Sigma 8KS Clinic

Floor-standing centrifuge
• Refrigerated

www.sigma-zentrifugen.de

SIGMA
13860
Becher Nr. 5
Satz Nr. 1

Specialist for blood separation

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 8KS Clinic is a refrigerated floor-standing centrifuge and has been specifically developed for use in blood banks, transfusion facilities and clinical labs. This high-performance centrifuge features impressive capacity of up to 12 blood bag systems or 6 x 1,500 ml or 48 microplates. Due to its capacity per run, even large sample volumes can be processed efficiently. The device delivers reliably excellent and reproducible sedimentation results thanks to its very smooth running.

Along with its outstanding specifications, the Sigma 8KS Clinic 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 8KS Clinic one of the most popular versatile high-throughput centrifuges on the market.

Application oriented

High performance, intuitive operation and very high efficiency

The efficient, powerful Sigma 8KS Clinic refrigerated floor-standing centrifuge impresses with its versatile rotor range, which is specially designed for clinical applications and the separation of blood components in transfusion medicine. With its maximum RCF of up to 5,544 x g, the patented 1-knob controller, automatic rotor identification and ergonomic side-opening lid, it is the ideal device for daily, intensive use.

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 8KS Clinic additionally ensures very smooth running with all rotors and at all speeds.

The Sigma 8KS Clinic 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 or temperature-sensitive samples.

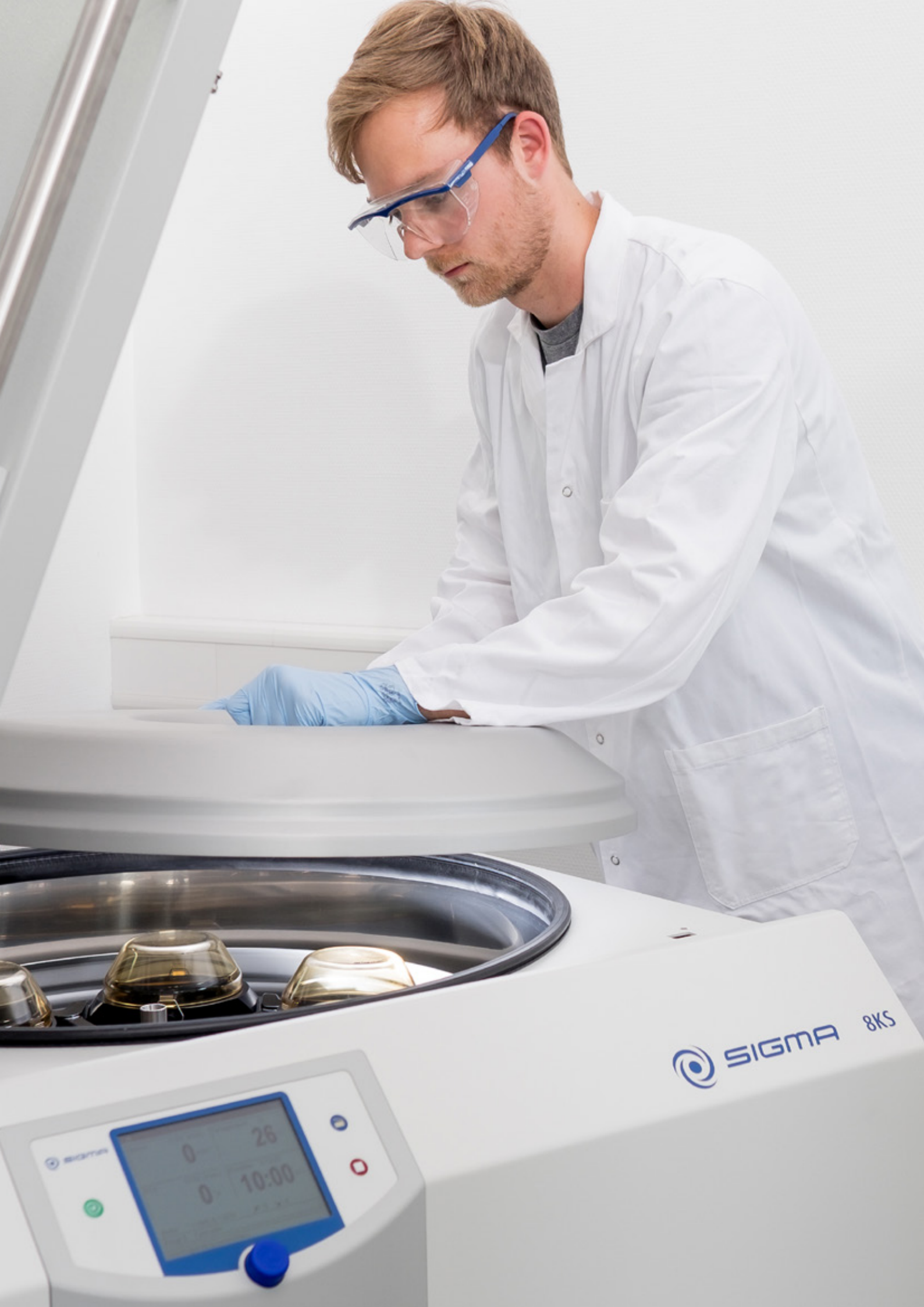
Sigma 8KS Clinic

- Compact refrigerated standard centrifuge
- Maximum RCF: 5,544 x g
- Maximum capacity: 12 blood bags or 6 x 1,500 ml or 48 microplates
- Ergonomic 88 cm loading height
- User-friendly Spincontrol S controller
- Extra large TFT display
- 60 programs
- Temperature setting range: -20 °C to +40 °C
- Rapid Temp program
- Rotor cooling also possible at standstill
- Low noise level of 54 dB(A)*
- Automatic rotor identification
- Zero-maintenance induction motor
- 30 pairs of braking and acceleration profiles
- 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)

Optionen

- Serial interface RS232
- Sigma Datasuite: data communication system

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


SIGMA 8KS
0 26
0 10:00

Rotors and accessories

Versatile configurations for blood banks and clinical laboratories

The Sigma 8KS Clinic offers a tailored program of swing-out rotors, cups, adapters and accessories for applications in transfusion facilities and clinical labs. The 6-position swing-out rotor is available both without a windshield and in the energy-saving version with a windshield. Cups for blood bag systems, vessels ranging from 1.5 ml to 1,500 ml, as well as microtiter and deep well plates are available for both rotors.

A new adapter family has been specifically developed for blood banks and transfusion facilities. Thanks to the high-performance material used, it boasts outstanding durability and a smooth, resilient "anti-sticking" surface. Loading and unloading are significantly facilitated by the integrated handle and the high rim for optimal support of blood bags and tubes, delighting users.

The universally designed adapters can accommodate all common blood bag systems. The equipment of the Sigma 8KS Clinic is complemented by options such as tare weights, serial communication, counterweights, and centrifugation aids.

Swing-out rotor with windshield

▸ S.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 11805
with round bucket 13850

- Max. capacity: 6 x 1.500 ml
- Max. speed: 4.100 min^{-1}
- Max. RCF: 5.544 x g
- Angle: 90°

Swing-out rotor 11805
with MTP bucket 13845

- Max. capacity: 48 microtiter plates
- Max. speed: 4.100 min^{-1}
- Max. RCF: 4.736 x g
- Angle: 90°

Swing-out rotor without windshield

▸ S.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 11806
with round bucket 13850

- Max. capacity: 6 x 1.500 ml
- Max. speed: 3.700 min^{-1}
- Max. RCF: 4.515 x g
- Angle: 90°

Swing-out rotor 11806
with MTP bucket 13845

- Max. capacity: 48 microtiter plates
- Max. speed: 3.700 min^{-1}
- Max. RCF: 3.857 x g
- Angle: 90°

Energy-efficient and quiet

Saves money and reduces noise emissions

One of the unique features of the Sigma 8KS Clinic 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.

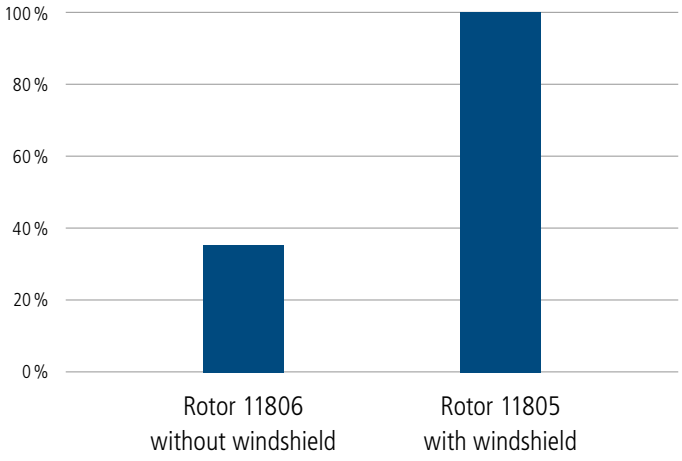
Energy savings exceeding 63% can be achieved with a closed windshield due to the lower drag. It also reduces heat transfer to the lab environment as well as running noise levels.

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 8KS Clinic

- 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

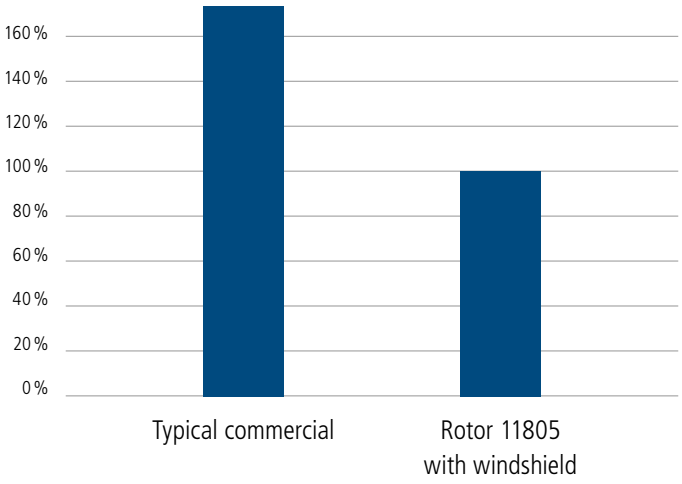


Measured with Sigma 8KS Clinic with bucket 13860 at 3,700 min^{-1} and 20°C temperature.

Thanks to the low-noise design of the Sigma 8KS Clinic 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.

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°
- Shown without windshield lid.

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.

Accessories

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

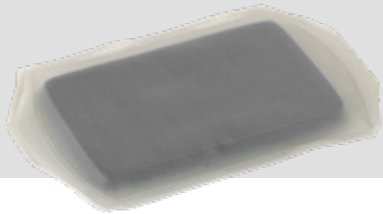
Balance inserts

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

The Sigma 8KS Clinic can optionally be equipped with the RS232 interface 17947 for process data transmission. For scanning barcodes and transmitting process data, the centrifuge can optionally be equipped with the extended interface 17948 for RS232 serial communication with connection option for barcode scanners.

Swing-out rotor 11805

Round bucket 13850 (1 set = 6 pcs)

- Max. capacity: 6 x 1,500 ml
- Max. speed: 4,100 rpm
- Max. RCF: 5,544 x g
- Hermetically closable with cap 17175
- Tmin at maximum speed: <4°C
- Angle: 90°

Swing-out rotor 11806

Round bucket 13850 (1 set = 6 pcs)

- Max. capacity: 6 x 1,500 ml
- Max. speed: 3,700 rpm
- Max. RCF: 4,515 x g
- Hermetically closable with cap 17175
- Tmin at maximum speed: <4°C
- Angle: 90°

Tube									
Rated capacity (filling volume) [ml]	1,5	2	5	15	50	175	175	200	225
Diameter x length [mm]	10,7 x 42	10,7 x 42	17 x 60	16,5 x 120	29 x 117	61 x 118	62 x 139,2	61 x 130	61 x 137
Tube material	PP	PP	PPCO	PP	PP	PP	PP	PP	PP
Item no.	15008	15040	–	15115	15151	–	15175	15174	–
Adapter for round bucket 13850									
Bore diameter x length [mm]	11,1 x 38,5	17 x 52	17 x 80	29,5 x 80	61 x 100	62,5 x 110	62,5 x 110	61 x 100	
Tubes per adapter / rotor	26 / 156	12 / 72	19 / 114	8 / 48	1 / 6	1 / 6	1 / 6	1 / 6	
Centrifuging radius [mm]	288	292	290	290	295	295	295	295	
Item no.	17653*	17211*	17775	17777	17694*	17693*	17693*	17694*	

Tube									
Rated capacity (filling volume) [ml]	250	250	500	600	1000 (885)	1000	1000	1300	1500
Diameter x length [mm]	61 x 145	59,7 x 171,2	95,5 x 147	100 x 183	97 x 175	97,5 x 195,3	100 x 185	115 x 165	115 x 180
Tube material	PP	PP	PP	PP	PPCO	PPCO	PPCO	Edelstahl	PP
Item no.	–	–	–	-	15921	–	15924	13840	15931
Adapter for round bucket 13850									
Bore diameter x length [mm]	62,5 x 110	96,3 x 100	99 x 110	97,8 x 141,7	101 x 123,4	116 x 152			
Tubes per adapter / rotor	1 / 6	1 / 6	1/6	1 / 6	1 / 6	– / 6			
Centrifuging radius [mm]	295	295	289	292	293	295			
Item no.	17693*	17780	17650	13511*	13851	–			

* Adapter 13851 additionally required for reduction;

Swing-out rotor 11805

Round bucket 13850 (1 set = 6 pcs)

- Max. capacity: 6 x 1,500 ml
- Max. speed: 4,100 rpm
- Max. RCF: 5,544 x g
- Hermetically closable with cap 17175
- Tmin at maximum speed: <4°C
- Angle: 90°

Swing-out rotor 11806

Round bucket 13850 (1 set = 6 pcs)

- Max. capacity: 6 x 1,500 ml
- Max. speed: 3,700 rpm
- Max. RCF: 4,515 x g
- Hermetically closable with cap 17175
- 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	Glas
Item no.	–	–	–	–	–	–	–	–	–	–

Adapter for round bucket 13850					
Bore diameter x length [mm]	12,8 x 52	13,8 x 54	16,5 x 55	17,5 x 55
Tubes per adapter / rotor	37 / 222	23 / 138	20 / 120	19 / 114
Centrifuging radius [mm]	287	289	290	290
Item no.	17652*	17656*	17655*	17658*

* Adapter 13851 additionally required for reduction

Swing-out rotor 11805

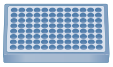
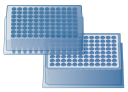
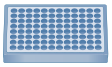
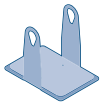
Rectangular bucket 13845 (1 set = 6 pcs), each with plate holder 17981 and cap 17122

- Max. plate height without / with cap: 131 / 108 mm
- Max. speed: 4,100 rpm
- Max. RCF: 4,736 x g
- Max. load per carrier: 700 g
- Hermetically closable with cap 17122
- Tmin at maximum speed: <4°C
- Angle: 90°

Swing-out rotor 11806

Rectangular bucket 13845 (1 set = 6 pcs), each with plate holder 17981 and cap 17122

- Max. plate height without / with cap: 131 / 108 mm
- Max. speed: 3,700 rpm
- Max. RCF: 3,857 x g
- Max. load per carrier: 700 g
- Hermetically closable with cap 17122
- Tmin at maximum speed: <4°C
- Angle: 90°

Plate					
Description	MTP (without lid)	MTP (without lid)	DWP	Filter plate	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 60	128 x 86 x 20
Adapter					
for rectangular bucket 13845					
Bore diameter x length [mm]			–		
Plates per rotor (without / with cap)	48 / 42	42 / 36	12 / 12	12 / 6	36 / 30
Centrifuging radius [mm]			252		
Item no.			17981		

Cleanroom

Robust and resistant

Cleanroom coating
Available for all accessories

An extremely resistant cleanroom coating is available from Sigma for all aluminium buckets and rotors. This coating provides reliable corrosion protection for accessories, especially where aggressive chemicals are used. The cleanroom coating can even withstand exposure to sodium hydroxide and hydrochloric acid. The surfaces are also food-grade (FDA certified) and can easily be cleaned without residues.

SIGMA

Sigma Datasuite

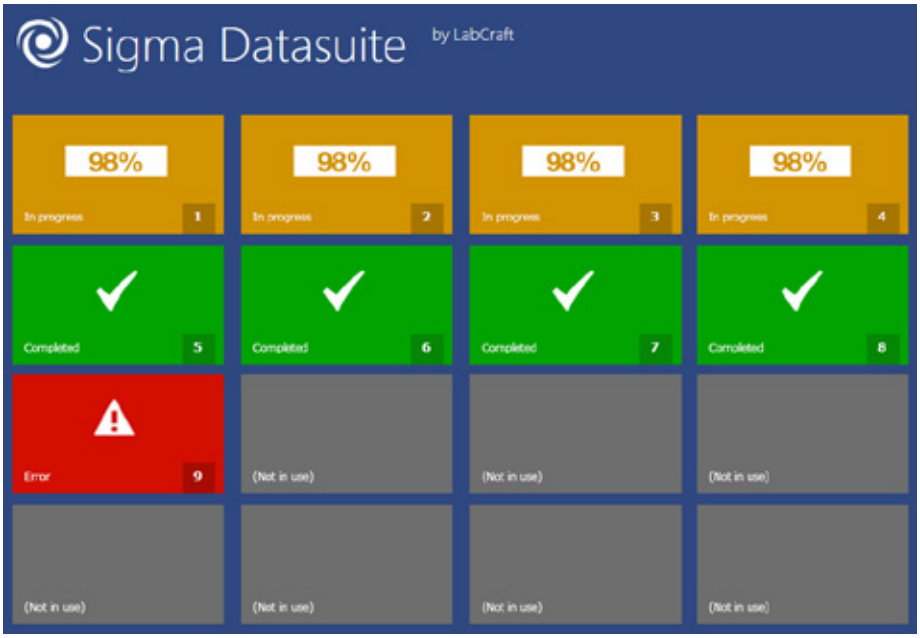
Data communication system

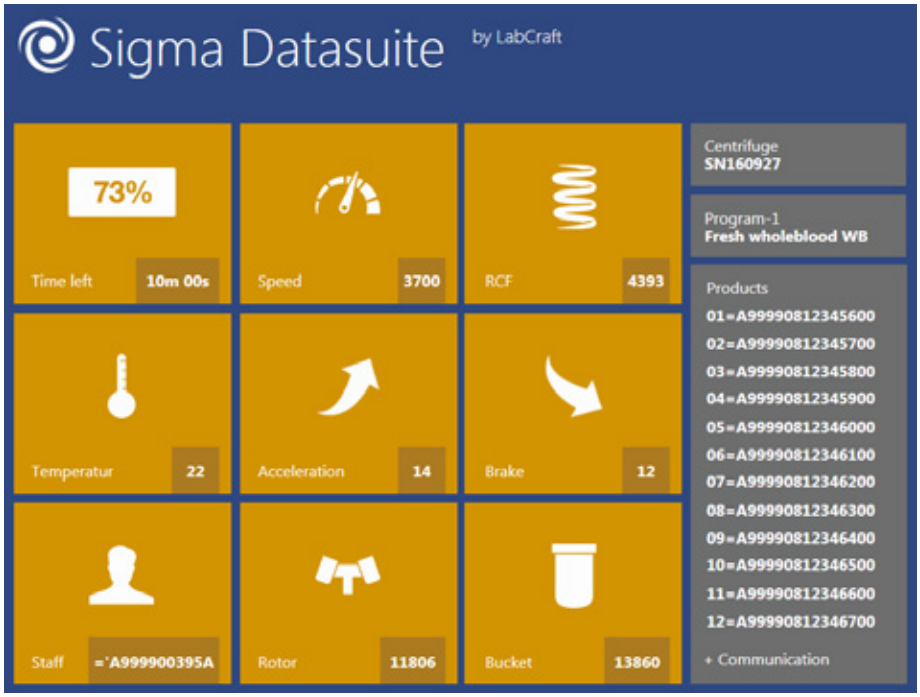
The Sigma 8KS Clinic blood bank centrifuge can optionally be equipped with the process data archiving system Sigma Datasuite by LabCraft. This system enables continuous monitoring and documentation of all data and events arising during centrifugation.

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

17947
Interface for serial communication RS232

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 8KS Clinic 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 8KS Clinic
Max. capacity [ml]	
Swing-out rotor	12 blood bag systems
Max. RCF	5,394
Maximum speed [min^{-1}]	4,100
Minimum speed [min^{-1}]	100
Noise level at maximum speed (approximate) [dB(A)]	
Swing-out rotor 11805 with bucket 13860	≤ 57
Max. acceleration time [s]	
Swing-out rotor 11805 with bucket 13860	≤ 49
Max. braking time [s]	
Swing-out rotor 11805 with bucket 13860	≤ 87
Temperature adjustment range [°C]	-20–+40
Power consumption [W]	4,200
Height x width x depth [mm]	990 x 810 x 949
Height with open lid [mm]	1,690
Weight without rotor [kg]	450
Refrigerant	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)

Sigma 8KS Clinic centrifuge packages

Sigma 8KS, 3 x 400 V, 50 Hz (Art.-Nr. 9159401)
incl. centrifuge Sigma 8KS (91594), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13867

Sigma 8KS, 3 x 400 V, 50 Hz (Art.-Nr. 9159402)
incl. centrifuge Sigma 8KS (91594), rotor 11805, 6 buckets 13860 and 6 blood bag adapters 13870

CE
WEEE reg. no. DE 76714077

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
- 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

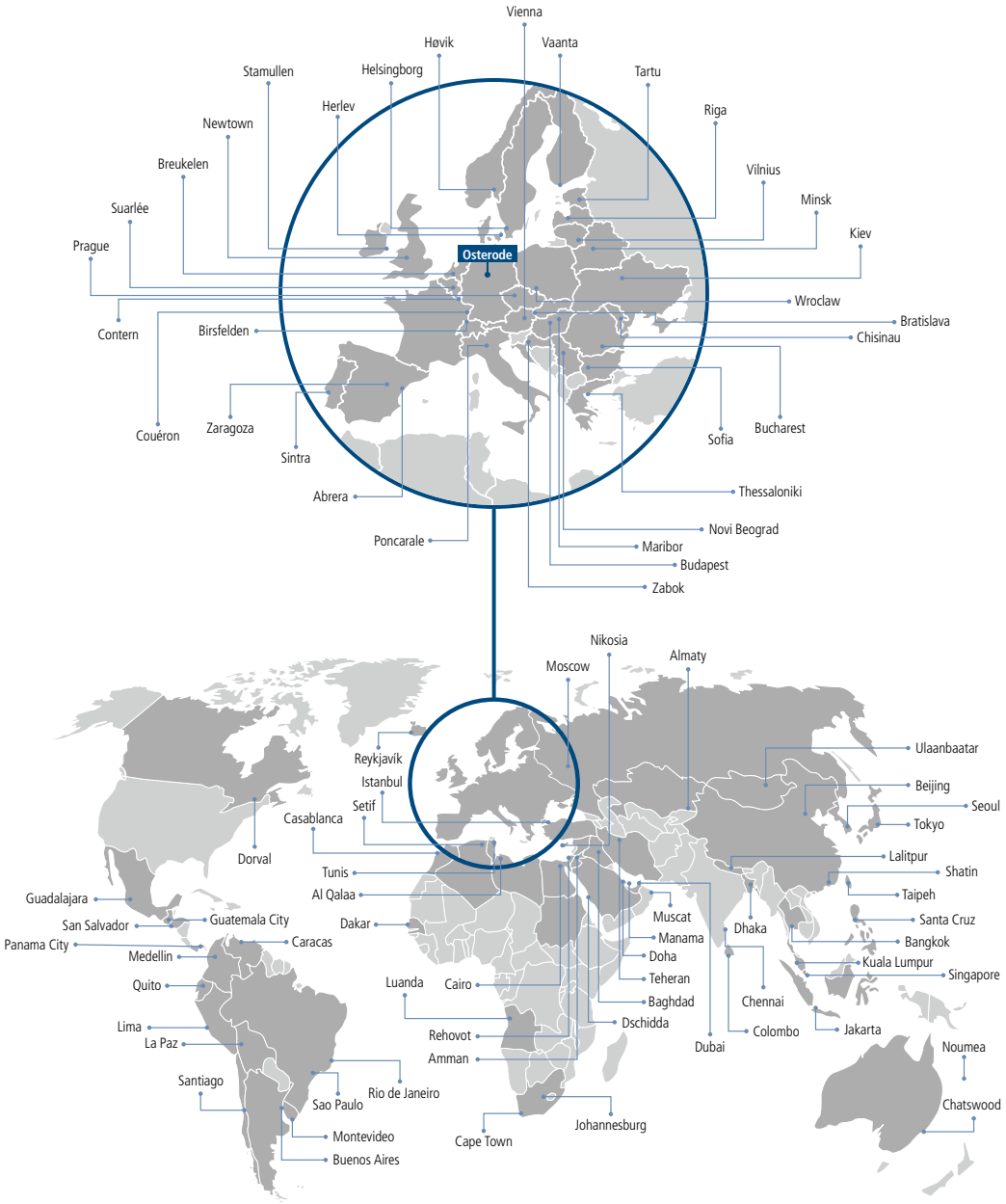
Legend

- 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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info@sigma-zentrifugen.de
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