

turns more than heads



Sigma 4-5L Sigma 4-5KL



Benchtop centrifuge

- Unrefrigerated
- Refrigerated



Top performer for high throughput



Sigma is a leading international manufacturer of laboratory centrifuges for biotechnology, pharmaceutical, medical, environment analysis, and other sectors. 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 high-performance Sigma 4-5L and Sigma 4-5KL laboratory centrifuges are designed for throughput and capacity. The high torque enables especially short acceleration times and makes laboratory processes efficient. These centrifuges are recommended for applications in clinical diagnostics and for life sciences applications.

The Sigma 4-5L boasts impressive features. Optimal air guidance ensures very low specimen heating and pleasantly quiet running. As an additional innovative feature, the Sigma 4-5L of the device has a temperature sensor to monitor the specimens.

The refrigerated version Sigma 4-5KL, with a temperature adjustment range of -10°C to $+40^{\circ}\text{C}$, is recommended for the protection of temperature sensitive samples.

Higher throughput in the laboratory

Result-oriented, convenient and robust

The Sigma 4-5 centrifuge series is designed for research and routine tasks in the laboratory. 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.

The non-refrigerated Sigma 4-5L features the innovative temperature monitoring function, a valuable aid for the protection of sensitive specimens. The maximum permissible specimen temperature can be freely set by the user. The device monitors this temperature and informs the user by an alert on the display if the limit was exceeded during the separation process. The innovative features enable compliance with the strict quality demands of clinical diagnostics.

Sigma 4-5L

- High-performance benchtop centrifuge
- Speed range up to 4,700 rpm
- Maximum capacity: 4 x 750 ml
- Up to 144 blood collection tubes per run
- Temperature monitoring: sensor for monitoring the maximum specimen temperature
- User-friendly Spincontrol L controller
- Capacity for 50 programs
- Compact, space-saving device
- Low noise level
- Short braking and acceleration times
- Zero-maintenance induction motor
- High imbalance tolerance
- Motorized lid opening
- Automatic imbalance monitoring
- Rotor life monitoring for high safety
- Easily cleaned stainless steel chamber
- Window in lid for external speed checking
- Manufactured according to the latest national and international standards (e.g. EN 61010-2-020)

Sigma 4-5L with

All features of the Sigma 4-5KL.

The Sigma 4-5KL refrigerated centrifuge is recommended for all applications in which the constant temperature between 4 °C and 22 °C must be maintained. To save energy and reduce costs, the refrigerated centrifuge offers the ECO mode feature. After a user-settable time, the centrifuge automatically switches to standby mode if it is not being used. Along with being energy efficient, this improves the working atmosphere in the lab by switching off the refrigeration to significantly reduce the noise level. The refrigerated centrifuge has a very small footprint and offers good value for money.

Sigma 4-5KL

All features of the Sigma 4-5L, plus:

- Speed range up to 13,500 rpm
- Temperature adjustment range –10 °C to +40 °C
- Optimized refrigeration compliant with the fluorinated greenhouse gases regulation (EU) No. 517/2014
- Rapid Temp function for fast temperature control
- Rotor temperature control even at standstill
- Adjustable ECO mode for energy-efficient standby mode

Sigma 4-5KL with

All features of the Sigma 4-5KL.





Rotors and accessories

Comprehensive options for the laboratory

A dedicated range of rotors are available for the compact Sigma 4-5 device series. The extensive range of accessories for swing-out rotors can hold tubes and vials from 1.5 ml to 750 ml as well as microtiter and deepwell plates. For working with samples that must be kept contained, the hexagonal bucket can be closed with a transparent cap for biosafe operation. The bail allows the buckets to be opened quickly and easily with just one hand.

There are also fixed-angle rotors for 48 x 1.5 ml reaction tubes, 8 x 50 ml conical vials and 6 x 94 ml vials. All fixed-angle rotors are suitable for biosafe operation.

As a special feature, custom accessories can be produced on request. The rotors and accessories are made of certified high-performance materials to withstand the most severe stresses.

Sigma 4-5L and Sigma 4-5KL rotor options

Swing-out rotor 11650 / 11660

- Max. capacity: 4 x 750 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,643 x g
- Biosafe with cap 17170 
- Angle: 90°



► p. 7

Swing-out rotor 11660 and bucket 13460

- Max. capacity: 100 x 15 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,470 x g
- Biosafe with cap 17460 
- Angle: 90°



► p. 11

MTP swing-out rotor 11650 / 11660

- Max. capacity: 16 microtiter plates
- Max. speed: 4,700 rpm
- Max. RCF: 3,877 x g
- Angle: 90°



► p. 15

Sigma 4-5KL rotor options

Swing-out rotor 11415

- Max. capacity: 6 x 200 ml
- Max. speed: 4,500 rpm
- Max. RCF: 4,324 x g
- Angle: 90°



► p. 12

MTP swing-out rotor 11118

- Max. capacity: 10 microtiter plates
- Max. speed: 5,700 rpm
- Max. RCF: 5,485 x g
- Biosafe with cap 17108 
- Angle: 90°



► p. 15

Fixed-angle rotor 12449

- Max. capacity: 48 x 2 ml
- Max. speed: 13,500 rpm
- Max. RCF: 20,376 x g
- Biosafe with aluminum lid 17612 
- Angle (outer / inner row): 25° / 53°



► p. 16

Fixed-angle rotor 12269

- Max. capacity: 8 x 50 ml conical
- Max. speed: 11,360 rpm
- Max. RCF: 15,000 x g
- Biosafe with aluminum lid 17604 
- Angle: 25°



► p. 16

Fixed-angle rotor 12265

- Max. capacity: 6 x 94 ml round-bottom
- Max. speed: 10,000 rpm
- Max. RCF: 11,851 x g
- Biosafe with aluminum lid 17607 
- Angle: 25°



► p. 17

Fixed-angle rotor 12356

- Max. capacity: 6 x 250 ml
- Max. speed: 5,450 rpm
- Max. RCF: 4,815 x g
- Angle: 30°



► p. 18

Sigma 4-5L and Sigma 4-5KL

Swing-out rotor 11650

Round bucket 13450 (1 set = 2 pcs)

- Max. capacity: 4 x 750 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,643 x g
- Max. tube length, mid-bucket without / with cap: 148 / 137 mm
- Biosafe with cap 17170 
- Tmin at maximum speed: <4 °C
- Angle: 90°



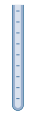
Swing-out rotor 11660

Round bucket 13450 (1 set = 2 pcs)

- Max. capacity: 4 x 750 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,643 x g
- Max. tube length, mid-bucket without / with cap: 153 / 137 mm
- Biosafe with cap 17170 
- Tmin at maximum speed: <4 °C
- Angle: 90°



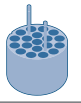
Tube

										
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

Sigma 4-5L and Sigma 4-5KL

Swing-out rotor 11650

Round bucket 13450 (1 set = 2 pcs)

- Max. capacity: 4 x 750 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,643 x g
- Max. tube length, mid-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: 4,700 rpm
- Max. RCF: 4,643 x g
- Max. tube length, mid-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
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
Tube material	PPCO	PC	Glass	PP	PPCO	PF	Stainless steel	Glass	Glass
Item no.	15032	15030	15033	—	15052	15051	13055	15045	15049

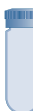
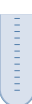
Adapter

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)
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
Tube material	Glass	PP	PP	PF	PPCO	Stainless steel	PC	Glass
Item no.	15056	—	15151	15080	15076	13085	15094	15078

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**

Sigma 4-5L and Sigma 4-5KL

Swing-out rotor 11650

Round bucket 13450 (1 set = 2 pcs)

- Max. capacity: 4 x 750 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,643 x g
- Max. tube length, mid-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: 4,700 rpm
- Max. RCF: 4,643 x g
- Max. tube length, mid-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	1 / 4	
Centrifuging radius [mm]	185	185	188	188	185	188	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	—	

Sigma 4-5L and Sigma 4-5KL

Swing-out rotor 11650 / 11660

Round bucket 13450 (1 set = 2 pcs)

- Max. capacity: 4 x 750 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,643 x g
- Max. tube length, mid-bucket without / with cap: 148 / 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 [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	17.5 x 55
Tubes per adapter / rotor	37 / 148	23 / 92	20 / 80	19 / 76	7 / 28	7 / 28
Centrifuging radius [mm]	180	182	183	183	183	183
Item no.	17652	17656	17655	17658	17658*	17658*

* Observe loading



Sigma 4-5L and Sigma 4-5KL

Swing-out rotor 11660

Bucket 13460 with cap 17460 (1 set = 2 pcs)

- Max. capacity: 100 x 15 ml
- Max. speed: 4,700 rpm
- Max. RCF: 4,470 x g
- Max. tube length, mid-bucket without / with cap: 141 / 135 mm
- Biosafe with cap 17460 
- Tmin at maximum speed: <4 °C
- Angle: 90°



Tube

		
Rated capacity (filling volume) [ml]	15	50
Diameter x length [mm]	16.5 x 120	29 x 117
Tube material	PP	PP
Item no.	15115	15151

Adapter

for
bucket
13460



Bore diameter x length [mm]	17 x 78.5	17 x 78.5	29.5 x 78.5	29.5 x 78.5
Tubes per adapter / rotor	6 / 24	14 / 56	4 / 16	6 / 24
Centrifuging radius [mm]	180	180	180	180
Item no.	180000	180001*	180002	180003*

Blood and urine tubes

										
Rated capacity (filling volume) [ml]	1.1 – 1.4	2.7 – 5	4 – 6	1.6–5.6	1.8–7	4 – 10	6 – 10	9 – 10	10	8
Diameter x length [mm]	8 x 82	11 x 82 – 108	13 x 81 – 106	13 x 81 – 106	13 x 81 – 107	15 x 91 – 108	16 x 106 – 107	16 x 108	15 x 118	16 x 131
Tube material	PP	PP	PET	PP	PET	PP	PET	PP	PP	Glass
Item no.	–	–	–	–	–	–	–	–	–	–

Adapter

for
bucket
13460



Bore diameter x length [mm]	13.5 x 56					17.5 x 57		17.5 x 57	17.5 x 57
Tubes per adapter / rotor	36 / 144					25 / 100		25 / 100	11 / 44
Centrifuging radius [mm]	177					178		178	178
Item no.	18461					18460		18460*	18460*,**

* Only possible without cap 17460 ** Observe loading

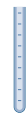
Sigma 4-5KL

Swing-out rotor 11415

Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed: 4,500 rpm
- Max. RCF: 4,324 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: 4,500 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

Sigma 4-5KL

Swing-out rotor 11415

Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed: 4,500 rpm
- Max. RCF: 4,324 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: 4,500 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

Sigma 4-5KL

Swing-out rotor 11415

Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed: 4,500 rpm
- Max. RCF: 4,324 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: 4,500 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

Sigma 4-5L and Sigma 4-5KL

MTP swing-out rotor 11650 / 11660

Rectangular bucket 13421 (1 set = 4 pcs), with plate holder 17979

- Max. plate height: 61 mm
- Max. speed: 4,700 rpm
- Max. RCF: 3,877 x g
- Max. load per carrier: 500 g
- Tmin at maximum speed: <4 °C
- Angle: 90°



Sigma 4-5KL

MTP swing-out rotor 11118

with 1 set (2 pcs) rectangular buckets 13218, caps 17108 and extractor 17978

- Max. plate height without / with cap: 93 / 80 mm
- Max. speed: 5,700 rpm
- Max. RCF: 5,485 x g
- Max. load per carrier: 520 g
- Biosafe with cap 17108 
- Max. speed for 4°C: 5,600 rpm
- Angle: 90°



Plate



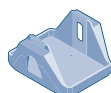
Description

W x D x H [mm]

MTP (without lid)	MTP (with lid)	DWP	PCR plate 96-fold	Filter plate
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

Centrifuging radius [mm]

Item no.

—				
16	12	4	12	4
157				
17979				

Plate



Description

W x D x H [mm]

MTP (without lid)	MTP (with lid)	DWP	PCR plate 96-fold	Filter plate
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)

Centrifuging radius [mm]

Item no.

—				
12 / 10	10 / 8	4 / 2	8 / 8	2 / 2
151				
17978				

Sigma 4-5KL

Fixed-angle rotor 12449

with aluminum lid 17612

- Max. capacity: 48 x 2 ml
- Max. speed: 13,500 rpm
- Max. RCF: 20,376 x g
- Biosafe with aluminum lid 17612 
- Max. speed for 4 °C: 13,000 rpm
- Angle (outer / inner row): 25° / 53°



Sigma 4-5KL

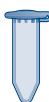
Fixed-angle rotor 12269

with aluminum lid 17604

- Max. capacity: 8 x 50 ml conical
- Max. speed: 11,360 rpm
- Max. RCF: 15,000 x g
- Biosafe with aluminum lid 17604 
- Tmin at maximum speed: <4 °C
- Angle: 25°

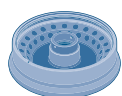


Tube

					
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) [mm]	96 / 96	98 / 98	98 / 98	100 / 100
Item no.	13021	13000	13002	—

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
Plates per rotor (without / with cap)	1 / 8	1 / 8	1 / 8	— / 8
Centrifuging radius [mm]	103	81	94	104
Item no.	13060	13064	13079	—

Sigma 4-5KL

Fixed-angle rotor 12265

with aluminum lid 17607

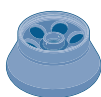
- Max. capacity: 6 x 94 ml round-bottom
- Max. speed: 10,000 rpm
- Max. RCF: 11,851 x g
- Biosafe with aluminum lid 17607 
- Tmin at maximum speed: <4 °C
- Angle: 25°



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

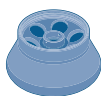


							
Bore diameter x length [mm]	16.2 x 71			18 x 87		17 x 107	26 x 83
Tubes per adapter / rotor	2 / 12			1 / 6		1 / 6	1 / 6
Centrifuging radius [mm]	77			98		105	89
Item no.	13084			16019		13081	13083

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: 5,450 rpm
- Max. RCF: 4,815 x g
- Biosafe with aluminium lid 17603 
- Tmin at maximum speed: <4 °C
- Angle: 30°



Tube

									
Rated capacity (filling volume) [ml]	1.5	2	10	10	10	15	30 (26)	30 (26)	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	28.8 x 107
Tube material	PP	PP	PF	PC	PPCO	PP	PF	PPCO	PPCO
Item no.	15008	15040	15000	15010	15039	15115	15029	15032	15052

Adapter

for
fixed-angle rotor
12356



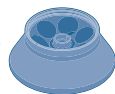
					
Bore diameter x length [mm]	11.1 x 38.5	16.5 x 69	17 x 105	26 x 82.5	29.5 x 98
Tubes per adapter / rotor	9 / 54	6 / 36	4 / 24	2 / 12	1 / 6
Centrifuging radius [mm]	128	141	144	141	137
Item no.	14122	14124	14125	14127	14129

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/vial 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 and vials 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 and vials should be completely filled and closed for deployment 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/vials approximately 4,000 x g	High-speed glass for max. RCF 13,100 x g	

Spincontrol L controller

Easy operation, maximum safety

The Spincontrol L controller combines intuitive operation with a multitude of options in a well-conceived package. It is still based on a patented Sigma concept. The brilliantly simple design of the Spincontrol L has only three buttons (Start, Stop, and Lid) along with the proven multifunction knob. Operating parameters can be entered conveniently and stored in up to 50 programs using the intuitive user interface. The backlit LCD display is easy to read at a distance.

A special feature is automatic monitoring of the number of operational rotor cycles. The integrated cycle counter keeps track of all completed rotor runs and informs the user when a defined limit value is reached. This alert system is based on real measurement data and helps to reliably avoid damage to rotors and the centrifuge.

The high-performance cooling system provides precise setting range of -10 °C to +40 °C with fine adjustment in 1 °C increments. Along with the fast pre-cooling function, the Sigma 4-5KL features standstill cooling.

The optional ECO mode, which switches off the centrifuge after a defined time without use, can be adjusted quickly.

The time interval can be set between 30 minutes and 8 hours. When the time interval expires, the cooling is switched off and the lid is opened to allow ice to melt and water to evaporate.

Display	Backlit LCD
Constant display of setpoints and actual values	+
Speed/RCF display	+
Timer (s; h:min)	10 – 99:59
The timer starts after the setpoint speed is reached and can be switched off	+, +
Short run, Continuous run	+, +
Time increment [s]	1
Speed increment [rpm]	100
Temperature increment [°C]	1*
RCF increment [x g]	10
Programs	50
Acceleration curves	10
Braking curves	10
Free run-out	+
Automatic lid opening at end of run, can be switched off	+, +
Standstill cooling	+
Rapid Temp fast pre-cooling function	+
Audible signal, mutable	+, +
Visual standstill indication	+
Rotor cycle monitoring	+
Rotor end-of-life warning	+
Lockable controller	+
Microprocessor control	+
Adjustable energy-efficient ECO mode	+

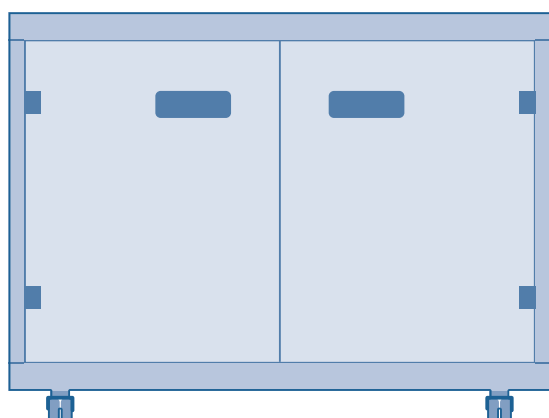
* Only Sigma 4-5KL

Spincontrol L
Get more information.
View our video:



Centrifuge tables

Sigma centrifuge tables are available in six different sizes. Matched to the respective centrifuge dimensions, they combine a convenient work height with an optimally calculated footprint. The tables are made of 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 170400

for Sigma 3-16T / 3-17KT

W x H x D [mm]: 460 x 581 x 718

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 4-5L 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, emission and environmental standards. Sigma guarantees the availability of spare parts and wearing parts for at least 10 years. Furthermore, you benefit from our extensive range of services,

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. With our three service locations (South, West and North/East), we can provide comprehensive support and short response times.

	Sigma 4-5L	Sigma 4-5KL *
Max. capacity [ml]		
Swing-out rotor	4 x 750	4 x 750
Fixed-angle rotor	–	6 x 94
Max. RCF	4,643	20,376
Max. speed [rpm]:	4,700	13,500
Min. speed [rpm]:	100	100
Noise level at maximum speed (approximate) [dB (A)]		
Fixed-angle rotor 12449	–	≤55
Swing-out rotor 11660 with bucket 13460 and cap	≤66	≤54
Max. acceleration time [s]		
Fixed-angle rotor 12449	–	≤32
Swing-out rotor 11660 with bucket 13460 and cap	≤23	≤26
Min. braking time [s]		
Fixed-angle rotor 12449	–	≤48
Swing-out rotor 11660 with bucket 13460 and cap	≤23	≤38
Temperature adjustment range [°C]	–	-10 to +40
Power consumption [W]	1,230	1,910
Height x width x depth [mm]	390 x 496 x 634	390 x 602 x 634
Height with open lid [mm]	880	865
Weight without rotor [kg]	77	110
Refrigerant		R452a
Fill quantity [kg] / Pressure [bar]		0.290 / 31
CO ₂ equivalent [t]		0.621

* 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 (on request)



- Sigma 4-5L centrifuge**

220–240 V, 50/60 Hz (Item no. 10405)

120 V, 60 Hz (Item no. 10404)

200 V, 50/60 Hz (Item no. 10403)
- Sigma 4-5L centrifuge, IVD version**

220–240 V, 50/60 Hz (Item no. 10407)

120 V, 60 Hz (Item no. 10406)

200 V, 50/60 Hz (Item no. 10408)

- Sigma 4-5KL centrifuge**

220 – 240 V, 50 Hz (Item no. 100004)

220 V, 60 Hz (Item no. 100013)

200 V, 50/60 Hz & 208 V, 60 Hz (Item no. 100005)
- Sigma 4-5KL centrifuge, IVD version**

220 – 240 V, 50 Hz (Item no. 100006)

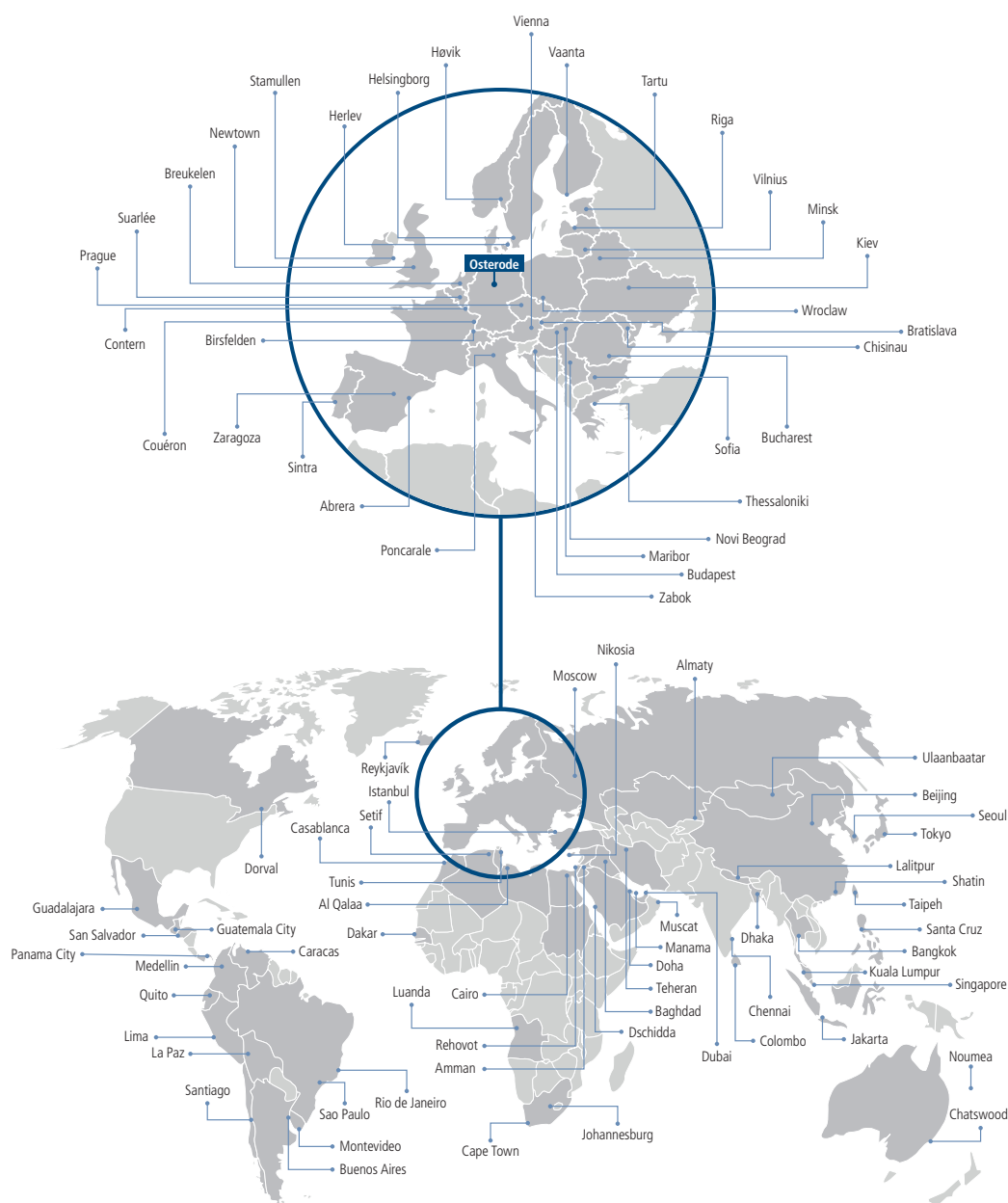
220 V, 60 Hz (Item no. 100012)

200 V, 50/60 Hz & 208 V, 60 Hz (Item no. 100007)

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 <https://www.sigma-zentrifugen.de/en/sales-partners>



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