



# Sigma 6-16S Sigma 6-16HS Sigma 6-16KS Sigma 6-16KHS



## Benchtop centrifuge

- Unrefrigerated
- Heatable
- Refrigerated
- Refrigerated/  
heatable



# High performance and versatility



**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.**

Designed for universal deployment, the Sigma 6-16 series of centrifuges is suitable for a wide variety of routine and research applications. Along with high throughput with fixed-angle and swing-out rotors, they feature impressive RCF values up to 25,419 x g. Laboratory staff and scientists around the world appreciate the high versatility, advanced user interface and outstanding reliability.

Particularly due to the ability to use large-volume fixed-angle rotors with high RCF, the centrifuges cover a distinctly broader range of applications compared to competitive units. A unique feature is the maximum capacity of up to 6 x 500 ml in a fixed-angle rotor with RCF up to 17,207 x g.

In addition to the unrefrigerated Sigma 6-16S and the refrigerated Sigma 6-16KS, a heated version (Sigma 6-16HS) is available with precisely adjustable temperature in the range of 0 °C to +70 °C. This model is specifically optimised for the determination of water content in crude petroleum and derivative products in accordance with the ASTM method. The portfolio is rounded out by the refrigerable and heatable model 6-16KHS, which is especially suitable for applications where the viscosity of the specimens must be reduced.

# Multitalent for the most demanding expectations

## Intuitive, powerful and safe

The Sigma 6-16 series of centrifuges is designed for research tasks as well as routine procedures in laboratory operations. They are frequently used in microbiology, molecular biology, pharmacology, genetics, bioproduction, cell culture, clinical diagnostics, and transfusion facilities.

Along with impressive performance specifications, this series of devices features intuitive operation and well-considered features. The patented one-knob Spincontrol S controller provides superior operating convenience, safety and versatility. Thanks to the intuitive user

interface and 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 stand for uncompromising safety.



### Sigma 6-16S

- Universal benchtop centrifuge
- Speed range up to 13,500 rpm
- Maximum capacity: 4 x 1,000 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
- Manufactured according to the latest national and international standards (e.g. EN 61010-2-020)



### Sigma 6-16HS

All features of the Sigma 6-16S, plus:

- Temperature setting range: 0°C to +70°C
- Optimised for measurement of water content in crude petroleum and derivative products (per ASTM)

### Sigma 6-16KS

All features of the Sigma 6-16S, plus:

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

### Sigma 6-16KHS

All features of the Sigma 6-16KS, 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 6-16 series devices are available with numerous swing-out and fixed-angle rotors, various buckets and adapters. A total of 12 fixed-angle and 6 swing-out rotors are available. The extensive accessories accept tubes from 0.2 ml to 1,000 ml as well as blood bags, petroleum tubes, microtiter plates and deep-well plates.

The swing-out rotors can hold up to 4 litre (4 x 1,000 ml) or (for example) up to 96 conical 15 ml tubes or 40 conical 50 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 500 ml rotor with a maximum RCF of 17,207 x g and the 6 x 250 ml fixed-angle rotor with a maximum RCF of more than 20,300 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

#### Swing-out rotor 11660 / 11650\*

- Max. capacity: 4 x 1,000 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,181 / 5,467 x g
- Accessories in part with biosafe closure
- Angle: 90°

\* Rotor 11650 in 6-16KS, max. 4,700 rpm and 5,236 x g

▶ p.9



#### Swing-out rotor 11150

- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,845 / 5,525 x g
- Angle: 90°

▶ p.19



#### Swing-out rotor 11156

- Max. capacity: 6 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,324 / 4,920 x g
- Angle: 90°

▶ p.31



#### Swing-out rotor 11165 for ASTM tubes

- Max. capacity: 4 x 100 ml
- Max. speed (6-16S / 6-16KS): 3,000 rpm
- Max. RCF (6-16S / 6-16KS): 1,922 x g
- Angle: 90°

▶ p.35



#### Swing-out rotor 11148

- Max. capacity: 32 x 2 ml
- Max. speed (6-16S / 6-16KS): 12,000 / 13,200 rpm
- Max. RCF (6-16S / 6-16KS): 13,523 / 16,363 x g
- Angle: 90°

▶ p.34



#### MTP swing-out rotor 11150

- Max. capacity: 20 microtiter plates
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,622 / 4,653 x g
- Angle: 90°

▶ p.36



#### MTP swing-out rotor 11118

- Max. capacity: 10 microtiter plates
- Max. speed (6-16S / 6-16KS): 5,700 rpm
- Max. RCF (6-16S / 6-16KS): 5,485 x g
- Biosafe with cap 17108
- Angle: 90°

▶ p.37



#### MTP swing-out rotor 11650 / 11660

- Max. capacity: 20 microtiter plates
- Max. speed (6-16S / 6-16KS): 4,200 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,589 / 4,565 x g
- Angle: 90°


▶ p.37



## Fixed-angle rotors starting on page 38

▶ p.38

### Fixed-angle rotor 12449

- Max. capacity: 48 x 2 ml
- Max. speed (6-16S / 6-16KS): 13,500 / 15,000 rpm
- Max. RCF (6-16S / 6-16KS): 20,376 / 25,155 x g
- Biosafe with aluminium lid 17612 
- Angle (outer / inner row): 25° / 53°



▶ p.39


### Fixed-angle rotor 12201

- Max. capacity: 100 x 2 ml
- Max. speed (6-16S / 6-16KS): 9,000 / 9,600 rpm
- Max. RCF (6-16S / 6-16KS): 14,761 / 16,795 x g
- Angle (both rows): 45°



▶ p.39

### Fixed-angle rotor 12450

- Max. capacity: 24 x 5 ml conical
- Max. speed (6-16S / 6-16KS): 13,000 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 21,917 / 25,419 x g
- Biosafe with aluminium lid 17614 
- Angle: 40°



▶ p.40

### Fixed-angle rotor 12168

- Max. capacity: 20 x 10 ml
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 17,119 / 21,475 x g
- Angle (both rows): 25°



▶ p.40

### Fixed-angle rotor 12170

- Max. capacity: 12 x 15 ml conical
- Max. speed (6-16S / 6-16KS): 12,500 / 13,500 rpm
- Max. RCF (6-16S / 6-16KS): 17,469 / 20,376 x g
- Angle (both rows): 25°



▶ p.41

### Fixed-angle rotor 12174

- Max. capacity: 24 x 15 ml conical
- Max. speed (6-16S / 6-16KS): 10,500 / 12,000 rpm
- Max. RCF (6-16S / 6-16KS): 15,531 / 20,285 x g
- Angle (outer / inner row): 30° / 40°



▶ p.41


### Fixed-angle rotor 12172

- Max. capacity: 12 x 30 ml round-bottom
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 19,216 / 24,104 x g
- Angle: 30°



▶ p.42


### Fixed-angle rotor 12266

- Max. capacity: 8 x 50 ml round-bottom
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 17,469 / 21,913 x g
- Biosafe with aluminium lid 17605 
- Angle: 25°



▶ p.42


### Fixed-angle rotor 12269

- Max. capacity: 8 x 50 ml conical
- Max. speed (6-16S / 6-16KS): 12,500 / 13,500 rpm
- Max. RCF (6-16S / 6-16KS): 18,168 / 21,191 x g
- Biosafe with aluminium lid 17604 
- Angle: 25°



▶ p.43


### Fixed-angle rotor 12265

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



▶ p.44


### Fixed-angle rotor 12356

- Max. capacity: 6 x 250 ml
- Max. speed (6-16S / 6-16KS): 9,000 / 11,200 rpm
- Max. RCF (6-16S / 6-16KS): 13,131 / 20,335 x g
- Biosafe with aluminium lid 17603 
- Angle: 30°



▶ p.45

### Fixed-angle rotor 12600

- Max. capacity: 6 x 500 ml
- Max. speed (6-16S / 6-16KS): 8,000 / 9,600 rpm
- Max. RCF (6-16S / 6-16KS): 11,949 / 17,207 x g
- Biosafe with aluminium lid 17600 
- Angle: 30°


















## Swing-out rotor 11650 / 11660

### Round bucket 13650 (1 set = 2 pcs.)

- Max. capacity: 4 x 1,000 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,181 / 5,236 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Biosafe with cap 17170 
- Tmin at maximum speed: <math><4^{\circ}\text{C}</math>\*
- Angle:  $90^{\circ}$

\*Max. speed for  $4^{\circ}\text{C}$  of rotor 11650:  $4,500\text{ min}^{-1}$












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 13650



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]	205	204	209	206	207	207
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 13650




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]	207	210	209	202	209
Item no.	17658	17659	17660*	17662	17670

\* Max. cap diameter for culture tubes 22 mm










## Swing-out rotor 11650 / 11660






### Round bucket 13650 (1 set = 2 pcs.)




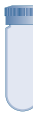
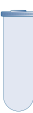
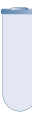

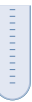
- Max. capacity: 4 x 1,000 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,181 / 5,236 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Biosafe with cap 17170 
- Tmin at maximum speed: <math><4^{\circ}\text{C}^\*</math>
- Angle:  $90^{\circ}$








\*Max. speed for 4 °C of rotor 11650: 4.500 min<sup>-1</sup>



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	15050


Adapter					
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]		209	202	209	209
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							
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]		209	206	210	197	209	209
Item no.		17675	17678	17677	17679*	17685	17690**






















## Swing-out rotor 11650 / 11660





















### Round bucket 13650 (1 set = 2 pcs.)

- Max. capacity: 4 x 1,000 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,181 / 5,236 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Biosafe with cap 17170 
- Tmin at maximum speed: <math><4^{\circ}\text{C}</math>\*
- Angle: 90°

\*Max. speed for 4 °C of rotor 11650: 4.500 min<sup>-1</sup>




Tube										
Rated capacity (filling volume) [ml]	100	100	150	150	175	175	200 (168)	200 (170)	200	200
Diameter x length [mm]	44 x 100	45 x 100	51 x 99	56 x 113	61 x 118	62 x 139.2	56 x 112	56 x 112	61 x 130	56 x 135
Tube material	Glass	PC	PP	Glass	PP	PP	PPCO	Glass	PP	Glass
Item no.	15100	15103	15125	15206	–	15175	15202	15201	15174	15254
<b>Adapter</b>										
for round bucket 13650 										
Bore diameter x length [mm]	45.5 x 77	58 x 110	58 x 100	61 x 100	62.5 x 110	57.5 x 77	58 x 110	62.5 x 110	58 x 110	58 x 110
Tubes per adapter / rotor	2 / 8	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4
Centrifuging radius [mm]	209	209	207	212	212	209	207	212	207	207
Item no.	17690*	17692	17695**	17694	17693	17696	17695**	17693	17695**	17695**

Tube										
Rated capacity (filling volume) [ml]	225	230 (220)	250 (232)	250 (232)	250	250	250	400	500 (435)	500 (435)
Diameter x length [mm]	61 x 137	56 x 134	61.4 x 122	61.4 x 122	61.4 x 125	61 x 145	59.7 x 171.2	85 x 118	69 x 165	69 x 165
Tube material	PP	Glass	PF	PPCO	Stainless steel	PP	PP	PPCO	PF	PPCO
Item no.	–	15250	15247	15249	13255	–	–	15401	15507	15508
<b>Adapter</b>										
for round bucket 13650 										
Bore diameter x length [mm]	61 x 100	58 x 110	62.5 x 77		62.5 x 110	62.5 x 110	86 x 107	70 x 110		
Tubes per adapter / rotor	1 / 4	1 / 4	1 / 4		1 / 4	1 / 4	1 / 4	1 / 4		
Centrifuging radius [mm]	212	207	209		212	212	212	212		
Item no.	17694	17695**	17698		17693	17693***	13654	13655		

\* Including rubber cushion 16051; \*\* Including rubber cushion 16250; \*\*\* Only possible without cap 17170

## Swing-out rotor 11650 / 11660









### Round bucket 13650 (1 set = 2 pcs.)

- Max. capacity: 4 x 1,000 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,181 / 5,236 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Biosafe with cap 17170 
- Tmin at maximum speed: <math><4^{\circ}\text{C}</math>\*
- Angle:  $90^{\circ}$

\*Max. speed for  $4^{\circ}\text{C}$  of rotor 11650:  $4.500\text{ min}^{-1}$








### Tube




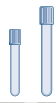

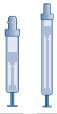




								
Rated capacity (filling volume) [ml]	500	500	500	650	750 (680)	750	800	1,000 (950)
Diameter x length [mm]	69.5 x 152	85 x 135	95.5 x 147	100 x 111	85 x 173	100 x 127	100 x 134	100 x 155.5
Tube material	Stainless steel	PPCO	PP	PP	PPCO	PPCO	PP	PPCO
Item no.	13507	15501	–	13456	15751	15917	13656	15918*

### Adapter

for round bucket 13650






								
Bore diameter x length [mm]	70 x 110	86 x 107	96.3 x 110	101 x 102	86 x 107	101 x 102		
Tubes per adapter / rotor	1 / 4	1 / 4	1 / 4	– / 4	1 / 4	– / 4		
Centrifuging radius [mm]	212	209	212	212	209	212		
Item no.	13655	13654	17682	–	13654**	–		

### 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 13650

					
Bore diameter x length [mm]	12.8 x 52		13.8 x 54	16.5 x 55	17.5 x 75
Tubes per adapter / rotor	37 / 148		23 / 92	20 / 80	19 / 76
Centrifuging radius [mm]	204		206	207	207
Item no.	17652		17656	17655	17658

## Swing-out rotor 11650 / 11660




### Bucket 13635 (1 set = 2 pcs.)

- Max. capacity: 40 x 50 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,846 / 4,816 x g
- Max. tube length mid-bucket: 155 mm
- Max. speed for 4 °C: 4.600 min<sup>-1</sup>\*
- Angle: 90°

\*Max. speed for 4 °C of rotor 11650: 4.500 min<sup>-1</sup>



### Tube

			
Rated capacity (filling volume) [ml]	15	50	50
Diameter x length [mm]	16.5 x 120	28 x 115	29.5 x 117
Tube material	PP	PP	PP
Item no.	15115	—	15151











### Adapter

for  
bucket  
13635



Bore diameter x length [mm]	17 x 79	29.5 x 72	29.5 x 78.5
Tubes per adapter / rotor	24 / 96	8 / 32	10 / 40
Centrifuging radius [mm]	194	187	193
Item no.	18605	18607	18606

### 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	Glas
Item no.	—	—	—	—	—	—	—	—	—	—

### Adapter

for  
bucket  
13635



Bore diameter x length [mm]		13.5 x 53		17 x 73		17.5 x 50		17.5 x 50
Tubes per adapter / rotor		42 / 168		36 / 144		32 / 128		18 / 72
Centrifuging radius [mm]		188		188		188		188
Item no.		18609		18608		18610		18610*

\* Observe loading

## Swing-out rotor 11650 / 11660

### Bucket 13625 (1 set = 2 pcs.) with plastic insert 13627

- Max. capacity: 4 x 600 ml blood bag systems
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,142 / 5,186 x g
- Max. speed for 4 °C: 4.600 min<sup>-1</sup>\*
- Angle: 90°

\*Max. speed for 4 °C of rotor 11650: 4.500 min<sup>-1</sup>



### Tube



Capacity [ml]	450	500	600
Blood bag	Triple	Dual	Single
Item no.	–	–	–

### Adapter

for bucket  
13625




Blood bag systems per rotor	4
Nominal capacity [ml]	1,000
Centrifuging radius [mm]	210
Item no.	13627



## Swing-out rotor 11650


### Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 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 (6-16S / 6-16KS): 4,200 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 5,467 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
<b>Adapter</b>										
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
<b>Adapter</b>									
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 (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 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




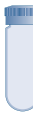
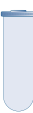
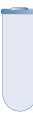


### Round bucket 13450 (1 set = 2 pcs.)








- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 5,467 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	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					
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							
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 (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 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 (6-16S / 6-16KS): 4,200 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 5,467 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
<b>Adapter</b>										
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	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	1 / 4
Centrifuging radius [mm]	185	185	188	188	185	188	188	188	188	185
Item no.	17690*	17692	17694	17693	17696	17693	17694	17694	17698	17698

Tube							
Rated capacity (filling volume) [ml]	250	250	400	500	500	650	750
Diameter x length [mm]	61.4 x 125	61 x 145	85 x 118	85 x 135	95.5 x 147	100 x 111	100 x 127
Tube material	Stainless steel	PP	PPCO	PPCO	PP	PP	PPCO
Item no.	13255	–	15401	15501	–	13456	15917***
<b>Adapter</b>							
for round bucket 13450 							
Bore diameter x length [mm]	62.5 x 77	62.5 x 110	86 x 107	96.3 x 110	101 x 102	101 x 102	101 x 102
Tubes per adapter / rotor	1 / 4	1 / 4	1 / 4	1 / 4	– / 4	– / 4	– / 4
Centrifuging radius [mm]	185	188	185	188	188	188	188
Item no.	17698	17693**	13654	17682**	–	–	–

## Swing-out rotor 11650


### Round bucket 13450 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 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 (6-16S / 6-16KS): 4,200 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,708 / 5,467 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°



### 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





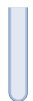








## Swing-out rotor 11150

### Round bucket 13550 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,845 / 5,285 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Hermetically closable with aluminium cap 17134 or polysulphone cap 17135
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°



Tube										
Rated capacity (filling volume) [ml]	0.2	0.4	0.5	0.5	1.5	2	5	5	6 (5)	7
Diameter x length [mm]	5.8 x 20	5.8 x 47	10.8 x 46.5	7.9 x 28	10.7 x 42	10.7 x 42	12 x 75	17 x 60	12 x 100	12 x 100
Tube material	PP	PE	PP	PP	PP	PP	PS	PPCO	Glass	Glass
Item no.	15042	15014	Paediatrics	15005	15008	15040	15060	–	15007	15027
<b>Adapter</b>										
for round bucket 13550										
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	11 x 32	8.1 x 29	11.1 x 38.5	12.8 x 57	17 x 52	12.8 x 77.5		
Tubes per adapter / rotor	20 / 80	20 / 80	16 / 64	24 / 96	20 / 80	25 / 100	10 / 40	16 / 64		
Centrifuging radius [mm]	207	209	206	210	212	211	211	211		
Item no.	17353 & 13021	17353 & 13000	17361	17350	17353	17352	17210	17354		

Tube									
Rated capacity (filling volume) [ml]	10	10	10	10	10	14	14	15 (13)	15
Diameter x length [mm]	16.1 x 81.1	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
Tube material	PF	PC	PPCO	Glass	Glass	PS	PP	Glass	PP
Item no.	15000	15010	15039	15015	15024	15020	15023	15022	15115
<b>Adapter</b>									
for round bucket 13550									
Bore diameter x length [mm]	16.5 x 58						17.5 x 58	17 x 78.5	17 x 78.5
Tubes per adapter / rotor	12 / 48						12 / 48	5 / 20	9 / 36
Centrifuging radius [mm]	212						212	212	212
Item no.	17355						17358	17345	17359










## Swing-out rotor 11150

### Round bucket 13550 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,845 / 5,285 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Hermetically closable with aluminium cap 17134 or polysulphone cap 17135
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°





### Tube

										
Rated capacity (filling volume) [ml]	15	25	25	25	30 (26)	30 (26)	30 (28)	30	30	50 (38)
Diameter x length [mm]	16.5 x 120	25 x 90	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
Tube material	PP	PP	Glass	Glass	PF	PPCO	PC	Glass	PP	PPCO
Item no.	15115	–	15025	15026	15029	15032	15030	15033	–	15052









### Adapter

for round bucket 13550



					
Bore diameter x length [mm]	17 x 78.5	25.5 x 56	25.5 x 77.5	25.5 x 56	29.5 x 77.5
Tubes per adapter / rotor	10 / 40	5 / 20	5 / 20	5 / 20	4 / 16
Centrifuging radius [mm]	212	210	211	210	211
Item no.	17360*	17362	17370	17362	17376







### Tube

								
Rated capacity (filling volume) [ml]	50 (43)	50	50	50	50	50	50	50
Diameter x length [mm]	28.5 x 107	28.5 x 101.5	34 x 100	34 x 100	34 x 100	35 x 100	29 x 117	29 x 117
Tube material	PF	Stainless steel	Glass	Glass	PC	Glass	PP	PP
Item no.	15051	13055	15045	15050	15049	15056	–	15151

### Adapter

for round bucket 13550













						
Bore diameter x length [mm]	29.5 x 77.5	35.5 x 77.5	29.5 x 77	29.5 x 74	29.5 x 78.5	29.5 x 78.5
Tubes per adapter / rotor	4 / 16	3 / 12	3 / 12	4 / 16	3 / 12	4 / 16
Centrifuging radius [mm]	211	211	211	208	212	212
Item no.	17376	17375	17344	17378	17346	17377

## Swing-out rotor 11150

### Round bucket 13550 (1 set = 2 pcs.)

- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,845 / 5,285 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Hermetically closable with aluminium cap 17134 or polysulphone cap 17135
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°













Tube										
Rated capacity (filling volume) [ml]	85 (73)	85 (76)	94 (85)	94	100 (75)	100 (90)	100	100	150	150
Diameter x length [mm]	38 x 112	38 x 112	38 x 103	38 x 110	44 x 100	44 x 100	44 x 100	45 x 100	51 x 99	56 x 113
Tube material	PF	PPCO	Stainless steel	PC	Glass	Glass	Glass	PC	PP	Glass
Item no.	15080	15076	13085	15094	15078	15106	15100	15103	15125	15206

### Adapter

for round bucket 13550



Bore diameter x length [mm]	38.5 x 77		45.5 x 77.5		51.5 x 77	58 x 75
Tubes per adapter / rotor	1 / 4		1 / 4		1 / 4	1 / 4
Centrifuging radius [mm]	211		211		211	209
Item no.	17385		17390*		17395	17401**

Tube										
Rated capacity (filling volume) [ml]	175	175	200 (168)	200 (170)	200	200	225	230 (220)	250 (232)	250 (232)
Diameter x length [mm]	62 x 139.2	61 x 118	56 x 112	56 x 112	56 x 135	61 x 130	61 x 137	56 x 134	61.4 x 122	61.4 x 122
Tube material	PP	PP	PPCO	Glass	Glass	PP	PP	Glass	PF	PPCO
Item no.	—	—	15202	15201	15254	15174	—	15250	15247	15249

### Adapter

for round bucket 13550












Bore diameter x length [mm]	62.5 x 105	61 x 104	57.5 x 77	58 x 75	62.5 x 105	61 x 104	58 x 75	62.5 x 80	
Tubes per adapter / rotor	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	1 / 4	
Centrifuging radius [mm]	214	214	211	209	214	214	209	214	
Item no.	17393	17402	17400	17401**	17393	17402	17401**	17347	







## Swing-out rotor 11150












### Round bucket 13550 (1 set = 2 pcs.)





- Max. capacity: 4 x 750 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 4,845 / 5,285 x g
- Max. tube length, mid-bucket, without / with cap: 174 / 165 mm
- Hermetically closable with aluminium cap 17134 or polysulphone cap 17135
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°



Tube									
Rated capacity (filling volume) [ml]	250	250	250	400	430 (390)	500 (435)	500 (435)	500	750 (680)
Diameter x length [mm]	61.4 x 125	61 x 145	59.7 x 171.2	85 x 118	75 x 140	69 x 165	69 x 165	85 x 135	85 x 173
Tube material	Stainless steel	PP	PP	PPCO	Glass	PF	PPCO	PPCO	PPCO
Item no.	13255	–	–	15401	15430	15507	15508	15501	15751

Adapter for round bucket 13550						
Bore diameter x length [mm]	62.5 x 80	62,5x105	86 x 113	76.6 x 117	69.9 x 115	86 x 113
Tubes per adapter / rotor	1 / 4	1 / 4	– / 4	1 / 4	1 / 4	– / 4
Centrifuging radius [mm]	214	214	214	211	214	214
Item no.	17347	17393	–	17404*	13555	–

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	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	16 x 131
Tube material	PP	PP	PET	PET	PP	PP	PET	PET	PP	Glass	Glass
Item no.	–	–	–	–	–	–	–	–	–	–	–



















Adapter for round bucket 13550				
Bore diameter x length [mm]	12.8 x 57	13.8 x 57	17.5 x 58	17.5 x 58
Tubes per adapter / rotor	25 / 100	17 / 68	12 / 48	12 / 48
Centrifuging radius [mm]	211	211	212	212
Item no.	17352	17356	17358	17358















## Swing-out rotor 11150

### Rectangular bucket 13215 (1 set = 2 pcs.)

- Max. capacity: 4 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,120 / 5,292 x g
- Max. tube length, mid-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
<b>Adapter</b> 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	–
<b>Adapter</b> 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				

## Swing-out rotor 11150

### Rectangular bucket 13215 (1 set = 2 pcs.)

- Max. capacity: 4 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,120 / 5,292 x g
- Max. tube length, mid-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








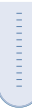
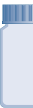
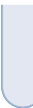
## Swing-out rotor 11150

### Rectangular bucket 13215 (1 set = 2 pcs.)

- Max. capacity: 4 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,120 / 5,292 x g
- Max. tube length, mid-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	6 / 24
Centrifuging radius [mm]	166	164		166		168	168
Item no.	18005**	18012		18010**		18020	18017***









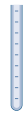

## Swing-out rotor 11150

### Dual rectangular bucket 13420 (1 set = 4 pcs.)

- Max. capacity: 8 x 230 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,806 / 4,766 x g
- Max. tube length, mid-bucket, without / with cap: 151 / 143 mm
- Hermetically closable with cap 17114
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°

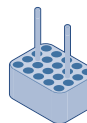


### Tube

										
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 13420



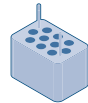
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 38	12.5 x 51	17 x 52	12.5 x 72	17.2 x 46
Tubes per adapter / rotor	20 / 160	20 / 160	20 / 160	20 / 160	20 / 160	6 / 48	20 / 160	12 / 96
Centrifuging radius [mm]	167	169	169	170	166	168	166	166
Item no.	18002 & 13021	18002 & 13000	18002 & 13002	18002	18005*	18006	18007*	18010*

### Tube

								
Rated capacity (filling volume) [ml]	10	10	10	10	14	14	15 (13)	15
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
Tube material	PC	PPCO	Glass	Glass	PS	PP	Glass	PP
Item no.	15010	15039	15015	15024	15020	15023	15022	15115

### Adapter

for rectangular bucket 13420



Bore diameter x length [mm]	17.2 x 46	17.2 x 72	17 x 72.5	17.5 x 71	17 x 78.5
Tubes per adapter / rotor	12 / 96	12 / 96	4 / 32	7 / 56	10 / 40
Centrifuging radius [mm]	166	166	170	170	170
Item no.	18010*	18015*	18016	18018**	18615

















\* Including rubber cushion 16909; \*\* Only possible without cap 17114
















## Swing-out rotor 11150

### Dual rectangular bucket 13420 (1 set = 4 pcs.)

- Max. capacity: 8 x 230 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,806 / 4,766 x g
- Max. tube length, mid-bucket, without / with cap: 151 / 143 mm
- Hermetically closable with cap 17114
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°



Tube										
Rated capacity (filling volume) [ml]	25	25	25	30 (26)	30 (26)	30 (28)	30	30	50 (38)	50 (43)
Diameter x length [mm]	25 x 90	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
Tube material	PP	Glass	Glass	PF	PPCO	PC	Glass	PP	PPCO	PF
Item no.	—	15025	15026	15029	15032	15030	15033	—	15052	15051
<b>Adapter</b>										
for rectangular bucket 13420										
Bore diameter x length [mm]	25.5 x 61	24.5 x 70		25.5 x 71			24.5 x 70	25.5 x 61	29.5 x 71	
Tubes per adapter / rotor	4 / 32	5 / 40		5 / 40			5 / 40	4 / 32	2 / 16	
Centrifuging radius [mm]	167	166		168			166	167	168	
Item no.	18022	18025*		18030			18025*	18022	18051	

Tube										
Rated capacity (filling volume) [ml]	50	50	50	50	50	50	50	85 (73)	85 (76)	
Diameter x length [mm]	28.5 x 101.5	34 x 100	34 x 100	34 x 100	35 x 100	29 x 117	29 x 117	38 x 112	38 x 112	
Tube material	Stainless steel	Glass	Glass	PC	Glass	PP	PP	PF	PPCO	
Item no.	13055	15045	15050	15049	15056	—	15151	15080	15076	
<b>Adapter</b>										
for rectangular bucket 13420										
Bore diameter x length [mm]	29.5 x 71		35.5 x 68			30 x 74	29.5 x 72.5	29.5 x 78.5	38.5 x 72	
Tubes per adapter / rotor	2 / 16		2 / 16			2 / 16	2 / 16	6 / 24	1 / 8	
Centrifuging radius [mm]	168		162			171	170	170	169	
Item no.	18051		18050**			18053	18052	18650	18085	











## Swing-out rotor 11150

### Dual rectangular bucket 13420 (1 set = 4 pcs.)

- Max. capacity: 8 x 230 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,806 / 4,766 x g
- Max. tube length, mid-bucket, without / with cap: 151 / 143 mm
- Hermetically closable with cap 17114
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°



### Tube

										
Rated capacity (filling volume) [ml]	94 (85)	94	100 (75)	100 (90)	100	100	150	150	200 (168)	200 (170)
Diameter x length [mm]	38 x 103	38 x 110	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	Stainless steel	PC	Glass	Glass	Glass	PC	PP	Glass	PPCO	Glass
Item no.	13085	15094	15078	15106	15100	15103	15125	15206	15202	15201



### Adapter

for rectangular bucket 13420



Bore diameter x length [mm]	38.5 x 72	46 x 65.5	51.5 x 71	57 x 62	57 x 34	57 x 62
Tubes per adapter / rotor	1 / 8	1 / 8	1 / 8	1 / 8	1 / 8	1 / 8
Centrifuging radius [mm]	169	165	168	168	166	168
Item no.	18085	18100*	18125	18250**	18200	18250**

### Tube

		
Rated capacity (filling volume) [ml]	200	230 (220)
Diameter x length [mm]	56 x 135	56 x 134
Tube material	Glass	Glass
Item no.	15254	15250

### Adapter

for rectangular bucket 13420



Bore diameter x length [mm]	57 x 62
Tubes per adapter / rotor	1 / 8
Centrifuging radius [mm]	168
Item no.	18250**

## Swing-out rotor 11150

### Dual rectangular bucket 13420 (1 set = 4 pcs.)

- Max. capacity: 8 x 230 ml
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,806 / 4,766 x g
- Max. tube length, mid-bucket, without / with cap: 151 / 143 mm
- Hermetically closable with cap 17114
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°













## Swing-out rotor 11150

### Bucket 13233 (1 set = 2 pcs.)

- Max. capacity: 200 x 5 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,668 / 4,711 x g
- Max. tube length mid-bucket: 80 mm
- Tmin at maximum speed: <4°C
- Angle: 90°








### 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 13420



					
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 / 160	12 / 96	12 / 96	11 / 88	8 / 64
Centrifuging radius [mm]	166	164	166	168	168
Item no.	18005*	18012	18010*	18020	18010**

### Tube



Rated capacity (filling volume) [ml]	5
Diameter x length [mm]	12 x 75
Tube material	PS
Item no.	15060

### Adapter

for bucket 13233



Bore diameter x length [mm]	13 x 66
Tubes per adapter / rotor	50 / 200
Centrifuging radius [mm]	162
Item no.	–

## Swing-out rotor 11150

### Bucket 13234 (1 set = 2 pcs) with rubber cushion 16051

- Max. capacity: 16 x 100 ml round-bottom
- Max. speed (6-16S / 6-16KS): 4,300 rpm
- Max. RCF (6-16S / 6-16KS): 3,680 x g
- Max. tube length mid-bucket: 118 mm
- Tmin at maximum speed: <4°C
- Angle: 90°



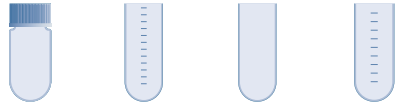
## Swing-out rotor 11150

### Bucket 13235 (1 set = 2 pcs)

- Max. capacity: 28 x 50 ml conical
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 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]	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  
bucket  
13234



Bore diameter x length [mm]	45.5 x 98		
Tubes per adapter / rotor	4 / 16		
Centrifuging radius [mm]	174		
Item no.	16051		

### 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 (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,256 / 5,467 x g
- Max. tube length mid-bucket: 124 mm
- Tmin at maximum speed: <4°C
- Angle: 90°



## Swing-out rotor 11156

### Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,500 / 5,554 x g
- Max. tube length, mid-bucket, without / with cap: 140 / 124 mm
- Hermetically closable with cap 17112
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°



### Tube



Rated capacity (filling volume) [ml]	15
Diameter x length [mm]	16.5 x 120
Tube material	PP
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.	–

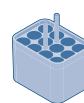
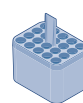
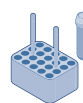
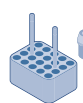
### Tube



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*















\* Including rubber cushion 16909















## Swing-out rotor 11156

### Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,500 / 5,554 x g
- Max. tube length, mid-bucket, without / with cap: 140 / 124 mm
- Hermetically closable with cap 17112
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°



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	–
<b>Adapter</b>									
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

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
<b>Adapter</b>										
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			



## Swing-out rotor 11156

### Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,500 / 5,554 x g
- Max. tube length, mid-bucket, without / with cap: 140 / 124 mm
- Hermetically closable with cap 17112
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°



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	

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 / 6		1 / 6	1 / 6	1 / 6		1 / 6
Centrifuging radius [mm]		185		188	187	186		187
Item no.		18100**		18125	18250***	18200		18250***

\* Including rubber cushion 16907; \*\* Including rubber cushion 16908; \*\*\* Including rubber cushion 16051

## Swing-out rotor 11156

## Rectangular bucket 13127 (1 set = 2 pcs.)

- Max. capacity: 6 x 200 ml
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 4,500 / 5,554 x g
- Max. tube length, mid-bucket, without / with cap: 140 / 124 mm
- Hermetically closable with cap 17112
- Max. speed for 4 °C: 4.500 min<sup>-1</sup>
- Angle: 90°













## Swing-out rotor 11148

## with 8 carrier buckets 13124 and aluminium lid 17880

- Max. capacity: 32 x 2 ml
- Max. speed (6-16S / 6-16KS): 12,000 / 13,200 rpm
- Max. RCF (6-16S / 6-16KS): 13,523 / 16,363 x g
- Hermetically closable with aluminium lid 17880
- Tmin at maximum speed: <4°C
- Angle: 90°



## 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**

## Tube



Rated capacity (filling volume) [ml]	1.5	2
Diameter x length [mm]	10.7 x 42	10.7 x 42
Tube material	PP	PP
Item no.	15008	15040

## Adapter

for bucket 13124



Bore diameter x length [mm]	11.1 x 38.5
Tubes per adapter / rotor	4 / 32
Centrifuging radius [mm]	84
Item no.	–

## Swing-out rotor 11165

**Bucket 13113 for 100 ml 8" petroleum tubes according to ASTM D 91/96, with adapter 16103 and rubber cushion 16021**

- Max. capacity: 4 x 100 ml
- Max. speed (6-16S / 6-16KS): 3,000 rpm
- Max. RCF (6-16S / 6-16KS): 2,143 x g
- Hermetically closable with cap 17107
- Angle: 90°



### Tube

Rated capacity (filling volume) [ml]	100
Diameter x length [mm]	37 x 200
Tube material	Glass
Item no.	15130*

### Adapter

for bucket 13113



Bore diameter x length [mm]	–
Tubes per adapter / rotor	1 / 4
Centrifuging radius [mm]	213
Item no.	16103**

## Swing-out rotor 11165

**Bucket 13114 for 100 ml 6" petroleum tubes according to ASTM D 96, with rubber cushion 16104**

- Max. capacity: 4 x 100 ml
- Max. speed (6-16S / 6-16KS): 3,000 rpm
- Max. RCF (6-16S / 6-16KS): 1,922 x g
- Angle: 90°



### Tube

Rated capacity (filling volume) [ml]	100
Diameter x length [mm]	44 x 165
Tube material	Glass
Item no.	15132*

### Adapter

for bucket 13114



Bore diameter x length [mm]	–
Tubes per adapter / rotor	1 / 4
Centrifuging radius [mm]	191
Item no.	16104

## Swing-out rotor 11165

**Bucket 13116 for 100 ml petroleum tubes according to ASTM D 96, with rubber cushion 16106**

- Max. capacity: 4 x 100 ml
- Max. speed (6-16S / 6-16KS): 3,000 rpm
- Max. RCF (6-16S / 6-16KS): 1,741 x g
- Angle: 90°



### Tube

Rated capacity (filling volume) [ml]	100
Diameter x length [mm]	59 x 160
Tube material	Glass
Item no.	15131*

### Adapter

for bucket 13116



Bore diameter x length [mm]	–
Tubes per adapter / rotor	1 / 4
Centrifuging radius [mm]	173
Item no.	16106

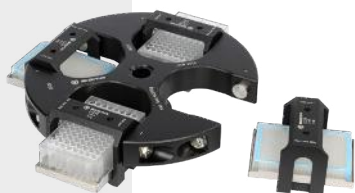
\* Max. RCF 700 x g; \*\* Including rubber cushion 16021



## Swing-out rotor 11150

## Rectangular bucket 13220 (1 set = 2 pcs)

- Max. plate height: 51 mm
- Max. speed (6-16S / 6-16KS): 4,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,007 x g
- Max. load per carrier: 300 g
- Tmin at maximum speed: <4°C
- Angle: 90°



## Swing-out rotor 11150

## Rectangular bucket 13221 (1 set = 2 pcs) with plate holder 17979

- Max. plate height: 56 mm
- Max. speed (6-16S / 6-16KS): 4,500 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,622 / 4,653 x g
- Max. load per carrier: 450 g
- Tmin at maximum speed: <4°C
- Angle: 90°



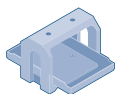
## Plate



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 13220



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

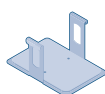
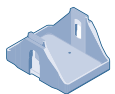
## Plate



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			

## Swing-out rotor 11118

### with 1 set (qty 2) rectangular buckets 13218, caps 17108 and plate holder 17978

- Max. plate height without / with cap: 93 / 80 mm
- Max. speed (6-16S / 6-16KS): 5,700 rpm
- Max. RCF (6-16S / 6-16KS): 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 (1 set = 4 pcs) with plate holder 17979

- Max. plate height: 68 mm
- Max. speed (6-16S / 6-16KS): 4,200 / 5,100 rpm
- Max. RCF (6-16S / 6-16KS): 3,096 / 4,565 x g
- Max. load per carrier: 500 g
- Tmin at maximum speed: <4°C
- Angle: 90°



\*Max. speed with rotor 11650 in 6-16KS: 4,700 rpm, max. RCF: 3,877 x g

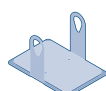
### Plate



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

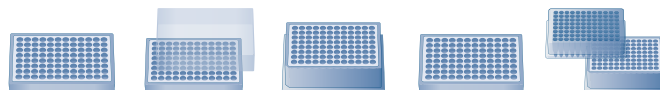
### Adapter

for rectangular bucket 13218



Bore diameter x length [mm]	-				
Plates per rotor (without / with cap)	12 / 10	10 / 8	4 / 2	8 / 8	4 / 4
Centrifuging radius [mm]	151				
Item no.	17978				

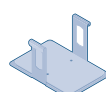
### Plate



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				

## Swing-out rotor 11660 / 11650

### Rectangular bucket 13621 (1 set = 4 pcs) with plate holder 17980

- Max. plate height: 86 mm
- Max. speed (6-16S / 6-16KS): 4,200 / 4,700 rpm
- Max. RCF (6-16S / 6-16KS): 3,589 / 4,495 x g
- Max. load per carrier: 600 g
- Tmin at maximum speed: <math><4^{\circ}\text{C}</math>\*
- Angle: 90°

\* Max. speed for 4 °C of rotor 11660: 4.600 min<sup>-1</sup>



## Fixed-angle rotor 12449

### with aluminium lid 17612


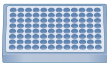


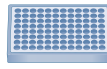
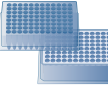








- Max. capacity: 48 x 2 ml
- Max. speed (6-16S / 6-16KS): 13,500 / 15,000 rpm
- Max. RCF (6-16S / 6-16KS): 20,376 / 25,155 x g
- Biosafe with aluminium lid 17612 
- Max. speed for 4 °C: 14.900 min<sup>-1</sup>
- Angle (outer / inner row): 25° / 53°



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
<b>Adapter</b>					
for rectangular bucket 13621					
Bore diameter x length [mm]	-				
Plates per rotor	20	16	4	16	4
Centrifuging radius [mm]	182				
Item no.	17980				

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
<b>Adapter</b>					
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	-	

## Fixed-angle rotor 12201


### with aluminium lid 17896

- Max. capacity: 100 x 2 ml
- Max. speed (6-16S / 6-16KS): 9,000 / 9,600 rpm
- Max. RCF outer row (6-16S / 6-16KS): 14,761 / 16,795 x g
- Max. RCF inner row (6-16S / 6-16KS): 12,406 / 14,116 x g
- Hermetically closable with aluminium lid 17896
- Max. speed for 4 °C: 9.000 min<sup>-1</sup>
- Angle (both rows): 45°








## Fixed-angle rotor 12450

### with aluminium lid 17614

- Max. capacity: 24 x 5 ml conical
- Max. speed (6-16S / 6-16KS): 13,000 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 21,917 / 25,419 x g
- Biosafe with aluminium lid 17614 
- Max. speed for 4 °C: 13.400 min<sup>-1</sup>
- Angle: 40°

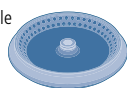






### Tube

					
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



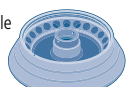
				
Bore diameter x length [mm]	6.3 x 18.5	6 x 45	8 x 45	11.1 x 38.5
Tubes per adapter / rotor	1 / 100	1 / 100	1 / 100	– / 100
Centrifuging radius (outer / inner row) [mm]	159 / 133	161 / 135	161 / 135	163 / 137
Item no.	13021	13000	13002	–





### 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 12168

### with aluminium lid 17846

- Max. capacity: 20 x 10 ml
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 17,119 / 21,475 x g
- Hermetically closable with aluminium lid 17846
- Tmin at maximum speed: <4°C
- Angle: 25°



## Fixed-angle rotor 12170

### with aluminium lid 17859

- Max. capacity: 12 x 15 ml conical
- Max. speed (6-16S / 6-16KS): 12,500 / 13,500 rpm
- Max. RCF (6-16S / 6-16KS): 17,469 / 20,376 x g
- Hermetically closable with aluminium lid 17859
- Tmin at maximum speed: <4°C
- Angle: 25°



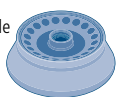
### Tube



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 12168



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

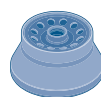
### Tube



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 12170



Bore diameter x length [mm]	17.5 x 107
Tubes per adapter / rotor	- / 12
Centrifuging radius [mm]	100
Item no.	-

# Cleanroom

## Robust and resistant



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.

**Cleanroom coating**  
Available for all accessories



## Fixed-angle rotor 12174

### with aluminium lid 17883

- Max. capacity: 24 x 15 ml conical
- Max. speed (6-16S / 6-16KS): 10,500 / 12,000 rpm
- Max. RCF (6-16S / 6-16KS): 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 12172

### with aluminium lid 17845

- Max. capacity: 12 x 30 ml round-bottom
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 19,216 / 24,104 x g
- Hermetically closable with aluminium lid 17845
- Tmin at maximum speed: <4°C
- Angle: 30°



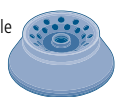
### Tube



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.	-

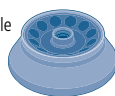
### Tube



Rated capacity (filling volume) [ml]	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 12172



Bore diameter x length [mm]	16.5 x 70	26 x 83
Tubes per adapter / rotor	1 / 12	- / 12
Centrifuging radius [mm]	100	110
Item no.	13059	-

## Fixed-angle rotor 12269


### with aluminium lid 17604

- Max. capacity: 8 x 50 ml conical
- Max. speed (6-16S / 6-16KS): 12,500 / 13,500 rpm
- Max. RCF (6-16S / 6-16KS): 18,168 / 21,191 x g
- Biosafe with aluminium lid 17604 
- Tmin at maximum speed: <4°C
- Angle: 25°









## Fixed-angle rotor 12266

### with aluminium lid 17605

- Max. capacity: 8 x 50 ml round-bottom
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 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]	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	–





### 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

## Fixed-angle rotor 12266


### with aluminium lid 17605

- Max. capacity: 8 x 50 ml round-bottom
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 17,469 / 21,913 x g
- Biosafe with aluminium lid 17605 
- Tmin at maximum speed: <math><4^{\circ}\text{C}</math>
- Angle:  $25^{\circ}$






## Fixed-angle rotor 12265

### with aluminium lid 17607

- Max. capacity: 6 x 94 ml round-bottom
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 18,517 / 23,228 x g
- Biosafe with aluminium lid 17607 
- Max. speed for  $4^{\circ}\text{C}$ :  $13,900\text{ min}^{-1}$
- Angle:  $25^{\circ}$



### 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



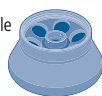
Bore diameter x length [mm]	29 x 97
Tubes per adapter / rotor	- / 8
Centrifuging radius [mm]	104
Item no.	-

### 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

## Fixed-angle rotor 12265


## with aluminium lid 17607

- Max. capacity: 6 x 94 ml round-bottom
- Max. speed (6-16S / 6-16KS): 12,500 / 14,000 rpm
- Max. RCF (6-16S / 6-16KS): 18,517 / 23,228 x g
- Biosafe with aluminium lid 17607 
- Max. speed for 4 °C: 13,900 min<sup>-1</sup>
- Angle: 25°












## Fixed-angle rotor 12356\*

## with aluminium lid 17603

- Max. capacity: 6 x 250 ml
- Max. speed (6-16S / 6-16KS): 9,000 / 11,200 rpm
- Max. RCF (6-16S / 6-16KS): 13,131 / 20,335 x g
- Biosafe with aluminium lid 17603 
- Max. speed for 4 °C: 9,900 min<sup>-1</sup>
- Angle: 30°

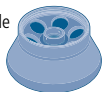
\* 6-16HS / 6-16KHS: Max. temperature adjustment range 50 °C













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








Adapter				
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	-

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



Adapter					
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

## Fixed-angle rotor 12356\*

### with aluminium lid 17603


- Max. capacity: 6 x 250 ml
- Max. speed (6-16S / 6-16KS): 9,000 / 11,200 rpm
- Max. RCF (6-16S / 6-16KS): 13,131 / 20,335 x g
- Biosafe with aluminium lid 17603 
- Max. speed for 4 °C: 9,900 min<sup>-1</sup>
- Angle: 30°

\* 6-16HS / 6-16KHS: Max. temperature adjustment range 50 °C












## Fixed-angle rotor 12600\*

### with aluminium lid 17600 and torque wrench kit 17060

- Max. capacity: 6 x 500 ml
- Max. speed (6-16S / 6-16KS): 8,000 / 9,600 rpm
- Max. RCF (6-16S / 6-16KS): 11,949 / 17,207 x g
- Biosafe with aluminium lid 17600 
- Max. speed for 4 °C: 8,400 min<sup>-1</sup>
- Angle: 30°

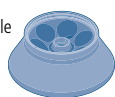
\* 6-16HS / 6-16KHS: Max. temperature adjustment range 50 °C












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

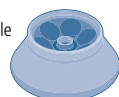







Adapter				
Bore diameter x length [mm]	29.5 x 98	30 x 102	38.5 x 99	61.8 x 111
Tubes per adapter / rotor	1 / 6	1 / 6	1 / 6	- / 6
Centrifuging radius [mm]	137	141	138	145
Item no.	14129	14131	14134	-

Tube									
Rated capacity (filling volume) [ml]	1.5	2	10	10	10	15	30 (26)	30 (26)	30 (28)
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
Tube material	PP	PP	PF	PC	PPCO	PP	PF	PPCO	PC
Item no.	15008	15040	15000	15010	15039	15115	15029	15032	15030

### Adapter

for fixed-angle rotor 12600




Adapter					
Bore diameter x length [mm]	12 x 38.5	16.5 x 69	17.7 x 107	17.7 x 107	26 x 83
Tubes per adapter / rotor	12 / 72	8 / 48	2 / 12*	5 / 30	3 / 18
Centrifuging radius [mm]	129	160	126	164	148
Item no.	14151	14144	14148*	14149	14146

\* Adapters for 2 x 15 ml and 2 x 50 ml culture tubes

## Fixed-angle rotor 12600\*











### with aluminium lid 17600 and torque wrench kit 17060

- Max. capacity: 6 x 500 ml
- Max. speed (6-16S / 6-16KS): 8,000 / 9,600 rpm
- Max. RCF (6-16S / 6-16KS): 11,949 / 17,207 x g
- Biosafe with aluminium lid 17600 
- Max. speed for 4 °C: 8,400 min<sup>-1</sup>
- Angle: 30°

\* 6-16HS / 6-16KHS: Max. temperature adjustment range 50 °C







### Tube

										
Rated capacity (filling volume) [ml]	50 (38)	50 (43)	50	50	85 (73)	85 (76)	94 (85)	94	175	200
Diameter x length [mm]	28.8 x 107	28.5 x 107	28.5 x 101.5	29 x 117	38 x 112	38 x 112	38 x 103	38 x 110	61.5 x 139.2	61 x 130
Tube material	PPCO	PF	Stainless steel	PP	PF	PPCO	Stainless steel	PC	PP	PP
Item no.	15052	15051	13055	15151	15080	15076	13085	15094	15175	15174






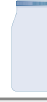
### Adapter

for fixed-angle rotor 12600



				
Bore diameter x length [mm]	29.5 x 97	29.5 x 102	38.5 x 99	62 x 127
Tubes per adapter / rotor	2 / 12	2 / 12*	1 / 6	1 / 6
Centrifuging radius [mm]	162	126	164	167
Item no.	14150	14148*	14153	14157



### Tube

						
Rated capacity (filling volume) [ml]	250 (232)	250 (232)	250	250	500 (435)	500 (435)
Diameter x length [mm]	61.4 x 122	61.4 x 122	61.4 x 125	59.7 x 171.2	61 x 145	69 x 165
Tube material	PF	PPCO	Stainless steel	PP	PP	PF
Item no.	15247	15249	13255	–	–	15507

### Adapter

for fixed-angle rotor 12600



			
Bore diameter x length [mm]	62 x 115	62 x 127	69.9 x 142
Tubes per adapter / rotor	1 / 6	1 / 6	– / 6
Centrifuging radius [mm]	157	167	167
Item no.	14155	14157	–

# 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)
<b>Autoclave resistant</b>	Yes	Yes	No	No	Yes
<b>Elasticity</b>	Not elastic	Not elastic	Not elastic	Good	Not elastic
<b>Transparency</b>	Transparent	Translucent	Transparent	Translucent	Translucent
<b>Microwave resistant</b>	Moderate	Yes	No	Limited	Moderate
<b>Chemical resistance</b>					
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
<b>Note:</b>	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
<b>Autoclave resistant</b>	Yes	Yes	Yes	Yes
<b>Elasticity</b>	Moderate	Not elastic	Not elastic	Not elastic
<b>Transparency</b>	Translucent	Transparent	Transparent	Opaque
<b>Microwave resistant</b>	Moderate	Yes	Yes	No
<b>Chemical resistance</b>				
Weak acids	Yes	Yes	Yes	Limited
Strong acids	Yes	Yes	Yes	Limited
Alcohols and alkalis	Yes	Yes	Yes	Yes
Salts	Yes	Yes	Yes	Limited
<b>Note:</b>		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 be 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: timer after setpoint speed reached, capacity for 60 programs, password protection against unintentional alteration of run parameters, rotor cycle counter. Those are just a few of the highlights that make the Spincontrol S controller a highly versatile system that will help you 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](http://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 indicator	+
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 program	+
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 <sup>3</sup>	+
Lockable controller with password protection	+
Microprocessor control	+

\* Only for Sigma 6-16KS and Sigma 6-16KHS, \*\* Only Sigma 6-16HS and Sigma 6-16KHS, \*\*\* Only Sigma 6-16HS, 6-16KS and 6-16KHS



# Premium quality

## Made in Germany

The Sigma 6-16 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 6-16S / 6-16HS	Sigma 6-16KS / 6-16KHS
<b>Max. capacity [ml]</b>		
Swing-out rotor	4 x 1,000	4 x 1,000
Fixed-angle rotor	6 x 500	6 x 500
<b>Max. RCF</b>	21,917	25,419
<b>Maximum speed [rpm]</b>	13,500	15,000
<b>Minimum speed [rpm]</b>	100	100
<b>Noise level at maximum speed (approximate) [dB(A)]</b>		
Swing-out rotor 11660 and 13450	≤ 71	≤ 57
Fixed-angle rotor 12449	≤ 63	≤ 66
<b>Max. acceleration time [s]</b>		
Swing-out rotor 11660 and 13450	≤ 29	≤ 34
Fixed-angle rotor 12449	≤ 26	≤ 28
<b>Max. braking time [s]</b>		
Swing-out rotor 11660 and 13450	≤ 28	≤ 34
Fixed-angle rotor 12449	≤ 40	≤ 43
<b>Temperature adjustment range [°C]</b>	- / 0 – +70	-20 – +40 / -20 – +60
<b>Power consumption [W]</b>	1,050 / 2,000	2,000
<b>Height x width x depth [mm]</b>	483 x 581 x 711	485 x 790 x 711
<b>Height with open lid [mm]</b>	990	990
<b>Weight without rotor [kg]</b>	116	158

### Sigma Service

For maintenance and repairs please contact our Service department at [www.sigma-zentrifugen.de/en/service](http://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 package for:  
 Unrefrigerated centrifuges (Item no. 17710)  
 Refrigerated centrifuges (Item no. 17711)  
 An additional rotor (Item no. 17712)

#### Sigma 6-16S centrifuge

220–240 V, 50 Hz (Item no. 10390)  
 208 V, 60 Hz (Item no. 10391)  
 200 V, 50/60 Hz (Item no. 10392)

#### Sigma 6-16HS centrifuge

220–240V, 50/60 Hz (Item no. 10393)

#### Sigma 6-16KS centrifuge, inert gas

220–240V, 50/60 Hz (Item no. 90905)

#### Sigma 6-16KS centrifuge

220–240 V, 50 Hz (Item no. 10395)  
 220–240 V, 60 Hz (Item no. 10396)  
 208 V, 50/60 Hz (Item no. 10397)  
 200 V, 50/60 Hz (Item no. 10398)

#### Sigma 6-16KHS centrifuge

220–240V, 50/60 Hz (Item no. 10399)

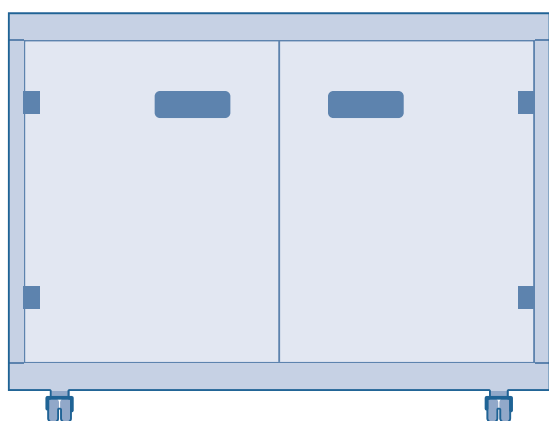
#### Sigma 6-16KHS centrifuge, inert gas

220–240V, 50/60 Hz (Item no. 91025)



# 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

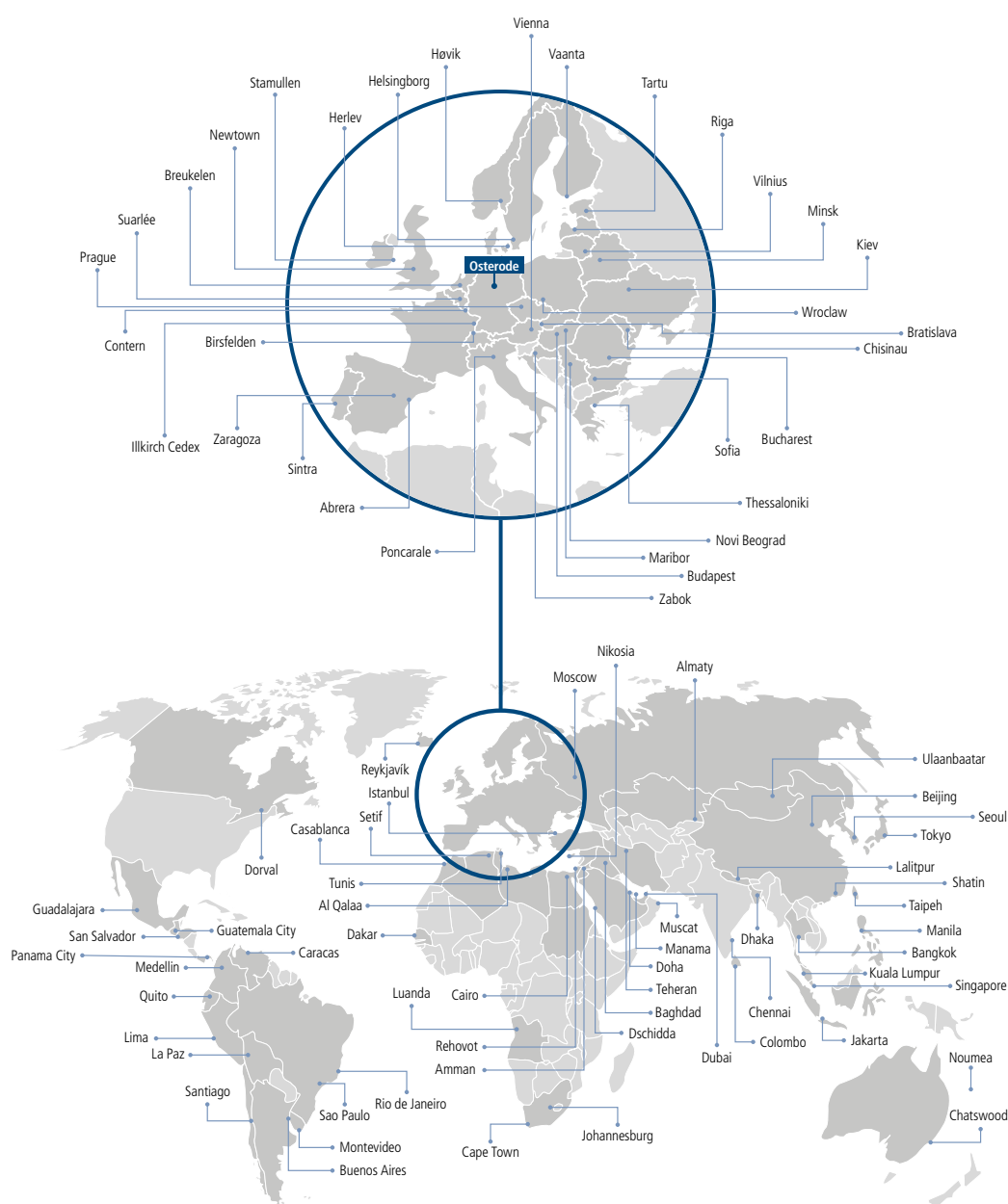
## Centrifuge table 17927

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

# 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/](http://www.sigma-zentrifugen.de/en/sales-partners/)



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