turns more than heads

SIGMA

Sigma 4-16S
Sigma 4-16KS
Sigma 4-16KHS

Benchtop centrifuge

- Unrefrigerated
- Refrigerated
- Refrigerated / heatable

www.sigma-zentrifugen.de

SIGMA 4-16KS

Most versatile 3-liter centrifuge in the industry

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.

The Sigma 4-16 centrifuge series features outstanding versatility, performance and capacity. With maximum RCF up to 5,526 x g with a swing-out rotor or 25,155 x g with a fixed-angle rotor, they are the most versatile three-liter centrifuges in the industry.

Large specimen volumes can also be processed efficiently thanks to the maximum capacity of 4 x 750 ml in a swing-out rotor or 6 x 250 ml in a fixed-angle rotor. Smooth running guarantees excellent, reproducible sedimentation results, for which reason this compact centrifuge series is recommended not only for routine tasks but also for demanding applications in research and industry.

Along with the unrefrigerated Sigma 4-16S, the refrigerated Sigma 4-16KS and Sigma 4-16KHS versions enable operation over an extended temperature range. The temperature of this refrigerable and heatable centrifuge can be set from -20 °C to +60 °C. That makes it particularly suitable for specimens that need to have their viscosity lowered during centrifugation.

High throughput in the laboratory

Result-oriented, convenient and robust

The Sigma 4-16 centrifuge series is designed for research tasks as well as routine procedures in laboratory operations. With their versatile rotor configurations, these models are suitable for research laboratories, hospitals, universities, cell culture applications, pharmaceutical laboratories, and applications in the biotechnology sector.

Along with excellent specifications, the series offers intuitive operation and advanced features. The patented one-knob Spincontrol S controller provides superior operating convenience, safety and versatility. Thanks to the intuitive user interface and the clearly organised menu structure, operating parameters can be entered and adjusted quickly. The acceleration and braking curves (30 each) facilitate optimisation of separation runs and results. Routine procedures can be stored with user-defined names and quickly retrieved from the integrated process library.

With automatic rotor identification, run time and speed monitoring, password-protected access to the controller and secure program storage, the centrifuges ensure uncompromising safety.

Sigma 4-16S

- Universal benchtop centrifuge
- Speed range up to 13,500 rpm
- Maximum capacity: 4 x 750 ml
- User-friendly Spincontrol S controller
- Extra large TFT display
- 60 programs
- Compact, space-saving unit
- 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
- Produced in compliance with the latest national and international standards (e.g. EN 61010-2-020)

Sigma 4-16KS

All features of the Sigma 4-16S, plus:

- Speed range up to 15,000 rpm
- High-performance cooling
- Temperature setting range: -20 °C to +40 °C
- Pre-cooling function "Rapid Temp"
- Rotor cooling also possible at standstill

Option

- Inert gas version with inert gas injection system

Sigma 4-16KHS

All features of the Sigma 4-16KS, plus:

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

Rotors and accessories

Large selection and a multitude of applications

The compact Sigma 4-16 series is is available with numerous swing-out and fixed-angle rotors, various buckets and adapters. The extensive port-folio of accessories can accommodate tubes from 0.2 ml to 750 ml as well as microtiter and deepwell plates.

The swing-out rotors can hold up to 3 liter (4 x 750 ml) or for example up to 60 conical 15 ml tubes. In many cases the configurations achieve best-in-class RCF for this centrifuge segment. Unique in the domain of fixed-angle rotors are the 6 x 250 ml rotor with a maximum RCF of 13,131 x g and the ability to centrifuge 50 ml culture tubes at more than 23,000 x g.

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 11650

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 4,643 x g
- Accessories in part with biosafe cap ☣
- Angle: 90°

▸ p.9

Swing-out rotor 11660

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 5,467 x g
- Accessories in part with biosafe cap ☣
- Angle: 90°

▸ p.13

Swing-out rotor 11150

- Max. capacity: 4 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 4,120 / 5,292 x g
- Angle: 90°

▸ p.18

Swing-out rotor 11156

- Max. capacity: 6 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 4,800 rpm
- Max. RCF (4-16S / 4-16KS): 4,324 / 4,920 x g
- Angle: 90°

▸ p.19

Swing-out rotor 11150

- Max. capacity: 12 microtiter plates
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 3,622 / 4,653 x g
- Angle: 90°

▸ p 20

Swing-out rotor 11118

- Max. capacity: 10 microtiter plates
- Max. speed (4-16S / 4-16KS): 5,700 rpm
- Max. RCF (4-16S / 4-16KS): 5,485 x g
- Biosafe with cap 17108 ☣
- Angle: 90°

▸ p.20

Swing-out rotor 11650 and bucket 13421

- Max. capacity: 16 microtiter plates
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,096 / 3,877 x g
- Angle: 90°

▸ p.20

Swing-out rotor 11660 and bucket 13421

- Max. capacity: 16 microtiter plates
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,096 / 3,877 x g
- Angle: 90°

Fixed-angle rotors starting on page 28

▸ p. 21

Fixed-angle rotor 12449

- Max. capacity: 48 x 2 ml
- Max. speed (4-16S / 4-16KS): 13,500 / 15,000 rpm
- Max. RCF (4-16S / 4-16KS): 20,376 / 25,155 x g
- Biosafe with aluminium lid 17612
- Angle (outer / inner row): 25° / 53°

▸ p. 21

Fixed-angle rotor 12201

- Max. capacity: 100 x 2 ml
- Max. speed (4-16S / 4-16KS): 9,000 / 9,600 rpm
- Max. RCF (4-16S / 4-16KS): 14,761 / 16,795 x g
- Angle (both rows): 45°

▸ p. 22

Fixed-angle rotor 12450

- Max. capacity: 24 x 5 ml conical
- Max. speed (4-16S / 4-16KS): 13,000 rpm
- Max. RCF (4-16S / 4-16KS): 21,917 x g
- Biosafe with aluminium lid 17614
- Angle: 40°

▸ p. 23

Fixed-angle rotor 12174

- Max. capacity: 24 x 15 ml conical
- Max. speed (4-16S / 4-16KS): 10,500 / 12,000 rpm
- Max. RCF (4-16S / 4-16KS): 15,531 / 20,285 x g
- Angle (outer / inner row): 30° / 40°

▸ p. 23

Fixed-angle rotor 12269

- Max. capacity: 8 x 50 ml conical
- Max. speed (4-16S / 4-16KS): 12,500 / 13,500 rpm
- Max. RCF (4-16S / 4-16KS): 18,168 / 21,191 x g
- Biosafe with aluminium lid 17604
- Angle: 25°

▸ p. 24

Fixed-angle rotor 12266

- Max. capacity: 8 x 50 ml round-bottom
- Max. speed (4-16S / 4-16KS): 12,500 / 14,000 rpm
- Max. RCF (4-16S / 4-16KS): 17,469 / 21,913 x g
- Biosafe with aluminium lid 17605
- Angle: 25°

▸ p. 25

Fixed-angle rotor 12265

- Max. capacity: 6 x 94 ml round-bottom
- Max. speed (4-16S / 4-16KS): 12,500 / 14,000 rpm
- Max. RCF (4-16S / 4-16KS): 18,517 / 23,228 x g
- Biosafe with aluminium lid 17607
- Angle: 25°

▸ p. 26

Fixed-angle rotor 12356

- Max. capacity: 6 x 250 ml
- Max. speed (4-16S / 4-16KS): 8,000 / 9,000 rpm
- Max. RCF (4-16S / 4-16KS): 10,375 / 13,131 x g
- Biosafe with aluminium lid 17603
- Angle: 30°

Swing-out rotor 11650

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 4,643 x g
- Max. tube length in middle of bucket without / with cap: 148 / 137 mm
- Biosafe with cap 17170
- Tmin at maximum speed: <4 °C
- Angle: 90°

Swing-out rotor 11660

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 5,467 x g
- Max. tube length in middle of bucket without / with cap: 153 / 137 mm
- Biosafe with cap 17170
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube										
Rated capacity (filling volume) [ml]	1.5	2	5	5	6 (5)	7	10	10	10	10
Diameter x length [mm]	10.7 x 42	10.7 x 42	12 x 75	17 x 60	12 x 100	12 x 100	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1	16 x 100
Tube material	PP	PP	PS	PPCO	Glass	Glass	PF	PC	PPCO	Glass
Item no.	15008	15040	15060	–	15007	15027	15000	15010	15039	15015
Adapter for round bucket 13450										
Bore diameter x length [mm]	11.1 x 38.5		12.8 x 52	17 x 52	12.8 x 74		16.5 x 55			17.5 x 55
Tubes per adapter / rotor	26 / 104		37 / 148	12 / 48	32 / 128		20 / 80			19 / 76
Centrifuging radius [mm]	181		180	185	182		183			183
Item no.	17653		17652	17211	17654		17655			17658

Tube									
Rated capacity (filling volume) [ml]	10	14	14	15 (13)	15	25	25	25	30 (26)
Diameter x length [mm]	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	PS	PP	Glass	PP	PP	Glass	Glass	PF
Item no.	15024	15020	15023	15022	15115	–	15025	15026	15029
Adapter for round bucket 13450									
Bore diameter x length [mm]	17.5 x 55				17 x 78.5	17 x 78.5	25.5 x 70	25.5 x 77	
Tubes per adapter / rotor	19 / 76				12 / 48	15 / 60	7 / 28	8 / 32	
Centrifuging radius [mm]	183				187	187	175	185	
Item no.	17658				17659	17660*	17662	17670	

* Only possible without cap 17170

Swing-out rotor 11650

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 4,643 x g
- Max. tube length in middle of bucket without / with cap: 148 / 137 mm
- Biosafe with cap 17170
- Tmin at maximum speed: <4 °C
- Angle: 90°

Swing-out rotor 11660

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 5,467 x g
- Max. tube length in middle of bucket without / with cap: 153 / 137 mm
- Biosafe with cap 17170
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube										
Rated capacity (filling volume) [ml]	30 (26)	30 (28)	30	30	50 (38)	50 (43)	50	50	50	50
Diameter x length [mm]	25.3 x 98	25.3 x 98	24 x 105	25 x 107	28.8 x 107	28.5 x 107	28.5 x 101.5	34 x 100	34 x 100	34 x 100
Tube material	PPCO	PC	Glass	PP	PPCO	PF	Stainless steel	Glass	Glass	PC
Item no.	15032	15030	15033	–	15052	15051	13055	15045	15050	15049

Adapter for round bucket 13450				
Bore diameter x length [mm]	25.5 x 77	25.5 x 70	29.5 x 77	35.5 x 77.5
Tubes per adapter / rotor	8 / 32	7 / 28	7 / 28	4 / 16
Centrifuging radius [mm]	185	175	185	185
Item no.	17670	17662	17676	17675

Tube									
Rated capacity (filling volume) [ml]	50	50	50	85 (73)	85 (76)	94 (85)	94	100 (75)	100 (90)
Diameter x length [mm]	35 x 100	29 x 117	29 x 117	38 x 112	38 x 112	38 x 103	38 x 110	44 x 100	44 x 100
Tube material	Glass	PP	PP	PF	PPCO	Stainless steel	PC	Glass	Glass
Item no.	15056	–	15151	15080	15076	13085	15094	15078	15106

Adapter for round bucket 13450						
Bore diameter x length [mm]	35.5 x 77.5	29.5 x 74	29.5 x 78.5	29.5 x 78	38.5 x 77	45.5 x 77
Tubes per adapter / rotor	4 / 16	5 / 20	5 / 20	7 / 28	3 / 12	2 / 8
Centrifuging radius [mm]	185	182	186	186	185	185
Item no.	17675	17678	17677	17649*	17685	17690**

* Only possible without cap 17170; ** Including rubber cushion 16051

Swing-out rotor 11650

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 4,643 x g
- Max. tube length in middle of bucket without / with cap: 148 / 137 mm
- Biosafe with cap 17170
- Tmin at maximum speed: <4 °C
- Angle: 90°

Swing-out rotor 11660

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 5,467 x g
- Max. tube length in middle of bucket without / with cap: 153 / 137 mm
- Biosafe with cap 17170
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube										
Rated capacity (filling volume) [ml]	100	100	150	175	175	200 (168)	200	225	250 (232)	250 (232)
Diameter x length [mm]	44 x 100	45 x 100	51 x 99	61 x 118	62 x 139.2	56 x 112	61 x 130	61 x 137	61.4 x 122	61.4 x 122
Tube material	Glass	PC	PP	PP	PP	PPCO	PP	PP	PF	PPCO
Item no.	15100	15103	15125	–	15175	15202	15174	–	15247	15249
Adapter for round bucket 13450										
Bore diameter x length [mm]	45.5 x 77		51.5 x 77	61 x 100	62.5 x 110	57.5 x 77	62.5 x 110	61 x 100	62.5 x 77	
Tubes per adapter / rotor	2 / 8		1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	
Centrifuging radius [mm]	185		185	188	188	185	188	188	185	
Item no.	17690*		17692	17694	17693	17696	17693	17694	17698	

Tube					
Rated capacity (filling volume) [ml]	250	250	400	500	750
Diameter x length [mm]	61.4 x 125	61 x 145	85 x 118	85 x 135	100 x 127
Tube material	Stainless steel	PP	PPCO	PPCO	PPCO
Item no.	13255	–	15401	15501	15917**
Adapter for round bucket 13450					
Bore diameter x length [mm]	62.5 x 77	62.5 x 110	86 x 107		101 x 102
Tubes per adapter / rotor	1 / 4	1 / 4	1 / 4		– / 4
Centrifuging radius [mm]	185	188	185		188
Item no.	17698	17693**	13654		–

* Including rubber cushion 16051; ** Max. load 1,000 g at 4,800 rpm or 900 g at 5,100 rpm

Swing-out rotor 11650

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 4,643 x g
- Max. tube length in middle of bucket without / with cap: 148 / 137 mm
- Biosafe with cap 17170
- Tmin at maximum speed: <4 °C
- Angle: 90°

Swing-out rotor 11660

Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (4-16S / 4-16KS): 4,200 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 3,708 / 5,467 x g
- Max. tube length in middle of bucket without / with cap: 153 / 137 mm
- Biosafe with cap 17170
- 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	4 – 6	1.8 – 7	4 – 10	9.5 – 10	6 – 10	9 – 10	8
Diameter x length with closure [mm]	8 x 82	11 x 82 – 108	13 x 81 – 106	13 x 81 – 106	13 x 81 – 107	15 x 91 – 118	15 x 106	16 x 106 – 107	16 x 108	16 x 131
Tube material	PP	PP	PP	PET	PET	PP	PET	PET	PP	Glass
Item no.	–	–	–	–	–	–	–	–	–	–

Adapter for round bucket 13450					
Bore diameter x length [mm]	12.8 x 52	13.8 x 54	16.5 x 55	17.5 x 55	17.5 x 55
Tubes per adapter / rotor	37 / 148	23 / 92	20 / 80	19 / 76	7 / 28
Centrifuging radius [mm]	180	182	183	183	183
Item no.	17652	17656	17655	17658	17658*

* Observe loading

Swing-out rotor 11150

Rectangular bucket 13215 (1 set = 2 pcs.)

- Max. capacity: 4 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 4,120 / 5,292 x g
- Max. tube length in middle of bucket without / with cap: 141 / 123 mm
- Hermetically closable with cap 17112
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube										
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2	5	5	6 (5)	7	10
Diameter x length [mm]	5.8 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42	12 x 75	17 x 60	12 x 100	12 x 100	16.1 x 81.1
Tube material	PP	PE	PP	PP	PP	PS	PPCO	Glass	Glass	PF
Item no.	15042	15014	15005	15008	15040	15060	–	15007	15027	15000
Adapter for rectangular bucket 13215										
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 38		12.5 x 51	17 x 52	12.5 x 72		17.2 x 46
Tubes per adapter / rotor	20 / 80	20 / 80	20 / 80	20 / 80		20 / 80	6 / 24	20 / 80		12 / 48
Centrifuging radius [mm]	167	169	169	170		166	168	166		166
Item no.	18002 & 13021	18002 & 13000	18002 & 13002	18002		18005*	18006	18007*		18010*

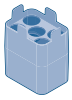
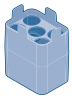
Tube									
Rated capacity (filling volume) [ml]	10	10	10	10	14	14	15 (13)	15	25
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16 x 100	16 x 100	17 x 100	17 x 100	17 x 110	16.5 x 120	25 x 90
Tube material	PC	PPCO	Glass	Glass	PS	PP	Glass	PP	PP
Item no.	15010	15039	15015	15024	15020	15023	15022	15115	–
Adapter for rectangular bucket 13215									
Bore diameter x length [mm]	17.2 x 46		17.2 x 72					17 x 72.5	17 x 72.5	25.5 x 61
Tubes per adapter / rotor	12 / 48		12 / 48					4 / 16	7 / 28	4 / 16
Centrifuging radius [mm]	166		166					170	170	167
Item no.	18010*		18015*					18016	18018**	18022

* Including rubber cushion 16909; ** Only possible without cap 17112

Swing-out rotor 11150

Rectangular bucket 13215 (1 set = 2 pcs.)

- Max. capacity: 4 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 4,120 / 5,292 x g
- Max. tube length in middle of bucket without / with cap: 141 / 123 mm
- Hermetically closable with cap 17112
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube										
Rated capacity (filling volume) [ml]	25	25	30 (26)	30 (26)	30 (28)	30	30	50 (38)	50 (43)	50
Diameter x length [mm]	24 x 100	24 x 100	25.3 x 98	25.3 x 98	25.3 x 98	24 x 105	25 x 107	28.5 x 107	28.8 x 107	28.5 x 101.5
Tube material	Glass	Glass	PF	PPCO	PC	Glass	PP	PPCO	PF	Stainless steel
Item no.	15025	15026	15029	15032	15030	15033	–	15052	15051	13055
Adapter for rectangular bucket 13215										
Bore diameter x length [mm]	24.5 x 70	25.5 x 71				24.5 x 70	25.5 x 61	29.5 x 71		
Tubes per adapter / rotor	5 / 20	5 / 20				5 / 20	4 / 16	2 / 8		
Centrifuging radius [mm]	166	168				166	167	168		
Item no.	18025*	18030				18025*	18022	18051		

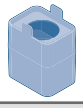
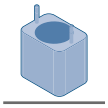
Tube										
Rated capacity (filling volume) [ml]	50	50	50	50	50	50	85 (73)	85 (76)	94 (85)	94
Diameter x length [mm]	34 x 100	34 x 100	35 x 100	34 x 100	29 x 117	29 x 117	38 x 112	38 x 112	38 x 103	38 x 110
Tube material	Glass	Glass	Glass	PC	PP	PP	PF	PPCO	Stainless steel	PC
Item no.	15045	15050	15056	15049	–	15151	15080	15076	13085	15094
Adapter for rectangular bucket 13215										
Bore diameter x length [mm]	35.5 x 68				30 x 74	29.5 x 72.5	38.5 x 72			
Tubes per adapter / rotor	2 / 8				2 / 8	2 / 8	1 / 4			
Centrifuging radius [mm]	162				171	170	169			
Item no.	18050**				18053	18052	18085			

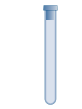
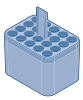
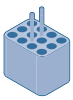
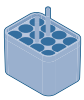
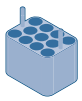
* Including rubber cushion 16906; ** Including rubber cushion 16907

Swing-out rotor 11150

Rectangular bucket 13215 (1 set = 2 pcs.)

- Max. capacity: 4 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 4,120 / 5,292 x g
- Max. tube length in middle of bucket without / with cap: 141 / 123 mm
- Hermetically closable with cap 17112
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube								
Rated capacity (filling volume) [ml]	100 (75)	100 (90)	100	100	150	150	200 (168)	200 (170)
Diameter x length [mm]	44 x 100	44 x 100	44 x 100	45 x 100	51 x 99	56 x 113	56 x 112	56 x 112
Tube material	Glass	Glass	Glass	PC	PP	Glass	PPCO	Glass
Item no.	15078	15106	15100	15103	15125	15206	15202	15201
Adapter for rectangular bucket 13215								
Bore diameter x length [mm]	46 x 65.5				51.5 x 71	57 x 62	57 x 34	57 x 62
Tubes per adapter / rotor	1 / 4				1 / 4	1 / 4	1 / 4	1 / 4
Centrifuging radius [mm]	165				168	167	166	167
Item no.	18100*				18125	18250**	18200	18250**

Blood and urine tubes										
Rated capacity (filling volume) [ml]	1.1 – 1.4	2.7 – 5	4 – 6	1.8 – 7	1.6 – 6	4 – 10	9.5 – 10	6 – 10	9 – 10	8
Diameter x length with closure [mm]	8 x 82	11 x 82 – 108	13 x 81 – 106	13 x 81 – 107	13 x 81 – 106	15 x 91 – 118	15 x 106	16 x 106 – 107	16 x 108	16 x 131
Tube material	PP	PP	PET	PET	PP	PP	PET	PET	PP	Glass
Item no.	–	–	–	–	–	–	–	–	–	–
Adapter for rectangular bucket 13215									
Bore diameter x length [mm]	12.5 x 51		14 x 58			17.2 x 46			17.5 x 57	17.5 x 71
Tubes per adapter / rotor	20 / 80		12 / 48			12 / 48			11 / 44	10 / 40
Centrifuging radius [mm]	166		164			166			168	168
Item no.	18005**		18012			18010***			18020	18017****

* Including rubber cushion 16908; ** Including rubber cushion 16051; *** Including rubber cushion 16909, **** Observe loading

Swing-out rotor 11150

Bucket 13235 (1 set = 2 pcs.)

- Max. capacity: 28 x 50 ml conical
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 4,302 / 5,525 x g
- Max. tube length mid-bucket: 128 mm
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube				
Rated capacity (filling volume) [ml]	15	25	30	50
Diameter x length [mm]	16.5 x 120	25 x 90	25 x 107	29 x 117
Tube material	PP	PP	PP	PP
Item no.	15115	–	–	15151
Adapter for bucket 13235				
Bore diameter x length [mm]	17 x 107	25.5 x 71		29.5 x 97
Tubes per adapter / rotor	7 / 28	7 / 28		7 / 28
Centrifuging radius [mm]	189	167		190
Item no.	13060	13064		–

Swing-out rotor 11150

Bucket 13236 (1 set = 2 pcs.)

- Max. capacity: 48 x 15 ml conical
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 4,256 / 5,467 x g
- Max. tube length mid-bucket: 124 mm
- Tmin at maximum speed: <4 °C
- Angle: 90°

Tube	
Rated capacity (filling volume) [ml]	15
Diameter x length [mm]	16.5 x 120
Tube material	PPCO
Item no.	15115
Adapter for bucket 13236	
Bore diameter x length [mm]	17 x 92
Tubes per adapter / rotor	12 / 48
Centrifuging radius [mm]	188
Item no.	–

Swing-out rotor 11156

Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 4,800 rpm
- Max. RCF (4-16S / 4-16KS): 4,324 / 4,920 x g
- Max. tube length in middle of bucket without / with cap: 140 / 124 mm
- Hermetically closable with cap 17112
- Max. speed for 4 °C: 4,700 rpm
- Angle: 90°

Tube										
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2	5	5	6 (5)	7	10
Diameter x length [mm]	5.8 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42	12 x 75	17 x 60	12 x 100	12 x 100	16.1 x 81.1
Tube material	PP	PE	PP	PP	PP	PS	PPCO	Glass	Glass	PF
Item no.	15042	15014	15005	15008	15040	15060	–	15007	15027	15000
Adapter for rectangular bucket 13127										
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 38		12.5 x 51	17 x 52	12.5 x 72		17.2 x 46
Tubes per adapter / rotor	20 / 120	20 / 120	20 / 120	20 / 120		20 / 120	6 / 36	20 / 120		12 / 72
Centrifuging radius [mm]	187	189	189	190		186	188	186		186
Item no.	18002 & 13021	18002 & 13000	18002 & 13002	18002		18005*	18006	18007*		18010*

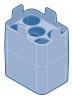
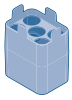
Tube									
Rated capacity (filling volume) [ml]	10	10	10	10	14	14	15 (13)	15	25
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16 x 100	16 x 100	17 x 100	17 x 100	17 x 110	16.5 x 120	25 x 90
Tube material	PC	PPCO	Glass	Glass	PS	PP	Glass	PP	PP
Item no.	15010	15039	15015	15024	15020	15023	15022	15115	–
Adapter for rectangular bucket 13127									
Bore diameter x length [mm]	17.2 x 46		17.2 x 75					17 x 72.5	17 x 72.5	25.5 x 61
Tubes per adapter / rotor	12 / 72		12 / 72					4 / 24	7 / 42	4 / 24
Centrifuging radius [mm]	186		186					189	189	187
Item no.	18010*		18015*					18016	18018**	18022

* Including rubber cushion 16909; ** Only possible without cap 17112

Swing-out rotor 11156

Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 4,800 rpm
- Max. RCF (4-16S / 4-16KS): 4,324 / 4,920 x g
- Max. tube length in middle of bucket without / with cap: 140 / 124 mm
- Hermetically closable with cap 17112
- Max. speed for 4 °C: 4,700 rpm
- Angle: 90°

Tube										
Rated capacity (filling volume) [ml]	25	25	30 (26)	30 (26)	30 (28)	30	30	50 (38)	50 (43)	50
Diameter x length [mm]	24 x 100	24 x 100	25.3 x 98	25.3 x 98	25.3 x 98	24 x 105	25 x 107	28.8 x 107	28.5 x 107	28.5 x 101.5
Tube material	Glass	Glass	PF	PPCO	PC	Glass	PP	PPCO	PF	Stainless steel
Item no.	15025	15026	15029	15032	15030	15033	–	15052	15051	13055
Adapter for rectangular bucket 13127										
Bore diameter x length [mm]	24.5 x 70		25.5 x 71			24.5 x 70	25.5 x 61	29.5 x 71		
Tubes per adapter / rotor	5 / 30		5 / 30			5 / 30	4 / 24	2 / 12		
Centrifuging radius [mm]	186		188			186	187	188		
Item no.	18025*		18030			18025*	18022	18051		

Tube										
Rated capacity (filling volume) [ml]	50	50	50	50	50	50	85 (73)	85 (76)	94 (85)	94
Diameter x length [mm]	34 x 100	34 x 100	35 x 100	34 x 100	29 x 117	29 x 117	38 x 112	38 x 112	38 x 103	38 x 110
Tube material	Glass	Glass	Glass	PC	PP	PP	PF	PPCO	Stainless steel	PC
Item no.	15045	15050	15056	15049	–	15151	15080	15076	13085	15094
Adapter for rectangular bucket 13127										
Bore diameter x length [mm]	35.5 x 68				30 x 74	29.5 x 72.5	38.5 x 72			
Tubes per adapter / rotor	2 / 12				2 / 12	2 / 12	1 / 6			
Centrifuging radius [mm]	182				191	189	189			
Item no.	18050**				18053	18052	18085			

* Including rubber cushion 16906; ** Including rubber cushion 16907

Swing-out rotor 11156

Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed (4-16S / 4-16KS): 4,500 / 4,800 rpm
- Max. RCF (4-16S / 4-16KS): 4,324 / 4,920 x g
- Max. tube length in middle of bucket without / with cap: 140 / 124 mm
- Hermetically closable with cap 17112
- Max. speed for 4 °C: 4,700 rpm
- Angle: 90°

Tube								
Rated capacity (filling volume) [ml]	100 (75)	100 (90)	100	100	150	150	200 (168)	200 (170)
Diameter x length [mm]	44 x 100	44 x 100	44 x 100	45 x 100	51 x 99	56 x 113	56 x 112	56 x 112
Tube material	Glass	Glass	Glass	PC	PP	Glass	PPCO	Glass
Item no.	15078	15106	15100	15103	15125	15206	15202	15201
Adapter for rectangular bucket 13127								
Bore diameter x length [mm]	46 x 65.5				51.5 x 71	57 x 62	57 x 34	57 x 62
Tubes per adapter / rotor	1 / 4				1 / 4	1 / 6	1 / 6	1 / 6
Centrifuging radius [mm]	185				188	187	186	187
Item no.	18100*				18125	18250**	18200	18250**

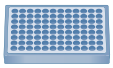
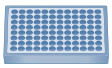
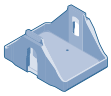
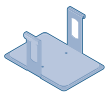
Blood and urine tubes										
Rated capacity (filling volume) [ml]	1.1 – 1.4	2.7 – 5	4 – 6	1.8 – 7	1.6 – 6	4 – 10	9.5 – 10	6 – 10	9 – 10	8
Diameter x length with closure [mm]	8 x 82	11 x 82 – 108	13 x 81 – 106	13 x 81 – 107	13 x 81 – 106	15 x 91 – 118	15 x 106	16 x 106 – 107	16 x 108	16 x 131
Tube material	PP	PP	PET	PET	PP	PP	PET	PET	PP	Glass
Item no.	–	–	–	–	–	–	–	–	–	–
Adapter for rectangular bucket 13127										
Bore diameter x length [mm]	12.5 x 51		14 x 58			17.2 x 46			17.5 x 57	17.5 x 57
Tubes per adapter / rotor	20 / 120		12 / 72			12 / 72			11 / 66	3 / 18
Centrifuging radius [mm]	186		184			186			188	188
Item no.	18005***		18012			18010***			18020	18020**

* Including rubber cushion 16908; ** Including rubber cushion 16051; *** Including rubber cushion 16909

Swing-out rotor 11150

Rectangular bucket 13221
including plate holder 17979 (1 set = 2 pcs.)

- Max. plate height: 56 mm
- Max. speed (4-16S / 4-16KS): 4,500 / 5,100 rpm
- Max. RCF (4-16S / 4-16KS): 3,622 / 4,653 x g
- Max. load per carrier: 450 g
- Tmin at maximum speed: <4 °C
- Angle: 90°

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 13221 				
Bore diameter x length [mm]	–			
Plates per rotor	12	12	4	8
Centrifuging radius [mm]	160			
Item no.	17979			

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.

Swing-out rotor 11118

with 1 set rectangular buckets 13218, caps 17108 and plate holder 17978 (1 set = 2 pcs.)

- Max. plate height without / with cap: 93 / 80 mm
- Max. speed (4-16S / 4-16KS): 5,700 rpm
- Max. RCF (4-16S / 4-16KS): 5,485 x g
- Max. load per carrier: 520 g
- Biosafe with cap 17108
- Tmin at maximum speed: <4 °C
- Angle: 90°

Swing-out rotor 11660 / 11650

Rectangular bucket 13421 including plate holder 17979 (1 set = 4 pcs.)

- Max. plate height: 61 mm
- Max. speed (4-16S / 4-16KS): 4,200 / 4,700 rpm
- Max. RCF (4-16S / 4-16KS): 3,096 / 3,877 x g
- Max. load per carrier: 500 g
- Tmin at maximum speed: <4 °C
- Angle: 90°

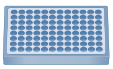
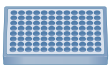
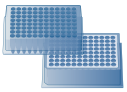
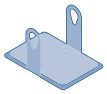
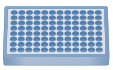
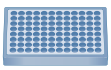
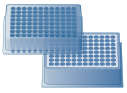
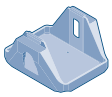
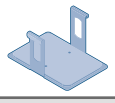
Plate					
Description	MTP (without lid)	MTP (with lid)	DWP	PCR plate 96-fold	Filter plate
W x D x H [mm]	128 x 86 x 15	128 x 86 x 17.5	128 x 86 x 44.5	128 x 86 x 20	128 x 86 x 60
Adapter					
for rectangular bucket 13218					
Bore diameter x length [mm]			–		
Plates per rotor (without / with cap)	12 / 10	10 / 8	4 / 2	8 / 8	2 / 2
Centrifuging radius [mm]			151		
Item no.			17978		

Plate					
Description	MTP (without lid)	MTP (with lid)	DWP	PCR plate 96-fold	Filter plate
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	128 x 86 x 60
Adapter					
for rectangular bucket 13421 					
Bore diameter x length [mm]			–		
Plates per rotor	16	12	4	12	4
Centrifuging radius [mm]			157		
Item no.			17979		

Fixed-angle rotor 12449

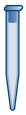
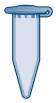
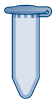
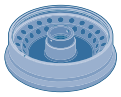
with aluminium lid 17612

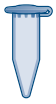
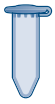
- Max. capacity: 48 x 2 ml
- Max. speed (4-16S / 4-16KS): 13,500 / 15,000 rpm
- Max. RCF (4-16S / 4-16KS): 20,376 / 25,155 x g
- Biosafe with aluminium lid 17612 ☣
- Tmin at maximum speed: <4 °C
- Angle (outer / inner row): 25° / 53°

Fixed-angle rotor 12201

with aluminium lid 17896

- Max. capacity: 100 x 2 ml
- Max. speed (4-16S / 4-16KS): 9,000 / 9,600 rpm
- Max. RCF outer row (4-16S / 4-16KS): 14,761 / 16,795 x g
- Max. RCF inner row (4-16S / 4-16KS): 12,406 / 14,116 x g
- Hermetically closable with aluminium lid 17896
- Max. speed for 4 °C: 9,400 rpm
- Angle (both rows): 45°

Tube					
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.85 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 12449 					
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 38.5	
Tubes per adapter / rotor	1 / 48	1 / 48	1 / 48	– / 48	
Centrifuging radius (outer / inner row) [mm]	96 / 96	98 / 98	98 / 98	100 / 100	
Item no.	13021	13000	13002	–	

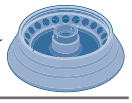
Tube					
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	1.5	2
Diameter x length [mm]	5.85 x 20	5.8 x 47	7.9 x 28	10.7 x 42	10.7 x 42
Tube material	PP	PE	PP	PP	PP
Item no.	15042	15014	15005	15008	15040
Adapter for fixed-angle rotor 12201					
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 38.5	
Tubes per adapter / rotor	1 / 100	1 / 100	1 / 100	– / 100	
Centrifuging radius (outer / inner row) [mm]	159 / 133	161 / 135	161 / 135	163 / 151	
Item no.	13021	13000	13002	–	

Fixed-angle rotor 12450

with aluminium lid 17614

- Max. capacity: 24 x 5 ml conical
- Max. speed (4-16S / 4-16KS): 13,000 rpm
- Max. RCF (4-16S / 4-16KS): 21,917 x g
- Biosafe with aluminium lid 17614
- Tmin at maximum speed: <4 °C
- Angle: 40°

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 12450 				
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 / 24	1 / 24	1 / 24	– / 24
Centrifuging radius [mm]	89	93	99	116
Item no.	14081	14080	14082	–

Fixed-angle rotor 12174

with aluminium lid 17883

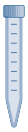
- Max. capacity: 24 x 15 ml conical
- Max. speed (4-16S / 4-16KS): 10,500 / 12,000 rpm
- Max. RCF (4-16S / 4-16KS): 15,531 / 20,285 x g
- Hermetically closable with aluminium lid 17883
- Tmin at maximum speed: <4 °C
- Angle (outer / inner row): 30° / 40°

Fixed-angle rotor 12269

with aluminium lid 17604

- Max. capacity: 8 x 50 ml conical
- Max. speed (4-16S / 4-16KS): 12,500 / 13,500 rpm
- Max. RCF (4-16S / 4-16KS): 18,168 / 21,191 x g
- Biosafe with aluminium lid 17604
- Tmin at maximum speed: <4 °C
- Angle: 25°

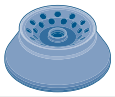
Tube



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

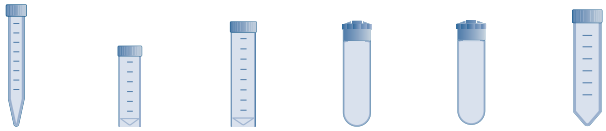
Adapter

for fixed-angle rotor 12174



Bore diameter x length [mm]	17 x 107
Tubes per adapter / rotor	– / 24
Centrifuging radius (outer / inner row) [mm]	126 / 126
Item no.	–

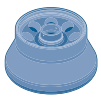
Tube



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 12269



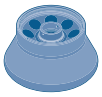
Bore diameter x length [mm]	17 x 107	25.5 x 71	30 x 91	29.5 x 102
Tubes per adapter / rotor	1 / 8	1 / 8	1 / 8	– / 8
Centrifuging radius [mm]	103	81	94	104
Item no.	13060	13064	13079	–

Fixed-angle rotor 12266

with aluminium lid 17605

- Max. capacity: 8 x 50 ml round-bottom
- Max. speed (4-16S / 4-16KS): 12,500 / 14,000 rpm
- Max. RCF (4-16S / 4-16KS): 17,469 / 21,913 x g
- Biosafe with aluminium lid 17605
- Tmin at maximum speed: <4 °C
- Angle: 25°

Tube										
Rated capacity (filling volume) [ml]	10	10	10	14	14	15	30 (26)	30 (26)	30 (28)	30
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	25.3 x 98	25.3 x 98	25.3 x 98	23.6 x 106
Tube material	PF	PC	PPCO	PS	PP	HS glass	PF	PPCO	PC	HS glass
Item no.	15000	15010	15039	15020	15023	15085	15029	15032	15030	15086

Adapter for fixed-angle rotor 12266 				
Bore diameter x length [mm]	16.2 x 65	18 x 90	25.6 x 75	24.5 x 93
Tubes per adapter / rotor	1 / 8	1 / 8	1 / 8	1 / 8
Centrifuging radius [mm]	72	99	89	102
Item no.	13087	16018	13086	16030

Tube			
Rated capacity (filling volume) [ml]	50 (38)	50 (43)	50
Diameter x length [mm]	28.8 x 107	28.5 x 107	28.5 x 101.5
Tube material	PPCO	PF	Stainless steel
Item no.	15052	15051	13055

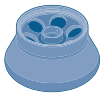
Adapter for fixed-angle rotor 12266	
Bore diameter x length [mm]	29 x 97
Tubes per adapter / rotor	– / 8
Centrifuging radius [mm]	104
Item no.	–

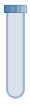
Fixed-angle rotor 12265

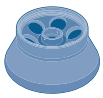
with aluminium lid 17607

- Max. capacity: 6 x 94 ml round-bottom
- Max. speed (4-16S / 4-16KS): 12,500 / 14,000 rpm
- Max. RCF (4-16S / 4-16KS): 18,517 / 23,228 x g
- Biosafe with aluminium lid 17607 ☣
- Tmin at maximum speed: <4 °C
- Angle: 25°

Tube										
Rated capacity (filling volume) [ml]	10	10	10	14	14	15	15	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	17 x 100	17 x 100	17.5 x 106	16.5 x 120	25.3 x 98	25.3 x 98	25.3 x 98
Tube material	PF	PC	PPCO	PS	PP	HS glass	PP	PF	PPCO	PC
Item no.	15000	15010	15039	15020	15023	15085	15115	15029	15032	15030

Adapter for fixed-angle rotor 12265 				
Bore diameter x length [mm]	16.2 x 71	18 x 87	17 x 107	26 x 83
Tubes per adapter / rotor	2 / 12	1 / 6	1 / 6	1 / 6
Centrifuging radius [mm]	77	98	105	89
Item no.	13084	16019	13081	13083

Tube									
Rated capacity (filling volume) [ml]	30	50 (38)	50 (43)	50	50	85 (73)	85 (76)	94 (85)	94
Diameter x length [mm]	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	HS glass	PPCO	PF	Stainless steel	PP	PF	PPCO	Stainless steel	PC
Item no.	15086	15052	15051	13055	15151	15080	15076	13085	15094

Adapter for fixed-angle rotor 12265 				
Bore diameter x length [mm]	24.5 x 88	29 x 97	30 x 100	38.3 x 99
Tubes per adapter / rotor	1 / 6	1 / 6	1 / 6	– / 6
Centrifuging radius [mm]	99	103	106	106
Item no.	16031	13082	13080	–

Fixed-angle rotor 12356*

with aluminium lid 17603

- Max. capacity: 6 x 250 ml
- Max. speed (4-16S / 4-16KS): 8,000 / 9,000 rpm
- Max. RCF (4-16S / 4-16KS): 10,375 / 13,131 x g
- Biosafe with aluminium lid 17603
- Tmin at maximum speed: <4 °C
- Angle: 30°

* 4-16KHS: Temperature setting range maximum 50 °C

Tube										
Rated capacity (filling volume) [ml]	1.5	2	10	10	10	15	30 (26)	30 (26)	30 (28)	50 (38)
Diameter x length [mm]	10.7 x 42	10.7 x 42	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1	16.5 x 120	25.3 x 98	25.3 x 98	25.3 x 98	28.8 x 107
Tube material	PP	PP	PF	PC	PPCO	PP	PF	PPCO	PC	PPCO
Item no.	15008	15040	15000	15010	15039	15115	15029	15032	15030	15052

Adapter for fixed-angle rotor 12356						
Bore diameter x length [mm]	11.1 x 38.5	16.5 x 69	17 x 105	26 x 82.5	29.5 x 98
Tubes per adapter / rotor	9 / 54	6 / 36	4 / 24	2 / 12	1 / 6
Centrifuging radius [mm]	128	141	144	141	137
Item no.	14122	14124	14125	14127	14129

Tube										
Rated capacity (filling volume) [ml]	50 (43)	50	50	85 (73)	85 (76)	94 (85)	94	250 (232)	250 (232)	250
Diameter x length [mm]	28.5 x 107	28.5 x 101.5	29 x 117	38 x 112	38 x 112	38 x 103	38 x 110	61.4 x 122	61.4 x 122	61.4 x 125
Tube material	PF	Stainless steel	PP	PF	PPCO	Stainless steel	PC	PF	PPCO	Stainless steel
Item no.	15051	13055	15151	15080	15076	13085	15094	15247	15249	13255

Adapter for fixed-angle rotor 12356				
Bore diameter x length [mm]	29.5 x 98	30 x 102	38.5 x 99	61.8 x 111
Tubes per adapter / rotor	1 / 6	1 / 6	1 / 6	– / 6
Centrifuging radius [mm]	137	141	138	145
Item no.	14129	14131	14134	–

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.

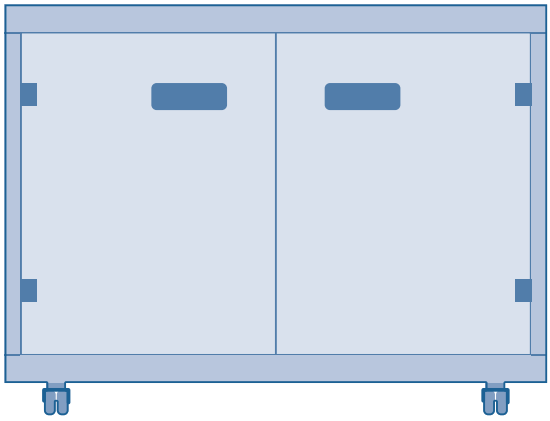
This premium controller from Sigma supports internal quality management functions as well as external communication with a laboratory information management system (LIMS). That way the Spincontrol S supports traceable professional reporting.

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 Sigma 4-16KS and Sigma 4-16KHS; ** Only for Sigma 4-16KHS

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 170001
for Sigma 4-5KL
W x H x D [mm]: 605 x 581 x 635

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 4-16 series meets 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 maintain reliability and optimise system availability.

	Sigma 4-16S	Sigma 4-16KS*	Sigma 4-16KHS*
Max. capacity [ml]			
Swing-out rotor	4 x 750	4 x 750	4 x 750
Fixed-angle rotor	6 x 250	6 x 250	6 x 250
Max. RCF	21,917	25,155	25,155
Maximum speed [rpm]	13,500	15,000	15,000
Minimum speed [rpm]	100	100	100
Noise level at maximum speed (approx) [dB(A)]			
Fixed-angle rotor 12449	≤ 58	≤ 60	≤ 60
Swing-out rotor 11660 with bucket 13450 and cap	≤ 65	≤ 59	≤ 59
Max. acceleration time [s]			
Fixed-angle rotor 12449	≤ 26	≤ 27	≤ 27
Swing-out rotor 11660 with bucket 13450 and cap	≤ 21	≤ 23	≤ 23
Max. braking time [s]			
Fixed-angle rotor 12449	≤ 37	≤ 42	≤ 42
Swing-out rotor 11660 with bucket 13450 and cap	≤ 23	≤ 27	≤ 27
Temperature adjustment range [°C]	–	-20 – +40	-20 – +60
Power consumption [W]	1,050	2,000	2,000
Height x width x depth [mm]	489 x 496 x 650	489 x 670 x 650	489 x 670 x 650
Height with open lid [mm]	940	940	940
Weight without rotor [kg]	82	124	124
Refrigerant		R452A	R452A
Filling quantity [kg] / Max. permissible pressure [bar]		0.530 / 25	0.530 / 25
CO_2 equivalent [t]		1.134	1.134

* Contains fluorinated greenhouse gases in a hermetically sealed refrigeration system. (EU) 2024/2729; 2028-DEC-31

Service Sigma
For maintenance and repairs please contact our Service department at:

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)

WEEE-Reg.-No. DE 76714077

Sigma 4-16S centrifuge
220 – 240 V, 50/60 Hz (item no. 10380)
208 V, 60 Hz (item no. 10381)
120 V, 60 Hz (item no. 10382)
100 V, 50/60 Hz (item no. 10383)

Sigma 4-16KS centrifuge
220 – 240 V, 50 Hz (item no. 10385)
220 – 240 V, 60 Hz (item no. 10386)
208 V, 60 Hz (item no. 10387)
200 V, 50/60 Hz (item no. 10388)

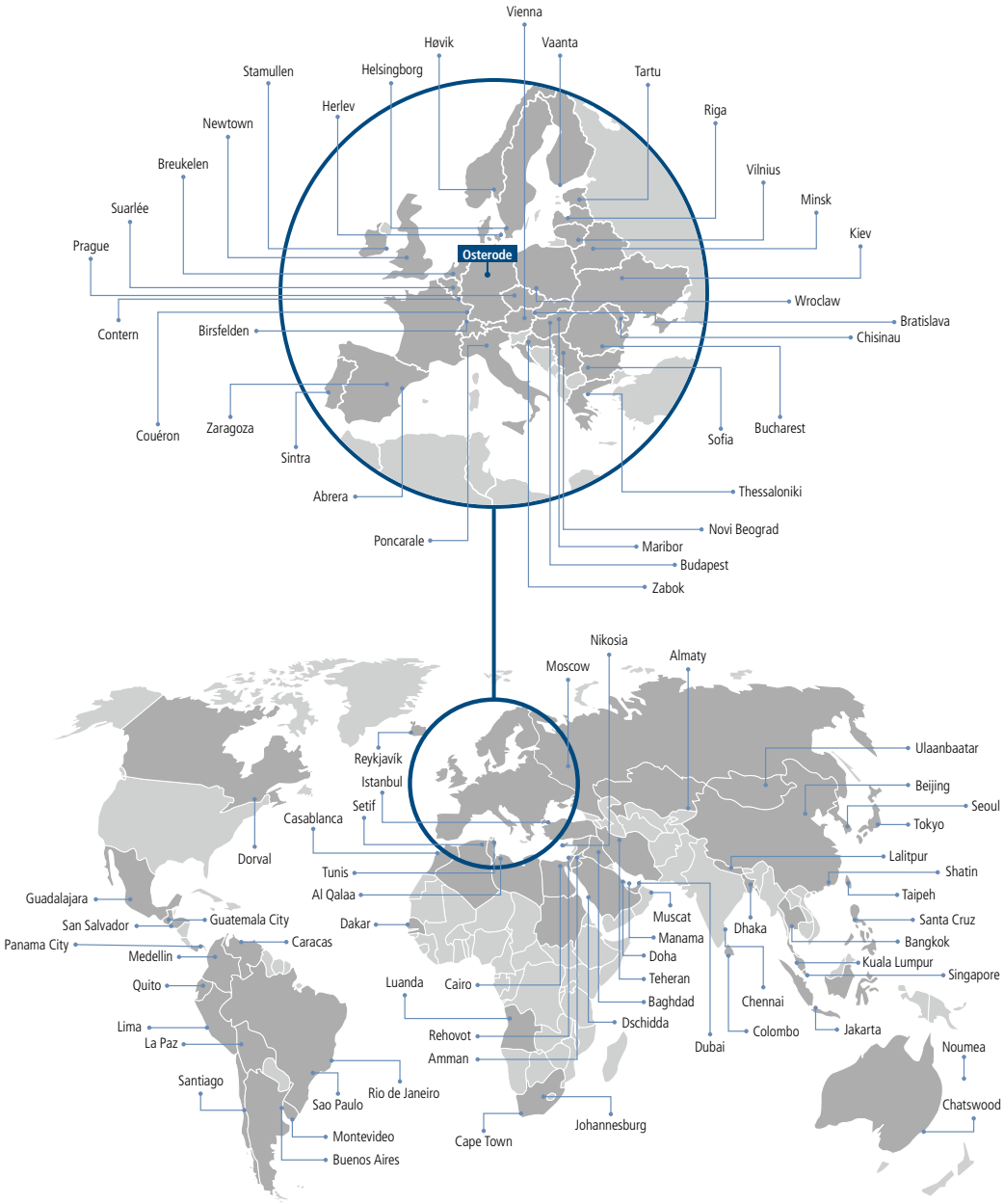
Sigma 4-16KHS centrifuge
220 – 240V, 50 Hz (item no. 10389)

Sigma 4-16KS centrifuge, inert gas
upon request

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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04/2026