turns more than heads

Sigma 8KBS

Blood bank centrifuge
- **Refrigerated**

Medical device according to Regulation (EU) 2017/745

www.sigma-zentrifugen.de


SIGMA
13860
Becher Nr. 5
Satz Nr. 1

Ideal for blood banks

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 8KBS is a refrigerated floor-standing centrifuge specifically developed for deployment in blood banks and transfusion facilities. It is a medical device according to Regulation (EU)2017/745, Class IIa for the separation of blood components for transfusion medicine.

With a maximum capacity of 12 blood bag systems per run, it enables efficient processing of large specimen volumes. The device delivers reliably excellent and reproducible sedimentation results thanks to its very smooth running.

Along with its outstanding specifications, the Sigma 8KBS features impressive energy efficiency and perfectly matched components. Intuitive operation and the ergonomic loading height of just 88 cm simplify daily work in the lab and make the Sigma 8KBS one of the most popular blood bank centrifuges on the market.

Application oriented

High performance, intuitive operation and very high efficiency

Many users worldwide appreciate the Sigma 8KBS as an efficient, powerful blood bank centrifuge. With its patented 1-knob controller, automatic rotor identification and ergonomic side-opening lid, it is the ideal device for daily, intensive use. The adjustment range of the powerful centrifuge has been limited to a maximum RCF of 5,394 x g. The Sigma 8KBS thus ensures optimum separation results and prevents damage to the blood cells caused by excessive RCF.

The powerful drive system enables excellent acceleration and braking times. Separation runs and results can be optimized with 30 pairs of braking and acceleration curves, some of which are individually programmable. The high imbalance tolerance of the Sigma 8KBS additionally ensures very smooth running with all rotors and at all speeds.

The Sigma 8KBS is among the most compact centrifuges of its class and is pleasantly quiet. With a noise level of 54 dB(A)*, it is one of the quietest blood bank centrifuges in the market, making for a pleasant work atmosphere in the lab.

The high-performance cooling system can be adjusted precisely over a temperature range from -20°C to +40°C. The Rapid Temp function enables fast temperature adjustments of the centrifuge chamber and accessories to a defined temperature, which is particularly relevant when working with precooled blood bags.

Sigma 8KBS

- Medical device according to Regulation (EU) 2017/745
- Compact refrigerated blood bank centrifuge
- Maximum RCF: 5,394 x g
- Maximum capacity: 12 blood bag systems
- Ergonomic 88 cm loading height
- User-friendly Spincontrol S controller
- Extra large TFT display
- 60 programs
- Rapid Temp program
- Temperature setting range: -20 °C to +40 °C
- Rotor cooling also possible at standstill
- Low noise level ≤ 54 dB(A)*
- Automatic rotor identification
- Zero-maintenance induction motor
- 30 pairs of braking and acceleration profiles
- Motorised lid locking
- 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)

Options

- Water cooling for supperior cooling efficiency and minimum noise level
- Sigma Datasuite: data communication system

* With rotor 11805 at maximum speed (compressor not running)

Energy-efficient and quiet

Saves money and reduces noise emissions

One of the unique features of the Sigma 8KBS is the option of using a swing-out rotor with or without a windshield. A rotor without a windshield has advantages for handling, while the version with a windshield is distinctly more energy efficient and enables higer RCFs.

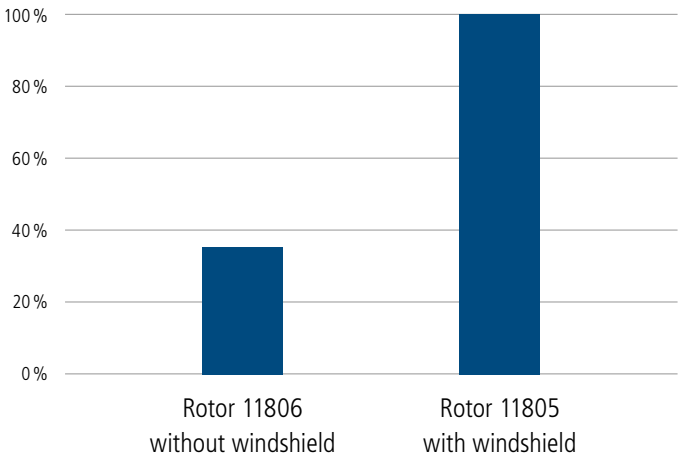
Energy savings exceeding 63% can be achieved with a closed windshield due to the lower drag. It also reduces heat transfer to the lab environment as well as running noise levels.

With rotor 11805 at 4,000 x g and 20°C specimen temperature, the energy consumption is only 0.37 kWh for a widely used procedure for buffy coat extraction (running time 10 minutes).

Additional economy functions of the Sigma 8KBS

- Cooling shut off when centrifuge lid is opened
- Automatic display dimming after an extended time with no operator action

Energy savings from use of windshield rotor

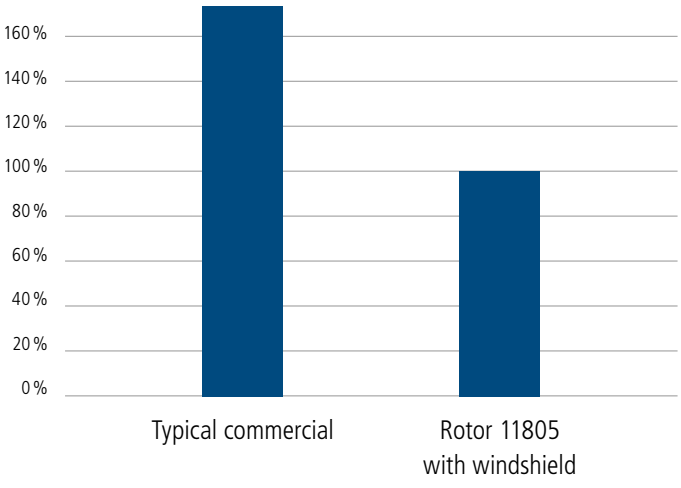


Measured with Sigma 8KBS with bucket 13860 at 3,700 min^{-1} and 20°C temperature.

Thanks to the low-noise design of the Sigma 8KBS and the optional use of rotor 11805 with a windshield, the noise level at maximum speed with the compressor switched off is just 54 dB(A). With the cooling system running, the value rises to 57 dB(A).

Compared to the typical commercial value of 62 dB(A), this difference of 8 or 5 dB(A) corresponds to a reduction of the perceived noise level by 74 % or 41 %, respectively.

Relative perceived noise level*



* A 10 dB(A) increase is perceived as a doubling of the loudness.

Components

For comfortable handling and best separation results

The medical device consists of a centrifuge, rotor, buckets, adapters and other optional components. The 6-place swing-out rotor is available as a standard version or as an energy-saving version with a windshield. Aerodynamic buckets are used in both rotors, which are equipped with a precisely fitting adapter for the blood bag system used.

A new family of adapters has been developed especially for blood banks and transfusion institutions. Thanks to the high-performance material used, these adapters have an outstanding service life and a smooth, resistant "anti-sticking" surface.

Handling during loading and unloading is thus significantly facilitated. Users are impressed by the integrated handle and the high rim for optimal support of blood bags and tubes.

All standard blood bag systems can be accommodated in the adapters. The features of the medical product are completed by options such as balance weights, balance inserts, tare weights, centrifuging aids and serial communication.

Sigma 8KBS centrifuge
3 x 400 V, 50 Hz,
air-cooled compressor (item no. 10635)

Sigma 8KBS centrifuge
3 x 220 V, 60 Hz,
air-cooled compressor (item no. 10636)

Sigma 8KBS centrifuge
3 x 400 V, 50 Hz,
water-cooled compressor (item no. 91302)

Swing-out rotor with windshield

▸ p. 8

Swing-out rotor 11805
Blood bag bucket 13860

- Max. capacity: 12 blood bag systems
- Max. speed: 4,100 min^{-1}
- Max. RCF: 5,394 x g
- Angle: 90°

Swing-out rotor without windshield

▸ p. 8

Swing-out rotor 11806
with blood bag bucket 13860

- Max. capacity: 12 blood bag systems
- Max. speed: 3,700 min^{-1}
- Max. RCF: 4,393 x g
- Angle: 90°

Swing-out rotor 11805

Bucket 13860
for blood bag adapters 13867 and 13870

- Max. capacity: 12 blood bag systems
- Max. speed: 4,100 min^{-1}
- Max. RCF: 5,394 x g
- Tmin at maximum speed: <4°C
- Angle: 90°

Swing-out rotor 11806

Bucket 13860
for blood bag adapters 13867 and 13870

- Max. capacity: 12 blood bag systems
- Max. speed: 3,700 min^{-1}
- Max. RCF: 4,393 x g
- Tmin at maximum speed: <4°C
- Angle: 90°

Tube			
Capacity [ml]	500	500	750
Blood bag system	Dual	Quad	Single
Item no.	–	–	–
Adapter			
for bucket 13860 			
Blood bag systems per rotor	12	12	
Nominal capacity [ml]	900	1100	
Centrifuging radius [mm]	287	287	
Item no.	13870*	13867*	

* Including one set of balance weights 17768

The adapters have detachable coloured clips for easy distinction.

Additional components

Working tools for centrifugation of blood bags

Balance weights 17768

For use with unbalanced bucket loading. Including a template for easy size identification and the following weights for fine taring: 3 x 10 g, 3 x 5 g, 3 x 3 g, and 6 x 1 g

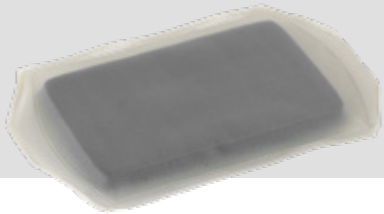
Balance inserts

Balance inserts are available for working with an uneven number of blood bags. The corresponding tare weights 17754 (100 g) and 17753 (50 g) are used to balance out differences in weight.

- Balance insert 17769 for adapter 13867
- Balance insert 17773 for adapter 13870

Centrifugation aid 17750

For optimal fixation of small or partially filed blood bags.



Serial communication

As standard Sigma 8KBS is equipped with an RS232 interface for process data transmission. For scanning barcodes and transmitting process data, the centrifuge can optionally be equipped with the extended interface 17948 for serial communication RS232 with connection option for barcode scanners.

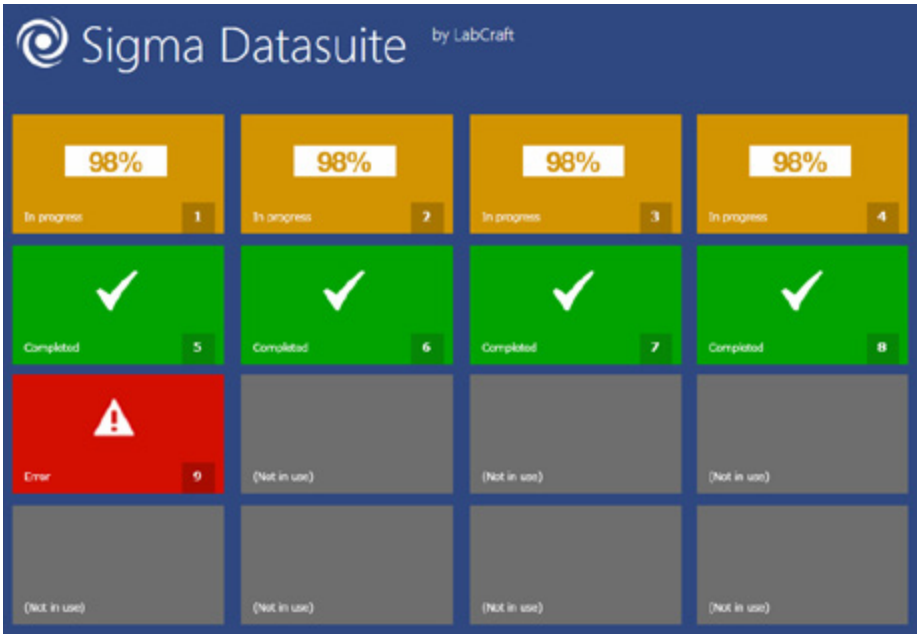
Sigma Datasuite

Data communication system

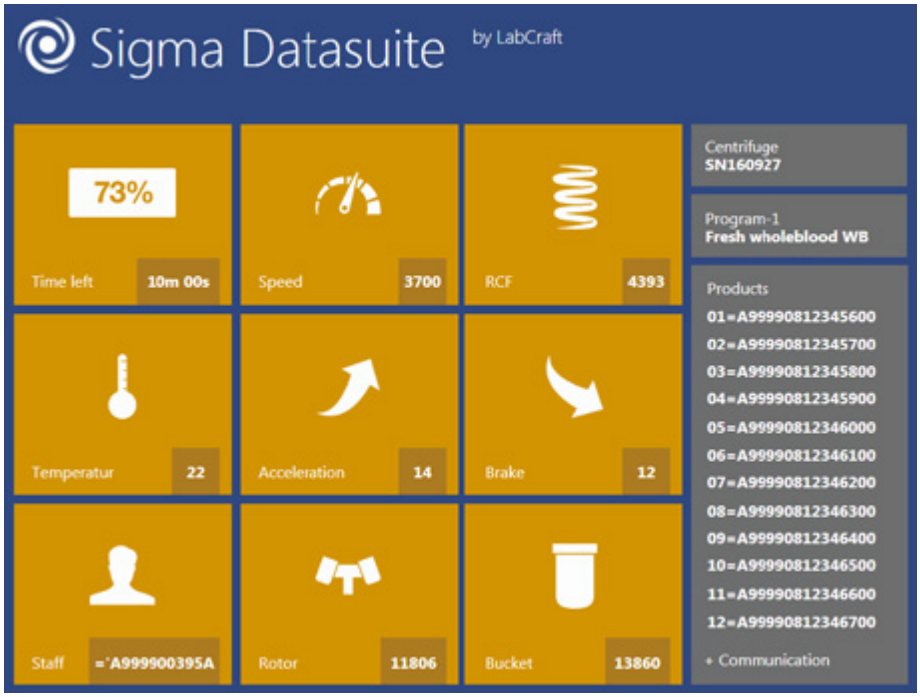
The Sigma 8KBS blood bank centrifuge can optionally be equipped with the process data archiving system Sigma Datasuite by LabCraft. This system enables continuous monitoring and documentation of all data and events arising during centrifugation.

Process data from up to 16 centrifuges can be logged. Along with the individually selectable running parameters, staff IDs and donation ID labels can be queried in accordance with ISBT 128. Data output for external quality management is provided via the integrated RS232 interface in either CSV or txt format, depending on the configured setting. The location for automatic data saving can be set in the ini-file. Export of the data into an existing LabCraft SQL database or another LIMS/BECS system is possible.

Sigma Datasuite runs on a standard Windows PC and can easily be used at the packing station or another location. A barcode scanner can be connected to the Sigma 8KBS with interface 17948. The Spincontrol S controller detects faulty or double-scanned barcodes. Scanned barcodes are visible in the Datasuite program and on the display of the centrifuge.



The process progress of the maximum of 16 centrifuges is displayed on the overview page and important events are indicated. Status, success and, if necessary, error messages are displayed and documented in a log file. Optionally, this overview can also be displayed on a second monitor.



For each connected centrifuge, detailed information can be displayed by clicking on the corresponding tile of the overview screen. The display then shows all relevant data for the individual centrifugation run.

Item numbers

17941
Device license for Sigma Datasuite Instrument

17945
Software license for Sigma Datasuite Lab

17948
Interface for serial communication RS232 with connection possibility for barcode scanner (without barcode scanner)

17942
Edge port CO for 16x RS232 to USB

17951
Edge port CO for 1x RS232 to USB

17952
Edge port CO for 4x RS232 to USB

Spincontrol S controller

Intuitive operation and many options

The 1-knob Spincontrol S controller sets standards in control technology for laboratory and blood bank centrifuges. All parameter settings or modifications, such as speed, RCF or temperature, are performed using the centrally positioned multifunction knob.

Along with manual settings, previously entered programs can be selected using a shortcut. These programs can be assigned alphanumeric names to enhance process reliability and simplify operation. Another practical feature is the progress bar that visualises program status and can been seen at a distance. The countless features leave nothing to be desired: capacity for 60 programs, password protection against unintentional alteration of run parameters, rotor cycle counter. Those are just a few of the features that make Sigma Spincontrol S a highly flexible system.

To meet the strict safety and security requirements of blood banks and transfusion facilities, the Spincontrol S has numerous quality management functions. Integrated run monitoring supervises program sequences and informs users of the separation run status.

Communication with an existing laboratory information and management system (LIMS) is optionally possible. All process data – run parameters, donation ID and staff ID, etc. – can be continuously monitored and recorded.

Spincontrol S
Get more information.
Watch our video:

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 [min^{-1}]	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
Brakeless spin-out	+
Automatic lid opening at end of run, switchable	+ , +
Start delay (clotting time) adjustable/switchable	+ , +
Standstill cooling; switchable	+ , +
Rapid Temp 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^3	+
Lockable controller with password protection	+
Microprocessor control	+

Premium quality

Made in Germany

The Sigma 8KBS meets the highest technical requirements for laboratory centrifuges. 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 maintain reliability and optimise system availability.

	Sigma 8KBS	**Sigma 8KBS** with water cooling
Max. capacity [ml]		
Swing-out rotor	12 blood bag systems	12 blood bag systems
Max. RCF	5,394	5,394
Maximum speed [min^{-1}]	4,100	4,100
Minimum speed [min^{-1}]	100	100
Noise level at maximum speed (approximate) [dB(A)]		
Swing-out rotor 11805 with bucket 13860	≤ 57	≤ 50
Max. acceleration time [s]		
Swing-out rotor 11805 with bucket 13860	≤ 49	≤ 49
Max. braking time [s]		
Swing-out rotor 11805 with bucket 13860	≤ 87	≤ 87
Temperature adjustment range [°C]	-20–+40	-20–+40
Power consumption [W]	4,200	3,200
Height x width x depth [mm]	990 x 820 x 949	990 x 820 x 949
Height with open lid [mm]	1,690	1,690
Weight without rotor [kg]	450	450
Refrigerant	R452A	R452A

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

Calibration

Documented proof of compliance with essential technical parameters.

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

Device qualification (IQOQ)

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

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

CE WEEE reg. no. DE 76714077 MD

Medical device according to Regulation (EU) 2017/745

Sigma 8KBS centrifuge packages

Sigma 8KBS, MD, 3 x 400 V, 50 Hz (item no. 10954)
incl. centrifuge Sigma 8KBS (10635), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13867

Sigma 8KBS, MD, 3 x 400 V, 50 Hz (item no. 100010)
incl. centrifuge Sigma 8KBS (10635), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13870

Sigma 8KBS, MD, 3 x 220 V, 60 Hz (item no. 10955)
incl. centrifuge Sigma 8KBS (10636), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13867

Sigma 8KBS, MD, 3 x 220 V, 60 Hz (item no. 1095501)
incl. centrifuge Sigma 8KBS (10636), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13870

Sigma 8KBS, MD, 3 x 400 V, 50 Hz, water cooling (item no. 91561)
incl. centrifuge Sigma 8KBS watercooled (91302), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13867

Sigma 8KBS, MD, 3 x 400 V, 50 Hz, water cooling (item no. 9156101)
incl. centrifuge Sigma 8KBS watercooled (91302), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13870

Product portfolio

Other IVD and non-medical devices

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

Microcentrifuge
Sigma 1-16

- 36 x 2 ml
- 15,000 min^{-1}
- 20,627 x g

Floor-standing centrifuge
Sigma 8KS

- 12 x 1,000 ml
- 5,100 min^{-1}
- 8,578 x g

- 6 x 1,000 ml
- 10,500 min^{-1}
- 20,461 x g

Benchtop centrifuge
Sigma 2-7

- 4 x 100 ml
- 4,000 min^{-1}
- 2,540 x g

- 30 x 15 ml
- 4,000 min^{-1}
- 2,486 x g

Benchtop centrifuge
Sigma 3-30KS

- 4 x 100 ml
- 5,000 min^{-1}
- 3,969 x g

- 6 x 94 ml
- 30,000 min^{-1}
- 70,121 x g

Robot centrifuge
Sigma 4-5KRL

- 100 x 15 ml
- 4,700 min^{-1}
- 4,470 x g

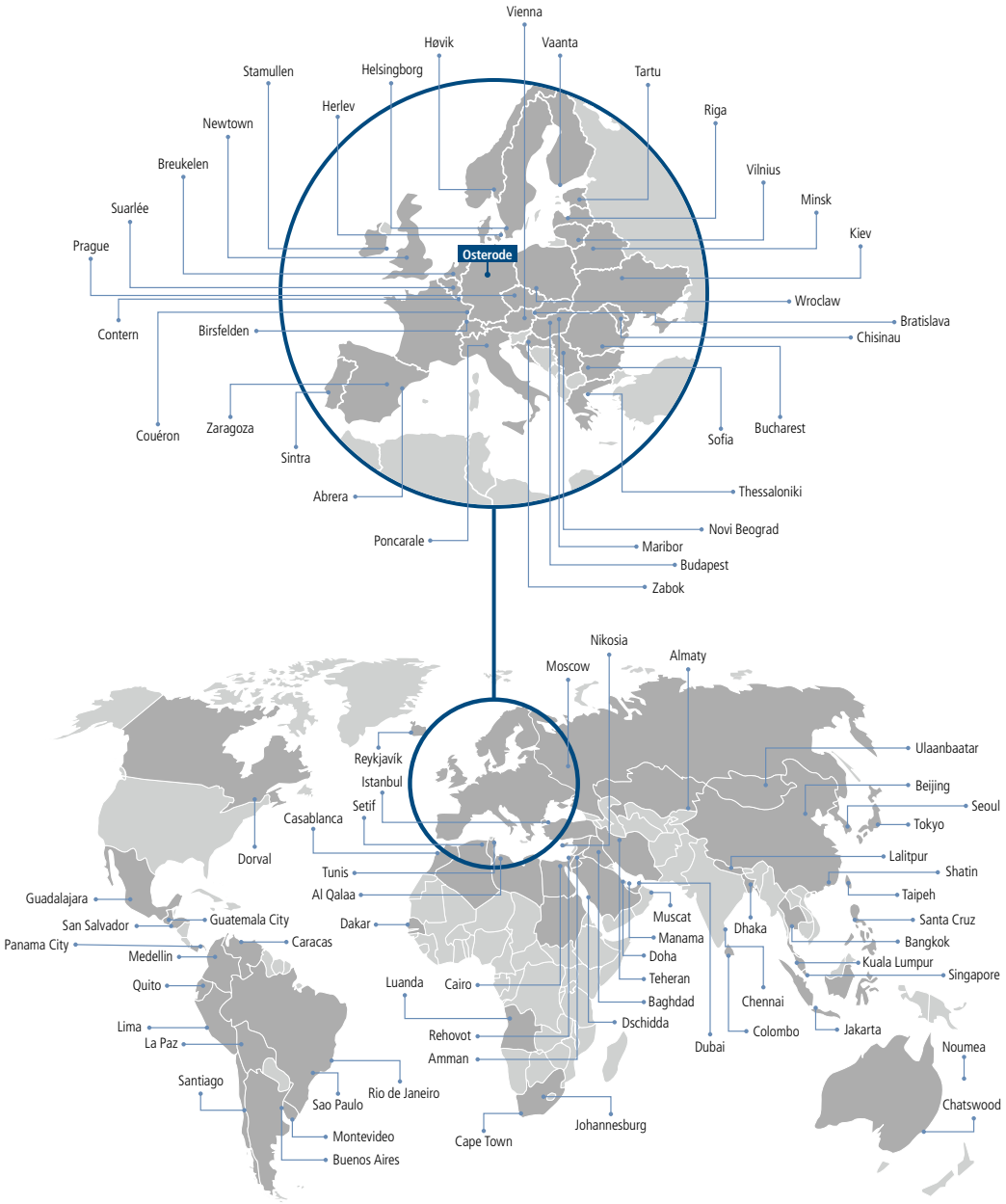
Legend

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

Global service

For local product security

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



Selected locations of our representatives.

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

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