	PP	PP	PP	PPCO	PF	PP
Item no.	15115	–	–	15052	15051	15151
Adapter for fixed-angle rotor 12310						
Bore diameter x length [mm]	17 x 107	25.5 x 71		30 x 91		30 x 101
Tubes per adapter / rotor	1 / 6	1 / 6		1 / 6		– / 6
Centrifuging radius [mm]	93	71		84		94
Item no.	13060	13064		13079		–

Tube										
Rated capacity (filling volume) [ml]	10	10	14	15	30 (26)	30 (28)	30	50 (38)	50 (43)	50
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	17 x 100	17.5 x 106	25.3 x 98	25.3 x 98	23.6 x 106	28.8 x 107	28.5 x 107	28.5 x 101.5
Tube material	PF	PPCO	PP	HS glass	PPCO	PC	HS glass	PPCO	PF	Stainless steel
Item no.	15000	15039	15023	15085	15032	15030	15086	15052	15051	13055
Adapter for fixed-angle rotor 12156										
Bore diameter x length [mm]	16.2 x 65		17 x 88	18 x 90	25.6 x 75		24.5 x 93	29 x 98		
Tubes per adapter / rotor	1 / 8		1 / 8	1 / 8	1 / 8		1 / 8	– / 8		
Centrifuging radius [mm]	64		91	91	81		94	96		
Item no.	13087		13062	16018	13086		16030	–		

Fixed-angle rotor 12155

with aluminium lid 17839

- Max. capacity: 4 x 94 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 20,000 rpm
- Max. RCF (3-30KS / 3-30KHS): 40,695 x g
- Hermetically closable with aluminium lid 17839
- Max. speed for 4 °C: 19,200 min^{-1}
- Angle: 26°

Tube										
Rated capacity (filling volume) [ml]	10	10	10	14	14	15	15	25	30 (26)	30 (26)
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1	17 x 100	17 x 100	17.5 x 106	16.5 x 120	24 x 100	25.3 x 98	25.3 x 98
Tube material	PF	PC	PPCO	PS	PP	HS glass	PP	Glass	PF	PPCO
Item no.	15000	15010	15039	15020	15023	15085	15115	15025	15029	15032
Adapter for fixed-angle rotor 12155										
Bore diameter x length [mm]	16.2 x 71			18 x 87			17 x 107	24.5 x 88	26 x 83	
Tubes per adapter / rotor	2 / 8			1 / 4			1 / 4	1 / 4	1 / 4	
Centrifuging radius [mm]	62			83			90	84	74	
Item no.	13084			16019			13081*	16031	13083	

Tube										
Rated capacity (filling volume) [ml]	30 (28)	30	50 (38)	50 (43)	50	50	85 (73)	85 (76)	94 (85)	94
Diameter x length [mm]	25.3 x 98	23.6 x 106	28.8 x 107	28.5 x 107	28.5 x 101.5	29.5 x 117	38 x 112	38 x 112	38 x 103	38 x 110
Tube material	PC	HS glass	PPCO	PF	Stainless steel	PP	PF	PPCO	Stainless steel	PC
Item no.	15030	15086	15052	15051	13055	15151	15080	15076	13085	15094
Adapter for fixed-angle rotor 12155										
Bore diameter x length [mm]	26 x 83	24.5 x 88	29 x 97			30 x 100	38.3 x 91			
Tubes per adapter / rotor	1 / 4	1 / 4	1 / 4			1 / 4	– / 4			
Centrifuging radius [mm]	74	84	88			91	91			
Item no.	13083	16031	13082			13080*	–			

* Only possible without rotor lid 17839

Fixed-angle rotor 12159

with aluminium lid 17843

- Max. capacity: 6 x 94 ml round-bottom
- Max. speed (3-30KS / 3-30KHS): 15,500 rpm
- Max. RCF (3-30KS / 3-30KHS): 26,323 x g
- Hermetically closable with aluminium lid 17843
- Tmin at maximum speed: <4°C
- Angle: 25°

Tube										
Rated capacity (filling volume) [ml]	10	10	10	14	14	15	15	25	30 (26)	30 (26)
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1	17 x 100	17 x 100	17.5 x 106	16.5 x 120	24 x 100	25.3 x 98	25.3 x 98
Tube material	PF	PC	PPCO	PS	PP	HS glass	PP	Glass	PF	PPCO
Item no.	15000	15010	15039	15020	15023	15085	15115	15025	15029	15032

Adapter for fixed-angle rotor 12159					
Bore diameter x length [mm]	16.2 x 71	18 x 87	17 x 107	24.5 x 88	26 x 83
Tubes per adapter / rotor	2 / 12	1 / 6	1 / 6	1 / 6	1 / 6
Centrifuging radius [mm]	69	90	97	91	81
Item no.	13084	16019	13081	16031	13083

Tube										
Rated capacity (filling volume) [ml]	30 (28)	30	50 (38)	50 (43)	50	50	85 (73)	85 (76)	94 (85)	94
Diameter x length [mm]	25.3 x 98	23.6 x 106	28.8 x 107	28.5 x 107	28.5 x 101.5	29.5 x 117	38 x 112	38 x 112	38 x 103	38 x 110
Tube material	PC	HS glass	PPCO	PF	Stainless steel	PP	PF	PPCO	Stainless steel	PC
Item no.	15030	15086	15052	15051	13055	15151	15080	15076	13085	15094

Adapter for fixed-angle rotor 12159					
Bore diameter x length [mm]	26 x 83	24.5 x 88	29 x 97	30 x 100	38.3 x 91
Tubes per adapter / rotor	1 / 6	1 / 6	1 / 6	1 / 6	– / 6
Centrifuging radius [mm]	81	91	95	98	98
Item no.	13083	16031	13082	13080	–

Material properties

Guideline for optimal tube selection

Due to the many factors that influence material properties, this overview is only intended as a general recommendation. There is no guarantee of the stated properties. Users should therefore carefully test materials for suitability under specific application conditions. Tubes should be discarded as soon as they show any sign of material fatigue.

	Polycarbonate (PC)	Polyvinyl fluoride (PF)	Polystyrene (PS)	Polyethylene (PE)	Polypropylene (PP)
Autoclave resistant	Yes	Yes	No	No	Yes
Elasticity	Not elastic	Not elastic	Not elastic	Good	Not elastic
Transparency	Transparent	Translucent	Transparent	Translucent	Translucent
Microwave resistant	Moderate	Yes	No	Limited	Moderate
Chemical resistance					
Weak acids	Yes	Yes	Yes	Yes	Yes
Strong acids	No	Yes	Limited	Yes	Yes
Alcohols and alkalis	No	Yes	Yes	Yes	Yes
Salts	Limited	Yes	Limited	Yes	Yes
Note:	Frequent autoclaving leads to loss of strength	Tubes should be completely filled and closed for use at maximum RCF			

	PP copolymer (PPCO)	Glass	High-speed glass (HS glass)	Stainless steel
Autoclave resistant	Yes	Yes	Yes	Yes
Elasticity	Moderate	Not elastic	Not elastic	Not elastic
Transparency	Translucent	Transparent	Transparent	Opaque
Microwave resistant	Moderate	Yes	Yes	No
Chemical resistance				
Weak acids	Yes	Yes	Yes	Limited
Strong acids	Yes	Yes	Yes	Limited
Alcohols and alkalis	Yes	Yes	Yes	Yes
Salts	Yes	Yes	Yes	Limited
Note:		Max. RCF for all glass tubes approx. 4,000 x g	High-speed glass for maximum RCF of 13,100 x g	

Spincontrol S controller

Intuitive operation and many options

The patented one-knob Spincontrol S controller sets standards in control technology for laboratory centrifuges. All parameters, such as speed, RCF or temperature, are set using the multifunction knob and can even be altered during operation. Illuminated buttons for starting, stopping and lid opening facilitate access to these functions.

Along with manual parameter configuration, previously entered programs can be selected via shortcuts. These programs can be assigned alphanumeric names to enhance process reliability and simplify operation. Another practical feature is the progress bar that visualises program status and can been seen at a distance. All setpoint and actual values are constantly shown on the clearly organised display.

The countless features leave nothing to be desired: time after target speed reached, capacity for 60 programs, password protection to prevent unintentional alteration of operating parameters, and the rotor cycle counter are just a few of the highlights that make the Spincontrol S controller a highly versatile system that is ready to meet the laboratory requirements of the future.

This premium controller from Sigma supports internal quality management functions as well as external communication with a laboratory information management system (LIMS). That way the Spincontrol S supports traceable professional reporting.

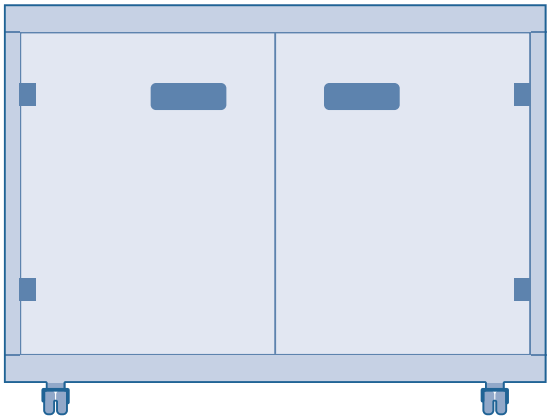
Spincontrol S
Get more information.
View our video:
www.sigma-zentrifugen.de/en/v/spincontrol

Display	TFT
Message window	+
Constant display of setpoints and actual values	+
Languages	DE, GB, PT, FR, ES, RU, HU, IT, SE, CN
Timer (s; h:min)	10 – 99:59
Timer tracks time after setpoint speed is reached; switchable	+ , +
Time increment [s]	60; 1
Short run, Continuous run	+ , +
Speed increment [rpm]	100; 1
Temperature increment [°C]	1
RCF increment [x g]	10; 1
Progress bar	+
Programs	60
User-definable program name (alphanumeric)	+
Program list, preview of all parameters	+ , +
Linear acceleration curves	10
Quadratic acceleration curves	10
User-definable acceleration curves	10
Linear braking curves	10
Quadratic braking curves	10
User-definable braking curves	10
Free run-out	+
Automatic lid opening at end of run, switchable	+ , +
Start delay (clotting time) adjustable/switchable	+ , +
Standstill cooling; switchable	+ , +
Standstill heating; switchable*	+ , +
Pre-cooling function "Rapid Temp"	+
Temperature deviation monitoring, settable	+
Audible signal, switchable	+ , +
Visual standstill indication	+
Centrifuge cycle count	+
Rotor cycle monitoring	+
Rotor end-of-life warning	+
Configurable for liquids > 1.2 g/cm^3	+
Lockable controller with password protection	+
Microprocessor control	+

* Only for 3-30KHS

Centrifuge tables

Sigma centrifuge tables are available in six different sizes. Matched to the corresponding centrifuge dimensions, they combine convenient work height with an optimally calculated footprint. The tables are made from coated sheet steel and are equipped with a storage compartment (with two doors) and a convenient pull-out shelf. Lockable castors allow the centrifuge tables to be easily moved and positioned in the laboratory.



Centrifuge table 17920
For Sigma 2-16KL
W x H x D [mm]: 600 x 501 x 550

Centrifuge table 17921
For Sigma 6-16KS
W x H x D [mm]: 790 x 515 x 684

Centrifuge table 17922
For Sigma 6-16S
W x H x D [mm]: 581 x 481 x 684

Centrifuge table 17923
For Sigma 3-30KS
W x H x D [mm]: 570 x 481 x 616

Centrifuge table 17926
For Sigma 3-16KL, 3-18KS, 4-16KS
W x H x D [mm]: 650 x 501 x 647

Centrifuge table 17927
For Sigma 3-16L, 4-5L, 4-16S
W x H x D [mm]: 490 x 497 x 647

Premium quality

Made in Germany

The Sigma 3-30KS and Sigma 3-30KHS meet the highest technical requirements of laboratory standards. Developed and produced at our facility in Osterode, Germany, they are high-performance, durable and energy-efficient quality products and conform to the latest safety, emissions and environmental standards. Sigma guarantees the availability of spare parts and wearing parts for at least 10 years. Furthermore, you benefit from our extensive services portfolio, including commissioning, maintenance, device calibration and more. Our qualified service technicians are ready to provide professional maintenance and repair as well as loaner devices if necessary. All support services are designed to ensure reliability and optimise system availability.

	Sigma 3-30KS	Sigma 3-30KHS
Max. capacity [ml]		
Swing-out rotor	4 x 100	4 x 100
Fixed-angle rotor	6 x 94	6 x 94
Max. RCF	70,121	70,121
Maximum speed [rpm]	30,000	30,000
Minimum speed [rpm]	100	100
Noise level at maximum speed (approx) [dB(A)]		
Fixed-angle rotor 12370	≤ 57	≤ 57
Swing-out rotor 11171 with bucket 13299 and cap	≤ 53	≤ 53
Max. acceleration time [s]		
Fixed-angle rotor 12370	≤ 45	≤ 45
Swing-out rotor 11171 with bucket 13299 and cap	≤ 19	≤ 19
Max. braking time [s]		
Fixed-angle rotor 12370	≤ 53	≤ 53
Swing-out rotor 11171 with bucket 13299 and cap	≤ 13	≤ 13
Temperature adjustment range [°C]	-20 – +40	-20 – +60
Power consumption [W]	1,800	1,800
Height x width x depth [mm]	464 x 570 x 643	464 x 570 x 643
Height with open lid [mm]	890	890
Weight without rotor [kg]	100	100
Refrigerant		R452A
Filling quantity [kg] / Max. permissible pressure [bar]		0.415 / 28
CO_2 equivalent [t]		0.888

Sigma Service
For maintenance and repairs please contact our Service department at www.sigma-zentrifugen.de/en/service

Calibration

Documented proof of compliance with essential technical parameters.

Speed or run time (item no. 17713)
Speed and run time (item no. 17714)
Speed, run time, temperature (item no. 17715)

Device qualification (IQOQ)

This comprehensive device qualification includes installation qualification and metrological checking of all functional parameters with a rotor.

IQOQ documents (item no. 170000)
IQOQ on site (upon request)

Sigma 3-30KS centrifuge
220 – 240 V, 50 Hz (item no. 10375)
220 – 240 V, 60 Hz (item no. 10376)
208 V, 60 Hz (item no. 10377)
200 V, 50/60 Hz (item no. 10378)

Sigma 3-30KHS centrifuge
230 V, 50 Hz (item no. 10379)

Sigma 3-30KS centrifuge, inert gas
220 – 240 V, 50 Hz (item no. 90897)

WEEE-Reg.-No. DE 76714077

Product portfolio

Sigma offers a broad product portfolio with more than 25 laboratory centrifuges. They can be combined with an extensive range of fixed-angle and swing-out rotors and a large variety of accessories to obtain the right device configuration for every application.

Microcentrifuge
Sigma 1-16

36 x 2 ml
15,000 rpm
20,627 x g

Floor-standing centrifuge
Sigma 8KS

12 x 1,000 ml
5,100 rpm
8,578 x g

6 x 1,000 ml
10,500 rpm
20,461 x g

Benchtop centrifuge
Sigma 2-7

4 x 100 ml
4,000 rpm
2,540 x g

30 x 15 ml
4,000 rpm
2,486 x g

Benchtop centrifuge
Sigma 3-30KS

4 x 100 ml
5,000 rpm
3,969 x g

6 x 94 ml
30,000 rpm
70,121 x g

Robot centrifuge
Sigma 4-5KRL

100 x 15 ml
4,700 rpm
4,470 x g

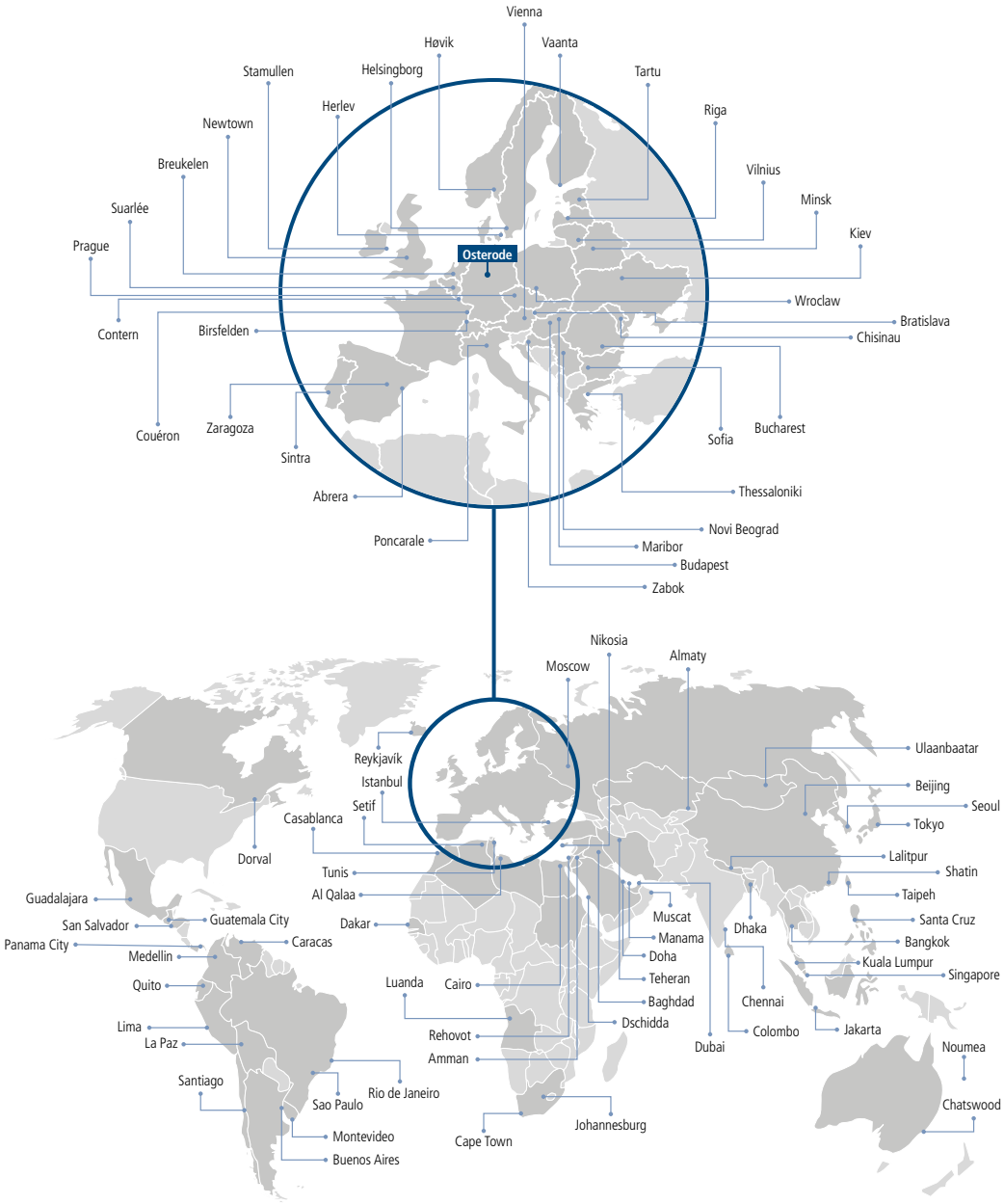
Legend

- Max. capacity
- Max. speed
- Max. RCF
- Swing-out rotor
- Fixed-angle rotor

Global service

For local product security

Our trained service partners in over 100 countries ensure consistently high quality in accordance with national regulations. Our specialists can also be engaged quickly around the world, either remotely or on site in person.



Selected locations of our representatives.

An overview of all representatives with detailed contact information can be found at www.sigma-zentrifugen.de/en/sales-partners

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