## eppendorf



# More Capacity

Centrifuge 5920 R



#### Extraordinary capacity in a compact design

Centrifuge 5920 R is outfitted with a powerful state-of-the-art refrigeration system that allows a very compact centrifuge design. Centrifuge 5920 R has similar dimensions as competing refrigerated 3 liter models and yet features a superior capacity of up to  $4 \times 1,000$  mL or  $52 \times 50$  mL conical tubes.

## The New Benchmark in Capacity and Performance

Eppendorf is introducing the new Centrifuge 5920 R, featuring extraordinary high capacity and performance. Its high capacity of up to  $4 \times 1,000$  mL makes it the ideal instrument for high-throughput applications.



#### Compatible with 1 liter bottles

- > Centrifuge 5920 R is the first benchtop centrifuge to accommodate standard 1 liter Nalgene® bottles
- > Ideal for large volume applications



## Advanced operating system and temperature management

- > Multilingual operation menu
- > FastTemp pro® function allows for automatic precooling based on pre-programmable time and date; combined with ECO shutoff function this reduces power consumption considerably
- > Dynamic compressor control (DCC) technology for precise cooling performance



#### Ergonomic fixed-angle rotors

- > Easy handling through aerosoltight Eppendorf QuickLock<sup>®</sup> lids, allows fast and ergonomic lid locking with only ¼ of a turn
- > Eppendorf's fixed-angle rotors are among the lightest in the market to improve handling and operational safety
- > Aluminum, with its superior thermal conductivity, allows for fast pre-cooling and accurate temperature control

## Extraordinary Capacity

#### 4 liter capacity

Centrifuge 5920 R accommodates standard 1 liter Nalgene bottles setting a new standard in the table top centrifuge segment. Compared to other custom-made 1 liter bottles the Nalgene bottle is narrow and allows for a better pellet compared to wider bottles.

The higher capacity enables you to process a higher volume in fewer runs. Your benefit: Energy and time saving.





#### Plate/tube buckets for Rotor S-4x1000

Not only do the plate/tube buckets of Rotor S-4x1000 provide an exceptional high capacity (e.g.  $40 \times 50$  mL conical,  $140 \times 13$  mm round bottom tubes), they also allow both tubes and plates to be used at the same time.

#### Advantages:

- > Time saving: No need to exchange buckets
- > Cost saving: No need for separate plate buckets
- > Space saving: No need to store different buckets

The plate/tube buckets are optionally available with aerosol-tight QuickLock caps for easy handling.

## Superior Temperature Management

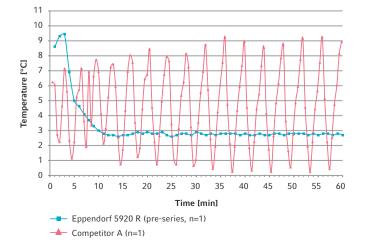
Eppendorf uses its own developed dynamic compressor control in all its refrigerated centrifuge models incl. Centrifuge 5920 R. Unlike other compressors which switch back and forth between 0 % and 100 % performance output (e.g. common refrigerators in private households), Eppendorf's compressor control allows for a constant and smooth temperature regulation. The benefit is that the set temperature is kept stable. A more precise temperature accuracy is guaranteed.

Centrifuge 5920 R's powerful refrigeration system becomes especially apparent in combination with large fixed-angle rotors. Samples with room temperature inserted into a precooled centrifuge are quickly cooled down in an aluminum rotor. Carbon rotors, on the other hand, have a poor thermal conductivity with the result that low temperatures (e.g. 4 °C) take longer to reach.

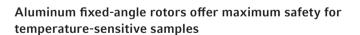
#### Main features

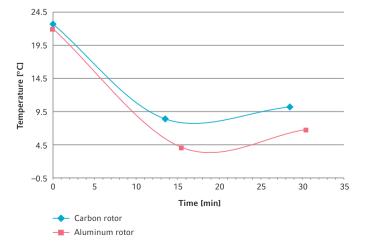
- > Dynamic compressor control (DCC) technology for precise cooling performance
- > FastTemp function for quick pre-cooling; temperature setting is based on the calculated temperature of the adapter and thus ensures maximum temperature accuracy when the sample is inserted.
- > FastTemp pro<sup>®</sup> function allows for automatic precooling based on pre-programmable time and date; combined with ECO shut-off function this reduces power consumption considerably.

### Eppendorf's dynamic compressor control ensures a precise and stable temperature



Measured rotor chamber temperature with 4  $\times$  750 mL swing-bucket rotor at max. speed, fully loaded with 50 mL conical tubes. Temperature set to 4 °C.





Measured temperature in boreholes of fixed-angle  $6 \times 50$  mL aluminum rotor (Centrifuge 5920 R, pre-series, n=1) and  $8 \times 50$  mL carbon rotor (Competitor A, n=1) at 21.000 × g. Centrifuges were pre-cooled before run. Temperature set to  $4^{\circ}$ C.

## Advanced Operating System

#### Perfect combination of ease-of-use and high accuracy

Centrifuge 5920 R features an advanced operation system that comes with an easy to use interface to make the operation intuitive and more enjoyable. At the same time, the operating system was developed to allow for most accurate and reproducible results.

#### Power saving made easy

The operating system incorporates the latest power saving technology available. In fact, it already follows the new European Ecodesign Directive, a framework to set mandatory ecological requirements for energy usage. The result: Centrifuge 5920 R has an ultra low power consumption of <2 W in standby. The centrifuge has a dedicated standby button so you can easily put the centrifuge into sleep mode when you don't need it.

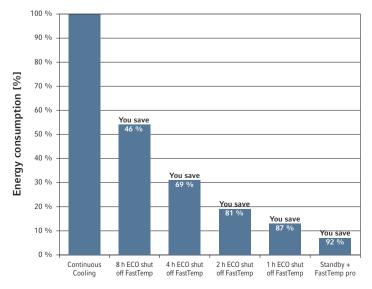
This functionality goes hand in hand with Eppendorf's FastTemp pro function that allows for automated pre-cooling based on pre-programmable time and date.

Saving energy with an Eppendorf centrifuge has never been this easy.

### Easy pre-cooling with FastTemp pro®

In addition to the standard FastTemp pre-cooling program Centrifuge 5920 R features a unique software option called FastTemp pro. This program allows for automated pre-cooling based on pre-programmable time and date. FastTemp pro can be set to a specific date or as a repetitive event for several days every week. Simply turn the centrifuge into standby mode when you leave your lab and let FastTemp pro take care of pre-cooling in the morning. This not only makes operation super easy, it also saves you more than 90 % of energy over night.

### Energy savings overnight with ECO shut-off and FastTemp pro





#### Main features of operating system and user interface

#### Ease of use

- > Menu-driven, multilingual operation menu (English, German, French, Spanish) with large backlit display
- > Saves up to 99 user-defined programs
- > 5 program keys for easy access to routine programs
- > USB port allows for easy software upgrades

#### Safety

- > Automatic rotor recognition and imbalance detection for maximum operational safety
- > Key lock to prevent unintentional adjustments

#### Accuracy

- > Settings in 10 rpm increments for a high accuracy
- > »At set RPM« function starts the timer when the selected rotational speed is reached for reproducible centrifugation runs
- > Choice of 10 acceleration ramps and 10 deceleration ramps for adjusting to sensitive sample runs
- > Radius correction for each adapter can optionally be set for most accurate RCF setting
- > Display can optionally show both set and current settings for time, temperature and speed

#### **Power saving**

- > Standby LED button for easy activation of standby function
- > Ultra low power consumption in standby (<2 W) thus already following the new European Ecodesign Directive, a framework to set mandatory ecological requirements for energy usage
- > ECO shut-off engages after 8 hours (adjustable) of non-use to reduce energy consumption and extend compressor life

## Feature Overview





> Watch video clips of Centrifuge 5920 R on our optimized webpage for mobile devices or www.eppendorf.com/centrifugation

#### **Ergonomic lid operation**

- > Soft-touch lid closure and low opening height for stress-free lid locking
- > Two open lid positions
  - > Fully open for easy removal of rotor
  - > Half open for easy reach of lid

#### Extraordinary high capacity

> Max. 4 × 1,000 mL/52 × 50 mL conical/ 196 × 13 mm round-bottom tube/ 28 × MTP

#### Outstanding cooling performance

> Dynamic compressor control for high temperature accuracy

#### Menu-operated display

- > Multilingual operation menu with language support for English, German, French and Spanish
- > 5 program keys for easy access to routine programs

#### Quiet operation

> Designed to operate at low noise levels for a relaxing work environment

#### Outstanding versatility for all your applications

- > Broad rotor and adapter selection to spin all commonly used tubes, bottles, and plates
- > High centrifugation speed up to  $22,132 \times g$  (14,000 rpm) for molecular applications in tubes from 0.2 to 1,000 mL and plates
- > Aerosol-tight rotors (e.g. for potentially hazardous materials like pathogenic bacteria, viruses, blood samples or radioactive material)
- > Automatic rotor recognition and imbalance detection for maximum operational safety

#### Ergonomic operation

- > Low sound level to benefit your work environment
- > Centrifuge lid with soft-touch lid closure
- > Compact footprint saves valuable bench space
- > Eppendorf QuickLock<sup>®</sup> caps and lids allow fast and ergonomic lid locking

### Advanced temperature management for maximum sample protection and energy efficiency

- > Temperature range from -10 °C to 40 °C
- > Maintains constant 4°C, even at maximum speed\*1
- > FastTemp function for quick pre-cooling
- > FastTemp pro<sup>®</sup> function allows for automatic precooling based on pre-programmable time and date
- > Standby cooling function holds temperature when centrifuge is not in use
- > ECO shut-off engages after 8 hours (adjustable) of non-use to reduce energy consumption and extend compressor life

\*1 to maintain 4 °C with fixed-angle rotors F-6x85 and FA-6x50 the max speed is 11,000 rpm \* Products which are marked with the CE-IVD symbol meet the requirements of the European Directive on IVD (98/79/EG).

## The Eppendorf PhysioCare Concept<sup>®</sup>

The mission of Eppendorf has always been to improve the living conditions of their customers.

Nowadays where people spend a lot of their time at work the ergonomics of their tools and the whole work environment is becoming more important for their well-being. Thus the development of each Eppendorf instrument is based on three spheres that support the health of their customers. Each of these spheres offers stringent ergonomic criteria which are directly involved in the users work process:



- Sphere 1—The User
- Sphere 2—The Lab
- Sphere 3—The Laboratory Workflow





#### **Sphere 1—The User:** The PhysioCare Concept guarantees an ergonomic design and an optimized product performance according to the needs of the individual.

#### Centrifuge 5920 R:

- > Centrifuge lid with soft-touch lid closure
- > Light-weight fixed-angle rotors for easy handling
- > Eppendorf QuickLock caps for easy one-hand operation
- > Eppendorf QuickLock lids for ergonomic lid locking





#### Sphere 2—The Lab:

The PhysioCare Concept allows the uncomplicated integration of instruments in the lab as well as adhering to its specific requirements.

#### Centrifuge 5920 R:

- > Compact design saves valuable bench space
- > Low centrifuge lid opening height for use under shelves
- > Low noise level to benefit your work environment
- > Aerosol-tight rotors for sample and user safety
- > Color coded adapters to quickly identify a certain tube format
- > Rotor buckets and adapters are autoclavable to keep your lab and hands free of contamination





**Sphere 3—The Laboratory Workflow:** The PhysioCare Concept ensures general support to enhance processes around the lab and improve the results of the whole organization.

#### Centrifuge 5920 R:

- > Complete workflow in disposable conical tubes. Learn more about Eppendorf's new 15/50 mL conical tubes on page 30
- > Eppendorf offers many forms of consultancy to enhance the processes around your lab and improve your results

For more information visit www.eppendorf.com/epServices



or watch the Physiocare film with focus on Liquid Handling products : www.eppendorf.com/physiocare-video



## Advanced Rotor Design

Eppendorf has made tremendous improvements to its swing-bucket and fixed-angle rotors in recent years elevating your centrifuge performance to a new level. Enjoy unique product features that improve handling and performance.



#### Swing-bucket rotors

#### Eppendorf QuickLock<sup>®</sup> caps for one-hand operation

- > Significantly improved handling, easy operation with one hand
- > Handle allows the closed bucket to be carried to the biosafety cabinet where it can be opened in a safe environment
- > Aerosol-tightness has been tested and verified by Public Health England, Porton Down, UK

#### **Fixed-angle rotors**

#### Eppendorf QuickLock<sup>®</sup> lids for ergonomic lid locking

Our aerosol-tight QuickLock rotors close with only 1/4 of a turn. This not only saves you time during every day use, it also takes repetitive stress off your wrist.

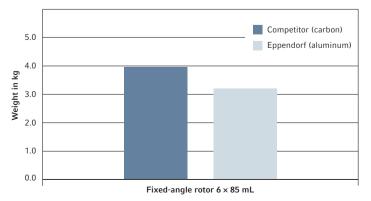
#### Superior temperature control

Aluminum, with its high thermal conductivity, allows fast pre-cooling and accurate temperature control in refrigerated centrifuges.



#### Weight comparison carbon vs. aluminum

Eppendorf's fixed-angle rotors are among the lightest in the industry to improve handling and operational safety.



Light-weight rotors cause less wear and tear on the motor and allow for faster acceleration and braking times. This reduces run times and saves time overall.

#### Additional rotor features

- > 34° and 45° borehole angles minimize pellet smear along the tube wall and thus lead to be better results
- > All rotors are anodized for high chemical resistance and to prevent corrosion
- > Optimized design of rotor boreholes and adapters provide optimal support for high-speed centrifugation of tubes
- > Aluminum rotors are recyclable

## Rotor Versatility

#### Overview of the main rotors

Rotor image









Rotor name	Rotor S-4x1000 with high-capacity buckets	Rotor S-4x1000 with plate/tube buckets	Rotor S-4x1000 with round buckets	Rotor S-4x750 with round buckets
Positioning	Extra high capacity	High capacity, bucket design accommodates both tubes and plates	Medium capacity, compatible with 1 L bottle	Medium capacity, high speed
Aerosoltightness	no	yes	yes	yes
Max. capacity (mL)	8 × 250 mL	40 × 50 mL	4 × 1,000 mL	4 × 750 mL
Max. speed (RCF)	3,153	3,076	3,428	4,816
Max. speed (RPM)	3,700	3,700	3,700	4,700
1.5/2.0 mL micro tube			200	200
Eppendorf 5 mL and 15 mL conical	108	88	56	56
50 mL conical	52	40	28	28
13 mm blood tube	196	140	92	92
16 mm blood tube	144	132	80	80
175–250 mL	8	4	4	4
750 mL			4	4
1,000 mL			4	
MTP/DWP	28/8	28/8	28/8	16/4



Eppendorf recognizes its responsibility as a global citizen. Protecting the environment is critical to the conservation of precious natural resources. The Eppendorf epGreen initiative is another example of our commitment to social responsibility. Our goal is to constantly reduce the environmental impact of our business operations and the products that we produce.

#### **Centrifuges in general**

- > Use of brushless induction motors to provide maintenance-free operation, eliminating carbon particle emissions
- > Rotors are mostly made of recyclable aluminum
- > Optimized sound design for low noise levels to benefit your work environment
- > 100 % recyclable packaging material







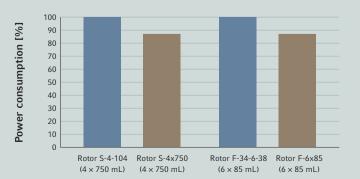


Rotor F-6x85	Rotor FA-6x50	Rotor FA-20x5	Rotor FA-48x2
High-speed rotor suitable for molecular applications in tubes up to 85 mL	Aerosol-tight high-speed rotor for safe centrifugation of hazardous samples	Dedicated fixed-angle rotor for Eppendorf Tubes® 5.0 mL	Aerosol-tight microcentrifuge tube rotor for safe centrifugation of hazardous samples
no	yes	yes	yes
6 × 85 mL	6 × 50 mL	20 × 5 mL	48 × 2 mL
18,500	20,130	20,913	22,132
12,000	12,100	13,100	14,000
24		20	48
6	6	20	
6	6		
18	6		
12	6		

#### Refrigerated models additionally feature

- > Dynamic compressor control for precise cooling performance
- > CFC-free refrigerant with an ozone depletion potential (ODP) of zero
- > ECO shut-off deactivates the compressor after
   8 hours of inactivity to reduce energy consumption and extend compressor life

## Energy saving of Centrifuge 5920 R compared to Centrifuge 5810 R\*



## Rotor S-4x1000 with High-Capacity Buckets

#### **Product features**

- > Extra High-Capacity swing-bucket rotor with max. speed 3,153 × g (3,700 rpm)
- > Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
- > Buckets, caps and adapters are autoclavable

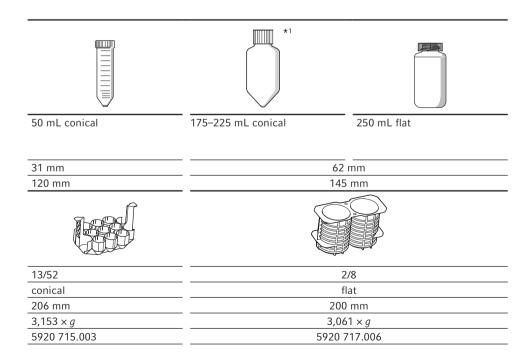


Tube	_	_	
Tube capacity	2.6-8 mL	7.5–12 mL	Eppendorf Tubes <sup>®</sup> 5.0 mL and 15 mL conical
Max. tube diameter	13 mm		17 mm
Max. vessel height	112 mm	113 mm	120 mm
Adapter			
		Tesser	\$~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Number of vessels per adapter/rotor	49/196	36/144	27/108
Bottom shape	round	round	conical
Centrifugation radius	204 mm	199 mm	205 mm
Max. RCF	3,122 × g	3,046 × g	3,138 × g
Order no. (set of 2)	5920 718.002	5920 720.007	5920 716.000

\*'Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.



Description	Order no.	
Rotor S-4x1000		
Rotor S-4x1000, incl. High-Capacity bucket	5895 118.003	
Rotor S-4x1000, without buckets	5895 101.003	
Buckets for Rotor S-4x1000		
High-Capacity bucket for Rotor S-4x1000, set of 4	5895 106.005	
High-Capacity bucket for Rotor S-4x1000, set of 2	5895 107.001	
Plate/tube bucket for Rotor S-4x1000, set of 4	5895 104.002	
Plate/tube bucket for Rotor S-4x1000, set of 2	5895 105.009	
Accessories		
Plate carrier for plate/tube bucket, Rotor S-4x1000, set of 2		
Aerosol-tight caps, for S-4x1000 plate/tube bucket and S-4x750 plate bucket, set of 2		



### Rotor S-4x1000 with Plate/Tube Bucket

#### **Product features**

- > High-Capacity swing-bucket rotor with max. speed  $3,076 \times g$ (3,700 rpm)
- > Bucket accommodates both plates and tubes
  - > Save money—no separate plate buckets needed
  - > Comfort—no need to exchange between plate and tube buckets
- > Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available\*1
- > Buckets, caps and adapters are autoclavable



Tube/plate			
Tube capacity	2.6–8 mL	5.5–12 mL	9 mL
Max. tube diameter	13 mm	16 mm	17.5 mm
Max. vessel height	109 mm	109 mm	109 mm
Max. vessel height for use with aerosol-tight lid*1	108 mm in 25 center positions* <sup>2</sup>	108 mm in 23 center positions* <sup>2</sup>	109 mm in 22 center positions* <sup>2</sup>
Adapter			
Number of vessels per adapter/rotor	35/140	33/132	28/112
Bottom shape	round	round	round
Centrifugation radius	201 mm	200 mm	200 mm
Max. RCF	3,076 × g	3,061 × g	3,061 × g

5920 707.000

5920 708.007

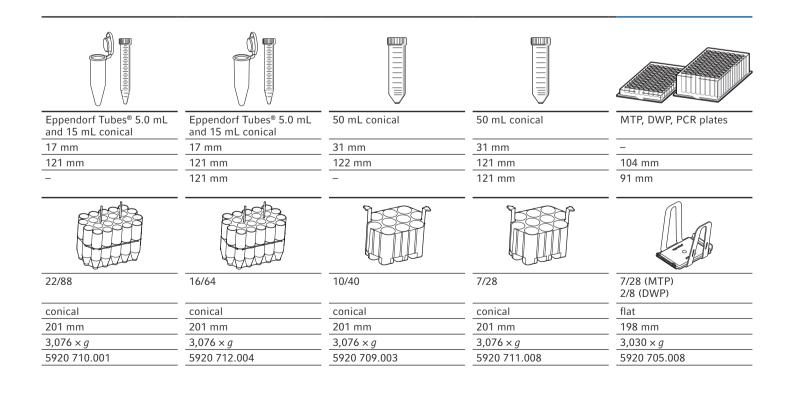
5920 706.004

Order no. (set of 2)

\*1 Aerosol-tightness tested by Public Health England, Porton Down, UK. \*2 Aerosol-tight caps reduces max. capacity



Description	Order no.
Rotor S-4x1000	
Rotor S-4x1000, incl. plate/tube bucket	5895 117.007
Rotor S-4x1000, without buckets	5895 101.003
Buckets for Rotor S-4x1000	
Plate/tube bucket for Rotor S-4x1000, set of 4	5895 104.002
Plate/tube bucket for Rotor S-4x1000, set of 2	5895 105.009
Accessories	
Plate carrier for plate/tube bucket, Rotor S-4x1000, set of 2	5920 705.008
Aerosol-tight caps, for S-4x1000 plate/tube bucket and S-4x750 plate bucket, set of 2	5895 111.009



### Rotor S-4x1000 with round buckets

#### **Product features**

- > Medium capacity swing-bucket rotor with max. speed 3,214 × g (3,700 rpm)
- > Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 1,000 mL
- > Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
- > Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available\*1
- > Buckets, caps and adapters are autoclavable



Tube/plate					Ē		
Tube capacity	1.5/2.0 mL	12 × 75 mm 5 mL FACS	4–8 mL	7.5–12 mL	9 mL	14 mL	Eppendorf Tubes <sup>®</sup> 5.0 mL and 15 mL conical
Max. tube diameter	11 mm	12 mm	13 mm	16 mm	17.5 mm	17.5 mm	17 mm
Max. vessel height	39 mm	115 mm	121 mm	125 mm	117 mm	117 mm	161 mm
Max. vessel height for use with cap/lid*1	39 mm	108 mm	113 mm	120 mm	112 mm	112 mm	150 mm
Adapter				in the second seco			
Number of vessels per adapter/rotor	50/200	27/108	23/92	20/80	20/80	14/56	14/56
Bottom shape	flat	round	round	round	round	round	conical
Centrifugation radius	219 mm	211 mm	210 mm	211 mm	210 mm	210 mm	224 mm
Max. RCF	2,648 × g	3,229 × g	3,214 × g	3,229 × g	3,214 × <i>g</i>	3,214 × g	3,428 × g
Order no. (set of 2)	5825 740.009	5825 747.003	5825 738.004	5825 736.001	5825 743.008	5825 748.000	5825 734.009

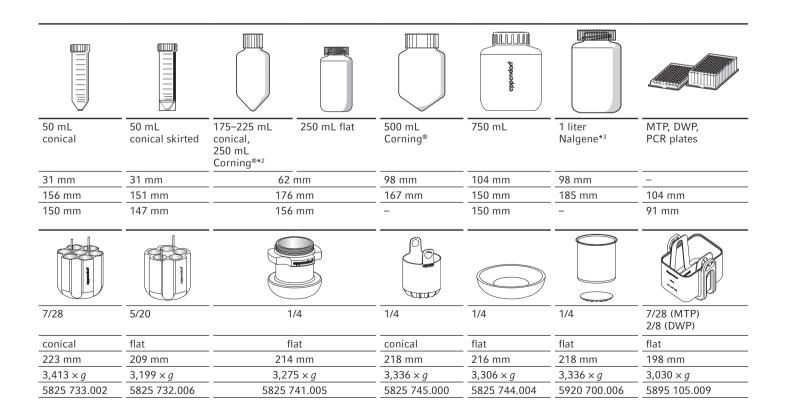
\*1 Aerosol-tightness tested by Public Health England, Porton Down, UK.
\*2 Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.
\*3 Nalgene order numbers 31201010 and 31201000



#### **Ordering information**

Description	Order no.
Rotor S-4x1000	
Rotor S-4x1000, incl. 4 × 1,000 mL round buckets	5895 100.007
Rotor S-4x1000, without buckets	5895 101.003
Buckets for Rotor S-4x1000	
Round bucket for Rotor S-4x1000, set of 4	5895 102.000
Round bucket for Rotor S-4x1000, set of 2	5895 103.006
Plate/tube bucket for Rotor S-4x1000, set of 4	5895 104.002
Plate/tube bucket for Rotor S-4x1000, set of 2	5895 105.009
Accessories	
Aerosol-tight caps, for 750 mL and 1,000 mL round buckets, set of 2	5820 747.005

Aerosol-tight caps, for 750 mL and 1,000 mL round buckets, set of 2	5820 747.005
Aerosol-tight caps, for S-4x1000 plate/tube bucket and S-4x750 plate bucket, set of 2	5895 111.009
Plate carrier for plate/tube bucket, Rotor S-4x1000, set of 2	5920 705.008
750 mL wide-mouth bottle, set of 2	5820 708.000



### Rotor S-4x750

#### **Product features**

- > Medium-Capacity swing-bucket rotor with max. speed  $4,816 \times q$ (4,700 rpm)
- > Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 750 mL
- > Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
- > Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available\*1
- > Buckets, caps and adapters are autoclavable



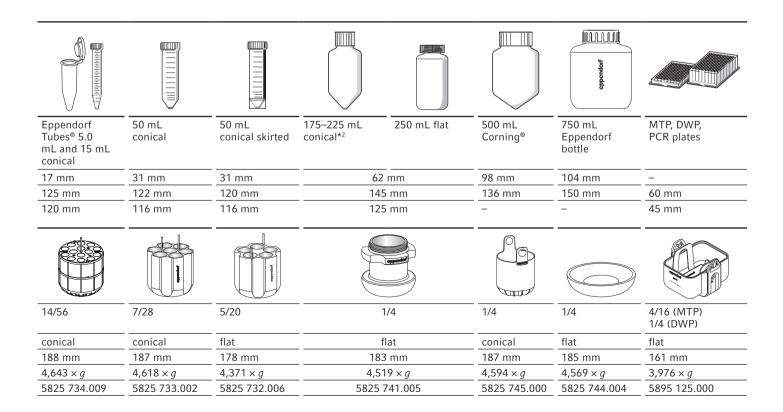
Tube/plate					P	
Tube capacity	1.5/2.0 mL	12 × 75 mm 5 mL FACS	4–8 mL	7.5–12 mL	9 mL	14 mL
Max. tube diameter	 11 mm	12 mm	13 mm	16 mm	17.5 mm	 17.5 mm
Max. vessel height	39 mm	111 mm	115 mm	119 mm	111 mm	117 mm
Max. vessel height for use with cap/lid*1	39 mm	100 mm	108 mm	114 mm	106 mm	112 mm
Adapter					1	<b>1</b>
Number of vessels per adapter/rotor	50/200	27/108	23/92	20/80	20/80	14/56
Bottom shape	flat	round	round	round	round	round
Centrifugation radius	194 mm	186 mm	185 mm	186 mm	185 mm	185 mm
Max. RCF	4,791 × g	4,593 × g	4,569 × g	4,594 × g	4,569 × g	4,569 × g
Order no. (set of 2)	5825 740.009	5825 747.003	5825 738.004	5825 736.001	5825 743.008	5825 748.000

\*1 Aerosol-tightness tested by Public Health England, Porton Down, UK.
\*2 Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.



#### **Ordering information**

Description	Order no.
Rotor S-4x750	
Rotor S-4x750, incl. 4 × 750 mL round buckets	5895 120.008
Rotor S-4x750, without buckets	5895 121.004
Buckets for Rotor S-4x750	
Round bucket for Rotor S-4x750, set of 4	5895 122.000
Round bucket for Rotor S-4x750, set of 2	5895 123.007
Plate bucket (aerosol-tight capable), incl. plate carrier, set of 4	5895 124.003
Plate bucket (aerosol-tight capable), incl. plate carrier, set of 2	5895 125.000
Accessories	
Aerosol-tight caps, for 750 mL and 1,000 mL round buckets, set of 2	5820 747.005
Aerosol-tight caps*1, for S-4x1000 plate/tube bucket and S-4x750 plate bucket, set of 2	5895 111.009
750 mL wide-mouth bottle, set of 2	5820 708.000



## Rotor F-6x85

#### **Product features**

- > High-speed rotor for molecular applications in tubes from 0.2 mL to 85 mL
- > Max. speed 18,500 × g (12,000 rpm)
- > Low rotor weight (3.2 kg) for easy handling
- > 34° borehole angle reduces pellet smears along tube wall
- > Anodized aluminum for high chemical resistance
- > Rotor, lid and adapters are autoclavable



Ordering information	
Description	Order no.
Rotor F-6x85 incl. rotor lid	5895 140.009

Tube					
Tube capacity	1.5/2 mL	2–5 mL 13 × 75 mm	4–7 mL 13 × 100 mm	4–10 mL	Eppendorf Tubes <sup>®</sup> 5.0 mL
Max. tube diameter	11 mm	13 mm	13 mm	16 mm	17 mm
Max. tube height for use lid	110 mm	90 mm	110 mm	112 mm	104 mm
Adapter					
Capacity per adapter/rotor	4/24	3/18	3/18	2/12	1/6
Bottom shape	round	flat	flat	round	conical
Centrifugation radius	113 mm	106 mm	114 mm	112 mm	105 mm
Max. RCF	18,200 × g	17,070 × g	18,350 × g	18,000 × g	16,824 × g
Order no. (set of 2)	5804 770.005	5804 738.004	5804 739.000	5804 771.001	5804 777.000

\*1Nominal tube volume as published by the tube manufacturer.

15 mL conical	15–18 mL	20–30 mL	50 mL	50 mL conical	85 mL*1
17 mm	18 mm	26 mm	29 mm	29 mm	38 mm
123 mm	123 mm	123 mm	123 mm	121 mm	121 mm
					no adapter needed
1/6	1/6	1/6	1/6	1/6	
1/6 conical	1/6 round	1/6 round	1/6 round	1/6 conical	needed
					needed
conical	round	round	round	conical	needed 1/6 round

## Rotor FA-6x50

#### **Product features**

- > High-speed rotor for applications in tubes from 5-50 mL
- > Max. speed 20,130 × g (12,100 rpm)
- > Eppendorf QuickLock rotor lid for fast lid locking
- > Aerosol-tight\*1 for safe centrifugation of hazardous samples
- > Low rotor weight (3.2 kg) for easy lifting
- > Anodized aluminum for high chemical resistance
- > 45° borehole angle minimizes pellets smear
- > Rotor, lid and adapters are autoclavable



Ordering information	
Description	Order no.
Rotor FA-6x50, incl. aerosol-tight Eppendorf QuickLock® lid	5895 150.004
* Aerosol-tightness tested by Public Health England, Porton Down, UK.	

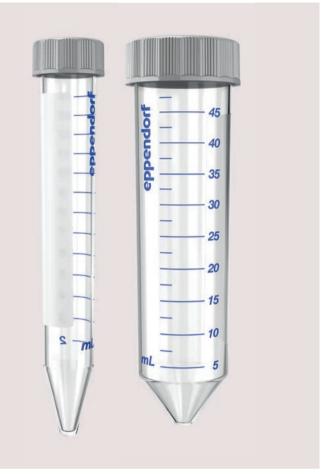
Tube					A
Tube capacity	2.6–5 mL 13 × 75 mm	4–8 mL 13 × 100 mm	5.5–10 mL 16 × 75 mm	7.5–12 mL 16 × 100 mm	Eppendorf Tubes® 5.0 mL
Max. tube diameter	13 mm	13 mm	16 mm	16 mm	17 mm
Max. tube height for use with aerosol-tight lid*1	119 mm	119 mm	119 mm	119 mm	121 mm
Adapter	() programmer () () () () () () () () () () () () ()	poppuseddie			
Capacity per adapter/rotor	1/6	1/6	1/6	1/6	1/6
Bottom shape	round	round	round	round	conical
Centrifugation radius	120 mm	120 mm	120 mm	120 mm	121 mm
Max. RCF	19,246 × g	19,246 × g	19,246 × g	19,246 × g	19,806 × g
Order no. (set of 2)	5820 726.008	5820 725.001	5820 728.000	5820 727.004	5820 730.005

### The New Eppendorf Conical Tubes

Whether centrifugation, mixing, or other applications the Eppendorf Conical Tubes 15 mL and 50 mL will perfectly fit into your workflows. They represent the next step in Eppendorf's comprehensive system solutions in liquid, sample and cell handling.

For more information see page 30.





15 mL conical	15–18 mL	20–30 mL	35 mL	50 mL conical
17 mm	18 mm	26 mm	29 mm	31 mm
125 mm	125 mm	125 mm	125 mm	121 mm
	propusedda	urspreadele		no adapter needed
1/6	1/6	1/6	1/6	1/6
conical	round	round	conical	conical
120 mm	120 mm	105 mm	112 mm	123 mm
19,246 × g	19,246 × g	17,187 × g	18,333 × g	20,130 × g
5820 717.009	5820 720.000	5820 721.006	5820 722.002	_
	15 mL conical         17 mm         125 mm         125 mm         1/6         conical         120 mm         19,246 × g	15 mL conical       15–18 mL         17 mm       18 mm         125 mm       125 mm         125 mm       125 mm         11/6       1/6         11/6       1/6         120 mm       120 mm         19,246 × g       19,246 × g	15 mL conical       15–18 mL       20–30 mL         17 mm       18 mm       26 mm         125 mm       125 mm       125 mm         125 mm       125 mm       125 mm         10       10       10         10       1/6       1/6         1/6       1/6       1/6         120 mm       120 mm       105 mm         19,246 × g       19,246 × g       17,187 × g	15 mL conical       15–18 mL       20–30 mL       35 mL         17 mm       18 mm       26 mm       29 mm         125 mm       125 mm       125 mm       125 mm         125 mm       125 mm       125 mm       125 mm         100       1/6       1/6       1/6       1/6         1/6       1/6       1/6       1/6       1/6         120 mm       120 mm       105 mm       112 mm         19,246 × g       19,246 × g       17,187 × g       18,333 × g

## Rotor FA-20x5

#### **Product features**

- > 20 places for Eppendorf Tube 5.0 mL
- > Max. speed: 20,913 × g (13,100 rpm)
- > Aerosol-tight Eppendorf QuickLock rotor lid\*
- > Rotor, lid and adapters are autoclavable (121 °C, 20 min)
- > Anodized aluminum for high chemical resistance



Description	Order no.
Fixed-angle rotor FA-20x5, 20 × 5.0 mL, incl. aerosol-tight Eppendorf QuickLock <sup>®</sup> rotor lid	5895 130.003
Adapter for 1.5/2.0 mL tubes, set of 4	5820 768.002
Adapter for cryogenic vials, set of 4	5820 769.009
Adapter for HPLC tubes, set of 4	5820 770.007
* Aerosol-tightness tested by Public Health England. Porton Down, UK	





Your centrifuge in safe hands with Eppendorf Centrifuge & Rotor Service Quality Management Systems increasingly ask for regular inspection of centrifuges and rotors in an operational or disassembled state to ensure a safe working environment. For the instrument's peak performance and years of productive operation, an annual inspection of centrifuges and rotors by an Eppendorf certified service technician is highly recommended.

### Rotor FA-48x2

#### **Product features**

- > 48 places for 1.5/2.0 mL tubes
- > Max. speed: 22,132 × g (14,000 rpm)
- > Eppendorf QuickLock rotor lid for fast lid locking
- > Aerosol-tight\*1 for safe centrifugation of hazardous samples
- > Anodized aluminum for high chemical resistance
- > Rotor and lid are autoclavable



#### Ordering information

Description	Order no.
Rotor FA-48x2, incl. aerosol-tight Eppendorf QuickLock® rotor lid	5895 135.005
Adapter for 0.2 mL PCR tubes (for 1.5/2 mL rotors), set of 6	5425 715.005
Adapter for 0.4 mL tubes (for 1.5/2 mL rotors), set of 6	5425 717.008
Adapter for 0.5 mL tubes (for 1.5/2 mL rotors), set of 6	5425 716.001
Adapter for BD Microtainer <sup>®</sup> (for 1.5/2 mL rotors), set of 6	5425 716.001
* Aerosol-tightness tested by Public Health England, Porton Down, UK.	

With Eppendorf's Centrifuge Performance Plans we make sure that temperature accuracy, rotational speed verification and operating time meet all technical specifications.

Operational Qualification (OQ) is designed to safeguard your results as well as satisfy legal, governmental and internal laboratory requirements with the necessary certification documents.

Over the years, all rotor structures will eventually suffer from fatigue due to stress of high numbers of cycles. If not maintained correctly, surface scratches can lead to microscopic and then to critical cracks. Qualified inspection will detect damages early in order to prevent further equipment failure.

Eppendorf's Rotor Assurance Plans includes cleaning, instructions for proper care and visual examination of rotors and adapters determining if the rotor is safe for further operation.

#### The Performance Plans feature

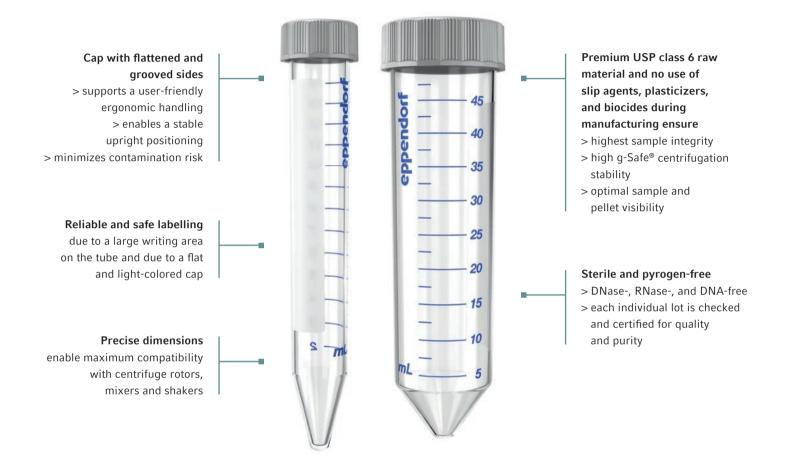
- > Manufacturer-specific test procedures
- > Certified service reports and dated service labels



#### Value of service

- > Highest degree of security in your lab
- > GLP-compliant, audited system
- > Longer service life of the system

## The New Eppendorf Conical Tubes 15 mL and 50 mL



The Eppendorf Conical Tubes 15 mL and 50 mL extend the volume range of Eppendorf's microcentrifuge tubes. They provide life science laboratories with the same outstanding performance for which Eppendorf Tubes are globally recognized as a premium standard.

Safe design and easy handling ensure best sample processing. The Eppendorf Conical Tubes 15 mL and 50 mL are the optimal solution for cell culture and cell biology applications as well as for sample preparation protocols in microbiology and molecular biology laboratories.

Ordering information	
Description	Order no.
Eppendorf Conical Tubes 15 mL, sterile, pyrogen-, DNase-, RNase-, and DNA-free, 500 Tubes (10 bags of 50 ea.)	0030 122.151
Eppendorf Conical Tubes 50 mL, sterile, pyrogen-, DNase-, RNase-, and DNA-free, 500 Tubes (20 bags of 25 ea.)	0030 122.178

## Centrifuge Packages



**Rotor S-4x1000 with high-capacity buckets** > For extra high throughput > Max. 3,153 × *g* 



Rotor S-4x1000 with plate/tube buckets > Accommodates both tubes and plates; no need for separate plate buckets\* > Max. 3,076 × g

\*1 Plate carrier to lift plates out of plate/tube bucket needs to be ordered separately

Rotor S-4x1000 with round buckets > Compatible with 1L bottle > Max. 3,428 × g > Aerosol-tight caps optionally available



Rotor S-4x750 with round buckets

> Max. 4,816 × g

> Aerosol-tight caps optionally available



Ordering information		
Cell culture centrifuge packages	Max. capacity of conical tubes per rotor	Order no.
Centrifuge 5920 R, with Rotor S-4x1000 incl. high-capacity buckets and adapters for 15 mL/50 mL conical tubes	108 × 15 mL/52 × 50 mL	5948 000.212
Centrifuge 5920 R, with Rotor S-4x1000 incl. plate/tube buckets and adapters for 15 mL/50 mL conical tubes*1	88 × 15 mL/40 × 50 mL	5948 000.417
Centrifuge 5920 R, with Rotor S-4x1000 incl. round buckets and adapters for 15 mL/50 mL conical tubes	56 × 15 mL/28 × 50 mL	5948 000.310
Centrifuge 5920 R, with Rotor S-4x750 incl. round buckets and adapters for 15 mL/50 mL conical tubes	56 × 15 mL/28 × 50 mL	5948 000.514
Centrifuge packages for round-bottom tubes	Max. capacity of round- bottom tubes per rotor	Order no.
Centrifuge 5920 R, with Rotor S-4x1000 incl. high-capacity buckets and adapters for round-bottom tubes with diameter 13/16 mm	196 × 13 mm/144 × 16 mm	5948 000.719
Centrifuge 5920 R, with Rotor S-4x1000 incl. plate/tube buckets and adapters for round-bottom tubes with diameter 13/16 mm* <sup>2</sup>	140 × 13 mm/132 × 16 mm	5948 000.611

\*230 V/50-60 Hz \*1 These 15/50 mL adapters are not compatible with AT caps. Please refer to 5920 R brochure for dedicated 15/50 mL adapters for aerosol-tight use. \*2 Aerosol-tight caps reduce capacity to 100 x 13 mm / 92 x 16 mm per rotor Technical specifications subject to change. Errors and omissions excepted.

## eppendorf

#### **Technical specification**

Description	Centrifuge 5920 R
Max. rcf	
> Fixed-angle rotor	22,132 × g
> Swing-bucket rotor	4,816 × g
Speed	200-14,000 rpm (in 10 rpm increments)
Max. capacity	4 × 1,000 mL / 4 × 7 MTP
Accel./Braking ramps	10/10
Programs	99 (5 program keys)
Timer	30 s-99 h 59 min, infinite
Temperature control range	-10 °C to 40 °C
Noise level	
> Rotor S-4x750	< 55 dB(A)
> Rotor FA-6x50	< 60 dB(A)
Power supply	230 V/50–60 Hz
Max. power consumption	1,300 W
Dimensions (W × D × H, incl. front panel)	74 × 71 × 40 cm
Footprint (dimensions w/o front panel, W × D)	74 × 67 cm
Height with open lid	94 cm
Weight without rotor	139 kg

Technical specifications subject to change. Errors and omissions excepted.

Ordering information	
Description	Order no.
Centrifuge 5920 R, refrigerated, 230 V/50–60 Hz	5948 000.018

Your local distributor: www.eppendorf.com/contact Eppendorf AG 22331 · Hamburg · Germany E-mail: eppendorf@eppendorf.com · www.eppendorf.com

#### www.eppendorf.com/centrifugation

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