

Sigma 2-7







High performance in a new design



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

The Sigma 2-7 scores with many new features. One highlight is the blue LED running indicator, which enables operators to see whether the device is still running — even at a distance. Other unique features are the ten program storage locations (unequalled in its class), the patented lid closing damper, and the optional programmable centrifuge wait and start times. This delayed start feature has been specifically developed for clinical in vitro diagnostics (IVD) using blood tubes. The necessary

clotting time can be preset on the device to simplify work processes. The low noise level and ergonomic operation make the device ideal for everyday use in the laboratory environment. The Sigma 2-7 combines high capacity (up to 4 x 100 ml) with exceptional flexibility. The maximum RCF of more than 2,500 x g is suitable for many application areas in clinical diagnostics, veterinary medicine, pharmacy, environmental analysis and industrial production, as well as universities and research facilities.

The performance specifications and accessories are primarily oriented to small to medium-size laboratories. In the area of clinical diagnostics, the Sigma 2-7 sets the standard with the capacity of up to 24 blood collection tubes 16 x 100 mm. The innovative six-fold bucket allows up to 50% more capacity per run to be achieved. That boosts throughput in the laboratory and enables faster patient diagnoses.

Top marks for functionality

Easy operation, convenience and maximum safety

The Sigma 2-7 is equipped with a well organised, clear display at a perfect viewing angle and with large buttons. The intuitive Spincontrol Basic control unit makes entry of operating parameters and programs simple. The centrifuge run time can be selected in seconds, and the LED run time indicator is readily visible at a distance.

The motorised lid lock, which closes automatically to eliminate extra effort, is a nice practical touch. The innovative electronics provide extremely high energy efficiency and low sensitivity to mains voltage fluctuations. Together with a powerful motor, this enables outstanding acceleration and braking times. With two sets of acceleration

and braking profiles, the Sigma 2-7 is also suitable for centrifuging sensitive cells requiring gentle run-up and run-down. With these features, the Sigma 2-7 sets standards for easy operation, convenience and safety.

The compact Sigma 2-7 (just 37.8 cm wide) saves space in the laboratory and is pleasantly quiet. The low noise level of less than 53 dB(A) at maximum speed with the swing-out rotor ensures a quiet work environment.

The Sigma 2-7 is also available as an IVD model.

Sigma 2-7

- High-performance small centrifuge
- Innovative LED running indicator, readily visible at a distance
- Speed range up to 4,000 rpm
- Maximum capacity: 4 x 100 ml / 30 x 15 ml
- Up to 24 blood collection tubes (16 x 100 mm) per run
- Clear and convenient Spincontrol Basic control unit
- User-configurable audible signal for keypress and end of run
- Ten programs
- Two acceleration and braking curves
- Compact device; fits on every lab bench
- Low height for easy loading and unloading
- Short acceleration and braking times
- Automatic imbalance monitoring
- Adjustable start delay (for clotting time, etc.)
- Low noise level
- Motorised lid lock
- Automatic lid opening
- Low temperature rise in continuous operation
- Automatic overspeed monitoring
- Durable, easy-care stainless steel chamber
- Window in lid for external speed monitoring
- Produced in compliance with the latest national and international standards (e.g. EN 61010-2-020)





Rotors and accessories

Large selection and a multitude of applications

The Sigma 2-7 is available with numerous swing-out and fixedangle rotors, various buckets and adapters. The extensive accessories accept tubes from 1.5 ml to 100 ml as well as microtiter plates and deep-well plates.

Special features include the intelligently designed four-fold and six-fold buckets for nearly all commonly used blood collection tubes. The Sigma 2-7 can hold up to 24 blood tubes (16 x 100 mm) in the swing-out rotor, setting a new standard for compact laboratory centrifuges. The innovative bucket design simplifies working with different tube sizes by minimising the need to exchange buckets and adapters. That makes work processes more convenient and helps to reduce operating costs.

Another special feature is the swing-out rotor for microtiter plates. Up to six microtiter plates per run can be centrifuged with RCF exceeding 2,100 x g. These performance specifications and versatility are otherwise only available with larger laboratory centrifuges.

The portfolio is rounded out by general-purpose round buckets with hermetically sealable caps, making them suitable for use with sensitive specimens.

Another unique feature is that custom accessories can be produced 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 7

Swing-out rotor 11071

- Max. capacity: 4 x 100 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,540 x q

Angle: 90°



Swing-out rotor 11037

- Max. capacity: 8 x 15 ml
- Max. speed: 4,000 rpm Max. RCF: 2,379 x q
- Angle: 90°



MTP swing-out rotor 11123

- Max. capacity: 6 microtiter plates
- Max. speed: 4,000 rpm Max. RCF: 2,111 x g
- Angle: 90°





Fixed-angle rotors starting on page 13

Fixed-angle rotor 12072

- Max. capacity: 20 x 15 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,486 x g
- Angle: 33°



Fixed-angle rotor 12073

- Max. capacity: 30 x 15 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,486 x g
- Angle: 33° (both rows)



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

- Max. capacity: 4 x 100 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,540 x g
 Max. tube length in middle of bucket with / without cap: 126 / 117 mm
- Hermetically closable with cap 17299
- Angle: 90°
- * Bucket not autoclavable



The regular greasing of the rotor bolts is no longer **necessary** – this minimises

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

Tube																
Rated capacity (filling volume) [ml]	10	10	14	14	15 (13)	15	25	25	25	30 (26)						
Diameter x length [mm]	16 x 100	16 x 100	17 x 100	17 x 100	17 x 110	16.5 x 120	25 x 90	24 x 100	24 x 100	25.3 x 98						
Tube material	Glass	Glass	PS	PP	Glass	PP	PP	Glass	Glass	PF						
Item no.	15015	15024	15020	15023	15022	15115	_	15025	15026	15029						
Adapter for round bucket 13299																
Bore diameter x length [mm]	16.5	x 56	17.5 x 67.5		17.5 x 67.5			17 x 76	25.5 x 56		25.5 x 58					
Tubes per adapter / rotor	4 /	16	3 / 12		3 / 12		3 / 12		3 / 12			2/8	1 / 4	1 / 4		
Centrifuging radius [mm]	1.	38	140			126	138	140								
Item no.	143	303		14307		14300**	14308		14304							

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

- Max. capacity: 4 x 100 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,540 x g
 Max. tube length in middle of bucket with / without cap: 126 / 117 mm
- Hermetically closable with cap 17299
- Angle: 90°
- * Bucket not autoclavable





The regular greasing of the rotor bolts is no longer

Tube				-					-	=
Rated capacity (filling volume) [ml]	30 (26)	30 (28)	30	30	50	50	50	50	50	50
Diameter x length [mm]	25.3 x 98	25.3 x 98	24 x 105	25 x 107	34 x 100	34 x100	35 x 100	34 x 100	28 x 115	29 x 117
Tube material	PPCO	PC	Glass	PP	Glass	Glass	Glass	PC	PP	PP
Item no.	15032	15030	15033	_	15045	15050	15056	15049	_	15151
Adapter for round bucket 13299										
Bore diameter x length [mm]		25.5 x 58		25.5 x 56		35.5	x 58		29.5 x 67	29.6 x 90
Tubes per adapter / rotor		1 / 4		1 / 4		1	/ 4		1 / 4	1 / 4
Centrifuging radius [mm]		140		138		1-	40		139	142
Item no.		14304		14308		14.	305		14310*	14299

Tube				
Rated capacity (filling volume) [ml]	100 (75)	100 (90)	100	100
Diameter x length [mm]	44 x 100	44 x 100	44 x 100	45 x 100
Tube material	Glass	Glass	Glass	PC
Item no.	15078	15106	15100	15103
Adapter for round bucket 13299				

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

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

- Max. capacity: 4 x 100 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,540 x g
 Max. tube length in middle of bucket with / without cap: 126 / 117 mm
- Hermetically closable with cap 17299
- Angle: 90°
- * Bucket not autoclavable















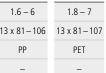




Rated capacity (filling volume) [m]
Diameter x length with lid [mm]	
Tube material	
Item no.	

) [ml]	
m]	

1.1 – 1.4	2.7 – 5	1
8 x 82	11 x 82-108	13 x
PP	PP	
-	_	





1 1	
4 – 8.5	6 – 10
15 x 91 – 108	16 x 107
PP	PET
_	_





PP

for round bucket 13299

Item no.

Tubes per adapter / rotor

Centrifuging radius [mm]





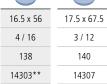


13.5 x 52	
5 / 20	
139	
14302*	











3 / 12

140

14307



Bucket 13296 (1 set = 2 pcs.)*

- Max. capacity: 24 x 15 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,379 x g
- Angle: 90°
- * Bucket not autoclavable



The regular greasing of the rotor bolts is no longer











14

17 x 100

PP

15023



17 x 110

Glass

15022

Rated capac	ity (filling volume) [ml]
Diameter x le	ength [mm]
Tube materia	al
Item no.	

10	10	10	10	10	14	
16 x 100	16 x 100	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1	17 x 100	
Glass	Glass	PF	PC	PPCO	PS	
15015	15024	15000	15010	15039	15020	

Adapter

for bucket 13296

Item no.



Bore diameter x length [mm] Tubes per bucket / rotor Centrifuging radius [mm]



_			
	17.5 x 64.5	17.5 x 67.5	
	6 / 24	6 / 24	
	130	133	
	16020	-	

Blood and urine tubes



8 x 82

PP



11 x 82-108

PP



13 x 81 – 106

PP, PET



PET

13 x 81 – 107 15 x 91 – 108



PP, PET

8-9

16 x 107

PET



16 x 106

PET



16 x 108

PP

10	

15 x 118

PP

Rated capacity (filling volume) [ml]
Diameter x length with lid [mm]
Tube material
Item no.

volume) [ml]	
ı lid [mm]	

illing volume) [ml]			
h with lid [mm]			

Adapter	
Item no.	
Tube material	
Diameter x length with lid [m	m

Auaptei	
for	
bucket	
13296	

ucket 3296	
ore diameter	x length (m

Bore diameter x length [mm]	17.5 x 67.5
Tubes per bucket / rotor	6 / 24
Centrifuging radius [mm]	133
Item no.	-

Bucket 13035 (1 set = 2 pcs.)*

- Max. capacity: 8 x 15 ml
- Max. speed: 4,000 rpm
- Max. RCF: 2,379 x g
- Angle: 90°
- * Bucket not autoclavable

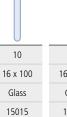


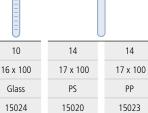
The regular greasing of the rotor bolts is no longer **necessary** – this minimises

Tube

Rated capacity (filling volume) [ml]
Diameter x length [mm]	
Tube material	
Item no.	

10	10	10
16.1 x 81.1	16.1 x 81.1	16.1 x 81.1
PF	PC	PPCO
15000	15010	15039

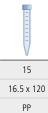






Glass

15022



15115

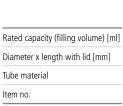
Adapter

for bucket 13035



Bore diameter x length [mm]	17.5 x 86
Tubes per bucket / rotor	4/8
Centrifuging radius [mm]	133
Item no.	-

Blood and urine tubes



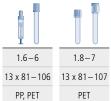
Î			Ī
1.1-1.4		2.7	-5

11 x 82-108

PP

8 x 82

PP





PET



PP, PET



16 x 106

PET

16 x 107

PET



16 x 108

PP



15 x 118

PP

Adapter

bucket 13035



_

Dave diameter v length [mm]	_
Bore diameter x length [mm]	
Tubes per bucket / rotor	
Centrifuging radius [mm]	
Item no.	

17.5 x 86
4 / 8
133
-

17.5 x 76	

4/8 123 13073*

	17.5 x 86	
	4 / 8	
	133	
	-	
_		

MTP swing-out rotor 11123

with 1 set (quantity 2) rectangular buckets 13223

- Max. plate height: 50 mm
- Max. speed: 4,000 rpm
- Max. RCF: 2,111 x g
 Max. load per carrier: 346 g
- Angle: 90°



Plate









Description	
W x D x H [mm]	

MTP (without lid)	
128 x 86 x 15	







Adapter

rectangular bucket 13223



Bore diameter x length [mm]	
Plates per rotor	
Centrifuging radius [mm]	
Item no.	

		_	
6	4	2	4
	1	18	
		_	



More on the Web more about the Sigma 2-7. Scan the QR code or go directly to the web page:

Fixed-angle rotor 12072

with 20 buckets 13011

- Max. capacity: 20 x 15 ml
- Max. speed: 4,000 rpm
 Max. RCF: 2,486 x g
 Angle: 33°

Bore diameter x length [mm]

Tubes per adapter / rotor

Centrifuging radius [mm]

Item no.

Item no.

13.5 x 69

1 / 20

117

13071

12.5 x 85

1 / 20

133

13072

13070



Tube										
Rated capacity (filling volume) [ml]	5	6 (5)	10	10	10	10	14	14	15 (13)	15
Diameter x length [mm]	12 x 75	12 x 100	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	PS	Glass	PC	PPCO	Glass	Glass	PS	PP	Glass	PP
Item no.	15060	15007	15010	15039	15015	15024	15020	15023	15022	15115
Adapter										
for fixed-angle rotor 12072										

17.9 x 77.8

1 / 20

129

13073

17.9 x 87.8

-/20

139

13073

Blood and urine tubes										
Rated capacity (filling volume) [ml]	1.1-1.4	2.7-3.1	1.6-5.3	2.7-5	7.5-8.5	4.9-6	9.5 – 10	6-10	9-10	8
Diameter x length with lid [mm]	8 x 82	11 x 82	13 x 81-91	11 x 82 – 108	15 x 108	13 x 106-107	15 x 106-118	16 x 106-107	16 x 108	16 x 131
Tube material	PP	PP	PET	PP	PP	PET	PP, PET	PET	PP	Glass
Item no.	_	-	_	_	_	_	_	_	-	_
Adapter										
for fixed-angle rotor 12072										
Bore diameter x length [mm]		13.8 x 60		12.5 x 85	17.9 x 77.8		17.9 x 87.8		17.9 x 77.8	17.9 x 87.8
Tubes per adapter / rotor		1 / 20		1 / 20	1 / 20		-/20		1 / 20	-/20
Centrifuging radius [mm]		108		133	129		139		129	139

13072

13073

Item no.

Fixed-angle rotor 12073

with 30 buckets 13011

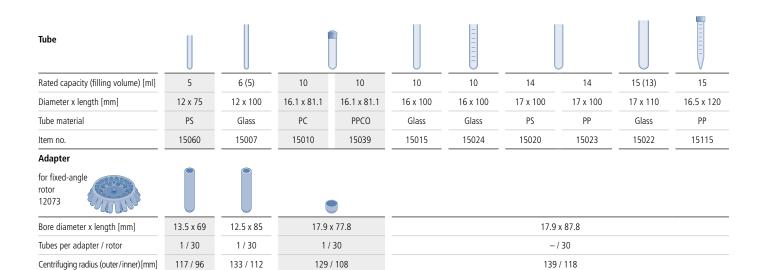
- Max. capacity: 30 x 15 ml
- Max. speed: 4,000 rpm
- Max. RCF outer row: 2.486 x g
 Max. RCF inner row: 2.111 x g

13071

13072

- Angle: 33° (both rows)





13073

Blood and urine tubes				8						
Rated capacity (filling volume) [ml]	1.1-1.4	2.7-3.1	1.6-5.3	2.7-5	7.5-8.5	4.9-6	9.5-10	6-10	9-10	8
Diameter x length with lid [mm]	8 x 82	11 x 82	13 x 81-91	11 x 82-108	15 x 108	13 x 106-107	15 x 106-118	16 x 106-107	16 x 108	16 x 131
Tube material	PP	PP	PET	PP	PP	PET	PP, PET	PET	PP	Glass
Item no.	_	-	-	-	-	-	_	_	-	_
Adapter										
for fixed-angle rotor 12073										
Bore diameter x length [mm]		13.8 x 60		12.5 x 85	17.9 x 77.8		17.9 x 87.8		17.9 x 77.8	17.9 x 87.8
Tubes per adapter / rotor		1 / 30		1 / 30	1/30		-/30		1 / 30	-/30
Centrifuging radius (outer/inner)[mm]		108 / 87		133 / 112	129 / 108		139 / 118		129 / 108	139 / 118
Item no.		13070		13072	13073		_		13073	_

Material properties

Guideline for optimal tube selection

Due to the many factors that influence material properties, this overview is only intended as a general recommendation. There is no guarantee of the stated properties. Users should therefore carefully

test materials for suitability under specific application conditions. Tubes should be discarded as soon as they show any sign of material fatigue.

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

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

Spincontrol Basic

Advanced control, intuitive operation

Spincontrol Basic is a programmable and user-friendly control unit with a clearly organised and intuitive user interface that simplifies everyday tasks in the lab. Operating parameters are entered using centrally arranged arrow buttons, and parameter settings can be changed during operation. Another clever feature is the optional adjustable automatic lid opening at the end of the run.

Spincontrol Basic can hold up to ten programs – a unique feature in its class. These user-modifiable programs can store standard routines for retrieval at any time.

That makes the control unit ideal for institutions where specimens with different operating parameters must be centrifuged. Quick access to stored programs facilitates enhanced process reliability and quality of analytical results.

Two pairs of acceleration and braking curves help to optimise separation processes. Short or pulsed runs are also possible by pressing and holding the Start/Stop button.

Display	LCD
Speed/RCF display	+
Timer (s; min:s)	10 - 99:59
Short run, Continuous run	+ , +
Time increment [s]	1
Speed increment [rpm]	100
RCF increment [x g]	10
Programs	10
Acceleration curves	2 (fast, soft)
Braking curves	2 (fast, soft)
Automatic lid opening at end of run, switchable	+,+
Start delay (clotting time) adjustable, switchable	+,+
Audible signal, switchable	+ , +
Visual standstill indication	+
Lockable controller	+
Microprocessor control	+



Premium quality

Made in Germany

The Sigma 2-7 centrifuge meets the highest technical requirements and laboratory standards. Developed and produced at our facility in Osterode, Germany, it is a high-performance, durable and energy-efficient quality product and conforms to the latest safety, emissions and environmental standards. Sigma guarantees the availability of spare parts and wearing parts for at least 10 years.

Furthermore, you benefit from our extensive services portfolio, including commissioning, maintenance, device calibration and more. Our qualified service technicians are ready to provide professional maintenance and repair as well as loaner devices if necessary. All support services are designed to ensure reliability and optimise system availability.

Sigma 2-7

Max. capacity [ml]	
Swing-out rotor	4 x 100
Fixed-angle rotor	30 x 15
Max. RCF	2,540
Maximum speed [rpm]	4,000
Minimum speed [rpm]	100
Noise level at maximum speed (approximate) [dB(A)]	
Fixed-angle rotor 12073	54
Swing-out rotor 11071 with buckets 13299 and caps	53
Max. acceleration time [s]	
Fixed-angle rotor 12073	18
Swing-out rotor 11071 with buckets 13299 and caps	13
Max. braking time [s]	
Fixed-angle rotor 12073	14
Swing-out rotor 11071 with buckets 13299 and caps	10
Power consumption [W]	210
Height x width x depth [mm]	293 x 378 x 535
Height with open lid [mm]	643
Weight without rotor [kg]	23

Sigma Service

For maintenance and repairs please contact our Service department at www.sigma-zentrifugen.

Calibration

Documented proof of compliance with essential technical parameters.

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

Device qualification (IQOQ)

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

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

Sigma 2-7 centrifuge 100–240 V, 50/60 Hz (item no. 10226)

Sigma 2-7 centrifuge, IVD version 100–240 V, 50/60 Hz (item no. 10227)







Product portfolio

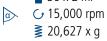
Sigma offers a broad product portfolio with more than 25 laboratory centrifuges. They can be combined with an extensive range of fixed-angle and swing-out rotors and a large variety of accessories to obtain the right device configuration for every application.



Microcentrifuge

Sigma 1-16

36 x 2 ml





Benchtop centrifuge

Sigma 2-7

4 x 100 ml **≥** 2,540 x q

30 x 15 ml **≥** 2,486 x g

Floor-standing centrifuge

Sigma 8KS

12 x 1,000 ml **≥** 8,578 x g

6 x 1,000 ml ₹ 20,461 x g



Benchtop centrifuge

Sigma 3-30KS

4 x 100 ml **≥** 3,969 x g

■ 6 x 94 ml △ 30,000 rpm ₹ 70,121 x q



Robot centrifuge

Sigma 4-5KRL

100 x 15 ml **4,700 rpm §** 4,470 x g

Legend

Max. capacity

Max. RCF

Swing-out rotor

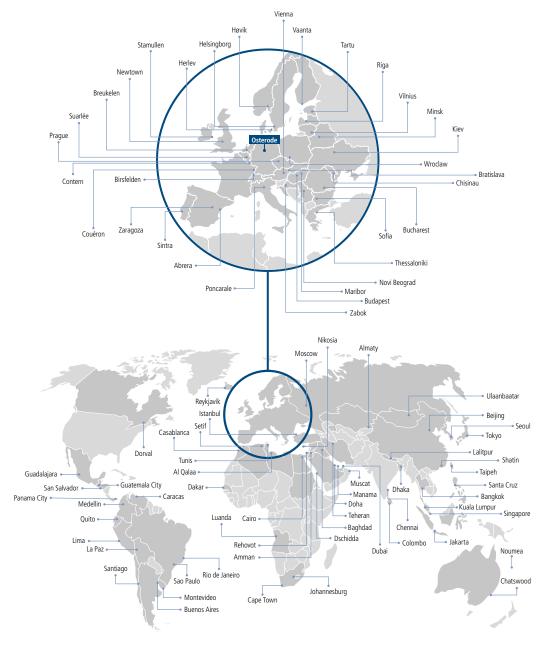




Global service

For local product security

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



Selected locations of our representatives.

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

