eppendorf

Catalog 2019

Liquid Handling, Sample Handling, Cell Handling

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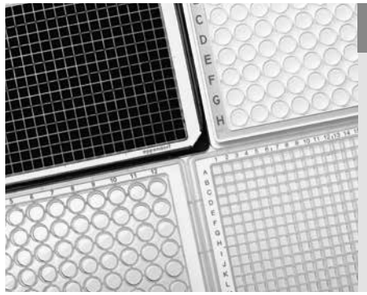

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White Papers

Application Notes

Graphics

3-D Views

Brochures

Videos

Websites

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Pure Quality

Eppendorf purity grades for consumables
> Eppendorf consumables stand for the highest quality and purity achieved by:
> using pure raw materials
> automatic production in clean room conditions
> quality and functional checks of all lots
> continuous quality assurance throughout the entire production process

With the strictest control criteria, internally and externally monitored, we guarantee consistently high quality of our products – lot by lot. Our consumables are available in different purity grades for individual application demands: “Eppendorf Quality™” as well as advanced purity grades like “sterile”, “protein-free”, “PCR clean”, „Forensic DNA Grade (acc. to ISO 18385)“, and “Biopur®”.

In addition to our internal process controls, and general quality certificates, lot-specific certificates are provided by an external test laboratory for the advanced purity grades. This allows us to consistently meet our customer‘s high demands when it comes to the high quality and purity of our products. As a special service, our lot-specific certificates are available on request and on our website (www.eppendorf.com/certificates)

The basis: Top-quality material
> All plastics used by Eppendorf to produce consumables comply with international purity criteria.
> The dyes used to color consumables are free of organic substances and substances containing heavy metals.
> Plastics, such as polypropylene, have a high chemical resistance to organic and inorganic acids/ bases and organic solvents commonly used in laboratories.

The Eppendorf purity grade “Eppendorf Quality” fulfill everything expected of reliable, easy-to-handle consumables. With the aid of high-quality base material and permanent checks during production, Eppendorf consumables in Eppendorf Quality are ideal for many tasks in the lab.

Eppendorf Quality™:
Products with the purity grade ”Eppendorf Quality“ are ideal for many tasks in the lab. To meet consistently our customer’s high demands on quality further measurements are performed specifically for individual product groups:
Precise molding ensures high precision and accuracy. Each lot of tips is subject to gravimetric measurement during final testing. Low wetting ensures reliable volume readings and minimal adhesion.
> Eppendorf Tubes® have to be opened and closed by one hand only; without sample material being contaminated. They are highly stable, even when exposed to extreme mechanical or thermal strain. Therefore, on a daily basis we check vapor tightness, lid-opening force, wall strength, force required to pierce the lid as well as resistance to centrifugation.
> We check high resistance to centrifugation and sealability of deepwell plates and microplates.
> All production tools are subject to frequent checks at regular intervals in order to guarantee consistent quality throughout the entire production period.

Eppendorf consumables with this purity grade are free of proteins and thus free of unspecific signals or reactions due to protein contamination.

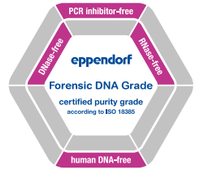
Eppendorf Protein-free:
Eppendorf consumables with this purity grade are free of proteins and thus free of unspecific signals or reactions due to protein contamination.
A colorimetric assay which can detect down to 1ng/µL is used for testing and detecting protein contamination. Lot-specific certificates provided by an external accredited laboratory are available on request and on our website.
Furthermore, all Eppendorf protein-free products fulfill the quality standards defined for our purity grade “Eppendorf Quality“.

Eppendorf consumables with the purity grade “Sterile” are sterilized in accordance with ISO 11137 or ISO 11135 with a Sterility Assurance Level (SAL) of 10^{-6}. Lot-specific certificates document sterility and the absence of endotoxins in accordance with Ph. Eur. 2.6.14.

Eppendorf Sterile:
Besides fulfilling the quality criteria of “Eppendorf Quality” Eppendorf consumables with the purity grade “sterile” are sterilized and free of pyrogens. Each lot is certified by an external accredited laboratory. Eppendorf sterile consumables are sterilized in accordance with ISO 11137 or ISO 11135. A quality seal which assures customers of the suitability of their Eppendorf consumables for direct use in experiments and analysis without the need for further treatment. Lot-specific certificates are available on request and on our website.

All Eppendorf consumables with the purity grade “PCR clean” are DNase- and RNase-free, and free of PCR-inhibitors. It is also guaranteed that the consumables are free of contaminating human DNA.

Eppendorf PCR clean:
All Eppendorf consumables with the purity grade “PCR clean” ensure not to interfere with the PCR. Furthermore, all Eppendorf PCR clean products fulfill the quality criteria defined for our standard consumables (purity grade “Eppendorf Quality“).
The purity grade “PCR clean” is essentially achieved in not even letting contamination develop. Therefore, the corresponding plastic items are manufactured comparable to clean-room conditions. The manufacturing areas are spatially separated and only personnel in special protective clothing are granted access. Lot-specific certificates provided by an external accredited laboratory confirm the compliance with the criteria DNase-, RNase-, PCR inhibitor-, and human DNA-free. The certificates are available on request and on our website. “PCR clean” – a quality seal which assures customers of the suitability of their Eppendorf consumables for direct use in experiments and analysis.



The demanding requirements of the ISO 18385 are fulfilled by “Eppendorf Forensic DNA Grade“ consumables. These products help to further minimize the risk of human DNA contamination in forensic DNA analysis. Individually blistered packaging or “mini batches” in re-sealable bags also help to protect against contamination.

Eppendorf Forensic DNA Grade (acc. to ISO 18385):
Human DNA contamination is one of the main concerns in forensic DNA analysis. The ISO 18385 has been implemented to further minimize the risk of DNA contamination. This standard specifies requirements for manufacturing products used in the collection, storage and analysis of biological material for forensic purposes. Highly automated production lines and stringent access controls are only two production conditions for “Eppendorf Forensic DNA Grade“ consumables which contribute in fulfilling ISO 18385.
Individually blistered packaging or “mini batches” in re-sealable bags provide effective protection against contamination.
Lot-specific certificates provided by an external accredited laboratory confirm the compliance with the criteria DNase-, RNase-, PCR inhibitor-, and human DNA-free. The certificates are available on request and on our website.

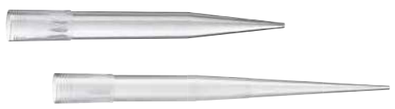
Consumables available in this highest possible degree of Eppendorf purity grades are guaranteed to be sterile and free of pyrogens, RNases, DNases, DNA and ATP as well as PCR inhibitors. Individually blistered or “mini batches” in re-sealable boxes provide effective protection against soiling and contamination.

Biopur®:
To meet the highest demands of the clinical, pharmaceutical, cosmetic, food industries and others, Eppendorf defined the quality and purity grade “Biopur”. This purity is ensured by an elaborate, automated manufacturing process which safeguards the product against contamination with biological substances. Furthermore, all “Biopur” products fulfill the quality standards defined for our standard consumables (Purity grade “Eppendorf Quality“).
Lot-specific certificates provided by an external accredited laboratory confirm the compliance with the criteria sterile, DNase-, RNase-, PCR inhibitor, ATP-, Pyrogen-, human and bacterial DNA-free. The certificates are available on request and on our website. “Biopur” – a quality seal which assures customers of the suitability of their Eppendorf consumables for direct use in experiments and analysis.

Liquid Handling

Model	Eppendorf Research® plus	Eppendorf Reference® 2	Eppendorf Xplorer®/Xplorer plus
Page(s)	**27**	**34**	**37**
Product type	Pipette	Pipette	Pipette
Operating mode	Manual	Manual	Electronic
Pipetting type	Air-cushion	Air-cushion	Air-cushion
Positioning	Ultra light weight and pipetting forces for advanced ergonomics	Reliability in robustness and results	Intuitive and fast pipetting
Application	Pipetting of aqueous liquids, two-button operation	Pipetting of aqueous liquids, single-button operation	Pipetting of aqueous liquids
Volume range	0.1 µL – 10 mL	0.1 µL – 10 mL	0.5 µL – 10 mL
Available options	1-channel 16-channel 8-channel 24-channel 12-channel	1-channel 8-channel 12-channel	1-channel 16-channel 8-channel 24-channel 12-channel
RFID tracking	Yes (read option)	Yes (read and write option)	Yes (read and write option)
Autoclavable	Yes	Yes	Yes (lower part)
Consumables	epT.I.P.S.® and other pipette tips	epT.I.P.S.® and other pipette tips	epT.I.P.S.® and other pipette tips
Purity grades of consumables	> Eppendorf Quality™ > PCR clean and sterile > Biopur® > Forensic DNA Grade	> Eppendorf Quality™ > PCR clean and sterile > Biopur® > Forensic DNA Grade	> Eppendorf Quality™ > PCR clean and sterile > Biopur® > Forensic DNA Grade

Varipette®	Multipette® M4	Multipette® E3/E3x
76	**68**	**70**
Pipette	Dispenser	Dispenser
Manual	Manual	Electronic
Positive displacement	Positive displacement	Positive displacement
Fault tolerant pipetting of large volumes, independent of external effects	Time saving by acceleration of long pipetting series with low outside fault effects	Time saving by acceleration of long pipetting series, with highest volume flexibility and lowest outside fault effects
Contamination-free pipetting of aqueous, viscous and volatile liquids	Contamination-free dispensing (up to 100 steps per Combitips Tip filling) of aqueous, solutions and problem liquids (e.g., viscous, volatile, dense...)	Contamination-free dispensing (up to 100 steps per Combitips Tip filling) of aqueous, solutions and problem liquids (e.g., viscous, volatile, dense...)
1 – 10 mL	1 µL – 10 mL	1 µL – 50 mL
1-channel	1-channel	1-channel
No	Yes (read option)	Yes (read and write option)
No	No	No
Varitips	Combitips advanced®	Combitips advanced®
> Eppendorf Quality™	> Eppendorf Quality™ > PCR clean > Biopur® > Forensic DNA Grade	> Eppendorf Quality™ > PCR clean > Biopur® > Forensic DNA Grade



Model	epT.I.P.S.	epT.I.P.S.® Long	ep Dualfilter T.I.P.S.	ep Dualfilter T.I.P.S. SealMax
Page(s)	**48**	**51**	**52**	**53**
Applications	> Pipetting liquids > Dispensing liquids > Mixing liquids > Filling plates and reaction vessels > For applications in 384-microplate format we recommend using 16- or 24-channel pipettes together with epT.I.P.S.® 384		> DNA applications (e.g. PCR) > RNA applications (e.g. gene expression analysis) > Protein applications (e.g. antibody research) > Cell culture applications (e.g. media) > Applications with radio actives > All applications which use aerosol[1] binding liquids	

[1] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.

epT.I.P.S.® LoRetention	ep Dualfilter T.I.P.S.® LoRetention	GELoader®	Microloader™
54	**54**	**61**	**61**
> Cell culture (media) > Genomics: PCR, RT-PCR, qPCR and all other types of PCR > Enzymatic reactions (restriction decomposition, ligation) > Isolation and purification of nucleic acid > Gel electrophoresis (e.g., prefabricated DNA ladders) typical detergents: SDS, Triton®, X-100, Brij® 35, Tween® 20, CHAPS > Proteomics (all types of protein examinations) > Protein isolation and purification > NGS library preparation		> Gel electrophoresis > Loading of samples onto polyacrylamide gels > Handling of smallest volumes	> Pipette tip for back-filling of Femtotips and other microcapillaries

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On page 372 you will find detailed information on services for these products!

Technical specifications subject to change.

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Liquid Handling

Model	Varispenser® 2/Varispenser® 2x	Eppendorf Top Buret™
Page(s)	**80**	**82**
Product type	Bottletop dispenser	Bottle-top burette
Operating mode	Manual	Manual
Pipetting type	Positive displacement	Positive displacement
Positioning	Varispenser 2 and 2x bottletop dispensers combine trusted technology with improved benefits for safe and easy dispensing of liquids without compromise	Continuously and pulse-free manual titration
Application	Single stroke dispensing of lyes, acids, bases, aqueous liquids or solvents	Titration of aqueous liquids
Volume range	0.2 – 100 mL	0.1 – 999.9 mL
Available options	1-channel	1-channel
RFID tracking	No	No
Autoclavable	Yes	No
Consumables	–	–
Purity grades of consumables	–	–

Model	Combitips advanced®
Page(s)	**73**
Applications	> Positive displacement principle (comparable to a syringe) > High-precision dispensing regardless of the physical properties of the liquid (e.g., viscosity, volatility, density, temperature...) > Prevents aerosol contamination with hermetically sealed piston for secure dispensing > Provides protection from radioactive and toxic substances > Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers)

Easypet® 3	Pipet Helper®	epMotion® 96/epMotion® 96xl with 2-position slider
77	**79**	**84**
Pipette controller	Pipette controller	Semi-automated Pipette
Electronic	Manual	Electronic
Air-cushion	Air-cushion	Air-cushion
Overall ergonomic concept with new speed control for stress-free pipetting	A perfect instrument for inexperienced users because of its robust and intuitive design	Intuitive and fast pipetting in 96 and 384 format
Pipetting of aqueous liquids with serological and volumetric pipettes	Pipetting of aqueous liquids with serological and volumetric pipettes	Pipetting of aqueous liquids
0.1 – 100 mL	0.1 – 100 mL	0.5 – 300 µL/5 – 1,000 µL
1-channel	1-channel	96-channel
Yes (read option)	No	No
No (yes: pipette adapter and aspirating cone)	Yes	No
Eppendorf Serological Pipettes and other volumetric and serological pipettes	Eppendorf Serological Pipettes and other volumetric and serological pipettes	epT.I.P.S.® motion reload system
> Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic.	> Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic.	> Eppendorf Quality™ > PCR clean > PCR clean and sterile

ViscoTip®	Eppendorf Varitips®
72	**76**
> Positive displacement principle (comparable to a syringe) > For highly viscous liquids > Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers)	> Pipetting aqueous solutions > Extraction of liquids from deep receptacles > Transfer of organic liquids (alcohols, org. acids etc.) > Transfer of solvents with high vapor pressure (e.g. diethyl ether) > Transfer of liquids with high density > Transfer of viscous liquids

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On page 372 you will find detailed information on services for these products!

Technical specifications subject to change.

Liquid Handling

Model	ep*Motion*® 5070	ep*Motion*® 5070f
Page(s)	**85**	**85**
Dimensions (W × D × H)	65 × 48 × 63 cm / 26 × 19 × 25 in	65 × 48 × 63 cm / 26 × 19 × 25 in
Weight w/o accessories	45 kg	33 kg
Max. power consumption	150 W	150 W
Power supply	100 – 240 V ±10 %, 50 – 60 Hz ±5 %	100 – 240 V ±10 %, 50 – 60 Hz ±5 %
Optical confocal infrared detector	Contact-free recognition of fill level, inserted tools, labware, tip types and quantities	Contact-free recognition of fill level, inserted tools, labware, tip types and quantities
SLAS/ANSI positions	4	4
Volume range	0.2 µL – 1 mL	0.2 µL – 1 mL
Random measurement error	±0.1 mm	±0.1 mm
Systematic measurement error	±0.3 mm	±0.3 mm
Dispensing tool[1)2)]		
Random measurement error (1 µL)	≤3 %	≤3 %
Systematic measurement error (1 µL)	±5 %	±5 %
Random measurement error (50 µL)	≤0.4 %	≤0.4 %
Systematic measurement error (50 µL)	±1.2 %	±1.2 %
Random measurement error (1,000 µL)	≤0.15 %	≤0.15 %
Systematic measurement error (1,000 µL)	±0.7 %	±0.7 %
Pipetting type	Air-cushion	Air-cushion
Gripper option	no	no
Thermal module (optional)	no	no
Cooling rate	–	–
Heating rate	–	–
ThermoMixer upgrade option	no	no
Eppendorf ThermoMixer®		
Max. load	–	–
Mixing period	–	–
Speed	–	–
Temperature range	–	–
Vacuum unit		
Vacuum max. output	–	–
Underground area	–	–
Suction time	–	–
Magnetic separation	no	no
Vacuum separation	no	no
Automatic tool exchange	2 tools	2 tools
UV/HEPA option	no	no
MagSep reagents for DNA/RNA purification	–	–
For operation in biosafety cabinet	–	yes

[1)] in pipetting mode, free jet, without pre-wetting, with distilled water, at 20 °C [2)] See Eppendorf Application Note 168 for typical pipetting performance

ep*Motion*® 5073l	ep*Motion*® 5073m
86	**86**
65 × 61 × 67 cm / 26 × 24 × 27 in	65 × 61 × 67 cm / 26 × 24 × 27 in
50 kg	57 kg
600 W	600 W
100 – 240 V ±10 %, 50 – 60 Hz ±5 %	100 – 240 V ±10 %, 50 – 60 Hz ±5 %
Contact-free recognition of fill level, inserted tools, labware, tip types and quantities	Contact-free recognition of fill level, inserted tools, labware, tip types and quantities
6	6
0.2 µL – 1 mL	0.2 µL – 1 mL
±0.1 mm	±0.1 mm
±0.3 mm	±0.3 mm
≤3 %	≤3 %
±5 %	±5 %
≤0.4 %	≤0.4 %
±1.2 %	±1.2 %
≤0.15 %	≤0.15 %
±0.7 %	±0.7 %
Air-cushion	Air-cushion
yes	yes
1	no
4 °C/min	–
9 °C/min	–
no	included
–	1,000 g (2.2 lb)
–	5 s – 120 min
–	300 rpm – 2,000 rpm
–	15 °C below RT to 95 °C
–	–
–	–
–	–
with third party adapter and gripper	yes
no	no
2 tools and gripper	2 tools and gripper
yes	yes
–	yes
–	–

i For more information go to www.eppendorf.com

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On page 376 you will find detailed information on services for these products!

Technical specifications subject to change.

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Liquid Handling

Model	ep*Motion*® 5075l	ep*Motion*® 5075v	ep*Motion*® 5075t	ep*Motion*® 5075m
Page(s)	**87**	**89**	**88**	**88**
Dimensions (W × D × H)	107 × 61 × 67 cm / 43 × 24 × 27 in	107 × 61 × 67 cm / 43 × 24 × 27 in	107 × 61 × 67 cm / 43 × 24 × 27 in	107 × 61 × 67 cm / 43 × 24 × 27 in
Weight w/o accessories	85 kg	86 kg	87 kg	88 kg
Max. power consumption	700 W	700 W	700 W	700 W
Power supply	100 – 240 V ±10 %, 50 – 60 Hz ±5 %	100 – 240 V ±10 %, 50 – 60 Hz ±5 %	100 – 240 V ±10 %, 50 – 60 Hz ±5 %	100 – 240 V ±10 %, 50 – 60 Hz ±5 %
Optical confocal infrared detector	Contact-free recognition of fill level, inserted tools, labware, tip types and quantities	Contact-free recognition of fill level, inserted tools, labware, tip types and quantities	Contact-free recognition of fill level, inserted tools, labware, tip types and quantities	Contact-free recognition of fill level, inserted tools, labware, tip types and quantities
SLAS/ANSI positions	15	12	14.5	14.5
Volume range	0.2 µL – 1 mL	0.2 µL – 1 mL	0.2 µL – 1 mL	0.2 µL – 1 mL
Random measurement error	±0.1 mm	±0.1 mm	±0.1 mm	±0.1 mm
Systematic measurement error	±0.3 mm	±0.3 mm	±0.3 mm	±0.3 mm
Dispensing tool[1)2)]				
Random measurement error (1 µL)	≤3 %	≤3 %	≤3 %	≤3 %
Systematic measurement error (1 µL)	±5 %	±5 %	±5 %	±5 %
Random measurement error (50 µL)	≤0.4 %	≤0.4 %	≤0.4 %	≤0.4 %
Systematic measurement error (50 µL)	±1.2 %	±1.2 %	±1.2 %	±1.2 %
Random measurement error (1,000 µL)	≤0.15 %	≤0.15 %	≤0.15 %	≤0.15 %
Systematic measurement error (1,000 µL)	±0.7 %	±0.7 %	±0.7 %	±0.7 %
Pipetting type	Air-cushion	Air-cushion	Air-cushion	Air-cushion
Gripper option	yes	included	yes	yes
Thermal module (optional)	3	3	2	2
Cooling rate	–	–	–	–
Heating rate	–	–	–	–
ThermoMixer upgrade option	yes	yes	included	included
Eppendorf ThermoMixer®				
Max. load	–	–	–	–
Mixing period	–	–	–	–
Speed	–	–	–	–
Temperature range	–	–	–	–
Vacuum unit				
Vacuum max. output	–	35 NL/min	–	–
Underground area	–	–	–	–
Suction time	–	–	–	–
Magnetic separation	with third party adapter and gripper	with third party adapter and gripper	with third party adapter and gripper	yes
Vacuum separation	no	yes	no	no
Automatic tool exchange	4 tools and gripper	4 tools and gripper	4 tools and gripper	4 tools and gripper
UV/HEPA option	yes	yes	yes	yes
MagSep reagents for DNA/RNA purification	–	–	–	yes
For operation in biosafety cabinet	–	–	–	–

[1)] in pipetting mode, free jet, without pre-wetting, with distilled water, at 20 °C [2)] See Eppendorf Application Note 168 for typical pipetting performance

Only for epMotion 5073m, 5073mc and 5075m: Limited Use Label License

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Technical specifications subject to change.

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On page 376 you will find detailed information on services for these products!

Eppendorf Changed the Face of Pipetting Forever

For over 70 years Eppendorf has helped to revolutionize scientific research by continuously introducing technologies that have made research faster, safer, and more accurate. Eppendorf developed the first industrial manufactured piston stroke pipette. The »Marburg Pipette«, launched in 1961, featured the same basic elements that we find in today's labs: A spring-loaded piston and a removable plastic tip.
This alternative to serological pipetting forever changed the face of pipetting and distinguished Eppendorf as on of the leaders in liquid handling.

Achieve better results with the right pipette!

Nowadays, Eppendorf's flexible systems offer a variety of options for meeting different laboratory requirements and applicational demands. According to your needs you can choose between manual and automatic pipetting and dispensing systems (see overview pages 18-21). Manual air-cushion and direct-displacement pipettes are available as a mechanical or electronic version in a single or multichannel design.

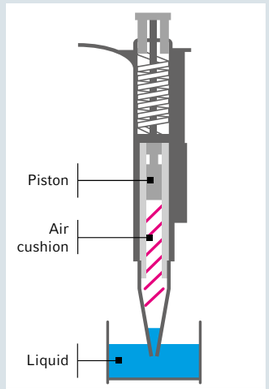
Air-cushion principle

Standard pipettes work with an air cushion that separates the piston from the liquid. The air is displaced by the piston. The volume of the displaced air is equivalent to the volume of liquid aspirated.

Applications
This system is optimal for accurate pipetting of aqueous solutions.

Mechanical Eppendorf Pipettes
The workhorse for each lab, available as variable or fixed volume version
> Eppendorf Research® plus, pages 27
> Eppendorf Reference® 2, pages 34
> Easypet® 3, pages 75

Electronic Eppendorf Pipettes
For fast, consistent and accurate pipetting while reducing physical strain and eliminating user-to-user variability.
> Eppendorf Xplorer®/Xplorer® plus, pages 37



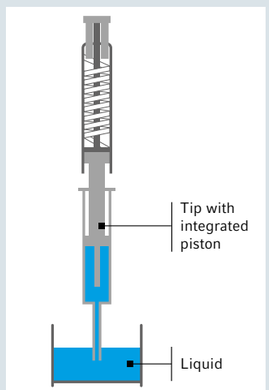
Direct displacement principle

Sample liquid is aspirated into a tip in direct contact with the integrated piston. This system is independent from an air cushion. This offers the advantage of accurate dispensing of even highly viscous liquids. In addition, this system reduces strain for long dispensing series and you save valuable time.

Applications
This system is your choice when you expect accurate results even when working with challenging liquids regardless of density, viscosity, and volatility.

Mechanical Eppendorf Dispenser
For time-saving accurate pipetting of even difficult liquids
> Multipette® M4

Electronic Eppendorf Dispenser
For time-saving accurate pipetting while reducing physical strain offering additional applications like automatic dispensing, dilution series and others.
> Multipette® E3/E3x



Eppendorf Research® plus

The ultra light pipette that delights your hand
The Eppendorf Research plus combines over 50 years of innovation in liquid handling and is one of the most commonly used pipettes in the world. It provides you with one of the safest and most ergonomic pipettes available today. The Research plus protects the health of our customers during their daily work. It has pioneered the renowned PhysioCare Concept® and thus reduced the strain on hand and arm during pipetting essentially. The Research plus is the pipette family with the lowest weight and lowest operation forces in the Eppendorf product families. Lower operation forces can only be reached with our Eppendorf electronic pipettes. The spring loaded tip cone ensures low tip attachment and ejection forces. The Research plus has the ability to be autoclaved without the need to be disassembled. Fixed-volume pipettes and multichannel options are available; the Research plus pipette will become an indispensable tool in your laboratory.

Product features
> Air-displacement pipette for accurate pipetting of aqueous solutions
> Feel the difference in weight and pipetting forces: the ultra light mechanical pipette is designed according to the strict criteria of the Eppendorf PhysioCare Concept and limits the strain on your hand and arm
> Spring loaded tip cone (not available for 2.5 mL, 5 mL and 10 mL pipettes) for minimal tip attachment forces helps to reduce stress
> Tip ejection force of Eppendorf Research plus can be as low as 3.6 N
> Adjust your pipette in seconds for better accuracy when pipetting various difficult liquids like ethanol or even when pipetting at high altitudes. Return to factory adjustment without calibration
> Autoclave the entire pipette or only the lower part according to your needs to ensure decontamination
> Enjoy excellent flexibility and choose among single-channel pipettes in fixed or variable volume as well as 8, 12, 16 and 24-channel pipettes

Applications
> Forward pipetting
> Reverse pipetting
> Removal of supernatants
> Sample mixing
> Phase extraction
> Filling of plates, gels, and reaction vessels

Forward and reverse pipetting

Transfer	Forward pipetting	Reverse pipetting
Liquid uptake	1. Press operating button down to 1st stop 2. Let operating button move up completely	1. Press operating button down to 2nd stop 2. Let operating button move up completely
Liquid discharge	3. Press operating button via 1st stop down to 2nd stop	3. Press operating button down to 1st stop
Observation	4. No liquid is left in tip after action	4. Liquid is left in tip after action (volume of blow-out)

➤ For more information go to: https://handling-solutions.eppendorf.com/liquid-handling/pipetting-facts/pipetting-of-challenging-liquids/

Your local distributor: www.eppendorf.com/contact
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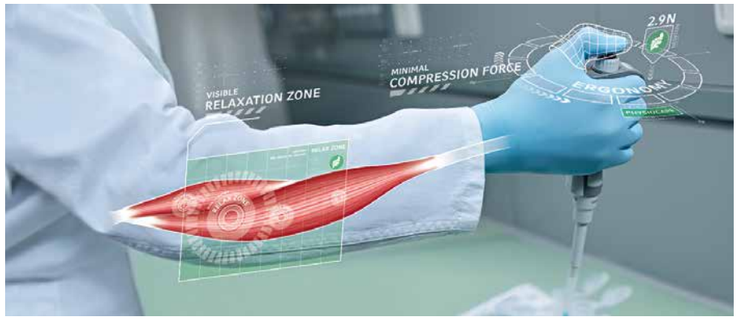
Eppendorf Research® plus

A joy for your eyes - The display
4-digit volume display with magnifying window. Easy to read. Allows for more accurate volume setting.



Fatigue-free pipetting
Strain on your hand and arm is limited by reduced tip attachment and ejection force.
For more information go to **https://handling-solutions.eppendorf.com/liquid-handling/pipetting-facts/ergonomics/**

Secondary adjustment option for various liquid classes
Adjust your pipetting volume in seconds by up to ±2 % for better accuracy when pipetting various difficult liquids like warm, cold, volatile or high density liquids or even when external conditions change (e.g., altitude or use of elongated tips). Change back to factory adjustment easily without calibration.

Eppendorf Research® plus – Single-Channel Pipettes

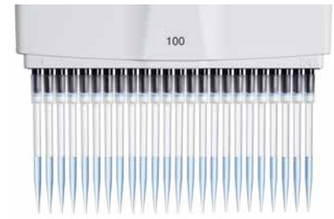
Adjustable volume pipettes
> Adjustable dispensing volumes within a range of 0.1 µL and 10 mL
> Selected volume is clearly displayed in the large 4-digit volume display
> Quick and accurate volume settings easier than ever
> The new volume setting allows for switch from maximum to minimum volume in just a few turns

Fixed volume pipettes
> Perfect for beginners and labs on a budget
> Volume cannot be changed which allows working at a faster pace
> Less likely to commit an error which can occur with an adjustable pipette
> Calibration is much more easier and quicker

Technical specifications subject to change.

Eppendorf Research® plus – Multichannel Pipettes

Get your work done faster!
You want to easily and quickly fill a 96- or even 384-well microplate? With the lightweight Eppendorf Research plus multichannel pipettes you get a higher volume of precision work done. The unique spring loaded tip cone helps to load multi-channel tips quickly and securely without a need for rocking. Get extremely consistent sample pickup across all channels and maximize user to user reproducibility for more uniform results among members of the lab.



Consistent sample pickup across all channels maximizes reproducibility of your results

9 mm cone distance for applications in 96-well microplates or DWP:

Easily fill 96-well microplates with 8- or 12-channel pipettes. The new 1,200 µL volume is ideal for filling deep well plates.

Choose tips for 9 mm spacing

4.5 mm cone distance for applications in 384-well microplates or DWP:

Choose a 16- or 24-channel pipette for applications in 384-well plates.

Choose tips for 4.5 mm spacing

Applications
> Drug screening
> Enzyme assays
> ELISA
> PCR
> Cell culture
> Other high-throughput applications

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Eppendorf Research® plus

Single-channel pipettes

Ordering information

Volume range	Color code	Rel. systematic error[1]	Abs. systematic error[1]	Rel. random error[1]	Abs. random error[1]	Order no.
Eppendorf Research® plus, single-channel, fixed						
10 µL	medium gray	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL	3121 000.015
10 µL	yellow	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL	3121 000.023
20 µL	light gray	±0.8 %	±0.16 µL	±0.3 %	±0.06 µL	3121 000.031
20 µL	yellow	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL	3121 000.040
25 µL	yellow	±1.0 %	±0.25 µL	±0.3 %	±0.08 µL	3121 000.058
50 µL	yellow	±0.7 %	±0.35 µL	±0.3 %	±0.15 µL	3121 000.066
100 µL	yellow	±0.6 %	±0.6 µL	±0.2 %	±0.2 µL	3121 000.074
200 µL	yellow	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	3121 000.082
200 µL	blue	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	3121 000.090
250 µL	blue	±0.6 %	±1.5 µL	±0.2 %	±0.5 µL	3121 000.104
500 µL	blue	±0.6 %	±3.0 µL	±0.2 %	±1.0 µL	3121 000.112
1,000 µL	blue	±0.6 %	±6.0 µL	±0.2 %	±2.0 µL	3121 000.120

[1] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

Single-channel pipettes

Ordering information

Volume range	Color code	Volume	Rel. systematic error[1]	Abs. systematic error[1]	Rel. random error[1]	Abs. random error[1]	Order no.
Eppendorf Research® plus, single-channel, variable, incl. epT.I.P.S.® Box							
0.1 – 2.5 µL	dark gray	0.1 µL	±48.0 %	±0.048 µL	±12.0 %	±0.012 µL	3120 000.011
		0.25 µL	±12.0 %	±0.03 µL	±6.0 %	±0.015 µL	
		1.25 µL	±2.5 %	±0.031 µL	±1.5 %	±0.019 µL	
		2.5 µL	±1.4 %	±0.035 µL	±0.7 %	±0.018 µL	
0.5 – 10 µL	medium gray	0.5 µL	±8.0 %	±0.04 µL	±5.0 %	±0.025 µL	3120 000.020
		1 µL	±2.5 %	±0.025 µL	±1.8 %	±0.018 µL	
		5 µL	±1.5 %	±0.075 µL	±0.8 %	±0.04 µL	
		10 µL	±1.0 %	±0.1 µL	±0.4 %	±0.04 µL	
2 – 20 µL	light gray	2 µL	±5.0 %	±0.1 µL	±1.5 %	±0.03 µL	3120 000.097
		10 µL	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL	
		20 µL	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL	
2 – 20 µL	yellow	2 µL	±5.0 %	±0.1 µL	±1.5 %	±0.03 µL	3120 000.038
		10 µL	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL	
		20 µL	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL	
10 – 100 µL	yellow	10 µL	±3.0 %	±0.3 µL	±1.0 %	±0.1 µL	3120 000.046
		50 µL	±1.0 %	±0.5 µL	±0.3 %	±0.15 µL	
		100 µL	±0.8 %	±0.8 µL	±0.2 %	±0.2 µL	
20 – 200 µL	yellow	20 µL	±2.5 %	±0.5 µL	±0.7 %	±0.14 µL	3120 000.054
		100 µL	±1.0 %	±1.0 µL	±0.3 %	±0.3 µL	
		200 µL	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	
30 – 300 µL	orange	30 µL	±2.5 %	±0.75 µL	±0.7 %	±0.21 µL	3120 000.100
		150 µL	±1.0 %	±1.5 µL	±0.3 %	±0.45 µL	
		300 µL	±0.6 %	±1.8 µL	±0.2 %	±0.6 µL	
100 – 1,000 µL	blue	100 µL	±3.0 %	±3.0 µL	±0.6 %	±0.6 µL	3120 000.062
		500 µL	±1.0 %	±5.0 µL	±0.2 %	±1.0 µL	
		1,000 µL	±0.6 %	±6.0 µL	±0.2 %	±2.0 µL	

[1] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

Ordering information

	Volume range	Color code	Volume	Rel. systematic error[1]	Abs. systematic error[1]	Rel. random error[1]	Abs. random error[1]	Order no.
	Eppendorf Research® plus, single-channel, variable, incl. epT.I.P.S.® sample bag							
New	0.25 – 2.5 mL	red	0.25 mL	±4.8 %	±0.012 mL	±1.2 %	±0.003 mL	3120 000.143
			1.25 mL	±0.8 %	±0.01 mL	±0.2 %	±0.0025 mL	
			2.5 mL	±0.6 %	±0.015 mL	±0.2 %	±0.005 mL	
	0.5 – 5 mL	violet	0.5 mL	±2.4 %	±0.012 mL	±0.6 %	±0.003 mL	3120 000.070
			2.5 mL	±1.2 %	±0.03 mL	±0.25 %	±0.006 mL	
			5 mL	±0.6 %	±0.03 mL	±0.15 %	±0.008 mL	
	1 – 10 mL	turquoise	1 mL	±3.0 %	±0.03 mL	±0.6 %	±0.006 mL	3120 000.089
			5 mL	±0.8 %	±0.04 mL	±0.2 %	±0.01 mL	
			10 mL	±0.6 %	±0.06 mL	±0.15 %	±0.015 mL	

[1] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

8-channel pipettes

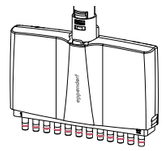
Ordering information

	Volume range	Color code	Volume	Rel. systematic error[1]	Abs. systematic error[1]	Rel. random error[1]	Abs. random error[1]	Order no.
	Eppendorf Research® plus, 8-channel, variable, incl. epT.I.P.S.® Box							
	0.5 – 10 µL	medium gray	0.5 µL	±12.0 %	±0.06 µL	±8.0 %	±0.04 µL	3122 000.019
			1 µL	±8.0 %	±0.08 µL	±5.0 %	±0.05 µL	
			5 µL	±4.0 %	±0.2 µL	±2.0 %	±0.1 µL	
			10 µL	±2.0 %	±0.2 µL	±1.0 %	±0.1 µL	
	10 – 100 µL	yellow	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0.2 µL	3122 000.035
			50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
			100 µL	±0.8 %	±0.8 µL	±0.3 %	±0.3 µL	
	30 – 300 µL	orange	30 µL	±3.0 %	±0.9 µL	±1.0 %	±0.3 µL	3122 000.051
			150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
			300 µL	±0.6 %	±1.8 µL	±0.3 %	±0.9 µL	
New	120 – 1,200 µL	green	120 µL	±6.0 %	±7.2 µL	±0.9 %	±1.08 µL	3122 000.213
			600 µL	±2.7 %	±16.2 µL	±0.4 %	±2.4 µL	
			1,200 µL	±1.2 %	±14.4 µL	±0.3 %	±3.6 µL	

[1] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 8-channel pipettes please choose standard epT.I.P.S., see pages 56 - 61

Eppendorf Research® plus



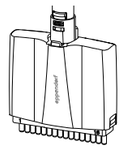
12-channel pipettes

Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Research® plus, 12-channel, variable, incl. epT.I.P.S.® Box							
0.5 – 10 µL	medium gray	0.5 µL	±12.0 %	±0.06 µL	±8.0 %	±0.04 µL	3122 000.027
		1 µL	±8.0 %	±0.08 µL	±5.0 %	±0.05 µL	
		5 µL	±4.0 %	±0.2 µL	±2.0 %	±0.1 µL	
		10 µL	±2.0 %	±0.2 µL	±1.0 %	±0.1 µL	
10 – 100 µL	yellow	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0.2 µL	3122 000.043
		50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
		100 µL	±0.8 %	±0.8 µL	±0.3 %	±0.3 µL	
30 – 300 µL	orange	30 µL	±3.0 %	±0.9 µL	±1.0 %	±0.3 µL	3122 000.060
		150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
		300 µL	±0.6 %	±1.8 µL	±0.3 %	±0.9 µL	
New 120 – 1,200 µL	green	120 µL	±6.0 %	±7.2 µL	±0.9 %	±1.08 µL	3122 000.221
		600 µL	±2.7 %	±16.2 µL	±0.4 %	±2.4 µL	
		1,200 µL	±1.2 %	±14.4 µL	±0.3 %	±3.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 12-channel pipettes please choose standard epT.I.P.S., see pages 56 - 61



New

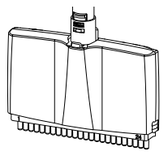
16-channel pipettes, for 384-well plates

Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Research® plus, 16-channel, variable							
1 – 20 µL	pearl white	2 µL	±10 %	±0.2 µL	±3 %	±0.06 µL	3122 000.078
		10 µL	±2.4 %	±0.24 µL	±1.2 %	±0.12 µL	
		20 µL	±2 %	±0.4 µL	±0.6 %	±0.12 µL	
5 – 100 µL	light yellow	10 µL	±3 %	±0.3 µL	±2 %	±0.2 µL	3122 000.094
		50 µL	±1.2 %	±0.6 µL	±1 %	±0.5 µL	
		100 µL	±1 %	±1 µL	±0.6 %	±0.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 16-channel pipettes please choose epT.I.P.S. 384, see pages 62 - 63



New

24-channel pipettes, for 384-well plates

Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Research® plus, 24-channel, variable							
1 – 20 µL	pearl white	2 µL	±10 %	±0.2 µL	±3 %	±0.06 µL	3122 000.086
		10 µL	±2.4 %	±0.24 µL	±1.2 %	±0.12 µL	
		20 µL	±2 %	±0.4 µL	±0.6 %	±0.12 µL	
5 – 100 µL	light yellow	10 µL	±3 %	±0.3 µL	±2 %	±0.2 µL	3122 000.108
		50 µL	±1.2 %	±0.6 µL	±1 %	±0.5 µL	
		100 µL	±1 %	±1 µL	±0.6 %	±0.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 24-channel pipettes please choose epT.I.P.S. 384 see pages 62 - 63

Eppendorf Research® plus 3-pack

Get your lab up and running fast with our 3-pack of Research plus pipettes
Get ready for a threefold enjoyable pipetting experience with one of the most advanced and ergonomic pipettes in the world. The economic Research plus triple-pack is available in three different versions. In addition to three Research plus pipettes, each pack contains one set of matching Eppendorf tips and one of the popular Eppendorf ballpoint pens.

Ordering information

Eppendorf Research® plus	Order no.
Eppendorf Research® plus 3-pack, single-channel, variable, incl. epT.I.P.S.® Box or sample bag and ballpoint pen	
Option 1: 0.5 – 10 µL, 10 – 100 µL, 100 – 1,000 µL	3120 000.909
Option 2: 2 – 20 µL yellow, 20 – 200 µL, 100 – 1,000 µL	3120 000.917
Option 3: 100 – 1,000 µL, 0.5 – 5 mL, 1 – 10 mL	3120 000.925

Eppendorf Tip-tub

Tip: the Eppendorf Tip-tub reagent reservoir is suitable for all 8-, 12-, 16- and 24-channel pipettes. See below for ordering information.

Accessories

Accessories

Description	Order no.
Eppendorf Research® plus red adjustment seal ADJ, 1 set = 5 pieces	3120 636.005
Adjustment tool, for changing factory or secondary user adjustment	3120 633.006
Safety plug tools, 5 pieces	3120 639.004
Protection filter 5 mL, 10 filters with 1 filter sleeve, for 0.5 – 5 mL variable Eppendorf Reference® 2, Eppendorf Research plus and Eppendorf Xplorer® (plus), color code: violet	4920 623.005
Protection filter 10 mL, 10 filters with 1 filter sleeve, for 1 – 10 mL variable Eppendorf Reference® 2, Eppendorf Research® plus and Eppendorf Xplorer® (plus), color code: turquoise	4920 624.001
O-ring for tip cones, 24 pcs., red, for 100 and 300 µL multi-channel pipettes, with mounting aid (1 set = 24 pieces)	3122 611.000
Cutting tool, for O-rings of 100 and 300 µL, for Eppendorf Research® plus/Eppendorf Xplorer®	3122 610.003
Key, for detachment of 2 – 10 mL pipettes lower parts, for Eppendorf Research® plus, Eppendorf Reference® 2, Eppendorf Xplorer®	3120 634.002
Locking ring, to prevent spring action of 10 mL to 1,000 µL single-channel pipettes tip cones	3120 635.009
Tip-Tub reagent reservoir 70 mL, autoclavable reservoir for aspirating liquids with multi-channel pipettes, 1 set = 10 reservoirs and 10 lids	0030 058.607
Pipette grease with lint-free applicator	0013 022.153
Eppendorf TrackIT, RFID Reader and Software	3903 000.014

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Eppendorf Reference® 2

Extraordinary precision and accuracy – Eppendorf´s premium pipette
Besides improved ergonomics the design focus lays on providing the most accurate results possible, optimum user safety, reliability and robustness for a long service life. The innovative single button operation is not only fast and easy, but it also allows active aerosol[1)] reduction and thus protects the user, the sample and the pipette. The sturdy handle manufactured with stainless steel protects the pipette from impact and in combination with the spring loaded bumpers the Reference 2 is likely to stay within calibration even if it takes a fall. These high levels of security make the Reference 2 ideal for use with precious liquids, or in any application requiring extremely high levels of accuracy. When there can be no compromise on quality and reproducibility, Eppendorf's Reference 2 is an ideal instrument for these liquid handling applications.

[1)] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.

DESIGN AWARD

PhysioCare concept

Product features
> The one-button operation offers fast and ergonomic handling with reduced operating effort and active aerosol reduction. To avoid accidential tip ejection a clear haptic feedback is provided
> The spring-loaded tip cone improves user-to-user reproducibility and improved ergonomics by lowering tip attachment force
> The Reference 2 multi-channel offers high flexibility incl. a spring-loaded tip cone which can be switched on/off optionally
> The secondary adjustment supports the easy adjustment of your Reference 2 for the most accurate pipetting of different liquids or other external conditions without the need for a full calibration
> The oustanding precision and accuracy of Reference 2 provides reliable results
> 4-digit volume display with magnifying window to allow for easier volume identification
> The unique smooth surface guarantees simple cleaning. In addition to the full autoclavability of this pipette, decontamination is as easy and efficient as never before. This is the ideal pipette when working under sterile conditions
> An embedded RFID chip contains all relevant data regarding the pipette and offers with Eppendorf TrackIT a simple identification and documentation
> Available as single-channel pipette in fixed or variable volume as well as 8-and 12-channel pipette

Applications
> Forward pipetting
> Reverse pipetting
> Removal of supernatants
> Sample mixing
> Phase extraction
> Filling of plates, gels, and reaction vessels

User-friendly secondary adjustment
For liquids other than aqueous solutions. Leaving the factory settings untouched, a reset back to manufacturer setting is just as quick and easy.

Exquisite stainless steel upper part
Equips the Reference 2 with outstanding robustness at potential impact sites. It includes quick volume setting and secure volume lock.

i For more information go to www.eppendorf.com/Reference2

Technical specifications subject to change.

Ordering information

Volume range	Color code	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Reference® 2, single-channel, fixed						
1 µL	dark gray	±2.5 %	±0.025 µL	±1.8 %	±0.018 µL	4921 000.010
2 µL	dark gray	±2.0 %	±0.04 µL	±1.2 %	±0.024 µL	4921 000.028
5 µL	medium gray	±1.2 %	±0.06 µL	±0.6 %	±0.03 µL	4921 000.036
10 µL	medium gray	±1.0 %	±0.1 µL	±0.5 %	±0.05 µL	4921 000.044
10 µL	yellow	±1.2 %	±0.12 µL	±0.5 %	±0.05 µL	4921 000.052
20 µL	light gray	±0.8 %	±0.16 µL	±0.3 %	±0.06 µL	4921 000.060
20 µL	yellow	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL	4921 000.079
25 µL	yellow	±1.0 %	±0.25 µL	±0.3 %	±0.075 µL	4921 000.087
50 µL	yellow	±0.7 %	±0.35 µL	±0.3 %	±0.15 µL	4921 000.095
100 µL	yellow	±0.6 %	±0.6 µL	±0.2 %	±0.2 µL	4921 000.109
200 µL	yellow	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	4921 000.117
200 µL	blue	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	4921 000.125
250 µL	blue	±0.6 %	±1.5 µL	±0.2 %	±0.5 µL	4921 000.133
500 µL	blue	±0.6 %	±3.0 µL	±0.2 %	±1.0 µL	4921 000.141
1,000 µL	blue	±0.6 %	±6.0 µL	±0.2 %	±2.0 µL	4921 000.150
2 mL	red	±0.6 %	±0.012 mL	±0.2 %	±0.004 mL	4921 000.168
2.5 mL	red	±0.6 %	±0.015 mL	±0.2 %	±0.005 mL	4921 000.176

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Reference® 2, single-channel, variable, incl. epT.I.P.S.® Box							
0.1 – 2.5 µL	dark gray	0.1 µL	±48.0 %	±0.048 µL	±12.0 %	±0.012 µL	4920 000.016
		0.25 µL	±12.0 %	±0.03 µL	±6.0 %	±0.015 µL	
		1.25 µL	±2.5 %	±0.031 µL	±1.5 %	±0.019 µL	
		2.5 µL	±1.4 %	±0.035 µL	±0.7 %	±0.018 µL	
0.5 – 10 µL	medium gray	0.5 µL	±8.0 %	±0.04 µL	±5.0 %	±0.025 µL	4920 000.024
		1.0 µL	±2.5 %	±0.025 µL	±1.8 %	±0.018 µL	
		5.0 µL	±1.5 %	±0.075 µL	±0.8 %	±0.04 µL	
		10 µL	±1.0 %	±0.10 µL	±0.4 %	±0.04 µL	
2 – 20 µL	light gray	2.0 µL	±3.0 %	±0.06 µL	±1.5 %	±0.03 µL	4920 000.032
		10 µL	±1.0 %	±0.10 µL	±0.6 %	±0.06 µL	
		20 µL	±0.8 %	±0.16 µL	±0.3 %	±0.06 µL	
2 – 20 µL	yellow	2.0 µL	±5.0 %	±0.10 µL	±1.5 %	±0.03 µL	4920 000.040
		10 µL	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL	
		20 µL	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL	
10 – 100 µL	yellow	10 µL	±3.0 %	±0.3 µL	±0.7 %	±0.07 µL	4920 000.059
		50 µL	±1.0 %	±0.5 µL	±0.3 %	±0.15 µL	
		100 µL	±0.8 %	±0.8 µL	±0.2 %	±0.2 µL	
20 – 200 µL	yellow	20 µL	±2.5 %	±0.5 µL	±0.7 %	±0.14 µL	4920 000.067
		100 µL	±1.0 %	±1.0 µL	±0.3 %	±0.3 µL	
		200 µL	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	
30 – 300 µL	orange	30 µL	±2.5 %	±0.75 µL	±0.7 %	±0.21 µL	4920 000.075
		150 µL	±1.0 %	±1.5 µL	±0.3 %	±0.45 µL	
		300 µL	±0.6 %	±1.8 µL	±0.2 %	±0.6 µL	
100 – 1,000 µL	blue	100 µL	±3.0 %	±3.0 µL	±0.6 %	±0.6 µL	4920 000.083
		500 µL	±1.0 %	±5.0 µL	±0.2 %	±1.0 µL	
		1,000 µL	±0.6 %	±6.0 µL	±0.2 %	±2.0 µL	
Eppendorf Reference® 2, single-channel, variable, incl. epT.I.P.S.® sample bag							
0.25 – 2.5 mL	red	0.25 mL	±4.8 %	±0.012 mL	±1.2 %	±0.003 mL	4920 000.091
		1.25 mL	±0.8 %	±0.010 mL	±0.2 %	±0.0025 mL	
		2.5 mL	±0.6 %	±0.015 mL	±0.2 %	±0.005 mL	
0.5 – 5 mL	violet	0.5 mL	±2.4 %	±0.012 mL	±0.6 %	±0.003 mL	4920 000.105
		2.5 mL	±1.2 %	±0.030 mL	±0.25 %	±0.006 mL	
		5.0 mL	±0.6 %	±0.030 mL	±0.15 %	±0.0075 mL	
1 – 10 mL	turquoise	1.0 mL	±3.0 %	±0.030 mL	±0.6 %	±0.006 mL	4920 000.113
		5.0 mL	±0.8 %	±0.040 mL	±0.2 %	±0.010 mL	
		10.0 mL	±0.6 %	±0.060 mL	±0.15 %	±0.015 mL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

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Eppendorf Reference® 2

Ordering information

Volume range	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Reference® 2, 8-channel, variable, incl. epT.I.P.S.® Box						
0.5 – 10 µL medium gray	0.5 µL	±12.0 %	±0.06 µL	±8.0 %	±0.04 µL	4922 000.013
	1.0 µL	±8.0 %	±0.08 µL	±5.0 %	±0.05 µL	
	5.0 µL	±4.0 %	±0.2 µL	±2.0 %	±0.1 µL	
	10 µL	±2.0 %	±0.2 µL	±1.0 %	±0.1 µL	
10 – 100 µL yellow	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0.2 µL	4922 000.030
	50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
	100 µL	±0.8 %	±0.8 µL	±0.3 %	±0.3 µL	
30 – 300 µL orange	30 µL	±3.0 %	±0.9 µL	±1.0 %	±0.3 µL	4922 000.056
	150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
	300 µL	±0.6 %	±1.8 µL	±0.3 %	±0.9 µL	
Eppendorf Reference® 2, 12-channel, variable, incl. epT.I.P.S.® Box						
0.5 – 10 µL medium gray	0.5 µL	±12.0 %	±0.06 µL	±8.0 %	±0.04 µL	4922 000.021
	1.0 µL	±8.0 %	±0.08 µL	±5.0 %	±0.05 µL	
	5.0 µL	±4.0 %	±0.2 µL	±2.0 %	±0.1 µL	
	10 µL	±2.0 %	±0.2 µL	±1.0 %	±0.1 µL	
10 – 100 µL yellow	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0.2 µL	4922 000.048
	50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
	100 µL	±0.8 %	±0.8 µL	±0.3 %	±0.3 µL	
30 – 300 µL orange	30 µL	±3.0 %	±0.9 µL	±1.0 %	±0.3 µL	4922 000.064
	150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
	300 µL	±0.6 %	±1.8 µL	±0.3 %	±0.9 µL	

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Ordering information

Eppendorf Reference® 2	Order no.
Eppendorf Reference® 2, 3-pack, single-channel, variable, incl. epT.I.P.S.® Box or sample bag and ballpoint pen	
Option 1: 0.5 – 10 µL, 10 – 100 µL, 100 – 1,000 µL	4920 000.903
Option 2: 2 – 20 µL yellow, 20 – 200 µL, 100 – 1,000 µL	4920 000.911
Option 3: 100 – 1,000 µL, 0.5 – 5 mL, 1 – 10 mL	4920 000.920

Accessories

Description	Order no.
Eppendorf Reference® 2 red adjustment seal ADJ, incl. pin for removing the inserted seal, 1 set = 5 pieces	4920 626.004
Eppendorf Reference® 2 red safety plug, incl. pin for removing the inserted safety plug, 1 set = 5 pieces	4920 625.008
Adjustment tool, for changing factory or secondary user adjustment	3120 633.006
Protection filter 2.5 mL, 10 filters with 1 filter sleeve, for Eppendorf Reference® 2: 0.25 – 2.5 mL variable, 2 mL fixed volume and 2.5 mL fixed volume, color code: red	4920 622.009
Protection filter 5 mL, 10 filters with 1 filter sleeve, for 0.5 – 5 mL variable Eppendorf Reference® 2, Eppendorf Research plus and Eppendorf Xplorer® (plus), color code: violet	4920 623.005
Protection filter 10 mL, 10 filters with 1 filter sleeve, for 1 – 10 mL variable Eppendorf Reference® 2, Eppendorf Research® plus and Eppendorf Xplorer® (plus), color code: turquoise	4920 624.001
Cutting tool, for O-rings of 100 and 300 µL, for Eppendorf Research® plus/Eppendorf Xplorer®	3122 610.003
Key, for detachment of 2 – 10 mL pipettes lower parts, for Eppendorf Research® plus, Eppendorf Reference® 2, Eppendorf Xplorer®	3120 634.002
Locking ring, to prevent spring action of 10 mL to 1,000 µL single-channel pipettes tip cones	3120 635.009
Tip-Tub reagent reservoir 70 mL, autoclavable reservoir for aspirating liquids with multi-channel pipettes, 1 set = 10 reservoirs and 10 lids	0030 058.607
Pipette grease with lint-free applicator	0013 022.153
Eppendorf TrackIT, RFID Reader and Software	3903 000.014

➢ Pipette service and maintenance contracts can be found on page 372. Pipette tips can be found on page 48 onward.

i For more information go to www.eppendorf.com/Reference2

Eppendorf Xplorer®/Eppendorf Xplorer® plus

Simple, fast and precise with untiring battery power – You deserve it!
People who give 100% every day deserve the best tools and the best equipment. You work on demanding problems, and important decisions depend on the results of your work. The Eppendorf Xplorer/Xplorer plus is an electronic air-cushion pipette, supported by the Eppendorf PhysioCare Concept®. Using it means your work achieves a new level of simplicity, precision and reproducibility, with no more delays due to complicated programming or inflexible processes. The Xplorer pipettes are the ideal instrument if you need precisely adjustable parameters, reproducible and accurate results while eliminating user-to-user variability and experiencing fatigue-free pipetting.

Product features
> Air-displacement pipette for accurate aspiration and dispensing of aqueous solutions from 0.5 µL to 10 mL
> Individual programming and settings to achieve a new level of simplicity
> Selection dial for quick and easy selection of functions
> Multi-functional rocker with up is up and down is down functionality
> Spring-loaded tip cone (not available for 2.5 mL, 5 mL and 10 mL pipettes) for minimal tip attachment forces helps to reduce stress
> Powerful rechargeable battery for up to 8 hours work without the need for recharging
> Adjust your pipette in seconds for better accuracy when pipetting various difficult liquids like ethanol or even when pipetting at high altitudes
> Lower part of pipette can be autoclaved to ensure decontamination
> 9 different languages: Chinese, Dutch, English, French, German, Italian, Japanese, Portuguese and Spanish
> Enjoy excellent flexibility and choose among variable single-channel, 8-, 12-, 16- and 24-channel pipettes

SCIENTISTS' CHOICE AWARDS 17 WINNER

PhysioCare concept

Modes of operation	Xplorer	Xplorer plus
Pipetting (Pip): Aspiration and dispensing of liquids.	■	■
Manual Pipetting (Man): Aspiration of liquid can be manually stopped prior to reaching the max set volume; used for volume determination.	■	■
Pipetting and Mixing (P/M): Samples are aspirated and dispensed automatically followed by an adjustable number of mixing cycles.	■	■
Dispensing (Dis): Dispensing of liquid in equal partial volumes.	■	■
Automatic Dispensing (Ads): Automatic dispensing of liquid in equal partial volumes at user-defined time intervals.	■	■
Special mode (Spc) – Multi Aspiration: Consecutive aspiration for pooling into one pipette tip.		■
Special mode (Spc) – Sequential Dispensing: Aspiration of liquid followed by dispensing it in up to 10 user-defined volume steps.		■
Special mode (Spc) – Reverse Pipetting: Over-aspiration of liquid followed by a regular dispensing step. Ideal for non-aqueous solutions.		■
Special mode (Spc) – Diluting: Aspiration of a diluent and a sample separated by an air bubble.		■
Special mode (Spc) – Sequential pipetting: Pipetting of up to 10 user-defined volumes in sequential order.		■
Fix Volume (Fix): Save up to 10 of your most frequently used volumes including aspiration and dispense speed for ease of operation.		■
Programming (Prg): Save up to 10 of your most common methods with up to 4 different pipetting steps each.		■
Options (Opt): Save favorite settings, set service intervals, activate key lock and more.	■	■

i For more information go to www.eppendorf.com/Xplorer

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Eppendorf Xplorer®/Eppendorf Xplorer® plus

1. Modern color display
All parameters without submenues

2. Individual speed setting
Adjust speed to improve precision and accuracy

3. Multifunctional rocker
With up is up and down is down functionality

4. Selection dial
All functions at a glance and easily selectable

5. Multilingual menu
User interface in 9 languages

6. Function control softkeys
Edit and Help at the push of a button

7. Innovative ejector
Electronically linked to the piston control

Applications
> Pipetting liquids (manual and automatic)
> Pipetting and mixing
> Dispensing (timed and manual)
> Volume determination (manual pipetting)
> Filling of plates, even 384-well plates, gels, and reaction vessels
> Phase extraction and removal of supernatants

Eppendorf Xplorer/Xplorer plus models are available as single, 8, 12, 16 and 24 channel pipettes.

Did you know?

For an accurate and precise pipetting technique, besides a proper pipetting device we recommend you to select a pipette with a nominal (maximum) volume as close as possible to the desired transfer volume.

Eppendorf Xplorer®

Single-channel pipettes

Ordering information

	Volume range	Color code	Volume	Rel. systematic error[1]	Abs. systematic error[1]	Rel. random error[1]	Abs. random error[1]	Order no.
	Eppendorf Xplorer®, single-channel, variable							
	0.5 – 10 µL	medium gray	0.5 µL	±6.0 %	±0.03 µL	±3.0 %	±0.015 µL	4861 000.015
			1 µL	±2.5 %	±0.025 µL	±1.8 %	±0.018 µL	
			5 µL	±1.5 %	±0.075 µL	±0.8 %	±0.04 µL	
			10 µL	±1.0 %	±0.1 µL	±0.4 %	±0.04 µL	
New	1 – 20 µL	light gray	2 µL	±5.0 %	±0.1 µL	±1.5 %	±0.03 µL	4861 000.017
			10 µL	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL	
			20 µL	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL	
	5 – 100 µL	yellow	5 µL	±4.0 %	±0.2 µL	±2.0 %	±0.1 µL	4861 000.023
			10 µL	±2.0 %	±0.2 µL	±1.0 %	±0.1 µL	
			50 µL	±1.0 %	±0.5 µL	±0.3 %	±0.15 µL	
			100 µL	±0.8 %	±0.8 µL	±0.2 %	±0.2 µL	
New	10 – 200 µL	yellow	20 µL	±2.5 %	±0.5 µL	±0.7 %	±0.14 µL	4861 000.027
			100 µL	±1.0 %	±1.0 µL	±0.3 %	±0.3 µL	
			200 µL	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	
	15 – 300 µL	orange	15 µL	±5.0 %	±0.75 µL	±1.4 %	±0.21 µL	4861 000.031
			30 µL	±2.5 %	±0.75 µL	±0.7 %	±0.21 µL	
			150 µL	±1.0 %	±1.5 µL	±0.3 %	±0.45 µL	
			300 µL	±0.6 %	±1.8 µL	±0.2 %	±0.6 µL	
	50 – 1,000 µL	blue	50 µL	±6.0 %	±3 µL	±1.0 %	±0.5 µL	4861 000.040
			100 µL	±3.0 %	±3 µL	±0.6 %	±0.6 µL	
			500 µL	±1.0 %	±5 µL	±0.2 %	±1 µL	
			1,000 µL	±0.6 %	±6 µL	±0.2 %	±2 µL	
New	0.125 – 2.5 mL	red	250 µL	±4.8 %	±12 µL	±1.2 %	±3.0 µL	4861 000.044
			1,250 µL	±0.8 %	±10 µL	±0.2 %	±2.5 µL	
			2,500 µL	±0.6 %	±15 µL	±0.2 %	±5.0 µL	
	0.2 – 5 mL	violet	250 µL	±4.8 %	±12 µL	±1.2 %	±3 µL	4861 000.058
			500 µL	±3.0 %	±15 µL	±0.6 %	±3 µL	
			2,500 µL	±1.2 %	±30 µL	±0.25 %	±6.25 µL	
			5,000 µL	±0.6 %	±30 µL	±0.15 %	±7.5 µL	
	0.5 – 10 mL	turquoise	500 µL	±6.0 %	±30 µL	±1.2 %	±6 µL	4861 000.066
			1,000 µL	±3.0 %	±30 µL	±0.6 %	±6 µL	
			5,000 µL	±0.8 %	±40 µL	±0.2 %	±10 µL	
			10,000 µL	±0.6 %	±60 µL	±0.15 %	±15 µL	

[1] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

Eppendorf Xplorer®

8-channel pipettes

Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Xplorer®, 8-channel, variable							
0.5 – 10 µL	medium gray	0.5 µL	±10.0 %	±0.05 µL	±6.0 %	±0.03 µL	4861 000.104
		1 µL	±5.0 %	±0.05 µL	±3.0 %	±0.03 µL	
		5 µL	±3.0 %	±0.15 µL	±1.5 %	±0.075 µL	
		10 µL	±2.0 %	±0.2 µL	±0.8 %	±0.08 µL	
5 – 100 µL	yellow	5 µL	±6.0 %	±0.3 µL	±4.0 %	±0.2 µL	4861 000.120
		10 µL	±2.0 %	±0.2 µL	±2.0 %	±0.2 µL	
		50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
		100 µL	±0.8 %	±0.8 µL	±0.25 %	±0.25 µL	
15 – 300 µL	orange	15 µL	±6.0 %	±0.9 µL	±2.0 %	±0.3 µL	4861 000.147
		30 µL	±2.5 %	±0.75 µL	±1.0 %	±0.3 µL	
		150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
		300 µL	±0.6 %	±1.8 µL	±0.25 %	±0.75 µL	
50 – 1,200 µL	green	50 µL	±8.0 %	±4.0 µL	±1.2 %	±0.6 µL	4861 000.163
		120 µL	±6.0 %	±7.2 µL	±0.9 %	±1.08 µL	
		600 µL	±2.7 %	±16.2 µL	±0.4 %	±2.4 µL	
		1,200 µL	±1.2 %	±14.4 µL	±0.3 %	±3.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 8-channel pipettes please choose standard epT.I.P.S., see pages 56 - 61

12-channel pipettes

Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Xplorer®, 12-channel, variable							
0.5 – 10 µL	medium gray	0.5 µL	±10.0 %	±0.05 µL	±6.0 %	±0.03 µL	4861 000.112
		1 µL	±5.0 %	±0.05 µL	±3.0 %	±0.03 µL	
		5 µL	±3.0 %	±0.15 µL	±1.5 %	±0.075 µL	
		10 µL	±2.0 %	±0.2 µL	±0.8 %	±0.08 µL	
5 – 100 µL	yellow	5 µL	±6.0 %	±0.3 µL	±4.0 %	±0.2 µL	4861 000.139
		10 µL	±2.0 %	±0.2 µL	±2.0 %	±0.2 µL	
		50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
		100 µL	±0.8 %	±0.8 µL	±0.25 %	±0.25 µL	
15 – 300 µL	orange	15 µL	±6.0 %	±0.9 µL	±2.0 %	±0.3 µL	4861 000.155
		30 µL	±2.5 %	±0.75 µL	±1.0 %	±0.3 µL	
		150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
		300 µL	±0.6 %	±1.8 µL	±0.25 %	±0.75 µL	
50 – 1,200 µL	green	50 µL	±8.0 %	±4.0 µL	±1.2 %	±0.6 µL	4861 000.171
		120 µL	±6.0 %	±7.2 µL	±0.9 %	±1.08 µL	
		600 µL	±2.7 %	±16.2 µL	±0.4 %	±2.4 µL	
		1,200 µL	±1.2 %	±14.2 µL	±0.3 %	±3.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 12-channel pipettes please choose standard epT.I.P.S., see pages 56 - 61

Eppendorf Xplorer® plus

Single-channel pipettes

Ordering information

	Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
	Eppendorf Xplorer® plus, single-channel, variable							
	0.5 – 10 µL	medium gray	0.5 µL	±6.0 %	±0.03 µL	±3.0 %	±0.015 µL	4861 000.708
			1 µL	±2.5 %	±0.025 µL	±1.8 %	±0.018 µL	
			5 µL	±1.5 %	±0.075 µL	±0.8 %	±0.04 µL	
			10 µL	±1.0 %	±0.1 µL	±0.4 %	±0.04 µL	
New	1 – 20 µL	light gray	2 µL	±5.0 %	±0.1 µL	±1.5 %	±0.03 µL	4861 000.710
			10 µL	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL	
			20 µL	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL	
	5 – 100 µL	yellow	5 µL	±4.0 %	±0.2 µL	±2.0 %	±0.1 µL	4861 000.716
			10 µL	±2.0 %	±0.2 µL	±1.0 %	±0.1 µL	
			50 µL	±1.0 %	±0.5 µL	±0.3 %	±0.15 µL	
			100 µL	±0.8 %	±0.8 µL	±0.2 %	±0.2 µL	
New	10 – 200 µL	yellow	20 µL	±2.5 %	±0.5 µL	±0.7 %	±0.14 µL	4861 000.720
			100 µL	±1.0 %	±1.0 µL	±0.3 %	±0.3 µL	
			200 µL	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL	
	15 – 300 µL	orange	15 µL	±5.0 %	±0.75 µL	±1.4 %	±0.21 µL	4861 000.724
			30 µL	±2.5 %	±0.75 µL	±0.7 %	±0.21 µL	
			150 µL	±1.0 %	±1.5 µL	±0.3 %	±0.45 µL	
			300 µL	±0.6 %	±1.8 µL	±0.2 %	±0.6 µL	
	50 – 1,000 µL	blue	50 µL	±6.0 %	±3 µL	±1.0 %	±0.5 µL	4861 000.732
			100 µL	±3.0 %	±3 µL	±0.6 %	±0.6 µL	
			500 µL	±1.0 %	±5 µL	±0.2 %	±1 µL	
			1,000 µL	±0.6 %	±6 µL	±0.2 %	±2 µL	
New	0.125 – 2.5 mL	red	250 µL	±4.8 %	±12 µL	±1.2 %	±3.0 µL	4861 000.736
			1,250 µL	±0.8 %	±10 µL	±0.2 %	±2.5 µL	
			2,500 µL	±0.6 %	±15 µL	±0.2 %	±5.0 µL	
	0.2 – 5 mL	violet	200 µL	±4.8 %	±12 µL	±1.2 %	±3 µL	4861 000.740
			500 µL	±3.0 %	±15 µL	±0.6 %	±3 µL	
			2,500 µL	±1.2 %	±30 µL	±0.25 %	±6.25 µL	
			5,000 µL	±0.6 %	±30 µL	±0.15 %	±7.5 µL	
	0.5 – 10 mL	turquoise	500 µL	±6.0 %	±30 µL	±1.2 %	±6 µL	4861 000.759
			1,000 µL	±3.0 %	±30 µL	±0.6 %	±6 µL	
			5,000 µL	±0.8 %	±40 µL	±0.2 %	±10 µL	
			10,000 µL	±0.6 %	±60 µL	±0.15 %	±15 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

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Eppendorf Xplorer® plus

8-channel pipettes

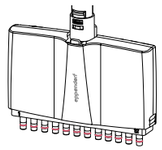
Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Xplorer® plus, 8-channel, variable							
0.5 – 10 µL	medium gray	0.5 µL	±10.0 %	±0.05 µL	±6.0 %	±0.03 µL	4861 000.767
		1 µL	±5.0 %	±0.05 µL	±3.0 %	±0.03 µL	
		5 µL	±3.0 %	±0.15 µL	±1.5 %	±0.075 µL	
		10 µL	±2.0 %	±0.2 µL	±0.8 %	±0.08 µL	
5 – 100 µL	yellow	5 µL	±6.0 %	±0.3 µL	±4.0 %	±0.2 µL	4861 000.783
		10 µL	±2.0 %	±0.2 µL	±2.0 %	±0.2 µL	
		50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
		100 µL	±0.8 %	±0.8 µL	±0.25 %	±0.25 µL	
15 – 300 µL	orange	15 µL	±6.0 %	±0.9 µL	±2.0 %	±0.3 µL	4861 000.805
		30 µL	±2.5 %	±0.75 µL	±1.0 %	±0.3 µL	
		150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
		300 µL	±0.6 %	±1.8 µL	±0.25 %	±0.75 µL	
50 – 1,200 µL	green	50 µL	±8.0 %	±4.0 µL	±1.2 %	±0.6 µL	4861 000.821
		120 µL	±6.0 %	±7.2 µL	±0.9 %	±1.08 µL	
		600 µL	±2.7 %	±16.2 µL	±0.4 %	±2.4 µL	
		1,200 µL	±1.2 %	±14.4 µL	±0.3 %	±3.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 8-channel pipettes please choose standard epT.I.P.S., see pages 56 - 61

12-channel pipettes



Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Xplorer® plus, 12-channel, variable							
0.5 – 10 µL	medium gray	0.5 µL	±10.0 %	±0.05 µL	±6.0 %	±0.03 µL	4861 000.775
		1 µL	±5.0 %	±0.05 µL	±3.0 %	±0.03 µL	
		5 µL	±3.0 %	±0.15 µL	±1.5 %	±0.075 µL	
		10 µL	±2.0 %	±0.2 µL	±0.8 %	±0.08 µL	
5 – 100 µL	yellow	5 µL	±6.0 %	±0.3 µL	±4.0 %	±0.2 µL	4861 000.791
		10 µL	±2.0 %	±0.2 µL	±2.0 %	±0.2 µL	
		50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL	
		100 µL	±0.8 %	±0.8 µL	±0.25 %	±0.25 µL	
15 – 300 µL	orange	15 µL	±6.0 %	±0.9 µL	±2.0 %	±0.3 µL	4861 000.813
		30 µL	±2.5 %	±0.75 µL	±1.0 %	±0.3 µL	
		150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL	
		300 µL	±0.6 %	±1.8 µL	±0.25 %	±0.75 µL	
50 – 1,200 µL	green	50 µL	±8.0 %	±4.0 µL	±1.2 %	±0.6 µL	4861 000.830
		120 µL	±6.0 %	±7.2 µL	±0.9 %	±1.08 µL	
		600 µL	±2.7 %	±16.2 µL	±0.4 %	±2.4 µL	
		1,200 µL	±1.2 %	±14.2 µL	±0.3 %	±3.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 12-channel pipettes please choose standard epT.I.P.S., see pages 56 - 61

New

16-channel pipettes, for 384-well plates

Ordering information

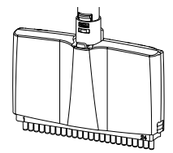
Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Xplorer® plus, 16-channel, variable							
1 – 20 µL	pearl white	2 µL	±10 %	±0.2 µL	±3.0 %	±0.06 µL	4861 000.778
		10 µL	±2.4 %	±0.24 µL	±1.2 %	±0.12 µL	
		20 µL	±0.4 %	±0.4 µL	±0.6 %	±0.12 µL	
5 – 100 µL	light yellow	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0.2 µL	4861 000.792
		50 µL	±1.2 %	±0.6 µL	±1.0 %	±0.5 µL	
		100 µL	±1.0 %	±1.0 µL	±0.6 %	±0.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 16-channel pipettes please choose epT.I.P.S. 384, see pages 62 - 63

New

24-channel pipettes, for 384-well plates



Ordering information

Volume range	Color code	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Xplorer® plus, 24-channel, variable							
1 – 20 µL	pearl white	2 µL	±10 %	±0.20 µL	±3.0 %	±0.06 µL	4861 000.779
		10 µL	±2.4 %	±0.24 µL	±1.2 %	±0.12 µL	
		20 µL	±0.4 %	±0.4 µL	±0.6 %	±0.12 µL	
5 – 100 µL	light yellow	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0.2 µL	4861 000.793
		50 µL	±1.2 %	±0.6 µL	±1.0 %	±0.5 µL	
		100 µL	±1.0 %	±1.0 µL	±0.6 %	±0.6 µL	

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 24-channel pipettes please choose epT.I.P.S. 384 see pages 62 - 63

Accessories

Description	Order no.
Power supply with power plug adapters, for Eppendorf Xplorer®/Xplorer plus, electronic Multipette®, and charger stand (4880)	4986 603.005
Power supply with power plug adapters, for charger carousel (4880)	4880 603.006
Protection filter 5 mL, 10 filters with 1 filter sleeve, for 0.5 – 5 mL variable Eppendorf Reference® 2, Eppendorf Research plus and Eppendorf Xplorer® (plus), color code: violet	4920 623.005
Protection filter 10 mL, 10 filters with 1 filter sleeve, for 1 – 10 mL variable Eppendorf Reference® 2, Eppendorf Research® plus and Eppendorf Xplorer® (plus), color code: turquoise	4920 624.001
O-ring for tip cones, 24 pcs., red, for 100 and 300 µL multi-channel pipettes, with mounting aid (1 set = 24 pieces)	3122 611.000
Cutting tool, for O-rings of 100 and 300 µL, for Eppendorf Research® plus/Eppendorf Xplorer®	3122 610.003
O-ring for tip cones, 24 pcs., red, for 1,200 µL multi-channel pipettes, (1 set = 24 pcs)	4860 716.009
Key, for detachment of 2 – 10 mL pipettes lower parts, for Eppendorf Research® plus, Eppendorf Reference® 2, Eppendorf Xplorer®	3120 634.002
Key, for detachment of 1,200 µL pipettes lower parts, for Eppendorf Xplorer®	4861 605.006
Locking ring, to prevent spring action of 10 mL to 1,000 µL single-channel pipettes tip cones	3120 635.009
Locking clip for 8-channel pipette, to prevent spring action of tip cones	3122 612.006
Locking clip for 12-channel pipette, to prevent spring action of tip cones	3122 613.002
Tip-Tub reagent reservoir 70 mL, autoclavable reservoir for aspirating liquids with multi-channel pipettes, 1 set = 10 reservoirs and 10 lids	0030 058.607
Eppendorf TrackIT, RFID Reader and Software	3903 000.014

Eppendorf Pipette Holder System

Description
Carousels, stands and wall mount devices: The new Pipette Holder System is perfect for all users of handheld liquid handling instruments, who need a highly flexible system for their Eppendorf pipettes and Multipette®. Carousels and stands provide a robust design with a small footprint. To save precious bench-top space carousels carry both manual and electronic instruments. And only Eppendorf offers a charger carousel with intelligent charging electronics that carries up to 6 instruments.

GERMAN DESIGN AWARD WINNER 2018 · DESIGN AWARD · reddot design award

1. The Pipette Carousel 2 for manual pipettes and the Charger Carousel 2 for electronic devices offer more flexibility and more capacity than ever before.
> Rotatable pipette holders carry all current manual Eppendorf pipettes and most predecessors
> Charger Carousel 2 for up to six electronic devices with magnetic power connector for fast and easy connection

2. With Charger Stand 2, the Eppendorf Xplorer/Xplorer plus or Multipette® E3/E3x is always fully charged and ready for use. Pipette Stand 2 carries one Multipette M4.
> Large rubber feet protect stands and carousels from liquids spilled on lab bench
> Charger Stand 2 with cord wrap functionality for more convenience

3. Place your pipette and Multipette where you need them: Mounted to a wall, on the shelf above your bench or inside a biological safety cabinet.
> Pictograms on all holders for clear assignment in the lab
> Pipette holders are downwards compatible for Eppendorf Research and Reference pipettes

Ordering information

Description	Order no.
Pipette Carousel 2, for 6 Eppendorf Research®, Eppendorf Research® plus, Eppendorf Reference®, Eppendorf Reference® 2 or Biomaster®, additional pipette holders are optionally available	3116 000.015
Charger Carousel 2, for 6 Eppendorf Xplorer® or Eppendorf Xplorer® plus, mains/power adapter included, additional charger shells and pipette holders are optionally available	3116 000.023
Charger Stand 2, for one Eppendorf Xplorer® or Eppendorf Xplorer® plus, operated with mains/power adapter supplied with Eppendorf Xplorer® or Eppendorf Xplorer® plus	3116 000.031
Charger Stand 2, for one Multipette® E3/E3x or Multipette® stream/Xstream, operated with mains/power adapter supplied with Multipette® E3/E3x or Multipette® stream/Xstream	3116 000.040
Pipette Stand 2, for one Multipette® M4, without charging functionality, additional pipette holders are optionally available	3116 000.058
Pipette Holder 2, for one Eppendorf Research®, Eppendorf Research® plus, Eppendorf Reference® 2 or Biomaster®, for Pipette Carousel 2 and Charger Carousel 2 or wall mounting, sticky tape included	3116 000.112
Pipette Holder 2, for one Eppendorf Xplorer® or Eppendorf Xplorer® plus, for Pipette Carousel 2 or wall mounting, sticky tape included, without charging functionality	3116 000.120
Pipette Holder 2, for one Multipette® E3/E3x or Multipette® stream/Xstream, for Pipette Carousel 2 or wall mounting, sticky tape included, without charging functionality	3116 000.139
Pipette Holder 2, for one Multipette® M4, for Pipette Carousel 2 and Charger Carousel 2 or wall mounting, sticky tape included	3116 000.147
Charger Shell 2, for one Eppendorf Xplorer® or Eppendorf Xplorer® plus, for Charger Carousel 2 (with charging functionality)	3116 602.007
Charger Shell 2, for one Multipette® E3/E3x or Multipette® stream/Xstream, for Charger Carousel 2 (with charging functionality)	3116 603.003

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com

Eppendorf Purity Grades for Tips

epT.I.P.S.®, ep Dualfilter T.I.P.S.® and Combitips advanced® stand for highest quality and purity
The high precision and accuracy of pipette tips and Combitips® is ensured by precise molding. Each lot of pipette tips and Combitips is subject to gravimetric measurement during final testing. Low wetting ensures reliable volume readings and minimal adhesion.
Pipette tips and Combitips cylinders are made of PP (polypropylene). A relatively inert plastic characterized by low wettability as well as high dimensional and mechanical stability across a wide temperature range. For the Combitips advanced pistons, PE (polyethylene) is used. This is due to the fact that ideal running properties between two parts can only be achieved by using two different types of plastic. Our tips are available in a variety of purity grades (see table opposite). For further details please read page 12-13.

eppendorf

Eppendorf Certificate

Certificate of Purity – PCR clean

This package contains a high quality consumable manufactured under the PCR clean Eppendorf Purity Standard.

The Eppendorf PCR clean consumables are produced in a class 6 (according to VDI 2083) and a class 100,000 (according to U.S. Fed. Stand. 209 D) clean room environment.

For this product Eppendorf certifies the following [*]:

Free of detectable
- Human DNA
- DNase
- RNase
- PCR inhibitors

Quality control and subsequent certification is done by an independent laboratory (accredited by DAkkS). Lot-specific certificates are available on request or on the internet at **www.eppendorf.com/certificates**.

The certification comprises the following tests:

Human DNA Contamination Test

A PCR master mix is prepared using the QuantiTect® Sybr® Green PCR Kit (Qiagen®) and primer for the detection of human DNA. The primers amplify a 294 bp fragment present in more than 1×10^5 copies per human cell. The master mix (15 µl) is added to 5 positive control vessels containing known amounts of human DNA (32, 16, 8, 4 and 2 pg in 10 µL H_2O) plus a negative control (10 µL DNA-free H_2O).

15 samples are rinsed one after another with DNA-free water. 10 µL of this solution is added to 15 µL master mix. PCR is done for 30 cycles.

The emittance of Sybr Green-induced fluorescence is detected in samples and controls. For the samples to pass certification, no fluorescence must be found corresponding to the negative control.

DNase Test

15 samples are rinsed one after another with DNA-free water. 17 µL of these solutions are mixed with 3 µl DNase-buffer containing 100 bp DNA-ladder in a DNase-free tube. A positive control is spiked with DNase, a negative control contains DNA-free water. All tubes are incubated for 24 h at 37 °C.

Page 1 of 2

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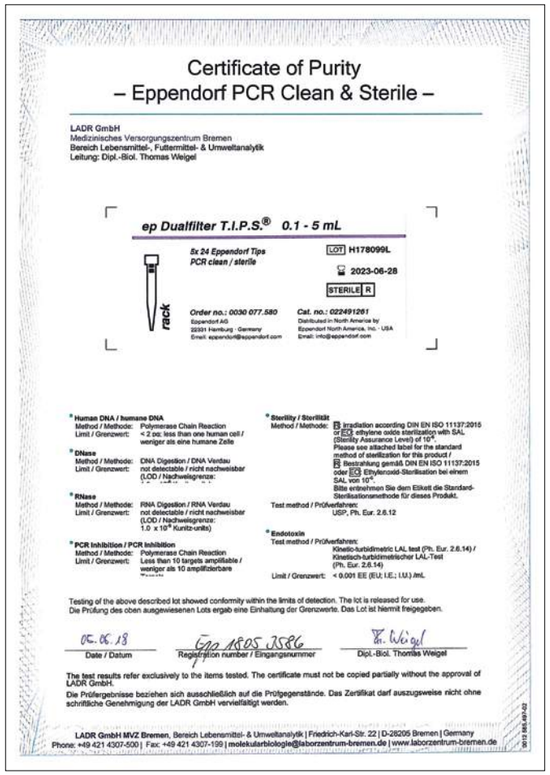
www.eppendorf.com


Certificate of Purity
– Eppendorf PCR Clean & Sterile –

LADR GmbH
Medizinisches Versorgungszentrum Bremen
Bereich Lebensmittel-, Futtermittel- & Umweltanalytik
Leitung: Dipl.-Biol. Thomas Weigel

ep Dualfilter T.I.P.S.® 0.1 - 5 mL

5x 24 Eppendorf Tips
PCR clean / sterile

LOT H178099L
2023-06-28
STERILE R

Order no.: 0030 077.580
Eppendorf AG
22331 Hamburg · Germany
Email: eppendorf@eppendorf.com

Cat. no.: 022491261
Distributed in North America by
Eppendorf North America, Inc. · USA
Email: info@eppendorf.com

Human DNA / humane DNA
Method / Methode: Polymerase Chain Reaction
Limit / Grenzwert: < 2 pg; less than one human cell / weniger als eine humane Zelle

DNase
Method / Methode: DNA Digestion / DNA Verdau
Limit / Grenzwert: not detectable / nicht nachweisbar (LOD / Nachweisgrenze:

RNase
Method / Methode: RNA Digestion / RNA Verdau
Limit / Grenzwert: not detectable / nicht nachweisbar (LOD / Nachweisgrenze: 1.0×10^{-8} Kunitz-units)

PCR Inhibition / PCR Inhibition
Method / Methode: Polymerase Chain Reaction
Limit / Grenzwert: Less than 10 targets amplifiable / weniger als 10 amplifizierbare

Sterility / Sterilität
Method / Methode: ☐ irradiation according DIN EN ISO 11137:2015 or ☒ ethylene oxide sterilization with SAL (Sterility Assurance Level) of 10^{-6}.
Please see attached label for the standard method of sterilization for this product / ☐ Bestrahlung gemäß DIN EN ISO 11137:2015 oder ☒ Ethylenoxid-Sterilisation bei einem SAL von 10^{-6}.
Bitte entnehmen Sie dem Etikett die Standard-Sterilisationsmethode für dieses Produkt.

Test method / Prüfverfahren: USP, Ph. Eur. 2.6.12

Endotoxin
Test method / Prüfverfahren: Kinetic-turbidimetric LAL test (Ph. Eur. 2.6.14) / Kinetisch-turbidimetrischer LAL-Test (Ph. Eur. 2.6.14)
Limit / Grenzwert: < 0.001 EE (EU; I.E.; I.U.)./mL

Testing of the above described lot showed conformity within the limits of detection. The lot is released for use.
Die Prüfung des oben ausgewiesenen Lots ergab eine Einhaltung der Grenzwerte. Das Lot ist hiermit freigegeben.

06.06.18 — Date / Datum
Epp 1805 2586 — Registration number / Eingangsnummer
T. Weigel — Dipl.-Biol. Thomas Weigel

The test results refer exclusively to the items tested. The certificate must not be copied partially without the approval of LADR GmbH.
Die Prüfergebnisse beziehen sich ausschließlich auf die Prüfgegenstände. Das Zertifikat darf auszugsweise nicht ohne schriftliche Genehmigung der LADR GmbH vervielfältigt werden.

LADR GmbH MVZ Bremen, Bereich Lebensmittel- & Umweltanalytik | Friedrich-Karl-Str. 22 | D-28205 Bremen | Germany
Phone: +49 421 4307-500 | Fax: +49 421 4307-199 | molekularbiologie@laborzentrum-bremen.de | www.laborzentrum-bremen.de

Pure quality
With the strictest control criteria, internally and externally monitored, we ensure the consistently high quality of our products – from lot to lot. Our consumables are available in a variety of purity qualities. Eppendorf Quality™ as well as more advanced purity grades: "Sterile, Protein-free, PCR clean, Eppendorf Forensic DNA Grade, and Biopur®". In addition to our internal process controls and general quality certificates, lot-specific certificates are provided by an external accredited laboratory for the Sterile, Protein-free, PCR clean, Eppendorf Forensic DNA Grade, and Biopur purity grades. This allows us to consistently meet our customer's high demands when it comes to purity (www.eppendorf.com/purity). As a special service, we make the inspection certificate for each delivered lot available online (www.eppendorf.com/certificates).

Purity grades						
Eppendorf purity grades for tips	**Eppendorf Quality™**	**Eppendorf sterile**	**Eppendorf PCR clean**	**Eppendorf sterile and PCR clean**	**Eppendorf Forensic DNA Grade[4]**	**Biopur®**
Continuous quality control for the following relevant criteria:						
Function, tightness, precision	■	■	■	■	■	■
Low wetting	■	■	■	■	■	■
High chemical resistance	■	■	■	■	■	■
High thermal resistance	■	■	■	■	■	■
High resistance to centrifugation forces[1]	■	■	■	■	■	■
High transparency	■	■	■	■	■	■
Precisely shaped	■	■	■	■	■	■
Lot-specific certified[2] for the following purity criteria:						
Pyrogen-free (endotoxin-free)		■		■		■
Sterile (Ph.Eur./USP)		■		■		■
Human DNA-free			■	■	■	■
DNA-free (human- and bacteria DNA)						■
DNase-free			■	■	■	■
RNase-free			■	■	■	■
PCR-inhibitor-free			■	■	■	■
ATP-free						■
Eppendorf tips						
epT.I.P.S.® Standard, Box and Set	■					
epT.I.P.S.® Reloads	■		■			
epT.I.P.S.® Racks		■[3]				■
epT.I.P.S.® Singles						■
ep Dualfilter T.I.P.S.®				■	■	
ep Dualfilter T.I.P.S.® SealMax				■		
ep Dualfilter T.I.P.S.® LoRetention				■		
Combitips advanced®	■	■[3]	■		■	■
ViscoTip®	■					
epT.I.P.S.® LoRetention	■		■			
epT.I.P.S.® Motion	■	■				
epT.I.P.S.® Motion filtertips		■	■	■		

[1] For accurate details regarding resistance to centrifugation, please refer to the respective product pages. [2] Lot-specific certificate can be downloaded from www.eppendorf.com/certificates. [3] Only available in North America. [4] According to ISO 18385.

www.eppendorf.com/puritygrades-brochure

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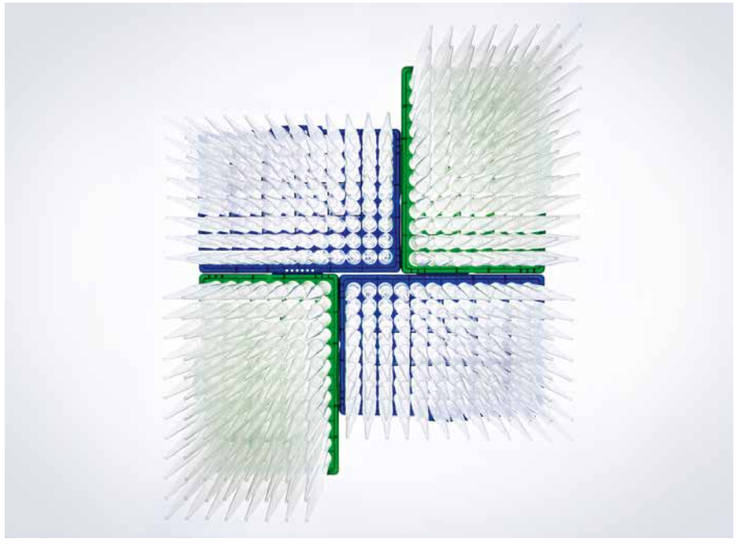
epT.I.P.S.®

Description
For epT.I.P.S. – the original Eppendorf „Totally Integrated Pipetting System" – the tips are optimally coordinated to Eppendorf pipettes and, of course, meet EN ISO 8655 requirements. This has resulted in minimal attachment and ejection forces with the highest level of tightness. epT.I.P.S. pipette tips can be used with pipettes from other manufacturers. Optimal wetting properties, high transparency and special, certified purity grades are the visible expression of our product and production philosophy.

Product features
> The ergonomically optimized cone geometry provides the optimal pipette fit on the Eppendorf pipette
> epT.I.P.S. pipette tips can be used universally, including pipette models from other manufacturers
> Fine graduations make visual checks of the pipetting volume even easier
> Long, narrow tips reach the base of narrow and high vessels without touching the top of the vessel edge
> Fine retracted or extended tips simplify work with small volumes
> Available in purity grades of: Eppendorf Quality, PCR clean, Biopur®
> Color-coded trays make volume identification and allocation of Eppendorf pipettes easier than ever
> Also available for 16- and 24-channel pipettes

Applications
> Pipetting liquids
> Dispensing liquids
> Mixing liquids
> Filling plates and reaction vessels
> Filling gels for electrophoresis
> Phase extraction and removal of supernatants
> For applications in 384-microplate format we recommend using 16- or 24-channel pipettes together with epT.I.P.S. 384



www.eppendorf.com/appnote354

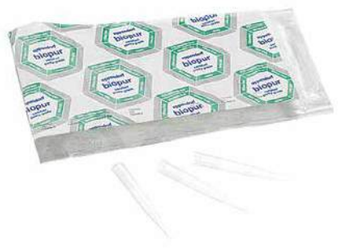
i For more information go to www.eppendorf.com/epTips

Technical specifications subject to change.

epT.I.P.S.® Standard
> Original, high-quality Eppendorf pipette tips packaged in resealable bags
> Available in sizes from 10 µL to 10 mL in Eppendorf Quality purity grade
> epT.I.P.S. Standard 200 µL, 300 µL and 1,000 µL tips are also available color-coded yellow and blue
> epT.I.P.S. Standard pipette tips can be autoclaved at 121 °C in 20 min.

epT.I.P.S.® Box/epT.I.P.S.® Set
> Contamination-free transfer of trays to stable working box
> System optimized for use with multi-channel pipettes
> Color-coded trays for simple identification of tips and pipette
> Tips can be attached to pipette from refill trays
> Boxes and trays are autoclavable
> epT.I.P.S. Box and epT.I.P.S. Set available in Eppendorf Quality

epT.I.P.S.® Racks
> Eppendorf Biopur pipette tips in Racks offer the highest biological purity
> Ensured PCR clean, sterile, pyrogen-, ATP- and DNA-free
> For use in pharmaceutical and food industry, molecular biology and cell technology
> Each production lot inspected continuously by an independent laboratory
> Lot-specific certificates available at www.eppendorf.com/certificates
> Packed in racks with 96, 48 or 24 tips



epT.I.P.S.® Singles
> Eppendorf Biopur pipette tip, individually wrapped
> Ensured PCR clean, sterile, pyrogen-, ATP- and DNA-free
> For use in pharmaceutical and food industry, molecular biology and cell technology
> Batch number and expiration date on each blister package
> Each production lot inspected continuously by an independent laboratory
> Lot-specific certificates available at www.eppendorf.com/certificates

Your local distributor: www.eppendorf.com/contact
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epT.I.P.S.®

epT.I.P.S.® Reloads
> Reduced waste as compared with disposable racks
> The refill trays can be autoclaved up to 121 °C, in packaging and without foil, for subsequent use
> The refill system, depending on tip size, is packaged as either dual-sided or in stack form
> Available in purity grades of Eppendorf Quality and PCR clean
> Color-coded trays for simple volume and pipette identification

Special Tips

epT.I.P.S.® 384
> Optimized for applications in 384-well plate format
> Suitable for the usage of 16- and 24-channel pipettes
> For even and simultaneous filling of all 16 or 24 wells of a 384-well plate in just one step
> Enabling for equal starting conditions in each well of a row or column in plate assays, thus increasing reproducibility to a maximum
> Available as epT.I.P.S. 384 Reloads (10 refill trays with 384 tips each) and epT.I.P.S. Box/ epT.I.P.S. 384 Set (box plus 5 refill trays with 384 tips each)
> Volume range: 20 and 100 µL

GELoader®
> Special tip for gel electrophoresis, loading of polyacrylamide gels
> Flexible long and narrow tips for handling of smallest volumes
> GELoader tips and rack autoclavable
> Highest precision and accuracy when used with Eppendorf pipettes for 0.5 to 10 µL (gray control button)

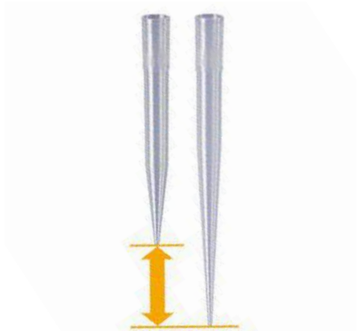
Microloader™
> Extremely long, fine and flexible tip for filling of microcapillaries for microinjection and where additional reach is needed
> Microloader tips and rack autoclavable
> Highest precision and accuracy when used with Eppendorf pipettes for 0.5 to 10 µL (gray control button)

➢ Ordering information see page 56

Technical specifications subject to change.

epT.I.P.S.® Long

Description
With the slim design of the extra long epT.I.P.S. and ep Dualfilter T.I.P.S.® pipette tips, you always achieve best results when pipetting into Eppendorf Tubes® 5.0 mL, conical tubes, cell culture flasks, deep wells and other deep vessels. Furthermore, the risk of touching the walls of these deep vessels is minimized and cross-contamination is prevented. Extra long epT.I.P.S. are available in the following volumes:
> 0.5 – 20 µL L (46 mm)
> 50 – 1,250 µL L (103 mm)
> 0.2 – 5 mL L (175 mm)
> 0.5 – 10 mL L (243 mm)



Product features
> Slim design of the extra long epT.I.P.S. and ep Dualfilter T.I.P.S. pipette tips
> Always obtain best results when pipetting from and into Eppendorf Tubes® 5.0 mL, conical tubes, cell culture flasks, deep wells and other deep vessels
> The risk of touching the walls of deep vessels is minimized and cross-contamination is prevented
> Available in Eppendorf Quality, PCR clean, PCR clean/Sterile (sterile and pyrogen-free), and Biopur® purity grades
> Also available as ep Dualfilter T.I.P.S. filter tips

Applications
> Pipetting liquids
> Dispensing liquids
> Mixing liquids
> Filling plates and reaction vessels
> Filling gels for electrophoresis
> Phase extraction and removal of supernatants

www.eppendorf.com/eptips-video

i For more information go to www.eppendorf.com/epTips

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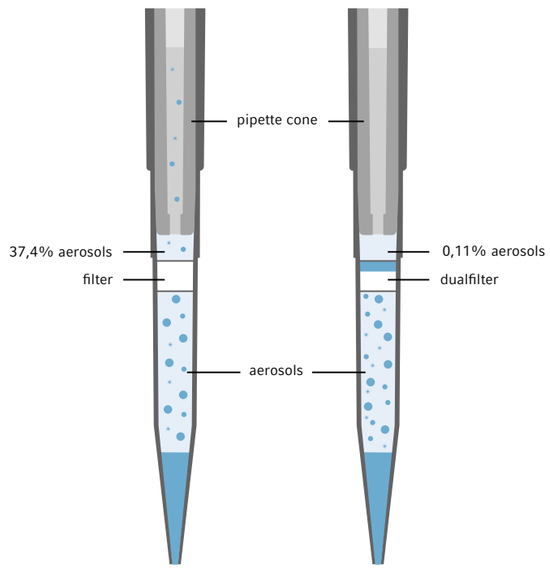
ep Dualfilter T.I.P.S.®

Description
ep Dualfilter T.I.P.S. filter tips are filter tips with a two-phase filter for contamination protection. The two filter layers made of flexible, hydrophobic material, fit perfectly in the tip cone and retain practically 100 % of all aerosols[1)] and biomolecules. This filtering effect is achieved using various, well-defined pore sizes. The layer facing the sample provides protection from drops, splashes and aerosols. The layer facing the pipette cone functions as a second barrier from contamination, and dependably binds biomolecules. A defined air passage rate ensures full sample recovery and the customary quick pipetting.

Product features
> Dual protection against aerosols[1)] and biomolecules
> Dual protection for pipette and sample
> Free of PCR inhibitor additives
> Available in Eppendorf PCR clean/Sterile (sterile and pyrogen-free) and Eppendorf Forensic DNA Grade
> Tested at the Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM) in Hannover, Germany
> Continuous inspection of each production lot by an independent laboratory
> Lot-specific certificates are available at: www.eppendorf.com/certificates
> Certificate of filter efficiency acc. to EN 1822 available at: www.eppendorf.com/certificates
> Also available for 16- and 24-channel pipettes

Applications
> DNA applications (e.g. PCR)
> RNA applications (e.g. gene expression analysis)
> Protein applications (e.g. antibody research)
> Cell culture applications (e.g. media)
> Applications with radio actives
> All applications which use aerosol[1)] binding liquids
> For applications in 384-microplate format we recommend using 16- or 24-channel pipettes together with epT.I.P.S.® 384



Competitor filtertip **ep Dualfilter T.I.P.S.®**

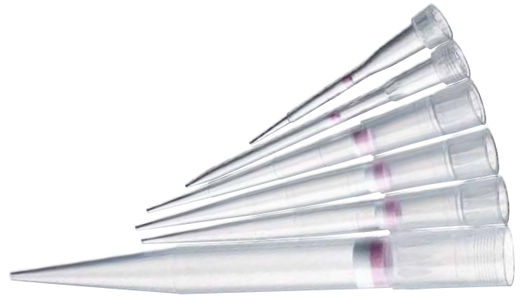
The unmistakable blue and white filter layers are made of flexible, hydrophobic material to fit perfectly in the tip cone and retain practically 100 % of all aerosols[1)] and biomolecules. This unique filtering effect is achieved using various well-defined pore sizes in the two filter layers.

[1)] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.

➢ Ordering information see page 60

ep Dualfilter T.I.P.S.® SealMax

Description
The violet and white filter for the ep Dualfilter T.I.P.S.® SealMax filter tips combine a reliable contamination protection for your pipette from your sample liquid with virtually 100 % protection from aerosols[1)] and biomolecules. This Dualfilter closes immediately when it comes into contact with the overpipetted sample without inhibiting valuable material. Additionally drops and splashes are retained by the white layer, the violet layer forms the highly-effective barrier against sample liquid. Further information and certification on specific sample recovery features, PCR inhibition and aerosol protection are available on your local Eppendorf website.

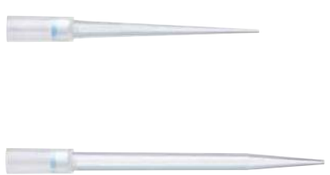


Product features
> Reliable protection from liquids
> Reliable protection from aerosols[1)] and biomolecules
> No PCR inhibiting additives
> Protection of your pipette from aggressive liquids when over-aspiration occurs
> Available in PCR clean/Sterile (sterile and pyrogen-free)
> Continuous inspection of each production lot by an independent laboratory ensures high purity and quality
> Lot specific purity certificates available at: www.eppendorf.com/certificates
> Certificate of filter efficiency acc. to EN 1822 available at: www.eppendorf.com/certificates

Applications
> DNA applications (e.g. PCR)
> RNA applications (e.g. gene expression analysis)
> Protein applications (e.g. antibody research)
> Cell culture applications (e.g. media)
> Applications with radio actives
> All applications which use aerosol[1)] binding liquids

[1)] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.

Special Tips



ep Dualfilter T.I.P.S. 384
> Optimized for applications in 384-well plate format
> Suitable for the usage of 16- and 24-channel pipettes
> For even and simultaneous filling of all 16 or 24 wells of a 384-well plate in just one step
> Enabling for equal starting conditions in each well of a row or column in plate assays, thus increasing reproducibility to a maximum
> Available as ep Dualfilter T.I.P.S. 384 Racks
> Volume range: 20 and 100 µL
> Purity grade: All tips are PCR clean and sterile

i For more information go to www.eppendorf.com/epTips

epT.I.P.S.® LoRetention

Description
epT.I.P.S. LoRetention pipette tips and ep Dualfilter T.I.P.S. LoRetention filter tips are particularly well-suited for applications with samples that contain detergents. Detergents or detergent containing liquids lower the liquid's surface tension. This leads to a phenomenon called "wetting": Residual liquid sticks to the tip wall and cannot be recovered. The invisible film left behind in standard tips shows a significantly high amount of valuable sample material which becomes discarded together with the tip.
Particularly when it comes to sensitive PCR and *real-time* PCR applications or NGS library preparation, low retention surfaces can increase the reproducibility and significantly reduce the loss of expensive reagents.
The low retention property of epT.I.P.S. LoRetention pipette tips and ep Dualfilter T.I.P.S. LoRetention filter tips is generated by an ultrahydrophobic, extremely homogeneous surface. It is achieved through an innovative treatment at the molecular level – the "Pearl Effect" Technology. All pipette tips are uncoated, free of additives and do not leach into the sample. Liquids containing detergents simply roll off, so that practically no liquid remains in the tip. These outstanding material properties ensure maximized sample recovery for cost saving and improved reproducibility.

The "Pearl Effect" – a comparison of the amount of residual liquid when pipetting solutions that contain detergents:
1. Significant loss of sample using standard tips
2. Maximum recovery with epT.I.P.S. LoRetention

Applications
> Cell culture (media)
> Genomics: PCR, RT-PCR, qPCR and all other types of PCR
> Enzymatic reactions (restriction decomposition, ligation)
> Isolation and purification of nucleic acid
> Gel electrophoresis (e.g., prefabricated DNA ladders) typical detergents: SDS, Triton®, X-100, Brij® 35, Tween® 20, CHAPS
> Proteomics (all types of protein examinations)
> Protein isolation and purification
> NGS library preparation

Product features
> Ultrahomogenous surface for maximum reproducibility
> Ultrahydrophobic surface for minimal sample loss
> Significantly reduced foam formation during pipetting
> Extreme resistance to chemicals
> Available in PCR clean and Eppendorf Quality
> Also available as ep Dualfilter T.I.P.S. in PCR clean/Sterile (sterile and pyrogen-free)
> No coating
> Lot-specific certificates are available at: www.eppendorf.com/certificates.

➢ Ordering information see page 58

Technical specifications subject to change.

Maximum reproducibility in genomics
epT.I.P.S. LoRetention are especially recommended for applications where highest precision of DNA/RNA analysis results are needed, such as for PCR and *real-time* PCR. For example, expensive master mixes and enzyme solutions tend to adhere to the tip´s inner surface. Specially treated low retention surfaces are created to repel detergent solutions to a maximum – for minimum loss of your valuable sample.

Examples for liquids with wetting effect:
> Master mixes
> Enzyme solutions: enzyme restrictions, ligation, DNase
> DNA ladders for gel electrophoresis

epT.I.P.S. LoRetention perform considerably better in terms of precision and sample recovery than standard pipette tips as shown in **Fig. 1.**

Maximum reproducibility in proteomics
Not only in molecular biology, high sensitivity detection methods require extreme reliability and reproducibility in pipetting. Also in protein analysis and purification, the reagents and samples often contain detergents, like e.g. SDS-Page. By minimizing sample retention and improving reproducibility of pipetting, epT.I.P.S. LoRetention pipette tips and ep Dualfilter T.I.P.S. LoRetention filter tips are especially advantageous in proteomic applications.

Routine protein applications:
> Isolation
> Purification
> Denaturation

The facts are self-explanatory – when compared to standard pipette tips, epT.I.P.S. LoRetention showed markedly better results in terms of precision and sample recovery, as displayed in **Fig. 1 and 2.**

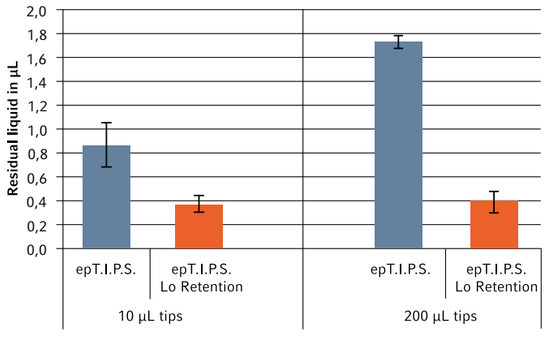


Fig. 1:
Comparison of residual liquid of epT.I.P.S. and epT.I.P.S. LoRetention with master mix for *real-time* PCR. Once the liquid had been dispensed, the residual liquid in the tips was determined. The measurements were repeated several times and the standard deviation was determined. epT.I.P.S. LoRetention resulted in the lowest residual liquid.

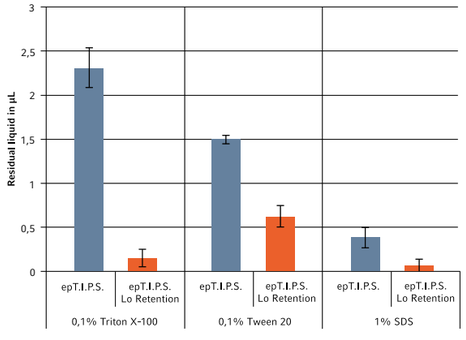


Fig. 2:
Comparison of resistance of the low retention property when subjected to solvents typically used in proteomics. 200 µL epT.I.P.S. and epT.I.P.S. LoRetention were treated with the solvents specified. An enzymatic buffer containing detergents was then pipetted and the residual moisture was determined. epT.I.P.S. LoRetention resulted in reproducible low levels of residual liquids.

i For more information go to www.eppendorf.com/LoRetention

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Volume range/epT.I.P.S.® epT.I.P.S.® LoRetention (all tips shown are actual size)	Standard/Bulk	Reloads	Reloads	Box	Set	Singles	Racks
	eppendorf guaranteed quality	eppendorf guaranteed quality	eppendorf PCR clean certified purity grade	eppendorf guaranteed quality	eppendorf guaranteed quality	eppendorf biopur certified purity grade	eppendorf biopur certified purity grade
dark gray	1,000 tips (2 bags × 500 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips	480 tips (5 trays × 96 tips), 1 reusable box		
0.1 – 10 µL, 34 mm	0030 000.811	0030 073.363 0030 072.049 LoRetention	0030 073.746 0030 072.006 LoRetention	0030 073.002	0030 073.207 0030 072.251 LoRetention		
medium gray	1,000 tips (2 bags × 500 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips	480 tips (5 trays × 96 tips), 1 reusable box	100 tips, individually packed	480 tips (5 racks × 96 tips)
0.1 – 20 µL, 40 mm	0030 000.838	0030 073.380	0030 073.762	0030 073.029	0030 073.223	0030 010.019	0030 075.005
light gray	1,000 tips (2 bags × 500 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips	480 tips (5 trays × 96 tips), 1 reusable box		
0.5 – 20 µL L, 46 mm	0030 000.854	0030 073.401 0030 072.057 LoRetention	0030 073.789 0030 072.014 LoRetention	0030 073.045	0030 073.240 0030 072.260 LoRetention		
yellow	1,000 tips (2 bags × 500 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips	480 tips (5 trays × 96 tips), 1 reusable box	100 tips, individually packed	480 tips (5 racks × 96 tips)
2 – 200 µL, 53 mm	0030 000.870 yellow tips	0030 072.065 LoRetention	0030 072.022 LoRetention	0030 073.061	0030 073.266 0030 072.278 LoRetention	0030 010.035	0030 075.021
orange	1,000 tips (2 bags × 500 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips	480 tips (5 trays × 96 tips), 1 reusable box		480 tips (5 racks × 96 tips)
20 – 300 µL, 55 mm	0030 000.900 0030 000.897 yellow tips	0030 073.444	0030 073.827	0030 073.088	0030 073.282		0030 075.048
blue	1,000 tips (2 bags × 500 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips	480 tips (5 trays × 96 tips), 1 reusable box	100 tips, individually packed	480 tips (5 racks × 96 tips)
50 – 1000 µL, 71 mm	0030 000.927 0030 000.919 blue tips	0030 073.460 0030 072.073 LoRetention	0030 073.843 0030 072.030 LoRetention	0030 073.100	0030 073.304 0030 072.286 LoRetention	0030 010.051	0030 075.064
green	1,000 tips (4 bags × 250 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips	480 tips (5 trays × 96 tips), 1 reusable box		480 tips (5 racks × 96 tips)
50 – 1250 µL, 76 mm	0030 000.935	0030 073.487	0030 073.860	0030 073.126	0030 073.320		0030 075.080

Technical specifications subject to change.

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Volume range/epT.I.P.S.® epT.I.P.S.® LoRetention (all tips shown are actual size)	Standard/Bulk	Reloads	Reloads	Box	Set	Singles	Racks
	eppendorf guaranteed quality	eppendorf guaranteed quality	eppendorf PCR clean certified purity grade	eppendorf guaranteed quality	eppendorf guaranteed quality	eppendorf biopur certified purity grade	eppendorf biopur certified purity grade
dark green	1,000 tips (4 bags × 250 tips)	960 tips (10 trays × 96 tips)	960 tips (10 trays × 96 tips)	1 reusable box × 96 tips			480 tips (5 racks × 96 tips)
50 – 1,250 µL L, 103 mm	0030 000.730	0030 073.606	0030 073.614	0030 073.622			0030 075.129
red	500 tips (5 bags × 100 tips)	480 tips (10 trays × 48 tips)	480 tips (10 trays × 48 tips)	1 reusable box × 48 tips	240 tips (5 trays × 48 tips), 1 reusable box		240 tips (5 racks × 48 tips)
0.25 – 2.5 mL, 115 mm	0030 000.951	0030 073.509	0030 073.886	0030 073.142	0030 073.347		0030 075.102
violet	500 tips (5 bags × 100 tips)			1 reusable box × 24 tips			120 tips (5 racks × 24 tips)
0.1 – 5 mL, 120 mm	0030 000.978			0030 073.169			0030 075.137
violet	300 tips (3 bags × 100 tips)						120 tips (5 racks × 24 tips)
0.2 – 5 mL L, 175 mm	0030 000.650						0030 075.188
turquoise	200 tips (2 bags × 100 tips)						120 tips (5 racks × 24 tips)
0.5 – 10 mL, 165 mm	0030 000.765						0030 075.145
turquoise	200 tips (2 bags × 100 tips)						
0.5 – 10 mL L, 243 mm	0030 000.781						

(Image reduzed size)

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Volume range/ ep Dualfilter T.I.P.S.®/ ep Dualfilter T.I.P.S.® LoRetention/ ep Dualfilter T.I.P.S.® SealMax	Racks	eppendorf PCR clean certified purity grade	eppendorf sterile certified purity grade	eppendorf Forensic DNA Grade certified purity grade according to ISO 18385
dark gray	960 tips (10 racks × 96 tips)			
0.1 – 10 µL S, 34 mm	0030 077.504	0030 077.610 LoRetention	0030 077.806 SealMax	
medium gray	960 tips (10 racks × 96 tips)			
0.1 – 10 µL M, 40 mm	0030 077.512			0030 077.768
light gray	960 tips (10 racks × 96 tips)			
0.5 – 20 µL L, 46 mm	0030 077.520	0030 077.628 LoRetention	0030 077.814 SealMax	
yellow	960 tips (10 racks × 96 tips)			
2 – 20 µL, 53 mm	0030 077.539			0030 077.776
yellow	960 tips (10 racks × 96 tips)			
2 – 100 µL, 53 mm	0030 077.547	0030 077.644 LoRetention	0030 077.822 SealMax	
yellow	960 tips (10 racks × 96 tips)	New		
2 – 200 µL, 55 mm	0030 077.555	0030 077.741* LoRetention	0030 077.830 SealMax	0030 077.784
orange	960 tips (10 racks × 96 tips)			
20 – 300 µL, 55 mm	0030 077.563	0030 077.636 LoRetention	0030 077.849 SealMax	
blue	960 tips (10 racks × 96 tips)			
50 – 1,000 µL, 76 mm	0030 077.571	0030 077.652 LoRetention	0030 077.857 SealMax	0030 077.792
dark green	480 tips (5 racks × 96 tips)			
50 – 1,250 µL L, 103 mm	0030 077.750			

* coming soon

Volume range/ ep Dualfilter T.I.P.S.®/ ep Dualfilter T.I.P.S.® LoRetention/ ep Dualfilter T.I.P.S.® SealMax	Racks	eppendorf PCR clean certified purity grade	eppendorf sterile certified purity grade
violet	120 tips (5 racks × 24 tips)		
0.1 – 5 mL, 120 mm	0030 077.580		
violet	120 tips (5 racks × 24 tips)		
0.2 – 5 mL L, 175 mm	0030 077.725		
turquoise	100 tips, individually packed		
0.5 – 10 mL L, 243 mm	0030 077.598		

(Image reduced size)

Special Tips

Volume range/ pipette tip	eppendorf guaranteed quality
light gray	**GELoader®**
0.5 – 20 µL, 62 mm	192 tips (2 racks × 96 tips) 0030 001.222
light gray	**Microloader™**
0.5 – 20 µL, 100 mm	192 pcs. (2 racks × 96 pcs.) 5242 956.003
light gray	**Mastertip®**
20 µL, 52 mm	480 tips (5 racks × 96 tips) 0030 001.320

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Special Tips
Tips for 16- and 24-Channel Pipettes

Volume range/epT.I.P.S.® 384	Reloads	Reloads	Set
pearl white			
0.1 – 20 µL, 42 mm	3,840 tips (10 trays × 384 tips) 0030 076.001	3,840 tips (10 trays × 384 tips) 0030 076.044	1,920 tips (5 trays × 384 tips), 1 reusable box 0030 076.028
light yellow			
0.5 – 100 µL, 52.8 mm	3,840 tips (10 trays × 384 tips) 0030 076.010	3,840 tips (10 trays × 384 tips) 0030 076.052	1,920 tips (5 trays × 384 tips), 1 reusable box 0030 076.036

Combination of epT.I.P.S.® pipette tips with Research plus pipettes

Eppendorf Research® plus	0.1 – 10 µL dark gray	0.1 – 10 µL M medium gray	0.1 – 20 µL medium gray	0.5 – 20 µL L light gray	0.1 – 20 µL pearl white	0.5 – 100 µL light yellow	2 – 20 µL yellow	2 – 100 µL yellow	2 – 200 µL yellow
epT.I.P.S.®	■		■	■	■	■	■	■	■
epT.I.P.S.® LoRetention	■			■					■
ep Dualfilter T.I.P.S.®	■	■		■	■	■	■	■	■
ep Dualfilter T.I.P.S.® LoRetention	■			■				■	
ep Dualfilter T.I.P.S.® SealMax	■			■				■	■
Fixed volume, single channel pipettes									
10 µL	■	■	■	■					
20 µL		■	■	■					
10 µL							■	■	■
20 µL							■	■	■
25 µL/50 µL/100 µL								■	■
200 µL									■
200/250/500/1,000 µL									
Variable volume, single-, 8- and 12-channel pipettes									
0.1 – 2.5 µL	■	■	■						
0.5 – 10 µL	■	■	■	■					
2 – 20 µL	◆	◆	■	■					
2 – 20 µL							■	■	■
10 – 100 µL							◆	■	■
20 – 200 µL							◆	◆	■
30 – 300 µL							◆	◆	◆
100 – 1,000 µL									
120 – 1,200 µL									
0.25 – 2.5 mL									
0.5 – 5 mL									
1 – 10 mL									
Variable volume, 16- and 24-channel pipettes									
1 – 20 µL					■				
5 – 100 µL						■			

■ normal volume ◆ limited volume

Volume range/Dualfilter T.I.P.S. 384	Racks
pearl white	
0.1 – 20 µL, 42 mm	3,840 tips (10 racks × 384 tips) 0030 078.403
light yellow	
0.5 – 100 µL, 53 mm	3,840 tips (10 racks × 384 tips) 0030 078.411

20 – 300 µL orange	50 – 1,000 µL blue	50 – 1,250 µL green	50 – 1,250 µL L dark green	0.25 – 2.5 mL red	0.1 – 5 mL violet	0.2 – 5 mL L violet	0.5 – 10 mL turquoise	0.5 – 10 mL L turquoise	GELoader/ Microloader 0.5-20 µL
■	■	■	■	■	■	■	■	■	■
	■								
■	■		■		■	■	■	■	
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Combination of epT.I.P.S.® pipette tips with Reference 2 pipettes

Eppendorf Reference® 2	0.1 – 10 µL S dark gray	0.1 – 10 µL M medium gray	0.1 – 20 µL medium gray	0.5 – 20 µL L light gray	2 – 20 µL yellow	2 – 100 µL yellow	2 – 200 µL yellow	20 – 300 µL orange
epT.I.P.S.®	■		■	■		■	■	■
epT.I.P.S.® LoRetention	■			■			■	
ep Dualfilter T.I.P.S.®	■	■		■	■	■	■	■
ep Dualfilter T.I.P.S.® LoRetention	■			■		■		■
ep Dualfilter T.I.P.S.® SealMax	■			■		■	■	■
Fixed volume								
1 µL/2 µL	■	■	■					
5 µL/10 µL	■	■	■	■				
20 µL			■	■				
10 µL					■	■	■	
20 µL					■	■	■	■
25 µL/50 µL/100 µL						■	■	■
200 µL							■	■
200/250/500/1,000 µL								
2 mL/2.5 mL								
Adjustable volume								
0.1 – 2.5 µL	■	■	■					
0.5 – 10 µL	■	■	■	■				
2 – 20 µL	◆	◆	■	■				
2 – 20 µL					■	■	■	◆
10 – 100 µL					◆	■	■	■
20 – 200 µL					◆	◆	■	■
30 – 300 µL					◆	◆	◆	■
100 – 1,000 µL								
0.25 – 2.5 mL								
0.5 – 5 mL								
1 – 10 mL								

■ normal volume ◆ limited volume

50 – 1,000 µL blue	50 – 1,250 µL green	50 – 1,250 µL L dark green	0.25 – 2.5 mL red	0.1 – 5 mL violet	0.2 – 5 mL L violet	0.5 – 10 mL turquoise	0.5 – 10 mL L turquoise	GELoader/ Microloader
■	■	■	■	■	■	■	■	■
■								
■		■		■	■	■		
■								
■								
								■
								■
■	■	■						
			■					
				■	■			■
						■	■	■

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Combination of epT.I.P.S.® pipette tips with Xplorer/Xplorer plus pipettes

Eppendorf Xplorer®/ Eppendorf Xplorer® plus	0.1 – 10 µL dark gray	0.1 – 10 µL M medium gray	0.1 – 20 µL medium gray	0.5 – 20 µL L light gray	0.1 – 20 µL pearl white	0.5 – 100 µL light yellow	2 – 20 µL yellow	2 – 100 µL yellow	2 – 200 µL yellow
epT.I.P.S.®	■		■	■	■	■	■	■	■
epT.I.P.S.® LoRetention	■			■					■
ep Dualfilter T.I.P.S.®	■	■		■	■	■	■	■	■
ep Dualfilter T.I.P.S.® LoRetention	■			■				■	
ep Dualfilter T.I.P.S.® SealMax	■			■				■	■
Variable volume, single-, 8- and 12-channel pipettes									
0.5 – 10 µL	■	■	■	■					
1 – 20 µL	◆	◆	■	■					
5 – 100 µL							◆	■	■
10 – 200 µL							◆	◆	■
15 – 300 µL							◆	◆	◆
50 – 1,000 µL									
50 – 1,200 µL									
0.125 – 2.5 mL									
0.2 – 5 mL									
0.5 – 10 mL									
Variable volume, 16- and 24-channel pipettes									
1 – 20 µL					■				
1 – 20 µL						■			

■ normal volume ◆ limited volume

20 – 300 µL orange	50 – 1,000 µL blue	50 – 1,250 µL green	50 – 1,250 µL L dark green	0.25 – 2.5 mL red	0.1 – 5 mL violet	0.2 – 5 mL L violet	0.5 – 10 mL turquoise	0.5 – 10 mL L turquoise	GELoader/ Microloader 0.5 – 20 µL
■	■	■	■	■	■	■	■	■	■
	■								
■	■		■		■	■	■	■	
■	■								
■	■								
									■
◆									
■									
■									
	■	■	■						
		■	■						
				■					
					■	■			
							■	■	

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Multipette® M4

Aspirate once and dispense up to 100 times
Serial pipetting made easy! The mechanical Multipette M4 is the ideal precision instrument for completing long pipetting or dispensing series. Even liquids which are difficult to pipette are no match for the Multipette/Combitips® system. Volumes are dispensed using the positive displacement principle. The liquid is directly dispensed without an air cushion, ensuring the correct volume is always dispensed regardless of the density, viscosity and volatility of the liquid.

PhysioCare concept

SCIENTISTS' CHOICE AWARDS 17 WINNER

Product features
> Fill the tip once and dispense up to 100 times without a refill
> Automatic Combitips recognition eliminates time consuming volume calculations
> Easy-to-read display guarantees stress-free and intuitive operation
> Dispensing volume is clearly displayed
> Integrated »Sleep« function switches off when the Multipette M4 is not being used, thus reducing energy consumption
> Stress-free work via integrated step counter: dispensing procedures can be continued error free after an interruption or distraction
> Wide dispensing range: 1 µL to 10 mL for flexible operation
> Fully emptied Combitips Tip can be easily ejected with one hand using the operating lever
> Perfect for viscous or foaming solutions and liquids with high vapor pressure through positive displacement principle
> Safe handling of toxic, radioactive or infectious material

Applications
> Repetitive dispensing of volumes in long series such as tube or plate filling, aliquoting reagents and kit usage
> Contamination-free dispensing of toxic, radioactive and other hazardous liquids
> Precise and accurate dispensing of viscous solutions (e.g. glycerol) or liquids with high vapor pressure (e.g. ethanol)

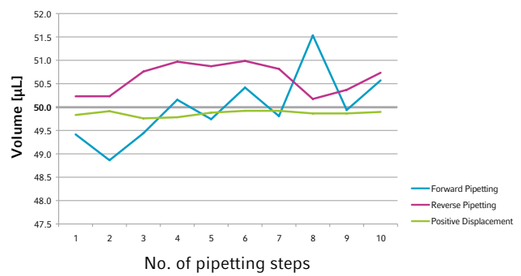
Correct Handling of Difficult Liquids

Viscous liquids

Problem
Viscous liquids have a high resistance to flow (e.g. glycerol)

Recommendation
Usage of a positive displacement pipette for better flow behavior due to absence of air cushion

Air-cushion pipette: Viscous liquids have a negative effect on accuracy and precision (Pipetting 50 µL of 85 % glycerol)



i For more information go to www.eppendorf.com

Volume table for using the Combitips advanced with the Multipette M4

Position of the volume selection dial:	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
Maximum number of dispensing steps:	100	50	33	25	20	16	14	12	11	10
Combitips advanced with the following dispensing volumes:										
0.1 mL	1 µL	2 µL	3 µL	4 µL	5 µL	6 µL	7 µL	8 µL	9 µL	10 µL
0.2 mL	2 µL	4 µL	6 µL	8 µL	10 µL	12 µL	14 µL	16 µL	18 µL	20 µL
0.5 mL	5 µL	10 µL	15 µL	20 µL	25 µL	30 µL	35 µL	40 µL	45 µL	50 µL
1.0 mL	10 µL	20 µL	30 µL	40 µL	50 µL	60 µL	70 µL	80 µL	90 µL	100 µL
2.5 mL	25 µL	50 µL	75 µL	100 µL	125 µL	150 µL	175 µL	200 µL	225 µL	250 µL
5.0 mL	50 µL	100 µL	150 µL	200 µL	250 µL	300 µL	350 µL	400 µL	450 µL	500 µL
10 mL	100 µL	200 µL	300 µL	400 µL	500 µL	600 µL	700 µL	800 µL	900 µL	1.0 mL
25 mL[1)]	250 µL	500 µL	750 µL	1.0 mL	1.25 mL	1.5 mL	1.75 mL	2.0 mL	2.25 mL	2.5 mL
50 mL[1)]	500 µL	1.0 mL	1.5 mL	2.0 mL	2.5 mL	3.0 mL	3.5 mL	4.0 mL	4.5 mL	5.0 mL

[1)] 25 and 50 mL Combitips can only be used with the corresponding adapter. Further information about Combitips advanced see page 73.

Volume table for using the Combitips advanced with the Multipette M4

Position of the volume selection dial:	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Maximum number of dispensing steps:	9	8	7	7	6	6	5	5	5	5
Combitips advanced with the following dispensing volumes:										
0.1 mL	11 µL	12 µL	13 µL	14 µL	15 µL	16 µL	17 µL	18 µL	19 µL	20 µL
0.2 mL	22 µL	24 µL	26 µL	28 µL	30 µL	32 µL	34 µL	36 µL	38 µL	40 µL
0.5 mL	55 µL	60 µL	65 µL	70 µL	75 µL	80 µL	85 µL	90 µL	95 µL	100 µL
1.0 mL	110 µL	120 µL	130 µL	140 µL	150 µL	160 µL	170 µL	180 µL	190 µL	200 µL
2.5 mL	275 µL	300 µL	325 µL	350 µL	375 µL	400 µL	425 µL	450 µL	475 µL	500 µL
5.0 mL	550 µL	600 µL	650 µL	700 µL	750 µL	800 µL	850 µL	900 µL	950 µL	1.0 mL
10 mL	1.1 mL	1.2 mL	1.3 mL	1.4 mL	1.5 mL	1.6 mL	1.7 mL	1.8 mL	1.9 mL	2.0 mL
25 mL[1)]	2.75 mL	3.0 mL	3.25 mL	3.5 mL	3.75 mL	4.0 mL	4.25 mL	4.50 mL	4.75 mL	5.0 mL
50 mL[1)]	5.5 mL	6.0 mL	6.5 mL	7.0 mL	7.5 mL	8.0 mL	8.5 mL	9.0 mL	9.5 mL	10 mL

[1)] 25 and 50 mL Combitips can only be used with the corresponding adapter. Further information about Combitips advanced see page 73.

Ordering information

Description	Order no.
Multipette® M4, single-channel, 1 µL – 10 mL	4982 000.012
Multipette® M4 Starter Kit, single-channel, Multipette® M4, Combitips® Rack, Combitips® assortment pack, 1 µL – 10 mL	4982 000.314
Battery, 3 V, for Multipette® M4 and Multipette® plus	4980 215.003

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Multipette® E3/E3x

The expert for long series pipetting and liquids with demanding properties
Dispensing without compromise on accuracy and precision! With the electronic Multipette E3/E3x you save time and money, work stress-free, and get reliable results. It is the ideal and smart solution for filling plates or large series of tubes. The light weight and minimal operation forces of the Multipette E3 reduce the risk of repetitive strain injuries. The Multipette/Combitips® system builds the perfect harmony allowing automatic tip recognition for ease of use. The syringe style Combitips Tip maximizes pipetting accuracy and precision. It is not affected by liquid properties, most manual pipetting errors and provides protection from aerosol contamination.

Product features
> Automatic Combitips recognition: Eliminates time-consuming volume calculations, avoiding incorrect dispensing volumes
> Ergonomic one-button tip ejector: For one-handed operation and contact-free Combitips advanced ejection
> Speed adjustment: Program aspiration and dispensing speed for the utmost in precision and accuracy while also preventing splashing
> Fill the tip once and dispense up to 100 times without a refill
> 1 µL to 50 mL dispensing range providing up to 5,000 dispensing volumes with increments as low as 100 nanoliters
> Motor-driven function reduces the human error to a minimum and reduces risk of repetitive strain injuries (RSI)
> Safe and ergonomic operation with 9 different selectable languages
> Positive displacement system: Not affected by liquid properties, most manual pipetting errors and provides protection from aerosol contamination
> Eppendorf TrackIT compatible: Editable data chip contains all relevant information. www.eppendorf.com/trackit

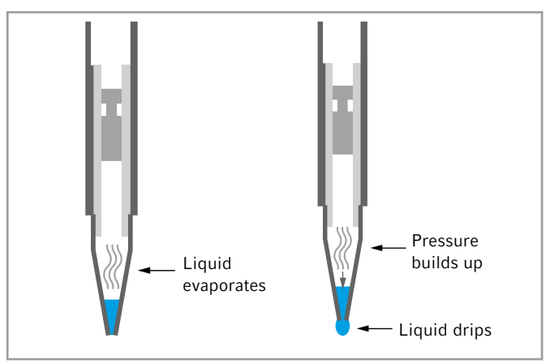
Applications
> Repetitive dispensing of volumes in long series such as tube or plate filling, aliquoting reagents and kit usage
> Contamination-free dispensing for toxic, radioactive and other hazardous liquids
> Precise and accurate dispensing of viscous solutions or liquids with high vapor pressure
> Pooling of supernatants
> Creation of dilution series
> Concentration determination
> Pooling and volume determination with subsequent dispensing

Correct Handling of Difficult Liquids

Liquids with high vapor pressure

Problem
Liquids with high vapor pressure force air cushion to expand (e.g. acetone)

Recommendation
Usage of a positive displacement pipette eliminates the problem due to absence of air cushion



Technical specifications subject to change.

Work precisely and safely
The optimized system of Multipette and Combitips advanced allows automatic tip recognition for ease of use. The syringe style Combitips Tip maximizes pipetting accuracy and precision. It is not affected by liquid properties, most manual pipetting errors and provides protection from aerosol contamination.

Multipette E3 and Multipette E3x at a glance	Multipette E3	Multipette E3x
High-speed dispensing with motorized piston	■	■
Automatic Combitips advanced® tip recognition	■	■
One-button tip ejection	■	■
Volume range from 1 µL to 50 mL, over 5,000 possible dispensing volumes	■	■
Big illuminated color display in 9 languages	■	■
Sleep mode saves battery when not in use	■	■
Long life Li-ion battery	■	■
Speed adjustment to match the viscosity of your liquid and the size of your vessel to prevent air bubbles and splashing	■	■
Options (Opt): Save favorite settings, set service intervals, activate key lock and more	■	■
Modes of operation	3	7
Pipetting (Pip): Precise liquid transfer of up to 50 mL	■	■
Dispensing (Dis): Serial dispensing for up to 100 steps in a row	■	■
Automatic dispensing (Ads): Volume is dispensed at fixed intervals between 0.1 s and 10 s	■	■
Sequential dispensing (Seq): Individual volume setting for up to 16 dispensing steps		■
Aspirate (Asp): consecutive aspiration of liquid for pooling into one Combitip		■
Aspirate and Dispense (A/D): Uptake and volume calculation of an unknown volume with immediate dispense in desired partial volumes		■
Titration (Tit): Sensitive dosing of liquids while dispensed volume is measured		■

Ordering information

Description	Order no.
Multipette® E3, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitips® of each size), 1 µL – 50 mL	4987 000.010
Multipette® E3 bundle incl. charger stand, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitips® of each size), 1 µL – 50 mL	4987 000.371
Multipette® E3x, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitip of each size), 1 µL – 50 mL	4987 000.029
Multipette® E3x bundle incl. charger stand, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitip of each size), 1 µL – 50 mL	4987 000.380
Power supply with power plug adapters, for Eppendorf Xplorer®/Xplorer plus, electronic Multipette®, and charger stand (4880)	4986 603.005

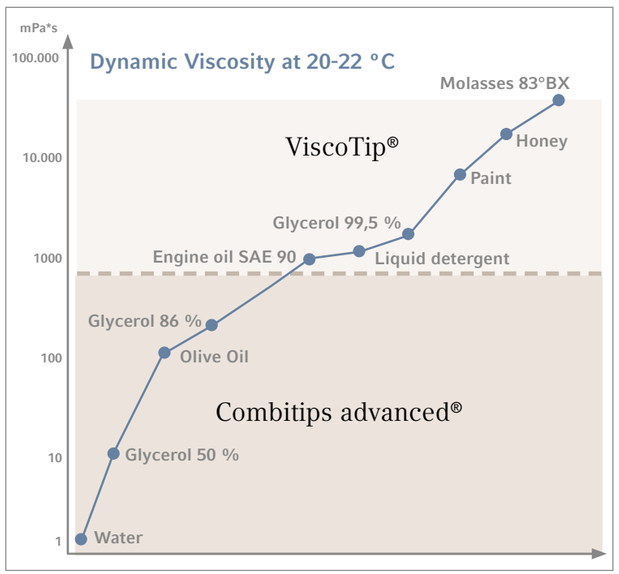
➤ Further information about Combitips advanced see on page 73

ViscoTip®

For mastering highly viscous liquids with your Multipette® from Eppendorf
Experience the new member of the Combitips advanced® dispenser tip family. The ViscoTip is specifically designed and optimized for handling high viscosity liquids up to 14,000 mPa*s such as glycerol 99.5 %, Tween, oils, creams, shampoos or honey. It sharply reduces operating forces while handling such liquids leading to enhanced ergonomics, increased working speed and longer charge lifetime of your Multipette battery.

Product features
> Specialized for liquids with a dynamic viscosity from 200 mPa*s to 14,000 mPa*s
> For dispensing volumes from 100 µL to 10 mL in increments of 10 µL
> Make life easier for your instrument: The new design of the tip means significantly lower operation forces are used, thus it speeds up work and reduces energy consumption
> Don't waste time calculating: Automatic tip recognition and volume calculation in Multipette M4/E3/E3x
> Free of leachables and slip agents: The ViscoTip is free of experiment-interfering leachables (e.g. slip agents, biocides, plasticisers)
> Save time finding the right tip: The color coded double ring and the continuous volume scale distinguish the ViscoTip from Combitips advanced

Applications
> Positive displacement principle (comparable to a syringe)
> For highly viscous liquids
> Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers)



Technical specifications subject to change.

Eppendorf Combitips advanced®

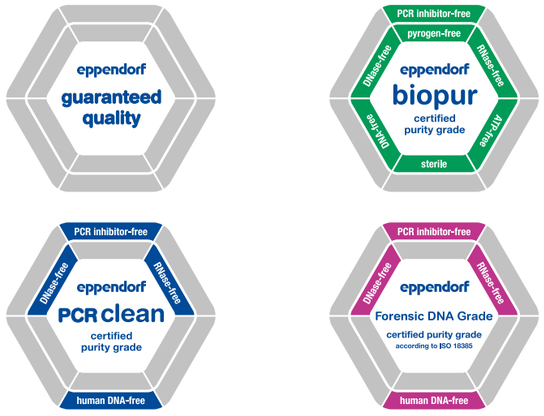
The ideal system components for all Multipette pipettes from Eppendorf
In 1978 Eppendorf revolutionized the industry and laboratory workflow with the introduction of the Combitip/Multipette system and has been the leader in market innovations for nearly 40 years. The Combitips advanced have been completely redesigned and optimized to meet the needs of modern laboratory. The Combitips advanced also function according to the positive displacement principle, thus they always dispense the correct volume independently of the density of the liquid and its flow characteristics (e.g., increased vapor pressure or increased viscosity). Working with radioactive or toxic materials also becomes safer due to the hermetically sealed piston preventing aerosol contamination.

Product features
> Combitips advanced are the ideal system components for all Multipette pipettes of Eppendorf
> The 9 volume sizes (0.1 mL – 50 mL) offer a maximum range of dispensing volumes with increments as low as 100 nanoliters depending on the Combitips used
> Elongated Combitips in volumes 2.5 mL, 5.0 mL and 10 mL make it possible to reach the bottom of the most common laboratory vessels
> An individual color coding facilitates the quick identification of the desired Combitips
> The unique funnel geometry ensures comfortable handling while preventing damage to gloves
> Combitips advanced are offered in different purity grades to support a range of applications
> The appropriate purity grade for each application: Eppendorf Quality™, PCR Clean, Forensic DNA Grade or Biopur®

Applications
> Positive displacement principle (comparable to a syringe)
> High-precision dispensing regardless of the physical properties of the liquid (e.g., viscosity, volatility, density, temperature...)
> Prevents aerosol contamination with hermetically sealed piston for secure dispensing
> Provides protection from radioactive and toxic substances
> Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers)

Always easy to reach
The new Combitips Rack features trouble-free and single-hand operation during dispensing work. The rack holds up to 8 Combitips advanced in sizes ranging from 0.1 mL to 10 mL. The transparent tray allows for the sizes of the Combitips to be easily identified using the color coding.

Eppendorf Combitips advanced®



Unmistakably Eppendorf
The Eppendorf Combitips advanced features the characteristic Eppendorf 3D design on the upper rim of the Combitips, allowing you to easily and confidently recognize the Eppendorf original!

Variety and selection
4 purity grades (Eppendorf Quality, PCR clean, Biopur® and Eppendorf Forensic DNA Grade) are available, so that you will always find the perfect Combitips Tip for your application! The Eppendorf Biopur and Forensic DNA Grade Combitips advanced are individually blister-wrapped and feature an access tab which makes them easier to open, even with gloves!

Technical Specifications

Combitips advanced®	Eppendorf Safe-Lock Tubes			Conical Tubes		Eppendorf Deepwell Plates		
	0.5 mL	1.5 mL	2.0 mL	15 mL	50 mL	96/500 µL	96/1000 µL	96/2000 µL
0.1 mL	+	+	+	-	-	+	+	+
0.2 mL	+	+	+	-	-	+	+	+
0.5 mL	+	+	+	-	-	+	+	+
1.0 mL	+	+	+	-	-	+	+	+
2.5 mL	++	++	++	++	++	+	++	++
5.0 mL	+	+	+	++	++	+	+	+
10 mL	+	+	+	-	++	+	+	+
25 mL	-	+	+	-	-	+	+	+
50 mL	-	+	+	-	-	+	+	+
ViscoTip®								
10 mL	+	+	+	-	++	+	+	+

++ = improved compatibility compared to Combitip plus generation

Technical specifications subject to change.

Ordering information

Combitips advanced®	Color code	Eppendorf Quality™	PCR clean	Biopur®	Forensic DNA Grade
		100 pcs. (4 bags × 25 pcs.)	100 pcs. (4 reclosable bags × 25 pcs.)	100 pcs., individually blister-wrapped	100 pcs., individually blister-wrapped
0.1 mL	white	0030 089.405	0030 089.766	0030 089.618	
0.2 mL	light blue	0030 089.413	0030 089.774	0030 089.626	
0.5 mL	violet	0030 089.421	0030 089.782	0030 089.634	
1.0 mL	yellow	0030 089.430	0030 089.790	0030 089.642	0030 089.855
2.5 mL	green	0030 089.448	0030 089.804	0030 089.650	0030 089.863
5.0 mL	blue	0030 089.456	0030 089.812	0030 089.669	0030 089.871
10 mL	orange	0030 089.464	0030 089.820	0030 089.677	
25 mL [1]	red	0030 089.472	0030 089.839	0030 089.685	
50 mL [1]	light gray	0030 089.480	0030 089.847	0030 089.693	
ViscoTip®					
10 mL		0030 089.502			
Accessories					
Adapter advanced					
25 mL, autoclavable, 1 piece	red	0030 089.715			
25 mL, autoclavable, 7 pcs., individually wrapped	red			0030 089.731	
50 mL, autoclavable, 1 piece	light gray	0030 089.723			
50 mL, autoclavable, 7 pcs., individually wrapped	light gray			0030 089.740	
Combitips advanced® Rack, for 8 Combitips advanced® (0.1 – 10 mL)		0030 089.758			
Combitips advanced® Assortment Pack, contains one sample of each size		0030 089.936			

[1] 4 boxes of 25 pcs. each. Each box containing one adapter.

Varipette® 4720

The large volume pipette for large bottles or tall, narrow vessels
The Varipette® 4720 is a large volume pipette optimized for work with viscous or high-vapor pressure solutions. It also allows for aspirating liquids from large bottles or tall, narrow vessels when using the Varitip S system. Its super easy, one-hand operation significantly speeds up pipetting tasks: Simply press down the operating lever to aspirate liquid from the reservoir. Press the lever again and the liquid will be dispensed into your sample vessel.

Product features
> Volume range: 1 mL to 10 mL
> Fast pipetting and convenient operation due to unique one-hand operation. Liquid automatically aspirates and dispenses by simply pressing the operating lever
> 4-digit volume display and adjustable in 10 µL increments for accurate volume setting
> Eppendorf Varitips® P (fig.1) is a syringe-style, positive displacement tip that allows for accurate pipetting of viscous solutions or liquids with high-vapor pressure
> The Eppendorf Varitips S system, consisting of the dispensing part (fig.2) and Maxitip (fig.3), is optimized for aspirating liquids from large bottles or tall, narrow vessels
> The valve for use together with the Varitips S system ensures drip-free dispensing of volatile solutions

Combination	Volume range	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]
Varipette 4720 and Varitips S system	2.5 – 10 mL	2.5 mL	±1.0 %	0.025 mL	±0.2 %	0.005 mL
		5 mL	±0.4 %	0.02 mL	±0.2 %	0.01 mL
		10 mL	±0.3 %	0.03 mL	±0.2 %	0.02 mL
Varipette 4720 and Varitips P	1 – 10 mL	1 mL	±0.6 %	0.006 mL	±0.2 %	0.002 mL
		5 mL	±0.5 %	0.025 mL	±0.1 %	0.005 mL
		10 mL	±0.3 %	0.03 mL	±0.1 %	0.01 mL

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

Ordering information

Description	Order no.
Varipette® 4720, single-channel, with continuous volume selection in the 1 – 10 mL range, 1 – 10 mL	4720 000.011
Eppendorf Varitips® P, to remove liquid from smaller vessels, 100 pieces	0030 048.130
Eppendorf Varitips® S Starter Kit, to remove liquid from narrow-necked vessels and measuring flasks, consisting of 100 Maxitips, 10 dispensing parts, 10 valves	0030 050.525
Eppendorf Varitips® S dispensing part, 30 pieces	0030 050.533
Eppendorf Varitips® S, graduated, 200 pieces	0030 050.568
Eppendorf Varitips® S valve, 100 pieces	0030 050.541

Eppendorf TrackIT

Description
To increase the traceability of your pipette portfolio Eppendorf offers Eppendorf TrackIT. This product contains a RFID reader and software to scan the device data of an embedded RFID chip within liquid handling instruments and save it in a database which can be opened at any time.

Applications
> Instrument identification
> Traceability of instruments used in an experiment
> Individualization of the instrument
> Printed documentation of all relevant instrument data
> Make all relevant instrument information available for digital documentation
> Documentation of service history

Ordering information

Description	Order no.
Eppendorf TrackIT, RFID Reader and Software	3903 000.014

Easypet® 3

Designed to work in perfect harmony with your Eppendorf Serological Pipets
Experience a new dimension of electronic pipetting with the Easypet® 3. The latest technological developments give you complete speed control with the utmost precision. The lightweight, well-balanced Easypet 3 has been designed considering all ergonomic findings to fit comfortably in your hand and matches its shape to allow for fatigue-free pipetting.

Product features
> Intuitive and convenient speed adjustment simply done with the tips of your fingers
> Lightweight, well-balanced and ergonomic design that allows for fatigue-free pipetting
> Vibrant backlit LEDs provide optical feedback of the remaining battery life
> Lithium polymer rechargeable battery offers long cordless runtime
> Smooth setting of pump speed
> Operation while recharging is possible
> Autoclavable pipette adapter for sterile applications
> Quick release of aspirating cone for easy exchange of membrane filters

Applications
> Pipette controller for use with pipettes from 0.1 – 100 mL
> Serial dispensing of aliquots of different volumes
> Resuspension of bacteria or cell pellets
> Aspiration of cell layer from, e.g., Ficoll® gradient

Technical specifications	
Model	**Easypet® 3**
Weight	160 g
Rechargeable battery	
Capacity	1,100 mAh/3.7 V
Charging time	~3 h
Type	Lithium polymer
Number of dispensings	~2,000 (with a 25 mL pipette)
Operation	Electronic
Pipetting type	Air-cushion
Mains/power supply	
Input	100 V – 240 V AC ± 10 %, 50 Hz – 60 Hz, 0.5 A
Output	5 V DC, 1.0 A

Ordering information

Description	Order no.
Easypet® 3, incl. mains/power supply device, wall mounting device, shelf stand, 2 membrane filters 0.45 µm, 0.1 – 100 mL	4430 000.018
Membrane filter, for Easypet® 4421 and Easypet® 3, 0.2 µm, sterile, PTFE, 5 pcs.	4430 606.005
Membrane filter, for Easypet® 4421 and Easypet® 3, 0.45 µm, sterile, PTFE, 5 pcs.	4421 601.009
Li-polymer battery, for Easypet® 3	4430 605.009

Eppendorf Serological Pipets

Designed to work in perfect harmony with your Easypet® 3
Eppendorf completes its portfolio in liquid handling with the new line of Eppendorf Serological Pipets. Experience the quality and convenience in liquid handling you have trusted in for decades with Eppendorf's system: Easypet 3 and Eppendorf Serological Pipets. Eppendorf's serological pipets are designed to work in perfect harmony with your Easypet 3. The pipets offer precise graduations overlaid on the ultra-clear pipet material to facilitate quick and easy reading of the volume. The pipets are individually wrapped and packaged in a robust dispenser box to ensure consistent premium quality.

Product features
> Clear and precise graduations for easy volume determination
> Color-coding for easy identification of pipet sizes
> Subunits with dispenser option to keep stored products safe
> Individually wrapped pipets for reliable sterility
> Ultra-pure virgin polystyrene meeting the requirement of USP VI
> Harmonized and well-fitting operation with Easypet 3, compatibility with all existing pipet helpers
> Sterility assurance level of 10^{-6}
> Certified absence of detectable pyrogens, DNA, RNase and DNase
> Certified non-cytotoxic

Ordering information

Description	Color code	Volume	Order no.
Eppendorf Serological Pipets, sterile, free of detectable pyrogens, DNA, RNase and DNase. Non-cytotoxic			
Sterile, 800 pcs. (4 bags × 200 pcs.)	yellow	1 mL	0030 127.692
Sterile, 600 pcs. (4 bags × 150 pcs.)	green	2 mL	0030 127.706
Sterile, 400 pcs. (4 bags × 100 pcs.)	blue	5 mL	0030 127.714
Sterile, 400 pcs. (4 bags × 100 pcs.)	orange	10 mL	0030 127.722
Sterile, 200 pcs. (4 bags × 50 pcs.)	red	25 mL	0030 127.730
Sterile, 160 pcs. (4 bags × 40 pcs.)	violet	50 mL	0030 127.749

Pipet Helper®

The perfect instrument for inexperienced users
The Pipet Helper is the perfect instrument for inexperienced users as its robust and intuitive design allows everybody to adjust the meniscus precisely. In addition, the valve unit is optimized so that liquids can be drawn up simply, without exerting pressure. The aspiration bulb provides rapid filling of the pipet. The aspiration and dispensing of liquids are controlled gently by the ergonomic lever. Additionally, a splash free blow-out is provided. The specially designed aspirating cone ensures secure seating for all measuring and volumetric pipets (glass and plastic).

Product features
> Lightweight with reduced operating force
> Easy maintenance and cleaning due to easy disassembly, few parts and fully autoclavable
> Comfortable working because of the good balance and pleasing material
> The aspirating bulb enables pipetting of volumes up to 100 mL at once
> Single lever controls low force aspirating and dispensing
> High control over the liquid movement due to very sensitive valve unit
> Drop wise dispensing and blow out without splashing
> Drainage without any additional pressure delivers very reproducible results
> Drip stop via hydrophobic membrane filter (3 µm)
> The special silicon pipet adapter guarantees a secure pipette fit

Applications
> Preparation of a buffer for chromatography
> Preparation of a fluid for fermentation
> Sample transfer within petrochemistry
> Generate a sample within water analytics
> Preparation of assays

Ordering information

Description	Order no.
Pipet Helper®, 0.1 – 100 mL	4423 000.010
Membrane filter, for Pipet Helper®, 3 µm, not sterile	4423 601.014

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Varispenser® 2/Varispenser® 2x

Safe and easy dispensing of liquids from bottles without compromise
The new Varispenser 2 and Varispenser 2x are the ideal choice for dispensing aliquots of liquid from supply and reagent bottles. Advanced sealing lip technology enables dispensing of nearly all kinds of acids, solutions or bases. Available in 6 sizes for dispensing volumes from 0.2 – 100 mL, these instruments are designed to consistently dispense selected volumes without reagent waste. All Varispenser bottletop dispensers are fully autoclavable for maximum safety in your lab. The Varispenser 2x has a recirculation valve which prevents reagent loss while ventilating.

Product features
> Standard GL 45 thread for most common bottle threads on all sizes
> Safety valve balls in discharge valve prevent leakage when discharge tube is not mounted
> Air vent cap can be unscrewed for easy assembly of drying tube
> Oval-shaped dispenser housing for easy transportation
> PFA seal of the sliding piston prevents seizing up
> Fixation slide on interior toothed track for rapid and safe volume adjustment
> High chemical resistance of all dispensing components
> Telescopic aspirating tubes for variable adjustment to bottle height
> Fully autoclavable without disassembly
> Both models are available in 6 sizes for dispensing volumes from 0.2 – 100 mL

Applications
> Liquid dispensing directly from supply bottles or other big laboratory vessels containing aqueous liquids, lyes, acids, bases or solvents

Ordering information

Volume range	Volume	Dispensing step	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Varispenser® 2, bottle top dispenser with adapters GL 25, GL 28/S 28, GL 32, GL 38, S 40 and telescopic intake tube (length 125 – 240 mm)							
0.2 – 2 mL	0.2 mL	0.05 mL	±5 %	±10 µL	±1 %	±2 µL	4966 000.010
	1 mL	0.05 mL	±1 %	±10 µL	±0.2 %	±2 µL	
	2 mL	0.05 mL	±0.5 %	±10 µL	±0.1 %	±2 µL	
0.5 – 5 mL	0.5 mL	0.1 mL	±5 %	±25 µL	±1 %	±5 µL	4966 000.029
	2.5 mL	0.1 mL	±1 %	±25 µL	±0.2 %	±5 µL	
	5 mL	0.1 mL	±0.5 %	±25 µL	±0.1 %	±5 µL	
1 – 10 mL	1 mL	0.2 mL	±5 %	±50 µL	±1 %	±10 µL	4966 000.037
	5 mL	0.2 mL	±1 %	±50 µL	±0.2 %	±10 µL	
	10 mL	0.2 mL	±0.5 %	±50 µL	±0.1 %	±10 µL	
Varispenser® 2, bottle top dispenser with adapters GL 32, GL 38, S 40 and telescopic intake tube (length 170 – 330 mm)							
2.5 – 25 mL	2.5 mL	0.5 mL	±5 %	±120 µL	±1 %	±25 µL	4966 000.045
	12.5 mL	0.5 mL	±1 %	±120 µL	±0.2 %	±25 µL	
	25 mL	0.5 mL	±0.5 %	±120 µL	±0.1 %	±25 µL	
5 – 50 mL	5 mL	1 mL	±5 %	±250 µL	±1 %	±50 µL	4966 000.053
	25 mL	1 mL	±1 %	±250 µL	±0.2 %	±50 µL	
	50 mL	1 mL	±0.5 %	±250 µL	±0.1 %	±50 µL	
10 – 100 mL	10 mL	1 mL	±5 %	±500 µL	±1 %	±100 µL	4966 000.061
	50 mL	1 mL	±1 %	±500 µL	±0.2 %	±100 µL	
	100 mL	1 mL	±0.5 %	±500 µL	±0.1 %	±100 µL	
Varispenser® 2x, bottle top dispenser with recirculation valve with adapters GL 25, GL 28/S 28, GL 32, GL 38, S 40 and telescopic intake tube (length 125 – 240 mm)							
0.2 – 2 mL	0.2 mL	0.5 mL	±5 %	±10 µL	±1 %	±2 µL	4967 000.014
	1 mL	0.5 mL	±1 %	±10 µL	±0.2 %	±2 µL	
	2 mL	0.5 mL	±0.5 %	±10 µL	±0.1 %	±2 µL	
0.5 – 5 mL	0.5 mL	0.1 mL	±5 %	±25 µL	±1 %	±5 µL	4967 000.022
	2.5 mL	0.1 mL	±1 %	±25 µL	±0.2 %	±5 µL	
	5 mL	0.1 mL	±0.5 %	±25 µL	±0.1 %	±5 µL	
0.1 – 10 mL	1 mL	0.2 mL	±5 %	±50 µL	±1 %	±10 µL	4967 000.030
	5 mL	0.2 mL	±1 %	±50 µL	±0.2 %	±10 µL	
	10 mL	0.2 mL	±0.5 %	±50 µL	±0.1 %	±10 µL	
Varispenser® 2x, bottle top dispenser with recirculation valve with adapters GL 32, GL 38, S 40 and telescopic intake tube (length 170 – 330 mm)							
2.5 – 25 mL	2.5 mL	0.5 mL	±5 %	±120 µL	±1 %	±25 µL	4967 000.049
	12.5 mL	0.5 mL	±1 %	±120 µL	±0.2 %	±25 µL	
	25 mL	0.5 mL	±0.5 %	±120 µL	±0.1 %	±25 µL	
5 – 50 mL	5 mL	1 mL	±5 %	±250 µL	±1 %	±50 µL	4967 000.057
	25 mL	1 mL	±1 %	±250 µL	±0.2 %	±50 µL	
	50 mL	1 mL	±0.5 %	±250 µL	±0.1 %	±50 µL	
10 – 100 mL	10 mL	1 mL	±5 %	±500 µL	±1 %	±100 µL	4967 000.065
	50 mL	1 mL	±1 %	±500 µL	±0.2 %	±100 µL	
	100 mL	1 mL	±0.5 %	±500 µL	±0.1 %	±100 µL	

[1)] The data for systematic error and random error are given according to EN ISO 8655. Technical specifications are subject to change. Errors and omissions excepted. The Varispenser® (plus) is not a substitution for a bottle closure. Volatile liquids can disappear.

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Eppendorf Top Buret™

Continuous and pulse-free manual titration
The Eppendorf Top Buret sets standards for manual titration. With each turn of the dial, liquid is continously dispensed. This eliminates the need for new liquid aspiration and makes titration simpler and safer. The Top Buret comes in two different models: Model M features a dispensing rate of 2,500 µL per rotation; Model H features a rate of 5,000 µL per rotation. The digital display readings on both models range from 10 µL to 999.9 mL with the size of your supply bottle being the only limiting factor. Its clearly labeled user-friendly digital display and simple knob control provides for easy, ergonomic and fatigue-free operation.

Product features
> Continuous, pulse-free dispensing technology
> Recirculation valve with valve lever
> Voltage supply with longerlife battery and battery status indicator
> Dispensing range 0.1 mL to 999.9 mL
> Electronic control pad can be removed as unit
> Service-friendly modular design incl. simple calibration program
> High chemical resistance
> Variable discharge tube, horizontal 142 – 220 mm, vertical 10 – 200 mm and rotatable by 360°
> Telescopic aspirating tube for automatic length adjustment of 210 – 370 mm
> Suitable for GL 32, GL 38, GL 45 and S 40 buttress thread with included adapters. Additional adapters available

Ordering information

Volume range	Volume	Rel. systematic error[1)]	Abs. systematic error[1)]	Rel. random error[1)]	Abs. random error[1)]	Order no.
Eppendorf Top Buret™ M						
0.1 – 999.9 mL	2.5 mL	±2.0 %	±0.05 mL	±1.0 %	±0.025 mL	4965 000.017
	12.5 mL	±0.4 %	±0.05 mL	±0.2 %	±0.025 mL	
	25 mL	±0.2 %	±0.05 mL	±0.1 %	±0.025 mL	
Eppendorf Top Buret™ H						
0.1 – 999.9 mL	5 mL	±2.0 %	±0.1 mL	±1.0 %	±0.05 mL	4965 000.025
	25 mL	±0.4 %	±0.1 mL	±0.2 %	±0.05 mL	
	50 mL	±0.2 %	±0.1 mL	±0.1 %	±0.05 mL	

[1)] The data for systematic error and random error are given according to EN ISO 8655. Technical specifications are subject to change. Errors and omissions excepted. The Varispenser (plus) is not a substitution for a bottle closure. Volatile liquids can disappear.

Accessories

Description	Order no.
Telescoping aspirating tube from FEP, individually adjustable length 125 mm – 240 mm, for Varispenser® 2(x) with nominal volume of 2 mL, 5 mL or 10 mL, outer diameter 6 mm, standard size	4966 504.000
Telescoping aspirating tube from FEP, individually adjustable length 170 mm – 330 mm, for Varispenser® 2(x) with nominal volume of 25 mL, 50 mL or 100 mL, outer diameter 7.6 mm, standard size	4966 507.000
Telescoping aspirating tube from FEP, individually adjustable length 195 mm – 350 mm, for Varispenser® 2(x) with nominal volume of 2 mL, 5 mL or 10 mL, outer diameter 6 mm, special size for large cylinders	4966 505.007
Telescoping aspirating tube from FEP, individually adjustable length 250 mm – 480 mm, for Varispenser® 2(x) with nominal volume of 2 mL, 5 mL or 10 mL, outer diameter 6 mm, special size for very large cylinders and canisters	4966 506.003
Telescoping aspirating tube from FEP, individually adjustable length 250 mm – 480 mm, for Varispenser® 2(x) with nominal volume of 25 mL, 50 mL or 100 mL, outer diameter 7.6 mm, special size for very large cylinders and canisters	4966 508.006
Telescoping aspirating tube from FEP, individually adjustable length 70 mm – 140 mm, for Varispenser® 2(x) with nominal volume of 2 mL, 5 mL or 10 mL, outer diameter 6 mm, special size for small cylinders	4966 503.004
Telescopic aspirating tube, for Eppendorf Top Buret™, Varispenser® and Varispenser® plus	4960 805.009
Bottle thread adapter from GL 32 to GL 25, PP	4960 800.040
Bottle thread adapter from GL 32 to GL 27, PP	4960 800.139
Bottle thread adapter from GL 32 to GL 28, PP	4960 800.058
Bottle thread adapter from GL 32 to NS 19/26, PP	4960 800.082
Bottle thread adapter from GL 32 to NS 24/29, PP	4960 800.090
Bottle thread adapter from GL 32 to NS 29/32, PP	4960 800.104
Bottle thread adapter from GL 45 to GL 32, PP	4960 800.120
Bottle thread adapter from GL 45 to GL 38, PP	4960 800.155
Bottle thread adapter from GL 45 to S 40 (Buttress thread), PP	4960 800.147
Bottle thread adapter, from GL 32 to GL 28, ETFE	4960 835.005
Bottle thread adapter, from GL 45 to GL 38, ETFE	4960 839.000
Bottle thread adapter, from GL 45 to GL 40, ETFE	4960 834.009
Bottle thread adapter from GL 32 to GL 25, ETFE	4966 614.000
Bottle thread adapter from GL 45 to GL 32, ETFE	4966 615.007
Flexible discharge tube with recirculation valve, coiled from PTFE, approx. 80 cm long, with safety hand grip, for Varispenser® 2(x) with nominal volume of 2 mL, 5 mL or 10 mL, outer tube diameter 3 mm, inner tube diameter 2 mm	4966 501.001
Flexible discharge tube with recirculation valve, coiled from PTFE, approx. 80 cm long, with safety hand grip, for Varispenser® 2(x) with nominal volume of 25 mL, 50 mL or 100 mL, outer tube diameter 4.5 mm, inner tube diameter 3 mm	4966 502.008
Drying tube (not filled), including PTFE sealing ring, for Varispenser® 2(x), all sizes	4966 509.002
Drying tube, without drying agent, for Eppendorf Top Buret™, Varispenser® and Varispenser® plus	4960 851.000
Ventilation screw with Luer cone made of PP for microfilter, including PTFE sealing ring, for Varispenser® 2(x), all sizes	4966 511.007
Thread adapter for jerrycan 5L from 45 mm to 17/8'' thread	4960 832.006

ep*Motion*® 96

Product features
> 0.5 to 300 µL or 5 to 1,000 µL with one system
> Electronic pipetting with synchronous 96 channel piston movement for better precision and reproducibility of results
> Auto-detect function for tip size
> Use two sizes of reload tips for best accuracy
> Intuitive and industry proven software concept and convenient touch screen control
> Intelligent, preset applications: aspiration, dilution, multi dispense, pipette and mix
> Individual speed setting, set parameters you are comfortable with and that match the liquid class
> Easy and rapid tip load and reloading
> Compact design to fit in a laminar flow hood
> Reduced risk of repetitive stress injury (RSI)

Applications
> Replication and reformatting of microplates
> PCR set-up in 96 well format
> Cell seeding and media change
> Reagent and compound addition
> 384 wells by 4 times 96 well pipetting
> Cell-based assays
> ELISA handling (plate coating and wash)
> Biochemical assays
> Nucleic acid purification in 96-well format

Ordering information

Description	Order no.
ep*Motion*® 96, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.5 – 300 µL	5069 000.012
ep*Motion*® 96 with 2-position slider, with 2-position slider, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.5 – 300 µL	5069 000.110
ep*Motion*® 96xl, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 5 – 1,000 µL	5069 000.217
ep*Motion*® 96xl with 2-position slider, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 5 – 1,000 µL	5069 000.314
ep*Motion*® 96 Accessories, Upgrade set 2-position slider for ep*Motion*® 96	5069 074.008
ep*Motion*® reservoir 195 mL, low dead volume reservoir, single well with 96 cavities, PCR clean, 4 x 5 reservoirs	0030 126.556

↗ Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com

ep*Motion*® 5070/5070f

Product features
> 4 ANSI/SLAS worktable and unlimited virtual positions
> Maximum pipetting accuracy from 0.2 to 1,000 µL
> Calibrated 1-channel and 8-channel pipetting tools
> Optical sensor[1)] for detecting liquids, labware, tips
> Compatible with tubes (0.2 mL to 50 mL) and microplates with up to 384 wells
> Automatic exchange of two pipetting tools
> Completely contained housing including door safety mechanism (except for 5070f, laminar-flow version)
> Option for compact EasyCon tablet or MultiCon PC controller by touch, mouse or keyboard, upgradable for barcode tracking and GxP software versions

[1)] Patent US 6,819,437 B2

Applications
> Serial dilutions
> Distributing reagents
> Assay set-up
> Sample transfer from individual tubes to plates
> Reformatting plates
> PCR set-up
> Cell-based assay set-up
> Immunoassay set-up
> Setting concentrations or volumes
> Media change

Special features for ep*Motion*® 5070f
> Eppendorf Light barrier beam – monitors the closure of the bench hood for safety
> Pre-programmed cell culture labware
> Sterile pipet tips available
> Autoclavable pipetting tools

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ep*Motion*® 5073l/5073m

Product features
> 6 ANSI/SLAS microplate positions
> Optical sensor[1)] for detecting liquids, labware, tips
> Automatic replacement of 2 pipetting tools and gripper
> Volume range of 0.2 to 1,000 µL for maximum pipetting accuracy
> 3D-MagSep technology, mixing, tempering, and magnetic separation all at one location
> Calibrated 1-channel and 8-channel pipetting tools
> Optional UV lamp and HEPA filter system for decontamination and clean air conditions
> Compatible with tubes (0.2 to 50 mL) and microplates with up to 384 wells

[1)] US patent 6,819,437 B2

Applications
> DNA and RNA purification
> PCR set-up
> Serial dilution and normalization of samples
> Sample or reagent transfer
> Sample mixing and tempering
> Assay set-up
> Nucleic acid extraction
> Media change and other cell culture applications

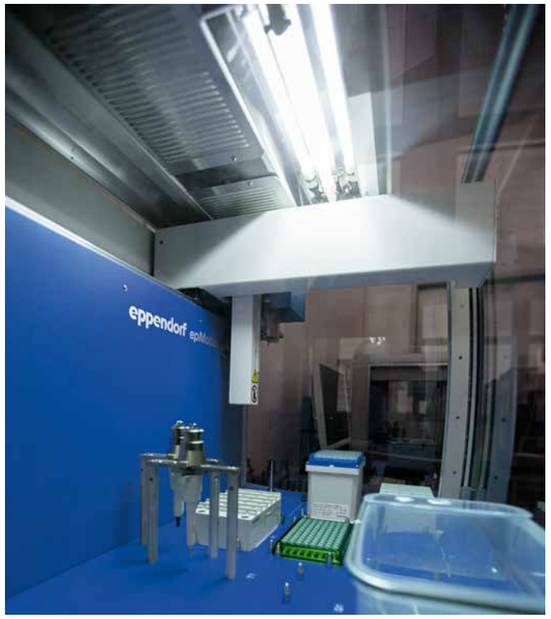
Special features for ep*Motion*® 5073
> The 6 positions of the ep*Motion*® 5073 systems, automatic tool change, and gripper option open up a wide variety of applications
> Unique combination of magnet finger module and Eppendorf ThermoMixer® allow you to separate, mixing and temper at one position (5073m)
> Thermal module (optional) 5073l

i For more information go to www.eppendorf.com

Technical specifications subject to change.

ep*Motion*® 5075l

Product features
> 15 ANSI/SLAS worktable positions
> Maximum pipetting accuracy from 0.2 to 1,000 µL
> Automatic exchange of all tools (gripper, 1-channel and 8-channel)
> Optical sensor[1)] for detecting liquids, labware, tips
> Compatible with tubes (0.2 mL to 50 mL) and microplates with up to 384 wells
> Eppendorf MultiCon PC controller to run epBlue software by touch or mouse
> Optional software extensions for handling samples with barcodes or for integration to LIMS and ELN
> Optional software extensions for supporting regulated process environments (GLP, GMP, 21 CFR part 11)
> CleanCap option – UV lamp and HEPA filter for decontamination and clean air conditions
> 3 thermal module options for heating or cooling (0 – 110 °C) of samples or reagents



Applications
> NGS library preparation
> Distributing reagents and serial dilutions
> Sample transfer from individual tubes to plates
> Reformatting plates
> Media change and other cell culture applications
> Sample pooling
> Real-time PCR set-up
> Cell-based assay set-up
> Immunoassay set-up
> Setting concentrations or volumes

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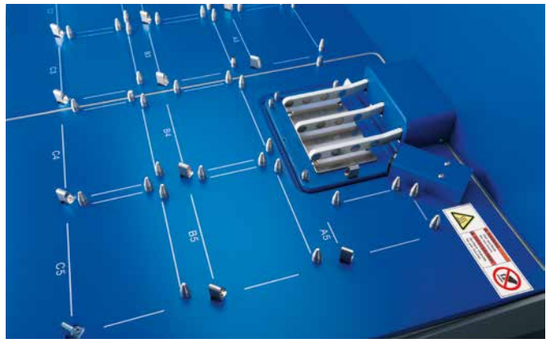
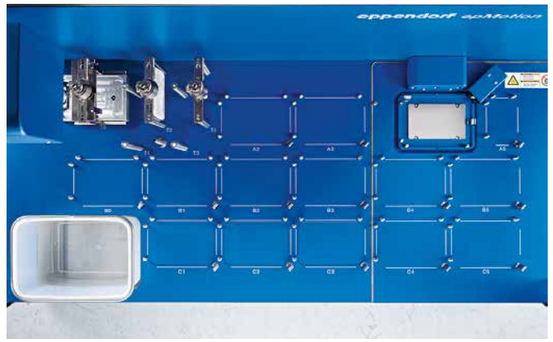
ep*Motion*® 5075t/5075m

Product features
> Same as 5075l, plus
> Integrated Eppendorf ThermoMixer® with [2D]Mix-Control technology
> Temperature control range 15 °C below RT to 95 °C
> Automatic fixing of labware for mixing up to 2,000 rpm
> Pipetting at standard positions during shaking
> 14.5 deck positions, 14 SLAS/ANSI plus small position for special reagent reservoir rack (3 reservoirs)
> 2 thermal module options





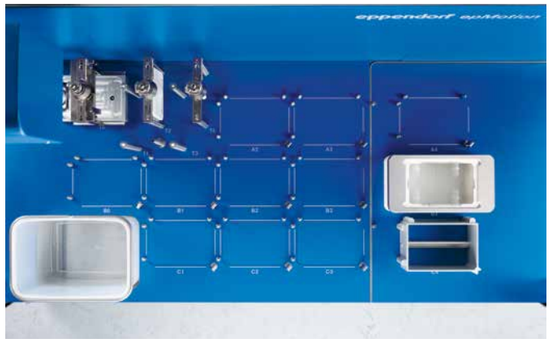
Applications
> Like 5075l, plus
> Bead applications with mixing and tempering
> Sequencing and PCR clean-up
> Nucleic acid purification
> Cell disruption
> Immunoassays
> NGS library preparation

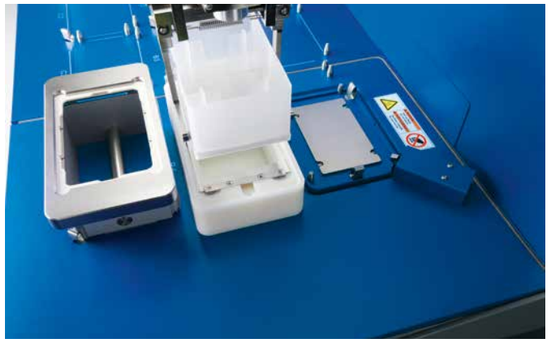
Special features for ep*Motion*® 5075m
> Same as ep*Motion* 5075t, plus
> Combination of magnetic finger module and Eppendorf ThermoMixer®
> Dedicated MagSep reagent kits for nucleic acid purification from 1 – 24 samples

i For more information go to www.eppendorf.com

ep*Motion*® 5075v/5075vt

Product features
> Same as ep*Motion* 5075l
> 12 SLAS/ANSI deck positions
> Integrated vacuum pump – silent operation, no tubing, wiring, or reservoirs to maintain
> Vacuum station fully integrated that automatically adapts to filter plates controlled by software
> Gripper for plate and labware transport
> 3 thermal module options (2 in case of 5075vt)
> Also available as 5075vt version with integrated Eppendorf ThermoMixer®





Applications
> Like 5075l with vacuum purification technologies
> Solid phase extraction
> Filtration
> DNA from blood, tissue and cells
> DNA from plants and bacteria
> Sequencing and PCR clean-up
> Total RNA isolation

Special features for ep*Motion*® 5075vt
> Integrated Eppendorf ThermoMixer® with [2D]Mix-Control technology
> Temperature control range RT -15 °C to 95 °C
> Automatic securing of labware for mixing up to 2,000 rpm

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Ordering information

Description	Order no.
ep*Motion*® 5070 EasyCon, completely contained housing, system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5070 006.032
ep*Motion*® 5070 MultiCon, completely contained housing, system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5070 000.282
ep*Motion*® 5070f EasyCon, system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5070 006.108
ep*Motion*® 5070f MultiCon, system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5070 000.283
ep*Motion*® 5073m EasyCon, completely contained housing, system incl. EasyCon, MagSep™ module, Eppendorf ThermoMixer®, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.787
ep*Motion*® 5073m MultiCon, completely contained housing, system incl. MultiCon, MagSep™ module, Eppendorf ThermoMixer®, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.795
ep*Motion*® 5073mc EasyCon, CleanCap, system incl. EasyCon, MagSep™ module, Eppendorf ThermoMixer®, CleanCap, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.809
ep*Motion*® 5073mc MultiCon, CleanCap, system incl. MultiCon, MagSep™ module, Eppendorf ThermoMixer®, CleanCap, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.817
ep*Motion*® M5073, completely contained housing, system incl. EasyCon, MagSep™ module, Eppendorf ThermoMixer®, epBlue™ software and TS 50, TS 1000, PrepRack, ReagentRack, Rack for 24 Safe-Lock Tubes, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.205
ep*Motion*® M5073c, with CleanCap, EasyCon, MagSep™ module, Eppendorf ThermoMixer®, epBlue™ software and TS 50, TS 1000, PrepRack, ReagentRack, Rack for 24 Safe-Lock Tubes, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.400
ep*Motion*® 5073l EasyCon, completely contained housing system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.582
ep*Motion*® 5073l MultiCon, completely contained housing system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.590
ep*Motion*® 5073lc EasyCon, CleanCap, system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.604
ep*Motion*® 5073lc MultiCon, CleanCap, system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.612
ep*Motion*® P5073, for automatic preparation of PCR reactions, with EasyCon, epBlue™ software, TS 50, TS 300, Thermoblock for PCR plates, 96 well, Rack for 24 Safe-Lock tubes, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.000
ep*Motion*® P5073c, for automatic preparation of PCR reactions, with CleanCap, EasyCon, epBlue™ software, TS 50, TS 300, Thermoblock for PCR plates, 96 well, Rack for 24 Safe-Lock tubes, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5073 000.302
ep*Motion*® 5075l, basic device incl. epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5075 000.301
ep*Motion*® 5075v, basic device incl. vacuum system, gripper, vac frame 2, vac frame holder, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5075 000.303
ep*Motion*® 5075t, basic device incl. Eppendorf ThermoMixer®,epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5075 000.302
New **ep*Motion*® 5075t NGS solution**, package with completely contained housing, MultiCon PC, Enhanced feature set 1, C2 thermal module, dispensing tools, plus NGS specific accessories, plus NGS specific consumables to start automated library preparation, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5075 000.962
New **ep*Motion*® 5075tC NGS solution**, package with CleanCap, MultiCon PC, Enhanced feature set 1, C2 thermal module, dispensing tools, plus NGS specific accessories, waste bag holder, plus NGS specific consumables to start automated library preparation, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5075 000.963
ep*Motion*® 5075vt, basic device incl. vacuum system, gripper, vac frame 2, vac frame holder, Eppendorf ThermoMixer®, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5075 000.304
ep*Motion*® 5075m, basic device incl. Eppendorf MagSep™ module, Eppendorf ThermoMixer®, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL	5075 000.305

↗ Ordering information for other voltage options begins on page 418

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Configuration options to be ordered with basic ep*Motion*® 5075 devices

Configuration option description	Ordering no.	5075l	5075t	5075v	5075vt	5075m
Eppendorf EasyCon™ tablet	5073 000.108	–	–	–	–	–
Eppendorf MultiCon PC controller incl. keyboard	5075 001.101	?	?	?	?	?
Completely contained housing	5075 751.623	?	?	?	?	?
CleanCap & completely contained housing	5075 751.607	opt.	opt.	opt.	opt.	opt.
Thermal module on position C1	5075 002.604	opt.	opt.	opt.	opt.	opt.
Thermal module on position C2	5075 002.612	opt.	opt.	opt.	opt.	opt.
Thermal module on position C3	5075 002.620	opt.	–	opt.	–	–
Gripper for labware transport, incl. holder	5282 000.018	opt.	opt.	incl.	incl.	opt.
epBlue™ ID, barcode & tracking software incl. manual barcode scanner	5075 002.701	opt.	opt.	opt.	opt.	opt.
epBlue™ GxP, software supporting regulatory compliance	5075 002.728	opt.	opt.	opt.	opt.	opt.

Legend
? Please add this option for working configuration
incl. Already included in this basic ep*Motion* device
– Selection of this option is not possible for this basic ep*Motion* device
opt. Add this option to increase functionality of this basic ep*Motion* device

epT.I.P.S.® Motion as Reload System

Description

epT.I.P.S. Motion can be used with ep*Motion*® 96 or integrated into your workstation as a reload system when combined with the tip holder. The high-quality reload tips are delivered in a PET thermoformed tray with sealed lid. Upgrading to the autoclavable, aluminum tip holder, which replaces the disposable box, provides waste reduction of up to 40 %.

Product features
> Delivered in a PET blister packaging with a sealed cap to assure quality
> Color coded trays for easy volume identification
> Reload system with autoclavable aluminum tip holder reduces plastic waste of tip boxes by up to 40 %
> Available with standard and filter/PCR clean tips

Applications
> Easy conversion with TipHolder Adapter
> TipHolder Adapter is autoclavable

Ordering information

Description	Order no.
epT.I.P.S.® Motion as Reload System, without filter	
Eppendorf Quality™, 10 µL, 2,304 tips (24 trays × 96 tips)	0030 014.545
Eppendorf Quality™, 50 µL, 2,304 tips (24 trays × 96 tips)	0030 014.421
Eppendorf Quality™, 300 µL, 2,304 tips (24 trays × 96 tips)	0030 014.464
Eppendorf Quality™, 1,000 µL, 2,304 tips (24 trays × 96 tips)	0030 014.502

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epT.I.P.S.® Motion as Reload System

Ordering information

Description	Order no.
epT.I.P.S.® Motion as Reload System, with filter	
PCR clean, 10 µL, 2,304 tips (24 trays × 96 tips)	0030 014.553
PCR clean, 50 µL, 2,304 tips (24 trays × 96 tips)	0030 014.430
PCR clean, 300 µL, 2,304 tips (24 trays × 96 tips)	0030 014.472
PCR clean, 1,000 µL, 2,304 tips (24 trays × 96 tips)	0030 014.510
PCR clean and sterile, 10 µL, 2,304 tips (24 trays × 96 tips)	0030 014.561
PCR clean and sterile, 50 µL, 2,304 tips (24 trays × 96 tips)	0030 014.529
PCR clean and sterile, 300 µL, 2,304 tips (24 trays × 96 tips)	0030 014.537
TipHolder, for epT.I.P.S.® Motion Reloads	5075 751.399

epT.I.P.S.® Motion pipette tips

Description
Automated pipetting processes place high demands on the design and material of pipette tips used. Eppendorf has specially designed the epT.I.P.S. Motion for use on the ep*Motion*® 5070, 5073 and 5075 Liquid Handling Workstation. epT.I.P.S. Motion pipette tips, with and without filters, developed in torsion-resistant, clean racks.

Product features
> Color-coded trays for direct volume identification
> O-ring on dispensing tools assures an optimal fit each time
> Optical sensor automatically identified tip type

Applications
> Available in multiple purity grades
> Easily exchangeable, no additional labware files required
> Also available as reload system
> Also availabe as epT.I.P.S. Motion SafeRacks recommended for re-use tips feature

Ordering information

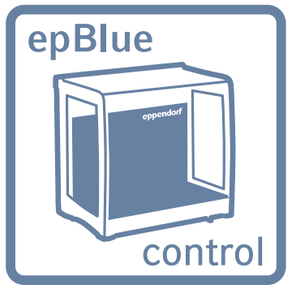
Description	Order no.
epT.I.P.S.® Motion pipette tips, without filter	
Sterile, 10 µL, 960 tips (10 racks × 96 tips)	0030 015.185
Sterile, 50 µL, 960 tips (10 racks × 96 tips)	0030 015.207
Sterile, 300 µL, 960 tips (10 racks × 96 tips)	0030 015.223
Sterile, 1,000 µL, 960 tips (10 racks × 96 tips)	0030 015.240
Eppendorf Quality™, 10 µL, 960 tips (10 racks × 96 tips)	0030 014.383
Eppendorf Quality™, 50 µL, 960 tips (10 racks × 96 tips)	0030 014.405
Eppendorf Quality™, 300 µL, 960 tips (10 racks × 96 tips)	0030 014.448
Eppendorf Quality™, 1,000 µL, 960 tips (10 racks × 96 tips)	0030 014.480
epT.I.P.S.® Motion pipette tips, with filter	
PCR clean and sterile, 10 µL, 960 tips (10 racks × 96 tips)	0030 015.193
PCR clean and sterile, 50 µL, 960 tips (10 racks × 96 tips)	0030 015.215

i For more information go to www.eppendorf.com

Ordering information

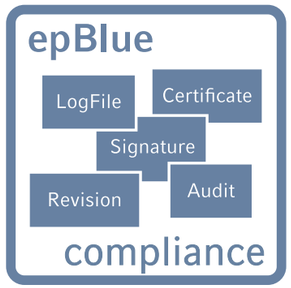
Description	Order no.
PCR clean and sterile, 300 µL, 960 tips (10 racks × 96 tips)	0030 015.231
PCR clean and sterile, 1,000 µL, 960 tips (10 racks × 96 tips)	0030 015.258
PCR clean, 10 µL, 960 tips (10 racks × 96 tips)	0030 014.391
PCR clean, 50 µL, 960 tips (10 racks × 96 tips)	0030 014.413
PCR clean, 300 µL, 960 tips (10 racks × 96 tips)	0030 014.456
PCR clean, 1,000 µL, 960 tips (10 racks × 96 tips)	0030 014.499
epT.I.P.S.® Motion as SafeRack tips, without filter	
Eppendorf Quality™, 50 µL, 960 tips (10 racks × 96 tips)	0030 014.600
Eppendorf Quality™, 300 µL, 960 tips (10 racks × 96 tips)	0030 014.626
Eppendorf Quality™, 1,000 µL, 960 tips (10 racks × 96 tips)	0030 014.642
epT.I.P.S.® Motion as SafeRack tips, with filter	
PCR clean, 50 µL, 960 tips (10 racks × 96 tips)	0030 014.618
PCR clean, 300 µL, 960 tips (10 racks × 96 tips)	0030 014.634
PCR clean, 1,000 µL, 960 tips (10 racks × 96 tips)	0030 014.650

Software



epBlue™ ep*Motion*® PC software
> Graphical user interface
> Main menu with direct access to the most important functions
> 3D view of workstation and run simulation
> User administration with password protection
> Importing of files for normalization and cherry picking
> Printing and archiving protocols
> Pre-installed on all ep*Motion* systems
> Create, edit and simulate application on any Windows 7, 8 or 10 PC with ep*Motion* Editor 40 software product

epBlue™ ID software
> Visual tracking of the scan procedure
> Automatic checking of the worktable
> Scanning of individual reaction vessels and microplates
> Documentation of reagent type and batch
> CSV or XML-based results file
> Compatible with LIMS-generated work lists
> Data exchange with 2D barcode readers
> Easy to operate



epBlue™ GxP software
> Complete electronic documentation
> Access control and user level management
> Audit trail and log file
> Revision management
> Electronic signatures
> Electronic certificates according to industry-standard algorithm
> Exporting and archiving of digitally signed documents
> Database system
> Supplied certificates
> Expansion via epBlue ID (optional)

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Software

Ordering information

Description	Order no.
epBlue™ ID barcode and tracking software incl. manual barcode scanner, modular expansion of epBlue™ for barcode support. Incl. manual barcode reader with stand. Compatible with epBlue™ version 40.1 and higher	5075 002.701
epBlue™ ID software and hardware modification kit, for 5070 and 5075 PC versions (SN < 4000), barcode support includes software, barcode reader and stand, compatible with all ep*Motion*® PC versions except ep*Motion*® 5075 MC PC version, not compatible with the ep*Motion*® operator panel or EasyCon versions	5075 000.830
epBlue™ GxP software, for use in supporting process environments (according to GLP, GMP, 21 CFR part 11), as configuration option or for pre-installed ep*Motion*® MultiCon versions with epBlue™ version 40.1 to 40.5, with epBlue™ GxP software, corresponding firmware, certificates	5075 002.728
ep*Motion*® Editor, incl. editor key, software package for creating and editing applications, runs on the PC, compatible with epBlue™ 10.x versions	5075 014.009
ep*Motion*® Editor, incl. editor key, for creating and editing applications, runs on the PC, compatible with epBlue™ 10.x versions, additional license	5075 015.200
ep*Motion*® Editor 40, software CD ROM with instructions, used to create, edit and simulate application on a PC, compatible with epBlue™ version >40.x	5075 014.220
ep*Motion*® Editor 40, additional software license	5075 014.300
Enhanced Feature Set 1, license for epBlue™ additional features: Calculated , samples; Automatic tool selection; Start at command; Email notification, requires service visit and epBlue >40.6	5075 000.964

ep*Motion*® Accessories

Dispensing tools
> 8 dispensing tools from 0.2 µL to 1,000 µL are available
> 4 single channel and 4 multi channel
> Autoclavable and calibrated based on ISO 8655-6

Reservoir Rack
> For holding up to 7 reservoir rack modules or reagent reservoirs
> Temperature controlled when used with a thermal module

Reservoir Rack Module TC
> Modules for the reservoir rack
> 10 modules are available for tube volumes from 0,2 mL to 50 mL
> 3 Modules for reservoirs 10, 30 and 100 mL
> Temperature controlled when used with a thermal module

i For more information go to www.eppendorf.com

Rack for single test tubes
> For micro test tubes, glass, or plastic tubes of various sizes

ep*Motion*® thermoracks and adapters
> For use with 96-well or 384-well plates and single 0.2 mL tubes
> Temperature controlled when used with a thermal module

ep*Motion*® thermoadapters
> For heating and cooling of Deepwell Plates
> Plates can be exchanged by gripper
> Temperature controlled when used with a thermal module

Thermorack Rotor/Tubes
> Special adapter for temperature controlled pipetting of Qiagen® Rotor-Disc® 72/100 and 20 tubes 1.5/2.0 mL
> Temperature controlled when used with a thermal module

Thermorack for 24 tubes
> Use with 1.5 mL or 2.0 mL Eppendorf Safe-Lock tubes
> Adapters for 0.5 mL tubes included
> Available also for Cryo tubes
> Temperature controlled when used with a thermal module

Ordering information

Description	Order no.
Rack Smart, for holding one tube rack of SmartCycler™ reaction tubes	5075 790.009
Rack LC 20 µL/100 µL, for up to 96 × 20 µL or 100 µL LightCycler® capillaries for use with Centrifuge 5804/5804 R or 5810/5810 R and other devices, set of 2	5075 795.000
Thermorack CB, for up to 384 × 0.1 mL strip tubes in the Qiagen® Rotor-Gene®	5075 767.031
Thermorack Rotor/Tubes, for temperature controlled pipetting of Qiagen® Rotor-Disc® 72/100 and 20 tubes 1.5/2.0 mL	5075 751.526
Thermoblock PCR 96 OC, for temperature control and safe piercing of sealed, semi-skirted PCR plates with orientation control	5075 751.666
Thermoadapter for PCR, for temperature control of PCR plates, 96 wells, skirted	5075 787.008
Thermoadapter for PCR, for temperature control of PCR plates, 384 wells, skirted	5075 788.004
Thermoadapter Frosty, combination of height adapter and PCR-Cooler, for cooling skirted PCR plates	5075 789.000
CycleLock Starter Set, 1 frame and 8 mats for automated sealing of Eppendorf PCR plates, can only be used with Mastercycler ep, PCR clean	0030 126.530

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ep*Motion*® Accessories

Ordering information

Description	Order no.
CycleLock mats, 5 sealing mats, frame not included, PCR clean	0030 126.548
Lid for Thermorack Rotor/Tubes, with adapter for placing the lid on the ep*Motion*® worktable	5075 751.640
ep*Motion*® height adapter, for leveling labware, enables faster plate processing	
40 mm, for pipette tips	5075 755.009
55 mm	5075 752.000
85 mm	5075 751.003
Thermoadapter for Microplate 96/V/U, for holding and temperature control of Eppendorf Microplates with V or U bottom	5075 751.577
Thermoblock DWP 2000, for 2 mL Eppendorf Deepwell Plates 96/2000	5075 751.330
Thermoadapter DWP 96, for Deepwell Plates 96/1000	5075 751.054
Thermoadapter LC Sample, for MagNA Pure LC sample cartridge	5075 751.305
Rack ILMN tubes, Rack for single tubes, 40 × ø 8.4 mm and 12 × ø 11.2 mm, transportable, autoclavable	5075 751.747
Rack for single test tubes, for presenting Eppendorf reaction vessels, glass or plastic tubes, not temperable	
Ø 17 mm × 100 mm max. length	5075 761.009
Ø 17 mm × 60 mm max. length	5075 775.000
Ø 16 mm × 100 mm max. length	5075 760.002
Ø 16 mm × 60 mm max. length	5075 776.006
Ø 15 mm × 100 mm max. length	5075 792.028
Ø 15 mm × 60 mm max. length	5075 792.044
Ø 14 mm × 100 mm max. length	5075 792.001
Ø 14 mm × 60 mm max. length	5075 792.060
Ø 13 mm × 100 mm max. length	5075 762.005
Ø 13 mm × 60 mm max. length	5075 792.087
Ø 12 mm × 100 mm max. length	5075 763.001
Ø 12 mm × 60 mm max. length	5075 792.109
Rack, for 24 HPLC tubes, Ø 12 mm × 40 mm max. length	5075 792.125
Rack, for 96 screw cap tubes, 1.5/2.0 mL	5075 791.005
Rack for 24 tubes, for 24 Safe-Lock tubes, no tempering	
0.5/1.5/2.0 mL	5075 751.453
1.5/2.0 mL	5075 751.275
Reservoir rack, for presenting 10 mL, 30 mL and 100 mL reagent reservoirs. Up to 7 reservoirs or Reservoir Rack modules can be presented.	5075 754.002
Extension plate 5075l to TMX and VAC, to be ordered with 5075 000.620 and 5075 000.630 (for units SN>4000)	5075 000.640
Modification kit TMX for 5075l, to modify a 5075l with Eppendorf ThermoMixer® to a 5075t (for units SN>4000)	5075 000.630
Modification kit VAC for 5075l, to modify a 5075l to a 5075v version (for units SN>4000)	5075 000.620
VAC, for retrofitting a 5075 LH version into a VAC version	5075 000.610
TMX, for retrofitting a 5075 LH version into a 5075 TMX version	5075 000.628
TMX expansion board VAC, order with 5075 000.628	5075 000.636
Thermal module, thermal module for heating or cooling (0 – 100 °C) thermoadapters, thermoblock and thermoracks	5075 757.001
TS 10 single channel dispensing tool, 0.2 – 10 µL volume range	5280 000.100
TS 50 single-channel dispensing tool, 1 – 50 µL volume range	5280 000.010
TS 300 single-channel dispensing tool, 20 – 300 µL volume range	5280 000.037
TS 1000 single-channel dispensing tool, 40 – 1,000 µL volume range	5280 000.053
TM 10-8 eight-channel dispensing tool, 0.2 – 10 µL volume range	5280 000.304
TM 50-8 eight-channel dispensing tool, 1 – 50 µL volume range	5280 000.215
TM 300-8 eight-channel dispensing tool, 20 – 300 µL volume range	5280 000.231
TM 1000-8 eight-channel dispensing tool, 40 – 1,000 µL volume range	5280 000.258
Holder for 6 dispensing tools	5075 774.003
Gripper, incl. holder, for transporting plates on the worktable and automatic operation of the vacuum manifold	5282 000.018
Work surface adapter, for raising the ep*Motion*® worktable by 5.5 cm, 4 feet	5070 752.001
Thermoblock for PCR, for temperature control of 96 vessels 0.2 mL, 77 PCR tubes 0.5 mL or one PCR plate 96 wells, semi-skirted	5075 766.000
Thermoblock for PCR, for temperature control of PCR plate 384 wells, semi-skirted	5075 767.007
Thermorack, for 24 Safe-Lock tubes, temperable, 0.5/1.5/2.0 mL	5075 769.000

Ordering information

Description	Order no.
Thermorack, for 24 Safe-Lock tubes, temperable, 1.5/2.0 mL	5075 771.004
Thermorack TMX, for 24 Safe-Lock micro test tubes, 0.5 mL/1.5 mL/2.0 mL	5075 751.160
Thermorack TMX, for 24 Safe-Lock tubes, temperable, 1.5/2.0 mL	5075 751.186
Thermorack, for 24 Cryo tubes	5075 777.055
Adapter sleeves, to retrofit the 1.5/2.0 mL thermoracks for use with 0.5 mL vessels, 1 set of 25 pieces	5075 772.000
Holder for Vac Frame	5075 778.009
Vacuum lid	5075 779.005
Mat for vacuum lid	5075 793.008
Vac Frame 1, 16 mm height, recommended for filter plates from 5Prime, Invitek	5075 784.009
Vac Frame 2, 26 mm height, recommended for filter plates from MN, Promega or Qiagen	5075 785.005
Elution plate adapter, for processing micro tubes in racks	5075 785.030
Anticontamination plate adapter, for vacuum processes with foaming solutions in multiwell plates, set of 10	5075 794.004
Vac Thermo lid	5075 796.007
Waste container with ring, for holding used pipette tips	5075 753.006
Waste bag holder, for ep*Motion*® 5070/5073/5075 waste position	5075 753.103
Panel plate, for control panel rest, mounted at front left side of ep*Motion*® unit	5075 798.000
Collection plate adapter MN, type for VAC station	5075 785.064
PrepRack for 24 Eppendorf Safe-Lock Tubes 2 mL, for nucleic acid preparation with Eppendorf MagSep™ kits	5073 751.006
Liquid Waste Tub, incl. lid, to mount in the waste box, autoclavable, working volume 115 mL	5075 751.500
Liquid Waste Tub 400 mL, to mount in waste bag holder and waste container of ep*Motion*®, with lid, autoclavable, working volume 400 mL	5075 751.720
Reservoir Rack 3, for max. three 30 mL or 100 mL reservoirs, only for 5075t, 5075m	5075 754.070
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 8 × PCR tubes 0.2 mL	5075 799.049
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 4 × Safe-Lock tubes 0.5/1.5/2.0 mL	5075 799.081
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 4 × Eppendorf Tubes® 5.0 mL	5075 799.340
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 4 × reaction vessels Ø 12 mm	5075 799.103
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 4 × reaction vessels Ø 16 mm	5075 799.120
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 4 × reaction vessels Ø 17 mm	5075 799.162
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 2 × reaction vessels Ø 29 mm	5075 799.189
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 1 × reservoir 10 mL	5075 799.421
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 1 × reservoir 30 mL	5075 799.146
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 1 × reservoir 100 mL	5075 799.260
ep*Motion*® reservoir 10 mL, small-volume container for reagent presentation on the ep*Motion*®, can only be inserted with the Reservoir Rack; production batch testing, certified, 10 mL, 10 × 5 reservoirs in the bag, PCR clean, polypropylene	0030 126.521
ep*Motion*® reservoir 30 mL, large-volume container for reagent presentation on the ep*Motion*®, can only be inserted with the Reservoir Rack; production batch testing, certified, 30 mL, 10 × 5 reservoirs in the bag, PCR clean, polypropylene	0030 126.505
ep*Motion*® reservoir 100 mL, large-volume container for reagent presentation on the ep*Motion*®, can only be inserted with the Reservoir Rack; production batch testing, certified, 100 mL, 10 × 5 reservoirs in the bag, PCR clean, polypropylene	0030 126.513
ep*Motion*® reservoir 400 mL, large-volume container for reagent presentation on the ep*Motion*®; production batch testing, certified, 400 mL, 10 reservoirs, PCR clean, autoclavable, polypropylene	5075 751.364
ep*Motion*® reservoir 195 mL, low dead volume reservoir, single well with 96 cavities, PCR clean, 4 x 5 reservoirs	0030 126.556
Waste bags bio., for ep*Motion*® 5070/5073/5075 waste position, up to 7 L volume, ideal for disposing of biologically hazardous waste, autoclavable, PP material, thickness 50 µm, transparent, 50 bags	5075 751.763
Waste bags, for ep*Motion*® 5070/5073/5075 waste position, up to 7 L volume, ideal for disposing of non hazardous waste, autoclavable, PP material, thickness 50 µm, transparent, 50 bags	5075 751.780

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Sample Handling

Model	Eppendorf ThermoMixer® C	ThermoStat C	Eppendorf ThermoMixer® F0.5
Page(s)	**104**	**106**	**110**
Dimensions (W × D × H)	20.6 × 30.4 × 13.6 cm	20.6 × 30.4 × 13.6 cm	20.6 × 30.4 × 16.3 cm
Weight w/o accessories	6.3 kg	4.3 kg	6.2 kg
Power supply	220 – 240 V, 50 – 60 Hz	220 – 240 V, 50 – 60 Hz	220 – 240 V, 50 – 60 Hz
Max. power consumption	200 W	200 W	200 W
Heating rate	Max. 7 °C/min (when using SmartBlock plates)[1)]	Max. 9 °C/min (when using the SmartBlock PCR 384)[1)]	Max. 15 °C/min
Cooling rate	Max. 2.5 °C/min between 100 °C and RT	Max. 5.0 °C/min between 110 °C and RT[1)]	–
Timer	15 sec to 99:30 h, continuous	15 s to 99:30 h, continuous	–
Mixing and vortexing radius	1.5 mm	–	1.5 mm
Mixing orbit	3 mm	–	3 mm
Mixing frequency	300 – 3,000 rpm[1)]	–	300 – 2,000 rpm
Max. speed	3,000 rpm[1)]	–	2,000 rpm
Temperature settings	1 °C / 100 °C	-10 °C/110 °C (110 °C when using the SmartBlocks 12 mm or cryo)	1 °C / 100 °C
Temperature range	Min: 15 °C (depends on SmartBlock used) below RT, max: 100 °C	Min: 30 °C [1)] below RT, max: 110 °C (110 °C when using the 12 mm and cryo SmartBlocks)	Min: 4 °C above RT, max: 100 °C
Temperature accuracy	Max. ±0.5 °C at 20 – 45 °C	Max. ±0.5 °C at 20 – 45 °C[1)]	Max. ±0.5 °C at 20 – 45 °C
Interfaces	USB interface	USB interface	USB interface
Applications	> Plasmid/RNA/DNA purification > cDNA synthesis > Extraction of DNA fragments from agarose gels > Enzymatic reactions (e.g., DNA restriction digestion, Proteinase K digestion and ligation) > Transformation of bacteria strains and plasmids > Denaturation of DNA, RNA, and proteins > Labeling of DNA, RNA, and proteins > Bacterial growth in microreaction vessels, conical tubes, and Deepwell Plates > Lysis reactions at 100 °C > Mixing of PCR setups	> Gentle thawing and cooling buffers and samples at low temperatures > Preheating media > Biochemical reactions at low temperatures > Ligation > cDNA synthesis > Denaturation of RNA, DNA, and protein > Proteinase K digestion > ELISA assays > Immunoprecipitation > Cell lysis	> Growth of bacteria and yeasts > Enzymatic reactions > Transformation of bacteria strains and plasmids > Denaturation of DNA, RNA, and proteins > Lysis reactions at 100 °C > Labeling of nucleic acids and proteins > Proteinase K digestion of cells and tissues > Resuspension of pellets > Mixing protein quantification assays > ELISA assays

[1)] depends on SmartBlock used

Eppendorf ThermoMixer® F1.5	Eppendorf ThermoMixer® F2.0	Eppendorf ThermoMixer® FP	MixMate®
110	**110**	**110**	**111**
20.6 × 30.4 × 17.0 cm	20.6 × 30.4 × 17.0 cm	20.6 × 30.4 × 16.4 cm	17 × 23 × 13 cm
6.3 kg	6.3 kg	6.1 kg	4.2 kg
220 – 240 V, 50 – 60 Hz	220 – 240 V, 50 – 60 Hz	220 – 240 V, 50 – 60 Hz	
200 W	200 W	200 W	40 W
Max. 11 °C/min	Max. 13 °C/min	Max. 18 °C/min	–
–	–	–	–
–	–	–	–
1.5 mm	1.5 mm	1.5 mm	1.5 mm
3 mm	3 mm	3 mm	3 mm
300 – 1,500 rpm	300 – 1,500 rpm	300 – 2,000 rpm	300 – 3,000 rpm
1,500 rpm	1,500 rpm	2,000 rpm	3,000 rpm
1 °C / 100 °C	1 °C / 100 °C	1 °C / 100 °C	–
Min: 4 °C above RT, max: 100 °C	Min: 4 °C above RT, max: 100 °C	Min: 4 °C above RT, max: 100 °C	N/A
Max. ±0.5 °C at 20 – 45 °C	Max. ±0.5 °C at 20 – 45 °C	Max. ±0.5 °C at 20 – 45 °C	–
USB interface	USB interface	USB interface	–
> Growth of bacteria and yeasts > Enzymatic reactions > Transformation of bacteria strains and plasmids > Denaturation of DNA, RNA, and proteins > Lysis reactions at 100 °C > Labeling of nucleic acids and proteins > Proteinase K digestion of cells and tissues > Resuspension of pellets > Mixing protein quantification assays > ELISA assays	> Growth of bacteria and yeasts > Enzymatic reactions > Transformation of bacteria strains and plasmids > Denaturation of DNA, RNA, and proteins > Lysis reactions at 100 °C > Labeling of nucleic acids and proteins > Proteinase K digestion of cells and tissues > Resuspension of pellets > Mixing protein quantification assays > ELISA assays	> Growth of bacteria and yeasts > Enzymatic reactions > Transformation of bacteria strains and plasmids > Denaturation of DNA, RNA, and proteins > Lysis reactions at 100 °C > Labeling of nucleic acids and proteins > Proteinase K digestion of cells and tissues > Resuspension of pellets > Mixing protein quantification assays > ELISA assays	> Resuspending pellets (e.g., bacteria, DNA, cell culture pellets) > Mixing PCR setups > Mixing viscous liquids and suspensions (incl. beads) > Mixing restriction digestions > Immunoassays (e.g., ELISA) > Colorimetric assays (e.g., Bradford, Lowry, BCA) > Reporter gene assays (e.g. β-galactosidase, luciferase) > Vortexing numerous tube formats (e.g., 15 and 50 mL conical tubes)

i For more information go to www.eppendorf.com/temperaturecontrol-mixing

epServices for premium performance

On page 382 you will find detailed information on services for these products!

Technical specifications subject to change.

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Sample Handling

Model	Tube 3810X	Safe-Lock Tube 0.5 mL	Safe-Lock Tube 1.5 mL
Page(s)	**115**	**116**	**116**
Volume	1.5 mL	0.5 mL	1.5 mL
Bottom shape	conical	conical	conical
Max. RCF Eppendorf Quality™	30,000 × g	30,000 × g	30,000 × g
Max. RCF PCR clean	30,000 × g	30,000 × g	30,000 × g
Max. RCF Eppendorf Biopur®	–	22,000 × g	22,000 × g
Max. RCF Sterile	–	–	–

[1] Test conditions: Rotor FA-45-6-30 in Eppendorf Centrifuge 5810 R (using a suitable centrifuge adapter for 15 mL tube), sample: saline solution (density: 1.0 g/mL), controlled centrifugation temp.: 25 °C, centrifugation time: 90 min

Safe-Lock Tube 2.0 mL	Eppendorf Tubes® 5.0 mL	Eppendorf Conical Tubes 15 mL	Eppendorf Conical Tubes 50 mL
116	**118**	**120**	**120**
2.0 mL	5.0 mL	15 mL	50 mL
round	conical	conical	conical
25,000 × g	25,000 × g	–	–
25,000 × g	25,000 × g	–	–
22,000 × g	25,000 × g	–	–
–	25,000 × g	19,500 × g[1]	19,500 × g[1]

Model	Protein LoBind Tubes/ DNA LoBind, 0.5 mL	Protein LoBind Tubes/ DNA LoBind, 1.5 mL	Protein LoBind Tubes/ DNA LoBind, 2.0 mL
Page(s)	**129/131**	**129/131**	**129/131**
Bottom shape	conical	conical	round
Max. RCF PCR clean	18,000 × g/ 30,000 × g	18,000 × g/ 30,000 × g	18,000 × g/ 25,000 × g

Protein LoBind Tubes/ DNA LoBind, 5.0 mL, conical tubes	Protein LoBind Tubes/ DNA LoBind, 15 mL, conical tubes	Protein LoBind Tubes/ DNA LoBind, 50 mL, conical tubes
129/131	**129/131**	**129/131**
conical	conical	conical
25,000 × g/ 25,000 × g		

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Sample Handling

	Microplates		
Model	**MTP 96/F**	**MTP 96/U**	**MTP 96/V**
Page(s)	**123**	**123**	**123**
Number of wells	96 wells	96 wells	96 wells
Total volume per well	400 µL	360 µL	350 µL
Working volume	50 – 350 µL	20 – 320 µL	20 – 320 µL
Material	polypropylene	polypropylene	polypropylene
Bottom shape	F bottom	U bottom	V bottom
Dimensions (W × D × H)	127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 14.4 mm
Max. RCF	6,000 × g	6,000 × g	6,000 × g

[1] For more Assay/Reader MTPs go to page 124. For Cell Imaging plates go to chapter Cell Imaging Consumables. For twin.tec PCR Plates go to chapter PCR.

	Deepwell Plates			
Model	**DWP 96/500**	**DWP 96/1000**	**DWP 96/2000**	**DWP 384/200**
Page(s)	**127**	**127**	**127**	**127**
Number of wells	96 wells	96 wells	96 wells	384 wells
Total volume per well	700 µL	1,200 µL	2.400 µL	240 µL
Working volume	30 – 550 µL	30 – 1,000 µL	50 – 2,000 µL	20 – 225 µL
Material	polypropylene	polypropylene	polypropylene	polypropylene
Bottom shape	conical	conical	conical	conical
Dimensions (W × D × H)	127.8 × 85.5 × 27.1 mm	127.8 × 85.5 × 44.1 mm	127.8 × 85.5 × 44.1 mm	127.8 × 85.5 × 25.1 mm
Max. RCF	6,000 × g	6,000 × g	6,000 × g	6,000 × g

	Microplates				
MTP 384/F	**MTP 384/V**	**MTP UV-VIS 96/F**	**MTP VIS 96/F**	**Assay MTP 96/F[1]**
123	**123**	**125**	**125**	**125**
384 wells	384 wells	96 wells	96 wells	96 wells
150 µL	140 µL	400 µL	400 µL	400 µL
10 – 120 µL	10 – 120 µL	50 – 350 µL	50 – 350 µL	50 – 350 µL
polypropylene	polypropylene	polystyrene/film	polystyrene	polypropylene
F bottom	V bottom	flat	flat	flat
127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 14.4 mm
6,000 × g	6,000 × g	300 × g	3,000 × g	6,000 × g

	Protein LoBind Plates/ DNA LoBind Plates					
MTP 96/V	**MTP 384/V**	**DWP 96/500**	**DWP 96/1000**	**DWP 96/2000**	**DWP 384/200**
128/130	**128/130**	**128/130**	**128/130**	**128/130**	**128/130**
96 wells	384 wells	96 wells	96 wells	96 wells	384 wells
350 µL	140 µL	700 µL	1,200 µL	2,400 µL	240 µL
20 – 300 µL	5 – 120 µL	30 – 550 µL	30 – 1,000 µL	50 – 2,000 µL	20 – 225 µL
polypropylene	polypropylene	polypropylene	polypropylene	polypropylene	polypropylene
conical	conical	conical	conical	conical	conical
127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 14.4 mm	127.8 × 85.5 × 27.1 mm	127.8 × 85.5 × 44.1 mm	127.8 × 85.5 × 60 mm	127.8 × 85.5 × 25.1 mm
6,000 × g	6,000 × g	6,000 × g	6,000 × g	6,000 × g	6,000 × g

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Eppendorf ThermoMixer® C

Description
You need everything? The Eppendorf ThermoMixer C combines excellent mixing performance with excellent temperature control to ensure complete, dependable and reproducible test results. Improve your assay results by mixing and incubating samples at the same time. The Eppendorf ThermoMixer C convinces users with its quick and easy-to-exchange SmartBlocks for all common lab vessels, new and improved program functions, and high level of stability for every mixing frequency. There is almost no limit to the variety of applications waiting for you!

	Plate type	96-well plates	384-well plates
Mixing of different buffers			
Buffer with detergent	PCR	30 s 1,800 rpm	30 s 2,800 rpm
Buffer without detergent	PCR	1 min 2,000 rpm	30 s 3,000 rpm
Buffer with high salt concentration	DWP	5 s 1,400 rpm	30 s 2,000 rpm
Buffer with DMSO	MTP	5 s 1,100 rpm	5 s 2,000 rpm
Mixing of viscous solutions			
Genomic-DNA	PCR	30 s 2,000 rpm	1 min 3,000 rpm
Resuspension of pellets			
Bacteria cell pellets	DWP	30 s 2,000 rpm	2 min 2,000 rpm

Eppendorf ThermoMixer C provides enough mixing power to handle also challenging mixing tasks. Most samples are efficiently mixed within less than a minute independent of vessel geometry or sample properties. For more informations see AppNote 130.

Product features
> Mixing, heating, and cooling in one instrument for high flexibility
> All common vessels and plate formats from 5 µL to 50 mL by different Eppendorf SmartBlocks™ for standard applications
> Excellent [2D]Mix-Control technology results in excellent sample mixing
> Anti-spill technology prevents lid wetting and cross-contamination
> Increased mixing frequency of up to 3,000 rpm for effective sample mixing
> Excellent temperature management for maximum temperature accuracy, resulting in safe handling
> Compatible with Eppendorf ThermoTop® (**condens**.*protect*®) for condensation-free sample handling (for Eppendorf SmartBlocks up to 2.0 mL)
> Predefined program keys and clearly arranged menu guides enable simple and intuitive operations
> Freely programmable program keys for individual optimization
> Eppendorf PhysioCare Concept® provides ergonomic design and operation

50 µL sample mixing with 1,800 rpm

Competitor 1 min

Suboptimal sample mixing

Eppendorf [2D]Mix-Control 1 min (MixMate®)

Reliable sample mixing

Eppendorf [2D]Mix-Control 1 min (Eppendorf ThermoMixer®)

Reliable sample mixing

Technical specifications subject to change.

SmartExtender

Description
Missing a second temperature for an incubation at 37°C or 95°C at your Eppendorf ThermoMixer?
The Eppendorf SmartExtender offers a comfortable incubation tool which can easily be used as an add-on to your existing Eppendorf SmartBlocks and the Eppendorf ThermoMixer C/ Fx as well as Eppendorf ThermoStat C.
Up to 12 vessels (1.5 mL) can be heated-up for a higher throughput and higher flexibility in your lab. The independent heating function for the second temperature enables a parallel usage of a Eppendorf SmartBlock and the SmartExtender. The Eppendorf SmartBlock at the center can still be used for heating, cooling, and mixing.

Ordering information

Description	Order no.
SmartExtender, 1.5 mL	5322 000.008

Transfer Racks

Description
Performing a 60-sec-incubation step for 24 samples in parallel? The Eppendorf Transfer Rack enables a safe and easy transfer of up to 24 samples in parallel to or from the Eppendorf SmartBlock. This provides similar reaction conditions for all samples of your experiment. The Transfer Rack is available for the Eppendorf SmartBlock 0.5 mL as well as the Eppendorf SmartBlock 1.5 and 2.0 mL. These Eppendorf SmartBlocks include a Transfer Rack by standard.

Ordering information

Description	Order no.
Eppendorf ThermoMixer® C, basic device without thermoblock, 220 – 240 V/50 – 60 Hz	5382 000.015
Transfer Rack 0.5 mL, for Eppendorf SmartBlock™ 0.5 mL	3880 000.305
Transfer Rack 1.5/2.0 mL, for Eppendorf SmartBlock™ 1.5 mL and Eppendorf SmartBlock™ 2.0 mL	3880 000.151
Lid, for Eppendorf ThermoMixer® F0.5/F1.5/F2.0 and FP, for Eppendorf SmartBlock™ 0.5 – 2.0 mL, plates, PCR 96, PCR 384, and DWP	5363 000.233
Eppendorf SmartBlock™ 0.5 mL, thermoblock for 24 reaction vessels 0.5 mL, incl. Transfer Rack 0.5 mL	5361 000.031
Eppendorf SmartBlock™ 1.5 mL, thermoblock for 24 reaction vessels 1.5 mL, incl. Transfer Rack 1.5/2.0 mL	5360 000.038
Eppendorf SmartBlock™ 2.0 mL, thermoblock for 24 reaction vessels 2.0 mL, incl. Transfer Rack 1.5/2.0 mL	5362 000.035
Eppendorf SmartBlock™ 5 mL, thermoblock for 8 Eppendorf Tubes® 5.0 mL, 8 × 5.0 mL reaction vessels	5309 000.007
Eppendorf SmartBlock™ 15 mL, thermoblock for 8 conical tubes 15 mL	5366 000.021
Eppendorf SmartBlock™ 50 mL, thermoblock for 4 conical tubes 50 mL	5365 000.028
Eppendorf SmartBlock™ 12 mm, thermoblock for 24 reaction vessels, diameter up to 12 mm, height 35 mm – 76 mm	5364 000.024
Eppendorf SmartBlock™ PCR 96, thermoblock for PCR plates 96, incl. lid	5306 000.006
Eppendorf SmartBlock™ PCR 384, thermoblock for PCR plates 384, incl. lid	5307 000.000
Eppendorf SmartBlock™ DWP 500, thermoblock for Eppendorf Deepwell Plates 96/500 µL, incl. lid	5316 000.004
Eppendorf SmartBlock™ DWP 1000, thermoblock for Eppendorf Deepwell Plate 96/1,000 µL, incl. lid	5310 000.002
Eppendorf SmartBlock™ cryo, thermoblock for 24 cryo tubes, 1.5 mL – 2 mL, max. external diameter 12.5 mm, all base designs	5367 000.025
Eppendorf SmartBlock™ plates, thermoblock for microplates and Deepwell Plates, incl. lid	5363 000.039
Eppendorf ThermoTop®, with **condens**.*protect*® technology	5308 000.003

↗ Ordering information for other voltage options begins on page 418

Eppendorf ThermoStat™ C

Description
Many experiments require fast heating and cooling steps in a very accurate manner. Precise temperature control is achieved for the ThermoStat C by using optimally balanced heating and cooling elements (peltier technology).

Product features
> Heating and active cooling in all common vessel and plate formats from 5 µL to 50 mL for high flexibility
> Broad range of Eppendorf SmartBlocks enables high vessel flexibility
> Excellent temperature accuracy for safe sample handling
> Very fast cooling rates of up to 5 °C/min, reducing your waiting time
> Low temperature (e.g. 4 °C or 0 °C) even at higher ambient temperatures for safe sample incubation
> Temperature keys (4 °C, 16 °C, 37 °C, 56 °C, and 95 °C) provide quick access to commonly used experimental temperatures
> Eppendorf ThermoTop® (**condens**.*protect*®) compatibility prevents condensation and improves temperature homogeneity within sample tubes (up to 2.0 mL)
> Comprehensive range of program slots (up to 15) for flexible usage of device

Ordering information

Description	Order no.
Eppendorf ThermoStat™ C, basic device without thermoblock, 220 – 240 V/50 – 60 Hz	5383 000.019
Eppendorf ThermoTop®, with **condens**.*protect*® technology	5308 000.003

Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/thermostat-c

Eppendorf SmartBlock™

Description
Using different vessel sizes within your lab workflow? Flexibility has never been this easy. Eppendorf offers a broad range of Eppenorf SmartBlocks for tubes from 0.2 mL to 50 mL as well as plates (MTP, DWP, and PCR plates 96 / 384) to use with Eppendorf ThermoMixer® C and ThermoStat C. All Eppendorf SmartBlocks are equipped with the outstanding Eppendorf QuickRelease system that makes the block exchange super fast and easy. Just press the lever on the front of the block and the block can be removed – no tools are needed, done in seconds.

Product features
> Optimized block design supports optimal temperature transfer within your sample to receive excellent results
> Eppendorf SmartBlock-specific calibration by integrated sensor technology maximizes temperature accuracy and homogeneity
> Every Eppendorf SmartBlock is individually inspected in production for temperature accuracy and is delivered incl. a serial-number specific certificate for documentation purpose
> Insulated thermoblocks for ergonomic operation – you won't burn your fingers (PhysioCare Concept)
> Automatic block recognition for safe handling
> Optimized block design ensures maximum temperature transfer to the sample
> Eppendorf QuickRelease™ technology enables fast and simple block exchange – no need for tools

Eppendorf SmartBlocks for the following reaction vessels:
A. 24 lab vessels up to 12 mm in diameter
B. 8 × 15 mL conical tubes
C. 4 × 50 mL conical tubes
D. Eppendorf Deepwell Plates 96/500 µL
E. Eppendorf Deepwell Plates 96/1000 µL
F. 24 × cryo tubes
G. 8 × Eppendorf Tubes® 5.0 mL
H. Lid for Eppendorf SmartBlock plates, PCR 96, PCR 384, DWP, 0.5 mL, 1.5 mL and 2.0 mL
I. 384-well PCR plates
J. 96-well PCR plates
K. 24 × 0.5 mL vessels
L. 24 × 1.5 mL vessels
M. 24 × 2.0 mL vessels
N. MTPs and Deepwell Plates

i For more information go to www.eppendorf.com/smartblocks

Eppendorf SmartBlock™

Technical specifications

Description	Lid[1]	Max. speed[2]	Max. temp.	ThermoMixer C / ThermoStat C	ThermoTop
Eppendorf SmartBlock™ 0.5 mL	■	2,000 rpm	100 °C	■	■
Eppendorf SmartBlock™ 1.5 mL	■	2,000 rpm	100 °C	■	■
Eppendorf SmartBlock™ 2.0 mL	■	2,000 rpm	100 °C	■	■
Eppendorf SmartBlock™ 5 mL		1,000 rpm	100 °C	■	
Eppendorf SmartBlock™ 15 mL		1,000 rpm	100 °C	■	
Eppendorf SmartBlock™ 50 mL		1,000 rpm	100 °C	■	
Eppendorf SmartBlock™ 12 mm		2,000 rpm	110 °C[4]	■	
Eppendorf SmartBlock™ cryo		2,000 rpm	110 °C[4]	■	
Eppendorf SmartBlock™ plates	■	3,000 rpm[3]	100 °C	■	■
Eppendorf SmartBlock™ PCR 96	■	2,000 rpm	100 °C	■	■
Eppendorf SmartBlock™ PCR 384	■	3,000 rpm	100 °C	■	■
Eppendorf SmartBlock™ DWP 500	■	1,500 rpm	100 °C	■	■
Eppendorf SmartBlock™ DWP 1000	■	1,500 rpm	100 °C	■	■

[1] Maximum mixing frequency is 2,000 rpm when lid is used [2] Max. speed depends on exact fitting of vessel [3] max. mixing frequency using DWP is 2,000 rpm (80°C and higher: limited to 1,000 rpm) [4] Only available with ThermoStat C

Ordering information

Description	Order no.
Transfer Rack 1.5/2.0 mL, for Eppendorf SmartBlock™ 1.5 mL and Eppendorf SmartBlock™ 2.0 mL	3880 000.151
Transfer Rack 0.5 mL, for Eppendorf SmartBlock™ 0.5 mL	3880 000.305
Lid, for Eppendorf ThermoMixer® F0.5/F1.5/F2.0 and FP, for Eppendorf SmartBlock™ 0.5 – 2.0 mL, plates, PCR 96, PCR 384, and DWP	5363 000.233
Eppendorf SmartBlock™ 0.5 mL, thermoblock for 24 reaction vessels 0.5 mL, incl. Transfer Rack 0.5 mL	5361 000.031
Eppendorf SmartBlock™ 1.5 mL, thermoblock for 24 reaction vessels 1.5 mL, incl. Transfer Rack 1.5/2.0 mL	5360 000.038
Eppendorf SmartBlock™ 2.0 mL, thermoblock for 24 reaction vessels 2.0 mL, incl. Transfer Rack 1.5/2.0 mL	5362 000.035
Eppendorf SmartBlock™ 5 mL, thermoblock for 8 Eppendorf Tubes® 5.0 mL, 8 × 5.0 mL reaction vessels	5309 000.007
Eppendorf SmartBlock™ 15 mL, thermoblock for 8 conical tubes 15 mL	5366 000.021
Eppendorf SmartBlock™ 50 mL, thermoblock for 4 conical tubes 50 mL	5365 000.028
Eppendorf SmartBlock™ 12 mm, thermoblock for 24 reaction vessels, diameter up to 12 mm, height 35 mm – 76 mm	5364 000.024
Eppendorf SmartBlock™ PCR 96, thermoblock for PCR plates 96, incl. lid	5306 000.006
Eppendorf SmartBlock™ PCR 384, thermoblock for PCR plates 384, incl. lid	5307 000.000
Eppendorf SmartBlock™ DWP 500, thermoblock for Eppendorf Deepwell Plates 96/500 µL, incl. lid	5316 000.004
Eppendorf SmartBlock™ DWP 1000, thermoblock for Eppendorf Deepwell Plate 96/1,000 µL, incl. lid	5310 000.002
Eppendorf SmartBlock™ cryo, thermoblock for 24 cryo tubes, 1.5 mL – 2 mL, max. external diameter 12.5 mm, all base designs	5367 000.025
Eppendorf SmartBlock™ plates, thermoblock for microplates and Deepwell Plates, incl. lid	5363 000.039

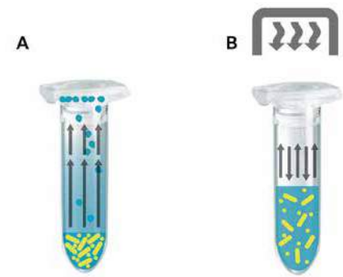
Technical specifications subject to change.

Eppendorf ThermoTop®

Description
Tired of condensation in your tubes? We combined the Eppendorf ThermoMixer® with the PCR cycler approach of a heated lid and generated the Eppendorf ThermoTop. The outstanding Eppendorf **condens**.*protect*® technology reliably prevents condensation within the tube lid – sample concentrations are consistent for the incubation time. In addition, the temperature homogeneity is further improved. Get optimal sample reaction conditions to produce optimal results.

Applications
> All temperature control procedures for which the formation of condensation on the tube lid and wall should be reliably avoided

Product features
> Efficient and reliable of condensation prevention for safe sample heating
> Get constant reaction conditions for optimal enzymatic performance within your samples
> Wireless connection with automatic recognition and operation for user-friendly handling
> Suitable for use with Eppendorf ThermoMixer® F0.5/F1.5/F2.0/FP as well as Eppendorf ThermoMixer C and Eppendorf ThermoStat C with Eppendorf SmartBlocks 0.5 mL, 1.5 mL, 2.0 mL, plates, PCR 96, and PCR 384 (not in combination with Eppendorf Transfer Rack)



Principle:
A = Condensation without Eppendorf ThermoTop
B = Free of condensation with Eppendorf ThermoTop

www.eppendorf.com/thermotop-video

Ordering information

Description	Order no.
Eppendorf ThermoTop®, with **condens**.*protect*® technology	5308 000.003

i For more information go to www.eppendorf.com/thermotop

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Eppendorf ThermoMixer® F

Description
Doing quite routine sample prep steps? Whether you regularly work with 0.5/1.5/2.0 mL vessels or plates (MTP and DWP) – our customized fixed-block Eppendorf ThermoMixer F family offers you the perfect solution for your special application. Just simplify your routine work load.

Product features
> Heating and mixing in 0.5/1.5/2.0 mL reaction vessels (F0.5/F1.5/F2.0) or plates (FP)
> Up to 1,500 rpm (F1.5/F2.0) or 2,000 rpm (F0.5/FP) for efficient sample mixing
> Outstanding [2D]Mix-Control technology results in excellent mixing performance
> Anti-spill technology prevents lid wetting and cross-contamination
> Compatible with Eppendorf ThermoTop (**condens**.*protect*®) for condensation-free sample handling
> Predefined temperature keys (37 °C, 42 °C, 56 °C, and 95 °C) for simple and intuitive operation
> Very fast heat up speed of up to 18 °C/min, reducing your waiting time
> Eppendorf PhysioCare Concept provides ergonomic design and operation

www.eppendorf.com/thermomixer-f-video

Ordering information

Description	Order no.
Eppendorf ThermoMixer® FP, with thermoblock for Microplates and Deepwell Plates, including lid, 220 – 240 V/50 – 60 Hz	5385 000.016
Eppendorf ThermoMixer® F0.5, with thermoblock for 24 reaction vessels 0.5 mL, 200 – 240 V/50 – 60 Hz	5386 000.010
Eppendorf ThermoMixer® F1.5, with thermoblock for 24 reaction vessels 1.5 mL, 220 – 240 V/50 – 60 Hz	5384 000.012
Eppendorf ThermoMixer® F2.0, with thermoblock for 24 reaction vessels 2.0 mL, 220 – 240 V/50 – 60 Hz	5387 000.013
Eppendorf ThermoTop®, with **condens**.*protect*® technology	5308 000.003

Ordering information for other voltage options begins on page 418

MixMate®

Description
Straight mixing required? Mix your samples in seconds, fully and reliably. Whether in plates (96 or 384-wells) or reaction tubes, your samples will be optimally processed. With the integrated ergonomic vortex function, the MixMate is your perfect lab assistant. The innovative additional 2 second run timer allows vortexing your next sample without restarting.

	Plate type	96-well plates	384-well plates
Mixing of different buffers			
Buffer with detergent	PCR	15 s 1,800 rpm	45 s 2,800 rpm
Buffer without detergent	PCR	30 s 2,100 rpm	30 s 3,000 rpm
Buffer with high salt concentration	DWP	5 s 1,400 rpm	1 min 2,000 rpm
Buffer with DMSO	MTP	5 s 1,100 rpm	5 s 2,200 rpm
Mixing of viscous solutions			
Genomic-DNA	PCR	30 s 2,000 rpm	45 s 3,000 rpm
Resuspension of pellets			
Bacteria cell pellets	DWP	30 s 2,000 rpm	3 min 2,000 rpm

MixMate provides enough mixing power to handle the most challenging mixing tasks. Most samples are efficiently mixed within less than a minute independent of vessel geometry or sample properties. For more information see AppNote 130.

Product features
> High-speed mixer (3,000 rpm) for fast and efficient mixing of small volumes in all common vessel formats up to 50 mL
> [2D]Mix-Control technology (planar mixing orbit without vertical movement) for controlled mixing and reproducible results in seconds
> Anti-spill technology for controlled mixing movements without lid wetting and cross-contamination
> 5 different tube holders (0.5 mL, 1.5/2.0 mL, 5/15 mL, 25/50 mL, PCR 96-well plates) for high vessel flexibility
> Integrated ergonomic vortex function for various vessel formats for distinct sample mixing
> Minimal hand/arm vibration transfer during vortexing (certificate available) for ergonomic operation (PhysioCare Concept®)
> 5 soft keys with pre-defined standard mixing parameters for easy usage
> Very stable - remains stationary even at maximum mixing speed
> Whisper quiet operation to benefit the work environment

Ordering information

Description	Order no.
MixMate®, basic device without tube holders, 230 V/50 – 60 Hz (EU)	5353 000.510
Tube Holder 0.5 mL, for 24 × 0.5 mL reaction vessels	5353 040.121
Tube Holder 1.5/2.0 mL, for 24 × 1.5 mL or 2.0 mL reaction vessels	5353 040.130
Tube Holder 5/15 mL, for 8 x 5/15 mL conical tubes	5353 040.148
Tube Holder 25/50 mL, for 4 x 25/50 mL conical tubes	5353 040.156
Tube Holder PCR 96, for 96 × 0.2 mL PCR tubes, PCR strips or 1 × 96-well PCR plate, semi-skirted or unskirted	5353 040.113

Ordering information for other voltage options begins on page 418

Accessories

IsoTherm-System®
> IsoTherm-System: IsoRack (work rack), IsoSafe (insulating box), and two IsoPacks (cool packs)
> Ideal for cooling, transporting, and storing deep-frozen samples
> Dry incubation technology reduces contamination risk associated with classical icebath incubation for safe sample handling
> Holds up to 24 micro tubes (e.g., 0.5 mL or 1.5 mL/2.0 mL) for broad flexibility
> Two versions of IsoPack (cold pack) available: White maintains 0 °C for up to 6 hours. Blue maintains -21 °C for up to 3 hour
> Racks are stackable, autoclavable and can be centrifuged in the MTP rotor

Ordering information

Description	Order no.
IsoTherm-System® starter set, includes IsoSafe, IsoRack, 0 °C IsoPack and -21 °C IsoPack	
for 0.5 mL tubes	3880 000.011
for 1.5/2.0 mL tubes	3880 001.018
IsoPack and IsoRack set, includes one IsoPack and one IsoRack	
for 0.5 mL vessels, 0 °C	3880 000.160
for 0.5 mL vessels, -21 °C	3880 000.178
for 1.5/2.0 mL vessels, 0 °C	3880 001.166
for 1.5/2.0 mL vessels, -21 °C	3880 001.174
IsoSafe and IsoPack, includes 1 IsoSafe and 3 IsoPack	
for 1.5/2.0 mL vessels, 0 °C	3880 001.026
for 1.5/2.0 mL vessels, -21 °C	3880 001.042

PCR-Cooler
> Handling system for sample set-up, protection, transport, and storage of sensitive samples – keep you samples safe
> Clear temperature indicator: Color of PCR cooler changes when temperature exceeds 7 °C
> Accommodates PCR-vessels as tubes, strips, or plates for flexible vessel usage
> Dry incubation technology reduces contamination risk of samples
> Keeps an entire 96-well PCR plate cold for more than an hour at 0 °C (with two-hour precooling at -20 °C) for safe samples

Ordering information

Description	Order no.
PCR-Cooler 0.2 mL Starter Set, (1 × pink, 1 × blue)	3881 000.015
PCR-Cooler 0.2 mL, Pink	3881 000.023
PCR-Cooler 0.2 mL, Blue	3881 000.031

Color change
Eppendorf PCR-cooler changes color depending on temperature (up to 1 h at 0 °C after precooling at -20 °C)

below 7 °C above 7 °C

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Eppendorf Purity Grades for Tubes and Plates

Eppendorf sample handling consumables stand for highest quality and purity
Our tubes and plates are available in a variety of purity grades (see table below) www.eppendorf.com/purity. The purity grades “sterile”, “PCR clean”, “Biopur®” and “Forensic DNA Grade“ are certified by an accredited external lab. As a special service, we make the lot-specific certificates available online (www.eppendorf.com/certificates)

Purity grades					
Eppendorf purity grades for tubes and plates	**Eppendorf Quality™**	**Eppendorf sterile**	**Eppendorf PCR clean**	**Eppendorf Forensic DNA Grade**[5]	**Eppendorf Biopur®**
Continuous quality control for the following relevant criteria:					
Function, tightness, precision	■	■	■	■	■
Low wetting	■	■	■	■	■
High chemical resistance	■	■	■	■	■
High thermal resistance	■	■	■	■	■
High resistance to centrifugation forces[1]	■	■	■	■	■
High transparency	■	■	■	■	■
Precisely shaped	■	■	■	■	■
Lot-specific certificates[2] for the following purity criteria:					
Pyrogen-free (endotoxin-free)		■			■
Sterile (Ph.Eur./USP)		■			■
Human DNA-free			■	■	■
DNA-free (Human- and bacteria DNA)					■
DNase-free			■	■	■
RNase-free			■	■	■
PCR-inhibitor-free			■	■	■
ATP-free					■
Eppendorf Tubes®					
Safe-Lock Tubes	■		■	■	■[3]
3810X	■		■		
Eppendorf Tubes® 5.0 mL	■	■	■	■	■[3]
Conical Tubes 15 mL and 50 mL		■[4]		■[3]	
DNA and Protein LoBind Tubes			■		
PCR Tubes (PCR and real-time PCR)			■	■	
Cap Strips (PCR and real-time PCR)			■	■	
Eppendorf Plates® and accessories					
Deepwell Plates and Microplates		■	■		
Protein LoBind Deepwell Plates			■		
DNA LoBind Deepwell Plates			■		
Eppendorf twin.tec® PCR Plates (PCR and real-time PCR)			■		■
Eppendorf twin.tec® PCR Plates				■[3]	■
Heat Sealing Film and Foil			■		
PCR Storage Films and Foils			■		
Plate Lid		■	■		

[1] For accurate details regarding resistance to centrifugation, please refer to the respective product pages. [2] Lot-specific certificate can be downloaded from www.eppendorf.com/certificates. [3] Individually packaged. [4] Eppendorf sterile, RNase free, DNase free, DNA free (human and bacteria DNA) [5] According to ISO 18385.

www.eppendorf.com/puritygrades-brochure

Technical specifications subject to change.

Eppendorf Tubes® 3810X

Description
The easy-to-open, securely closing, Eppendorf Tubes® 3810X offers comfort and dependability for sample preparation, centrifugation, and storage. One vessel for all applications in molecular biology, chemistry, and biochemistry.
Safer than ever: Eppendorf Tubes® 3810X are desigend for centrifugation up to 30.000 x g!

The 3810X tube guarantees tried and tested tight lid closure and easy, stress-free opening and closing.

Product features
> Tube lid is easy to open and close for ergonomic operation
> Polypropylene provides high resistance to chemicals, mechanical stress, and temperature extremes
> g-Safe®: Exceptional centrifugation stability up to 30,000 × g prevents sample loss due to tube breakage and provides extra safety when working with hazardous samples
> Manufactured without the use of slip agents, plasticizers, and biocides – substances that have been shown to leach from plastic consumables into the sample and negatively affect bio-assay results
> Graduation for visual control of the pipetted volume
> Frosted lid and surface on the side for easy labeling
> Guaranteed functionality from -86 °C to 100 °C
> Autoclavable when open (121 °C, 20 min)
> Available in Eppendorf Quality and lot-certified PCR clean purity grade

Ordering information		
Description	**Color**	**Order no.**
Eppendorf Tubes® 3810X, 1.5 mL, g-safe® centrifugation stability		
Eppendorf Quality™, 1,000 pcs.	colorless	0030 125.150
Eppendorf Quality™, 1,000 pcs.	blue	0030 125.177
Eppendorf Quality™, 1,000 pcs.	yellow	0030 125.207
Eppendorf Quality™, 1,000 pcs.	green	0030 125.185
Eppendorf Quality™, 1,000 pcs.	red	0030 125.193
PCR clean, 1,000 pcs.	colorless	0030 125.215
Eppendorf Tube Rack, 36 positions, for 1.5 mL and 2.0 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable		0030 119.819
Storage Box 8 × 8, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code		0030 140.524

i For more information go to www.eppendorf.com/consumables

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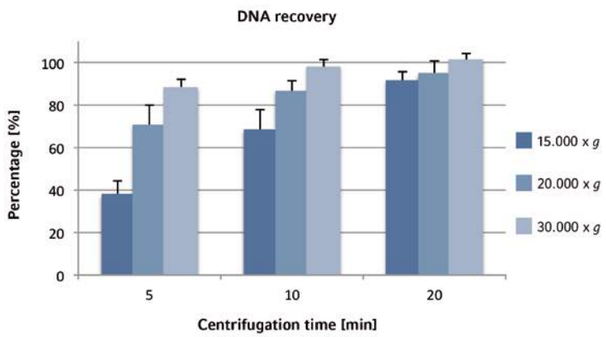
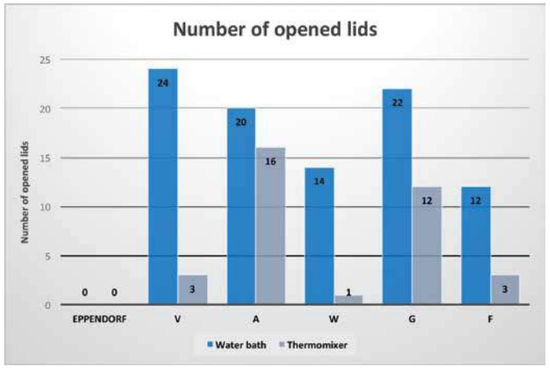
Eppendorf Safe-Lock Tubes

Description
Eppendorf Safe-Lock Tubes are the result of 50 years of continuous improvement and development. The original Safe-Lock tubes protect your sample with excellent centrifugation stability, feature optimized sealing properties, and reliably prevent sample evaporation. Trust in the original Eppendorf Safe-Lock Tubes, because your samples deserve nothing but the best.

Product features
> Hinged Eppendorf Safe-Lock lid prevents unintentional lid opening during incubation and storage
> Polypropylene provides high resistance to chemicals, mechanical stress and temperature extremes
> Manufactured without the use of slip agents, plasticizers, and biocides – substances that have been shown to leach from plastic consumables into the sample and negatively affect bio-assay results
> g-Safe®: Exceptional centrifugation stability up to 30,000 × g prevents sample loss due to tube breakage and provides extra safety when working with hazardous samples
> Precise lid sealing for minimal evaporation rates during long-term storage
> Large frosted lid and surface on the side for easy labeling
> Guaranteed functionality from -86 °C to 100 °C
> Autoclavable when open (121 °C, 20 min)
> Available in lot-certified PCR clean, Eppendorf Forensic DNA Grade, and Biopur® quality for guaranteed purity
> Available in Eppendorf Protein and DNA LoBind material for maximum recovery of valuable samples



Using the Eppendorf 30,000 × g system comprising of Safe-Lock Tubes and Centrifuge 5430 R with high-speed rotor, the effect of relative centrifugal force (rcf), duration of centrifugation and the amount of isopropanol on the recovery rate of plasmid DNA from alcohol precipitation were investigated. All three factors play a role, with rcf having the greatest effect. By centrifuging the Eppendorf Safe-Lock Tubes at 30,000 × g, nearly 90 % of DNA could be recovered from a 5 min centrifugation. For more information see Application Note 234.



Test conditions: 24 tubes of different manufacturers were incubated either in water bath or thermo mixer with nominal volume (1.5 mL) of 1 % SDS at 100 °C for 10 min.

Ordering information

Description			Order no.
Eppendorf Safe-Lock Tubes, 0.5 mL			
Eppendorf Quality™, 500 tubes		colorless	0030 121.023
Eppendorf Quality™, 500 tubes		yellow	0030 121.112
Eppendorf Quality™, 500 tubes		red	0030 121.120
Eppendorf Quality™, 500 tubes		blue	0030 121.139
Eppendorf Quality™, 500 tubes		green	0030 121.147
Eppendorf Quality™, 500 tubes		assorted colors (per 100)	0030 121.708
Forensic DNA Grade, 500 tubes (10 bags × 50 tubes)		colorless	0030 123.603
PCR clean, 500 tubes		amber (light protection)	0030 121.155
PCR clean, 500 tubes		colorless	0030 123.301
Biopur®, 50 tubes, individually packed		colorless	0030 121.570
Eppendorf Safe-Lock Tubes, 1.5 mL			
Eppendorf Quality™, 1,000 tubes		colorless	0030 120.086
Eppendorf Quality™, 1,000 tubes		yellow	0030 120.159
Eppendorf Quality™, 1,000 tubes		red	0030 120.167
Eppendorf Quality™, 1,000 tubes		blue	0030 120.175
Eppendorf Quality™, 1,000 tubes		green	0030 120.183
Eppendorf Quality™, 1,000 tubes		assorted colors (per 200)	0030 121.694
Biopur®, 100 tubes, individually packed		colorless	0030 121.589
Forensic DNA Grade, 500 tubes (10 bags × 50 tubes)		colorless	0030 123.611
PCR clean, 1,000 tubes		amber (light protection)	0030 120.191
PCR clean, 1,000 tubes		colorless	0030 123.328
Eppendorf Safe-Lock Tubes, 2.0 mL			
Eppendorf Quality™, 1,000 tubes		colorless	0030 120.094
Eppendorf Quality™, 1,000 tubes		yellow	0030 120.205
Eppendorf Quality™, 1,000 tubes		red	0030 120.213
Eppendorf Quality™, 1,000 tubes		blue	0030 120.221
Eppendorf Quality™, 1,000 tubes		green	0030 120.230
Eppendorf Quality™, 1,000 tubes		assorted colors (per 200)	0030 121.686
Biopur®, 100 tubes, individually packed		colorless	0030 121.597
Forensic DNA Grade, 500 tubes (10 bags × 50 tubes)		colorless	0030 123.620
PCR clean, 1,000 tubes		amber (light protection)	0030 120.248
PCR clean, 1,000 tubes		colorless	0030 123.344
Eppendorf Tube Rack, 36 positions, for 1.5 mL and 2.0 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable			0030 119.819
Storage Box 8 × 8, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code			0030 140.524

i For more information go to www.eppendorf.com/SafeLock

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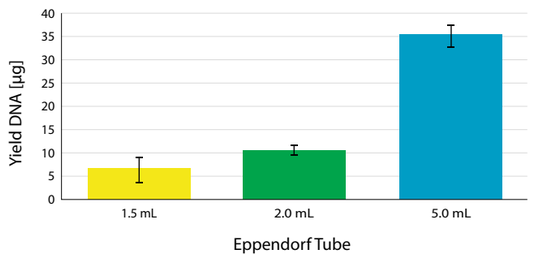
Eppendorf Tubes® 5.0 mL

Description
Eppendorf Tubes are the benchmark for simple and safe sample preparation from 0.5 to 2.0 mL. For larger volumes, 15 mL and 50 mL conical tubes are available. With medium sample volumes you may face an issue: they need to be processed with large conical screw cap tubes - impractical, inconvenient and often prone to contamination. The availability of snap cap and screw cap formats enable the optimized choice for different requirements in sample preparation, incubation, storage, or other applications.

Product features
> Matching high-speed rotors for Eppendorf Centrifuges 5430/R, 5427 R, 5804/R and 5810/R
> 5.0 mL adapters and inserts for all existing Eppendorf rotors, with bore holes for 15 mL or 50 mL tubes
> Functional rack for bench work
> Storage boxes for freezing
> 5.0 mL thermoblocks for Eppendorf ThermoMixer® C, Eppendorf ThermoMixer® comfort, ThermoStat C and ThermoStat plus
> 5.0 mL Reservoir Rack Module for the automated pipetting system ep*Motion*
> Available in Eppendorf Protein and DNA LoBind material for maximum recovery of valuable samples when only low sample amount is available

Applications
> Easier processing of samples up to 5.0 mL
> Higher yields in DNA isolation, especially with samples with limited quantity of source material
> Convenient and safe cell culture applications
> Easier sample access lowers the risk of contamination
> Preparation of mastermixes and buffers
> Less storage space needed
> Safe cell and tissue lysis
> Storage of samples and liquid solutions



Higher yields in DNA isolation
e.g. the yield of low-copy plasmid DNA can be significantly improved by increasing the culture volume to 5 mL. Data shown in the diagram were generated with 5.0 mL snap cap format – for additional information and protocol description please see Application Note 262.

i For more information go to www.eppendorf.com/5mL

The ideal solution for sample preparation and storage: The new Eppendorf Tube Racks and Storage Boxes (see page 130 and 131).

Ordering information

Description	Order no.
Eppendorf Tubes® 5.0 mL, 5.0 mL	
Eppendorf Quality™, colorless, 200 tubes (2 bags × 100 tubes)	0030 119.401
PCR clean, colorless, 200 tubes (2 bags × 100 tubes)	0030 119.460
Biopur®, colorless, 50 tubes, individually wrapped	0030 119.479
Forensic DNA Grade, colorless, 200 tubes (4 bags × 50 tubes)	0030 119.606
Sterile, colorless, 200 tubes (10 bags × 20 tubes)	0030 119.487
Eppendorf Quality™, amber (light protection), 200 tubes (2 bags × 100 tubes)	0030 119.452
Eppendorf Tubes® 5.0 mL starter pack, 5.0 mL, 400 tubes (2 packages with 2 bags of 100 each), 2 racks (with 12 locations each), white, 8 universal adapters for rotors with bore holes for 15 mL conical tubes, PCR clean, colorless	0030 119.380
Eppendorf Tubes® 5.0 mL with screw cap, 5.0 mL	
PCR clean, colorless, 200 tubes (2 bags × 100 tubes)	0030 122.364
Eppendorf Quality™, colorless, 200 tubes (2 bags × 100 tubes)	0030 122.305
PCR clean, colorless, 200 tubes (2 bags × 100 tubes)	0030 122.313
Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 200 tubes (2 bags × 100 tubes)	0030 122.321
Forensic DNA Grade, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.402
Eppendorf Conical Tubes, 15 mL, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, amber (light protection), 200 tubes (8 bags × 25 tubes)	0030 122.194
Eppendorf Conical Tubes, 50 mL, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, amber (light protection), 200 tubes (8 bags × 25 tubes)	0030 122.224
DNA LoBind Tubes, DNA LoBind, 5.0 mL, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 108.310
Protein LoBind Tubes, Protein LoBind, 5.0 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes)	0030 108.302
Tube Clip for Eppendorf Tubes® 5.0 mL, Eppendorf Quality™, 10 pcs.	0030 119.509
Eppendorf Tube Rack, 12 positions, for 5.0 mL and 15 mL tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.827
Storage Box 5 × 5, for 25 tubes 5 mL, 4 pcs., height 64 mm, 2.5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.532
Storage Box 5 × 5, for 25 tubes 5 mL screw cap, 2 pcs., height 76 mm, 3 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.613
Rotor FA-45-12-17, aerosol-tight, incl. rotor lid, for 12 × Eppendorf Tubes® 5.0 mL	5409 700.006
Rotor FA-45-16-17, aerosol-tight, incl. rotor lid, for 16 × Eppendorf Tubes® 5.0 mL	5427 750.002
Rotor FA-45-20-17, incl. rotor lid, for 20 × Eppendorf Tubes® 5.0 mL	5820 765.003
Adapter, for 14 × Eppendorf Tubes® 5.0 mL, for Rotor S-4-104, set of 2 pcs.	5825 739.000
Adapter, for 1 × Eppendorf Tubes® 5.0 mL, for Rotor A-4-38, set of 2 pcs.	5702 733.008
Adapter, for 12 × Eppendorf Tubes® 5.0 mL, for Rotor F-35-6-30, large rotor bore, set of 2 pcs.	5427 747.001
Adapter, for 1 × Eppendorf Tubes® 5.0 mL, for Rotor F-34-6-38, set of 2 pcs.	5804 777.000
Adapter, for Eppendorf Tubes® 5.0 mL, for Rotor F-35-6-30, small rotor bore, set of 2 pcs.	5427 746.005
Adapter, for 1 × Eppendorf Tubes® 5.0 mL with snap cap, set of 2 pcs.	5820 730.005
Universal adapter, for 1 × Eppendorf Tubes® 5.0 mL, for centrifuges with rotors for conical 15 mL tubes, set of 8 pcs.	5820 732.008
Adapter, for 8 × Eppendorf Tubes® 5.0 mL, for Rotor S-4-72, set of 2 pcs.	5804 793.005
Exchangeable thermoblocks, for 8 × 5.0 mL Eppendorf Tubes®	5309 000.333
Eppendorf SmartBlock™ 5 mL, thermoblock for 8 Eppendorf Tubes® 5.0 mL, 8 × 5.0 mL reaction vessels	5309 000.007
Reservoir Rack Module TC, for use in ep*Motion*® Reservoir Racks, temperable, 4 × Eppendorf Tubes® 5.0 mL	5075 799.340

Eppendorf Conical Tubes 15 mL and 50 mL

Description
The Conical Tubes 15 mL and 50 mL extend the volume range of the Eppendorf Tubes®. Safe design and easy handling ensure best sample processing. They represent the optimal solution for cell culture and cell biology applications as well as for sample preparation protocols in microbiology and molecular biology laboratories. Whether centrifugation, mixing, or other applications – the Eppendorf Conical Tubes 15 mL and 50 mL will complete your workflows in an excellent way.

Premium raw material and no use of slip agents, plasticizers, and biocides during manufacturing ensure
> excellent sample integrity
> high g-Safe® centrifugation stability
> optimized sample and pellet visibility

Cap with flattened and grooved sides
> supports user-friendly ergonomic handling
> enables a stable upright positioning
> minimizes contamination risk

Reliable and safe labeling due to a large writing area on the tube and due to a flat and light-colored cap

Precise dimensions enable maximum compatibility with centrifuge rotors, mixers and shakers

Certified purity
> individual purity certificates are available for each lot

Applications
> Convenient and safe cell culture applications
> Sample preparation in microbiology and molecular biology labs
> Storage of samples and solution with larger volumes
> Preparation of mastermixes and buffers

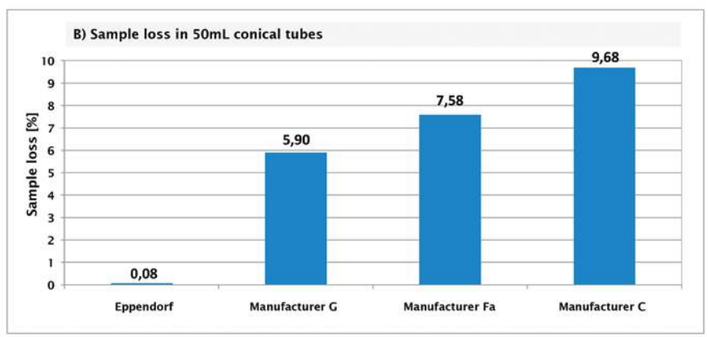


Figure 2: Sample loss after horizontal storage of ethanol in different conical tubes at -86 °C for 24 hours. Sample loss is expressed as percentage of initial weight before storage. For more information see Application Note 343.

i For more information go to www.eppendorf.com/consumables

Eppendorf Tubes® 5.0 mL with snap cap or screw cap: The ideal complement for smaller volumes (see page 118)

Whether centrifugation, mixing, or other applications – the Eppendorf Conical Tubes 15 and 50 mL will complete your workflows in an excellent way

Technical specifications			
Model	**Eppendorf Conical Tubes**	**Eppendorf Conical Tubes 15 mL**	**Eppendorf Conical Tubes 50 mL**
External height / Dimensions external		121 mm / 17 mm	116 mm / 30 mm
Operating temperature	-86 °C – 100 °C	-86 °C – 100 °C	-86 °C – 100 °C

Ordering information	
Description	**Order no.**
Eppendorf Conical Tubes, 15 mL	
Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 500 tubes (10 bags × 50 tubes)	0030 122.151
Eppendorf Conical Tubes, 15 mL, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, amber (light protection), 200 tubes (8 bags × 25 tubes)	0030 122.194
Forensic DNA Grade, colorless, 100 tubes, individually wrapped	0030 122.259
Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 500 tubes (20 racks × 25 tubes)	0030 122.160
Eppendorf Conical Tubes, 50 mL	
Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 500 tubes (20 bags × 25 tubes)	0030 122.178
Eppendorf Conical Tubes, 50 mL, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, amber (light protection), 200 tubes (8 bags × 25 tubes)	0030 122.224
Forensic DNA Grade, colorless, 48 tubes, individually wrapped	0030 122.267
Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 300 tubes (12 racks × 25 tubes)	0030 122.186
Eppendorf Tube Rack, 12 positions, 6 for 5.0 mL and 15 mL tubes and 6 for 50 mL tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.835
Eppendorf Tube Rack, 12 positions, for 5.0 mL and 15 mL tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.827
DNA LoBind Tubes, DNA LoBind, 15 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.208
DNA LoBind Tubes, DNA LoBind, 50 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.232
Protein LoBind Tubes, Protein LoBind, 15 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.216
Protein LoBind Tubes, Protein LoBind, 50 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.240
Storage Box 5 × 5, for 25 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.583
Storage Box 3 × 3, for 9 tubes 50 mL and 4 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.591

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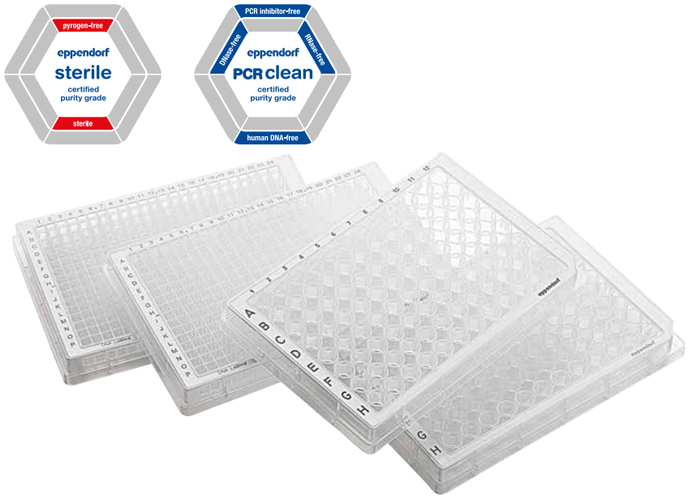
Eppendorf Microplates

Description
The Eppendorf Microplates bring an outstanding clarity to your laboratory! It has never been this easy to pipette, control and recover samples with a polypropylene microplate. The easy-to-read alphanumeric label of the OptiTrack® matrix on each plate makes it unbelievably easy to identify individual wells, speeds up the filling process and significantly reduces the risk of errors. The high transparency is outstanding and ensures that you can always quickly locate your samples. The Microplates are also available in Eppendorf LoBind material for maximum sample recovery when only limited amount of sample material is available.



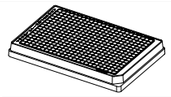
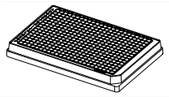
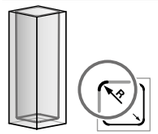
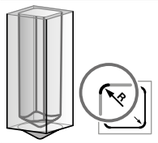
Applications
> Sample storage and preparation
> Assays that require high resistance against temperature or solvents
> Active ingredient screening
> Combinatorial chemistry
> Storage of cDNA or genomic banks
> Protein analysis
> Genotyping
> Storage of siRNA or oligonucleotide libraries
> Preparation of tissue and plant lysates

Product features
> Unmatched, transparent polypropylene (PP) for improved sample visibility
> OptiTrack® Matrix: up to 30 % faster sample identification and fewer pipetting errors via high-contrast alphanumeric labeling
> RecoverMax® well design: Optimized well geometry for minimal remaining volume and excellent mixing properties
> Raised well rims and smooth surface for reliable closing, even with heat sealing
> g-Safe®: exceptional centrifugation stability up to 6,000 × g
> Polypropylene guarantees high resistance to chemicals, mechanical stress and temperature extremes
> Manufactured without slip agents, plastocizers or biocides – Materials which could have a negative effect on bioassays
> Guaranteed functionality from -86 °C to 100 °C
> Autoclavable (121 °C, 20 min)
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

i For more information go to www.eppendorf.com/consumables

Technical specifications subject to change.

Technical specifications

					
Description	**Microplate 96/F**	**Microplate 96/U**	**Microplate 96/V**	**Microplate 384/F**	**Microplate 384/V**
Number of wells	96 wells	96 wells	96 wells	384 wells	384 wells
Working volume	50 – 350 µL	20 – 320 µL	20 – 320 µL	10 – 120 µL	5 – 120 µL
Total volume per well	400 µL	360 µL	350 µL	150 µL	140 µL
					
Bottom shape	F bottom	U bottom	V bottom	F bottom	conical

Ordering information

Description	OptiTrack® frame color	Order no.
Microplate 96/F, wells clear, RecoverMax® well design		
PCR clean, 80 plates (5 bags × 16 plates)	white	0030 601.106
Sterile, 80 plates (5 bags × 16 plates)	white	0030 602.102
Microplate 96/U, wells clear, RecoverMax® well design		
PCR clean, 80 plates (5 bags × 16 plates)	white	0030 601.203
Sterile, 80 plates (5 bags × 16 plates)	white	0030 602.200
Microplate 96/V, wells clear, RecoverMax® well design		
PCR clean, 80 plates (5 bags × 16 plates)	white	0030 601.300
Sterile, 80 plates (5 bags × 16 plates)	white	0030 602.307
Microplate 384/F, wells clear, RecoverMax® well design		
PCR clean, 80 plates (5 bags × 16 plates)	white	0030 621.107
Sterile, 80 plates (5 bags × 16 plates)	white	0030 622.103
Microplate 384/V, wells clear, RecoverMax® well design		
PCR clean, 80 plates (5 bags × 16 plates)	white	0030 621.301
Sterile, 80 plates (5 bags × 16 plates)	white	0030 622.308

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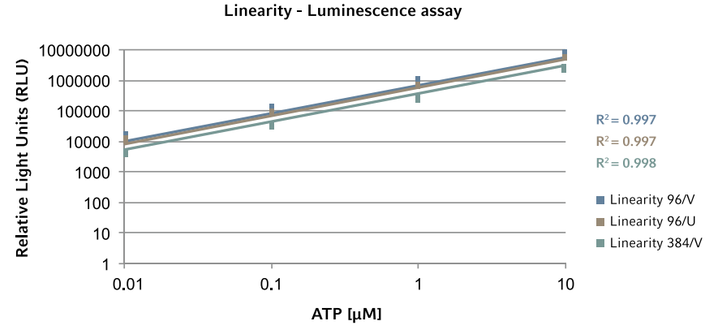
Eppendorf Assay/Reader Microplates

Description
Eppendorf assay plates are optimized for measuring absorbance assays in the visible and UV range, fluorescence and chemiluminescence assays. Solid plates are suitable for top-reading plate readers. Clear plates and black/clear plates can be used with top- and bottom-reading plate readers.
The black Eppendorf Microplates are ideal for fluorescence detection. An excellent signal-to-noise ratio provides low detection limits in assays – for clear signals even with low-concentration samples! The white Eppendorf Microplates maximize reflection for high sensitivity during detection of luminescence or weak fluorescence signals.

Applications
> Clear VIS and UV-VIS plates for all absorbance assays in the visible and UV range
> Black and white Microplates for Fluorescence and Luminescence detection
> DNA- and Protein concentration with absorbance or fluorescent dyes
> Protocols that require high resistance against temperature or solvents
> Dilution series
> Preparation of tissue and plant lysates

Product features
> UV-VIS Microplates feature an ultrathin film bottom for excellent light transmission in the UV range
> Black Eppendorf Microplates offer an excellent signal-to-noise ratio – for clear signals even with low-concentration samples
> White Eppendorf Microplates are optimized for highest sensitivity in the detection of luminescence signals by maximizing reflection
> Solid black and white assay plates are made of polypropylene resulting in high resistance to chemicals, mechanical stress, and temperature extremes
> All plates are optimized for minimal autofluorescence and autoluminescence
> Available in lot-certified PCR clean purity grade

i For more information go to www.eppendorf.com/consumables



The Eppendorf Microplates 96/V, 96/U and 384/V were tested in a luminescence assay. A ten-fold serial dilution of ATP in culture medium was prepared. Logarithmic plot of data showing linearity of results for the Eppendorf Microplates in the range between 0.01 and 10 µM ATP. For more information see Application Note 215.

Ordering information

Description	Order no.
Microplate 96/F, wells white	
PCR clean, gray, 80 plates (5 bags × 16 plates)	0030 601.475
Microplate 96/U, wells white	
PCR clean, gray, 80 plates (5 bags × 16 plates)	0030 601.572
Microplate 96/V, wells white	
PCR clean, gray, 80 plates (5 bags × 16 plates)	0030 601.670
Microplate 384/V, wells white	
PCR clean, gray, 80 plates (5 bags × 16 plates)	0030 621.670
Microplate 96/F, wells black	
PCR clean, white, 80 plates (5 bags × 16 plates)	0030 601.700
Microplate 96/U, wells black	
PCR clean, white, 80 plates (5 bags × 16 plates)	0030 601.807
Microplate 96/V, wells black	
PCR clean, white, 80 plates (5 bags × 16 plates)	0030 601.904
Microplate 384/V, wells black	
PCR clean, white, 80 plates (5 bags × 16 plates)	0030 621.905
Microplate UV-VIS 96/F, wells clear	
PCR clean, colorless, 40 plates (4 bags × 10 plates)	0030 741.048
Microplate VIS 96/F, wells clear	
PCR clean, colorless, 40 plates (4 bags × 10 plates)	0030 730.020
Eppendorf Cell Imaging Plates, with lid, black with clear F-bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
96-Well Cell Imaging Plate with 25 µm film bottom, individually wrapped, 20 pcs.	0030 741.013

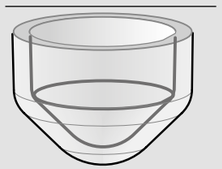
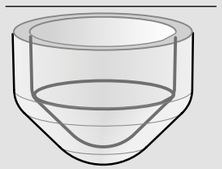
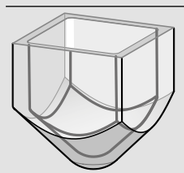
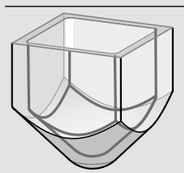
Eppendorf Deepwell Plates

Description
Eppendorf Deepwell Plates 96 and 384 are high-performance plates for all manual and automated applications – from sample storage at -86 °C to DNA denaturation at 100 °C. Manufactured from pure polypropylene (PP), these plates offer innovative features: More dependability. More efficiency. More stability. The plates are available with a white, yellow, green, or blue border. For easy identification of wells, a high-contrast alphanumeric label is laser-engraved in the border. This OptiTrack® matrix allows you to find your sample up to 30 % more quickly while reducing pipetting errors. With all of these sophisticated features, these plates set new standards in your laboratory.

Applications
> Sample storage and preparation
> Bacteria and yeast cultivation
> DNA and RNA isolation with high throughput
> Storage of cDNA or genomic banks
> Storage of siRNA or oligonucleotide libraries
> Protein analysis
> Storage of valuable protein and DNA samples in Eppendorf LoBind plates
> Plasmid purification with high throughput
> Creating dilution series

Product features
> OptiTrack® matrix: up to 30 % faster sample identification and fewer pipetting errors via high-contrast alphanumeric labeling
> RecoverMax® well design: Optimized well geometry for maximum sample recovery and excellent mixing properties
> Minimal remaining volume and high uniformity from well to well
> Raised well rims and smooth surface for reliable closing, even with heat sealing
> Easy and reliable stacking
> g-Safe®: exceptional centrifugation stability up to 6,000 × g for faster protocols and improved sample quality
> High-quality polypropylene guarantees high resistance to chemicals, mechanical stress and temperature extremes
> Manufactured without slip agents, plasticizers, and biocides – Materials which could have a negative effect on bioassays
> Autoclavable (121 °C, 20 min)
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

Technical specifications

Model	Deepwell Plates 96/500 µL	Deepwell Plates 96/1000 µL	Deepwell Plates 96/2000 µL	Deepwell Plates 384/200 µL
Total volume per well	700 µL	1,200 µL	2,400 µL	240 µL
Working volume per well	30 – 550 µL	30 – 1,000 µL	50 – 2,000 µL	20 – 225 µL
Well shape/Bottom shape				

i For more information go to www.eppendorf.com/Deepwellplates

Technical specifications subject to change.

Ordering information

Description	OptiTrack® frame color	Order no.
Deepwell Plate 96/500 µL, wells clear, 500 µL		
PCR clean, 40 plates (5 bags × 8 plates)	white	0030 501.101
PCR clean, 40 plates (5 bags × 8 plates)	yellow	0030 501.110
PCR clean, 40 plates (5 bags × 8 plates)	green	0030 501.136
PCR clean, 40 plates (5 bags × 8 plates)	blue	0030 501.144
PCR clean, 120 plates (10 bags × 12 plates)	white	0030 505.107
Sterile, 40 plates (5 bags × 8 plates)	white	0030 502.108
Sterile, 40 plates (5 bags × 8 plates)	yellow	0030 502.116
Sterile, 40 plates (5 bags × 8 plates)	green	0030 502.132
Sterile, 40 plates (5 bags × 8 plates)	blue	0030 502.140
Sterile, 120 plates (10 bags × 12 plates)	white	0030 506.103
Deepwell Plate 96/1000 µL, wells clear, 1,000 µL		
PCR clean, 20 plates (5 bags × 4 plates)	white	0030 501.209
PCR clean, 20 plates (5 bags × 4 plates)	yellow	0030 501.217
PCR clean, 20 plates (5 bags × 4 plates)	green	0030 501.233
PCR clean, 20 plates (5 bags × 4 plates)	blue	0030 501.241
PCR clean, 80 plates (10 bags × 8 plates)	white	0030 505.204
Sterile, 20 plates (5 bags × 4 plates)	white	0030 502.205
Sterile, 20 plates (5 bags × 4 plates)	yellow	0030 502.213
Sterile, 20 plates (5 bags × 4 plates)	green	0030 502.230
Sterile, 20 plates (5 bags × 4 plates)	blue	0030 502.248
Sterile, 80 plates (10 bags × 8 plates)	white	0030 506.200
Deepwell Plate 96/2000 µL, wells clear, 2,000 µL		
PCR clean, 20 plates (5 bags × 4 plates)	white	0030 501.306
PCR clean, 20 plates (5 bags × 4 plates)	yellow	0030 501.314
PCR clean, 20 plates (5 bags × 4 plates)	green	0030 501.330
PCR clean, 20 plates (5 bags × 4 plates)	blue	0030 501.349
PCR clean, 80 plates (10 bags × 8 plates)	white	0030 505.301
Sterile, 20 plates (5 bags × 4 plates)	white	0030 502.302
Sterile, 20 plates (5 bags × 4 plates)	yellow	0030 502.310
Sterile, 20 plates (5 bags × 4 plates)	green	0030 502.337
Sterile, 20 plates (5 bags × 4 plates)	blue	0030 502.345
Sterile, 80 plates (10 bags × 8 plates)	white	0030 506.308
Deepwell Plate 384/200 µL, wells clear, 200 µL		
PCR clean, 40 plates (5 bags × 8 plates)	white	0030 521.102
Sterile, 40 plates (5 bags × 8 plates)	white	0030 522.109
PCR clean, 120 plates (10 bags × 12 plates)	white	0030 525.108
Sterile, 120 plates (10 bags × 12 plates)	white	0030 526.104

www.eppendorf.com/deepwellplates-brochure

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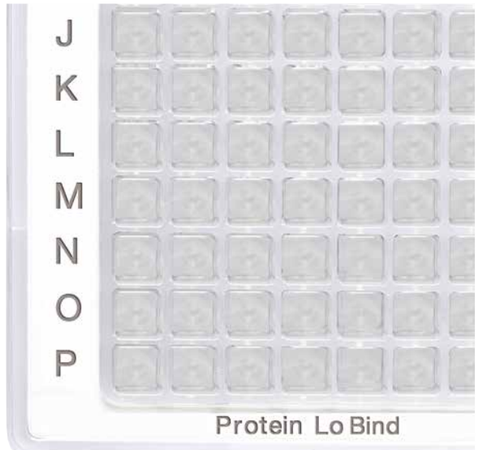
Protein LoBind Plates

Description
Eppendorf LoBind Plates maximize sample recovery by significantly reducing sample binding to the surface. A special, two-component polymer mix creates a hydrophilic surface that ensures optimized recovery rates of valuable samples. Protein LoBind Plates have been specially designed for use in protein research or with sensitive proteomic test methods, and frequently provide significantly improved analysis results.



Product features
> Eppendorf LoBind material ensures excellent sample recovery for improved assay results
> Free of surface coating (e.g., silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> High-contrast Unique OptiTrack® matrix: up to 30 % faster sample identification and fewer pipetting errors
> RecoverMax® well design: optimized well geometry for minimal remaining/dead volume and excellent mixing properties
> Raised well rims and a smooth surface guarantee reliable sealing in plates
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

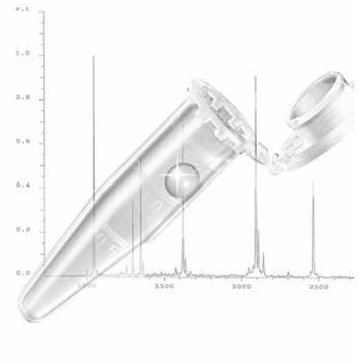
Applications
> Preparation or storage of protein, peptide or antibody samples
> Enzymatic assays – the hydrophilic surface reduces denaturation when it comes into contact with the tube inner wall
> Prevention of sample loss during storage of virus stock solutions
> Storage of cell suspensions

Ordering information

Description		OptiTrack® frame color	Order no.
Deepwell Plate 96/500 µL, Protein LoBind, 500 µL			
PCR clean, 40 plates (5 bags × 8 plates)		white	0030 504.100
PCR clean, 40 plates (5 bags × 8 plates)		yellow	0030 504.119
PCR clean, 120 plates (10 bags × 12 plates)		white	0030 508.106
Deepwell Plate 96/1000 µL, Protein LoBind, 1,000 µL			
PCR clean, 20 plates (5 bags × 4 plates)		white	0030 504.208
PCR clean, 20 plates (5 bags × 4 plates)		yellow	0030 504.216
PCR clean, 80 plates (10 bags × 8 plates)		white	0030 508.203
Deepwell Plate 96/2000 µL, Protein LoBind, 2,000 µL			
PCR clean, 20 plates (5 bags × 4 plates)		white	0030 504.305
Deepwell Plate 384/200 µL, Protein LoBind, 200 µL			
PCR clean, 40 plates (5 bags × 8 plates)		white	0030 524.101
PCR clean, 120 plates (10 bags × 12 plates)		white	0030 528.107
Microplate 384/V-PP, Protein LoBind, wells clear			
PCR clean, 80 plates (5 bags × 16 plates)		white	0030 624.300
PCR clean, 240 plates (10 bags × 24 plates)		white	0030 628.306

Protein LoBind Tubes

Description
When biological samples are stored or incubated in standard vessels, over 90 % of the sample can be lost within 24 hours as a result of binding to the plastic surface. Eppendorf LoBind Tubes maximize sample recovery by significantly reducing sample binding to the surface. A special, two-component polymer mix creates a hydrophilic surface that ensures optimized recovery rates of valuable samples. Protein LoBind Tubes have been specially designed for use in protein research or with sensitive proteomic test methods, and frequently provide significantly improved analysis results.



Product features
> Eppendorf LoBind material ensures optimized sample recovery for improved assay results
> Free of surface coating (e.g., silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> Precise lid sealing to minimize evaporation

Applications
> Preparation or storage of protein, peptide or antibody samples
> Enzymatic assays – the hydrophilic surface reduces denaturation when it comes into contact with the tube inner wall
> Prevention of sample loss during storage of virus stock solutions
> Storage of cell suspensions

Ordering information

Description	Order no.
Protein LoBind Tubes, Protein LoBind, 0.5 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes)	0030 108.094
Protein LoBind Tubes, Protein LoBind, 1.5 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes)	0030 108.116
Protein LoBind Tubes, Protein LoBind, 2.0 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes)	0030 108.132
Protein LoBind Tubes, Protein LoBind, 5.0 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes)	0030 108.302
Protein LoBind Tubes, Protein LoBind, 15 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.216
Protein LoBind Tubes, Protein LoBind, 50 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.240

DNA LoBind Plates

Description
DNA LoBind plates improve recovery of nucleic acids by reducing their adsorption to the tube wall. A combination of special manufacturing technologies and selected polypropylene batches ensures nearly 100 % recovery of DNA/RNA molecules-without surface coating to eliminate the risk of sample contamination. Eppendorf DNA LoBind plates are ideal for sample preparation of long-term storage of nucleic acids in forensic, microarrays, NGS applications, and many others.

Product features
> Eppendorf LoBind material ensures optimized sample recovery for improved assay results
> Free of surface coating (e.g. silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> High-contrast Unique OptiTrack® matrix: up to 30 % faster sample identification and fewer pipetting errors
> RecoverMax® well design: optimized well geometry for minimal remaining/dead volume and excellent mixing properties
> Raised well rims and a smooth surface guarantee reliable sealing
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

Applications
> Preparation or storage of DNA and RNA samples
> Forensic trace analysis
> Preparing dilution series in quantitative qPCR
> Sample preparation in next-generation sequencing
> Creation of genomic or oligonucleotide libraries

Ordering information

Description		OptiTrack® frame color	Order no.
Deepwell Plate 96/500 µL, DNA LoBind, 500 µL, Eppendorf LoBind®			
PCR clean, 40 plates (5 bags × 8 plates)		white	0030 503.104
PCR clean, 40 plates (5 bags × 8 plates)		blue	0030 503.147
PCR clean, 120 plates (10 bags × 12 plates)		white	0030 507.100
Deepwell Plate 96/1000 µL, DNA LoBind, 1000 µL, Eppendorf LoBind®			
PCR clean, 20 plates (5 bags × 4 plates)		white	0030 503.201
PCR clean, 20 plates (5 bags × 4 plates)		blue	0030 503.244
PCR clean, 80 plates (10 bags × 8 plates)		white	0030 507.207
Deepwell Plate 384/200 µL, DNA LoBind, 200 µL, Eppendorf LoBind®			
PCR clean, 40 plates (5 bags × 8 plates)		white	0030 523.105
PCR clean, 120 plates (10 bags × 12 plates)		white	0030 527.100
Microplate 96/V-PP, DNA LoBind, Eppendorf LoBind®			
PCR clean, 80 plates (5 bags × 16 plates)		white	0030 603.303
Microplate 384/V-PP, DNA LoBind, wells clear, Eppendorf LoBind®			
PCR clean, 80 plates (5 bags × 16 plates)		white	0030 623.304
PCR clean, 240 plates (10 bags × 24 plates)		white	0030 627.300

DNA LoBind Tubes

Description
DNA LoBind tubes maximize sample recovery of nucleic acids by significantly reducing sample–to–surface binding. A combination of special manufacturing technologies and selected polypropylene batches ensures nearly 100 % recovery of DNA/RNA molecules-without surface coating to eliminate the risk of sample contamination. DNA LoBind tubes are batch-tested and certified by an independent laboratory to be free from DNA, DNase, RNase, and PCR inhibitors. Eppendorf DNA LoBind tubes are ideal for sample preparation of long-term storage of nucleic acids in forensic, microarrays, NGS applications, and many others.

Product features
> Eppendorf LoBind material ensures optimized sample recovery for improved assay results
> Free of surface coating (e.g., silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> Precise lid sealing for minimal evaporation rates in tube format
> Rated up to 30,000 × g (25,000 × g for 2.0 mL tube) centrifugation speed for molecular biology applications

Applications
> Preparation or storage of DNA and RNA samples
> Forensic trace analysis
> Preparing dilution series in quantitative qPCR
> Sample preparation in next-generation sequencing
> Creation of genomic or oligonucleotide libraries

Ordering information

Description	Order no.
DNA LoBind Tubes, DNA LoBind, 0.5 mL, PCR clean, colorless, 250 tubes (5 bags × 50 tubes)	0030 108.035
DNA LoBind Tubes, DNA LoBind, 1.5 mL, PCR clean, colorless, 250 tubes (5 bags × 50 tubes)	0030 108.051
DNA LoBind Tubes, DNA LoBind, 2.0 mL, PCR clean, colorless, 250 tubes (5 bags × 50 tubes)	0030 108.078
DNA LoBind Tubes, DNA LoBind, 5.0 mL, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 108.310
DNA LoBind Tubes, DNA LoBind, 15 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.208
DNA LoBind Tubes, DNA LoBind, 50 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes)	0030 122.232

Accessories

Sealing options for Sample Preparation and Storage
> Storage Film and Foil glued seals for simple and dependable sealing during sample storage
> Heat Sealing Film and Foil for continuous locking with the best evaporation protection
> Foil products are made of aluminum, can be pierced, and protect light-sensitive samples
> Film products are transparent and provide protection against unwanted punctures
> Eppendorf Plate Lid: stable, flexible protection of samples during short-term storage

Ordering information

Description	Order no.
Eppendorf Storage Film, self-adhesive, PCR clean, 100 pcs. (2 bags × 50 pcs.)	0030 127.870
Eppendorf Storage Foil, self-adhesive, PCR clean, 100 pcs.	0030 127.889
Eppendorf Sealing Mat, for DWP 96/2000 , PCR clean, 50 pcs. (5 bags × 10 pcs.)	0030 127.960
Eppendorf Sealing Mat, for DWP 96/1000 and DWP 96/500, PCR clean, 50 pcs. (5 bags × 10 pcs.)	0030 127.978
Eppendorf Plates® Lid, for MTP and DWP, PCR clean, 80 pcs. (5 bags × 16 pcs.)	0030 131.517
Eppendorf Plates® Lid, for MTP and DWP, Sterile, 80 pcs. (5 bags × 16 pcs.)	0030 131.525
Eppendorf Heat Sealing Film, PCR clean, 100 pcs.	0030 127.838
Eppendorf Heat Sealing Foil, PCR clean, 100 pcs.	0030 127.854

Eppendorf Storage Boxes
> Made of polypropylene (PP) for high stability in freezing applications and smooth opening and closing
> For freezing to -86 °C
> High-contrast permanent alphanumeric marking of each location through laser labeling enables easy sample reference and minimizes risk of sample mix-up
> Autoclavable (121 °C, 20 min)
> Transparent lid for easy and fast sample inspection
> Flexible labeling on the light colored box and on the 5 writing areas of the lid
> Optimal use of freezer space due to flexible combination of the different formats
> For more information see: www.eppendorf.com/storageboxes

Ordering information

Description	Order no.
Storage Box 10 × 10, for 100 cryogenic tubes w. int. thread, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.508
Storage Box 9 × 9, for 81 screw cap (cryog.) tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.516
Storage Box 9 × 9, for 81 screw cap (cryog.) tubes 3 mL, 2 pcs., height 76 mm, 3 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.540
Storage Box 9 × 9, for 81 screw cap (cryog.) tubes 4 – 5 mL, 2 pcs., height 102 mm, 4 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.567
Storage Box 8 × 8, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.524
Storage Box 5 × 5, for 25 tubes 5 mL, 4 pcs., height 64 mm, 2.5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.532
Storage Box 5 × 5, for 25 tubes 5 mL screw cap, 2 pcs., height 76 mm, 3 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.613
Storage Box 5 × 5, for 25 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.583
Storage Box 3 × 3, for 9 tubes 50 mL and 4 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.591

Technical specifications subject to change.

Micropestle
> Two sides for optimal fit in 1.5 mL and 2.0 mL vessels
> Autoclavable (121 °C, 20 min)

Ordering information

Description	Order no.
Micropestle, for resuspending pellets in 1.5/2.0 mL vessels, 10 pcs.	0030 120.973

Eppendorf Tube and Cuvette Racks
> Made from high quality polypropylene (PP):
> Ensuring dimensional stability across a broad temperature range (-86 ° C to 121° C)
> Providing chemical resistance
> Six different formats always offer the optimal choice for all common tubes and cuvettes
> A wavelike design enables you to clearly identify your samples, even when tubes are placed vertically in a column
> Non-slip silicone feet ensure safe handling
> The racks are laboratory washer-safe for fast and easy cleaning
> The racks are autoclavable (121° C/20 min) and stackable
> For more information see: www.eppendorf.com/tube-racks
> Autoclavable (121 °C, 20 min)

Ordering information

Description	Order no.
Eppendorf Tube Rack, 48 positions, for 0.5 mL tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.800
Eppendorf Tube Rack, 36 positions, for 1.5 mL and 2.0 mL tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.819
Eppendorf Tube Rack, 12 positions, for 5.0 mL and 15 mL tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.827
Eppendorf Tube Rack, 12 positions, 6 for 5.0 mL and 15 mL tubes and 6 for 50 mL tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.835
Eppendorf Cuvette Rack, 30 positions, for glass and plastic cuvettes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.851
Eppendorf Tube Rack, 36 positions, for cryogenic tubes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.843

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Sample Handling

New

Model	MiniSpin®/MiniSpin® plus	5418 R	5420
Positioning	Space saving 12-place mini-centrifuge for quick spin downs even in the smallest workstation, non-refrigerated	Compact refrigerated 18-place microcentrifuge for temperature sensitive samples	Small footprint 24-place microcentrifuge for molecular biology routine applications, non-refrigerated
Page(s)	138	139	140
Max. capacity	12 × 1.5/2.0 mL	18 × 1.5/2.0 mL	24 × 1.5/2.0 mL
Max. RCF	12,100 × g/14,100 × g	16,873 × g	21,300 × g
Max. speed	13,400 rpm/14,500 rpm	14,000 rpm	15,060 rpm
Rotors available	2	1	2
Temperature control range		0 °C to +40 °C	
Dimensions (W × D × H)	22.6 × 23.9 × 12.0 cm	30 × 46 × 25 cm	24 × 35 × 22 cm
Height (with open lid)	25 cm	52 cm	44 cm
Weight w/o accessories	3.7 kg	22 kg	13 kg
Max. power consumption	70 W/85 W	320 W	290 W
Tube/plate/bottle capacity			
1.5/2.0 mL Eppendorf tubes	12	18	24
Eppendorf Tubes® 5.0 mL	–	–	–
8-place PCR strips	2	–	4
15 mL conical tubes	–	–	–
50 mL conical tubes	–	–	–
13 mm round-bottom and blood collection tubes	–	–	–
16 mm round-bottom and blood collection tubes	–	–	–
17.5 mm round-bottom and blood collection tubes	–	–	–
PCR plates/MTP	–	–	–
Deepwell plates (DWP)	–	–	–

5424 R	5425	5427 R	5430/5430 R
Refrigerated 24-place standard microcentrifuge for temperature sensitive samples	Whisper quiet 24-place standard microcentrifuge with outstanding feature set for broad range of applications, non-refrigerated	High-throughput refrigerated 48-place microcentrifuge for temperature sensitive samples	Crossover microcentrifuge with multipurpose versatility and 12 rotor options including rotor for 15 and 50 mL conical tubes, 30-place high speed rotor and swing-bucket rotor for MTPs or DWPs, refrigerated for temperature sensitive samples or non-refrigerated
141	142	143	144
24 × 1.5/2.0 mL	10 × 5.0 mL	48 × 1.5/2.0 mL	48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP
21,130 × g	21,300 × g	25,000 × g	30,130 × g
15,000 rpm	15,060 rpm	16,220 rpm	17,500 rpm
4	6	9	12
-10 °C to +40 °C		-11 °C to 40 °C	-11 °C to 40 °C
29 × 48 × 26 cm	24 × 39 × 24 cm	31.9 × 54.0 × 25.4 cm	33 × 42 × 25 cm/38 × 64 × 29 cm
51 cm	48 cm		56 cm/63 cm
21 kg	15.6 kg	30 kg	29 kg/56 kg
350 W	280 W	550 W	475 W/1.050 W
24	24	48	48
–	10	12	16
4	12	6	8
–	–	–	6
–	–	–	6
–	–	–	12
–	–	–	12
–	–	–	12
–	–	–	2
–	–	–	2

i For more information go to www.eppendorf.com/centrifugation

epServices for premium performance

On page 384 you will find detailed information on services for these products!

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Sample Handling

SELECTION GUIDE

Model	5702/5702 R/5702 RH	5804/5804 R	5810/5810 R	Centrifuge 5910 R	Centrifuge 5920 R
Positioning	General purpose centrifuge with medium capacity for low speed cell culture applications, refrigerated for temperature sensitive samples, active heating and cooling to improve cell viability or non-refrigerated	High speed multipurpose centrifuge with medium capacity, refrigerated for temperature sensitive samples or non-refrigerated	Compact multipurpose centrifuge with medium capacity, refrigerated for temperature sensitive samples or non-refrigerated	Super versatile multipurpose centrifuge with high capacity for broad range of consumables, refrigerated for temperature sensitive samples	High-throughput multipurpose centrifuge with very high capacity, refrigerated for temperature sensitive samples
Page(s)	156	162	162	190	191
Max. capacity	4 × 100 mL	4 × 250 mL/2 × 5 MTP	4 × 750 mL/4 × 4 MTP	4 × 750 mL/4 × 5 MTP	4 × 1,000 mL/4 × 7 MTP
Max. RCF	3,000 × g	20,913 × g	20,913 × g	22,132 × g	21,194 × g
Max. speed	4,400 rpm	14,000 rpm	14,000 rpm	14,000 rpm	13,700 rpm
Temperature control range	– /-9 °C to 40 °C/-9 °C to 42 °C	-9 °C to 40 °C	–/-9 °C to 40 °C	-11 °C to 40 °C	-11 °C to 40 °C
Dimensions (W × D × H)	32 × 40 × 24 cm/38 × 58 × 26 cm/38 × 58 × 26 cm	47 × 55 × 34 cm/64 × 55 × 34 cm	54 × 61 × 35 cm/70 × 61 × 35 cm	72 × 66 × 37 cm	74 × 71 × 40 cm
Height (with open lid)	53 cm/60 cm/60 cm	74 cm	80 cm	85 cm	94 cm
Footprint (dimensions w/o front panel, WxD)		47 × 50 cm/64 × 50 cm	54 × 54 cm/70 × 54 cm	72 × 62 cm	74 × 67 cm
Weight w/o accessories	20 kg/36 kg/36 kg	55 kg/80 kg	68 kg/99 kg	109 kg	139 kg
Max. power consumption	200 W/380 W/380 W	900 W/1,650 W	900 W/1,650 W	1,650 W	1,650 W
Tube/plate/bottle capacity					
1.5/2.0 mL Eppendorf tubes	24	104	200	200	368
Eppendorf Tubes® 5.0 mL	4	32	56	64	108
8-place PCR strips	–	6	6		
15 mL conical tubes	20	40	56	64	108
50 mL conical tubes	4	16	28	36	52
13 mm round-bottom and blood collection tubes	36	56	100	120	196
16 mm round-bottom and blood collection tubes	30	52	80	104	148
17.5 mm round-bottom and blood collection tubes	24	48	80	84	80
180 – 250 mL bottles (flat)	–	4	4	4	8
500 mL Corning®	–	–	4	4	4
750 mL bottles	–	–	4	4	4
1,000 mL bottles	–	–	–		4
PCR plates/MTP	–	10	16	20/4	28/8
Deepwell plates (DWP)	–	4	4	4	8

i For more information go to www.eppendorf.com/centrifugation

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MiniSpin®/MiniSpin® plus

Description
Powerful and user-friendly MiniSpin and MiniSpin plus are small enough so that each workstation can be equipped with a „personal" centrifuge. Two models are available to meet your performance requirements. MiniSpin plus provides speed sufficient for molecular biology separations.

Product features
> Rotor capacity: 12 × 1.5/2.0 mL vessels, 2 × PCR strip
> Max. speed: 14,100 × g (14,500 rpm)
> Extremely compact footprint
> Acceleration and deceleration time < 13 s
> User-friendly digital display for time and speed
> Metal rotor bowl
> Separate short-spin key for fast and comfortable centrifugation
> Optimal ventilation flow reduces heating and protects temperature-sensitive samples
> Soft-touch lid closure for ergonomic lid locking
> Automatic lid opening at the end of the run to prevent sample warming and to allow easy access to samples

Special features for MiniSpin plus
> Automatic rpm/rcf conversion
> Extended time to 99 min or continous centrifugation

Ordering information

Description	Order no.
Centrifuge MiniSpin®, non-refrigerated, with Rotor F-45-12-11, 230 V/50 – 60 Hz	5452 000.018
Centrifuge MiniSpin® plus, non-refrigerated, with Rotor F-45-12-11, 230 V/50 – 60 Hz	5453 000.011
Rotor F-55-16-5 PCR	5452 727.007
Rotor F-45-12-11	5452 720.008
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008

↗ Ordering information for other voltage options begins on page 418

Centrifuge 5418 R

Description
The refrigerated Centrifuge 5418 R with its 18-place capacity rotor is specifically designed for low to medium capacity in 1.5/2.0 mL tubes and Microtainer®. Its speed of up to 16,873 × g allows for standard molecular biology applications. Moreover, this compact device has an especially low access height and is characterized by a remarkably quiet operation.

Product features
> Max. rotor capacity: 18 × 1.5/2.0 mL vessels
> Max. speed: 16,873 × g (14,000 rpm) for quick separation
> Small footprint and low access height of 23 cm
> OptiBowl® design for quiet operation – even without a rotor lid
> Eppendorf QuickLock® rotor allows for fast and ergonomic lid locking
> Soft-touch one-finger lid closure for ergonomic operation
> Temperature range from 0 °C to +40 °C
> Guaranteed temperature of 4 °C at maximum rotational speed
> FastTemp function for quick pre-cooling and maximum temperature accuracy inside the rotor
> ECO power shut-off engages after 8 hours of nonuse to reduce energy consumption (46 % over night) and extend compressor life (can be deactivated)

Ordering information

Description	Order no.
Centrifuge 5418 R, refrigerated, with Rotor FA-45-18-11 and rotor lid, 230 V/50 – 60 Hz	5401 000.013
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008

↗ Ordering information for other voltage options begins on page 418

Centrifuge 5420

Description
The new Centrifuge 5420 was designed with your molecular biology routine applications in mind. The spectrum of methods includes DNA/RNA purification, DNA extraction from agarose gels and PCR reaction set-up. It has a particularly small footprint to save space on the lab bench and an easy to clean keypad control panel. You can spin up to 24 tubes from 1.5 to 2.0 mL. Optional adapters extend the volume range to 0.4 and 0.5 mL tubes as well as 0.6 mL BD Microtainer®. A rotor for 32 PCR tubes (0.2 mL) or four PCR strips is available as well. For your safety, the standard rotor provides aerosol-tight containment for the centrifugation of hazardous samples such as viruses, pathogen bacteria or radioactive probes.

Product features
> Standard rotor for up to 24 x 1.5 and 2.0 mL tubes
> Rotor option for up to 32 x 0.2 mL PCR tubes or 4 x 8-place PCR strips
> Adapters for 0.2, 0.4 and 0.5 mL tubes as well as 0.6 mL BD Microtainer®
> Soft-touch one-finger lid closure for ergonomic lid locking
> Automatic lid opening at the end of the run to prevent sample warming and to allow easy access to samples
> High quality anodized aluminum rotors and rotor lids
> One push short-spin key for quick centrifugation - no need to hold key all the while
> Easy to clean keypad control panel
> Particularly small footprint to save precious space on the lab bench: 24 x 35 x 22 cm (W × D × H)
> Max. speed: 21,300 × g (15,060 rpm)

Ordering information

Description	Order no.
Centrifuge 5420, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5420 000.318
Centrifuge 5420, non-refrigerated, with aerosol-tight Rotor FA-24x2, keypad, 230 V/50 – 60 Hz	5420 000.113

↗ Ordering information for other voltage options begins on page 418

Centrifuge 5424 R

Description
The refrigerated Centrifuge 5424 R is the laboratory standard when it comes to efficient cooling performance (e.g. quick cooling down from room temperature to set temperature) in a very ergonomic product design. It features state of the art cooling technology to ensure high temperature accuracy for maximum sample protection and best separation results. Ideal for everyday laboratory use.

Product features
> Max. rotor capacity: 24 × 1.5/2.0 mL vessels
> Max. speed: 21,130 × g (15,000 rpm)
> OptiBowl® design for quiet operation, even without a rotor lid
> Soft-touch one-finger lid closure for ergonomic operation
> Temperature range from -10 °C to +40 °C
> ECO power shut-off engages after 8 hours of non-use to reduce energy consumption (40 % over night) and extend compressor life (can be deactivated)
> FastTemp function for quick pre-cooling of the centrifuge, e.g. from ~ 21 °C to 4 °C in only 8 minutes
> Guaranteed temperature of 4 °C at maximum rotational speed
> Built-in condensation drain to eliminate water accumulation in the rotor chamber
> The patented compressor technology reduces vibrations and protects your samples

Ordering information

Description	Order no.
Centrifuge 5424 R, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5404 000.219
Centrifuge 5424 R, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz	5404 000.618
Centrifuge 5424 R, refrigerated, with Rotor FA-45-24-11, keypad, 230 V/50 – 60 Hz	5404 000.014
Centrifuge 5424 R, refrigerated, with Rotor FA-45-24-11, rotary knobs, 230 V/50 – 60 Hz	5404 000.413

↗ Ordering information for other voltage options begins on page 418

Centrifuge 5425

Description
This 24-place centrifuge has been engineered to be extremely quiet. Short runs up to 12 minutes are whisper quiet at an average of 45 dB(A). This is sufficient for centrifugation steps of most routinely used DNA/RNA purification kits. During longer runs the cooling fan works at full capacity to dissipate the heat for the remainder of the run. Centrifuge 5425 is the successor of the legendary Centrifuge 5424. It has everything you loved before plus great new features to make everyday work more enjoyable.

Product features
> Whisper quiet microcentrifuge for stress-free work
> Aerosol-tight Eppendorf QuickLock® lids for simple and safe handling
> Outstanding software features (e.g. 10 acceleration and braking ramps, 3 program buttons, short function without continous pressing of the key)
> Extended rotor program (e.g. 5.0 mL rotor, swing-bucket rotor for PCR strips)
> OptiBowl® design for quiet operation, even without a rotor lid
> Soft-touch one-finger lid closure for ergonomic operation
> Automatic lid opening at the end of the run – prevents sample warming and allows easy access to samples
> Max. rotor capacity: 10 × 5.0 mL vessels
> Max. speed: 21,300 × g (15,060 rpm)

Ordering information

Description	Order no.
Centrifuge 5425, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5405 000.310
Centrifuge 5425, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz	5405 000.719
Centrifuge 5425, non-refrigerated, with Rotor FA-24x2, keypad, 230 V/50 – 60 Hz	5405 000.115
Centrifuge 5425, non-refrigerated, with Rotor FA-24x2, rotary knobs, 230 V/50 – 60 Hz	5405 000.514

Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

Centrifuge 5427 R

Description
The refrigerated Centrifuge 5427 R was designed with high-throughput research applications in mind. With its aerosol-tight 48-place rotor it handles even the toughest challenges in a safe and reliable manner to provide you the efficiency boost you need. All aerosol-tight rotors are equipped with the Eppendorf QuickLock® lids for easy rotor lid opening and closing. Choose the Centrifuge 5427 R if a 24-place microcentrifuge doesn't meet your needs regarding tube capacity and if you don't need the extra versatility our cross-over Centrifuge 5430 R can offer you.

Product features
> Rotor capacity: 48 × 1.5/2.0 mL, 12 × 5.0 mL; Eppendorf QuickLock® rotor allows for fast and ergonomic lid locking
> Max. speed: 25,000 × g (16,220 rpm)
> High capacity 48-place rotor significantly increases productivity to save you valuable time
> Soft touch one-finger closure for ergonomic operation
> Temperature range from -11 °C to 40 °C
> FastTemp function for quick pre-cooling of the centrifuge, e.g., from ~ 23 °C to 4 °C in only 11 minutes
> ECO shut-off can be programmed to engage after 1, 2, 4 or 8 hours of non-use for maximum energy savings and extended compressor life
> Built-in condensation drain to eliminate water accumulation
> Automatic rotor recognition and imbalance detection for maximum operational safety

Ordering information

Description	Order no.
Centrifuge 5427 R, refrigerated, rotary knobs, 230 V/50 – 60 Hz	5409 000.012
Centrifuge 5427 R, refrigerated, with Rotor FA-45-12-17, rotary knobs, 230 V/50 – 60 Hz	5409 000.632
Centrifuge 5427 R, refrigerated, with Rotor FA-45-30-11, rotary knobs, 230 V/50 – 60 Hz	5409 000.535
Centrifuge 5427 R, refrigerated, with Rotor FA-45-48-11, rotary knobs, 230 V/50 – 60 Hz	5409 000.217

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Centrifuge 5430/5430 R

Description
Unique cross-over Centrifuge 5430 and 5430 R combine the best features of a microcentrifuge (small footprint) and multipurpose centrifuge (versatility) in one instrument. These centrifuges spin rotors for Eppendorf tubes and PCR strips as you would expect from any microcentrifuge. But that's not all. In a compact size, Centrifuge 5430 and 5430 R also accommodate rotors for microplates and 15/50 mL conical tubes. Now, the rotor program has been expanded with additional Eppendorf QuickLock® rotors. This includes 48-place rotors (1.5/2.0 mL), a 16-place rotor for Eppendorf Tubes® 5.0 mL and a swing-bucket rotor (24 × 1.5/2.0 mL). With their unmatched versatility, Centrifuge 5430 and Centrifuge 5430 R are the flagship products among the Eppendorf microcentrifuge portfolio.

Product features
> Max. rotor capacity: 48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP
> Max. speed: 30,130 × g (17,500 rpm)
> Remarkable versatility with 12 different rotors
> Soft-touch one-finger lid closure for ergonomic operation
> Menu-driven, multi lingual operation menu (English, German, French, Spanish) with large backlit display
> 5 program keys for easy access to routine programs
> Saves up to 50 user-defined programs
> Automatic rotor recognition and imbalance detection for maximum operational safety
> Eppendorf QuickLock® – System for quickly opening and closing the rotor lid

Special features for Centrifuge 5430 R
> Temperature range: -11 °C to +40 °C
> The patented compressor technology reduces vibrations and protects your samples
> Continuous cooling maintains a constant temperature after the run has been completed – your samples stay cool
> FastTemp pro® function for programmable pre-cooling according to day and time
> ECO shut-off engages after 8 hours of nonuse to reduce energy consumption (37 % overnight) and extend compressor life (can be deactivated in menu)
> Built-in condensation drain to eliminate water accumulation

Ordering information

Description	Order no.
Centrifuge 5430, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5427 000.011
Centrifuge 5430, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz	5427 000.615
Centrifuge 5430, non-refrigerated, with Rotor FA-45-30-11 incl. rotor lid, keypad, 230 V/50 – 60 Hz	5427 000.216
Centrifuge 5430, non-refrigerated, with Rotor FA-45-30-11 incl. rotor lid, rotary knobs, 230 V/50 – 60 Hz	5427 000.410
Centrifuge 5430 R, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5428 000.210
Centrifuge 5430 R, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz	5428 000.619
Centrifuge 5430 R, refrigerated, with Rotor FA-45-30-11 incl. rotor lid, keypad, 230 V/50 – 60 Hz	5428 000.015
Centrifuge 5430 R, refrigerated, with Rotor FA-45-30-11 incl. rotor lid, rotary knobs, 230 V/50 – 60 Hz	5428 000.414

↗ Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

Technical Specification Microcentrifuges

Technical specifications				
Model	**MiniSpin®**	**MiniSpin® plus**	**5418 R**	**5420**
Max. RCF	12,100 × g	14,100 × g	16,873 × g	21,300 × g
Max. speed				15,060 rpm
Max. capacity	12 × 1.5/2.0 mL	12 × 1.5/2.0 mL	18 × 1.5/2.0 mL	24 × 1.5/2.0 mL
Rotors available	2	2	1	2
Acceleration time[1)]	13 s	13 s	11 s	15 s
Deceleration time[1)]	12 s	12 s	12 s	15 s
Timer	15 s – 30 min	15 s to 99 min, with continuous run function	30 s to 9:59 h, with continuous run function	10 s to 9:59 h, with continuous run function
SOFT brake function			no	no
Noise level	< 49 dB(A)	< 52 dB(A)	< 47 dB(A)	< 56 dB(A) with Rotor FA-24x2
Max. power consumption	70 W	85 W	320 W	290 W
Dimensions (W × D × H)	22.6 × 23.9 × 12.0 cm	22.6 × 23.9 × 12.0 cm	30 × 46 × 25 cm	24 × 35 × 22 cm
Height (with open lid)	25 cm	25 cm	52 cm	44 cm
Weight w/o accessories	3.7 kg	3.7 kg	22 kg	13 kg
Cooling	non-refrigerated	non-refrigerated	refrigerated	non-refrigerated
Temperature control range			0 °C to +40 °C	

[1)] Acceleration and deceleration times may vary depending on rotor, load and voltage version.

Technical specifications					
Model	**5424 R**	**5425**	**5427 R**	**5430**	**5430 R**
Max. RCF	21,130 × g	21,300 × g	25,000 × g	30,130 × g	30,130 × g
Max. speed		15,060 rpm	16,220 rpm	17,500 rpm	17,500 rpm
Max. capacity	24 × 1.5/2.0 mL	10 × 5.0 mL	48 × 1.5/2.0 mL	48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP	48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP
Rotors available	4	6	9	12	12
Acceleration time[1)]	15 s	15 s	18 s	14 s	14 s
Deceleration time[1)]	16 s	15 s	18 s	15 s	15 s
Timer	30 s to 9:59 h, with continuous run function	10 s to 9:59 h, with continuous run function	10 s to 9:59 h	30 s to 99:59 h, with continuous run function	30 s to 99:59 h, with continuous run function
SOFT brake function	yes	10 ramps		yes	yes
Noise level	< 48 dB(A) with Rotor FA-45-24-11	< 45 dB(A) in the first 12 minutes and < 51 dB(A) thereafter with Rotor FA-24x2	< 46 dB(A) with Rotor F-45-48-11	< 58 dB(A) with Rotor F-45-30-11	< 54 dB(A) with Rotor F-45-30-11
Max. power consumption	350 W	280 W	550 W	475 W	1.050 W
Dimensions (W × D × H)	29 × 48 × 26 cm	24 × 39 × 24 cm	31.9 × 54.0 × 25.4 cm	33 × 42 × 25 cm	38 × 64 × 29 cm
Height (with open lid)	51 cm	48 cm		56 cm	63 cm
Weight w/o accessories	21 kg	15.6 kg	30 kg	29 kg	56 kg
Cooling	refrigerated	non-refrigerated	refrigerated	non-refrigerated	refrigerated
Temperature control range	-10 °C to +40 °C		-11 °C to 40 °C		-11 °C to 40 °C

[1)] Acceleration and deceleration times may vary depending on rotor, load and voltage version.

Rotors MiniSpin/MiniSpin plus

Rotor F-45-12-11
> For 12 x 1.5/2.0 mL tubes

Rotor F-55-16-5 PCR
> For 2 x PCR strips

Ordering information

Description	Order no.
Rotor F-45-12-11	5452 720.008
Rotor F-55-16-5 PCR	5452 727.007

Rotors and Adapters for Centrifuge 5418 R

Rotor FA-45-18-11
> For 18 × 1.5/2.0 mL tubes comes standard with unique Eppendorf QuickLock aerosol-tight lid for fast and reliable locking

Adapter for 0.2 mL PCR Tubes
> Ideal to spin down PCR Tubes after reaction setup. Adapter fits in any Eppendorf 1.5/2.0 mL rotor

Adapter for BD Microtainer® and 0.5 mL tubes
> The adapter can be used with every Eppendorf rotor for 1.5/2.0 mL tubes

Ordering information

Description	Order no.
Rotor FA-45-18-11, aerosol-tight, 45° angle, 18 places, max. tube diameter 11 mm, incl. rotor lid (aluminum)	5418 707.005
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

Rotors for Centrifuge 5420

New

Rotor FA-24x2 for Centrifuge 5420
> Max. speed: 21,300 × g (15,060 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight

New

Rotor F-32x0.2-PCR for Centrifuge 5420
> Max. speed: 18,134 × g (15,060 rpm)
> Max capacity: 4 × PCR strips or 32 × PCR tubes (0.2 mL)

Ordering information

Description	Order no.
Rotor FA-24x2 for Centrifuge 5420, aerosol-tight, for 24 × 1.5/2.0 mL tubes, incl. aerosol-tight rotor lid	5495 400.001
Rotor F-32x0.2-PCR for Centrifuge 5420, for 32 × 0.2 mL PCR tubes or 4 × 8 PCR strips, incl. rotor lid	5495 404.007
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008

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Rotors for Centrifuge 5424 R

Rotor FA-45-24-11
> Max. speed: 21,130 × g (15,000 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples

Rotor FA-45-24-11-Special
> Max. speed: 21,130 × g (15,000 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples
> PTFE coating for increased chemical resistance

Rotor F-45-18-11-Kit
> Max. speed: 18,111 × g (15,000 rpm)
> Max. capacity: 18 × spin columns or 1.5/2.0 mL tubes
> Extended rim that protects tube caps from shearing off

Rotor F-45-32-5-PCR
> Max. speed: 18,615 × g (15,000 rpm)
> Max. capacity: 4 × PCR strips

Ordering information

Description	Order no.
Rotor FA-45-24-11, aerosol-tight	5424 702.007
Rotor FA-45-24-11-Special, aerosol-tight	5424 700.004
Rotor F-45-18-11-Kit	5424 706.002
Rotor F-45-32-5-PCR	5424 704.000
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008

Rotors for Centrifuge 5425

Rotor FA-24x2
> Max. speed: 21,300 × g (15,060 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor FA-24x2-PTFE
> Max. speed: 21,300 × g (15,060 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock
> PTFE coating for increased chemical resistance

Rotor FA-10x5
> Max. speed: 21,300 × g (15,060 rpm)
> Max capacity: 10 × Eppendorf Tubes® 5.0 mL
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor FA-18x2 Kit
> Max. speed: 18,565 × g (15,060 rpm)
> Rotor with higher edge for safe centrifugation of up to 18 spin columns
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor F-32x0.2-PCR
> Max. speed: 18,134 × g (15,060 rpm)
> for 4 × PCR strips or 32 × PCR tubes (0,2 mL)

Rotor 96x0.2-PCR
> Max. speed: 3,217 × g (6,000 rpm)
> New swing bucket rotor
> for 12 × 8 PCR strips 0.1/0.2 mL or 4 × 1/4 twin.tec PCR plate 96, unskirted divisible or 96 × PCR tubes with 0.2 mL

Ordering information

Description	Order no.
Rotor FA-24x2, aerosol-tight, for 24 × 1.5/2.0 mL tubes, incl. aerosol-tight rotor lid	5495 500.006
Rotor FA-24x2-PTFE, aerosol-tight, with PTFE coating, for 24 × 1.5/2.0 mL tubes, incl. aerosol-tight rotor lid	5495 503.005
Rotor FA-10x5, aerosol-tight, for 10 × 5.0 mL tubes (snap and screw cap), incl. aerosol-tight rotor lid	5495 505.008
Rotor FA-18x2-Kit, aerosol-tight, for 18 × 1.5/2.0 mL tubes or spin columns, incl. aerosol-tight rotor lid	5495 508.007
Rotor F-32x0.2-PCR, for 32 × 0.2 mL PCR tubes or 4 × 8 PCR strips, incl. rotor lid	5495 510.001
Rotor S-96x0.2-PCR, for 96 × 0.2 mL PCR tubes or 12 × 8 PCR strips, incl. buckets	5495 512.004
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs.	5820 768.002
Adapter, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs.	5820 769.009
Adapter, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs.	5820 770.007
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008

CENTRIFUGES AND ROTORS

Rotors for Centrifuge 5427 R

Rotor F-45-48-11
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes

Rotor FA-45-48-11
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor FA-45-30-11
> Max. speed: 20,800 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor F-45-30-11
> Max. speed: 20,800 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes

Rotor FA-45-24-11
> Max. speed: 25,000 × g (16,220 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor FA-45-24-11-Kit
> Max. speed: 19,100 × g (13,200 rpm)
> Rotor with higher edge for safe centrifugation of up to 24 spin columns
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor S-24-11-AT
> Max. speed: 16,049 × g (12,700 rpm)
> Swing-bucket rotor for 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid
> Perfect for phase-separation applications such as phenol-chloroform extraction

Rotor FA-45-12-17
> Max. speed: 20,600 × g (14,000 rpm)
> Max capacity: 12 × Eppendorf Tubes® 5.0 mL
> Aerosol-tight with Eppendorf QuickLock® lid

Rotor F-45-48-5-PCR
> Max. speed: 11,710 × g (10,500 rpm)
> PCR strip rotor for up to 48 × 0.2 mL PCR tubes

Ordering information

Description	Order no.
Rotor FA-45-48-11, aerosol-tight, incl. rotor lid	5409 710.001
Rotor F-45-48-11, incl. rotor lid	5409 712.004
Rotor FA-45-30-11, aerosol-tight, incl. rotor lid	5409 706.004
Rotor F-45-30-11, incl. rotor lid	5409 708.007
Rotor FA-45-24-11, aerosol-tight, incl. rotor lid	5409 702.009
Rotor FA-45-24-11-Kit, aerosol-tight, incl. rotor lid	5409 704.001
Rotor S-24-11-AT, aerosol-tight, incl. wind shield and rotor lid	5409 715.003
Rotor F-45-48-5-PCR	5409 714.007
Rotor FA-45-12-17, aerosol-tight, incl. rotor lid, for 12 × Eppendorf Tubes® 5.0 mL	5409 700.006
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs.	5820 768.002
Adapter, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs.	5820 769.009
Adapter, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs.	5820 770.007
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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Rotors for Centrifuge 5430/5430 R

Rotor FA-45-48-11
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples
> Eppendorf QuickLock® lid

Rotor F-45-48-11
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes

Rotor S-24-11-AT
> Max. speed: 16,049 × g (12,700 rpm)
> Swing-bucket rotor for 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid
> Perfect for phase-separation applications such as phenol-chloroform extraction

Rotor FA-45-16-17
> Max. speed: 21,191 × g (14,200 rpm)
> Max. capacity: 16 × Eppendorf Tubes® 5.0 mL
> Aerosol-tight for safe centrifugation of hazardous samples
> Eppendorf QuickLock® lid
> Eppendorf Tubes® 5.0 mL with screw caps only can use up half (8 ×) of the places in the rotor

Rotor FA-45-30-11
> Max.speed: 20,817 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples
> PTFE coating for increased chemical resistance
> Eppendorf QuickLock® lid

Rotor FA-45-24-11-Kit
> Max. speed: 19,090 × g (13,200 rpm)
> Rotor with higher edge for safe centrifugation of up to 24 spin columns
> Aerosol-tight for safe centrifugation of hazardous samples
> Eppendorf QuickLock® lid

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

Rotor F-45-30-11
> Max. speed: 20,817 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes
> PTFE coating for increased chemical resistance

Rotor FA-45-24-11-HS
> Max.speed: 30,130 × g (17,500 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Extremely fast separation results
> Aerosol-tight for safe centrifugation of hazardous samples
> PTFE coating for increased chemical resistance

Rotor F-35-6-30
> Max. speed: 7,745 × g (7,830 rpm)
> Rotor for 6 × 15/50 mL conical or 12 × Vacutainer® tubes

Rotor A-2-MTP
> Max. speed: 2,204 × g (4,680 rpm)
> 2-place swing-bucket rotor for MTP, PCR and Deepwell Plates
> Windshield design for quiet operation

Rotor F-45-64-5-PCR
> Max. speed: 13,543 × g (11,800 rpm)
> PCR strip rotor for up to 64 × 0.2 mL PCR tubes

Rotor F-45-18-17-Cryo
> Max. speed: 8,324 × g (8,900 rpm)
> 18-place rotor for Cryovials®

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Rotors for Centrifuge 5430/5430 R

Ordering information

Description	Order no.
Rotor FA-45-16-17, aerosol-tight, incl. rotor lid, for 16 × Eppendorf Tubes® 5.0 mL	5427 750.002
Rotor FA-45-48-11, aerosol-tight, incl. rotor lid	5427 754.008
Rotor F-45-48-11, incl. rotor lid	5427 755.004
Rotor S-24-11-AT, aerosol-tight, incl. rotor lid	5427 757.007
Rotor FA-45-30-11, aerosol-tight, incl. rotor lid	5427 753.001
Rotor FA-45-24-11-Kit, aerosol-tight, incl. rotor lid	5427 752.005
Rotor F-45-30-11, incl. rotor lid	5427 712.003
Rotor FA-45-24-11-HS, aerosol-tight, incl. rotor lid	5427 710.000
Rotor F-35-6-30, incl. rotor lid, with 6 adapters each for 15 mL/50 mL conical tubes	5427 716.009
Rotor A-2-MTP, incl. wind shield and rotor lid, with 2 buckets	5427 700.005
Rotor F-45-64-5-PCR, incl. rotor lid and adapters	5427 714.006
Rotor F-45-18-17-Cryo, incl. rotor lid and cryovial adapters	5427 705.007
Adapter, for 1 cryo containers (max. Ø 13 mm) or lidded centrifugation tubes (Ø 12.2 mm), max. length 50 mm, for Rotor F-45-18-17-Cryo, set of 6 pcs.	5702 752.002
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
Adapter, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs.	5820 768.002
Adapter, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs.	5820 769.009
Adapter, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs.	5820 770.007
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008
Adapter, for 1 HPLC vessel 1.5 mL, for Rotor F-45-18-17-Cryo	5427 708.006

Adapter	Rotor capacity[3)]	Max. tube dimensions Ø x L	Max. RCF	For bore hole	Order no.[4)]
13 mm round	12	13 × 65 – 89 mm	6,443 × g	small	5427 740.007
			6,100 × g	large	5427 742.000
13 mm round	12	13 × 90 – 110 mm	7,471 × g	small	5427 741.003
			7,129 × g	large	5427 743.006
16 mm round	12	16 × 75 – 105 mm	7,005 × g	small	5427 732.004
		16 × 90 – 105 mm	7,005 × g	large	5427 734.007
17 mm round	12	17 × 90 – 125 mm	7,745 × g	small	5427 735.003
			7,403 × g	large	5427 738.002
Eppendorf Tubes® 5.0 mL	12	17.5 × 80 mm	6,237 × g	small	5427 746.005
		17.5 × 80 mm	7,129 × g	large	5427 747.001
15 mL conical	6	17.5 × 100 – 125 mm	7,540 × g	small	5427 726.004
30 mL round	6	26 × 92 – 112 mm	7,087 × g	large	5427 736.000
50 mL round	6	29 × 95 – 125 mm	7,581 × g	large	5427 737.006
50 mL conical	6 [1) 2)]	29.5 × 100 – 125 mm	7,197 × g	large	5427 727.000
Centriprep®	6	29.5 × 100 – 125 mm	7,567 × g	large	5427 723.005

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Centrifuge 5702/5702 R/5702 RH

Description
The 5702 family of low speed, general purpose centrifuges was especially designed to meet the requirement of low- to mid-throughput research and cell culture labs. They are compact in design so that one can fit comfortably on every lab bench, quiet in operation to benefit your work environment, and provide 6 different rotor options to accommodate any type of tube.

The right model for your application:
> Centrifuge 5702 for standard applications
> Refrigerated Centrifuge 5702 R for heat sensitive samples
> Heated and refrigerated Centrifuge 5702 RH allows centrifugation under biological conditions to improve cell viability for more accurate results in downstream applications (e.g. cell cultivation)

Product features
> Max. speed: 3,000 × g (4,400 rpm)
> Very compact footprint to fit on every lab bench
> Very quiet operation to benefit your environment
> Low access height for simple loading and unloading of samples
> SOFT brake function for slow acceleration and braking. Optimized for cell separation by gradient centrifugation
> "At set RPM" function starts the timer when the selected rotational speed is reached for reproducible centrifugation runs
> Key lock to prevent unintentional adjustments
> Stainless steel rotor chamber is rust-free and easy to clean
> Electronic imbalance detection for maximum safety

Special features for Centrifuge 5702 R and Centrifuge 5702 RH
> Temperature settings from -9 °C to 40 °C
> FastTemp function for fast precooling
> Continuous cooling maintains a constant temperature after the run has been completed – your samples stay cool
> ECO shut-off engages after 8 hours of non-use to reduce energy consumption and extend compressor life
> Two program keys to store routine programs
> Active heating guarantees high temperature accuracy during the entire centrifugation cycle (only 5702 RH)

Centrifuge 5702 display

Centrifuge 5702 R and 5702 RH display

Technical specifications			
Model	**5702**	**5702 R**	**5702 RH**
Max. RCF	3,000 × g	3,000 × g	3,000 × g
Speed	100 – 4,400 rpm (100 rpm steps)	100 – 4,400 rpm (100 rpm steps)	100 – 4,400 rpm (100 rpm steps)
Max. capacity	4 × 100 mL	4 × 100 mL	4 × 100 mL
Rotors available	6	6	6
Acceleration time[1)]	≤19 s	≤20 s	≤19 s
Deceleration time[1)]	≤19 s	≤28 s	≤29 s
Timer	0 – 99 min, with continuous run function	0 – 99 min, with continuous run function	0 – 99 min, with continuous run function
SOFT brake function	yes	yes	yes
Noise level	< 52 dB(A) with Rotor A-4-38	<46 dB(A) with Rotor A-4-38	<46 dB(A) with Rotor A-4-38
Max. power consumption	200 W	380 W	380 W
Dimensions (W × D × H)	32 × 40 × 24 cm	38 × 58 × 26 cm	38 × 58 × 26 cm
Height (with open lid)	53 cm	60 cm	60 cm
Weight w/o accessories	20 kg	36 kg	36 kg
Cooling	non-refrigerated	refrigerated	refrigerated/heated
Temperature control range	–	-9 °C to 40 °C	-9 °C to 42 °C

[1)] Acceleration and deceleration times may vary depending on rotor, load and voltage version.

Ordering information	
Description	**Order no.**
Centrifuge 5702, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz	5702 000.019
Centrifuge 5702, non-refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz	5702 000.329
Centrifuge 5702 R, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz	5703 000.012
Centrifuge 5702 R, refrigerated, with Rotor A-4-38 incl. adapters for 13/16 mm blood collection tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz	5703 000.322
Centrifuge 5702 R, refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz	5703 000.420
Centrifuge 5702 RH, refrigerated/heated, without rotor, rotary knobs, 230 V/50 – 60 Hz	5704 000.016

Ordering information for other voltage options begins on page 418

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Rotors for Centrifuge 5702/5702 R/5702 RH

Rotor A-4-38 with round buckets
> Maximum speed: 3,000 × g (4,400 rpm)
> Standard rotor for centrifugation of blood collection tubes or 15/50 mL conical tubes
> Round buckets for vessels with 1.5 – 100 mL
> Wide variety of adapters for all blood collection tubes and cell culture tube types
> Aerosol-tight[1)] caps for safe centrifugation of hazardous samples optionally available

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor A-4-38 with round buckets, incl. 4 round buckets 100 mL	5702 720.003
Round bucket 100 mL, for Rotor A-4-38, set of 4	5702 722.006
Aerosol-tight caps for 100 mL round buckets, set of 2	5702 721.000

Adapters for Rotor A-4-38 with round buckets													
Tube Volume	1.5 – 2.0 mL	1.1 – 1.4 mL	2 – 7 mL	2.6 – 7 mL	4 – 10 mL	Eppendorf Tubes® 5.0 mL	9 – 15 mL	15 mL conical	15 mL conical	25 mL	50 mL conical	85/100 mL
Max. tube diameter	11 mm	8.5 mm	12.5 mm	13.5 mm	16 mm	17 mm	17.5 mm	17.2 mm	17.2 mm	25 mm	30 mm	38 mm
Max. vessel height	43 mm	100 mm	100 mm	100 mm	100 mm	60 mm	100 mm	121 mm	121 mm	100 mm	115 mm	106 mm
Max. vessel height for use with cap/lid[1)]	43 mm	100 mm	100 mm	100 mm	100 mm	60 mm	100 mm	120 mm		100 mm	115 mm	106 mm
Adapter												
Number of vessels per adapter/rotor	4/16	5/20	5/20	4/16	4/16	1/4	4/16	1/4	2/8	1/4	1/4	1/4
Bottom shape	round	flat	flat	flat	flat	flat	round	conical	conical	round	conical	round
Centrifugation radius	134 mm	132 mm	132 mm	132 mm	132 mm	136 mm	130 mm	137 mm	137 mm	135 mm	135 mm	135 mm
Max. RCF	2,900 × g	2,850 × g	2,850 × g	2,850 × g	2,850 × g	2,943 × g	2,800 × g	3,000 × g	3,000 × g	2,900 × g	2,900 × g	2,900 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5702 745.006	5702 736.007	5702 737.003	5702 719.005	5702 735.000	5702 733.008	5702 724.009	5702 732.001	5702 723.002	5702 717.002	5702 734.004	5702 718.009

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.

i For more information go to www.eppendorf.com/centrifugation

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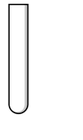
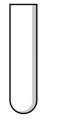
Rotors for Centrifuge 5702/5702 R/5702 RH

Rotor A-4-38 with rectangular buckets
> Maximum speed: 2,750 × g (4,400 rpm)
> Rectangular buckets for vessels with 5 – 25 mL

Adapters for Rotor A-4-38 with rectangular buckets

Tube Volume	round-bottom tubes	5 – 7 mL	9 mL	15 mL	25 mL	20 mL
Max. tube diameter	12 mm	13 mm	14.5 mm	17.5 mm	25 mm	22 mm
Max. vessel height	75 mm	100 mm	100 mm	100 mm	100 mm	100 mm
Adapter						
Number of vessels per adapter/rotor	9/36	10/40	8/32	6/24	2/8	4/16
Bottom shape	round	flat	flat	flat	flat	flat
Centrifugation radius	119 mm	127 mm	127 mm	127 mm	127 mm	127 mm
Max. RCF	2,577 × g	2,750 × g	2,750 × g	2,750 × g	2,750 × g	2,750 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5702 763.004	5702 710.008	5702 711.004	5702 712.000	5702 716.006	5702 713.007

Ordering information

Description	Order no.
Rotor A-4-38, without buckets	5702 740.004
Rectangular bucket 90 mL, for Rotor A-4-38, set of 4	5702 709.000

Rotor A-8-17
> Maximum speed: 2,800 × g (4,400 rpm)
> Low capacity rotor for centrifugation of 15 mL conical tubes or 15 mL glass tubes
> Adapters for 15 mL conical tubes and rubber mat inserts for glass tubes optionally available

Rotor F-45-24-11
> Maximum speed: 1,770 × g (4,400 rpm)
> Fixed-angle rotor for 24 × 1.5/2.0 mL tubes
> Quiet centrifugation even without rotor lid
> Adapters optionally available for:
  - 0.2 mL PCR tubes (5425 715.005)
  - 0.4 mL centrifuge tubes (5425 717.008)
  - 0.5 mL micro test tubes and Microtainer® tubes (5425 716.001)
> Rotor and adapters are autoclavable (121 °C, 20 min)

Rotor F-35-30-17
> Maximum speed: 2,750 × g (4,400 rpm)
> High capacity rotor for 20 × 15 mL conical tubes or 30 × 15 mL glass tubes
> Inserts for 15 mL conical tubes and rubber mats for use with glass tubes are included

Rotor F-45-18-17-Cryo
> Maximum speed: 1,970 × g (4,400 rpm)
> Quiet centrifugation even without rotor lid
> Centrifugation of 1 – 2 mL Cryo tubes® (max. 13 mm Ø, use with adapter) and tubes with screw cap (max. 17 mm Ø, no adapter required)
> Rotor and adapters are autoclavable (121 °C, 20 min)

Ordering information

Description	Order no.
Rotor A-8-17, 8 × 15 mL, without adapter, without rubber mats	5702 700.002
Rotor F-35-30-17, incl. 30 steel sleeves for 15 mL vessels, with 20 adapters for conical tubes and 30 rubber mats for round-bottom tubes	5702 704.008
Rotor F-35-30-17, incl. 10 steel sleeves for 15 mL vessels, with 10 adapters for conical tubes and 10 rubber mats for round-bottom tubes	5702 705.004
Rotor F-45-24-11, without lid	5702 746.002
Rotor F-45-18-17-Cryo, without rotor lid, without adapters	5702 747.009
Adapter, for 1 cryo containers (max. Ø 13 mm) or lidded centrifugation tubes (Ø 12.2 mm), max. length 50 mm, for Rotor F-45-18-17-Cryo, set of 6 pcs.	5702 752.002
Adapter, for 1 HPLC vessel 1.5 mL, for Rotor F-45-18-17-Cryo	5427 708.006

Centrifuge 5804/5804 R and 5810/5810 R

Description
Eppendorf Centrifuge 5804/5804 R and 5810/5810 R with their renowned quality and reliability offer you cost efficient solutions for your medium- throughput applications. Centrifuge 5804/5804 R is a high speed centrifuge for medium capacity needs. It allows for molecular biology applications in bottles up to 250 mL and offers additional swing-bucket and fixed-angle rotors as well as deepwell plate capacity for increased versatility. Centrifuge 5810/5810 R is a workhorse for medium throughput laboratories. It spins up to 28 conical tubes with 50 mL or 56 tubes with 15 mL.

Product features
> Swing-bucket rotors and adapters accommodate tubes and bottles from 0.2 mL to 750 mL
> Plate rotor for centrifugation of all types of MTP, PCR, cell culture, or Deepwell Plates
> Fixed-angle rotors for high-speed applications in tubes from 0.2 mL to 85 mL
> Centrifugation speed of up to 20,913 × g (14,000 rpm)
> Aerosol-tight Eppendorf QuickLock® caps and lids for easy, one-hand operation
> Low access height of 29 cm for easy loading and unloading of samples
> Compact footprint saves valuable bench space
> Automatic rotor recognition and imbalance detection for maximum operational safety

Additional features of refrigerated Centrifuge 5804 R and 5810 R
> Temperature range from -9 °C to 40 °C
> FastTemp function for fast pre-cooling
> Continuous cooling maintains a constant temperature after the run has been completed – your samples stay cool
> ECO shut-off engages after 8 hours of non-use to reduce energy consumption and to extend compressor life

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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Centrifuge 5804/5804 R and 5810/5810 R

Technical specifications				
Model	**5804**	**5804 R**	**5810**	**5810 R**
Max. RCF	20,913 × g	20,913 × g	20,913 × g	20,913 × g
Max. RCF with fixed-angle rotor	20,913 × g	20,913 × g	20,913 × g	20,913 × g
Max. RCF with swing-bucket rotor	4,500 × g	4,500 × g	4,500 × g	4,500 × g
Max. RCF with plate rotor	2,250 × g	2,250 × g	3,486 × g	3,486 × g
Speed	200 – 14,000 rpm	200 – 14,000 rpm	200 – 14,000 rpm	200 – 14,000 rpm
Max. capacity	4 × 250 mL/2 × 5 MTP	4 × 250 mL/2 × 5 MTP	4 × 750 mL/4 × 4 MTP	4 × 750 mL/4 × 4 MTP
Rotors available	12	12	18	18
Acceleration/braking ramps	10/10	10/10	10/10	10/10
Number of programs	35 user-defined programs	35 user-defined programs	35 user-defined programs	35 user-defined programs
Timer	1 min to 99 min, with continuous run function, short-spin	1 min to 99 min, with continuous run function, short-spin	1 min to 99 min, with continuous run function, short-spin	1 min to 99 min, with continuous run function, short-spin
Noise level	< 62 dB(A)	< 58 dB(A)	<70 dB(A)	<56 dB(A)
Noise level				
Rotor FA-45-6-30 (6×50 mL)	<55 dB(A)	<54 dB(A)	<56 dB(A)	<55 dB(A)
Rotor S-4-104 (4×750 mL)			<59 dB(A)	<56 dB(A)
Rotor S-4-72 (4×250 mL)	<62 dB(A)	<58 dB(A)	–	–
Power supply	230 V, 50 – 60 Hz	230 V, 50 – 60 Hz	230 V, 50 – 60 Hz	230 V, 50 – 60 Hz
Max. power consumption	900 W	1,650 W	900 W	1,650 W
Dimensions (W × D × H)	47 × 55 × 34 cm	64 × 55 × 34 cm	54 × 61 × 35 cm	70 × 61 × 35 cm
Footprint (dimensions w/o front panel, W×D)	47 × 50 cm	64 × 50 cm	54 × 54 cm	70 × 54 cm
Height (with open lid)	74 cm	74 cm	80 cm	80 cm
Weight w/o accessories	55 kg	80 kg	68 kg	99 kg
Cooling	non-refrigerated	refrigerated	non-refrigerated	refrigerated
Temperature control range		-9 °C to 40 °C	–	-9 °C to 40 °C

Ordering information

Description	Order no.
Centrifuge 5804, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5804 000.013
Centrifuge 5804 R, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5805 000.017
Centrifuge 5810, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5810 000.017
Centrifuge 5810 R, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz	5811 000.010

↗ Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

Rolling Cabinet

Description
If space is a limited resource in your lab, Eppendorf's rolling cabinet can give you the freedom and flexibility to use your Centrifuge 5804/5804 R or 5810/5810 R wherever you need it. Use the rolling cabinet if there is not enough space on the regular lab bench or to transport and use the centrifuge in other labs. The included drawer provides extra storage space for your rotors and adapters.

Product features
> Rolling cabinet with closed centrifuge fits under standard 90 cm lab benches
> With 4 castors (2 lockable) and drawer
> Dimensions (W × D × H): 70 × 62 × 45 cm

Ordering information

Description	Order no.
Rolling Cabinet, for Centrifuge 5804/5804 R and 5810/5810 R	5821 020.010

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CENTRIFUGES AND ROTORS

Centrifuge Packages

Description
Whether you need a refrigerated or non-refrigerated centrifuge for low, medium throughput applications, one of these packages will definitely suit your requirements.

Cell Culture Centrifuge packages include
> Centrifuge 5702/5702 R, 5804/5804 R or 5810/5810 R
> Swing-bucket rotor incl. buckets
> Four adapters for 15 mL conical tubes (two sets of 2)
> Four adapters for 50 mL conical tubes (two sets of 2)

Centrifuge packages for round-bottom tubes include
> Centrifuge 5810/ 5810 R
> Swing-bucket rotor S-4-104 incl. buckets
> Four adapters for 13 mm (5/7 mL) round bottom tubes (two sets of 2)
> Four adapters for 16 mm (10 mL) round bottom tubes (two sets of 2)

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

Premium USP class 6 raw material ensures
> Highest sample integrity
> High g-Safe® centrifugation stability
> Optimal sample and pellet visibility

For more information go to chapter „Reaction tubes and plates“ on page 120.

	Number of vessels per adapter/rotor	
Centrifuge Packages	**15 mL conical**	**50 mL conical**
5702/5702 R	2/8	1/4
5804/5804 R + Rotor A-4-44	4/16	1/4
5804/5804 R + Rotor S-4-72	8/32	4/16
5810/5810 R + Rotor A-4-62	9/36	4/16
5810/5810 R + Rotor A-4-81	12/48	5/20
5810/5810 R + Rotor S-4-104	14/56	7/28
	13 mm	**16 mm**
5810/5810 R + S-4-104	23/92	20/80

Ordering information

Description	Max. capacity per rotor	Order no.
Centrifuge 5702, non-refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz	8 × 15 mL/4 × 50 mL	5702 000.329
Centrifuge 5702 R, refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz	8 × 15 mL/4 × 50 mL	5703 000.420
Centrifuge 5804, non-refrigerated, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	16 × 15 mL/4 × 50 mL	5804 000.323
Centrifuge 5804 R, refrigerated, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	16 × 15 mL/4 × 50 mL	5805 000.327
Centrifuge 5804, non-refrigerated, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	32 × 15 mL/16 × 50 mL	5804 000.528
Centrifuge 5804 R, refrigerated, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	32 × 15 mL/16 × 50 mL	5805 000.629
Centrifuge 5810, non-refrigerated, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	36 × 15 mL/16 × 50 mL	5810 000.327
Centrifuge 5810 R, refrigerated, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	36 × 15 mL/16 × 50 mL	5811 000.320
Centrifuge 5810, non-refrigerated, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	48 × 15 mL/20 × 50 mL	5810 000.424
Centrifuge 5810 R, refrigerated, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	48 × 15 mL/20 × 50 mL	5811 000.428
Centrifuge 5810, non-refrigerated, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	56 × 15 mL/28 × 50 mL	5810 000.521
Centrifuge 5810 R, refrigerated, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz	56 × 15 mL/28 × 50 mL	5811 000.622
Centrifuge 5810, non-refrigerated, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes, keypad, 230 V/50 – 60 Hz	92 × 13 mm/80 × 16 mm	5810 000.629
Centrifuge 5810 R, refrigerated, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes, keypad, 230 V/50 – 60 Hz	92 × 13 mm/80 × 16 mm	5811 000.827

Ordering information for other voltage options begins on page 418

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Overview of Swing-Bucket Rotors 58xx Family

Model	Rotor S-4-104	Rotor A-4-81	Rotor A-4-62
Max. capacity 5804/5804 R	4 × 750 mL	4 × 500 mL	4 × 250 mL
5810/5810 R	■	■	■
Positioning	Medium capacity swing-bucket rotor for blood, bacteria, cell culture and plate centrifugation	Medium capacity swing-bucket rotor for blood, bacteria, cell culture and plate centrifugation	Economic swing-bucket rotor for blood, bacteria, cell culture and plate centrifugation
Aerosol-tightness tubes/plates	yes/yes	yes/no	yes/no
Max. RCF	3,214 × g	3,220 × g	3,220 × g
Max. speed	3,900 rpm	4,000 rpm	4,000 rpm
Eppendorf Tubes® 5.0 mL and 15 mL conical	56	48	36
50 mL conical tubes	28	20/28[1)]	16
13 mm round-bottom and blood collection tubes	92	100	60
16 mm round-bottom and blood collection tubes	80	64	48
1.5/2.0 mL micro tube	200	80	64
PCR plates/MTP	16	16	16
Deepwell plates (DWP)	4	4	4

[1)] Maximum capacity with dedicated 50 mL bucket.

Advanced Rotor Design – Swing-Bucket Rotors

Improved energy efficiency
The round buckets have been designed to be especially aerodynamic. The result is a more efficient design that reduces power consumption by up to 48 %.

Longer rotor lifetime
The seccond rotor generation of both swing-bucket and fixed-angle rotors has been designed with a longer lifetime in mind.

Product features
> New Eppendorf QuickLock® caps for one-hand operation
> Significantly improved handling, easy operation with one or two hands
> 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

Rotor S-4-72	Rotor A-4-44	Rotor A-2-DWP-AT	Rotor A-2-DWP
4 × 250 mL	4 × 100 mL	2 × 6 MTP	2 × 5 MTP
■	■		■
■	■	■	■
Economic swing-bucket rotor for blood, bacteria, cell culture centrifugation	High-speed swing-bucket rotor for platelet poor plasma, blood, bacteria and cell culture	Aerosol-tight deepwell plate rotor for safe centrifugation of hazardous samples.	Economic deepwell plate rotor
no/–	yes/–	–/yes	–/no
3,234 × g	4,500 × g	3,486 × g	2,250 × g
4,200 rpm	5,000 rpm	4,500 rpm	3,700 rpm
32	16		
16	4/8[1)]		
56	36		
52	28		
104	48	48	48
		8	8
		4	4

Mixed bucket loading
Rotors S-4-104 and A-4-81 allow for mixed loading with 2 plate buckets and 2 round/rectangular buckets. You can, for example, order the rotor with 4 rectangular/round buckets for tubes and, in addition, buy a set of 2 plate buckets. There is no need to buy a complete set of 4 plate buckets.

Overview of the Main Fixed-Angle Rotors 58xx Family

Model	Rotor F-34-6-38	Rotor FA-45-6-30
Max. capacity	6 × 85 mL	6 × 50 mL
5804/5804 R	■	■
5810/5810 R	■	■
Positioning	High-speed rotor suitable for molecular applications in tubes up to 85 mL	Aerosol-tight high-speed rotor for safe centrifugation of hazardous samples
Aerosol-tightness	no	yes
Max. RCF	18,514 × g	20,133 × g
Max. speed	12,000 rpm	12,000 rpm
1.5/2.0 mL micro tube	24	
Eppendorf Tubes® 5.0 mL and 15 mL conical	6	6
50 mL conical tubes	6	6
85 mL	6	

Rotor FA-45-20-17	Rotor FA-45-48-11	Rotor F-45-30-11/Rotor FA-45-30-11
20 × 5.0 mL	48 × 1.5/2.0 mL	30 × 1.5/2.0 mL
■	■	■
■	■	■
Applications in Eppendorf Tube 5.0 mL	Aerosol-tight microcentrifuge tube rotor for safe centrifugation of hazardous samples	Micro centrifuge tube rotor
yes	yes	no/yes
20,913 × g	19,083 × g	20,817 × g
13,100 rpm	13,000 rpm	14,000 rpm
20	48	30
20/-		

Advanced Rotor Design – Fixed-Angle Rotors

Product features
> 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

Low rotor weight
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.

Eppendorf QuickLock® lids for ergonomic lid locking
Our aerosol-tight QuickLock rotors close with only ¼ 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 heat conductivity, allows fast pre-cooling and accurate temperature control in refrigerated centrifuges.

Ordering information

Description	Order no.
Rotor FA-45-20-17, incl. rotor lid, for 20 × Eppendorf Tubes® 5.0 mL	5820 765.003
Adapter, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs.	5820 768.002
Adapter, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs.	5820 769.009
Adapter, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs.	5820 770.007
Rotor FA-45-48-11, incl. rotor lid, for 48 × 1.5/2.0 mL tubes	5820 760.001
Rotor F-45-30-11, incl. rotor lid, for 30 × 1.5/2.0 mL reaction vessels	5804 715.004
Rotor FA-45-30-11, incl. rotor lid, for 30 × 1.5/2.0 mL reaction vessels, aerosol-tight	5804 726.006

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Rotors for 58xx Family

Model	Rotor F-35-48-17[1)]	Rotor T-60-11	Rotor F-45-48-PCR
Max. capacity		60 × 1.5/2.0 mL	6 × 5/8 PCR strips (48 x 0.2 mL)
5804/5804 R	■	■	■
5810/5810 R	■	■	■
Aerosol-tightness	no	no	no
Max. RCF	5,005 × g	16,435 × g	15,294 × g
Max. speed	5,500 rpm	14,000 rpm	12,000 rpm
1.5/2.0 mL micro tube		60	
Eppendorf Tubes® 5.0 mL and 15 mL conical	-/40		

[1)] Please note that a software upgrade will be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information.

Ordering information

Description	Order no.
Rotor F-35-48-17, for 24 × 15 mL conical tubes, incl. 24 steel sleeves and adapters	5820 771.003
Rotor F-35-48-17, for 40 × 15 mL conical tubes, incl. 48 steel sleeves and adapters	5820 772.000
Rotor T-60-11, incl. rotor lid, for 1.5/2.0 mL tubes, without adapter	5804 730.003
Adapter, for 10 reaction vessels 1.5/2.0 mL, for Rotor T-60-11, set of 6 pcs.	5804 731.000
Adapter, for 20 reaction vessels 0.4 mL, for Rotor T-60-11, set of 6 pcs.	5804 732.006
Rotor F-45-48-PCR, for 6 × 8, 6 × 5 PCR tube strips, 48 × 0.2 mL individual PCR tubes	5804 735.005

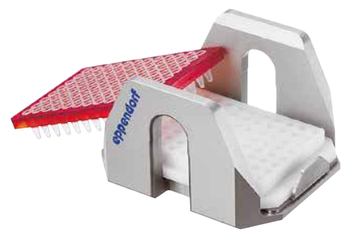
Rotor A-2-DWP-AT
> For use in Centrifuge 5810/5810 R only[1)]
> Max. speed: 3,486 × g (4,500 rpm)
> Rotor can handle up to
-2 × 6 MTP
-2 × 2 DWP
-2 × 1 Filtration plate kits
> Maximum loading height of 67 mm (89 mm without lid)
> Rotor comes with aerosol-tight caps[2)] for safe centrifugation of hazardous samples
> Rotor and buckets are autoclavable (121 °C, 20 min)

[1)] Please note that a software upgrade may be necessary for older centrifuges when using Rotor A-2-DWP-AT. Please contact your local Eppendorf organization or dealer for further information. [2)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor A-2-DWP-AT, incl. 2 buckets, 2 aerosol-tight caps and 2 plate carriers	5820 710.004

Technical specifications subject to change.



Adapter
> PCR plate adapters are designed to support thin-walled PCR plate wells during centrifugation
> Available for 96-well and 384-well PCR plates
> Adapters can be used in all Eppendorf plate rotors

Cell culture flask adapter
> Adapter to spin down cell cultures directly in a cell culture flask
> Suitable for 25 cm^2 and selective 75 cm^2 flasks (please ask for details)
> Adapters can be used in Eppendorf plate rotor A-4-81-MTP/Flex

IsoRack adapter
> IsoRack adapters to support 0.5 mL and 1.5/2.0 mL IsoRacks during centrifugation
> Adapters can be used in Eppendorf plate rotors A-2-DWP and A-4-81-MTP/Flex

Ordering information

Description	Order no.
Adapter, for 1 cell culture flask, for Rotors A-4-81-MTP/Flex	5825 719.000
Adapter, for 1 PCR plate (96 wells) PCR plate 96 wells, for plate rotors, set of 2 pcs.	5825 711.009
Adapter, for 1 PCR plate (384 wells) PCR plate 384 wells, for plate rotors, set of 2 pcs.	5825 713.001
Adapter, for 24 vessels in the IsoRack 0.5 mL, for Rotors S-4-104, A-4-81-MTP/Flex, A-2-DWP, set of 2 pcs.	5825 708.008
Adapter, for 24 vessels in the IsoRack 1.5/2.0 mL, for Rotors S-4-104, A-4-81-MTP/Flex, A-2-DWP, set of 2 pcs.	5825 709.004
CombiSlide Adapter, for 12 slides Combi Slide 12 slides, for plate rotors, set of 2 pcs.	5825 706.005

Rotor A-2-DWP
> For use in Centrifuge 5804/5804 R and 5810/5810 R
> Max. speed: 2,250 × g (3,700 rpm)
> Rotor can handle up to
-2 × 5 MTP
-2 × 4 Cell culture plates
-2 × 2 DWP
-2 × 1 Filtration plate kits
> Maximum loading height of 89 mm
> Rotor and buckets are autoclavable (121 °C, 20 min)

Ordering information

Description	Order no.
Rotor A-2-DWP, rotor for Deepwell Plates incl. 2 buckets	5804 740.009

CENTRIFUGES AND ROTORS

Rotors for 58xx Family

Rotor S-4-104

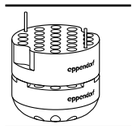
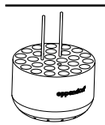
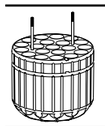
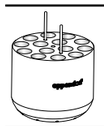
> Medium capacity swing-bucket rotor with max. speed 3,214 × g (3,900 rpm)[1)]
> Broad range of adapters enables high versatility for tubes and bottles from 0.2 mL to 750 mL and plates
> Aerodynamic round bucket design for up to 36 % energy savings compared to Rotor A-4-81
> Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[2)]
> Buckets, lids and adapters are autoclavable (121 °C, 20 min)

[1)] Please note that a software upgrade will be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information. [2)]Aerosol-tightness tested by Public Health England, Porton Down, UK.

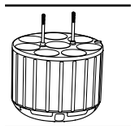
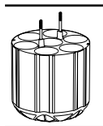
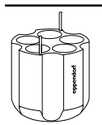
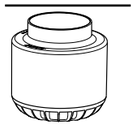
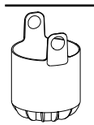
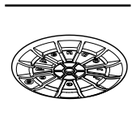
Ordering information

Description	Order no.
Rotor S-4-104	
incl. 4 × 750 mL round buckets	5820 740.000
incl. 4 plate buckets (aerosol-tight capable)	5820 754.001
without buckets	5820 755.008
Plate bucket (aerosol-tight capable), for Rotor S-4-104, incl. plate carrier, set of 2 pcs.	5820 744.006
Plate bucket (aerosol-tight capable), for Rotor S-4-104, incl. plate carrier, set of 4 pcs.	5820 743.000
Bucket 750 mL, for Rotor S-4-104, set of 2 pcs.	5820 742.003
Bucket 750 mL, for Rotor S-4-104, set of 4 pcs.	5820 741.007
Aerosol-tight caps for plate buckets (aerosol-tight capable), aerosol-tight, for Rotor S-4-104 and Rotor S-4x750, set of 2 pcs.	5820 748.001
Aerosol-tight caps for 750 mL round buckets, aerosol-tight, for Rotor S-4-104, Rotor S-4x750 and Rotor S-4x1000, set of 2 pcs.	5820 747.005
Wide-neck bottle, 750 mL, set of 2 pcs.	5820 708.000

Adapters for Rotor S-4-104

Tube Volume	1.5/2.0 mL	12 × 75 mm, 5 mL FACS	2.6 – 8 mL	5.5 – 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	115 mm	115 mm	119 mm	111 mm	117 mm
Max. vessel height for use with cap/lid[1)]	39 mm	108 mm	108 mm	114 mm	106 mm	112 mm
Adapter						
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	188 mm	183 mm	179 mm	180 mm	179 mm	185 mm
Max. RCF	3,197 × g	3,112 × g	3,044 × g	3,061 × g	3,044 × g	3,146 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5825 740.009	5825 747.003	5825 738.004	5825 736.001	5825 743.008	5825 748.000

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer. [3)] 225 mL conical bottles from BD®/Corning® and 250 mL conical bottles from Nunc® for Rotor S-4-104.

Eppendorf Tubes® 5.0 mL and 15 mL conical	30 mL	50 mL conical	50 mL conical, skirted	250 mL flat, 175 – 225/250 mL conical[2)3)]	500 mL Corning®	750 mL	MTP, DWP, PCR plates
17 mm	25 mm	30 mm	30 mm	62 mm	96 mm	102 mm	
125 mm	111 mm	122 mm	120 mm	145 mm	147 mm	140 mm	60 mm
120 mm	106 mm	116 mm	116 mm	125 mm			47 mm
							
14/56	8/32	7/28	5/20	1/4	1/4	1/4	4/16 (MTP) 1/4 (DWP)
conical	flat	conical	conical	flat	conical	flat	flat
188 mm	174 mm	187 mm	178 mm	183 mm	187 mm	185 mm	151 mm
3,197 × g	2,959 × g	3,180 × g	3,027 × g	3,112 × g	3,146 × g	3,146 × g	2,568 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
5825 734.009	5825 755.006	5825 733.002	5825 732.006	5825 741.005	5825 745.000	5825 744.004	5820 744.006

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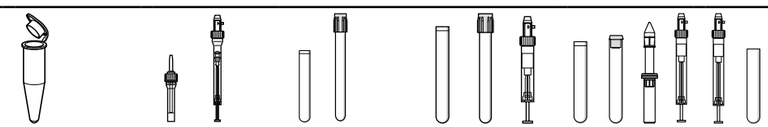
Rotors for 58xx Family

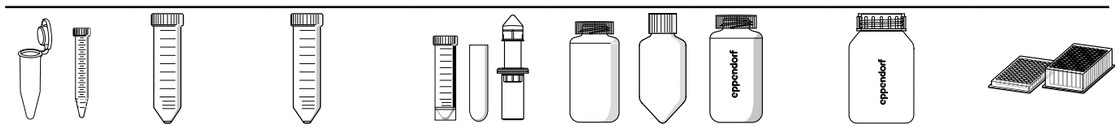
Rotor A-4-81
> Swing-bucket rotor with max. speed 3,220 × g (4,000 rpm)
> Rotor A-4-81 accommodates tubes and bottles from 0.2 mL to 500 mL as well as plates
> Aerosol-tight caps[1)] for safe centrifugation of hazardous samples optionally available
> Mixed loading with 2 plate buckets and 2 rectangular tube buckets allows for increased versatility
> Buckets, caps and adapters are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor A-4-81, incl. 4 x 500 mL rectangular buckets	5810 718.007
Rotor A-4-81, without buckets	5810 743.001
Rotor A-4-81, with 4 MTP/Flex buckets	5810 725.003
Bucket 500 mL rectangular, for Rotor A-4-81, set of 4 pcs.	5810 730.007
Bucket for 7 x 50 mL conical tubes, for Rotor A-4-81, set of 4 pcs.	5825 730.003
Cap for 500 mL rectangular buckets, aerosol-tight, aerosol-tight, for Rotor A-4-81, set of 2 pcs.	5810 724.007
Wide-neck bottle, for Rotor A-4-81, 500 mL, square, set of 2 pcs.	5820 707.003
Wide-neck bottle, for Rotor A-4-81, 400 mL, set of 2 pcs.	5810 729.009
MTP/Flex bucket, for Rotor A-4-81 and Rotor S-4x500, set of 2 pcs.	5810 742.005
MTP/Flex bucket, for Rotor A-4-81, set of 4 pcs.	5810 741.009





Adapters for Rotor A-4-81									
Tube Volume	1.5/2.0 mL	1.2 – 5 mL	2.6 – 5 mL	2.6 – 7 mL	3 – 15 mL	7 – 17 mL	Eppendorf Tubes® 5.0 mL and 15 mL conical tubes	50 mL conical	50 mL conical	30 – 50 mL and 50 mL conical tubes, skirted[2)]	180 – 250 mL flat / 175 – 225 mL conical[3)]	400 mL	500 mL	MTP, DWP, PCR plates
Max. tube diameter	11 mm	11 mm	13 mm	13 mm	16 mm	17.5 mm	17.5 mm	30 mm	30 mm	30 mm	62 mm	133 mm	83 mm	
Max. vessel height	43 mm	108 mm	108 mm	108 mm	108 mm	118 mm	121 mm	122 mm	122 mm	121 mm	133 mm	133 mm	134 mm	60 mm
Max. vessel height for use with cap/lid[1)]	43 mm	108 mm	107 mm	108 mm	108 mm	118 mm	119 mm	116 mm					134 mm	
Adapter														
Number of vessels per adapter/rotor	20/80	20/80	25/100	18/72	16/64	16/64	12/48	5/20	7/28	5/20	1/4	1/4	–/4	4/16 (MTP) 1/4 (DWP)
Bottom shape	flat	flat	flat with rubber mat	flat with rubber mat	flat with rubber mat	flat with rubber mat	conical	conical	conical	flat with rubber mat	flat with rubber mat	flat, rubber	flat	flat with rubber mat
Centrifugation radius	165 mm	168 mm	168 mm	168 mm	168 mm	168 mm	173 mm	173 mm	180 mm	173 mm	173 mm	180 mm	180 mm	163 mm
Max. RCF	2,950 × g	3,000 × g	3,000 × g	3,000 × g	3,000 × g	3,000 × g	3,100 × g	3,100 × g	3,220 × g	3,100 × g	3,100 × g	3,220 × g	3,220 × g	2,900 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 4 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.		set of 2 pcs.
Order no.	5810 745.004	5810 746.000	5810 720.001	5810 747.007	5810 748.003	5810 721.008	5810 722.004	5810 723.000	5825 730.003	5810 739.004	5825 722.000	5810 728.002	–	5810 742.005

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 50 mL conical tubes skirted 5804 737.008. [3)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.

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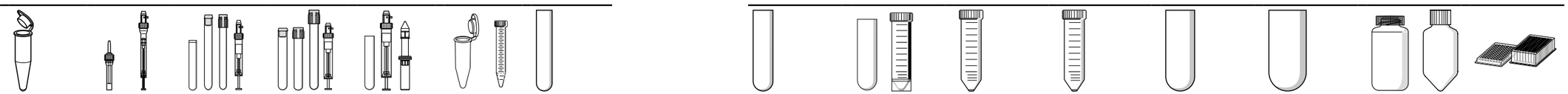
Rotors for 58xx Family

Rotor A-4-62
> Swing-bucket rotor with max. speed 3,220 × g (4,000 rpm)
> Rotor A-4-62 accommodates tubes and bottles from 0.2 mL to 250 mL as well as plates
> Aerosol-tight caps[1)] for safe centrifugation of hazardous samples optionally available
> Rotor, buckets, caps and adapters are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor A-4-62, incl. 4 × 250 mL rectangular buckets	5810 709.008
Rotor A-4-62, with 4 MTP buckets	5810 711.002
MTP bucket, for Rotor A-4-62-MTP, for 4 MTP or 1 DWP, set of 4 pcs.	5810 702.003
Aerosol-tight cap, for rectangular bucket 250 mL, 2 pieces	5810 710.006
Rectangular bucket 250 mL, for Rotor A-4-62, 4 pieces	5810 716.004



Adapters for Rotor A-4-62							
Tube Volume	1.5 – 2.0 mL	1.2 – 5 mL	2.6 – 7 mL	3 – 15 mL	7 – 17 mL	Eppendorf Tubes® 5.0 mL and 15 mL conical	7 – 18 mL
Max. tube diameter	11 mm	11 mm	13 mm	16 mm	17.5 mm	17.5 mm	20 mm
Max. vessel height	43 mm	123 mm	121 mm	121 mm	118 mm	127 mm	126 mm
Max. vessel height for use with cap/lid[1)]	43 mm	115 mm	118 mm	116 mm	114 mm	121 mm	119 mm
Adapter							
Number of vessels per adapter/rotor	16/64	25/100	15/60	12/48	12/48	9/36	8/32
Bottom shape	flat	flat with rubber mat	flat with rubber mat	flat with rubber mat	flat with rubber mat	conical	flat with rubber mat
Centrifugation radius	171 mm	173 mm	173 mm	173 mm	173 mm	178 mm	173 mm
Max. RCF	3,000 × g	3,050 × g	3,050 × g	3,050 × g	3,050 × g	3,150 × g	3,050 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5810 751.004	5810 750.008	5810 752.000	5810 753.007	5810 754.003	5810 755.000	5810 756.006

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 50 mL conical tubes skirted 5804 737.008. [3)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.

18 – 30 mL	30 – 50 mL round-bottom/50 mL conical, skirted[2)]	50 mL conical	50 mL conical	50 – 75 mL	80 – 120 mL	200 – 250 mL flat/175 – 225 mL conical[3)]	MTP, DWP, PCR plates
26 mm	30 mm	30 mm	30 mm	35 mm	45 mm	62 mm	
119 mm	115 mm	122 mm	122 mm	122 mm	138 mm	136 mm	53 mm
116 mm	113 mm		116 mm	118 mm	125 mm	127 mm	
4/16	4/16	4/16	3/12	2/8	1/4	1/4	4/16 (MTP) 1/4 (DWP)
flat with rubber mat	flat with rubber mat	flat with conical inlay	conical	flat with rubber mat	flat with rubber mat	flat with rubber mat	flat with rubber mat
173 mm	173 mm	173 mm	178 mm	173 mm	173 mm	180 mm	154 mm
3,050 × g	3,050 × g	3,050 × g	3,150 × g	3,050 × g	3,050 × g	3,220 × g	2,750 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 4 pcs.
5810 757.002	5810 759.005	5810 763.002	5810 758.009	5810 760.003	5810 761.000	5810 770.009	5810 702.003

CENTRIFUGES AND ROTORS

Rotors for 58xx Family

Rotor S-4-72

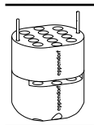
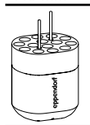
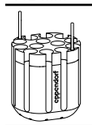
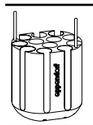
> Medium capacity swing-bucket rotor with speed up to 3,234 × g (4,200 rpm)[1)]
> Broad range of adapters available to handle all common tube formats from 0.2 mL to 250 mL
> Aerodynamic round bucket design for up to 48 % energy savings compared to Rotor A-4-62
> Buckets and adapters are autoclavable (121 °C, 20 min)

[1)] Please note that a software upgrade will be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information.

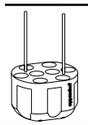
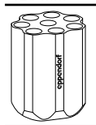
Ordering information

Description	Order no.
Rotor S-4-72, incl. 4 × 250 mL round buckets	5804 746.007

Adapters for Rotor S-4-72

Tube Volume	1.5/2.0 mL	2.6 – 8 mL	5.5 – 12 mL	9 mL
Max. tube diameter	11 mm	13 mm	16 mm	17.5 mm
Max. vessel height	43 mm	115 mm	112 mm	113 mm
Adapter				
Number of vessels per adapter/rotor	26/104	14/56	13/52	12/48
Bottom shape	flat	round	round	round
Centrifugation radius	159 mm	159 mm	157 mm	158 mm
Max. RCF	3,136 × g	3,136 × g	3,096 × g	3,116 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5804 794.001	5804 789.008	5804 791.002	5804 792.009

[1)] For Eppendorf Tubes® 5.0 mL with screw cap the capacity is limited to 6 tubes per adapter. [2)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.

Eppendorf Tubes® 5.0 mL	15 mL conical	50 mL conical	50 mL conical, skirted	250 mL flat/175 mL Falcon[2)]
17 mm	17 mm	30 mm	30 mm	62 mm
60 mm	120 mm	120 mm	120 mm	130 mm
				
8/32 [1)]	8/32	4/16	2/8	1/4
conical	conical	conical	conical	flat
163 mm	164 mm	164 mm	153 mm	160 mm
3,215 × g	3,234 × g	3,234 × g	2,602 × g	3,155 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
5804 793.005	5804 783.000	5804 784.006	5804 785.002	5804 787.005

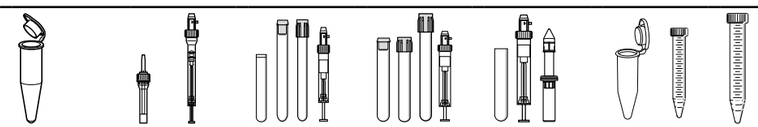
Rotors for 58xx Family

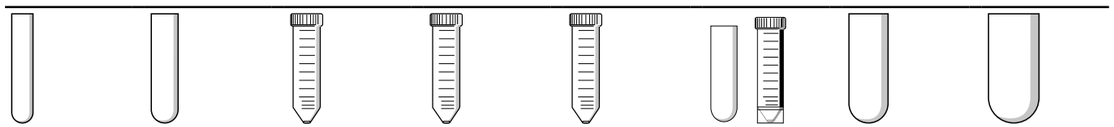
Rotor A-4-44
> High-speed swing-bucket rotor for applications up to 4,500 × g (5,000 rpm)
> Rotor A-4-44 accommodates tubes from 0.2 mL to 100 mL
> Aerosol-tight caps[1)] for safe centrifugation of hazardous samples optionally available
> Rotor, buckets, caps and adapters are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor A-4-44, incl. 4 rectangular buckets 100 mL	5804 709.004
Rotor A-4-44, incl. 4 buckets for 2 × 50 mL conical tubes	5804 719.000
Bucket for 2 × 50 mL conical tubes, for Rotor A-4-44, set of 4 pcs.	5804 706.005
Rectangular bucket 100 mL, for Rotor A-4-44, set of 4 pcs.	5804 741.005
Aerosol-tight cap, for rectangular bucket 100 mL, 2 pieces	5804 712.005
Insert, for conical tubes, for 100 mL rectangular bucket in Rotor A-4-44, for 1 conical tube 50 mL, set of 8 pieces	5804 728.009
Adapter, for 50 mL conical tubes with skirted bottom, set of 8 pieces	5804 737.008





Adapters for Rotor A-4-44							
Tube Volume	1.5 – 2.0 mL	1.2 – 5 mL	2.6 – 7 mL	3 – 15 mL	7 – 17 mL	Eppendorf Tubes® 5.0 mL and 15 mL conical	15 mL conical
Max. tube diameter	11 mm	11 mm	13 mm	16 mm	17.5 mm	17.5 mm	17.5 mm
Max. vessel height	43 mm	105 mm	108 mm	108 mm	110 mm	121 mm	121 mm
Max. vessel height for use with cap/lid[1)]	43 mm	102 mm	106 mm	106 mm	106 mm		121 mm
Adapter							
Number of vessels per adapter/rotor	12/48	14/56	9/36	7/28	6/24	4/16	2/8
Bottom shape	flat	flat with rubber mat	flat with rubber mat	flat with rubber mat	flat with rubber mat	conical	conical
Centrifugation radius	148 mm	150 mm	150 mm	150 mm	150 mm	155 mm	157 mm
Max. RCF	4,100 × g	4,200 × g	4,200 × g	4,200 × g	4,200 × g	4,332 × g	4,388 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5804 751.000	5804 750.004	5804 752.007	5804 753.003	5804 754.000	5804 755.006	5804 717.007

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Reordering of 50 mL form inserts: 5804 728.009. [3)] Please order adapter for 50 mL conical tubes skirted 5804 737.008.

7 – 18 mL	18 – 30 mL	50 mL[2)] conical	50 mL conical	50 mL conical	30 – 50 mL round-bottom/50 mL conical, skirted[3)]	50 – 75 mL	80 – 100 mL
20 mm	26 mm	-	31 mm	31 mm	31 mm	35 mm	45 mm
107 mm	110 mm	120 mm	122 mm	122 mm	122 mm	119 mm	114 mm
104 mm	100 mm			119 mm	108 mm	108 mm	100 mm
4/16	2/8	–/8	1/4	1/4	1/4	1/4	1/4
flat with rubber mat	flat with rubber mat	flat with conical inlay	conical	conical	flat with rubber mat	flat with rubber mat	flat with rubber mat
150 mm	150 mm	161 mm	155 mm	157 mm	150 mm	150 mm	150 mm
4,200 × g	4,200 × g	4,500 × g	4,332 × g	4,388 × g	4,200 × g	4,200 × g	4,200 × g
set of 2 pcs.	set of 2 pcs.	set of 4 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
5804 756.002	5804 757.009	5804 706.005	5804 758.005	5804 718.003	5804 759.001	5804 760.000	5804 761.006

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CENTRIFUGES AND ROTORS

Rotors for 58xx Family

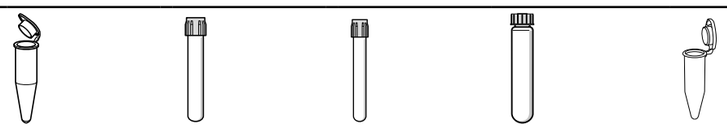
Rotor F-34-6-38

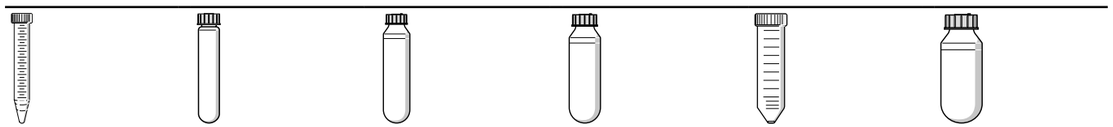
> High-speed rotor for molecular applications in tubes from 0.2 mL to 85 mL
> Max. speed: 18,514 × g (12,000 rpm) in Centrifuge 5810 R or 15,557 × g (11,000 rpm) in 5804/5804 R/5810[1)]
> Low rotor weight (3.2 kg) for easy handling
> 34° borehole angle reduces pellet smears along tube wall
> Anodized aluminum for high chemical resistance
> Rotor, lid and adapters are autoclavable (121 °C, 20 min)

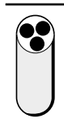
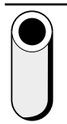
[1)] Rotors F-34-6-38 and FA-45-6-30 maintain 4 °C at 11,000 rpm

Ordering information

Description	Order no.
Rotor F-34-6-38, for 6 × 85 mL tubes, incl. rotor lid	5804 727.002





Adapters for Rotor F-34-6-38												
Tube Volume	1.5 – 2.0 mL	2.6 – 7 mL	2.6 – 7 mL	7 – 15 mL	Eppendorf Tubes® 5.0 mL	15 mL conical	15 – 18 mL	20 – 30 mL	50 mL	50 mL conical	85 mL
Max. tube diameter	11 mm	13 mm	13 mm	16 mm	17 mm	17 mm	18 mm	26 mm	29 mm	30 mm	38 mm
Max. vessel height for use with cap/lid	110 mm	90 mm	110 mm	112 mm	104 mm	123 mm	123 mm	123 mm	123 mm	121 mm	121 mm
Adapter											–
Number of vessels per adapter/rotor	4/24	3/18	3/18	2/12	1/6	1/6	1/6	1/6	1/6	1/6	–/6
Bottom shape	round	flat	flat	round	conical	conical	round	round	round	conical	round
Centrifugation radius	113 mm	106 mm	114 mm	112 mm	105 mm	107 mm	109 mm	110 mm	112 mm	108 mm	115 mm
Max. RCF at 12.100 rpm (5810 R)	18,200 × g	17,065 × g	18,353 × g	18,000 × g	17,187 × g	17,200 × g	17,550 × g	17,700 × g	18,014 × g	17,400 × g	18,500 × g
Max. RCF at 11.000 rpm (5804, 5804 R, 5810)	15,300 × g	14,339 × g	15,422 × g	15,150 × g	14,204 × g	14,450 × g	14,750 × g	14,900 × g	15,157 × g	14,600 × g	15,550 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	
Order no.	5804 770.005	5804 738.004	5804 739.000	5804 771.001	5804 777.000	5804 776.003	5804 772.008	5804 773.004	5804 774.000	5804 775.007	-

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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Rotors for 58xx Family

Rotor FA-45-6-30

> High-speed rotor for applications in tubes from 5 – 50 mL[1)]
> Max. speed 20,133 × g (12,100 rpm) in Centrifuge 5810 R or 16,639 × g (11,000 rpm) in 5804/5804 R/5810[2)]
> Eppendorf QuickLock rotor lid for fast lid locking
> Aerosol-tight[3)] 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 (121 °C, 20 min)

[1)] Please note that a software upgrade may be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information.

[2)] Rotors F-34-6-38 and FA-45-6-30 maintain 4 °C at 11,000 rpm

[3)] Aerosol-tightness tested by Public Health England, Porton Down, Great Britain

Ordering information

Description	Order no.
Rotor FA-45-6-30, incl. rotor lid, for 6 × 15/50 mL conical tubes	5820 715.006

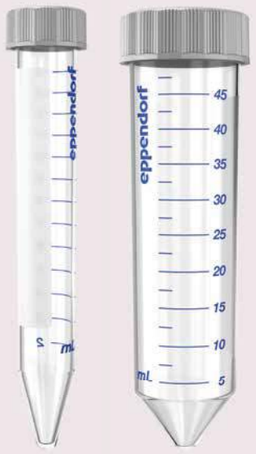
Adapters for Rotor FA-45-6-30					
Tube Volume	2.6 – 5 mL	4 – 8 mL	5.5 – 10 mL	7.5 – 12 mL	Eppendorf Tubes® 5.0 mL
Max. tube diameter	13 mm	13 mm	16 mm	16 mm	17 mm
Max. vessel height for use with cap/lid	119 mm	119 mm	119 mm	119 mm	121 mm
Adapter					
Number of vessels per adapter/rotor	1/6	1/6	1/6	1/6	1/6 [1)]
Bottom shape	round	round	round	round	conical
Centrifugation radius	120 mm	120 mm	120 mm	120 mm	121 mm
Max. RCF at 12.100 rpm (5810 R)	19,642 × g	19,642 × g	19,642 × g	19,642 × g	19,806 × g
Max. RCF at 11.000 rpm (5804, 5804 R, 5810)	16,233 × g	16,233 × g	16,233 × g	16,233 × g	16,369 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5820 726.008	5820 725.001	5820 728.000	5820 727.004	5820 730.005

[1)] Eppendorf Tubes® 5.0 mL with screw cap will not fit in this adapter.

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.

More information: www.eppendorf.com/conicals



7 – 17 mL	15 mL	15 – 18 mL	20 – 30 mL	35 mL	50 mL conical
17.5 mm	17 mm	18 mm	26 mm	29 mm	30 mm
122 mm	125 mm	125 mm	125 mm	125 mm	121 mm
1/6	1/6	1/6	1/6	1/6	–/6
round	conical	round	round	conical	conical
120 mm	120 mm	120 mm	105 mm	112 mm	123 mm
19,642 × g	19,642 × g	19,642 × g	17,187 × g	18,333 × g	20,133 × g
16,233 × g	16,223 × g	16,223 × g	14,204 × g	15,151 × g	16,639 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	-
5820 729.007	5820 717.009	5820 720.000	5820 721.006	5820 722.002	-

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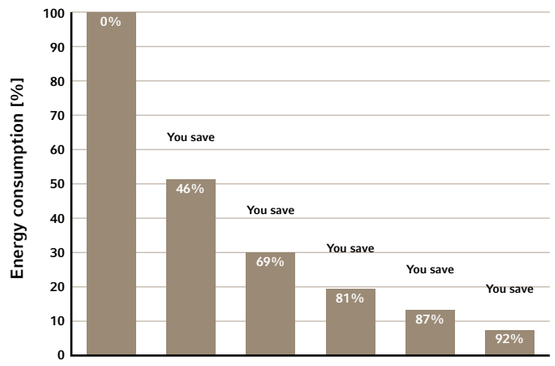
Centrifuge 5910 R and Centrifuge 5920 R

Whether you choose the new Centrifuge 5910 R with great versatility or the well established Centrifuge 5920 R with more capacity, both instruments follow the same extremely high Eppendorf standards in temperature management and safety.

Advanced temperature management
Eppendorf developed the Dynamic Compressor Control (DCC). Unlike other compressors which switch back and forth between 0 % and 100 % performance output, DCC allows for a constant and smooth temperature regulation. This results in a precise cooling performance and the set temperature is kept stable at all time.
In addition to the well-known FastTemp function for super fast pre-cooling, both instruments include the new FastTemp pro® software option. This feature allows for automated pre-cooling based on pre-programmable time and date. Simply turn the centrifuge into standby mode when you leave your lab and let FastTemp pro take care of pre-cooling in the morning so you don't have to. This saves you more than 90 % of energy over night and programming is super easy.

Centrifuge 5920 R: Energy saving overnight with ECO shut-off and FastTemp pro®



	Centrifuge 5910 R	Centrifuge 5920 R
1,000 mL bottles	–	4
750 mL bottles	4	4
180 – 250 mL bottles (flat)	4	8
50 mL conical tubes	36	52
5 mL and 15 mL conical tubes	68	108
1.5/2.0 mL Eppendorf tubes	200	368
BD Vacutrainer® CPT™ (16 mm × 125 mm/8 mL)	28	80
16 mm round-bottom and blood collection tubes	104	148
13 mm round-bottom and blood collection tubes	120	196
PCR plates/MTP	20/4	28/8
Universal adapters for conical tubes, plates and bottles	■	–
Dual use of plates and tubes in one rotor bucket	■	■
Plate rotor options for MTP, PCR or DWP	■	■
Fixed-angle rotors for high-speed applications	■	■

Technical specifications subject to change.

Innovative safety features
Centrifuge 5910 R and Centrifuge 5920 R have an automatic rotor recognition. This feature detects a newly inserted rotor and automatically limits the centrifuge speed to the rotor's maximum permissible value.
When handling substances that pose a health hazard it is highly recommended to use aerosol-tight fixed-angle rotors with Eppendorf QuickLock® lids or swing-bucket rotors in combination with Eppendorf QuickLock caps.

Technical specifications		
Model	Centrifuge 5910 R	Centrifuge 5920 R
Max. RCF	22,132 × g	21,194 × g
Max. RCF with fixed-angle rotor	22,132 × g	21,194 × g
Max. RCF with swing-bucket rotor	5,234 × g	4,791 × g
Speed	100 – 14,000 rpm (10 rpm steps)	100 – 13,700 rpm (10 rpm steps)
Max. capacity	4 × 750 mL/4 × 5 MTP	4 × 1,000 mL/4 × 7 MTP
Acceleration/braking ramps	10/10	10/10
Number of programs	99 (5 program keys)	99 (5 program keys)
Timer	10 s to 99 h 59 min, with continuous run function, short-spin	10 s to 99 h 59 min, with continuous run function, short-spin
Noise level		
Rotor FA-6x50	<59 dB(A)	<60 dB(A)
Rotor S-4x750	<57 dB(A)	
Rotor S-4xUniversal	<53 dB(A)	
Rotor S-4xUniversal-Large		<55 dB(A)
Power supply	230 V, 50 – 60 Hz	230 V, 50 – 60 Hz
Max. power consumption	1,650 W	1,650 W
Dimensions (W × D × H)	72 × 66 × 37 cm	74 × 71 × 40 cm
Footprint (dimensions w/o front panel, WxD)	72 × 62 cm	74 × 67 cm
Height (with open lid)	85 cm	94 cm
Weight w/o accessories	109 kg	139 kg
Cooling	refrigerated	refrigerated
Temperature control range	-11 °C to 40 °C	-11 °C to 40 °C

Ordering information	
Description	Order no.
Centrifuge 5910 R, refrigerated, without rotor, 230 V/50 – 60 Hz	5942 000.010
Centrifuge 5920 R, refrigerated, without rotor, 230 V/50 – 60 Hz	5948 000.018

↗ Ordering information for other voltage options begins on page 418

Centrifuge 5910 R

Description
With its great versatility, the refrigerated Centrifuge 5910 R is setting the next benchmark for benchtop centrifuges. With a comprehensive portfolio of fixed-angle and swing-bucket rotors, this centrifuge was designed to accommodate a particularly broad spectrum of applications. Cell harvests in bottles of capacities up to 750 mL, large-scale DNA and RNA isolations as well as Ficoll® gradients for the purification of lymphocytes and monocytes are merely a few examples of the many areas of application. The new universal swing-bucket rotor with unique universal adapters facilitates even quicker loading. This system allows centrifugation of conical vessels up to 50 mL, plates, and 250 mL bottles for the first time without the need to change rotors, rotor buckets, or adapters.

Great versatility for a variety of applications
> Swing-bucket rotors and adapters accommodate tubes and bottles from 0.2 mL to 750 mL
> Plate rotor options for centrifugation of all types of MTP, PCR or deepwell plates (DWP)
> Fixed-angle rotors for high-speed molecular biology applications in tubes from 0.2 mL to 50 mL
> High centrifugation speed of up to 22,132 × g (14,000 rpm)

Greater versatility
New swing-bucket standard-rotor S-4xUniversal and its unique universal adapters accommodate bottles, plates and conical tubes. No need to change rotor or rotor buckets. This improves handling and saves time.

> Adapter 1: 5.0 mL and 15 mL conical tubes, MTP/DWP
> Adapter 2: 50 mL conical tubes, MTP
> Adapter 3: 50 mL conical tubes, 250 mL bottles, MTP

More flexibility
New swing-bucket rotor S-4xUniversal was designed for a weight difference of neighboring buckets of up to 1,100 g. Thus, neighboring buckets can be loaded independently or left empty. This makes operation simple and safe.

Centrifuge 5920 R

Description
Centrifuge 5920 R delivers extraordinary high capacity in a very compact and ergonomic product design. It has similar dimensions as competing refrigerated 3 Liter models and yet features a superior capacity of up to 4 × 1,000 mL or 52 x 50 mL thus making it the ideal instrument for high-throughput applications.

More Capacity for higher throughput
> Swing-bucket rotors accommodate tubes and bottles from 0.2 mL to 1,000 mL
> Fixed-angle rotors for high-speed molecular biology applications in tubes from 0.2 mL to 50 mL
> Plate rotor options for centrifugation of all types of MTP, PCR or DWP

Rotor S-4x1000 for 1 liter bottles
> Round buckets accommodate standard 1 liter Nalgene® bottles setting a new standard in the table top centrifuge segment
> 4 liter capacity to process a higher volume in fewer runs
> Range of adapters for tubes and plates available
> Maximum rcf at 3,413 × g

SCIENTISTS' CHOICE AWARDS 17 WINNER

GOOD DESIGN
As awarded by The Chicago Athenaeum: Museum of Architecture and Design.

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Centrifuge Packages 5910 R

Ordering information

Description	Max. capacity per rotor	Order no.
Centrifuge 5910 R, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 5 mL/15 mL/50 mL conical tubes and plates[1)]	64 × 15 mL/36 × 50 mL	5942 000.315
Centrifuge 5910 R, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 5 mL/15 mL/50 mL conical tubes, 175 mL – 250 mL bottles and plates	64 × 15 mL/28 × 50 mL	5942 000.215
Centrifuge 5910 R, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for round-bottom tubes with diameter 13/16 mm	120 × 13 mm/104 × 16 mm	5942 000.410
Centrifuge 5910 R, refrigerated, with Rotor S-4x750, 230 V/50 – 60 Hz, incl. round buckets and adapters for 5 mL/15 mL/50 mL conical tubes	56 × 15 mL/28 × 50 mL	5942 000.515
Centrifuge 5910 R, refrigerated, with Rotor S-4x500, 230 V/50 – 60 Hz, incl. rectangular buckets and adapters for 15 mL/50 mL conical tubes	48 × 15 mL/20 × 50 mL	5942 000.615
Centrifuge 5910 R, refrigerated, with Rotor S-4x400, 230 V/50 – 60 Hz, incl. round buckets and adapters for 5 mL/15 mL/50 mL conical tubes	28 × 15 mL/16 × 50 mL	5942 000.710

[1)] When used with aerosol-tight caps the max. capacity is reduced to 20 x 50 mL (5 x 50 mL per bucket)

↗ Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

Centrifuge Packages 5920 R

Ordering information

Description	Max. capacity per rotor	Order no.
Centrifuge 5920 R, refrigerated, with Rotor S-4xUniversal-Large, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 15 mL/50 mL conical tubes	96 × 15 mL/40 × 50 mL	5948 000.913
Centrifuge 5920 R, refrigerated, with Rotor S-4xUniversal-Large, 230 V/50 – 60 Hz, incl. universal buckets and adapters for round-bottom tubes with diameter 13/16 mm	196 × 13 mm/148 × 16 mm	5948 000.816
Centrifuge 5920 R, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, 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, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. plate/tube buckets and adapters for 15 mL/50 mL conical tubes	88 × 15 mL/40 × 50 mL	5948 000.417
Centrifuge 5920 R, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. round buckets and adapters for 15 mL/50 mL conical tubes	56 × 15 mL/28 × 50 mL	5948 000.310

↗ Ordering information for other voltage options begins on page 418

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Swing-Bucket Rotors 59xx Family – Overview

Model	Rotor S-4xUniversal-Large	Rotor S-4x1000 high-capacity buckets	Rotor S-4x1000 plate/tube buckets	Rotor S-4x1000 round buckets
Positioning	Extra high capacity	Extra high capacity	High capacity	Medium capacity, compatible with 1 Liter bottle
5910 R				
5920 R	■	■	■	■
Universal bucket	yes	no	no	no
Aerosol-tightness	yes	no	yes	yes
Max. capacity	4 × 750 mL	8 × 250 mL	40 × 50 mL	4 × 1,000 mL
Max. RCF	4,402 × g	3,153 × g	3,076 × g	3,428 × g
Max. speed	4,250 rpm	3,700 rpm	3,700 rpm	3,700 rpm
1.5/2.0 mL micro tube	368			200
Eppendorf Tubes® 5.0 mL and 15 mL conical	96	108	88	56
50 mL conical tubes	40	52	40	28
13 mm round-bottom and blood collection tubes	196	196	140	92
16 mm round-bottom and blood collection tubes	148	144	132	80
750 mL bottles	4			4
1,000 mL bottles				4
PCR plates/MTP	20	24	40	
Deepwell plates (DWP)	8	8	8	

Advanced Rotor Design – Swing-Bucket Rotors

Universal rotor buckets for tubes, plates and bottles. (selected rotors only)

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

i For more information go to www.eppendorf.com/centrifugation

Rotor S-4xUniversal	Rotor S-4x750 with round buckets	Rotor S-4x500	Rotor S-4x400
High capacity and versatility	Medium capacity, high speed	Medium capacity	Medium capacity, high speed
■	■	■	■
	■		
yes	no	no	no
yes	yes	yes	yes
4 × 750 mL	4 × 750 mL	4 × 500 mL	4 × 250 mL
4,347 × g	4,800 × g	3,220 × g	5,263 × g
4,500 rpm	4,700 rpm	4,000 rpm	5,100 rpm
	200	96	104
68	56	48	28
36	28	20	16
120	92	100	60
104	80	64	44
4	4		
20	16	16	
4	4	4	

Aerosol-tight QuickLock caps
> Significantly improved handling, easy operation with one or two hands
> 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

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Rotors for 5910 R

Rotor S-4xUniversal
> High capacity swing-bucket rotor with max. speed 4,415 × g (4,500 rpm)
> Broad range of adapters enables high versatility for tubes and flasks from 4 mL to 750 mL and plates
> Universal bucket design accommodates both plates and tubes
> Universal adapters accommodate selective plate formats and conical tubes
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor S-4xUniversal, incl. universal buckets	5895 200.001
Aerosol-tight caps, for Rotor S-4xUniversal, set of 2 pcs.	5910 750.005
Wide-neck bottle, 750 mL, set of 2 pcs.	5820 708.000

Adapters for Rotor S-4xUniversal								
Tube Volume	4 mL – 8 mL	7.5 mL – 12 mL	9 mL	12 × 75 mm, 5 mL FACS	50 mL conical, skirted	500 mL Corning®	750 mL	MTP, DWP, PCR plates
Max. tube diameter	13 mm	16 mm	17.5 mm	12 mm	31 mm	96 mm	102 mm	
Max. vessel height	119 mm	120 mm	120 mm	112 mm	124 mm	148 mm	139 mm	88 mm
Max. vessel height for use with cap/lid[1)]	117 mm	118 mm	118 mm	107 mm	121 mm	–	135 mm	60 mm
Adapter								
Number of vessels per adapter/rotor	30/120	26/104	21/84	46/184	7/28	1/4	1/4	5/20
Bottom shape	round	round	round	round	flat	conical	flat	flat
Centrifugation radius	190 mm	195 mm	188 mm	189 mm	185 mm	187 mm	188 mm	170 mm
Max. RCF	4,302 × g	4,415 × g	4,256 × g	4,279 × g	4,188 × g	4,234 × g	4,256 × g	3,849 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5910 755.007	5910 754.000	5910 762.003	5910 758.006	5910 764.006	5910 760.000	5910 757.000	5910 753.004

[1)] Please perform a manual test to determine the actual loading capacity. [2)] Aerosol-tight caps compatible with MTP, DWP 96 500 µL, DWP 384 200 µL. Aerosol-tight caps not compatible with DWP 96 1,000 µL and 2,000 µL. [3)] When used with aerosol-tight caps the max. capacity is reduced to 20 x 50 mL (5 x 50 mL per adapter).

Universal Adapters for Rotor S-4xUniversal

Rotor S-4xUniversal brings outstanding versatility to those customers who need to spin a variety of vessels and plates. Three innovative universal adapters accommodate a selection of tubes, plates and bottles:
> Universal adapter 1: 5.0 mL and 15 mL conical tubes, MTP and DWP
> Universal adapter 2: 50 mL conical tubes, MTP
> Universal adapter 3: 50 mL conical tubes, 250 mL bottles, MTP

For customers who need either stacking capability, higher speed or aerosol-tight centrifugation of certain plate formats, a separate plate carrier is available.

Universal adapter 1
Setup for deepwell plates and Eppendorf Tubes® 5.0 mL.

Universal adapter 2
Setup for microplates and 50 mL conical tubes.

Universal adapter 3
Setup for 50 mL conical tubes and 250 mL bottles.

Eppendorf Tubes® 5.0 mL	15 mL conical	MTP, DWP	50 mL conical	Microplate 96/384 wells	50 mL conical	Microplate 96/384 wells	250 mL flat, 175 - 225 mL conical
17 mm	17 mm	–	30 mm	–	29 mm	–	62 mm
124 mm	124 mm	64 mm	116[3)] mm	16 mm	124 mm	16 mm	146 mm
122 mm	122 mm	[2)]	116[3)] mm		121 mm	–	139 mm
17/68		1/4	9/36	1/4	7/28	1/4	1/4
conical		flat	conical	flat	conical	flat	flat
191 mm		143 mm	192 mm	115 mm	191 mm	115 mm	187 mm
4,324 × g		3,237 × g	4,347 × g	2,604 × g	4,324 × g	2,604 × g	4,234 × g
set of 2 pcs.			set of 2 pcs.		set of 2 pcs.		
5910 752.008			5910 769.008		5910 751.001		

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CENTRIFUGES AND ROTORS

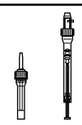
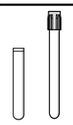
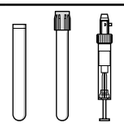
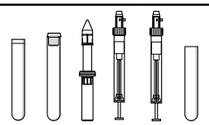
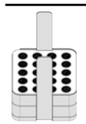
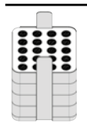
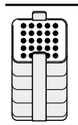
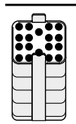
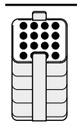
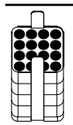
Rotors for 5910 R

Rotor S-4x500
> Medium capacity swing-bucket rotor with max. speed 3,220 × g (4,000 rpm)
> Rotor S-4x500 accommodates tubes and bottles from 0.2 mL to 500 mL as well as plates
> Aerosol-tight caps for safe centrifugation of hazardous samples optionally available[1)]
> Mixed loading with 2 plate buckets and 2 rectangular tube buckets allows for increased versatility
> Buckets, caps and adapters are autoclavable

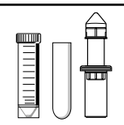
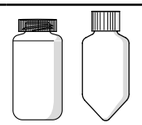
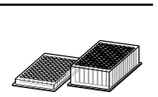
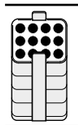
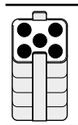
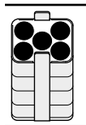
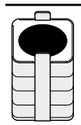
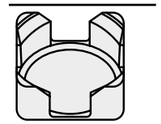
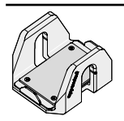
[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor S-4x500, for 500 mL rectangular buckets or MTP/Flex buckets	
incl. 4 x 500 mL rectangular buckets	5895 170.005
without buckets	5895 171.001
Cap for 500 mL rectangular buckets, aerosol-tight, aerosol-tight, for Rotor A-4-81, set of 2 pcs.	5810 724.007

						
Adapters for Rotor S-4x500						
Tube Volume	1.5/2.0 mL	1.2 – 5 mL	2.6 – 5 mL	2.6 – 7 mL	3 – 15 mL	7 – 17 mL
Max. tube diameter	11 mm	11 mm	13 mm	13 mm	16 mm	17.5 mm
Max. vessel height	43 mm	108 mm	108 mm	108 mm	108 mm	118 mm
Max. vessel height for use with cap/lid[1)]	43 mm	108 mm	107 mm	108 mm	108 mm	118 mm
Adapter						
Number of vessels per adapter/rotor	20/80	20/80	25/100	18/72	16/64	16/64
Bottom shape	flat	flat	flat with rubber mat	flat with rubber mat	flat with rubber mat	flat with rubber mat
Centrifugation radius	165 mm	168 mm	168 mm	168 mm	168 mm	168 mm
Max. RCF	2,950 × g	3,000 × g	3,000 × g	3,000 × g	3,000 × g	3,000 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5810 745.004	5810 746.000	5810 720.001	5810 747.007	5810 748.003	5810 721.008

[1)] Please perform a manual test to determine the actual loading capacity. [2)] Please order adapter for 50 mL conical tubes skirted 5804 737.008. [3)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.

							
	Eppendorf Tubes® 5.0 mL and 15 mL conical tubes	50 mL conical	30 – 50 mL and 50 mL conical tubes, skirted[2)]	180 – 250 mL flat/ 175 – 225 mL conical[3)]	400 mL	500 mL	MTP, DWP, PCR plates
	17.5 mm	30 mm	30 mm	62 mm	133 mm	83 mm	
	121 mm	122 mm	121 mm	133 mm		134 mm	60 mm
	119 mm	116 mm				134 mm	
							
	12/48	5/20	5/20	1/4	1/4	–/4	4/16 (MTP) 1/4 (DWP)
	conical	conical	flat with rubber mat	flat with rubber mat	flat, rubber	flat	flat with rubber mat
	173 mm	173 mm	173 mm	173 mm	180 mm	180 mm	163 mm
	3,100 × g	3,100 × g	3,100 × g	3,100 × g	3,220 × g	3,220 × g	2,900 × g
	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.		set of 2 pcs.
	5810 722.004	5810 723.000	5810 739.004	5825 722.000	5810 728.002	–	5810 742.005

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Rotors for 5910 R

Rotor S-4x400
> High-speed medium capacity swing-bucket rotor with max. speed 5,263 × g (5,100 rpm)
> Broad range of adapters enables high versatility for tubes and bottles from 0.2 mL to 250 mL
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor S-4x400, incl. 400 mL round bucket	5895 180.000
Aerosol-tight caps, for Rotor S-4x400, set of 2 pcs.	5910 700.008

Adapters for Rotor S-4x400				
Tube Volume	1.5 mL/2.0 mL	12 mm × 75 mm	4 mL – 8 mL	7.5 mL – 12 mL
Max. tube diameter	11 mm	12 mm	13 mm	16 mm
Max. vessel height	39 mm	118 mm	119 mm	122 mm
Max. vessel height for use with cap/lid[1)]		112 mm	105 mm	115 mm
Adapter				
Number of vessels per adapter/rotor	26/104	17/68	15/60	11/44
Bottom shape	open	round	round	round
Centrifugation radius	177 mm	172 mm	171 mm	173 mm
Max. RCF	5,147 × g	5,002 × g	4,818 × g	4,874 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5910 708.009	5910 711.000	5910 703.007	5910 704.003

[1)] Please perform a manual test to determine the actual loading capacity.

9 mL	Eppendorf Tubes® 5.0 mL and 15 mL conical	50 mL conical	50 mL skirted, Centriprep and Oak Ridge 30 mL	175 mL conical (BD, Nalgene), 250 mL flat	175 – 225 mL conical
17.5 mm	17 mm	29 mm	29 mm	62 mm	62 mm
122 mm	133 mm	125 mm	122 mm	138 mm	143 mm
115 mm	126 mm	117 mm	121 mm	129 mm	137 mm
8/32	7/28	4/16	3/12	1/4	1/4
round	conical	conical	conical	flat	conical
173 mm	180 mm	179 mm	170 mm	174 mm	181 mm
4,874 × g	5,071 × g	5,043 × g	4,943 × g	5,060 × g	5,263 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
5910 709.005	5910 702.000	5910 701.004	5910 712.006	5910 705.000	5910 714.009

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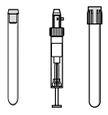
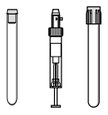
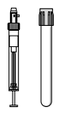
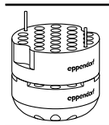
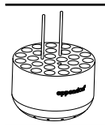
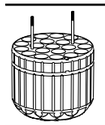
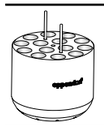
Rotors for 5910 R/5920 R

Rotor S-4x750
- > Medium capacity swing-bucket rotor with max. speed 4,800 × g (4,700 rpm)[1)]
- > Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 750 mL and plates
- > 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[2)]
- > Buckets, caps and adapters are autoclavable

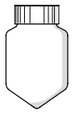
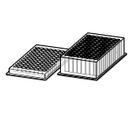
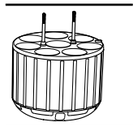
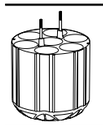
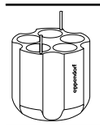
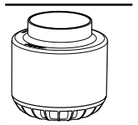
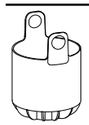
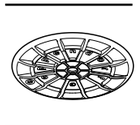
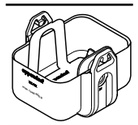
[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.
[2)] For 100 V device, max. speed 4,031 × g /4,300 rpm

Ordering information

Description	Order no.
Rotor S-4x750, aerosol-tight, without buckets	5895 121.004
Rotor S-4x750, aerosol-tight, incl. 4 × 750 mL round buckets	5895 120.008
Buckets for Rotor S-4x750, Plate bucket (aerosol-tight capable), incl. plate carrier, set of 2 pcs.	5895 125.000
Buckets for Rotor S-4x750, Round buckets for Rotor S-4x750, set of 2 pcs.	5895 123.007
Buckets for Rotor S-4x750, Round buckets for Rotor S-4x750, set of 4 pcs.	5895 122.000
Buckets for Rotor S-4x750, Plate bucket (aerosol-tight capable), incl. plate carrier, set of 4 pcs.	5895 124.003
Aerosol-tight caps for plate buckets (aerosol-tight capable), aerosol-tight, for Rotor S-4-104 and Rotor S-4x750, set of 2 pcs.	5820 748.001
Aerosol-tight caps for 750 mL round buckets, aerosol-tight, for Rotor S-4-104, Rotor S-4x750 and Rotor S-4x1000, set of 2 pcs.	5820 747.005
Wide-neck bottle, 750 mL, set of 2 pcs.	5820 708.000

Adapters for Rotor S-4x750						
						
Tube Volume	1.5/2.0 mL	12 × 75 mm, 5 mL FACS	2.6 – 8 mL	5.5 – 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	120 mm	121 mm	125 mm	117 mm	106 mm
Max. vessel height for use with cap/lid[1)]	39 mm	113 mm	113 mm	120 mm	112 mm	106 mm
Adapter						
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	4,594 × g	4,569 × g	4,594 × g	4,569 × g	4,569 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5825 740.009	5825 747.003	5825 738.004	5825 736.001	5825 743.008	5825 748.000

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer. [3)] 225 mL conical bottles from BD®/Corning® and 250 mL conical bottles from Nunc® for Rotor S-4-104.

								
	Eppendorf Tubes® 5.0 mL and 15 mL conical	30 mL	50 mL conical	50 mL conical, skirted	250 mL flat, 175 – 225/ 250 mL conical[2)3)]	500 mL Corning®	750 mL	MTP, DWP, PCR plates
	17 mm	25 mm	30 mm	30 mm	62 mm	96 mm	102 mm	–
	125 mm	119 mm	122 mm	122 mm	145 mm	147 mm	150 mm	64 mm
	120 mm	114 mm	116 mm	116 mm	125 mm	–	150 mm	47 mm
								
	14/56	8/32	7/28	5/20	1/4	1/4	1/4	4/16 (MTP) 1/4 (DWP)
	conical	flat	conical	conical	flat	conical	flat	–
	188 mm	181 mm	187 mm	177 mm	183 mm	186 mm	185 mm	161 mm
	4,643 × g	4,470 × g	4,618 × g	4,371 × g	4,519 × g	4,594 × g	4,569 × g	3,976 × g
	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
	5825 734.009	5825 755.006	5825 733.002	5825 732.006	5825 741.005	5825 745.000	5825 744.004	5895 125.000

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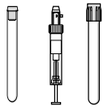
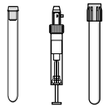
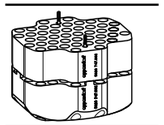
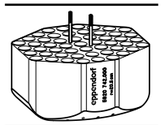
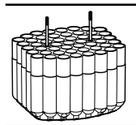
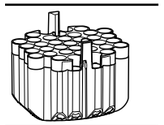
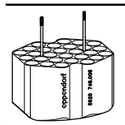
CENTRIFUGES AND ROTORS

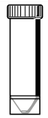
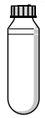
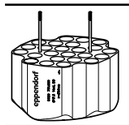
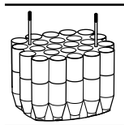
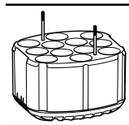
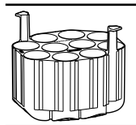
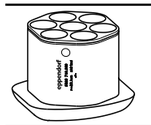
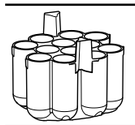
Rotors for 5920 R

Rotor S-4xUniversal-Large

> Extra high capacity swing-bucket rotor with max. speed 4,402 × g (4,250 rpm)
> Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 750 mL and plates
> Universal bucket design accommodates both plates and tubes
> Aerosol-tight Eppendorf QuickLock® caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Adapters for Rotor S-4xUniversal-Large					
Tube Volume	1.5/2.0 mL	5 mL FACS	2.6 – 8 mL	5.5 – 12 mL	9 mL
Max. tube diameter	11 mm	12 mm	13 mm	16 mm	17.5 mm
Max. vessel height	39 mm	113 mm	110 mm	110 mm	136 mm
Max. vessel height for use with cap/lid	39 mm	82 mm	107 mm	106 mm	130 mm
Adapter					
Number of vessels per adapter/rotor	92/368	51/204	49/196	37/148	28/112
Bottom shape	flat	round	round	round	round
Centrifugation radius	205 mm	205 mm	205 mm	204 mm	209 mm
Max. RCF	4,140 × g	4,140 × g	4,140 × g	4,120 × g	4,221 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5920 747.002	5920 742.000	5920 739.000	5920 738.003	5920 746.006

						
Adapters for Rotor S-4xUniversal-Large						
Tube Volume	14 mL	Eppendorf Tubes® 5.0 mL and 15 mL conical	30 mL	50 mL conical	50 mL conical, skirted	50 mL Nalgene® Oak Ridge
Max. tube diameter	17.5 mm	17 mm	25 mm	30 mm	30 mm	29 mm
Max. vessel height	123 mm	131 mm	117 mm	131 mm	141 mm	132 mm
Max. vessel height for use with cap/lid	120 mm	123 mm	108 mm	125 mm	121 mm	121 mm
Adapter						
Number of vessels per adapter/rotor	24/96	24/96	12/48	10/40	7/28	12/48
Bottom shape	round	conical	flat	conical	conical	round
Centrifugation radius	210 mm	218 mm	194 mm	213 mm	197 mm	206 mm
Max. RCF	4,240 × g	4,402 × g	3,918 × g	4,301 × g	3,978 × g	4,160 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5920 751.000	5920 736.000	5920 743.007	5920 735.004	5920 748.009	5920 753.002

Technical specifications subject to change.

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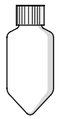
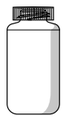
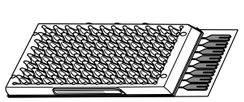
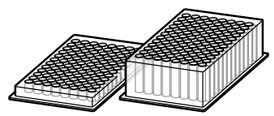
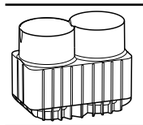
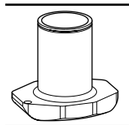
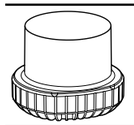
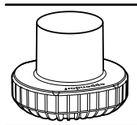
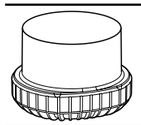
CENTRIFUGES AND ROTORS

Rotors for 5920 R

Ordering information

Description	Order no.
Rotor S-4xUniversal-Large, incl. buckets	5895 190.006
Aerosol-tight caps, for Rotor S-4xUniversal-Large, set of 2 pcs.	5920 752.006

						
Adapters for Rotor S-4xUniversal-Large						
Tube Volume	250 mL flat, 175 – 225 mL conical	250 mL conical (Corning®, Nunc®)	500 mL conical Corning®	500 mL flat NalgeneⓇ	750 mL	Micro Fluidic Cards	MTP, DWP, PCR plates
Max. tube diameter	62 mm	62 mm	96 mm	69.5 mm	102 mm	–	–
Max. vessel height	133 mm	171 mm	160 mm	168 mm	166 mm	153 mm	116 mm
Max. vessel height for use with cap/lid	126 mm	144 mm	148 mm	143 mm	143 mm	–	110 mm
Adapter							
Number of vessels per adapter/rotor	2/8	1/4	1/4	1/4	1/4	3/12	5/20 (MTP) 2/8 (DWP)
Bottom shape	flat	flat	conical	flat	flat	flat	flat
Centrifugation radius	203 mm	208 mm	208 mm	206 mm	202 mm	200 mm	196 mm
Max. RCF	4,099 × g	4,200 × g	4,200 × g	4,160 × g	4,079 × g	4,039 × g	3,938 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5920 740.008	5920 750.003	5920 744.003	5920 745.000	5920 741.004	5920 749.005	5920 737.007

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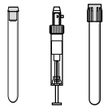
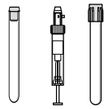
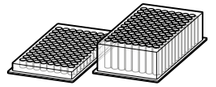
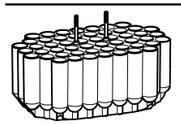
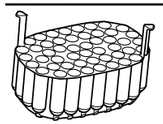
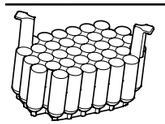
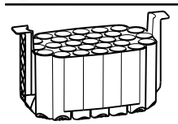
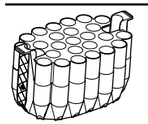
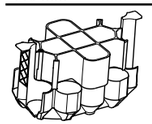
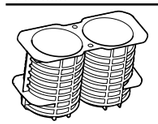
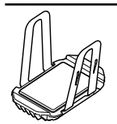
Rotors for 5920 R

Rotor S-4x1000 high-capacity buckets
> Extra high capacity swing-bucket rotor with max. speed 3,153 × g (3,700 rpm)
> Bucket accommodates both plates and tubes
> Buckets, caps and adapters are autoclavable

Ordering information

Description	Order no.
Rotor S-4x1000, without buckets	5895 101.003
Buckets for Rotor S-4x1000, High-Capacity bucket for Rotor S-4x1000, set of 4 pcs.	5895 106.005
Plate carrier for high-capacity bucket, set of 2 pcs.	5920 729.004

								
Adapters for Rotor S-4x1000 high-capacity buckets								
Tube Volume	5 mL FACS	2.6 – 8 mL	5.5 – 12 mL	9 mL	Eppendorf Tubes® 5.0 mL and 15 mL conical	50 mL conical	250 mL flat, 175 – 225 mL conical and Nunc 250 mL conical	MTP, DWP, PCR plates
Max. tube diameter	12 mm	13 mm	16 mm	17.5 mm	17 mm	30 mm	62 mm	
Max. vessel height	108 mm	107 mm	107 mm	129 mm	121 mm	116 mm	148 mm	88 mm
Adapter								
Number of vessels per adapter/rotor	52/208	49/196	36/144	29/116	27/108	13/52	2/8	6/24 (MTP) 2/8 (DWP)
Bottom shape	round	round	round	round	conical	conical	flat	flat
Centrifugation radius	204 mm	204 mm	199 mm	204 mm	205 mm	206 mm	200 mm	185 mm
Max. RCF	3,122 × g	3,122 × g	3,046 × g	3,122 × g	3,138 × g	3,153 × g	3,061 × g	2,832 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5920 724.002	5920 718.002	5920 720.007	5920 722.000	5920 716.000	5920 715.003	5920 717.006	5920 729.004

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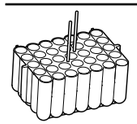
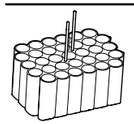
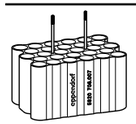
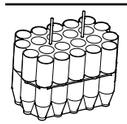
Rotors for 5920 R

Rotor S-4x1000 plate/tube buckets
> High capacity swing-bucket rotor with max. speed 3,076 × g (3,700 rpm)
> Bucket accommodates both plates and tubes
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

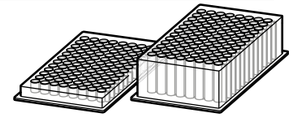
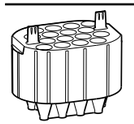
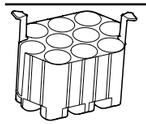
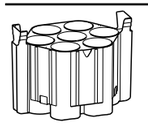
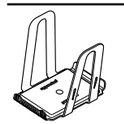
[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Adapters for Rotor S-4x1000 plate/ tube buckets				
Tube Volume	2.6 – 8 mL	5.5 – 12 mL	9 mL	Eppendorf Tubes® 5.0 mL and 15 mL conical
Max. tube diameter	13 mm	16 mm	17.5 mm	17 mm
Max. vessel height	109 mm	109 mm	109 mm	121 mm
Max. vessel height for use with cap/ lid[1)]	108 mm	108 mm	109 mm	–
Adapter				
Number of vessels per adapter/rotor	35/140	33/132	28/112	22/88
Bottom shape	round	round	round	conical
Centrifugation radius	201 mm	200 mm	200 mm	201 mm
Max. RCF	3,076 × g	3,061 × g	3,061 × g	3,076 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5920 706.004	5920 707.000	5920 708.007	5920 710.001

[1)] Please perform a manual test to determine the actual loading capacity.

Ordering information

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

				
Eppendorf Tubes® 5 mL and 15 mL conical	50 mL conical	50 mL conical	MTP, DWP, PCR plates
17 mm	30 mm	30 mm	–
123 mm	121 mm	121 mm	104 mm
121 mm	–	121 mm	91 mm
			
16/64	10/40	7/28	10/40(MTP) 2/8(DWP)
conical	conical	conical	flat
201 mm	201 mm	201 mm	198 mm
3,076 × g	3,076 × g	3,076 × g	3,030 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
5920 712.004	5920 709.003	5920 711.008	5920 705.008

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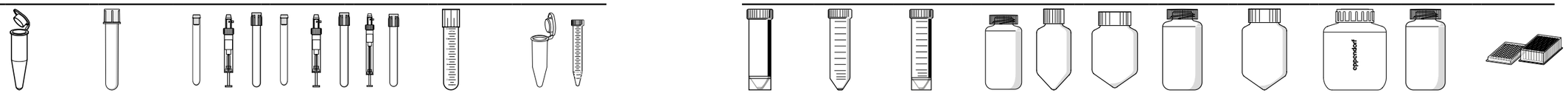
Rotors for 5920 R

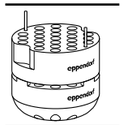
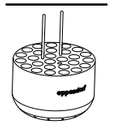
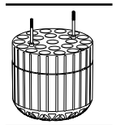
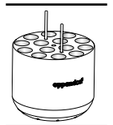
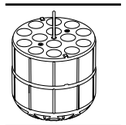
Rotor S-4x1000 round buckets
> Medium capacity swing-bucket rotor with max. speed 3,428 × g (3,700 rpm)
> Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 1,000 mL and plates
> Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

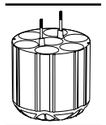
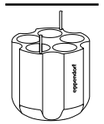
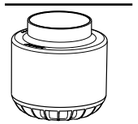
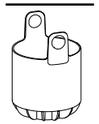
Ordering information

Description	Order no.
Rotor S-4x1000, without buckets	5895 101.003
Buckets for Rotor S-4x1000, Round bucket for Rotor S-4x1000, set of 4 pcs.	5895 102.000
Rotor S-4x1000 round buckets, aerosol-tight, incl. 4 × 1,000 mL round buckets	5895 100.007
Aerosol-tight caps, for S-4x1000 plate/tube bucket and S-4x750 plate bucket, set of 2 pcs.	5895 111.009
Buckets for Rotor S-4x1000, Plate/tube bucket for Rotor S-4x1000, set of 4 pcs.	5895 104.002
Plate carrier for plate/tube bucket, for Rotor S-4x1000 with plate/tube buckets, Rotor S-4x1000, set of 2 pcs.	5920 705.008
Aerosol-tight caps for 750 mL round buckets, aerosol-tight, for Rotor S-4-104, Rotor S-4x750 and Rotor S-4x1000, set of 2 pcs.	5820 747.005



Adapters for Rotor S-4x1000 round buckets							
Tube Volume	1.5/2.0 mL	12 × 75 mm, 5 mL FACS	2.6 – 8 mL	5.5 – 12 mL	9 mL	14 mL	Eppendorf Tubes® 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							
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	3,352 × g	3,229 × g	3,214 × g	3,229 × g	3,214 × g	3,214 × g	3,428 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5825 740.009	5825 747.003	5825 738.004	5825 736.001	5825 743.008	5825 748.000	5825 734.009

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer. [3)] 225 mL conical bottles from BD®/Corning® and 250 mL conical bottles from Nunc® for Rotor S-4-104.

30 mL	50 mL conical	50 mL conical, skirted	250 mL flat, 175 – 225/ 250 mL conical[2)3)]	500 mL Corning®	500 mL Nalgene	600 mL TPP	750 mL	1 Liter Nalgene	MTP, DWP, PCR plates
25 mm	30 mm	30 mm	62 mm	96 mm	69.5 mm	98 mm	102 mm	98 mm	–
144 mm	156 mm	151 mm	176 mm	167 mm	183 mm	181 mm	150 mm	196 mm	104 mm
139 mm	150 mm	147 mm	156 mm	167 mm	183 mm	181 mm	150 mm	–	91 mm
									
8/32	7/28	5/20	1/4	1/4	1/4	1/4	1/4	1/4	7/28 (MTP) 2/8 (DWP)
flat	conical	conical	flat	conical	flat	conical	flat	flat	flat
212 mm	223 mm	209 mm	214 mm	218 mm	221 mm	224 mm	216 mm	218 mm	198 mm
3,245 × g	3,413 × g	3,199 × g	3,275 × g	3,336 × g	3,382 × g	3,428 × g	3,306 × g	3,336 × g	3,030 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
5825 755.006	5825 733.002	5825 732.006	5825 741.005	5825 745.000	5920 703.005	5920 701.002	5825 744.004	5920 700.006	5895 105.009

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Fixed-Angle Rotors 59xx Family - Overview

Model	Rotor FA-6x250	Rotor FA-6x50	Rotor FA-20x5
Positioning	Processing of cells in higher volumes at high speed	Molecular biology applications in tubes up to 50 mL	Applications in Eppendorf Tubes® 5.0 mL
5910 R	■	■	■
5920 R	■	■	■
Aerosol-tightness	yes	yes	yes
Max. capacity	6 × 250 mL	6 × 50 mL	20 × 5 mL
Max. RCF	15,054 x g	20,130 × g	20,913 × g
Max. speed	10,100 rpm	12,100 rpm	13,100 rpm
1.5/2.0 mL micro tube		6	20
Eppendorf Tubes® 5.0 mL and 15 mL conical	24	6	20/0
50 mL conical tubes	6	6	
85 mL	6		
250 mL conical tubes	6		

Advanced Rotor Design – Fixed-Angle Rotors

Cross section of Rotor FA-6x50 (6 × 50 mL conical) showing the light-weight design.

All metal not needed for safety or performance is hollowed out to reduce weight and improve handling.

Low rotor weight
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.

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

Rotor FA-48x2	Rotor FA-30x2	Rotor F-48x15
Aerosol-tight microcentrifuge tube rotor	Aerosol-tight microcentrifuge tube rotor for safe centrifugation of hazardous samples	High-capacity fixed-angle rotor for 15 mL conical and glass tubes
■	■	■
■	–	–
yes	yes	
48 × 2 mL	30 × 2 mL	40 × 15 mL
21,194 × g (5920 R) / 22,132 x g (5910 R)	20,984 × g	5,005 x g
13,700 rpm (5920 R) / 14,000 rpm (5910 R)	13,700 rpm	5,500 rpm
48	30	
		0/40

Eppendorf QuickLock® lids for ergonomic lid locking
Our aerosol-tight QuickLock rotors close with only ¼ 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 heat conductivity, allows fast pre-cooling and accurate temperature control in refrigerated centrifuges.

Perfect fit with Eppendorf Conical Tubes 15 mL and 50 mL
The Eppendorf Conical Tubes are characterized by an outstanding centrifugation stability of up to 19,500 × g [1]. This makes them suited for a broad range of applications.

[1] Test conditions: Rotor FA-45-6-30 in Eppendorf Centrifuge 5810 R (using a suitable centrifuge adapter for 15 mL tube), sample: Saline solution (density: 1.0 g/mL), controlled centrifugation temp.: 25 °C, centrifugation time: 90 min

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Rotors for 5910 R/5920 R

Rotor FA-6x50
> High-speed rotor for applications in tubes from 5 – 50 mL
> Max. speed 20,133 × 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 handling
> Anodized aluminum for high chemical resistance
> 45° borehole angle minimizes pellets smear
> Rotor, lid and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor FA-6x50, aerosol-tight, incl. rotor lid	5895 150.004

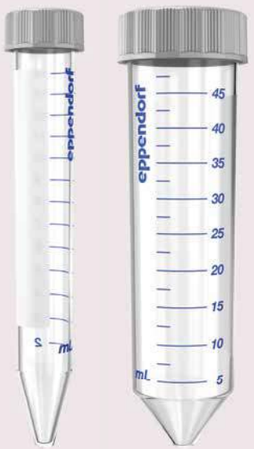
Adapters for Rotor FA-6x50					
Tube Volume	2.6 – 5 mL	4 – 8 mL	5.5 – 10 mL	7.5 – 12 mL	Eppendorf Tubes® 5.0 mL
Max. tube diameter	13 mm	13 mm	16 mm	16 mm	17 mm
Max. vessel height for use with cap/lid	119 mm	119 mm	119 mm	119 mm	121 mm
Adapter					
Number of vessels per adapter/rotor	1/6	1/6	1/6	1/6	1/6 [1)]
Bottom shape	round	round	round	round	conical
Centrifugation radius	120 mm	120 mm	120 mm	120 mm	121 mm
Max. RCF	19,642 × g	19,642 × g	19,642 × g	19,642 × g	19,806 × g
Packing	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.
Order no.	5820 726.008	5820 725.001	5820 728.000	5820 727.004	5820 730.005

[1)] Eppendorf Tubes® 5.0 mL with screw cap will not fit in this adapter.

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.

More information: www.eppendorf.com/conicals



7 – 17 mL	15 mL	15 – 18 mL	20 – 30 mL	35 mL	50 mL conical
17.5 mm	17 mm	18 mm	26 mm	29 mm	30 mm
112 mm	125 mm	107 mm	104 mm	113 mm	127 mm
1/6	1/6	1/6	1/6	1/6	–/6
round	conical	round	round	conical	conical
120 mm	120 mm	120 mm	105 mm	112 mm	123 mm
19,642 × g	19,642 × g	19,642 × g	17,187 × g	18,333 × g	20,133 × g
set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	set of 2 pcs.	–
5820 729.007	5820 717.009	5820 720.000	5820 721.006	5820 722.002	–

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Rotors for 5910 R/5920 R

Rotor FA-20x5
> 20 places for Eppendorf Tubes® 5.0 mL[1)]
> Max. speed: 20,913 × g (13,100 rpm)
> Aerosol-tight[2)] Eppendorf QuickLock rotor lid
> Rotor, lid and adapters are autoclavable (121 °C, 20 min)
> Anodized aluminum for high chemical resistance

[1)] For Eppendorf Tubes® 5.0 mL with screw cap the capacity is limited to 10 tubes. [2)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor FA-20x5, for 20 Eppendorf Tubes® 5.0 mL, incl. aerosol-tight Eppendorf QuickLock® rotor lid	5895 130.003
Adapter, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs.	5820 768.002
Adapter, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs.	5820 769.009
Adapter, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs.	5820 770.007
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 717.008
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005

Rotor FA-48x2
> 48 places for 1.5/2.0 mL tubes
> Max. speed: 21,194 × g/13,700 rpm (5920 R) / 22,132 x g / 14,000 rpm (5910 R)
> 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 (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor FA-48x2, incl. aerosol-tight Eppendorf QuickLock® rotor lid	5895 135.005

Rotors for 5910 R

Rotor F-48x15
> High-capacity fixed-angle rotor for 15 mL conical and glass tubes
> Maximum speed: 5,005 × g (5,500 rpm)
> Form inserts for 15 mL conical tubes

Ordering information

Description	Order no.
Rotor F-48x15, for 40 x 15 mL conical tubes, incl. 48 steel sleeves and adapters	5895 160.000

Rotor FA-30x2
> 30 places for 1.5/2.0 mL tubes
> Max. speed: 20,984 × g (max. 13,700 rpm)
> Eppendorf QuickLock® rotor lid for fast lid locking
> Aerosol-tight for safe centrifugation of hazardous samples[1)]
> Anodized aluminum for high chemical resistance
> Rotor and lid are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

Ordering information

Description	Order no.
Rotor FA-30x2, incl. aerosol-tight Eppendorf QuickLock® rotor lid	5895 155.006

Concentrator plus

Description
The Concentrator plus with its new design was designed with the customer in mind to deliver an ergonomic, intuitive and durable solution that fits comfortably right on the lab bench. An advanced heating technology provides best treatment for your sample which assures quick, efficient and gentle vacuum concentration of DNA/RNA, nucleotides, proteins and other liquid or wet samples. Our new coated lid provides superior chemical resistance against aggressive acids and organic solvents (e.g. TFA, DMSO).
The Concentrator plus is available with three configurations to meet the customers' lab specific needs:
1) Basic Concentrator for connecting to an existing vacuum pump
2) Complete system with an integrated solvent-resistant, maintenance and oil-free PTFE pump, and condensation trap
3) Complete system with vacuum port adds extra capability. It allows for using the integrated vacuum pump separately – without having to disconnect it from the system

Product features
> Comes in 3 system configurations
> Extremely quiet operation <50 dB(A)
> Chemical-resistant, maintenance-free PTFE diaphragm pump eliminates the need for changing pump oil
> Small footprint saves valuable bench space
> Wide variety of 15 different rotor options to accommodate tubes from 0.2 mL to 50 mL, microplates and PCR plates
> Motorless induction drive and chemical-resistant, stainless steel chamber for trouble-free operation
> Can be connected with most commercially available cold traps for use with vapors
> Coated lid with superior chemical resistance

Technical specifications

Model	Concentrator plus basic	Concentrator plus system	Concentrator plus system w/port
Vacuum	–	20 hPa (20 mbar)	20 hPa (20 mbar)
Sample capacity	max. 144 vessels/2 microplates	max. 144 vessels/2 microplates	max. 144 vessels/2 microplates
Fixed speed	1,400 rpm	1,400 rpm	1,400 rpm
Tube volume	0.2 – 50 mL	0.2 – 50 mL	0.2 – 50 mL
Port to connect external devices to vacuum pump	no	no	yes
Max. power consumption	150 W	350 W	350 W
Dimensions (W × D × H)	33 × 37 × 23 cm	33 × 58 × 29 cm	33 × 58 × 29 cm
Weight w/o accessories	16.5 kg	31.5 kg	31.5 kg

i For more information go to www.eppendorf.com/centrifugation

Concentrator junction system
The complete "junction" system adds extra capability/flexibility. It allows you to use the integrated vacuum pump separately – without having to disconnect it from the system; simply connect the port to any external device that requires vacuum (e.g. gel dryer).

Key function
> Timer selection between 1 min and 9:59 as well as Brake function
> Temperature preselection: room temperature, 30 °C, 45 °C and 60 °C
> Mode/vent function: choose between three solvent modes
> Start/Stop of concentration process

Ordering information

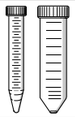
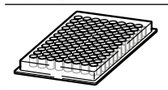
Description	Order no.
Concentrator plus basic device	
230 V/50 – 60 Hz, with Rotor F-45-48-11	5305 000.100
Concentrator plus complete system	
230 V/50 – 60 Hz, with integrated diaphragm vacuum pump, with Rotor F-45-48-11	5305 000.304
230 V/50 – 60 Hz, with integrated diaphragm vacuum pump, without rotor	5305 000.509
230 V/50 – 60 Hz, with integrated diaphragm vacuum pump; with connection, e.g., for a gel dryer; without rotor	5305 000.703
Adapter, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 716.001
Adapter, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs.	5425 715.005
CombiSlide Adapter, for 12 slides Combi Slide 12 slides, for plate rotors, set of 2 pcs.	5825 706.005
Adapter, for 1 PCR tube 0.2 mL, for Rotor F-45-72-8, set of 6 pcs.	5425 723.008
Rotor spacer, required for stacking rotors F-45-72-8 and F-45-48-11	5301 316.005
Work tray, for semi-/unskirted PCR plates, PCR strips and 0.2 mL PCR tubes, for Rotor A-2-VC, set of 10 pcs.	0030 124.235
Frame for work tray, for Rotor A-2-VC, set of 5 pcs.	0030 124.243

↗ Ordering information for other voltage options begins on page 418

CONCENTRATORS

Rotors for Concentrator plus

Ordering information

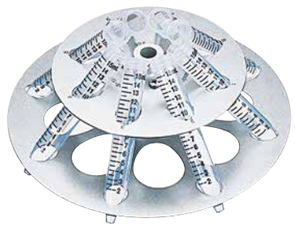
	Description	Max. tube dimensions Ø x L	Sample capacity	Order no.
	Rotor F-45-72-8	8 × 31 mm[1]	72 × 0.5 mL	5490 034.007
	Rotor F-45-70-11	11 × 41/47 mm	70 × 1.5 mL, 70 × 2.0 mL	5490 032.004
	Rotor F-45-48-11	11 × 41/47 mm[1]	48 × 1.5 mL / 2.0 mL	5490 030.001
	Rotor F-40-36-12	12 × 32 mm	36 × 1.5 mL	5490 040.007
	Rotor F-45-36-15	15 × 45 – 48 mm [2]	36 × 3.0/5.0 mL	5490 035.003
	Rotor F-45-16-20	20 × 42 – 55 mm [2]	16 × 6.5/10 mL	5490 043.006
	Rotor F-40-18-19	19 × 66 mm	18 × 10 mL	5490 037.006
	Rotor F-45-12-31	31 × 55 mm	12 × 20 mL	5490 044.002
	Rotor F-35-8-24	24 × 86 – 105 mm [2]	8 × 25 mL	5490 039.009
	Rotor F-45-24-12	12 × 67 – 100 mm [2] [3]	24 × 5 – 7 mL	5490 036.000
	Rotor F-50-8-16	16 × 105 – 120 mm [2]	8 × 8 – 12 mL	5490 041.003
	Rotor F-50-8-18	18 × 105 – 128 mm [2]	8 × 10 – 18 mL	5490 042.000
	Rotor F-45-8-17	17 × 116 – 123 mm [2]	8 × 15 mL conical tubes	5490 038.002
	Rotor F-35-6-30	17 × 116 – 123 mm or 30 × 116 – 123 mm [2]	6 × 15 mL conical tubes or 6 × 50 mL conical tubes	5490 047.001
	Rotor A-2-VC	128 × 86 × 27 mm	2 × MTP or skirted PCR plates 2 × Deepwell plates (DWP) (max. height = 27 mm)	5490 045.009

[1] Rotor is stackable for double capacity using spacer 5301 316.005. [2] Min./max. tube length. [3] Tube length = 75 mm: max capacity 24 tubes, tube length > 75 mm: max capacity 12 tubes.

Rotor F-35-6-30
> Rotor for 6 × 50 mL conical tubes
> Also accommodates 6 × 15 mL conical tubes

Rotor A-2-VC
> For use with MTP, PCR and Deepwell Plates up to 27 mm high
> A work tray with frame is available for PCR test plates and microplates without frames
> Rotor can be autoclaved for 20 min. at 121°C
> Suitable for the CombiSlide Adapter

Rotor F-45-48-11
> Rotor for 48 × 1.5/2.0 mL microcentrifuge tubes
> A spacer enables additional stacking (double capacity)



Rotor F-45-8-17
> Rotor for 8 × 15 mL conical tubes

Technical specifications subject to change.

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Sample Handling

Model	Eppendorf BioPhotometer® D30	BioSpectrometer® basic
Page(s)	**226**	**227**
Wavelength range absorption	230, 260, 280, 320, 340, 405, 490, 562, 595, 600 nm	Scan (nm): 200 – 830 at 1 nm increments
Wavelength Selection Increment	N/A	1 nm
Scanning	no	yes
Spectral bandwidth	≤4 nm	≤4 nm
Systematic error wavelength	≤0.5 nm	≤0.5 nm
Random error wavelength	±1 nm	±1 nm
Absorption measuring range	0 A – 3.0 A (260 nm)	0 A – 3.0 A (260 nm)
Systematic error absorption	±1 % (A = 1)	±1 % (A = 1)
Random error absorption	≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1	≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1
Light source absorption	Xenon flash lamp	Xenon flash lamp
Detector Type	CMOS photodiodes	CMOS photodiode array, 1024 pixel
Measuring principle absorption	Single-beam absorption photometer with reference beam	Single-beam absorption spectrophotometer with reference beam
Light path height	8.5 mm	8.5 mm
Light source fluorescence	–	–
Beam receiver fluorescence	N/A	
Measuring principle fluorescence	–	–
Fluorescence measuring range	–	–
dsDNA concentration range (for 1 to 10 mm path length)	2.5 ng/µL – 1,500 ng/µL	2.5 ng/µL – 1,500 ng/µL
BSA concentration range (for 1 to 10 mm path length)	76 ng/µL - 45,450 ng/µL (The factor for BSA is 1,515)	76 ng/µL - 45,450 ng/µL (The factor for BSA is 1,515)
Operator guidance language	Spanish, Italian, French, English, German, Japanese	Spanish, Italian, French, English, German, Japanese
Method memory	>100 method programs	>100 method programs
Dimensions (W × D × H)	295 × 400 × 150 mm / 11.6 × 15.7 × 6 in	295 × 400 × 150 mm / 11.6 × 15.7 × 6 in
Weight w/o accessories	5.4 kg	5.4 kg
Cuvette shaft	12.5 mm × 12.5 mm	12.5 mm × 12.5 mm
Power supply	100 – 240 V, 50 – 60 Hz	100 – 240 V, 50 – 60 Hz
Power consumption	Approx. 15 W during operating step Approx. 5 W with dimmed display	Approx. 15 W during operating step Approx. 5 W with dimmed display
Interfaces	> USB master: for USB stick and thermal printer DPU-S445 > USB slave for connecting to a PC (All functions available without PC) > Serial interface RS-232: for thermal printer DPU-414 > Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument	> USB master: for USB stick and thermal printer DPU-S445 > USB slave for connecting to a PC (All functions available without PC) > Serial interface RS-232: for thermal printer DPU-414 > Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument

Eppendorf BioSpectrometer® kinetic	Eppendorf BioSpectrometer® fluorescence
228	**229**
Scan (nm): 200 – 830 at 1 nm increments	Scan (nm): 200 – 830 at 1 nm increments
1 nm	1 nm
yes	yes
≤4 nm	≤4 nm
≤0.5 nm	≤0.5 nm
±1 nm	±1 nm
0 A – 3.0 A (260 nm)	0 A – 3.0 A (260 nm)
±1 % (A = 1)	–
≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1	≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1
Xenon flash lamp	Xenon flash lamp
CMOS photodiode array, 1024 pixel	CMOS photodiode array, 1024 pixel
Single-beam absorption spectrophotometer with reference beam	Single-beam absorption spectrophotometer with reference beam
8.5 mm	8.5 mm
–	LED
	Photodiodes
–	Confocal filter fluorometer with reference beam
–	0.5 nM – 2,000 nM fluorescein (emission wavelength 520 nm)
2.5 ng/µL – 1,500 ng/µL	1.0 pg/µL – 1,500 ng/µL
76 ng/µL - 45,450 ng/µL (The factor for BSA is 1,515)	0.01 ng/µL – 45,450 ng/µL (The factor for BSA is 1,515)
Spanish, Italian, French, English, German, Japanese	Spanish, Italian, French, English, German, Japanese
>100 method programs	>100 method programs
295 × 400 × 150 mm / 11.6 × 15.7 × 6 in	295 × 400 × 150 mm / 11.6 × 15.7 × 6 in
5.5 kg	5.4 kg
12.5 mm × 12.5 mm, tempered 20 °C – 42 °C	12.5 mm × 12.5 mm
100 – 240 V, 50 – 60 Hz	100 – 240 V, 50 – 60 Hz
Approx. 30 W during operating step Approx. 5 W with dimmed display and temperature control switched off	Approx. 15 W during operating step Approx. 5 W with dimmed display
> USB master: for USB stick and thermal printer DPU-S445 > USB slave for connecting to a PC (All functions available without PC) > Serial interface RS-232: for thermal printer DPU-414 > Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument	> USB master: for USB stick and thermal printer DPU-S445 > USB slave for connecting to a PC (All functions available without PC) > Serial interface RS-232: for thermal printer DPU-414 > Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument

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epServices for premium performance

On page 388 you will find detailed information on services for these products!

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Eppendorf BioPhotometer® D30

Description
The Eppendorf BioPhotometer D30 is the 3rd generation of Eppendorf spectrophotometers to become an established standard in the life sciences. Routine pre-defined wavelengths are easily selectable, allowing for quick and simple programming. Users are guided through every step of the assay with short, simple on-screen instructions. The ultra-stable Xenon flash lamp doesn't require any warm up time and a measurement typically takes 5 seconds. Raw and processed data are clearly presented on the large color screen and can be exported directly from the instrument in a variety of common formats. Eppendorf disposable UVette® cuvettes enable measurements with as little as 50 µL of sample and the Eppendorf µCuvette® G1.0 reduces this further to 1.5 µL of sample.

Product features
> Absorption measurements for one or more fixed wavelengths
> Scan for specific UV applications with automatically determined purity ratios
> Preprogrammed applications for quick start and applications with evaluation via factor, standard or standard series
> Integrated application and results memory
> Data transfer via USB interface, Ethernet or via e-mail and direct printout of results
> Data output via JPEG screenshots, Microsoft® Excel® or secure PDF files to a standard USB flash drive or via email
> Guided software process to minimize errors
> Compatible with standard, semi-micro and micro-volume measuring cells
> Fixed wavelengths without moving parts
> Integrated self-test and calibration history

Applications
> Nucleic acid quantification
> Direct protein quantification (UV 280 nm)
> Microvolume measurement via µCuvette G1.0 for highly concentrated samples
> Bacteria growth measurement (OD 600)
> Colorimetric assays for protein quantification, e.g., BCA, Bradford, Lowry
> 340 nm: endpoint assays using NADPH or NAPH
> 405 nm: endpoint assays using para-nitrophenol
> 490 nm: cytotoxicity endpoint assay

www.eppendorf.com/D30-Poster

Ordering information

Description	Order no.
Eppendorf BioPhotometer® D30, 230 V/50 – 60 Hz	6133 000.001
Eppendorf µCuvette® G1.0 and Eppendorf BioPhotometer® D30, 230 V/50 – 60 Hz	6133 000.907
Eppendorf BioPhotometer® D30 Reference Filter Set, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®)	6133 928.004
Thermal Printer DPU-S445	6135 011.000

Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/photometry

Eppendorf BioSpectrometer® basic

Description
Building on the legacy of the Eppendorf BioPhotometer D30, the Eppendorf BioSpectrometer basic shares its simplicity, flexibility and reliability. In addition to the Biophotometer D30, the Biospectrometer basic has freely selectable wavelengths from 200 – 830 nm (selectable in 1 nm increments). This allows the user to define the parameters of each assay, whether it be a scan, a single-wavelength measurement or a multi-wavelength measurement. The Eppendorf BioSpectrometer basic caters to more disciplines as the wavelengths are not pre-defined and allows for non-routine assays or new assays to be easily programmed (in addition to the pre-programmed routine methods). The Eppendorf BioSpectrometer basic is a robust yet flexible 'workhorse'.

Product features
> Absorbance measurement for one or more wavelengths, recording of wavelength scans from 200 nm to 830 nm (increment: 1 nm)
> Automatic evaluation and storage of measurement data with clear presentation of results
> Spectral graph to display sample purity with automatic ratio calculation
> Freely programmable applications with evaluation via factor, standard or standard series and freely programmable parameters
> Two-wavelength method with substraction or division evaluation
> Integrated application and results memory
> Data transfer via USB interface, Ethernet or via e-mail and direct printout of results
> Guided software process to minimize errors
> Integrated self-test and calibration history

Applications
> Nucleic acid quantification
> Direct protein quantification (UV 280 nm)
> Microvolume measurement via µCuvette G1.0 for highly concentrated samples
> Bacteria growth measurement (OD 600)
> Colorimetric assays for protein quantification, e.g., BCA, Bradford, Lowry
> Evaluation of FOI for dye-labeled biomolecules (nucleic acid or proteins)
> Free selectable wavelengths, e.g., 340 nm: assays using NADPH or NAPH, 405 nm: assays using para-nitrophenol, 420 nm: assays using ortho-nitrophenol, 490 nm: colorimetric fructose determination, 490 nm: cytoxicity endpoint assay

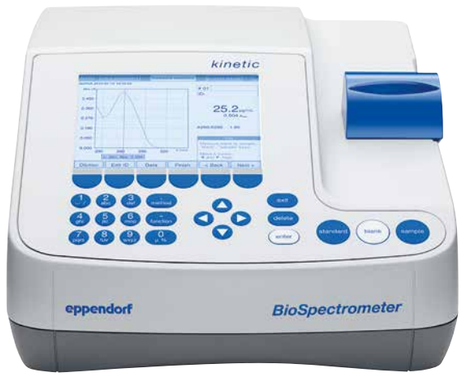
Ordering information

Description	Order no.
Eppendorf BioSpectrometer® basic, 230 V/50 – 60 Hz	6135 000.009
Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® basic, 230 V/50 – 60 Hz	6135 000.904
Eppendorf BioSpectrometer® Reference Filter Set, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®)	6135 928.001
Thermal Printer DPU-S445	6135 011.000

Ordering information for other voltage options begins on page 418

Eppendorf BioSpectrometer® kinetic

Description
The Eppendorf BioSpectrometer kinetic is an expansion of the Eppendorf BioSpectrometer basic and offers preprogrammed and freely programmable timed and temperature controlled assays. It features an integrated heated cuvette shaft. Its integrated Peltier element guarantees high-precision for determining enzyme and substrate kinetics as well as other temperature-sensitive applications. Guided software is included; minimal effort is required to set up new assays. Retrospective modification of the time window for regression analysis can be made directly on the device. The BioSpectrometer kinetic replaces the traditional large cumbersome setup required for temperature controlled timed assays.



Product features
> All Eppendorf BioSpectrometer basic options
> Integrated temperature-controlled cuvette shaft (adjustment range +20 °C to +42 °C in 0.1 °C increments)
> Integrated interval timer (minimum interval 5 s, maximum measuring time range 59 m 59 s)
> Preprogrammed and freely programmable kinetic methods
> Retrospective modification of the time window for regression analysis
> Data output via JPEG screenshots, Microsoft Excel or secure PDF files to a standard USB flash drive or via email

Applications
> All Eppendorf BioSpectrometer basic applications
> Additional kinetic applications, and enzyme activity testings at different temperatures e.g.:
  > Hexokinase activity measurements (340 nm, 37 °C)
  > Determination of ATP concentration (340 nm, 37 °C)
  > Beta-galactosidase assays (420 nm, 30 °C)

Ordering information

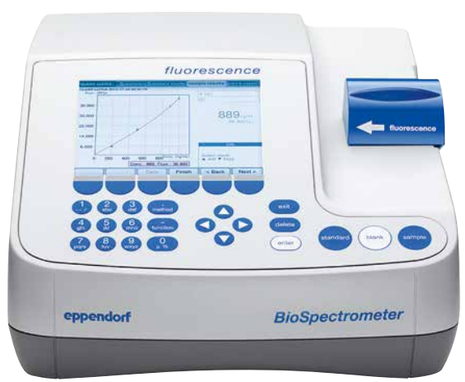
Description	Order no.
Eppendorf BioSpectrometer® kinetic, 230 V/50 – 60 Hz	6136 000.002
Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® kinetic, 230 V/50 – 60 Hz	6136 000.800
Eppendorf BioSpectrometer® Reference Filter Set, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®)	6135 928.001
Thermal Printer DPU-S445	6135 011.000

Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/photometry

Eppendorf BioSpectrometer® fluorescence

Description
The Eppendorf BioSpectrometer fluorescence is an expansion of the Eppendorf BioSpectrometer basic and features an integrated fluorescence module. UV/Vis assays, fluorescence assays and semi-micro/micro-volume measurements can all be carried out on a single instrument without the need for external control (PC/Laptop). Eppendorf BioSpectrometer fluorescence can be used to increase the measuring range for biomolecules (nucleic acids and proteins) by a factor of 1,000, compared to UV measurements. Pre-programmed (modified) methods for Qubit DNA quantification kits (SS, HS, BR) expand the flexibility and functionality of the instrument. Additionally, the use of the Eppendorf µCuvette G1.0 for fluorescence assays (5 µL loading volume) allows for a vast reduction in reagent usage.



Product features
> All Eppendorf BioSpectrometer basic options
> Preprogrammed and freely programmable fluorescence methods
> Preprogrammed (modified) methods for Qubit DNA quantification kits (SS, HS, BR)
> Fluorescence measurement concentration of dsDNA down to 1 pg/µL, using Pico Green®
> Fluorescence measurement concentration of BSA down to 0.01 ng/µL
> Fluorescence excitation wavelength 470 nm, emission wavelengths 520 nm and 560 nm
> Fluorescence intensity across a range of 0.5 nM to 2,000 nM fluorescein
> Single consumable (UVette) for UV/Vis and fluorescence assays

Applications
> Ideal for NGS applications (micro-volume UV/Vis and fluorescence assays in a single instrument)
> dsDNA quantification down to 1 pg/µL with common kits, e.g., Pico Green®
> ssDNA quantification down to 10 pg/µL
> RNA quantification down to 20 pg/µL
> Oligo quantification down to 10 pg/µL
> Protein (BSA) quantification down to 0.01 ng/µL
> Quantification of GFP-binding proteins
> Growth measurement of GFP-binding bacteria

www.eppendorf.com/biospectrometer-fluorescence-video

Ordering information

Description	Order no.
Eppendorf BioSpectrometer® fluorescence, 230 V/50 – 60 Hz	6137 000.006
Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® fluorescence, 230 V/50 – 60 Hz	6137 000.901
Eppendorf BioSpectrometer® fluorescence Reference Filter Set, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) and verifying fluorimetric precision (random error) and linearity	6137 928.009
Thermal Printer DPU-S445	6135 011.000

Ordering information for other voltage options begins on page 418

Technical Specification

Technical specifications		
Model	**Eppendorf BioPhotometer® D30**	**BioSpectrometer® basic**
Wavelength range absorption	Fixed wavelength (nm): 230, 260, 280, 320, 340, 405, 490, 562, 595, 600	Scan (nm): 200 – 830 at 1 nm increments
Absorption measuring range	0 A – 3.0 A (260 nm)	0 A – 3.0 A (260 nm)
Random error absorption	≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1	≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1
dsDNA concentration range (UV 260 nm) µCuvette® G1.0	25 ng/µL – 1,500 ng/µL	25 ng/µL – 1,500 ng/µL
dsDNA concentration range (UV 260 nm) UVette® 2 mm	12.5 ng/µL – 750 ng/µL	12.5 ng/µL – 750 ng/µL
dsDNA concentration range (UV 260 nm) UVette® 10 mm	2.5 ng/µL – 150 ng/µL	2.5 ng/µL – 150 ng/µL
BSA concentration range (UV 280 nm) µCuvette® G1.0	758 ng/µL – 45,450 µg/µL ±30 ng/µL at A = 0 ±76 ng/µL at A = 1 (0.5 %)	758 ng/µL -45,450 ng/µL ±30 ng/µL at A = 0 ±76 ng/µL at A = 1 (0.5 %)
BSA concentration range (UV 280 nm) UVette® 2 mm	379 ng/µL - 22,725 ng/µL ±15 ng/µL at A = 0 ±38 ng/µL at A = 1 (0.5 %)	379 ng/µL - 22,725 ng/µL ±15 ng/µL at A = 0 ±38 ng/µL at A = 1 (0.5 %)
BSA concentration range (UV 280 nm) UVette® 10 mm	75 ng/µL - 4,545 ng/µL ±3 ng/µL at A = 0 ±7 ng/µL at A = 1 (0.5 %)	75 ng/µL - 4,545 ng/µL ±3 ng/µL at A = 0 ±7 ng/µL at A = 1 (0.5 %)
Adjustable temperature range	–	–
Systematic temperature error	–	–
Random temperature error	–	–
Measuring time range	–	–
Interval between two measuring points	–	–
Light source absorption	Xenon flash lamp	Xenon flash lamp
Light source fluorescence	–	–
Measuring principle fluorescence	–	–
Excitation wavelength fluorescence	–	–
Emission wavelength I fluorescence	–	–
Emission wavelength II fluorescence	–	–
Fluorescence measuring range	–	–
Random error fluorescence	–	–

Technical specifications		
Model	**Eppendorf BioSpectrometer® kinetic**	**Eppendorf BioSpectrometer® fluorescence**
Wavelength range absorption	Scan (nm): 200 – 830 at 1 nm increments	Scan (nm): 200 – 830 at 1 nm increments
Absorption measuring range	0 A – 3.0 A (260 nm)	0 A – 3.0 A (260 nm)
Random error absorption	≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1	≤0.002 at A = 0 ≤0.005 (0.5 %) at A = 1
dsDNA concentration range (UV 260 nm) µCuvette® G1.0	25 ng/µL – 1,500 ng/µL	25 ng/µL – 1,500 ng/µL
dsDNA concentration range (UV 260 nm) UVette® 2 mm	12.5 ng/µL – 750 ng/µL	12.5 ng/µL – 750 ng/µL
dsDNA concentration range (UV 260 nm) UVette® 10 mm	2.5 ng/µL – 150 ng/µL	2.5 ng/µL – 150 ng/µL
BSA concentration range (UV 280 nm) µCuvette® G1.0	758 ng/µL - 45,450 ng/µL ±30 ng/µL at A = 0 ±76 ng/µL at A = 1 (0.5 %)	758 ng/µL - 45,450 ng/µL ±30 ng/µL at A = 0 ±76 ng/µL at A = 1 (0.5 %)
BSA concentration range (UV 280 nm) UVette® 2 mm	379 ng/µL - 22,725 ng/µL ±15 ng/µL at A = 0 ±38 ng/µL at A = 1 (0.5 %)	379 ng/µL - 22,725 ng/µL ±15 ng/µL at A = 0 ±38 ng/µL at A = 1 (0.5 %)
BSA concentration range (UV 280 nm) UVette® 10 mm	75 ng/µL - 4,545 ng/µL ±3 ng/µL at A = 0 ±7 ng/ µL at A = 1 (0.5 %)	75 ng/µL - 4,545 ng/µL ±3 ng/µL at A = 0 ±7 ng/µL at A = 1 (0.5 %)
Adjustable temperature range	20 – 42 °C (smallest step size 0.1 °C)	–
Systematic temperature error	±0.2 °C at 25 – 37 °C	–
Random temperature error	±0.15 °C at 25 – 37 °C	–
Measuring time range	00:05 – 59:59 min:sec	–
Interval between two measuring points	00:05 – 10:00 min:sec	–
Light source absorption	Xenon flash lamp	Xenon flash lamp
Light source fluorescence	–	LED
Measuring principle fluorescence	–	Confocal filter fluorometer with reference beam
Excitation wavelength fluorescence	–	470 nm, bandwidth: 25 nm
Emission wavelength I fluorescence	–	520 nm, bandwidth: 15 nm
Emission wavelength II fluorescence	–	560 nm, bandwidth: 40 nm
Fluorescence measuring range	–	0.5 nM – 2,000 nM fluorescein (emission wavelength 520 nm)
Random error fluorescence	–	±2 % at 1 nM fluorescein

Technical specifications subject to change.

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Sample Handling

Model	Eppendorf µCuvette® G1.0	UVette®	Macro Vis Cuvette	Semi-micro Vis Cuvette
Page(s)	**233**	**234**	**235**	**235**
dsDNA concentration range (for 1 to 10 mm path length)	25 ng/µL – 1,500 ng/µL	2.5 ng/µL – 750 ng/µL	–	–
BSA concentration range (for 1 to 10 mm path length)	758 ng/µL – 45,450 ng/µL	7.5 ng/µL – 22,725 ng/µL	–	–
Colorimetric protein assays	yes	yes	yes	yes
OD 600 methods	no	yes	yes	yes
Fluorescence measurements	yes	yes	yes	yes
UV transparency	>180 nm	>220 nm	–	–
Light transmission	180 nm – 2,000 nm	220 nm – 1,600 nm	300 nm – 900 nm	300 nm – 900 nm
Material	quartz glass (with hydrophobic coating)	polystyrene	polystyrene	polystyrene
Dimensions (W × D × H)	12.5 × 12.5 × 48 mm	12.5 × 12.5 × 36 mm	12.5 × 12.5 × 45 mm	12.5 × 12.5 × 45 mm
Temperature control	no	no	yes	no
Minimum filling volume				
in Eppendorf photometers	1.5 µL	50 µL	1,000 µL	400 µL
in devices of other manufacturers	–	50 µL	2,500 µL	1,500 µL
Maximum filling volume	10 µL	2,000 µL	4,500 µL	3,000 µL
Sample light path length	1 mm	2 mm and 10 mm	10 mm	10 mm
Cuvette blank	≤0.05 A at 260 nm	≤0.05 A at 260 nm	–	–
Height of light source	8.5 mm	8.5[1)] mm	all common cell heights	all common cell heights
Use in Eppendorf BioPhotometer®	yes	yes	yes	yes
Use in Eppendorf BioSpectrometer®	yes	yes	yes	yes
Use in devices of other manufacturers	no	yes (adapters available)	yes	yes

[1)] (adapters available for height adjustment)

i For more information go to www.eppendorf.com

Technical specifications subject to change.

Eppendorf µCuvette® G1.0

Description
The Eppendorf µCuvette G1.0 microvolume measuring cell is a high-quality cuvette made of aluminum and quartz glass. It is the perfect tool for measuring high concentrations in small volumes. With a fixed optical path length of only 1 mm, the µCuvette G1.0 features a light path that is ten times shorter than in standard cuvettes. This allows nucleic acid and protein concentrations to be measured with high reproducibility in a much higher concentration range without prior dilution. Due to the hydrophobic coating on the quartz glass only 1.5 µL nucleic acid or 3 µL protein sample are required for precise formation of the liquid column. Self-absorption of the µCuvette G1.0 is very low, meaning that the entire measuring range of the photometer can be used. Furthermore, 5 µL of sample solution can be used for specific fluorometric assays saving reagent.

Product features
> Microvolume measuring cell for measuring 1.5 – 10 µL sample volumes
> Concentration determination of nucleic acids and proteins, amongst other target analytes
> Measurement of highly concentrated samples without prior dilution
> Suitable for fluorescence assays
> Low self-absorption (≤0.05 A at 260 nm)
> Hydrophobic surface coating on quartz glass for precise formation and positioning of the sample volume
> Simple cleaning to minimize the risk of sample carry-over
> A defined angle for folding the sides of the cuvette guarantees reproducible handling
> One-component hinged design prevents the loss of individual parts
> Exclusively available for use with Eppendorf BioPhotometer and Eppendorf BioSpectrometer

Ordering information

Description	Order no.
Eppendorf µCuvette® G1.0, Microvolume measuring cell for Eppendorf BioPhotometer® and BioSpectrometer®	6138 000.018

↗ Ordering information for other voltage options begins on page 418

UVette®

Description
The Eppendorf UVette allows for measurements in the UV/Vis range with transparency from 220 nm to 1,600 nm with just a typical minimum volume of 50 µL. The UVette allows the user to choose between two optical path lengths (10 mm and 2 mm). The path length can be reduced by a factor of x5 without diluting or wasting any sample – simply by turning the UVette 90°. The UVette is suitable for fluorescence assays due to its low auto-fluorescence. The PCR-clean and protein-free individually sealed variant is ideal for accurate nucleic acid and protein quantification. The UVette is ideally matched for use with the Eppendorf BioPhotometer and Eppendorf BioSpectrometer families. The UVette can be used in other spectrophotometers with the aid of an adapter.

Product features
> Suitable for measuring small volumes (≥50 µL)
> UV and Vis measurements from 220 nm to 1,600 nm
> UV transparent plastic, free of fluoropolymers and other halogenated hydrocarbons
> Two built-in optical path lengths in a single cuvette - just turn the UVette 90° to change from 10 mm and 2 mm
> Volume markings for 500 µL and 1,000 µL
> Individually packaged and certified PCR clean and protein-free quality for sensitive (e.g. RNA) and valuable samples
> Deep-lying optical window prevents scratches
> Tapered cuvette base for optimal filling, frosted grip for labeling
> Ideal for use in the Eppendorf BioPhotometer and Eppendorf BioSpectrometer, adapters available for use with other common spectrophotometers
> Routine pack for convenient access to each UVette and safe storage in a reclosable box

Ordering information

Description	Order no.
UVette® 220 nm – 1,600 nm, original Eppendorf plastic cuvette, individually packed, (including RNase-free, DNase-free) and protein-free, PCR clean, 50 – 2,000 µL, 80 pcs.	0030 106.300
UVette® starter set, 80 UVettes and 1 universal adapter for light path height of 15 mm and 8.5 mm, 50 – 2,000 µL	4099 100.007
UVette® routine pack 220 nm – 1,600 nm, reclosable box, Eppendorf Quality™, 200 pcs.	0030 106.318
Adapter for UVette®, for photometer/spectrophotometer with light path height	
8.5 mm	4099 001.009
10 mm	4099 002.005
15 mm	4099 003.001
20 mm	4099 005.004
Eppendorf Cuvette Rack, 30 positions, for glass and plastic cuvettes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.851

i For more information go to www.eppendorf.com/photometry

Eppendorf Vis Cuvettes

Description
The Eppendorf Vis Cuvettes are disposable cuvettes made of clear plastic with a light transmission of 300 nm to 900 nm. The Vis cuvettes are the perfect tool for applications outside of the UV range, for example, colorimetric protein assays (Bradford, Lowry, etc.), determining of the optical density of bacterial cultures (OD 600 methods), kinetic, and fluorescence measurements. Based on the volume you would like to measure, you can select semi-micro or macro cuvette.

Product features
> Two different cuvette sizes (semi-micro and macro) for a wide variety of volumes and applications
> Disposable cuvettes made of clear plastic with a light transmission of 300 nm to 900 nm

Ordering information

Description	Order no.
Eppendorf macro Vis Cuvette, plastic cuvette for measurements in the Vis range, max. filling volume 4,500 µL	
1,000 cuvettes (10 boxes × 100 cuvettes)	0030 079.345
Eppendorf semi-micro Vis Cuvette, plastic cuvette for measurements in the Vis range, max. filling volume 3,000 µL	
1,000 cuvettes (10 boxes × 100 cuvettes)	0030 079.353
Eppendorf Cuvette Rack, 30 positions, for glass and plastic cuvettes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.851

Thermal Printer DPU-S445

Description
The Thermal Printer DPU-S445 is a thermal line dot printer with high printing speed while producing a clear type face. This allows the Thermal Printer DPU-S445 to print out scanned images. As an alternative to using USB sticks, the automatic print-out function of the DPU-S445 printer can be used to quickly obtain the results.

Product features
> Automatic print-out of results
> Easy and direct connection via USB
> Compact and light-weight (approx. 0.5 kg)
> Easy paper operation
> Max. printing speed: 90 mm/sec.
> Number of dots/line: 832
> Resolution (dots/mm): 8

Ordering information

Description	Order no.
Thermal Printer DPU-S445	6135 011.000
Thermal paper	
5 rolls	0013 021.566

Ordering information for other voltage options begins on page 418

Eppendorf BioPhotometer® D30 Reference Filter Set

The secondary UV/Vis Eppendorf BioSpectrometer D30 Reference Filter Set:
is used for verifying the photometric accuracy and wavelength systematic error on the Eppendorf BioPhotometer D30.

Product features
> Filter traceable to NIST®
> Filter recertification via Eppendorf (contact: Eppendorf Service)
> Inspection protocol preprogrammed in device
> Verification of wavelength accuracy and precision at 260 nm and 280 nm
> Verification of the photometric accuracy and precision for selected wavelengths
> Contains 6 filters (1 blank filter, 2 filters for checking UV/Vis wavelenght systematic error and precision, 3 filters for photometric verification)

Ordering information

Description	Order no.
Eppendorf BioPhotometer® D30 Reference Filter Set, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®)	6133 928.004

Eppendorf BioSpectrometer® Reference Filter Sets

The Eppendorf BioSpectrometer Fluorescence Reference Filter Set:
is used to verify photometric accuracy, wavelength systematic error, and fluorimetric precision (random error) and linearity on the Eppendorf BioSpectrometer fluorescence.

Product features
> All features of the Eppendorf BioSpectrometer UV/Vis Reference Filter Set
> Additional filter for verifying fluorimetric precision (random error) and linearity
> Inspection protocol preprogrammed in device
> 8 filters (1 blank filter, 3 filters for checking UV/Vis wavelenght systematic error and precision, 3 filters for UV/Vis photometric verification, 1 filter for fluorometric verification)

The secondary UV/Vis Eppendorf BioSpectrometer Reference Filter Set:
is used to verify photometric accuracy and wavelength systematic error. The reference filter can be used with the Eppendorf BioSpectrometer basic and the Eppendorf BioSpectrometer kinetic.

Product features
> Filter traceable to NIST®
> Filter recertification via Eppendorf (contact: Eppendorf Service)
> Inspection protocol preprogrammed in device
> Verification of wavelength accuracy and precision at 260 nm, 280 nm and 800 nm
> Verification of the photometric accuracy and precision in the 260 nm to 800 nm range
> The variation coefficient is listed along with the average value of 15 measurements.
> Contains 7 filters (1 blank filter, 3 filters for checking UV/Vis wavelenght systematic error and precision, 3 filters for photometric verification)

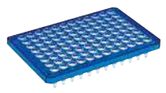
Ordering information

Description	Order no.
Eppendorf BioSpectrometer® Reference Filter Set, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®)	6135 928.001
Eppendorf BioSpectrometer® fluorescence Reference Filter Set, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) and verifying fluorimetric precision (random error) and linearity	6137 928.009

Sample Handling

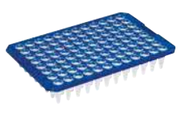
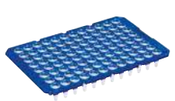
Model	MC X50s	MC X50a	MC X50p	MC X50h
Page(s)	240	240	240	240
Dimensions (W × D × H)	27.5 × 43 × 33 cm	27.5 × 43 × 33 cm	27.5 × 43 × 33 cm	27.5 × 43 × 33 cm
2D-Gradient block	over 12 columns/over 8 rows	over 12 columns/over 8 rows	over 12 columns/over 8 rows	over 24 columns/over 16 rows
Gradient block	–	–	–	–
Heating rate	10 °C/s	5 °C/s	5 °C/s	5 °C/s
Cooling rate	5 °C/s	2.3 °C/s	2.3 °C/s	2.3 °C/s
Interfaces	Ethernet, USB	Ethernet, USB	Ethernet, USB	Ethernet, USB
Lid descent	flexlid® technology	flexlid® technology	flexlid® technology	flexlid® technology
Lid temperature range	37 – 110 °C	37 – 110 °C	37 – 110 °C	37 – 110 °C
Sample capacity	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	1 PCR plate (96 wells)	1 PCR plate (384 wells)
Gradient temperature range	30 – 99 °C	30 – 99 °C	30 – 99 °C	30 – 99 °C
Temperature control range of the block	4 – 99 °C	4 – 99 °C	4 – 99 °C	4 – 99 °C
Thermoblock	Silver	Aluminum	Aluminum	Aluminum

[1] measured at the block



Model	Eppendorf twin.tec® PCR Plates LoBind Eppendorf twin.tec® PCR Plates 96 and 384 LoBind	Eppendorf twin.tec® PCR Plates Eppendorf twin.tec® PCR Plates 384 LoBind	Eppendorf twin.tec® PCR Plates Eppendorf twin.tec® PCR Plate 96 skirted	Eppendorf twin.tec® PCR Plate 96 semi-skirted
Page(s)	250/252	250/252	250/252	250/252
Number of wells	96 wells	384 wells	96 wells	96 wells
Total volume per well	150 or 250 µL	40 µL	150 µL	250 µL
OptiTrack® frame color	colorless yellow green blue red	colorless	colorless yellow green blue red	colorless blue

Model	MC nexus GSX1	MC nexus SX1	MC nexus gradient	MC nexus	MC nexus GX2
Page(s)	244	244	244	244	244
Dimensions (W × D × H)	25 × 41.2 × 32.1 cm	25 × 41.2 × 32.1 cm	25 × 41.2 × 32.1 cm	25 × 41.2 × 32.1 cm	25 × 41.2 × 33 cm
2D-Gradient block	–	–	–	–	–
Gradient block	Over 12 rows (0.2 mL)	–	Over 12 rows (0.2 mL)	–	Over 8 rows (0.2 mL)
Heating rate	5 °C/s [1]	5 °C/s [1]	3 °C/s [1]	3 °C/s [1]	3 °C/s [1]
Cooling rate	3.5 °C/s [1]	3.5 °C/s [1]	2 °C/s [1]	2 °C/s [1]	2 °C/s [1]
Interfaces	CAN_in/CAN_out, Ethernet, USB	CAN_in/CAN_out, Ethernet, USB	CAN_in/CAN_out, Ethernet, USB	CAN_in/CAN_out, Ethernet, USB	CAN_in/CAN_out, Ethernet, USB
Lid descent	flexlid® technology, with TSP	flexlid® technology, with TSP	flexlid® technology, with TSP	flexlid® technology, with TSP	flexlid® technology, with TSP
Lid temperature range	37 – 110 °C	37 – 110 °C	37 – 110 °C	37 – 110 °C	37 – 110 °C
Sample capacity	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 38 × 0.5 mL PCR tube positions	96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 38 × 0.5 mL PCR tube positions	64/32 × 0.2 mL PCR tubes or 24/10 × 0.5 mL PCR tube positions
Gradient temperature range	30 – 99 °C	–	30 – 99 °C	–	30 – 99 °C
Temperature control range of the block	4 – 99 °C	4 – 99 °C	4 – 99 °C	4 – 99 °C	4 – 99 °C
Thermoblock	Silver	Silver	Aluminum	Aluminum	Aluminum

Model	Eppendorf twin.tec® PCR Plate 96 unskirted	Eppendorf twin.tec® PCR Plate 96 unskirted, divisible	Eppendorf twin.tec® *microbiology* PCR Plate 96	Eppendorf twin.tec® PCR Plate 384	Eppendorf twin.tec® *real-time* PCR Plates Eppendorf twin.tec® 96 *real-time* PCR Plates
Page(s)	250/252	250/252	250/252	250/252	250/252
Number of wells	96 wells	96 wells	96 wells	384 wells	96 wells
Total volume per well	150 or 250 µL	150 or 250 µL	150 or 250 µL	40 µL	150 or 250 µL
OptiTrack® frame color	colorless yellow green blue red	colorless blue	colorless blue	colorless yellow green blue red	white blue

epServices for premium performance

On page 390 you will find detailed information on services for these products!

Mastercycler® X50

Description
The Mastercycler X50 family boasts ramp rates of up to 10°C/s and is the ideal cycler family for routine applications as well as advanced research in molecular biology.

The Mastercycler X50 family consist of units with a user-friendly touchscreen interface or eco units which are externally controlled. Each cycler with a touchscreen can be networked with nine additional eco units. If that is not enough throughput, you can network up fifty Mastercycler eco units to a computer or laptop running CycleManager X50 as a central controller. Whichever you choose, you can independently control and monitor every unit. You can also manage who has access to the system and designate a level of access with our intuitive user interface. Low noise levels, low power consumption, and the versatile flexlid® concept complete the product to be a powerful and convenient PCR cycler.

Product features
> Heating rate: up to 10 °C/s
> Wide selection of blocks from a fast silver block to 384 well block
> Touch screen interface
> Innovative 2D-Gradient for advanced PCR optimization
> X50 with Touchscreen can control up to 9 other units (connected cyclers do not have a touch screen interface)
> flexlid® concept: automatic height adjustment of the lid allows you to use all types of consumables
> Small footprint
> 2 year warranty

Applications
> Fast PCR
> PCR optimization
> Standard PCR
> Incubation
> Cycle sequencing

Ordering information

Description	Order no.
Mastercycler® X50s, 110 – 230 V/50 – 60 Hz, silver block, 96-well plate or 0.1/0.2 mL tubes, with touch screen interface	6311 000.010
Mastercycler® X50a, 110 – 230 V/50 – 60 Hz, aluminum block, 96-well plate or 0.1/0.2 mL tubes, with touch screen interface	6313 000.018
Mastercycler® X50p, 110 – 230 V/50 – 60 Hz, aluminum block, 96-well plate, high pressure lid, with touch screen interface	6315 000.015
Mastercycler® X50h, 110 – 230 V/50 – 60 Hz, aluminum block, 384-well plate, high pressure lid, with touch screen interface	6316 000.019
Mastercycler® X50i, 110 – 230 V/50 – 60 Hz, silver block, 96-well plate or 0.1/0.2 mL tubes, eco unit	6301 000.012
Mastercycler® X50l, 110 – 230 V/50 – 60 Hz, aluminum block, 96-well plate or 0.1/0.2 mL tubes, eco unit	6303 000.010
Mastercycler® X50r, 110 – 230 V/50 – 60 Hz, aluminum block, 96-well plate, high pressure lid, eco unit	6305 000.017
Mastercycler® X50t, 110 – 230 V/50 – 60 Hz, aluminum block, 384-well plate, high pressure lid, eco unit	6306 000.010

Technical specifications subject to change.

CycleManager X50 Software

New

CycleManager Software - Simple, Central, Smart
CycleManager X50 allows control of up to fifty networked Mastercycler X50 eco units. Control can be individual, simultaneous, or grouped - Perfect for high-throughput standardised protocols where reproducibility is paramount. Password protected user access is optional and users can be assigned different access rights, allowing greater documentation capabilities than ever before. It can also e-mail you when your PCR is complete!

> Individual, simultaneous or grouped control of up to fifty cyclers
> Verification / service reminders to ensure unverified cyclers are not used
> Profound documentation capabilities

Note: CycleManager X50 can only be used with Mastercycler X50 eco unit variants without Touchscreen Interface.

Ordering information

Description	Order no.
CycleManager X50 Software	6349 000.014

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com

Technical Specification Mastercycler® X50

Technical specifications				
Model	**MC X50s/X50i**	**MC X50a/X50l**	**MC X50p/X50r**	**MC X50h/X50t**
Touchscreen Interface	■/–	■/–	■/–	■/–
Unit can control 9 other units in network	■/–	■/–	■/–	■/–
Unit can only be controlled	–/■	–/■	–/■	–/■
Thermoblock	Silver	Aluminum	Aluminum	Aluminum
Sample capacity	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	1 PCR plate (96 wells)	1 PCR plate (384 wells)
96-well plate	■	■	■	–
384-well plate	–	–	–	■
0.1/0.2 mL tubes	■	■	–	–
Heating technology	Six peltier elements	Six peltier elements	Six peltier elements	Six peltier elements
2D-Gradient block	over 12 columns/over 8 rows	over 12 columns/over 8 rows	over 12 columns/over 8 rows	over 24 columns/over 16 rows
Temperature control mode	Fast, Intermediate, Standard, Safe	Fast, Intermediate, Standard, Safe	Fast, Intermediate, Standard, Safe	Fast, Intermediate, Standard, Safe
Temperature control range of the block	4 – 99 °C	4 – 99 °C	4 – 99 °C	4 – 99 °C
Gradient range	1 – 30 °C	1 – 30 °C	1 – 30 °C	1 – 30 °C
Gradient temperature range	30 – 99 °C	30 – 99 °C	30 – 99 °C	30 – 99 °C
Block homogeneity 20–72 °C	≤±0.2 °C	≤±0.2 °C	≤±0.2 °C	≤±0.2 °C
Block homogeneity 95 °C	≤±0.3 °C	≤±0.3 °C	≤±0.3 °C	≤±0.3 °C
Control accuracy	±0.15 °C	±0.15 °C	±0.15 °C	±0.15 °C
Heating rate	10 °C/s	5 °C/s	5 °C/s	5 °C/s/5 °C/s
Cooling rate	5 °C/s	2.3 °C/s	2.3 °C/s	2.3 °C/s
Lid descent	flexlid® technology with TSP	flexlid® technology with TSP	flexlid® technology with TSP	flexlid® technology with TSP
High pressure lid	–	–	■	■
Lid temperature range	37 – 110 °C	37 – 110 °C	37 – 110 °C	37 – 110 °C
Interfaces	Ethernet, USB	Ethernet, USB	Ethernet, USB	Ethernet, USB
Power supply	110 – 230 V, 50 – 60 Hz	110 – 230 V, 50 – 60 Hz	110 – 230 V, 50 – 60 Hz	110 – 230 V, 50 – 60 Hz
Max. power consumption	850 W	850 W	850 W	850 W
Total weight	11.5 kg/10.7 kg	11.5 kg/10.7 kg	11.5 kg/10.7 kg	11.5 kg/10.7 kg
Dimensions (W × D × H)	27.5 × 43 × 33 cm	27.5 × 43 × 33 cm	27.5 × 43 × 33 cm	27.5 × 43 × 33 cm

VisioNize

➤ This icon tags devices that are connectable to the Eppendorf VisioNize® system. Further information are available at pages 10 – 11.

Technical specifications subject to change.

Temperature Verification System T6 - Multi Channel

Description
To safeguard reproducibility of PCR results, continuous surveillance and documentation of the cycler performance is beneficious. Eppendorf offers a range of service plans to meet the requirements of different needs. We continue to support our customers beyond the point of purchase: We also offer customers the opportunity to buy our Temperature Verification System to monitor critical factors in success or failure of PCR reactions independently/in house.

The new Temperature Verification System can assess, verify and where necessary, adjust the Mastercycler X50 family as well as most other Mastercycler families regarding temperature accuracy. Minimum user input during verification ensures the integrity of the measurement, data and certificates it produces. Data and certificates can be exported via USB for archiving.

New

Ordering information	
Description	**Order no.**
Temperature Verification System T6, without thermal sensors	6328 006.500
Sensor unit for 96 well blocks, calibrated in an ISO 9001 certified laboratory	6328 007.000
Sensor unit for 96 well blocks, calibrated in an ISO 17025 accredited laboratory	6328 007.507
Sensor unit for 384 well blocks, calibrated in an ISO 9001 certified laboratory	6328 008.007
Sensor unit for 384 well blocks, calibrated in an ISO 17025 accredited laboratory	6328 008.503
Sensor unit flat, calibrated in an ISO 9001 certified laboratory	6328 009.003
Sensor unit flat, calibrated in an ISO 17025 accredited laboratory	6328 009.500

Your local distributor: www.eppendorf.com/contact
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Mastercycler® nexus

Description
The Mastercycler Nexus PCR cycler provides scientists with flexibility in many forms. The 96 well aluminium block can accomodate several standard vessels types from 0.2ml tubes to 96 well plates, there is no need to buy additional blocks. The silver block variants provide faster ramp rates than the aluminum blocks. Up to 2 eco cyclers can be connected to a programmable cycler and the configuration can also include the nexus X2 eco units, to provide a maximum of 6 independent blocks. The flexlid provides effortless height adjustment for different vessels. The Mastercycler Nexus cycler can even email you when the PCR run is complete - what else do you need from a PCR cycler?

Product features
> Intuitive graphic programming
> Small footprint
> Universal block for ultimate flexibility
> Connect up to 2 Mastercycler nexus eco to your existing unit
> Available with gradient
> E-mail notification
> flexlid® concept allows use of all types of consumables with automatic height adjustment of the lid

Applications
> Standard PCR
> Fast PCR
> Optimizing a PCR
> *In situ* PCR

Ordering information

Description	Order no.
Mastercycler® nexus GSX1, 230 V/50 – 60 Hz	6345 000.010
Mastercycler® nexus SX1, 230 V/50 – 60 Hz	6346 000.013
Mastercycler® nexus GSX1e, 230 V/50 – 60 Hz	6347 000.017
Mastercycler® nexus SX1e, 230 V/50 – 60 Hz	6348 000.010
Mastercycler® nexus gradient, 230 V/50 – 60 Hz	6331 000.017
Mastercycler® nexus, 230 V/50 – 60 Hz	6333 000.014
Mastercycler® nexus gradient eco, 230 V/50 – 60 Hz	6334 000.018
Mastercycler® nexus eco, 230 V/50 – 60 Hz	6332 000.010
Mastercycler® nexus flat, 230 V/50 – 60 Hz	6335 000.011
Mastercycler® nexus flat eco, 230 V/50 – 60 Hz	6330 000.013
CAN bus connecting cable, 150 cm	5341 611.000
CAN bus connecting cable, 50 cm	5341 612.006

Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com/Mastercycler

Mastercycler® nexus X2

Description
The Mastercycler nexus X2 gives you the ability to run two totally independent protocols at the same time. Smaller assays fit nicely on the 32-well-block – larger assays can exceed 48 samples and run on the 64-well-block. The larger block is available with a gradient function. As every member of the Mastercycler nexus family, the Mastercycler nexus X2 can be combined with all other family members in a network of up to 3 units. In combination with Eppendorf's PCR Tubes, PCR Strips or divisible plates, the Mastercycler nexus X2 will give you consistent and publishable results – every day!

Product features
> Large block for large assays – small block for small assays
> Intuitive graphic programming
> Universal block for strips, 0.1 mL, 0.2 mL and 0.5 mL PCR tubes
> Small footprint
> Optional gradient for PCR optimization
> E-mail notification
> flexlid® concept allows use of all types of consumables with automatic height adjustment of the lid

Applications
> Standard PCR
> Optimizing a PCR

Ordering information

Description	Order no.
Mastercycler® nexus GX2, 230 V/50 – 60 Hz	6336 000.015
Mastercycler® nexus GX2e, 230 V/50 – 60 Hz	6338 000.012
Mastercycler® nexus X2, 230 V/50 – 60 Hz	6337 000.019
Mastercycler® nexus X2e, 230 V/50 – 60 Hz	6339 000.016

Ordering information for other voltage options begins on page 418

www.eppendorf.com/nexus-x2-brochure

i For more information go to www.eppendorf.com/pcr

Technical specifications subject to change.

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com

Technical Specification Mastercycler® nexus

Technical specifications			
Model	**MC nexus GSX1/GSX1e**	**MC nexus SX1/SX1e**	**MC nexus gradient/gradient eco**
Unit can control 2 other units in network	■/–	■/–	■/–
Unit can only be controlled[1)]	–/■	–/■	–/■
Thermoblock	Silver	Silver	Aluminum
Sample capacity	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells)	96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 38 × 0.5 mL PCR tube positions
Heating technology	Peltier elements, triple circuit technology	Peltier elements, triple circuit technology	Peltier elements, Triple Circuit Technology
Gradient block	Over 12 rows (0.2 mL)	–	Over 12 rows (0.2 mL)
Gradient temperature range	30 – 99 °C	–	30 – 99 °C
Gradient range	1 – 20 °C	–	1 – 20 °C
Temperature control mode	Fast, standard, safe	Fast, standard, safe	Fast, standard, safe
Temperature control range of the block	4 – 99 °C	4 – 99 °C	4 – 99 °C
Intuitive graphic programming	■/–	■/–	■/–
Block homogeneity 20–72 °C	≤ ±0.3 °C	≤ ±0.3 °C	≤ ±0.3 °C
Control accuracy	±0.2 °C	±0.2 °C	±0.2 °C
E-mail Notification	■	■	■
2 years warranty	■	■	■
USB port	■/–	■/–	■/–
Block homogeneity 90 °C	≤ ±0.4 °C	≤ ±0.4 °C	≤ ±0.4 °C
Heating rate	5 °C/s [2)]	5 °C/s [2)]	3 °C/s [2)]
Cooling rate	3.5 °C/s [2)]	3.5 °C/s [2)]	2 °C/s [2)]
Lid descent	flexlid® technology with TSP	flexlid® technology with TSP	flexlid® technology with TSP
Lid temperature range	37 – 110 °C	37 – 110 °C	37 – 110 °C
Interfaces	CAN_in/CAN_out, Ethernet, USB	CAN_in/CAN_out, Ethernet, USB	CAN_in/CAN_out, Ethernet, USB
Power supply	230 V, 50 – 60 Hz	230 V, 50 – 60 Hz	230 V, 50 – 60 Hz
Max. power consumption	540 W	540 W	700 W
Total weight	10.9 kg	10.9 kg	10.9 kg
Dimensions (W × D × H)	25 × 41.2 × 32.1 cm	25 × 41.2 × 32.1 cm	25 × 41.2 × 32.1 cm
Number of programs on device	> 700	> 700	> 700

[1)] Control through a Mastercycler® nexus, Mastercycler® nexus gradient, Mastercycler® nexus GSX1, Mastercycler® nexus SX1, Mastercycler® nexus GX2, Mastercycler® nexus X2 or Mastercycler® nexus flat
[2)] measured at the block

Technical specifications		
Model	**MC nexus/nexus eco**	**MC nexus flat/flat eco**
Unit can control 2 other units in network	■/–	■/–
Unit can only be controlled[1)]	–/■	–/■
Thermoblock	Aluminum	Aluminum
Sample capacity	96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 38 × 0.5 mL PCR tube positions	4 slides or other matching consumables
Heating technology	Peltier elements, triple circuit technology	Peltier elements, triple circuit technology
Gradient block	–	–
Gradient temperature range	–	–
Gradient range	–	–
Temperature control mode	Fast, standard, safe	Fast, standard, safe
Temperature control range of the block	4 – 99 °C	4 – 99 °C
Intuitive graphic programming	■/–	■/–
Block homogeneity 20–72 °C	≤ ±0.3 °C	≤ ±0.3 °C
Control accuracy	±0.2 °C	±0.2 °C
E-mail Notification	■	■
2 years warranty	■	■
USB port	■/–	■/–
Block homogeneity 90 °C	≤ ±0.4 °C	≤ ±0.4 °C
Heating rate	3 °C/s [2)]	3 °C/s [2)]
Cooling rate	2 °C/s [2)]	2 °C/s [2)]
Lid descent	flexlid® technology with TSP	flexlid® technology with TSP
Lid temperature range	37 – 110 °C	37 – 110 °C
Interfaces	CAN_in/CAN_out, Ethernet, USB	CAN_in/CAN_out, Ethernet, USB
Power supply	230 V, 50 – 60 Hz	230 V, 50 – 60 Hz
Max. power consumption	700 W/540 W	700 W/540 W
Total weight	10.9 kg	10.4 kg
Dimensions (W × D × H)	25 × 41.2 × 32.1 cm	25 × 41.2 × 32.1 cm
Number of programs on device	> 700	> 700

[1)] Control through a Mastercycler® nexus, Mastercycler® nexus gradient, Mastercycler® nexus GSX1, Mastercycler® nexus SX1, Mastercycler® nexus GX2, Mastercycler® nexus X2 or Mastercycler® nexus flat
[2)] measured at the block

i For more information go to www.eppendorf.com/Mastercycler

Technical specifications subject to change.

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Technical Specification Mastercycler® nexus X2

Technical specifications		
Model	**MC nexus GX2/GX2e**	**MC nexus X2/X2e**
Unit can control 2 other units in network	■/–	■/–
Unit can only be controlled1)	–/■	–/■
Thermoblock	Aluminum	Aluminum
Sample capacity	64/32 × 0.2 mL PCR tubes or 24/10 × 0.5 mL PCR tube positions	64/32 × 0.2 mL PCR tubes or 24/10 × 0.5 mL PCR tube positions
Heating technology	Peltier elements, Triple Circuit Technology	Peltier elements, Triple Circuit Technology
Gradient block	Over 8 rows (0.2 mL)/Over 8 rows	–
Gradient temperature range	30 – 99 °C/30 – 99 °C	–
Gradient range	1 – 12 °C/1 – 12 °C	–
Temperature control mode	Fast, Standard, Safe	Fast, Standard, Safe
Temperature control range of the block	4 – 99 °C	4 – 99 °C
Intuitive graphic programming	■/–	■/–
Block homogeneity 20–72 °C	≤ ±0.3 °C	≤ ±0.3 °C
Control accuracy	±0.2 °C	±0.2 °C
E-mail Notification	■	■
2 years warranty	■	■
USB port	■/–	■/–
Block homogeneity 90 °C	≤ ±0.4 °C	≤ ±0.4 °C
Heating rate	3 °C/s 2)	3 °C/s 2)
Cooling rate	2 °C/s 2)	2 °C/s 2)
Lid descent	flexlid® technology with TSP	flexlid® technology with TSP
Lid temperature range	37 – 110 °C	37 – 110 °C
Interfaces	CAN_in/CAN_out, Ethernet, USB/ CAN_in/CAN_out, Ethernet	CAN_in/CAN_out, Ethernet, USB/ CAN_in/CAN_out, Ethernet
Max. power consumption	700 W	700 W
Total weight	10.5 kg	11 kg
Dimensions (W × D × H)	25 × 41.2 × 33 cm	25 × 41.2 × 33 cm
Number of programs on device	> 700	> 700

1) Control through a Mastercycler® nexus, Mastercycler® nexus gradient, Mastercycler® nexus GSX1, Mastercycler® nexus SX1, Mastercycler® nexus GX2, Mastercycler® nexus X2 or Mastercycler® nexus flat
2) measured at the block

www.eppendorf.com/nexus-x2-info

i For more information go to www.eppendorf.com/Mastercycler

Technical specifications subject to change.

HeatSealer

HeatSealer S100
> Hermetic sealing of multiwell plates
> Fixed sealing temperature for reproducible results (S100)
> Adjustable sealing temperatures for more flexibility (S200)
> Eliminates evaporation in PCR, reducing cross contamination
> Seals 96- and 384-well plates
> Compact design, portable device
> Integrated thermostats prevents overheating
> Improved mechanics for even easier sealing
> PCR Plate Adapter included

Ordering information	
Description	**Order no.**
HeatSealer S100, 100 – 230 V/50 – 60 Hz	5391 000.001
HeatSealer S200, 100 – 230 V/50 – 60 Hz	5392 000.005
Plate Adapter low profile, for HeatSealer S100	5391 070.018
Plate Adapter high profile, for HeatSealer S100	5391 070.034
96-well-PCR Plate Adapter, for HeatSealer S100	5391 070.026
Plate Adapter high profile, for HeatSealer S200	5392 070.011
Plate Adapter low profile, for HeatSealer S200	5392 070.020
96-well Plate Adapter, for HeatSealer S200	5392 070.038
Eppendorf Heat Sealing Film, PCR clean, 100 pcs.	0030 127.838
Eppendorf Heat Sealing Foil, PCR clean, 100 pcs.	0030 127.854

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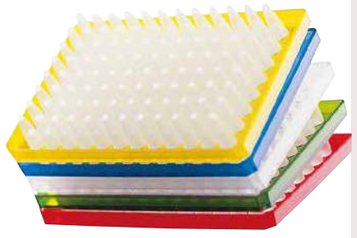
Eppendorf twin.tec® PCR Plates

Product features
> One-piece design: combining a polycarbonate frame and polypropylene wells for optimum performance
> Extremely thin-walled polypropylene wells guarantee optimum heat transfer to the sample
> Exceptionally solid and torque-resistant polycarbonate frame
> Improved well-to-well tolerance
> Cut-away corner and alphanumeric grid-referencing
> Raised well rims for effective sealing, also reduces risk of cross-contamination
> Certified free of any detectable human DNA, DNase, RNase and PCR inhibitors[1)]
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well

[1)] Download of certificates under www.eppendorf.com/certificates

Eppendorf twin.tec® PCR Plate 96, skirted
> Optimized rim for barcodes and automated work processes
> Within SBS footprint recommendations (127.76 × 85.47 mm ±0.25 mm)
> Stackable
> Eight holes in the skirt aid plate positioning and removal from the thermal cycler block
> Low profile design enhances efficiency of PCR and enables the highest efficiency for small sample volumes
> 150 µL max. well volume (when used with cap strips)
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors



Eppendorf twin.tec® PCR Plate 96, semi-skirted
> Semi-skirted for label and barcode
> Fits most thermal cyclers
> 250 µL max. well volume (when used with cap strips)
> Improved well-to-well tolerance
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors

Eppendorf twin.tec® PCR Plate 96, unskirted
> Fits even more thermal cyclers
> OptiTrack® matrix for faster sample identification and fewer pipetting errors
> Available with regular (250 µL) or low profile (150 µL) wells
> Ideal for quantitative real-time PCR as well

➢ For more Assay/Reader MTPs go to page 112

Technical specifications subject to change.

Eppendorf twin.tec® PCR Plate 96, unskirted, divisible
> Can be divided in 4 segments of 24 wells each
> Fits most common thermal cyclers
> OptiTrack® matrix for faster sample identification and fewer pipetting errors
> Available with regular (250 µL) or low profile (150 µL) wells
> Can be divided into 4 segments of 24 wells each to prevent waste and save money
> Ideal for quantitative real-time PCR as well

Eppendorf twin.tec® *microbiology* PCR Plate 96
> Individually blistered
> Certified PCR clean
> Additionally free of bacterial DNA
> For all applications that need ultimate purity or certified absense of bacterial DNA
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors

Eppendorf twin.tec® PCR Plate 384
> Optimized rim for barcodes and automated work processes
> Stackable
> Within SBS footprint recommendations
> Ideal for most common 384-well thermocyclers, particularly for Eppendorf Mastercycler pro 384
> 40 µL max. well volume
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors

Eppendorf twin.tec® PCR Plates 96 and 384 LoBind
> Maximum recovery rates for improved assay results
> Available with barcode (upon request)
> Ideal for quantitative real-time PCR as well
> Exceptionally solid and torque-resistant polycarbonate frame
> OptiTrack® matrix for faster sample identification and fewer pipetting errors
> Raised well rims for effective sealing, also reduces risk of cross-contamination
> Batch-tested and certified free of DNA, DNAase, RNase and PCR inhibitors (PCR clean)

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Eppendorf twin.tec® PCR Plates

Ordering information

Description	Order no.
Eppendorf twin.tec® PCR Plate 96, skirted, 150 µL	
PCR clean, colorless, 25 pcs.	0030 128.648
Forensic DNA Grade, colorless, 10 pcs., individually wrapped	0030 129.601
PCR clean, yellow, 25 pcs.	0030 128.656
PCR clean, green, 25 pcs.	0030 128.664
PCR clean, blue, 25 pcs.	0030 128.672
PCR clean, red, 25 pcs.	0030 128.680
Eppendorf twin.tec® PCR Plate 96, semi-skirted, 250 µL	
PCR clean, colorless, 25 pcs.	0030 128.575
Forensic DNA Grade, colorless, 10 pcs., individually wrapped	0030 129.610
PCR clean, yellow, 25 pcs.	0030 128.583
PCR clean, green, 25 pcs.	0030 128.591
PCR clean, blue, 25 pcs.	0030 128.605
PCR clean, red, 25 pcs.	0030 128.613
Eppendorf twin.tec® PCR Plate 96, low profile, unskirted, 150 µL	
PCR clean, colorless, 20 pcs.	0030 133.307
PCR clean, blue, 20 pcs.	0030 133.331
Eppendorf twin.tec® PCR Plate 96, unskirted, 250 µL	
PCR clean, colorless, 20 pcs.	0030 133.366
PCR clean, blue, 20 pcs.	0030 133.390
Eppendorf twin.tec® PCR Plate 96, divisible, unskirted, 150 µL	
PCR clean, colorless, 20 pcs.	0030 133.358
PCR clean, blue, 20 pcs.	0030 133.382
Eppendorf twin.tec® PCR Plate 96, divisible, unskirted, 250 µL	
PCR clean, colorless, 20 pcs.	0030 133.374
PCR clean, blue, 20 pcs.	0030 133.404
Eppendorf twin.tec® *microbiology* PCR Plate 96, skirted, 150 µL	
PCR clean, colorless, 10 pcs.	0030 129.300
PCR clean, blue, 10 pcs.	0030 129.318
Eppendorf twin.tec® *microbiology* PCR Plate 96, semi-skirted, 250 µL	
PCR clean, colorless, 10 pcs.	0030 129.326
PCR clean, blue, 10 pcs.	0030 129.334
Eppendorf twin.tec® *microbiology* PCR Plate 384, skirted, 40 µL	
PCR clean, colorless, 10 pcs.	0030 129.342
PCR clean, blue, 10 pcs.	0030 129.350
Eppendorf twin.tec® PCR Plate 384, skirted, 40 µL	
PCR clean, colorless, 25 pcs.	0030 128.508
Forensic DNA Grade, colorless, 10 pcs., individually wrapped	0030 129.628
PCR clean, yellow, 25 pcs.	0030 128.516
PCR clean, green, 25 pcs.	0030 128.524
PCR clean, blue, 25 pcs.	0030 128.532
PCR clean, red, 25 pcs.	0030 128.540
Eppendorf twin.tec® PCR plate 96 LoBind, semi-skirted	
PCR clean, colorless, 25 pcs.	0030 129.504
Eppendorf twin.tec® PCR plate 96 LoBind, skirted	
PCR clean, colorless, 25 pcs.	0030 129.512
PCR clean, blue, 25 pcs.	0030 129.580
PCR clean, green, 25 pcs.	0030 129.660
PCR clean, red, 25 pcs.	0030 129.598
PCR clean, yellow, 25 pcs.	0030 129.679
Eppendorf twin.tec® PCR plate 384 LoBind, skirted	
PCR clean, colorless, 25 pcs.	0030 129.547

i For more information go to www.eppendorf.com/Twintec

Eppendorf twin.tec® *real-time* PCR Plates

Eppendorf twin.tec® 96 *real-time* PCR Plates
> White wells for better reflection
> High mechanical stability
> Raised rims for effective sealing
> Skirted and semi-skirted frames
> Optimal heat transfer due to reduced wall thickness
> Autoclavable (121 °C, 20 min)
> Available with barcode (upon request)

Ordering information

Description	Order no.
Eppendorf twin.tec® 96 *real-time* PCR Plate, skirted, 150 µL	
PCR clean, blue, 25 pcs.	0030 132.505
PCR clean, white, 25 pcs.	0030 132.513
Eppendorf twin.tec® 96 *real-time* PCR Plate, semi-skirted, 250 µL	
PCR clean, blue, 25 pcs.	0030 132.530
PCR clean, white, 25 pcs.	0030 132.548
Eppendorf twin.tec® 96 *real-time* PCR Plate, skirted, 150 µL	
Forensic DNA Grade, white, 10 pcs., individually wrapped	0030 129.636
Eppendorf twin.tec® 96 *real-time* PCR Plate, semi-skirted, 250 µL	
Forensic DNA Grade, white, 10 pcs., individually wrapped	0030 129.644
Eppendorf twin.tec® 96 *real-time* PCR Plate, low profile, unskirted, 150 µL	
PCR clean, white, 20 pcs.	0030 132.700
PCR clean, blue, 20 pcs.	0030 132.718

Eppendorf Fast PCR Tube Strips

New

Description
The Fast PCR Tube Strip allows scientists using Fast cyclers (such as the Mastercycler X50) and Fast enzymes to obtain higher PCR yield. This is achieved by the faster heat transfer from block to reaction, allowing for better control over the reaction. The Tube-strips are suitable for Fast end-point PCR and Real-Time PCR applications. The open format tube strip allows easy adoption and easy optimization.

Eppendorf Fast PCR Tube Strips
> Ideal for use with Fast cyclers such as the Mastercycler X50s and Fast enzymes
> 8 reaction tubes in strip-format – ideal for small sample volumes
> Easily adaptable for automation
> Sealable using flat or domed strip-lids
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

Ordering information

Description	Order no.
Eppendorf Fast PCR Tube Strips	
0.1 mL, without lids, PCR clean, 120 pcs. (10 × 12 pcs.)	0030 124.901
0.1 mL, with cap strips, flat, PCR clean, 120 pcs. (10 × 12 pcs.)	0030 124.910
0.1 mL, with cap strips, domed, PCR clean, 120 pcs. (10 × 12 pcs.)	0030 124.928

PCR CONSUMABLES

Eppendorf PCR Tube Strips

Eppendorf PCR Tube Strips
> 8 reaction tubes in strip-format – ideal for small sample volumes
> Easily adaptable for automation
> Sealable using flat or domed strip-lids
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

Ordering information

Description	Order no.
Eppendorf PCR Tube Strips, 0.1 mL	
PCR clean, without lids (10 × 12 strips)	0030 124.804
PCR clean, with Cap Strips, domed (10 × 12 strips)	0030 124.812
PCR clean, with Cap Strips, flat (10 × 12 strips)	0030 124.820

Eppendorf PCR Tubes

Eppendorf PCR Tubes
> Contamination shield on hinged lid
> Defined lid position due to special hinge
> High transparency even on the tube base
> Etched lid for labeling
> Tight sealing
> Easy to open
> For use with all thermal cyclers with 0.2 mL block format
> Also available in 8-tube strip format
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

Ordering information

Description	Order no.
Eppendorf PCR Tubes, 0.2 mL	
PCR clean, colorless, 1000 pcs.	0030 124.332
Forensic DNA Grade, colorless, 500 pcs. (10 bags × 50 pcs.)	0030 124.707
PCR clean, 8-tube strips, 120 pcs. (960 tubes)	0030 124.359

i For more information go to www.eppendorf.com/pcr

Eppendorf PCR Tubes, 0.5 mL

Eppendorf PCR Tubes, 0.5 mL
> Etched lid for labeling
> Tight sealing
> Easy to open
> For use with all thermal cyclers with 0.5 mL block format
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

Ordering information

Description	Order no.
Eppendorf PCR Tubes, 0.5 mL, PCR clean, with hinged lid, clear, 500 pcs.	0030 124.537

Cap Strips

Cap Strips
> Strips with eight microcaps for 0.1 and 0.2 mL wells
> Easy and rapid sealing of Eppendorf twin.tec PCR Plates, PCR strips and other standard multiwell plates
> Flat Cap Strips are suitable for real-time PCR
> Autoclavable (121 °C, 20 min)

Ordering information

Description	Order no.
Cap Strips, 8-strips	
domed, 120 pcs. (10 × 12 pcs.)	0030 124.839
flat, 120 pcs. (10 × 12 pcs.)	0030 124.847

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PCR CONSUMABLES

Masterclear® Cap Strips and *real-time* PCR Tube Strips

Masterclear® Cap Strips and *real-time* PCR Tube Strips

***real-time* PCR Tube Strips**
> White wells for better reflection
> High mechanical stability
> Extremely thin walls for optimal heat transfer

Masterclear Cap Strips
> Inverted dome to avoid scratching of the optic surface
> Inverted dome to reduce volume of the tubes
> Optimized for maximum light transmission

Ordering information

Description	Order no.
***real-time* PCR Tube Strips**, without caps	
120 pcs. (10 × 12 pcs.)	0030 132.882
Masterclear Cap Strips and *real-time* PCR Tube Strips	
Masterclear Cap Strips	
120 pcs. (10 × 12 pcs.)	0030 132.874

Heat Sealing Film and Heat Sealing Foil

Heat Sealing Film and Heat Sealing Foil
> Hermetic sealing of multiwell plates, especially recommended for low reaction volumes
> Best protection against evaporation during PCR
> Maximum adhesiveness at high temperatures during PCR

Ordering information

Description	Order no.
Eppendorf Heat Sealing Film, PCR clean, 100 pcs.	0030 127.838
Eppendorf Heat Sealing Foil, PCR clean, 100 pcs.	0030 127.854

i For more information go to www.eppendorf.com/pcr

PCR Film (self-adhesive) and PCR Foil (self-adhesive)

PCR Film (self-adhesive) and PCR Foil (self-adhesive)
> Effective adhesive sealing prevents evaporation loss during PCR
> Removal from the plate with no residue
> PCR Film: Sample can be visually monitored through the transparent film
> PCR Foil: Easily pierced
> PCR Foil: No sticking of the pipette tip (ideal for automated systems)

Ordering information

Description	Order no.
Eppendorf PCR Film, self-adhesive, PCR clean, 100 pcs.	0030 127.781
Eppendorf PCR Foil, self-adhesive, PCR clean, 100 pcs.	0030 127.790

Masterclear® *real-time* PCR Film

Masterclear® *real-time* PCR Film
> Optimized for maximum light transmission
> Optimized for tight sealing
> Optimized packaging for your convenience

Ordering information

Description	Order no.
Masterclear® *real-time* PCR Film, self-adhesive, PCR clean, 100 pcs.	0030 132.947

PCR Rack

PCR Rack
> Rack for handling and storing tubes and plates
> For 0.1 mL, 0.2 mL and 0.5 mL tubes, as well as 96-well plates
> Stackable
> Can be stored down to -90 °C
> Autoclavable (121 °C, 20 min)

Ordering information

Description	Order no.
PCR Rack, 10 pcs.	0030 124.545

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Sample Handling

New

Model	CryoCube® F740hi, 3 c./ CryoCube® F740hi, 5 c.	CryoCube® F740hiw, 3 c./ CryoCube® F740hiw, 5 c.	CryoCube® F740h, 3 c./ CryoCube® F740h, 5 c.
Page(s)	264/270	264/270	264/270
Insulation	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Wall Thickness	Type B	Type B	Type B
Capacity	740 L	740 L	740 L
No. of internal doors	3	3	3
No. of compartments	3/5	3/5	3/5
Max. racks per freezer	18/30	18/30	18/30
Box capacity per rack			
5 cm (2 in) tall boxes	32/16	32/16	32/16
7.5 cm (3 in) tall boxes	20/8	20/8	20/8
12.5 cm (5 in) tall boxes	12	12	12
Box capacity per freezer			
5 cm (2 in) tall boxes	576/528	576/528	576/528
7.5 cm (3 in) tall boxes	360/288	360/288	360/288
10 cm (4 in) tall boxes	288/264	288/264	288/264
Sample capacity			
5 cm (2 in) tall boxes	57,600/52,800	57,600/52,800	57,600/52,800
Dimensions (W × D × H)[1)2)3)]	109.9 × 98 × 197.3 cm	109.9 × 98 × 197.3 cm	109.9 × 91.5 × 197.3 cm
Dimensions internal (W × D × H)	86.5 × 62.1 × 139 cm	86.5 × 62.1 × 139 cm	86.5 × 62.1 × 139 cm
Weight w/o accessories	315 kg/333 kg	320 kg/328 kg	308 kg/317 kg
Shipping weight	364 kg/382 kg	369 kg/377 kg	357 kg/366 kg
Pull-down time to -85 °C/ -80 °C[4)]	4 h 10 min	4 h 10 min	4 h 10 min
Noise level	41.3 dB	41.3 dB	47.8 dB
Heat output	438 W	442 W	492 W
Power supply	230 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz
Power consumption Eppendorf freezer[5)]	10.5 kWh/day	10.6 kWh/day	11.8 kWh/day
Max. power consumption per 5 cm box[5)]	18 Wh/day/20 Wh/day	18 Wh/day/20 Wh/day	21 Wh/day/22 Wh/day
Interior	Stainless steel	Stainless steel	Stainless steel
Password protection of setpoints	yes	yes	yes
Extras	Automatic vent port	Automatic vent port	Automatic vent port
Cooling liquid	R290 / R170	R290 / R170	R290 / R170

[1)] Optional CO_2/LN_2 backup systems add 8.65 cm/3.5 in to height.[2)] To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers.[3)] Door open adds up to 15 cm.[4)] Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions.[5)] Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.

CryoCube® F570h	CryoCube® F570hw	CryoCube® F570
264/270	264/270	264/270
Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam	Polyurethane foam
Type C	Type C	Type A
570 L	570 L	570 L
5	5	5
25	25	25
16	16	16
8	8	8
400	400	400
200	200	200
40,000	40,000	40,000
102.5 × 85.2 × 194 cm	102.5 × 85.2 × 194.0 cm	102.5 × 85.2 × 194 cm
76.5 × 57.5 × 126.5 cm	76.5 × 57.5 × 126.5 cm	76.5 × 57.5 × 126.5 cm
296 kg	296 kg	270 kg
341 kg	341 kg	315 kg
4.3 h	5.1 h	5.1 h
59.1 dB	56.0 dBA	59.5 dB
316 W	325 W	438 W
230 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz
7.6 kWh/day	7.8 kWh/day	10.5 kWh/day
19 Wh/day	19.5 Wh/day	26.3 Wh/day
Stainless steel	Stainless steel	Stainless steel
yes	yes	yes
Automatic vent port	Automatic vent port, water-cooled	Automatic vent port
R290 / R170	R290 / R170	R404A / R508B

epServices for premium performance On page 392 you will find detailed information on services for these products!

i For more information go to www.eppendorf.com

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ULT-FREEZERS

Sample Handling

Model	Innova® U535	HEF® U410
Page(s)	264/271	264/271
Insulation	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Wall Thickness	Type B	Type C
Capacity	535 L	410 L
No. of internal doors	3	5
No. of compartments	3	5
Max. racks per freezer	12	15
Box capacity per rack		
5 cm (2 in) tall boxes	28	16
7.5 cm (3 in) tall boxes	20	8
12.5 cm (5 in) tall boxes	12	
Box capacity per freezer		
5 cm (2 in) tall boxes	336	240
7.5 cm (3 in) tall boxes	240	120
10 cm (4 in) tall boxes	144	120
Sample capacity		
5 cm (2 in) tall boxes	33,600	24,000
Dimensions (W × D × H)[1)2)3)]	80 × 86.7 × 195 cm	80 × 85.2 × 193.0 cm
Dimensions internal (W × D × H)	64 × 61.5 × 136.5 cm	55 × 57.5 × 126.5 cm
Weight w/o accessories	250 kg	262 kg
Shipping weight	296 kg	307 kg
Pull-down time to -85 °C/-80 °C[4)]	5,9 h	4,66 h
Noise level	56 dBA	53 dBA
Heat output	550 W	350 W
Power supply	230 V, 50 Hz	230 V, 50 Hz
Power consumption Eppendorf freezer[5)]	13.2 kWh/day	8.4 kWh/day
Max. power consumption per 5 cm box[5)]	39.3 Wh/day	35 Wh/day
Interior	Stainless steel	Stainless steel
Password protection of setpoints	yes	yes
Extras	–	–
Cooling liquid	R404A / R508B	R290 / R170

[1)] Optional CO_2/LN_2 backup systems add 8.65 cm/3.5 in to height.[2)] To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers.[3)] Door open adds up to 15 cm.[4)] Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions.[5)] Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.

Premium U410	Innova® U360	Innova® U101
264/271	264/271	264/271
Polyurethane foam	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Type A	Type B	Type B
410 L	360 L	101 L
5	3	2
5	3	2
15	9	6
16	28	10
8	20	6
	12	4
240	252	60
120	180	36
120	108	24
24,000	25,200	6,000
80 × 85.2 × 193 cm	67 × 86.7 × 195 cm	90 × 56.6 × 83 cm
55 × 57.5 × 126.5 cm	44 × 61.5 × 136.5 cm	48 × 33 × 64 cm
235 kg	230 kg	116 kg
280 kg	266 kg	141 kg
5.3 h	5,6 h	3,7 h
55 dB	56 dBA	55 dBA
650 W	445 W	310 W
230 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz
10.8 kWh/day	10.7 kWh/day	7.4 kWh/day
45 Wh/day	42.5 Wh/day	123.3 Wh/day
Stainless steel	Stainless steel	Stainless steel
yes	yes	yes
–	–	Stackable, fits below bench
R404A / R508B	R404A / R508B	R404A / R508B

i For more information go to www.eppendorf.com

epServices for premium performance On page 392 you will find detailed information on services for these products!

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Sample Handling

Model	Innova® C760	CryoCube® FC660h
Page(s)	**264/271**	**264/271**
Insulation	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Wall Thickness	Type B	Type C
Capacity	760 L	660 L
No. of internal doors		
No. of compartments	N/A	N/A
Max. racks per freezer	40	40
Box capacity per rack		
5 cm (2 in) tall boxes	14	13
7.5 cm (3 in) tall boxes	9	9
12.5 cm (5 in) tall boxes	5	5
Box capacity per freezer		
5 cm (2 in) tall boxes	560	520
7.5 cm (3 in) tall boxes	360	360
10 cm (4 in) tall boxes	280	280
Sample capacity		
5 cm (2 in) tall boxes	56,000	52,000
Dimensions (W × D × H)[1)2)3)]	205 × 82.5 × 109.2 cm	207 × 84 × 107.5 cm
Dimensions internal (W × D × H)	156 × 62.5 × 78 cm	147 × 59 × 76 cm
Weight w/o accessories	285 kg	304 kg
Shipping weight	358 kg	379 kg
Pull-down time to -85 °C/-80 °C[4)]	5,8 h	3,66 h
Noise level	58 dBA	58.3 dBA
Heat output	667 W	338 W
Power supply	230 V, 50 Hz	230 V, 50 Hz
Power consumption Eppendorf freezer[5)]	16 kWh/day	8.1 kWh/day
Max. power consumption per 5 cm box[5)]	28 Wh/day	15.6 Wh/day
Interior	Stainless steel	Stainless steel
Password protection of setpoints	yes	yes
Extras	30 mm thick inner lids for temp uniformity	30 mm thick inner lids for temp uniformity
Cooling liquid	R404A/R508B	R290/R170

[1)] Optional CO_2/LN_2 backup systems add 8.65 cm/3.5 in to height.[2)] To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers.[3)] Door open adds up to 15 cm.[4)] Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions.[5)] Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.

CryoCube® FC660	Innova® C585
264/271	**264/271**
Polyurethane foam	Vacuum insulation paneling / polyurethane foam
Type A	Type B
660 L	585 L
N/A	N/A
40	32
13	14
9	9
5	5
520	448
360	288
280	224
52,000	44,800
207 × 84 × 107.5 cm	169 × 82.5 × 109.2 cm
147 × 59 × 76 cm	120 × 62.5 × 78 cm
280 kg	240 kg
328 kg	310 kg
4,4 h	4,5 h
58.9 dBA	56 dBA
440 W	567 W
230 V, 50 Hz	230 V, 50 Hz
10.6 kWh/day	13.6 kWh/day
20.4 Wh/day	30.3 Wh/day
Stainless steel	Stainless steel
yes	yes
30 mm thick inner lids for temp uniformity	30 mm thick inner lids for temp uniformity
R404A/R508B	R404A/R508B

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Eppendorf High-Efficiency ULT Upright Freezers

1. Natural refrigerants for future-proven cooling[1)]

2. Automated vent port for quick re-access to samples

3. Ergonomically designed door handle for smooth and easy operation

4. Personalized access control for highest sample safety[2)]

5. Proven two-stage compressor cascade systems for long-term working conditions

6. Easy access to air filter enables regular cleaning, resulting in better performance

7. Heavy duty castors to easily move the freezer to a new position

8. Vacuum insulated panels reinforced with polyurethane foam insulation are standard for safe sample storage[1)]

9. Intuitive user interface for easy temperature and setting monitoring as well as data export via USB[2)]

10. Robust stainless-steel body for high sample safety and easy cleaning

11. Internal probe head located in freezer center for reliable temperature measurement

12. Lockable security plate protects power and alarm-off switches from accidental shut-off

13. Optional chart recorder for 24/7 documentation on paper

14. Integrated voltage inverter for flexible usage with 100 – 230 V mains/power supply[3)]

[1)] Selected models,
[2)] "i" models of CryoCube F740 series,
[3)] CryoCube F740 series

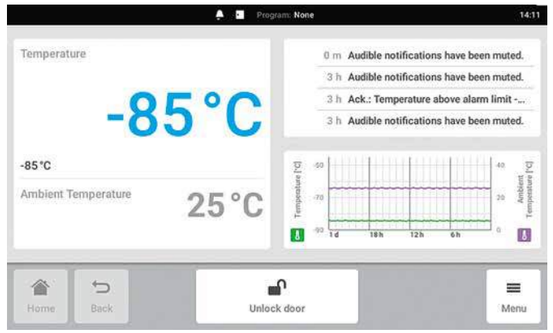
i For more information go to www.eppendorf.com

Complete Control
Worried about the safety of your high value samples within your ULT freezer? With the Eppendorf ULT monitoring concept available on CryoCube F740 'i' series models, you can check the freezer performance whenever you want. All temperature data and all events are stored in the freezer control unit.
The handling experience is based on our PhysioCare Concept® combined with extensive user test sessions.

> On-board data storage means you are not dependent on auxiliary and secondary devices to keep track of freezer data
> Easily transfer your information to your computer or colleague using the export feature and front-mounted USB port
> Quickly and easily adjust your setpoints with a single finger, even while wearing gloves
> Conveniently see all your important settings and data on a single screen with customizable views
> Event tracking for controlled environments
> Easily exchange data for documentation by USB
> Electronic lock system for controlled access and higher sample safety

Adaptable alarm settings for individual needs

> VisioNize®-onboard devices: "i" versions
> VisioNize box for other Eppendorf freezers



Easy Overview: Quickly review your important parameters on the home screen

> **Ergonomic entry:** Comfortable door handle for easy opening (only CryoCubes)
> **Controlled access:** Personalized access codes (only CryoCubes F740"i" models), when neccessary

ULT-FREEZERS

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Eppendorf High-Efficiency ULT Upright Freezers

Confidence in Quality
Eppendorf has a long-standing history of innovation and quality, and our freezer manufacturer process is no exception. Each Eppendorf ULT freezer is thoroughly inspected to meet our rigorous quality guidelines. The final inspection takes more than 24h and is based on manual and visual checks. This process is documented by an individual certificate, completed with serial number, provided as standard for your documentation.
As your expert partner for reliable, high-quality, and efficient storage solutions, Eppendorf finely engineers each freezer with care, using only the highest quality materials to ensure a long lasting freezer that offers peace of mind and security. Eppendorf freezers are designed to offer a longterm value over the lifetime of its ownership.
You can entrust your valuable samples to our ULT freezers, and you can trust your investment in all finely-engineered Eppendorf instruments.

eppendorf
Declaration of Conformity

eppendorf
Eppendorf Certificate
Certificate of Quality

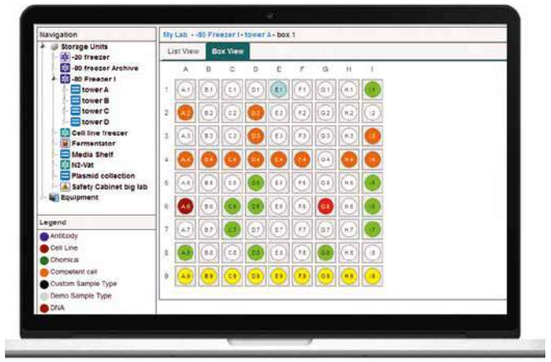
Remember 2008?
As being one of the very first movers for green gases at -86 °C, Eppendorf has now more than 10 years of experience in R&D, production, logistics, and service in the field.

Environmentally friendly and energy efficient
Ultra-low temperature freezers traditionally consume a large amount of energy, as they maintain extremely low temperatures 24/7. With today's high energy costs and focus on the environment, energy conservation has become even more important in the lab. Eco-friendly Eppendorf ULT freezers are designed to help you save energy without compromising sample security.
> A highly efficient compressor control system reduces cycling times to lower energy consumption and increase freezer longevity
> Low noise levels and heat output to benefit your work environment
> High-quality insulation materials and gaskets provide ultimate temperature control and optimized energy efficiency
> Environmentally safe, HCFC-free and CFC-free refrigerants minimize greenhouse gases ("h" versions)
> Biodegradable and commercially-available, high-performance, synthetic compressor lubricants prevent "oil-logging"
> A single, quiet condenser fan reduces energy consumption; compared to many freezers that require two fans
> Built with 95 – 98 % recyclable materials (by weight)
> Meets WEEE directive
> ENERGY STAR® partner

i For more information go to www.eppendorf.com

Keep track of your samples with eLABInventory
eLABInventory is a sample management software provided by Bio-Itech, an Eppendorf daughter company. The tool organizes any item in the laboratory inventory, including specimens, materials, samples, and chemicals. Store samples in self-configured storage units such as freezers or refrigerators. eLABInventory is flexible and fully configurable to work in your laboratory.
> Fully configurable to fit any type of laboratory
> Stores any type of samples, specimens, and materials for high flexibility
> Works on any device, delivered via the cloud or on-premise
> Intuitive user interface includes visual inventory browsing for easy handling
> Barcode labeling and scanning for high-throughput
> Import/export to other formats for data flexibility
> Track and tracing for audit trail
> GLP compliant (21 CFR part 11) for documentation security

For more information, visit www.eLabInventory.com



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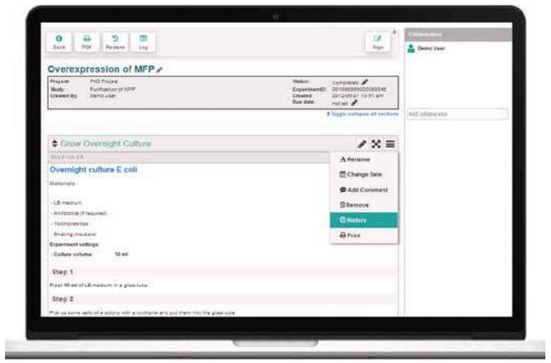

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Eppendorf ULT Freezers

Less force needed? New door handle design based on Eppendorf PhysioCare® Concept to enable easy access (limited to upright Eppendorf CryoCubes)

If you are in a hurry: Automatic vent port enables fast sample access (CryoCube F570 series and CryoCube F740 series only)

Keep it tight: Flat and flexible outer door seal for optimal insulation

External probes or back ups: Two access ports in the upper corner
Easy cleaning: Stainless steel inner chamber

Double safety: Gaskets at outer door as well as inner door (CryoCube F740 series + Innova series)

Easy access to filter: Just flip down the cover of CryoCube F740 series
Silence: Filter position reduces noise level of CryoCube F740 series

Freedom to store: Stainless steel racks for freezer boxes of up to 136 × 136 mm footprint

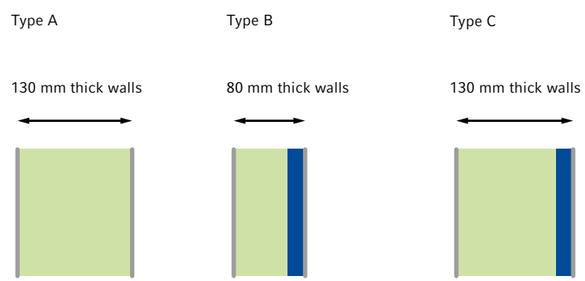
You prefer privacy: The Innova U101 – a real ULT in one small package below the bench

Comfortable storage: 30 mm thick inner lids, constructed from molded insulation, help maintain temperature stability

Easy cleaning: Inner doors can easily be removed for good access to compartments during cleaning of freezer

Decide what you need: 3-compartment/ shelves or 5-compartment/ shelves (CryoCube F740 series only)

Get the maximum in: 3-compartment set-up with MAX racks use every empty spot (CryoCube F740 series only)



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Eppendorf ULT Upright Freezers

Ordering information

Description	Order no.
New **CryoCube® F740h**, with LED interface, green cooling liquids, and air-cooling, 740 L, left, 3 shelves, 230 V/50 Hz	F740340011
New **CryoCube® F740h**, with LED interface, green cooling liquids, and air-cooling, 740 L, right, 3 shelves, 230 V/50 Hz	F740340021
New **CryoCube® F740h**, with LED interface, green cooling liquids, and air-cooling, 740 L, left, 5 shelves, 230 V/50 Hz	F740340031
New **CryoCube® F740h**, with LED interface, green cooling liquids, and air-cooling, 740 L, right, 5 shelves, 230 V/50 Hz	F740340041
CryoCube® F740hi, with touchscreen interface, green cooling liquids, and air-cooling, 740 L, left, 3 shelves, 230 V/50 Hz	F740320011
CryoCube® F740hi, with touchscreen interface, green cooling liquids, and air-cooling, 740 L, right, 3 shelves, 230 V/50 Hz	F740320021
CryoCube® F740hi, with touchscreen interface, green cooling liquids, and air-cooling, 740 L, left, 5 shelves, 230 V/50 Hz	F740320031
CryoCube® F740hi, with touchscreen interface, green cooling liquids, and air-cooling, 740 L, right, 5 shelves, 230 V/50 Hz	F740320041
CryoCube® F740hiw, with touchscreen interface, green cooling liquids, and water-cooling, 740 L, left, 3 shelves, 230 V/50 Hz	F740320111
CryoCube® F740hiw, with touchscreen interface, green cooling liquids, and water-cooling, 740 L, left, 5 shelves, 230 V/50 Hz	F740320131
CryoCube® F570h, 570 L, with LED interface, green cooling liquids, and air-cooling, 5 shelves, 230 V/50 Hz	F570320001
CryoCube® F570hw, 570 L, with LED interface, green cooling liquids, and water-cooling, 5 shelves, 230 V/50 Hz	F570320101
CryoCube® F570, 570 L, with LED interface, classic cooling liquids, and air-cooling, 5 shelves, 230 V/50 Hz	F570300001
CO_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow“)	U9043-0004
LN_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow“)	U9044-0004
CO_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9043-0008
LN_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9044-0008

↗ Ordering information for other voltage options begins on page 418

➢ For racks please check page 274

ULT-FREEZERS

i For more information go to www.eppendorf.com

Technical specifications subject to change.

Eppendorf ULT Upright Freezers

Ordering information

Description	Order no.
Innova® U535, 535 L, with LED interface, classic cooling liquids, and air-cooling, 3 shelves, 230 V/50 Hz	U9430-0001
HEF® U410, 410 L, with LED interface, green cooling liquids, and air-cooling, 5 shelves, 230 V/50 Hz	U9260-0008
Premium U410, 410 L, with LED interface, classic cooling liquids, and air-cooling, 5 shelves, 230 V/50 Hz	U9260-0001
Innova® U360, 360 L, with LED interface, classic cooling liquids, and air-cooling, 3 shelves, 230 V/50 Hz	U9425-0001
Innova® U101, 101 L, with LED interface, classic cooling liquids, and air-cooling, 2 shelves, 230 V/50 Hz	U9420-0001
CO_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow“)	U9043-0004
LN_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow“)	U9044-0004
CO_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9043-0008
LN_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9044-0008
Extra shelf for Innova® U101, U101	P0625-0180

↗ Ordering information for other voltage options begins on page 418

➢ For racks please check page 274

Eppendorf ULT Chest Freezers

Ordering information

Description	Order no.
Innova® C760 , 760 L, with LED interface, classic cooling liquids, and air-cooling, 230 V/50 Hz	U9410-0001
CryoCube® FC660, 660 L, with LED interface, classic cooling liquids, and air-cooling, 230 V/50 Hz	F660300001
CryoCube® FC660h, 660 L, with LED interface, green cooling liquids, and air-cooling, 230 V/50 Hz	F660320001
Innova® C585, 585 L, with LED interface, classic cooling liquids, and air-cooling, 230 V/50 Hz	U9400-0001
CO_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow“)	U9043-0004
LN_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow“)	U9044-0004
CO_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9043-0008
LN_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9044-0008

↗ Ordering information for other voltage options begins on page 418

➢ For racks please check page 274

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FREEZER ACCESSORIES

Freezer Accessories

eLABInventory, eLABJournal software
Please check www.eppendorf.com regarding the specific software licence models and related order numbers for eLABInventory and eLABJournal software.

VisioNize® box
> The easy-to-install hardware hub
> Upgrade Eppendorf devices already installed and connect them to VisioNize
> Data decoding and translation enable collection and management of device data in VisioNize core
> Manage further devices in your existing workflow

Ordering information

Description	Order no.
VisioNize® box, with mains/power adapter	1006 000.009

CO_2 and LN_2 Back-up System
> Equipped with a battery back-up to temporarily protect the contents of your freezer in case of power failure
> Available in either liquid CO_2 and LN_2. Liquid CO_2 can maintain temperatures between -50 °C and -70 °C, where as LN_2 can go down to -85 °C
> Both systems can be factory installed with your freezer order or retrofitted on location
> Info: CO_2 and LN_2 are not interchangeable systems

CO_2 and LN_2 Back-up System for Innova® U101, U360, U535, U725/ -G, C585, C760, CryoCube® F740 series

Description	Order no.
Eppendorf CO_2 and LN_2 Back-up System, 100 V/50/60 Hz	F652999005
CO_2 back-up system, 120 – 220 V/60 Hz, Innova® and Green “G”, (“narrow”)	U9043-0002
Eppendorf CO_2 and LN_2 Back-up System, 100 V/50 – 60 Hz	F652999006
LN_2 back-up system, 120 – 220 V/60 Hz, Innova® and Green “G”, (“narrow”)	U9044-0002
CO_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow”)	U9043-0004
LN_2 back-up system, 230 V/50 Hz, Innova®, Green “G”, and CryoCube® 740 series, (“narrow”)	U9044-0004

CO_2 and LN_2 Back-up System for CryoCube® F570 series, FC660 series, Premium U410, HEF® U410

Description	Order no.
CO_2 back-up system, 120 – 220 V/60 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9043-0006
LN_2 back-up system, 120 – 220 V/60 Hz, CryoCube® F570 series, CryoCube® FFC660 series, Premium, and HEF®	U9044-0006
CO_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9043-0008
LN_2 back-up system, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF®	U9044-0008

Chart Recorder
> Includes chart recorder, RTD probe, keys, chart recorder paper, and chart recorder pens
> Will continuously monitor and record freezer temperature for data documentation
> Front mounted to your freezer for easy access and can be fitted to all freezer models
> Type I: Battery powered, will provide a minimum of eighteen months of operation
> Type II: ULT freezer powered with backup battery (CryoCube F740 series)
> Can be factory installed with your freezer order or retrofitted on location
> Selectable temperature range (0 to -50 °C and -50 to -100 °C) and rotation speed
> User configurable built in high and low temperature alarms

Ordering information

Description	Order no.
Chart Recorder (Type I)	P0625-2100
Chart Recorder (Type II) (100 – 120V)	F652999001
Chart Recorder (Type II) (208 – 230V)	F652999002
Chart Recorder pens (Type I), 3 pk	K0660-0051
Chart Recorder pens (Type II), 3 pcs.	F652999004
Chart Recorder paper, 0 to -50 °C	P0625-2111
Chart Recorder paper, -50 to -100 °C	P0625-2110
Chart Recorder paper, 0 to -100 °C, 60 pcs.	F652999003

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FREEZER ACCESSORIES

Freezer Racks

Drawer or side access?
When using racks with drawers, only the drawer with the freezer boxes of interest is pulled out. All other boxes stay in the cold inner area of the ULT freezer. Eppendorf drawers are optimized for smooth movement at -80°C for ergonomic handling.
When using side access racks, most of the storage boxes have to be pulled out of the cold inner area of the ULT freezer to access the samples.
Racks for chest freezers can be equipped with locking rods to secure freezer boxes when pulling out the rack tower.

Stainless steel or aluminum?
By standard, there are two types of rack materials available.

Stainless steel:
> Stable/robust for longevity and higher capacity
> For freezer boxes up to 136 mm x 136 mm for high flexibility regarding boxes
> Special design for optimized cooling conditions and improved sample safety

Aluminum:
> For freezer boxes up to 133 mm x 133 mm
> Non-corrosive anodized aluminum for long-term use

Depth of racks
There are two systems used in laboratories - the standard 4-boxes deep racks and 5-boxes deep racks. Why is this of any interest? In case of an emergency, you want to rescue your valuable samples. The easiest way is to take out all racks (with the samples/ boxes included) and store those racks in some backup freezer. To be compatible with most common ULT freezer suppliers, Eppendorf ULT freezers are designed for 4-boxes deep racks.

3-compartment or 5-compartment?
The ULT freezer with 3 compartments/ shelves (e.g. Innova U535) has higher compartments compared to the 5-compartment ULT freezer (e.g. CryoCube F570 series). Racks of a 5-compartment freezer do fit into a 3-compartment freezer but not vice versa.
To get the maximum capacity out of your ULT freezer, the CryoCube F740 series (3-compartment) can be equipped with „3-compartment MAX" racks. These racks only fit into the CryoCube F740 series 3-compartment instruments.

i For more information go to www.eppendorf.com

Rack without locking rod for Eppendorf chest freezer

Rack with locking rod for Eppendorf chest freezer

Rack for Eppendorf ULT freezer

Side access rack for Eppendorf ULT freezer

Stainless steel racks

Ordering information	
Description	**Order no.**
Freezer Rack: Innova® U101	
2 in or 53 mm, drawer, stainless steel	6001 062.210
2.5 in or 64 mm, drawer, stainless steel	6001 062.910
3 in or 76 mm, drawer, stainless steel	6001 062.310
4 in or 102 mm, drawer, stainless steel	6001 062.410
5 in or 127 mm, drawer, stainless steel	6001 062.510
2 in or 53 mm, side access, stainless steel	6001 061.210
2.5 in or 64 mm, side access, stainless steel	6001 061.910
3 in or 76 mm, side access, stainless steel	6001 061.310
4 in or 102 mm, side access, stainless steel	6001 061.410
5 in or 127 mm, side access, stainless steel	6001 061.510
Freezer Rack: Innova® U360, U535, U725, U725-G, CryoCube® F740 series (3-compartment, Standard)	
2 in or 53 mm, drawer, stainless steel	6001 012.210
2.5 in or 64 mm, drawer, stainless steel	6001 012.910
3 in or 76 mm, drawer, stainless steel	6001 012.310
4 in or 102 mm, drawer, stainless steel	6001 012.410
5 in or 127 mm, drawer, stainless steel	6001 012.510
2 in or 53 mm, side access, stainless steel	6001 011.210
2.5 in or 64 mm, side access, stainless steel	6001 011.910
3 in or 76 mm, side access, stainless steel	6001 011.310
4 in or 102 mm, side access, stainless steel	6001 011.410
5 in or 127 mm, side access, stainless steel	6001 011.510
DWP (53 mm), side access, stainless steel	6001 011.110

Technical specifications subject to change.

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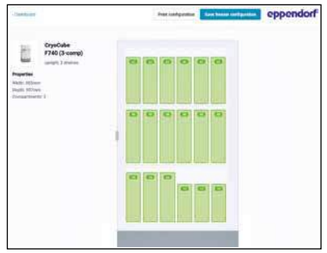
Freezer Racks

Please check the rack brochure for easy rack selection or use the rack configuration tool at https://econfig.bio-itech.de



Ordering information

Description	Order no.
Freezer Rack: Premium U410, U700, HEF® U410, CryoCube® F570 series, CryoCube® F740 series (5-compartment, compartment 1-4)	
2 in or 53 mm, drawer, stainless steel	6001 022.210
2.5 in or 64 mm, drawer, stainless steel	6001 022.910
3 in or 76 mm, drawer, stainless steel	6001 022.310
4 in or 102 mm, drawer, stainless steel	6001 022.410
2 in or 53 mm, side access, stainless steel	6001 021.210
2.5 in or 64 mm, side access, stainless steel	6001 021.910
3 in or 76 mm, side access, stainless steel	6001 021.310
4 in or 102 mm, side access, stainless steel	6001 021.410
DWP (53 mm), side access, stainless steel	6001 021.110

Ordering information

Description	Order no.
Freezer Rack: CryoCube® F740 series (5-compartment, MAX for 5th comp.)	
2 in or 53 mm, side access, stainless steel	6001 081.210
2.5 in or 64 mm, side access, stainless steel	6001 081.910
3 in or 76 mm, side access, stainless steel	6001 081.310
4 in or 102 mm, side access, stainless steel	6001 081.410
5 in or 127 mm, side access, stainless steel	6001 081.510
DWP (53 mm), side access, stainless steel	6001 081.110
2 in or 53 mm, drawer, stainless steel	6001 082.210
2.5 in or 64 mm, drawer, stainless steel	6001 082.910
3 in or 76 mm, drawer, stainless steel	6001 082.310
4 in or 102 mm, drawer, stainless steel	6001 082.410
5 in or 127 mm, drawer, stainless steel	6001 082.510

Freezer Rack: CryoCube® F740 series (5-compartment, Standard compartment 1 – 4)

Ordering information

Description	Order no.
Freezer Rack: CryoCube® F740 series (3-compartment, MAX)	
2 in or 53 mm, side access, stainless steel	6001 071.210
2.5 in or 64 mm, side access, stainless steel	6001 071.910
3 in or 76 mm, side access, stainless steel	6001 071.310
4 in or 102 mm, side access, stainless steel	6001 071.410
5 in or 127 mm, side access, stainless steel	6001 071.510
DWP (53 mm), side access, stainless steel	6001 071.110
2 in or 53 mm, drawer, stainless steel	6001 072.210
2.5 in or 64 mm, drawer, stainless steel	6001 072.910
3 in or 76 mm, drawer, stainless steel	6001 072.310
4 in or 102 mm, drawer, stainless steel	6001 072.410
5 in or 127 mm, drawer, stainless steel	6001 072.510

Freezer Rack: CryoCube® F740 series (3-compartment, Standard)

➢ see page 275 at Innova table

Freezer Rack: Innova® C580, C760

Ordering information

Description	Order no.
2 in or 53 mm, side access, stainless steel	6001 040.210
2.5 in or 64 mm, side access, stainless steel	6001 000.910
3 in or 76 mm, side access, stainless steel	6001 000.310
4 in or 102 mm, side access, stainless steel	6001 000.410
5 in or 127 mm, side access, stainless steel	6001 000.510
DWP (53 mm), side access, stainless steel	6001 040.110
MTP, side access, stainless steel	6001 040.010
locking rod, 2 in or 53 mm, side access, stainless steel	6001 040.211
locking rod, 2.5 in or 64 mm, side access, stainless steel	6001 000.911
locking rod, 3 in or 76 mm, side access, stainless steel	6001 000.311
locking rod, 4 in or 102 mm, side access, stainless steel	6001 000.411
locking rod, DWP (53 mm), side access, stainless steel	6001 040.111
locking rod, MTP, side access, stainless steel	6001 040.011

Freezer Rack: CryoCube® FC660 series

Ordering information

Description	Order no.
2 in or 53 mm, side access, stainless steel	6001 050.210
2.5 in or 64 mm, side access, stainless steel	6001 000.910
3 in or 76 mm, side access, stainless steel	6001 000.310
4 in or 102 mm, side access, stainless steel	6001 000.410
5 in or 127 mm, side access, stainless steel	6001 000.510
DWP (53 mm), side access, stainless steel	6001 050.110
MTP, side access, stainless steel	6001 050.010
locking rod, 2 in or 53 mm, side access, stainless steel	6001 050.211
locking rod, 2.5 in or 64 mm, side access, stainless steel	6001 000.911
locking rod, 3 in or 76 mm, side access, stainless steel	6001 000.311
locking rod, 4 in or 102 mm, side access, stainless steel	6001 000.411
locking rod, DWP (53 mm), side access, stainless steel	6001 050.111
locking rod, MTP, side access, stainless steel	6001 050.011

Aluminum racks

Ordering information

Description	Order no.
Upright freezer rack: Innova® U101	
10 boxes per rack, 2 in or 53 mm, drawer, aluminum	K0641-3003
6 boxes per rack, 3 in or 76 mm, drawer, aluminum	K0641-3004
4 boxes per rack, 4 in or 102 mm, drawer, aluminum	K0641-3005
Chest freezer rack: Innova® C585, C760, CryoCube® FC660 series	
13 boxes per rack, 2 in or 53 mm, side access, aluminum	K0641-1690
9 boxes per rack, 3 in or 76 mm, side access, aluminum	K0641-1700
6 boxes per rack, 4 in or 102 mm, side access, aluminum	K0641-1750
Upright freezer rack: Innova® U360, U535, U725, U725-G, CryoCube® F740 series (3-compartment)	
28 boxes per rack, 2 in or 53 mm, drawer, aluminum	K0641-3000
20 boxes per rack, 3 in or 76 mm, drawer, aluminum	K0641-3001
12 boxes per rack, 4 in or 102 mm, drawer, aluminum	K0641-3002
Upright freezer rack: U410, HEF® U410, U700, CryoCube® F570 series, CryoCube® F740 series (5-compartment)	
16 boxes per rack, 2 in or 53 mm, drawer, aluminum	K0641-1900
12 boxes per rack, 3 in or 76 mm, drawer, aluminum	K0641-1890
8 boxes per rack, 4 in or 102 mm, drawer, aluminum	K0641-1880

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FREEZER ACCESSORIES

FREEZER ACCESSORIES

Eppendorf Storage Boxes

In Need of Housekeeping?
The Eppendorf Storage Boxes are a complete system solution for sample storage. The comprehensive modular concept allows you to select the optimal box combinations for your individual storage demands. The outer footprint dimensions (133 mm) are compatible with common freezer rack systems. The different inner grids provide a perfect fit for all typical tube formats: cryogenic tubes, microcentrifuge tubes, conical tubes (5 mL, 15 mL, and 50 mL), and other laboratory vessels. This space-saving approach, together with the application benefits, helps to optimize your storage and archiving of samples.

1. Transparent lid for easy and fast sample inspection

2. 5 additional inscription labels on the lid enable user-specific labeling

3. Optimal use of freezer space throught flexible combination of the different formats

4. Autoclavable (121 °C, 20 min) for sterilization

5. 15 and 50 mL conical tube boxes with ventilation slots for an evenly distributed freezing process. Prevent tube damage or breakage, which is frequently observed when freezing long tube formats in closed boxes

1. Laser-labeled, high-contrast, permanent alpanumeric markings of each location for easy sample reference and minimized risk of sample mix-up

2. Made of polypropylene (PP) for hight stability in freezing applications and a smooth opening and closing

3. Dishwasher safe for easy cleaning

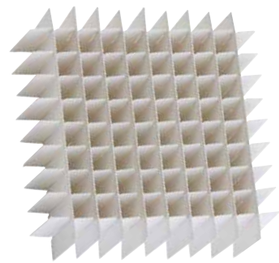
i For more information go to www.eppendorf.com

Technical specifications subject to change.

Ordering information

Description	Order no.
Storage Box 10 × 10, for 100 cryogenic tubes w. int. thread, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.508
Storage Box 9 × 9, for 81 screw cap (cryog.) tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.516
Storage Box 9 × 9, for 81 screw cap (cryog.) tubes 3 mL, 2 pcs., height 76 mm, 3 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.540
Storage Box 9 × 9, for 81 screw cap (cryog.) tubes 4 – 5 mL, 2 pcs., height 102 mm, 4 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.567
Storage Box 8 × 8, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.524
Storage Box 5 × 5, for 25 tubes 5 mL, 4 pcs., height 64 mm, 2.5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.532
Storage Box 5 × 5, for 25 tubes 5 mL screw cap, 2 pcs., height 76 mm, 3 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.613
Storage Box 5 × 5, for 25 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.583
Storage Box 3 × 3, for 9 tubes 50 mL and 4 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.591

Freezer Cardboard Storage Boxes
> White cardboard box with water resistant coating, designed to withstand ultra-low temperature
> Available in 53 mm (2 in), 76 mm (3 in), and 102 mm (4 in) tall boxes
> Compatible with box dividers 7 × 7 to 10 × 10 (dividers sold separately)
> Dimensions: 133 mm x 133 mm



Freezer Boxes Dividers
> Available in 7 × 7, 8 × 8, 9 × 9 and 10 × 10 configurations
> Compatible with freezer cardboard storage boxes (sold separately)

Ordering information

Description	Order no.
Freezer Boxes Dividers	
7 × 7, 17.4 mm max. tube diameter, holds 49 tubes	D49
8 × 8, 15 mm max. tube diameter, holds 64 tubes	D64
9 × 9, 13 mm max. tube diameter, holds 81 tubes	D81
10 × 10, 11.8 mm max. tube diameter, holds 100 tubes	D100
Freezer Cardboard Storage Boxes, white	
53 mm tall	B50-SQ
76 mm tall	B75-SQ
102 mm tall	B95-SQ

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Cell Handling

Eppendorf Eporator®

Description
The Eppendorf Eporator is a compact instrument designed for fast and controlled electroporation of bacteria, yeasts and other microorganisms. The instrument features an intuitive operation and user-friendly programming of standard methods. Experimental data can easily be exported and documented using its USB port.

Product features
> Faster sample handling – simple one-button operation
> Maximum safety via integrated cuvette holder
> Compact, space-saving design
> Self-explanatory operation guided by display indicators
> Fast, freely programmable softkeys for saving and accessing the 2 most frequently used parameter settings
> USB interface for data transfer and GLP supporting documentation

Applications
> Transformation of bacteria, yeast or microorganisms with an optimal transformation efficiency of approx. 5 ms time constant
> Mainly for delivery of plasmid DNA, but also RNA, proteins and other small molecules

Technical specifications	
Model	**Eporator**
Interfaces	USB 2.0
Dimensions (W × D × H)	19 × 27.5 × 12.5 cm
Weight w/o accessories	3.2 kg
Capacitor	10 µF
Pulse form	Exponentially decreasing
Pulse voltage	200 – 2500 V
Resistance	600 Ohm
Special features	Electronic protective circuit to prevent arcs
Time constant	Nominal 5 ms

Ordering information

Description	Order no.
Eppendorf Eporator®, for bacteria and yeasts, 230 V/50 – 60 Hz	4309 000.019
Eppendorf Cuvette Rack, 30 positions, for glass and plastic cuvettes, 2 pcs.	
polypropylene, numbered positions, autoclavable	0030 119.851

Ordering information for other voltage options begins on page 418

epServices
for premium performance

On page 394 you will find detailed information on services for these products!

Eppendorf TransferMan® 4r

Description
The user-friendly TransferMan 4r possesses an ergonomic and innovative design to meet the most demanding micromanipulation requirements. Smart functions, such as improved automated home function and position storage, enable simple and fast execution of even the most complex micromanipulation techniques. The DualSpeed™ joystick allows for precise and intuitive movement in all three dimensions, and dynamic movement for covering longer distances. It is ideal for manipulation of oocytes and early embryos, transfer of stem cells and microparticles, and a wide range of applications in non human reproductive biology. Application-specific user profiles simplify the individual workflow process with four pre-defined application masks to choose from (e.g., for cell transfer, DNA injection, etc). The freely programmable "My app" mask can be optimized according to individual needs. The TransferMan 4r is for research use only.

Applications
> Micromanipulation of oocytes and early embryos
> ES and iPS cell transfer
> Nuclear transfer
> Pronuclear and cytoplasmic injection (e.g., CRISPR/Cas, TALEN)
> Selection of individual cells (e.g., biopsies, single cell picking)
> Positioning and selection of microparticles
> Microdissection of chromosomes, etc.
> Microinjection into 3D organoids

Product features
> Unique DualSpeed™ joystick for precise and instantaneous movement control
> Maximum stability ensures vibration-free work
> One Joystick for all 3 axes (X, Y, Z) movements and in axial direction (X/Z)
> Angle adjustment from 0° to 90°
> One-hand operation for capillary and angle settings
> Programmable Z-axis limit for preventing capillary breakage
> Connection with Eppendorf PiezoXpert® and electronic microinjectors FemtoJet® 4i/4x
> Can be adapted to all conventional microscopes
> PC interface for remote control

Ordering information

Description	Order no.
Eppendorf TransferMan® 4r, micromanipulator with DualSpeed™ joystick for direct and dynamic movement control, 100 – 240 V/50 – 60 Hz	5193 000.012

Ordering information for other voltage options begins on page 418

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Eppendorf InjectMan® 4

Description
The InjectMan 4 is ideal for microinjection into adherent cells, smaller organisms and embryos in the early stages of development. In combination with the FemtoJet 4i or 4x, it enables fast semi-automatic injection. Furthermore, the InjectMan 4 is the ideal micromanipulator for all complex applications that require a dynamic movement mode and direct control of the injection process via the joystick button. The axial injection movement (X/Z direction) helps to minimize mechanical stress to the adherent cells upon injection. The high penetration speed makes injection into rigid structures easier than ever. The new user interface with four pre-defined application masks facilitates the individual workflow process (e.g., for adherent cell injection, serial microinjection into fish larvae, etc.). The freely programmable "My app" mask can be optimized for individual needs. Due to its exceptional precision and position stability, the InjectMan 4 is highly suited for applications such as patch clamp. The motor modules can be uncoupled electronically to prevent accidental movement of the micropipette. The InjectMan 4 is for research use only.

Applications
> Semi-automatic microinjection into adherent cells
> Serial microinjection into fish larvae, frog eggs, insect embryos, etc.
> Injection into living plant cells, *C. elegans* and other roundworms and flatworms
> Automatic dispensing of cell suspensions or solutions
> Stable, drift-free positioning, e.g. for electrophysiology techniques

Product features
> Maximum stability ensures drift-free work
> Electronic coupling to FemtoJet microinjectors for fast serial semi-automatic injections with highest reproducibility
> Selection and programming of advanced functions (e.g. axial movement, step injection)
> Ergonomically shaped control panel for fatigue-free work
> Easy and precise angle adjustment
> Connection with Eppendorf PiezoXpert for piezo-assisted penetration over a pre-defined distance
> Can be adapted to all conventional microscopes
> PC interface for remote control

Ordering information

Description	Order no.
Eppendorf InjectMan® 4, micromanipulator with dynamic movement control, 100 – 240 V/50 – 60 Hz	5192 000.019

Ordering information for other voltage options begins on page 418

360° ZOOM

www.eppendorf.com/injectman4-360

i For more information go to www.eppendorf.com

Technical specifications subject to change.

Technical specifications		
Model	**InjectMan 4**	**TransferMan 4r**
Motor module set		
Max. traveling distance	≥20 mm in X, Y, Z and X/Z direction	≥20 mm in X, Y, Z and X/Z direction
Weight (complete)	2.15 kg	2.15 kg
Stepper motor	X-, Y-, Z-module	X-, Y-, Z-module
Single module (X, Y, Z)		
Step size	<20 nm (computational resolution)	<20 nm (computational resolution)
Speed	0 – 10.000 µm/s	0 – 10.000 µm/s
Mechanical adjustability	>80 mm	>80 mm
Dimensions	129 × 51 × 36 mm	129 × 51 × 36 mm
Weight	570 g	570 g
Swivel joint		
Direction of rotation	-45° to +90°	-45° to +90°
Capillary exchange	Direction of rotation: forward	Direction of rotation: forward
Sample replacement	Direction of rotation: backward	Direction of rotation: backward
Angle head		
Operating angle	0° – 90°	0° – 90°
Control board		
Control	Joystick (dynamic kinetics)	Joystick (proportional and dynamic kinetics)
Speed modes	coarse, fine, x-fine	coarse, fine, x-fine
External Device/PC	Serial interface SUBD9, male	Serial interface SUBD9, male
Dimensions (W x H x D)	205 × 288 × 152 mm	205 × 288 × 152 mm
Weight	1.8 kg	1.8 kg

Accessories

	Order no.
Positioning aid, pack of 2, for mounting and re-positioning universal capillary holder and the capillary holder 4 on TransferMan® 4r and InjectMan® 4	5192 072.001
Spare parts kit	5192 071.005
Headstage holder	5192 073.008
Foot control for triggering injection with FemtoJet® 4i and FemtoJet® 4x	5252 070.020
Connection cable, for connecting TransferMan® 4r/InjectMan® 4 to FemtoJet® 4i/4x	5192 082.007
Connection cable, for connecting Eppendorf micromanipulators with FemtoJet® and FemtoJet® express	5181 070.015
Connection cable, for connecting Eppendorf micromanipulators with PC or Eppendorf PiezoXpert®	5181 150.094
Y-cable FJ4, Y-cable for connecting FemtoJet® 4i/4x with a PC and TransferMan® 4r or InjectMan® 4	5192 080.004
Y-cable PX, Y-cable for connecting Eppendorf PiezoXpert® or a PC with TransferMan® 4r or InjectMan® 4 and FemtoJet® 4i/4x	5192 081.000

Microscope Adapters for Micromanipulation Systems

Description
Eppendorf microscope adapters enable the simple installation of the TransferMan® 4r or InjectMan® 4 on all conventional inverted microscopes manufactured by Leica®, Nikon®, Olympus® and Zeiss®.

Compatible to the four major microscope brands

Description
The Universal stand can be used for mounting the TransferMan 4 and InjectMan 4 micromanipulators on upright microscopes and stereo microscopes independent of the microscope tripod used. With its magnetic foot the Universal stand can be firmly fixed to any ferromagnetic base (plate or table).

Find all available adapters here

www.eppendorf.com/microscope_adapter

Ordering information

Description	Order no.
Adapter Leica® 1, for Eppendorf micromanipulation systems, for Leica® DMi8, DMI3000 B, 3000 M, 4000 B, 5000 B, 5000 M, 6000 B, DM IRB E, HC and DM IRE 2 microscopes	5192 301.000
Adapter Leica® 2, for Eppendorf micromanipulation systems, for Leica® DM IL LED and HC microscopes	5192 302.007
Adapter Nikon® 1, for Eppendorf micromanipulation systems, for Nikon® Eclipse® Diaphot 200, 300 and Eclipse® Ti-E, Ti-U, Ti-S, TE200, TE300, TE2000 microscopes	5192 316.008
Adapter Nikon® 2, for Eppendorf micromanipulation systems, for Nikon® Eclipse® Ts2R microscope	5192 317.004
Adapter Nikon® 3, for Eppendorf micromanipulation systems, for Nikon® Eclipse Ti2-E/-A/-U microscopes	5192 318.000
Adapter Olympus® 1, for Eppendorf micromanipulation systems, for Olympus® IX50, IX51, IX70, IX71, IX80 and IX81 microscopes	5192 306.002
Adapter Olympus® 2, for Eppendorf micromanipulation systems, for microscopes of Olympus® IX3 series with illumination column IX3-ILL	5192 307.009
Adapter Olympus® 3, for Eppendorf micromanipulation systems, for microscopes of Olympus® IX3 series with illumination column IX2-ILL30	5192 308.005
Adapter Zeiss® 1, for Eppendorf micromanipulation systems, for Zeiss® Axiovert® 200, Axio Observer A1, D1, Z1 and Axio Observer 3, 5 and 7 microscopes	5192 311.006
Adapter Zeiss® 2, for Eppendorf micromanipulation systems, for Zeiss® Axio Vert.A1 microscope	5192 312.002
Universal stand, for mounting Eppendorf micromanipulators on upright microscopes and stereo microscopes independent of the microscope tripod used	5192 325.007
Adapter bridge, for mounting Eppendorf micromanipulators on microscope adapters for TransferMan® NK 2, InjectMan® NI 2 and PatchMan NP 2	5192 321.001

Antivibration Pad

Description
The antivibration pads are specifically designed to effectively protect your micromanipulation system against external vibrations. The pads are simply positioned directly under the base points of your microscope. Five different formats optimized for specific weight ranges are available to guarantee optimal results. A selection of pads specifically chosen for each microscope ensures effective protection for your sample.

Product features
> Effectively protects micromanipulation workstations from external vibrations
> Five different formats available
> Different formats can be combined for optimal adjustment

Ordering information

Description	Order no.
Antivibration Pad XS, weight range 4.5 – 6.0 kg	5181 301.009
Antivibration Pad S, weight range 6.0 – 8.0 kg	5181 303.001
Antivibration Pad M, weight range 8.0 – 10.0 kg	5181 305.004
Antivibration Pad L, weight range 10.0 – 12.5 kg	5181 307.007
Antivibration Pad XL, weight range 12.5 – 16.5 kg	5181 309.000

i It is decisive to take into account the total weight of your microscope, including the mounted accessories, and the load distribution of the individual contact points.

MICROMANIPULATION SYSTEMS

Eppendorf PiezoXpert®

Description
The Eppendorf PiezoXpert allows for piezo-assisted micromanipulation, enabling simple penetration of cells for microinjection or micromanipulation. Perforation of the cell membrane is supported by piezo impulses which are directly transferred to the capillary without any loss of intensity. Piezo-assisted micromanipulation improves the results of a variety of applications including transfer of embryonic or induced pluripotent stem cells into blastocysts and morulae, injection into mammalian oocytes and zygotes, and enucleation/nuclear transfer. The Eppendorf PiezoXpert forms the perfect system with Eppendorf micromanipulators, but it integrates just as easily into non-Eppendorf micromanipulation systems. The Eppendorf PiezoXpert is for research use only.

Product features
> Fast and simple sample processing due to intuitive operation
> Reproducible parameter setting
> Program keys to save your experimental parameters
> Trigger impulses with an ergonomic foot control or rotary knobs right on the device
> Optical feedback of triggered impulses
> Additional „Clean" function for simple removal of contamination on the outside of the capillary

Applications
> Transfer of embryonic or induced pluripotent stem cells into blastocysts or morulae
> ICSI (Intracytoplasmic Sperm Injection) in mouse, equine, porcine etc.
> Enucleation/nuclear transfer
> Blastomere biopsy from mouse embryos
> Biopsy of equine embryos for Preimplantation Genetic Diagnosis
> RNA/DNA injection into fertilized oocytes of mammals

i For more information go to www.eppendorf.com

Technical specifications subject to change.

Technical specifications	
Model	**PiezoXpert**
Interfaces	USB (for technical service), RS-232 (connection to foot control)
Power supply	100 – 240 V, 50 – 60 Hz
Max. power consumption	18 W
Dimensions (W × D × H)	17 × 23 × 11.5 cm
Weight w/o accessories	2.8 kg
Piezo impulse	
Intensity (of piezo impulses)	1 – 86 (1 – 22 adjustable in increments of 1, 22 – 86 adjustable in increments of 4)
Number (number of piezo impulses)	1 – 10, ∞ (1 – 10 adjustable in increments of 1)
Speed (frequency of piezo impulses/sec)	1 – 40 (1 – 40 adjustable in increments of 1, 1 – 10: 1 Hz per increment, 10 – 20: 2 Hz per increment, 20 – 34: 5 Hz per increment, 34 – 40: 25 Hz per increment)
Clean function	
Intensity (of piezo impulses)	1 – 86 (1 – 22 adjustable in increments of 1, 22 – 86 adjustable in increments of 4)
Speed (frequency of piezo impulses/sec)	1 – 40 (1 – 40 adjustable in increments of 1, 1 – 10: 1 Hz per increment, 10 – 20: 2 Hz per increment, 20 – 34: 5 Hz per increment, 34 – 40: 25 Hz per increment)

Ordering information

Description	Order no.
Eppendorf PiezoXpert®, for piezo-assisted micromanipulation, incl. actuator 2, foot control and spacer plate and grip head 4 size 0, 100 – 240 V/50 – 60 Hz	5194 000.016
Actuator 2, for piezo-assisted micromanipulation, as accessory for the Eppendorf PiezoXpert	5194 075.156
Grip head set 4 size 0, for microcapillaries with outer diameter 1.0 to 1.1 mm	5196 082.001
Grip head set 4 size 1, for microcapillaries with outer diameter 1.2 to 1.3 mm	5196 083.008
Grip head set 4 size 2, for microcapillaries with outer diameter 1.4 to 1.5 mm	5196 084.004
Grip head set 4 size 3, for microcapillaries with outer diameter 0.7 to 0.9 mm	5196 085.000
Tube adapter, pack of 2, for connecting tubes with an outer diameter of 2 mm or 3 mm with the capillary holder and the capillary holder 4	5194 075.407
Piezo Drill Tip Mouse ICSI, for piezo-assisted mouse ICSI (for research use only), 25° tip angle, 6 µm inner diameter, 6 mm flange, sterile, set of 25	5195 000.087
Piezo Drill Tip ES, for piezo-assisted mouse ES cell transfer (for research use only), 25° tip angle, 15 µm inner diameter, 6 mm flange, sterile, set of 25	5195 000.095

↗ Ordering information for other voltage options begins on page 418

MICROINJECTORS

CellTram® 4r Air/Oil

Description
The CellTram 4r Air and CellTram 4r Oil are manual microinjectors suitable for a broad range of life science applications. The CellTram 4r Air is a pneumatic injector for oil-free micromanipulation and gentle holding of cells in suspension. Due to its excellent performance, it is also highly suitable for uptake and injection of cells (e.g., of sperm or ES cells). For this application, its performance is comparable to that of oil-filled injectors. The CellTram 4r Oil is a hydraulic, oil-filled microinjector that provides more direct sample control and can generate higher pressures than an air system. It is optimized for leakage-free work and easy oil filling. Both models can be used with all common micromanipulation systems yet they develop their full potential with Eppendorf manipulators. The CellTram 4r Air/Oil injectors are for research use only.

1. Non-hydraulic system for oil-free manipulation and injection of cells (CellTram 4r Air)

2. Piston position scale enables setting of air volume and injection characteristics according to individual needs (CellTram 4r Air)

3. Improved oil-filling system for quick and clean re-filling (CellTram 4r Oil)

4. Coarse and fine drive for precise and intuitive sample control

5. Improved rotary knob design for better handling and easier cleaning

6. Capillary holder 4 with markings for easier positioning

7. New grip head 4 system for simple capillary change and higher user safety

8. Position indicators and marking for in/out to reduce risk of user errors

9. Stable, nonslip base plate

10. Highly reliable performance with minimal maintenance

i For more information go to www.eppendorf.com

CellTram 4r Air: Piston position scale indicates instrument status and allows for setting pressure characteristics according to individual needs

CellTram 4r Oil: The new oil-filling system helps avoid oil-spilling and facilitates the filling process

Applications
> Mouse ICSI
> Large mammal ICSI (e.g., equine, porcine...)
> Piezo-assisted micromanipulation in combination with the Eppendorf PiezoXpert®
> Transfer of cells or organelles (e.g., ES cell or iPS cell transfer into blastocysts or morulae)
> Enucleation/nuclear transfer
> (Xeno)transplantations
> Removal of cells (e.g., for polar body biopsy, blastomere biopsy or trophectoderm biopsy)
> Manual microinjection and dispensing of aqueous solutions

Technical specifications		
Model	**CellTram 4r Air**	**CellTram 4r Oil**
Cylinder volume	10 mL	1,000 µL
Max. pressure	3,000 hPa	20.000 hPa
Min. adjustable volume	< 100 nL	< 1.5 nL
Pressure generation	Cylinder/piston system, air-filled	Cylinder/piston system, oil-filled
Volume change per revolution	60 µL/600 µL (fine/ coarse rotary knob)	1 µL/10 µL (fine/ coarse rotary knob)

Ordering information	
Description	**Order no.**
CellTram® 4r Air, manual pneumatic microinjector, with gears 1:1 and 1:10, for holding and injection	5196 000.013
CellTram® 4r Oil, manual hydraulic microinjector, with gears 1:1 and 1:10, for holding and injection	5196 000.030
Capillary holder 4, for mounting microcapillaries	5196 081.005
Capillary holder 4 slim shape, for flat angle injections, for microcapillaries with outer diameter 1.0 mm	5196 062.000
Filling and Cleaning set, incl. filling tube, Luer lock adapter, 2 syringes for CellTram® 4	5196 088.000
Grip head set 4 size 0, for microcapillaries with outer diameter 1.0 to 1.1 mm	5196 082.001
Grip head set 4 size 1, for microcapillaries with outer diameter 1.2 to 1.3 mm	5196 083.008
Grip head set 4 size 2, for microcapillaries with outer diameter 1.4 to 1.5 mm	5196 084.004
Grip head set 4 size 3, for microcapillaries with outer diameter 0.7 to 0.9 mm	5196 085.000
Injection tube Air, white ring mark, I.D. 0.5 mm, length 1.3 m	5196 061.004
Injection tube Oil, blue ring mark, I.D. 1.0 mm, length 1.3 m	5196 089.006
O-ring set 4 , incl. 10 o-rings large, 10 o-rings small, 2 distance sleeves, o-ring removal tool for grip head set 4	5196 086.007

Technical specifications subject to change.

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FemtoJet® 4i and FemtoJet® 4x

Description
Eppendorf's electronic microinjectors FemtoJet 4i and FemtoJet 4x with their simple operation menu and a range of functionalities are perfectly suited for injecting small to intermediate volumes. With a built-in compressor, the FemtoJet 4i is the tool of choice for injecting aqueous solutions into adherent cells and suspension cells. If your research demands injecting volumes greater than 100 pL and/or longer series at higher pressures, FemtoJet 4x with its external pressure supply (not included) delivers the precise and continuous pressure required. Featuring the same quality design and compatibility features as the FemtoJet 4i, the FemtoJet 4x is the "heavy duty" device for those more demanding applications. Both the FemtoJet 4i and FemtoJet 4x, form the perfect system with Eppendorf micromanipulators, yet they integrate just as easily with non-Eppendorf micromanipulation systems. The electronic connection between FemtoJet 4i or 4x and TransferMan 4r or InjectMan 4 guarantees simple, rapid and reproducible microinjections into cells, simplifying your daily work and speeding up your workflow.
The FemtoJet 4i/ 4x injectors are for research use only.

Product features
> Very simple and clearly arranged operation for routine tasks
> Injection volume ranges from femtoliters to microliters
> Inject and Clean function can be triggered right on the device using the included mouse or optional foot control
> Programmable injection guarantees high reproducibility
> Connection to TransferMan 4r, InjectMan 4 or InjectMan NI 2 enables semi-automatic microinjection
> Small footprint
> Can be combined with all conventional micromanipulation systems
> Independent pressure supply via built-in compressor (only FemtoJet 4i)
> External pressure supply guarantees the continuous availability of higher injection pressures - even with large volumes and very short intervals (only FemtoJet 4x)

Gentle treatment for your cells

Minimizing mechanical trauma to your sample is critical for achieving optimal results. The new capillary holder 4 (slim shape) in combination with Eppendorf manipulators allows for injecting with straight capillaries at angles lower than 15°. This capillary holder 4 (slim shape) can be used in combination with the FemtoJet 4 as well as with the CellTram 4r. This helps to achieve highest survival rates for your developing embryos.

i For more information go to www.eppendorf.com

Technical specifications subject to change.

FemtoJet® 4i

Description
The electronic microinjector, FemtoJet 4i, with its simple operation and wide range of functionality is ideally suited for injecting small to intermediate volumes of up to 100 pL into adherent cells and suspension cells for research purposes. The FemtoJet 4i with its built-in compressor forms a perfect team with Eppendorf micromanipulators, but it integrates just as easily with non-Eppendorf micromanipulator systems.
The electronic connection between FemtoJet 4i and TransferMan 4r and InjectMan 4 guarantees simple, rapid and reproducible microinjections into cells.

Applications
> Reproducible and serial microinjection into adherent cells when combined with the InjectMan 4 or InjectMan NI 2 micromanipulator
> Pronuclear or cytoplasmic injection of RNA/DNA solutions into fertilized oocytes of mammals, when combined with the TransferMan 4r micromanipulator
> Especially well suited for injection volumes from femtoliters to 100 pL

FemtoJet® 4x

Description
The FemtoJet 4x is the ideal solution if your research demands injection volumes greater than 100 pL and/or longer series at higher pressures – increasingly seen in functional genomics and developmental biology applications.
The FemtoJet 4x with its external pressure supply (not included) delivers the precise and continuous pressure required. Featuring the same quality design and compatibility as the FemtoJet 4i, the 4x model is the "heavy duty" device for those more demanding applications.

Applications
> Microinjection into small organisms and embryos in the early stages of development (e.g., *Drosophila melanogaster*, Zebrafish, etc.)
> Especially well suited for serial injection volumes from 100 pL to 1 µL or more

Typical Injection Volume	FemtoJet 4i			FemtoJet 4x
Cell nucleus of adherent cells				
Cytoplasm of adherent cells				
Pronucleus of fertilized mouse oocytes				
Caenorhabditis elegans				
Fish embryos in early development phases				
Xenopus laevis oocytes				
Volume (liter, logarithm, measurement unit)	10^{-15}	10^{-12}	10^{-9}	10^{-6}
Unit	femtoliter	picoliter	nanoliter	microliter

FemtoJet 4i is suitable for applications that require lower volume ranges; FemtoJet 4x is better suited for applications that require higher volume ranges. Both feature the same injection time and pressure parameters.

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MICROINJECTORS

FemtoJet® 4i and FemtoJet® 4x

Both the FemtoJet 4i and FemtoJet 4x, can easily be combined for all types of micromanipulators, yet they form the perfect system with Eppendorf micromanipulators.

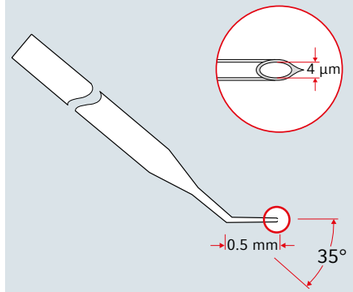
Technical specifications		
Model	**FemtoJet 4i**	**FemtoJet 4x**
Dimensions (W × D × H)	21.3 × 20.7 × 25 cm	21.3 × 20.7 × 25 cm
Weight w/o accessories	5 kg	3.5 kg
Clean function	Max. 6,000 hPa (87 psi)	Max. 6,000 hPa (87 psi)
Compensation pressure	5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa	5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa
Injection pressure	5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa	5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa
Pressure supply	Integrated compressor	External pressure supply (not included)

Ordering information	
Description	**Order no.**
FemtoJet® 4i, programmable microinjector with integrated pressure supply, including foot control	5252 000.013
FemtoJet® 4x, programmable microinjector with external pressure supply (not included), including foot control	5253 000.017
Capillary holder 4, for mounting microcapillaries	5196 081.005
Capillary holder 4 slim shape, for flat angle injections, for microcapillaries with outer diameter 1.0 mm	5196 062.000
Injection tube, for universal capillary holder and capillary holder 4, 2 m	5252 070.054
O-ring set 4 , incl. 10 o-rings large, 10 o-rings small, 2 distance sleeves, o-ring removal tool for grip head set 4	5196 086.007
Grip head set 4 size 0, for microcapillaries with outer diameter 1.0 to 1.1 mm	5196 082.001
Grip head set 4 size 1, for microcapillaries with outer diameter 1.2 to 1.3 mm	5196 083.008
Grip head set 4 size 2, for microcapillaries with outer diameter 1.4 to 1.5 mm	5196 084.004
Grip head set 4 size 3, for microcapillaries with outer diameter 0.7 to 0.9 mm	5196 085.000
Grip head set 4 (slim shape), for Capillary holder 4 slim shape incl. 6 O-rings and 2 distance sleeves, for capillaries with outer diameter 1.0 mm	5196 063.007
Hand control, for triggering inject function	5252 070.011
Y-cable FJ4, Y-cable for connecting FemtoJet® 4i/4x with a PC and TransferMan® 4r or InjectMan® 4	5192 080.004
Y-cable PX, Y-cable for connecting Eppendorf PiezoXpert® or a PC with TransferMan® 4r or InjectMan® 4 and FemtoJet® 4i/4x	5192 081.000

Ordering information for other voltage options begins on page 418

Cell Transfer Capillaries

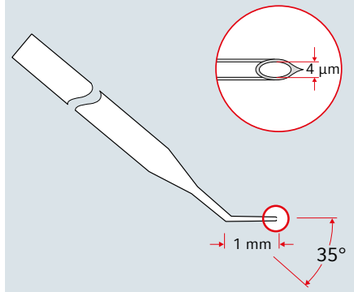
TransferTip® RP (ICSI)



Applications
> Sperm transfer into oocytes

Description
> 4 µm inner diameter
> 35° tip angle
> 0.5 µm flange length
> Fine tapered and rigid tip flange for optimal cell penetration
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)

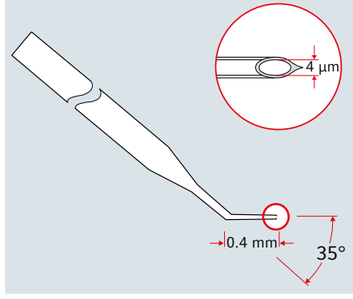
TransferTip® R (ICSI)



Applications
> Sperm transfer into oocytes

Description
> 4 µm inner diameter
> 35° tip angle
> 1 µm flange length
> Rigid tip flange for successful penetration
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

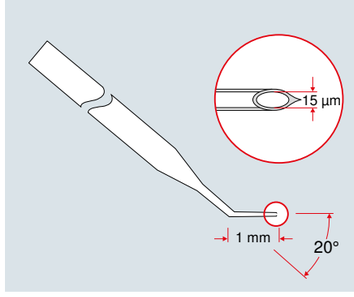
TransferTip® F (ICSI)



Applications
> Sperm transfer into oocytes

Description
> 4 µm inner diameter
> 35° tip angle
> 0.4 µm flange length
> Fine tapered and flexible tip flange for minimal cell trauma
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

TransferTip® (ES)

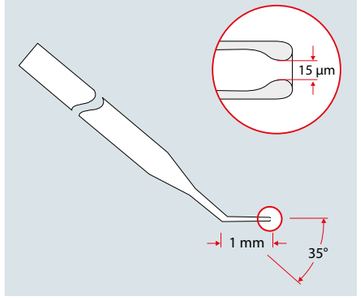


Applications
> Transfer of ES cells into mouse blastocyst or morula

Description
> 15 µm inner diameter
> 20° tip angle
> Rigid flange, 1 mm length
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Capillary safe for optimum protection

Holding Capillaries

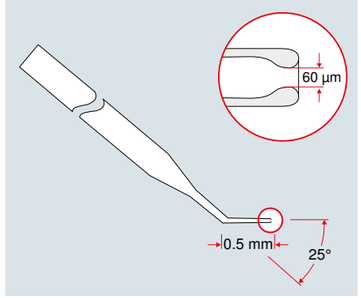
VacuTip I



Applications
> For holding oocytes, blastocysts, etc.

Description
> 15 µm inner diameter
> 100 µm outer diameter
> 35° tip angle
> Flange length 1 mm
> Smooth, rounded tip end for gentle holding
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

VacuTip II

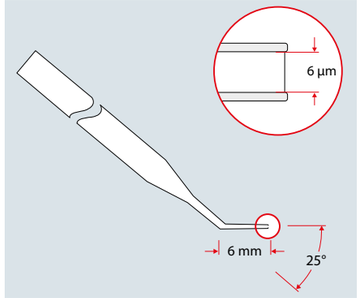


Applications
> For holding oocytes, blastocysts, etc.

Description
> 60 µm inner diameter
> 110 µm outer diameter
> 25° tip angle
> Flange length 0.5 mm
> Smooth rounded tip end for gentle holding
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

Capillaries for Piezo-assisted Cell Transfer

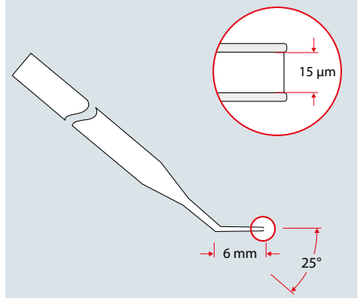
Piezo Drill Tip Mouse ICSI



Applications
> Piezo-assisted transfer of sperms into mouse oocytes

Description
> 6 µm inner diameter
> 25° tip angle for optimal pulse transfer
> 6 mm flange length
> Non-polished, blunt tip end for optimal piezo pulse force transfer and minimal trauma
> Sterilized via validated gamma irradiation
> Capillary safe for optimum protection

Piezo Drill Tip ES



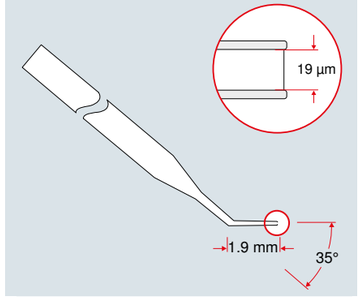
Applications
> Piezo-assisted transfer of embryonic stem cells into blastocysts

Description
> 15 µm inner diameter
> 25 ° tip angle for optimal pulse transfer
> 6 mm flange length
> Non-polished, blunt tip end for optimal piezo pulse force transfer and minimal trauma
> Sterilized via validated gamma irradiation
> Capillary safe for optimum protection

Technical specifications subject to change.

Biopsy Tips

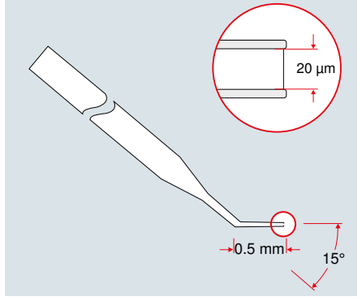
Biopsy Tip I



Applications
> Laser-assisted biopsy of cells and organelles

Description
> 19 µm inner diameter
> 35° tip angle
> 1.9 mm flange length
> Rounded tip end to minimize oolemma trauma
> Sterilized via validated gamma radiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

Biopsy Tip II



Applications
> Laser-assisted biopsy of cells and organelles

Description
> 20 µm inner diameter
> 15° tip angle
> 0.5 mm flange length
> Rounded tip end to minimize oolemma trauma
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

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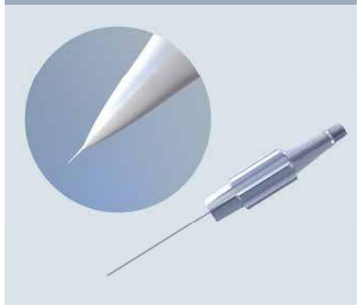
Microinjection Capillaries

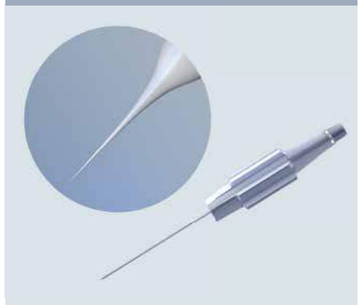
Femtotips®



Applications
> Injection into adherent cells
> Near-surface injection into oocytes, early stage embryos and smaller organisms

Description
> 0.5 µm inner diameter
> Screw-in thread for quick assembly into FemtoJet capillary holder
> Sterile
> 100 % individual testing of every Femtotip using a flow parameter
> Safe transport packaging

Femtotip II



Applications
> Injection into adherent cells
> Deep injection into mammalien oocytes, early stage embryos (e.g. Zebrafish) and smaller organisms

Description
> 0.5 µm inner diameter
> Screw-in thread for quick assembly into FemtoJet capillary holder
> Sterile
> 100 % individual testing of every Femtotip using a flow parameter
> Safe transport packaging

Microloader™

Eppendorf Microloader™

Applications
> Pipette tip for back-filling of Femtotips and other microcapillaries

Description
> Extremely long, fine and flexible tip for filling of microcapillaries for microinjection and where additional reach is needed
> Microloader tips and rack autoclavable
> Highest precision and accuracy when used with Eppendorf pipettes for 0.5 to 10 µL (gray control button)

Learn more:
eppendorf.com/microcapillaries

Ordering information

Description	Order no.
Microloader™, tip for filling Femtotips and other glass microcapillaries (for research use only), 0.5 – 20 µL, 100 mm, light gray, 192 pcs. (2 racks × 96 pcs.)	5242 956.003
Femtotips®, injection capillary (for research use only), sterile, set of 20	5242 952.008
Femtotip II, injection capillary (for research use only), sterile, set of 20	5242 957.000
VacuTip I, holding capillary (for research use only), 35° tip angle, 15 µm inner diameter, 100 µm outer diameter, 1 mm flange, sterile, set of 25	5195 000.036
VacuTip II, holding capillary (for research use only), 25° tip angle, 60 µm inner diameter, 100 µm outer diameter, 0.5 mm flange, sterile, set of 25	5195 000.044
TransferTip® RP (ICSI), for sperm injection using the ICSI technique (for research use only), 35° tip angle, 4 µm inner diameter, 0.5 mm flange, sterile, set of 25	5195 000.010
TransferTip® F (ICSI), for sperm injection using the ICSI technique (for research use only), 35° tip angle, 4 µm inner diameter, 0.4 mm flange, sterile, set of 25	5195 000.001
TransferTip® R (ICSI), for sperm injection using the ICSI technique (for research use only), 35° tip angle, 4 µm inner diameter, 1 mm flange, sterile, set of 25	5195 000.028
Biopsy Tip I, capillary for laser-assisted biopsy of cells and organelles (for research use only), 35° tip angle, 19 µm inner diameter, 1.9 mm flange, sterile, set of 25	5195 000.052
Biopsy Tip II, capillary for laser-assisted biopsy of cells and organelles (for research use only), 15° tip angle, 20 µm inner diameter, 0.5 mm flange, sterile, set of 25	5195 000.060
TransferTip® (ES), for ES cell transfer (for research use only), 20° tip angle, 15 µm inner diameter, 1 mm flange, sterile, set of 25	5195 000.079
Piezo Drill Tip Mouse ICSI, for piezo-assisted mouse ICSI (for research use only), 25° tip angle, 6 µm inner diameter, 6 mm flange, sterile, set of 25	5195 000.087
Piezo Drill Tip ES, for piezo-assisted mouse ES cell transfer (for research use only), 25° tip angle, 15 µm inner diameter, 6 mm flange, sterile, set of 25	5195 000.095

Technical specifications subject to change.

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Workstations for Microinjection and Micromanipulation

Workstation for cell transfer and injection and related techniques
Recommended setup:
> 2 × TransferMan® 4r
> 1 × Microscope adapter (to be specified at time of order)
> 1 × CellTram® 4r Air
> 1 × CellTram® 4r Oil
> 1 × set of 25 TransferTip® microcapillaries (to be specified at time of order)
> 1 × set of antivibration pads (number and format depending on setup)

Optional for piezo-assisted micromanipulation:
> 1 × Eppendorf PiezoXpert®
> 1 × set of 25 Piezo Drill Tips (to be specified at time of order)

Workstation for injection into adherent cells, plant cells, *Drosophila*, *C.elegans*, etc.
Recommended setup:
> 1 × InjectMan® 4
> 1 × Microscope adapter (to be specified at time of order)
> 1 × FemtoJet® 4i or FemtoJet® 4x
> 1 × set of 20 Femtotips® (to be specified at time of order)
> 2 × racks of 96 Microloader
> 1 × set of antivibration pads (number and format depending on setup)

Optional for adherent cell injection:
> 1 × Eppendorf Cell Imaging Dishes

Workstation for pronulear and cytoplasmic injection of nucleic acid solutions
Recommended setup:
> 2 × TransferMan® 4r
> 1 × Microscope adapter (to be specified at time of order)
> 1 × CellTram® 4r Air
> 1 × FemtoJet® 4i or FemtoJet® 4x
> 1 × set of 20 Femtotip II
> 2 × racks of 96 Microloader
> 1 × set of antivibration pads (number and format depending on setup)

Optional for piezo-assisted micromanipulation:
> 1 × Eppendorf PiezoXpert®
> If necessary: 1 x Y cable PX)

Workstation for injection into fish embryos
Recommended setup:
> 1 × InjectMan 4
> 1 × Universal stand
> 1 × FemtoJet® 4x
> 1 × set of 20 Femtotips® (to be specified at time of order)
> 2 × racks of 96 Microloader

Optional for piezo-assisted injection:
> 1 × Eppendorf PiezoXpert®

i For more information go to www.eppendorf.com

Technical specifications subject to change.

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Eppendorf Cell Culture Consumables

Description
Experience a new dimension in cell culture with Eppendorf Cell Culture Consumables. These products meet your needs for excellent cell performance and reliability as well as for advanced protection against contamination.
Innovative technologies for surface activation deliver a tissue-culture-treated (TC treated) surface with outstanding homogeneity.
The planarity and transparency of all surfaces contribute to an optical performance that not only facilitates your routine analysis, but also saves time during automated read-out.
In all formats, we focused on advanced handling, secure stacking, and easy identification, readability and tracking.
The new packaging concept provides complete protection during transportation, tool-free opening, easy resealing for safe and clean storage, and fast identification of the desired product. The boxes and bags are very compact for space saving storage. Learn more about the truly comprehensive solutions for cell culture on the following pages.

www

www.eppendorf.com/ccc

Applications
> Expansion and culture of adherent and suspension cells on TC treated or on non-treated polystyrene
> Performance of cell-based assays and microscopic analysis

All Cell Culture Consumables	
Surface	Tissue culture treated or non-treated
Sterility / Purity	All products are sterile. Sterility is assured by irradiation according to DIN EN ISO 11137-2015 with sterility assurance level (SAL) of 10^{-6}. Sterility is tested according to USP, Ph. Eur. 2.6.12.
Material	Polysterene. The raw material used complies with USP Class VI standards
Certficates	
Trace metal release	Al, Pb, Cd, Ca, Cr, Cu, Mg, Mn, Ni, Hg, Zn (measured with inductively coupled plasma - mass spectrometry after 72 h at 40°C incubation)
Leachables	Material suppliers of Eppendorf do not use or intentionally incorporate the following agents into the materials for the production: > Slip agents (including oleamide, erucamide, stearamides) > Biocides (including di(2-hydroxyethyl) methyldodecylammonium salts (DiHEMDA)) > Plasticizers (including phthalates) > Bisphenol A > Latex > Antistatic agents > Metallic dyes > Mineral oil

Technical specifications subject to change.

Improve your cell culture experiments with smart solutions
Did you ever realize that the seemingly simple plastic surface of your cultureware can have a significant impact on the growth and metabolism of your cells? Together with the medium nothing comes closer to your cells, especially for a long duration. Therefore, the chemical composition including all additives and the absence of certain factors is crucial. In addition to smart solutions for contamination prevention, simplified handling and improved optical performance, Eppendorf cell culture consumables offer a transparent and certified insight into material quality.

For improved reproducibility with minimized interference of your cell culture results.

Did you ever think about the impact the chemical composition and quality of the cultureware has on your cells?

All Cell Culture Consumables	
Cytotoxicity testing	Tested in a cell-based assay for in-vitro cytotoxicity according to ISO 10993-5 by an external partner
Download certificates	www.eppendorf.com > Cell Culture Consumables > Certificates
Lot-specific certficates	
Sterility	SAL 10^{-6}
Absence of	> Pyrogens > RNase and DNase > DNA
Performance of TC-treatment	Cell attachment and cell growth tested
Production conditions	Quality management system is certified according to ISO 9001, 13485 and 14001 All Eppendorf Cell Culture Consumablesare produced in a controlled class 7 clean room environment according to ISO 14644-1 and EG-GMP Class
Download certificates	www.eppendorf.com > Cell Culture Consumables > Certificates
Operating temperature	-86 °C to 60 °C
Storage before use	Store dry and at RT. Protect from sunlight and UV rays

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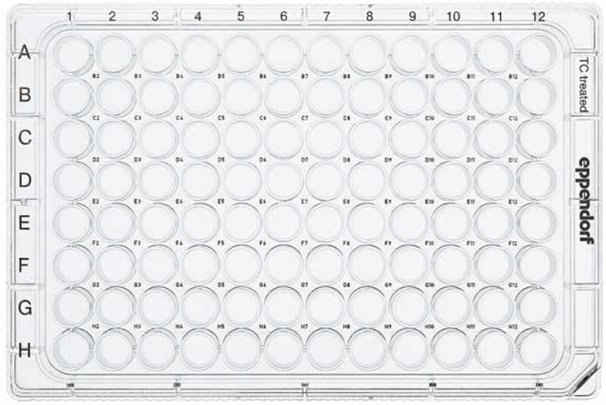
Eppendorf Cell Culture Plates

Description
Keep your cells warm outside the incubator, avoid the edge effect and use more wells.

Eppendorf Cell Culture Plates are designed for expansion of smaller cell numbers and for cell-based assays.

The chimney-well design avoids inhomogeneous growth of cells in the outer ring of wells which reduces costs and increases efficiency. If cells need to spend more time outside of the incubator, filling the inter-well spaces of the plate will keep the temperature stable and prevent unwanted temperature shifts. We optimized the optical performance by enhancement of the planarity, material clarity, and reduction of the liquid meniscus to facilitate both manual and automated read-out.



Product features
> Prevent the edge effect and use 38% more wells by filling the moat surrounding the outer wells with liquid
> Level out well-to-well temperature shifts outside the incubator by chimney-well design that enables filling of the inter-well spaces
> Robust stacking performance by pronounced rims on plate lid and excellent fitting of lid and base when used in stacks
> Minimized surface contact and reduced contamination risk by lid taps under the plate
> Easy and fast well identification by contrast rich individual well ID and OptiTrack alphanumeric labeling
> Easy differentiation of lid and plate bottom due to a pronounced corrugation and wider sized base
> Optimized gas and temperature transfer when incubating in stacks by pronounced ventilation gaps
> Optimized microscopical performance due to enhanced planarity, reduction of meniscus and clarity of the material

Plates

	6-Well	12-Well	24-Well	48-Well	96-Well
Theoretical total volume	16.0 mL	6.8 mL	3.6 mL	1.5 mL	0.4 mL
Work volume	3 – 5 mL	1 – 2 mL	0.5 – 1 mL	0.3 – 0.5 mL	0.1 – 0.2 mL
Growth area/well[1)]	940.3 mm^2	391.1 mm^2	208.9 mm^2	85.6 mm^2	37.0 mm^2
Well diameter	34.6 mm	22.4 mm	16.2 mm	10.4 mm	6.8 mm
L × W × H	127.8 × 85.5 × 20.0 mm	127.8 × 85.5 × 20.0 mm	127.8 × 85.5 × 20.0 mm	127.8 × 85.5 × 20.0 mm	127.8 × 85.5 × 14.4 mm
Height with lid	23.2 mm	23.2 mm	23.2 mm	23.2 mm	17.6 mm
Dimensions	Conforms to ANSI/SBS I	Conforms to ANSI/SBS I	Conforms to ANSI/SBS I	Conforms to ANSI/SBS I	Conforms to ANSI/SBS I to V
Centrifugation	Can be centrifuged up to 2,500 x g. When stacked (up to 5 for 96-Well plates and up to 4 for all other formats) can be centrifuged up to 300 x g.				

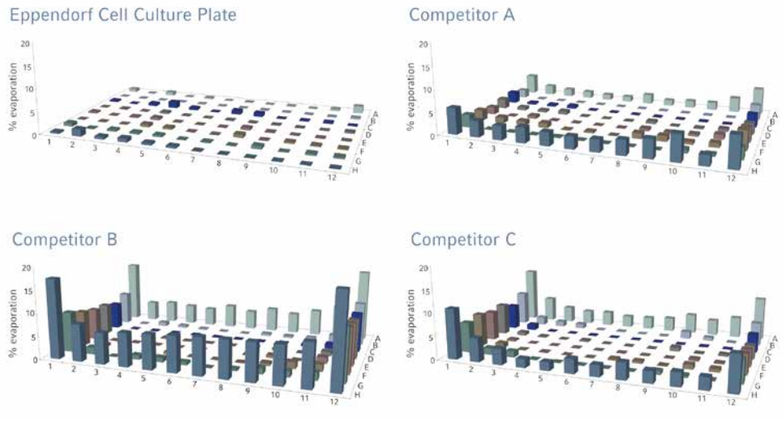
[1)] For the initial seeding of cells, take into account the growth area in order to support optimal cell growth.

Eppendorf Cell Culture Plates

Enhance reproducibility and use up to 38% more wells
Evaporation of cell culture medium plays a critical role in multi-well based cellular assays because it can deteriorate assay performance. As evaporation mainly affects the peripheral wells of a plate this phenomenon is called the edge effect. With the Eppendorf 96-Well Cell Culture Plate evaporation from the wells can be reduced to a minimum. The plate offers two options for insulating the wells. A moat surrounding the edge wells and the complete chimney design of the inner wells allow filling of the complete inter-well space with liquid. Together this results in a more homogeneous distribution of temperature and humidity throughout the plate and reduces the edge effect.

The filling of the surrounding moat prevents edge effect and yields up to 38 % more usable wells

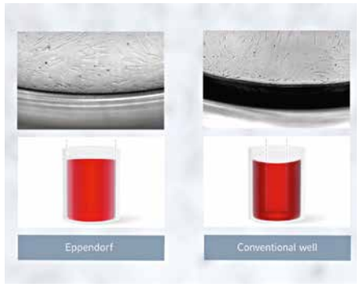
Filling the complete inter-well space enables for additional insulation of all 96 wells. This not only prevents the edge effect, it also prevents well-to-well temperature shifts outside the incubator



Comparison of evaporation in different 96-well plates
A comparison of different 96-well cell culture plates shows that filling the outer moat of the Eppendorf Cell Culture Plate leads to a superior well-to-well consistency in cell growth in the Eppendorf Cell Culture Plate. By this, the phenomenon of the edge effect can be minimized leading to reproducible performance in cell-based assays. For more information see Application Notes 326 and 384.

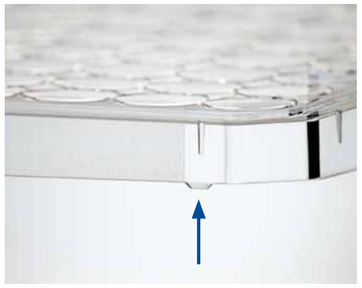
Eppendorf Cell Culture Plates

See more cells, improve assays



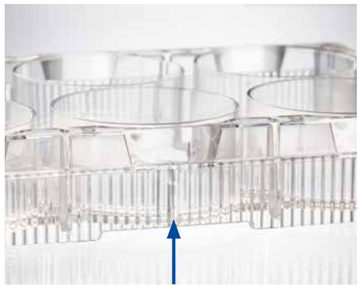
Uneven TC-surface treatment during production of vessels leads to meniscus formation. This causes optical interference resulting in shadow-formation at the edge of the well. Here, observation of the growth area is impeded and valuable clones get lost in analysis. A specialized surface treatment for Epppendorf Cell Culture Plates avoids this effect.

Safely place your lids and get your hands free



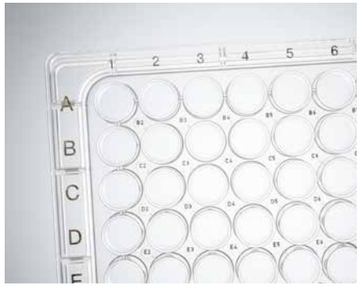
What do you do with your lids when you open plates for pipetting? Keep them in one hand and complicate handling? Or do you put them on the bench surface and risk contamination? You do not have to choose: with Eppendorf Cell Culture Plates you get your hands free and reduce the risk of contamination.

Reproducibility in stacks



Did you ever see a variation of cell growth on different plates of the same stack? The reason is often a temperature heterogeneity caused by impaired air flow between the plates. Ventilation gaps ensure proper airflow and avoid vacuum-formation for enhanced handling safety outside the incubator.

Identify your wells fast, easy and securely



Ever wondered why the labelling of individual wells or alpha-numerics on some cell culture plates is transparent on a transparent background? This seemingly little detail can result in pipetting errors, cross-contamination and time-consuming sample-loss. The lasered high contrast OptiTrack® matrix and individual well ID labelling ensures easy, fast and secure identification - without ink.

Technical specifications subject to change.

Eppendorf Cell Culture Dishes

Description
Whenever you need direct access to your cells, dishes are the format of choice. Eppendorf cell culture dishes were designed with a focus on improved handling and stacking performance to ensure a new level of safe and carefree usage. It all starts with the packaging: the innovative design can be easily opened without tools and resealed without tape. The bags are shrinkable for space-saving and safe storage of unused dishes. With the Eppendorf dishes, a corrugated handling ring provides safety in handling during transportation and expansion of cells. A SplashProtect™ ring inside the dish lid prevents spillage and traps fluid if condensation occurs. Combined with the outstanding, sturdy stacking, our cell culture dishes are unparalleled in their ease of transport and handling, safety, and convenience.

Product features
> Unsurpassed safety in handling during transportation and while working due to corrugated handling ring
> SplashProtect™ ring inside of the dish lid traps liquid and prevents spills during transportation or incubation
> Pronounced rim on dish lid and exact fitting of lid and bottom ensure sturdy, secure stacking
> Easy differentiation of lid and dish bottom prevents unintended removal of the lid
> Packaging combines tool-free opening, resealable top and side for tape-free closing, and an easy solution to shrink the package for space-conscious storage
> SAL 10^{-6}
> Certificates for leachables, trace metals, cytotoxicity etc. available

Dishes			
	35 mm	**60 mm**	**100 mm**
Theoretical total volume	8.1 mL	26.6 mL	99.2 mL
Work volume	2.0 – 3.0 mL	3.0 – 5.0 mL	8.0 – 10.0 mL
Growth area	9.5 cm^2	21.9 cm^2	56.8 cm^2
Diameter × height	36.7 × 10.8 mm	59.7 × 14.0 mm	93.8 × 19.4 mm
Height with lid	12.5 mm	15.7 mm	21.3 mm
Centrifugation	Cannot be centrifuged.		

Safe handling by corrugated handling ring

The SplashProtect™ ring on the inside of the lide traps liquid and prevents spills during transport or incubation

Easy and tape-free closing is possible by a package-included resealing clip

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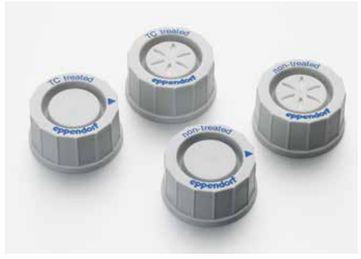
Eppendorf Cell Culture Flasks

Description
Flasks are the preferred vessel for long term cultivation or large-scale expansion of cells, providing the best protection against contamination. Unsurpassed protection of your cells from contaminants was one of the key requirements in developing the Eppendorf Cell Culture Flasks. A new, high efficiency air filter technology combines excellent protection with reliable gas exchange. In-line pressure testing for each flask guarantees leakage-free flasks for maximum workflow safety. The unique ConvexAccess™ shape of the neck facilitates the access to the growth area and makes cell seeding and media exchange much more convenient, safe, and reliable.

Product features
> ConvexAcces™ geometry for facilitated access to growth area and easier and safe cell treatment
> Optimized gas exchange and protection against contamination through high efficiency air filter technology
> Defined arrested position on plug-seal caps to prevent undesired closing
> Anti-rolling cap with corrugation facilitates cultivation steps when the cap needs to be set aside
> 100 % in-line control for leakage-free flasks and maximum safety
> Direct surface identification on flask and cap
> SAL 10^{-6}
> Certificates for leachables, trace metals, cytotoxicity etc. available

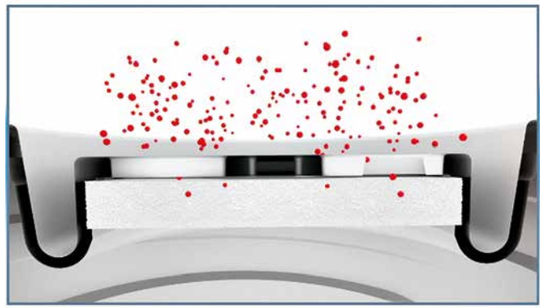
Flasks			
	T-25	**T-75**	**T-175**
Theoretical total volume	83.6 mL	279.8 mL	662.1 mL
Work volume	3.0 – 7.0 mL	8.0 – 20.0 mL	20.0 – 30.0 mL
Growth area	26.9 cm^2	77.9 cm^2	179.5 cm^2
L × W × H	99.0 × 56.0 × 37.0 mm	163.0 × 82.0 × 46.6 mm	230.0 × 122.0 × 48.0 mm
Centrifugation	Can be centrifuged with the suitable adapters; refer to the manufacturer's instruction.		

ConvexAccess™ neck for better and safer access to the growth surface

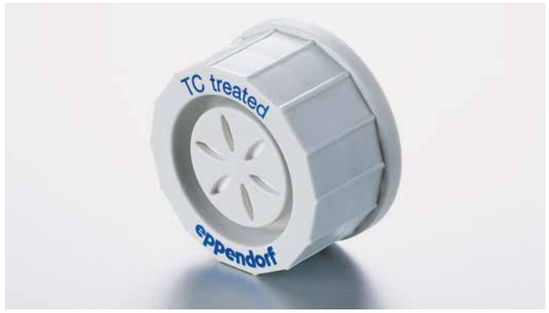


Various filter and plug seal caps with clear surface labelling are available

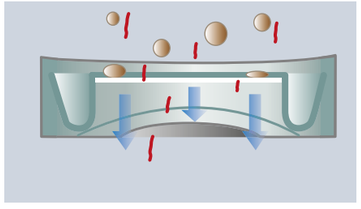
Protect your cells from contamination with new filter technology
Membrane filters, known to guarantee protection against contamination and optimal gas exchange were the state of the art up to now. Eppendorf reinvented the filter technology for Cell Culture Flasks for a higher safety standard and better contamination protection.



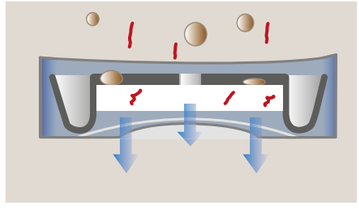
New volume filter technology
Instead of utilizing thin membrane filters Eppendorf filter caps are equipped with a reinvented high efficiency volume filter providing reliable gas exchange and better protection aigainst airborne particles (Read more in our Whitepaper 024)

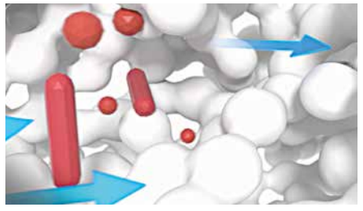


Just place your caps on the side
How do you place your caps under the biosafety cabinet? Inside up or inside down? How about placing them on the side for optimal contamination prevention?



Standard membrane filter
Membrane filter with defined and constant pore size. Particles smaller than this (e.g., Mycoplasma) size can pass through





Eppendorf volume filter technology
The labyrinthine arrangement of filter pores in various sizes combined with greater filter thickness enable higher efficiency in holding back contaminants, such as bacteria, virus or mycoplasma, and therefore, in preventing contamination

How to prevent contamination in your cell culture lab?

www.eppendorf.com/ccflasks-video2

Download Whitepaper: Improved Handling of Cells and Protection against Contamination

www.eppendorf.com/whitepaper024

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Eppendorf Cell Culture Consumables

Ordering information

Description	Order no.
Eppendorf Cell Culture Plates, 6-Well, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 5 mL, 60 plates, individually wrapped	0030 720.113
Non-Treated, 5 mL, 60 plates, individually wrapped	0030 720.016
TC Treated, 5 mL, 100 plates (10 bags × 10 plates)	0030 720.130
Eppendorf Cell Culture Plates, 12-Well, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 2 mL, 60 plates, individually wrapped	0030 721.110
Non-Treated, 2 mL, 60 plates, individually wrapped	0030 721.012
Eppendorf Cell Culture Plates, 24-Well, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 1 mL, 60 plates, individually wrapped	0030 722.116
Non-Treated, 1 mL, 60 plates, individually wrapped	0030 722.019
Eppendorf Cell Culture Plates, 48-Well, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 0.5 mL, 60 plates, individually wrapped	0030 723.112
Non-Treated, 0.5 mL, 60 plates, individually wrapped	0030 723.015
Eppendorf Cell Culture Plates, 96-Well, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 0.2 mL, 80 plates, individually wrapped	0030 730.119
Non-Treated, 0.2 mL, 80 plates, individually wrapped	0030 730.011
TC Treated, 0.2 mL, 100 plates (10 bags × 10 plates)	0030 730.135

Ordering information

Description	Order no.
Eppendorf Cell Culture Dishes, 35 mm, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 3.0 mL, 300 dishes (30 bags × 10 dishes)	0030 700.112
Non-Treated, 3.0 mL, 300 dishes (30 bags × 10 dishes)	0030 700.015
Eppendorf Cell Culture Dishes, 60 mm, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 5.0 mL, 300 dishes (30 bags × 10 dishes)	0030 701.119
Non-Treated, 5.0 mL, 300 dishes (30 bags × 10 dishes)	0030 701.011
Eppendorf Cell Culture Dishes, 100 mm, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
TC Treated, 10.0 mL, 300 dishes (30 bags × 10 dishes)	0030 702.115
Non-Treated, 10.0 mL, 300 dishes (30 bags × 10 dishes)	0030 702.018

Ordering information

Description	Order no.
Eppendorf Cell Culture Flasks T-25, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
with filter cap, TC Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks)	0030 710.126
with plug-seal cap, TC Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks)	0030 710.118
with filter cap, Non-Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks)	0030 710.029
with plug-seal cap, Non-Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks)	0030 710.010
Eppendorf Cell Culture Flasks T-75, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
with filter cap, TC Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks)	0030 711.122
TC Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks)	0030 711.114
with filter cap, Non-Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks)	0030 711.025
with plug-seal cap, Non-Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks)	0030 711.017
Eppendorf Cell Culture Flasks T-175, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
with filter cap, TC Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks)	0030 712.129
with plug-seal cap, TC Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks)	0030 712.110
with filter cap, Non-Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks)	0030 712.021
with plug-seal cap, Non-Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks)	0030 712.013

Technical specifications subject to change.

CCCadvanced® FN1 motifs

Description
Tired of spending precious lab time coating vessels for your iPSC- or MSC-culture, sometimes even with unpredictable culturing results? How about a xeno-free or even better, a synthetic surface ready-to-use for fully defined conditions of your stem cell culture? Improve your experiments with the new CCCadvanced® FN1 motifs cultureware today.

Get a sample, let us support you with transition and convince yourself.

Product features
> Ready-to-use, synthetic surface for reliable expansion and differentiation
> Synthetic fibronectin-derived motifs with optimized steric configuration
> Easy logistics with long shelf life of 36 months at room temperature
> Advanced protection against contamination and temperature shifts outside the incubator
> Guideline for easy transition of iPSCs to FN1 motifs surface available

Main applications
Expansion and differentiation of:
> Stem cells (e.g., hiPSCs, hMSCs)
> Primary cells
> Other ECM-sensitive eukaryotic cells
> Feeder-free cell culture
> Restrictive culture conditions (serum-and xeno-free)

Available formats: 6/24-well plates and T-75/T-175 flasks

Papers on detailed expansion analysis

hiPSCs - Long-term expansion
Analysis of growth rate, morphology and differentiation potetial during 20 successive passages + comparison to Corning® Matrigel®

www.eppendorf.com/appnote389

hMSCs-BM - Long-term expansion
Analysis of growth rate, morphology and differentiation potential during 10 successive passages + comparison to competitors

www.eppendorf.com/appnote390

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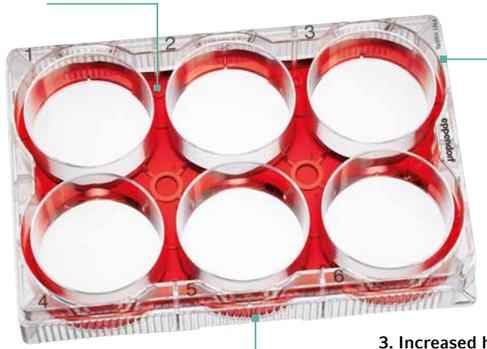
Optimized to protect your stem cells

1. Optimized temperature stability during handling outside the incubator
with inter-well space filling

2. Safer transport in stacks
with stacking aid on the lid



3. Increased handling safety
with easy differentiation of lid and plate

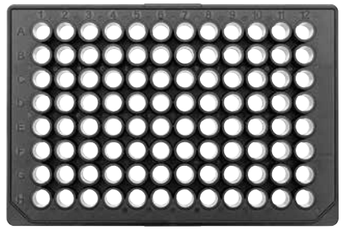
Materials	
Material	Polystyrene, meets requirements of USP Class VI
Quality Management System (QMS)	Manufactured in compliance to the standard QMS requirements (e.g. ISO 13485)
Surface	Coated with synthetic fibronectin-derived motifs (optimized steric configuration to mimic ECM proteins)
Xeno-free	Manufactured by using animal- and human-component-free materials
Compatibility	Compatible with a broad range of cell dissociation reagents as well as serum-, animal- and human component-free media. More information under www.eppendorf.com/ccc-advanced-shop under „Notes & Papers“
Ambient Conditions	
Working Temperature	15 °C to 37 °C
Storage and shelf life	Shelf life of 36 months from date of manufacture (stored dry at 15 °C to 30 °C)
Certificates	
General	> Leachables > Trace metal release > Production conditions > Purity and cytotoxicity
Lot-specific	> Free from RNAse/DNase, human DNA, bacterial DNA, endotoxins > Sterility assurance level (SAL 10^{-3}) > Cell growth test on Eppendorf Mimitate FN1 motifs consumables

Ordering information

Description	**Order no.**
CCCadvanced® FN1 motifs Cell Culture Plates, 6-well, with lid, flat bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 plates, individually wrapped	0038 110.010
CCCadvanced® FN1 motifs Cell Culture Plates, 24-well, with lid, flat bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 plates, individually wrapped	0038 110.030
CCCadvanced® FN1 motifs Cell Culture Flasks, T-75, with filter cap, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 flasks, individually wrapped	0038 120.020
CCCadvanced® FN1 motifs Cell Culture Flasks, T-175, with filter cap, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 flasks, individually wrapped	0038 120.030

Eppendorf Cell Imaging Consumables

Description
Eppendorf Cell Imaging Consumables allow sophisticated imaging and microscopy applications on an expert level. The products combine premium performance with innovative solutions for demanding optical analysis and fluorescent stainings. Whether you perform inverse microscopy, life cell imaging or fluorescence-based analysis:
Find tailored solutions for single and parallel analysis as well as High Content Analysis (HCA) with Eppendorf Cell Imaging Consumables.



Eppendorf Cell Imaging Plates
Eppendorf Cell Imaging Plates with film bottom have excellent light transmission rates even for UV-A and UV-B light. The autofluorescence of the material is lower than a conventional polystyrene bottom with a significant reduction in background signaling. Furthermore, the film bottom enables high gas transfer: oxygen supply and equilibration with the atmosphere are achieved directly through the plate bottom. The glass bottom plates offer excellent planarity for sophisticated microscopic analysis.

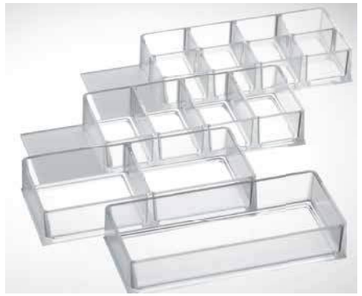
Eppendorf Cell Imaging Slides
Eppendorf Cell Imaging Slides and Coverglasses offer a high chemical resistance of materials for reliable and reproducible results in fixation protocols. Tool-free and easy removal of chambers from Cell Imaging Slides and Coverglasses makes working easy, convenient and reliable. Products are available with one to eight chambers to suit a variety of applications.

Eppendorf Cell Imaging Dishes
Eppendorf Cell Imaging Dishes ensure excellent results in high resolution microscopy of living and fixed cells. The bottom of the 35 mm dishes is made from cover glass. The central 18 mm cavity is lower than the level of the surrounding polystyrene dish, which enables the concentration of the cells during seeding on the glass surface and helps to reduce costs of antibodies and dyes. Plate handling and reference are easy, safe, and convenient due to a polygonal gripping zone and directional orientation marking.

Eppendorf Cell Imaging Consumables

Product features
> Outstanding performance of glass and film surfaces for adherent cells due to innovative tissue culture treatment
> Low intrinsic fluorescence and high light transmission for enhanced signal-to-noise ratio
> Easy access to the complete imaging area with immersion lenses for alleviated handling and advanced compatibility with microscopes
> Ergonomic and robust design
> Precise planarity supports high resolution microscopes and autofocus systems

Special Features Cell Imaging Plates
> All plate types have a low skirt design perfectly suited to access all wells with immersion objectives
> An excellent signal-to-noise ratio can be expected regardless of the plate bottom type
> Excellent planarity of all plates ensures unsurpassed manual handling and reliable results in automated devices
> Individually wrapped for reliable purity
> The ultrathin film bottom allows for high gas permeability and UV-light transparancy, ideal for phototoxicity and hypoxic studies



Special Features Cell Imaging Slides and Coverglasses
> Choose between a microscopic slide with 1 mm thickness or a 170 µm coverglass, both providing excellent signal-to-noise ratios in fluorescent staining protocols
> Chambers and lids show high chemical resistance, so fixation even with acetone is possible without problems
> Benefit from easy and tool-free removal of the chambers with minimized glue residues

Special Features Cell Imaging Dishes
> An 18 mm central cavity for defined growth and staining of cells for reduced costs of antibodies and dyes
> Polygonal gripping zone for improved handling
> Macroscopic orientation marks facilitate easy orientation
> Low rim side walls allow easy access for microinjection/micromanipulation
> Available thickness: 145 µm and 170 µm

How to simplify handling of imaging consumables

www.eppendorf.com/cic-video1

How to mount cells for fluorescent microscopy

www.eppendorf.com/cic-video2

i For more information go to www.eppendorf.com

Ordering information

Description	Order no.
Eppendorf Cell Imaging Plates, with lid, black with clear F-bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
24-Well Cell Imaging Plate with 170 µm coverglass bottom, individually wrapped, 20 pcs.	0030 741.021
96-Well Cell Imaging Plate with 170 µm coverglass bottom, individually wrapped, 20 pcs.	0030 741.030
24-Well Cell Imaging Plate with 25 µm film bottom, individually wrapped, 20 pcs.	0030 741.005
96-Well Cell Imaging Plate with 25 µm film bottom, individually wrapped, 20 pcs.	0030 741.013

Ordering information

Description	Order no.
Eppendorf Cell Imaging Dishes, with coverglass bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
35 × 10 mm Cell Imaging Dish 145 µm (1), 2 dishes per bag, 30 pcs.	0030 740.009
35 × 10 mm Cell Imaging Dish 170 µm (1.5), 2 dishes per bag, 30 pcs.	0030 740.017

Ordering information

Description	Order no.
Eppendorf Cell Imaging Slides, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
Cell Imaging Slide with 1 chamber, individually wrapped, 16 pcs.	0030 742.044
Cell Imaging Slide with 2 chambers, individually wrapped, 16 pcs.	0030 742.052
Cell Imaging Slide with 4 chambers, individually wrapped, 16 pcs.	0030 742.060
Cell Imaging Slide with 8 chambers, individually wrapped, 16 pcs.	0030 742.079
Eppendorf Cell Imaging Coverglasses, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic	
Cell Imaging Coverglass with 1 chamber, individually wrapped, 16 pcs.	0030 742.001
Cell Imaging Coverglass with 2 chambers, individually wrapped, 16 pcs.	0030 742.010
Cell Imaging Coverglass with 4 chambers, individually wrapped, 16 pcs.	0030 742.028
Cell Imaging Coverglass with 8 chambers, individually wrapped, 16 pcs.	0030 742.036

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Cell Handling

New

New

Model	Galaxy® 48 R	CellXpert® C170i	CellXpert® C170	New Brunswick™ S41i
Positioning	Mid size (48 L) CO_2 incubator for isolation applications (also hypoxic) and small labs	Large (170 L) CO_2 incubator with advanced interface, easy monitoring/documentation/cleaning etc.	Basic version of the C170i	Large (170 L) CO_2 incubator with integrated shaker inside
Page(s)	316	318	322	323
Capacity	48 L	170 L	170 L	170 L
Dimensions (W × D × H)	48.3 × 47.5 × 64.5 cm	71.8 × 70.5 × 90.0 cm	71.8 × 70.5 × 90.0 cm	83.4 × 73 × 84.8 cm / 32.8 × 28.7 × 33.4 in
Dimensions internal (W × D × H)	40.1 × 30.5 × 40.1 cm	53.9 × 44.5 × 69.2 cm	53.9 × 44.5 × 69.2 cm	69.1 × 44.4 × 53.8 cm
Weight w/o accessories	31.8 kg	81 kg	81 kg	152 kg
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B, U, F, S (x2)	B, U, F, S (x2)	B, U, F, S (x2)	U, F, S (x2)
Display	standard display	touchscreen	standard display	touchscreen
High temperature disinfection (HTD)	120 °C optional	180 °C standard	140 °C standard	120 °C standard
Sealed inner glass doors	–	standard	standard	standard
Segmented doors	2 segments (factory & in-field upgradeable)	–	1	–
Temperature range	Ambient +4 °C to 50 °C	Ambient +4 °C to 50 °C	Ambient +4 °C to 50 °C	Ambient +4 °C to 50 °C
Temperature control increment	±0.1 °C	±0.1 °C	±0.1 °C	±0.1 °C
Temperature stability at 37 °C	±0.1 °C	±0.1 °C	±0.1 °C	±0.1 °C
Temperature uniformity	±0.3 °C	±0.3 °C	±0.3 °C	±0.25 °C at 37 °C
CO_2 range	0.1 – 20 %	0.1 – 20 %	0.1 – 20 %	0.1 – 20 %
CO_2 control increment	±0.1 %	±0.1 %	±0.1 %	±0.1 %
CO_2 stability at 5 % CO_2	±0.2 %	±0.1 %	±0.1 %	±0.2 %
CO_2 uniformity	±0.1 %	±0.1 %	±0.1 %	±0.1 %
O_2 control	0.1 – 19 % or 1 – 19 % optional	–	–	–
Number of shelves (standard/max)	3/6	4/8	3/6	1/2
Copper package	–	optional	–	–
Access port	1	2	2	1
On-board data logging	standard	standard	–	standard
Data export interface	RS-232, VisioNize® box	USB, Ethernet, VisioNize® onboard	Ethernet, VisioNize® box	Ethernet, VisioNize® box
Water/Humidity monitoring	optional	–	–	–
BMS relay	standard	standard	standard	standard
4 – 20 mA interface (for remote monitoring)	–	optional	optional	–

i For more information go to www.eppendorf.com

epServices for premium performance

On page 396 you will find detailed information on services for these products!

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SELECTION GUIDE

Galaxy® 48 R

Description
The Galaxy 48 R CO_2 Incubator is a mid-sized, 48 liter incubator designed to optimize performance in applications that require a higher level of isolation and can be used in small labs. The 48 R series of incubators feature a large backlit display with on screen help menu, control and data logging of temperature, CO_2, door openings, alarms, and optional O_2 gas and humidity monitoring.

Product features
> 48 Liter (1.7 ft³) provides mid-sized capacity within a small footprint
> Options: High Temp. Disinfection (4 hour at 120 °C), O_2 control (e.g. for hypoxic studies), 2-split inner glass door
> Fanless design offers more usable space
> Six-sided direct heating system provides a uniform incubated environment
> Deep-drawn, easy-to-clean stainless steel chamber without seams or welds
> Low gas consumption
> Integrated alarm relay

One piece seamless chamber minimizes contamination risk and simplifies cleaning

Integrated, heated, viewing window in outer door allows observation without disturbing cultures

Ordering information

Description	Order no.
Galaxy® 48 R, 48 L, Stock, 230 V/50/60 Hz	
Standard	CO48300001
1 – 19 % O_2 Control	CO48320001
High-Temp Disinfection	CO48310001
High-Temp Disinfection, 1 – 19 % O_2 Control	CO48330001
Galaxy® 48 R, 48 L, Built to Order, 230 V/50/60 Hz	
High-Temp Disinfection, 2-Split Inner Door	CO48312001
High-Temp Disinfection, 0.1 – 19 % O_2 Control	CO48310041
High-Temp Disinfection, 0.1 – 19 % O_2 Control, Humidity Package	CO48310061
High-Temp Disinfection, 0.1 – 19 % O_2 Control, 2-Split Inner Door	CO48312041
High-Temp Disinfection, 0.1 – 19 % O_2 Control, 2-Split Inner Door, Humidity Package	CO48312061
High-Temp Disinfection, 1 – 19 % O_2 Control, 2-Split Inner Door	CO48332001
High-Temp Disinfection, 1 – 19 % O_2 Control, 2-Split Inner Door, Humidity Package	CO48332011

Ordering information for other voltage options begins on page 418

Galaxy® 48 R shelves, pans and stacking stand

Description	Order no.
Lower stacking frame, with casters	6705 070.103
Upper stacking frame	6705 070.111
Under-bench stand	6705 070.120
2-split inner door	6705 851.040
Multi-position shelf rack, 6 position	6705 851.016
Additional shelf, perforated	P0628-5080
Additional humidity tray, stainless steel	P0628-5940

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CellXpert® C170i

Make your cell culture ready for the future
Are you looking for a 170 L-class CO_2 incubator that provides flexibility for the future, makes monitoring and documentation easy and provides optimized growth conditions, even for your sensitive cells? An incubator that also saves money and is produced with highest quality standards? Welcome the new CellXpert C170i and learn more below.

CellXpert – a new family of Eppendorf CO_2 incubators

New

Stay flexible for the future
> In-field changeable door handle position (left/right)
> Advanced user interface for easy and full control over parameter setting, monitoring and documentation
> Easy documentation
> Two access ports for experiments inside the incubator with user-validated devices

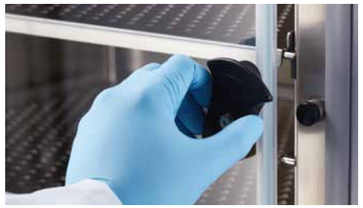
Safety for your cells
> Uniform temperature verified at 27 points (German DIN 12880 norm) by multiple temperature sensors and four individually controlled heating circuits
> Fast temperature and CO_2 recovery < 5 min without overshoot with advanced microprocessor control
> 180 °C high temperature disinfection
> Vibration and turbulence protection by fan-less design

Save money
> Up to 25 % more usable space with fan-less design
> Significantly reduced gas consumption by smart gas control
> No internal spare parts that need regular replacement (Hepa-filters, UV-lamps etc.)
> Increased workflow speed for handling, cleaning and documentation

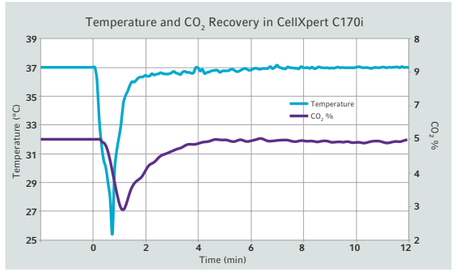
i For more information go to www.eppendorf.com

Technical specifications subject to change.

Full control and easy documentation with the intuitive to use, clearly arranged VisioNize® user interface. Export performance charts or HTD-protocols within seconds via the integrated USB ports at the front.



Easy to handle: The magnetic door locking concept significantly reduces opening forces of the tightly sealed doors. The dual way inner door latches are simply pulled to open and pushed or turned to close the inner door. This way, the mechanism can adjust to different user habits. It also offers advanced vibration protection for sensitive cells when the door latch is turned to close.



Highly homogenous growth conditions and fast recovery: A fast feedback CO_2 sensor, multiple temperature sensors, four individually controlled heating circuits and advanced microprocessor control ensure optimal growth conditions.

www

Want to know more about the CellXpert and see it in 360°?
www.eppendorf.com/cellxpert

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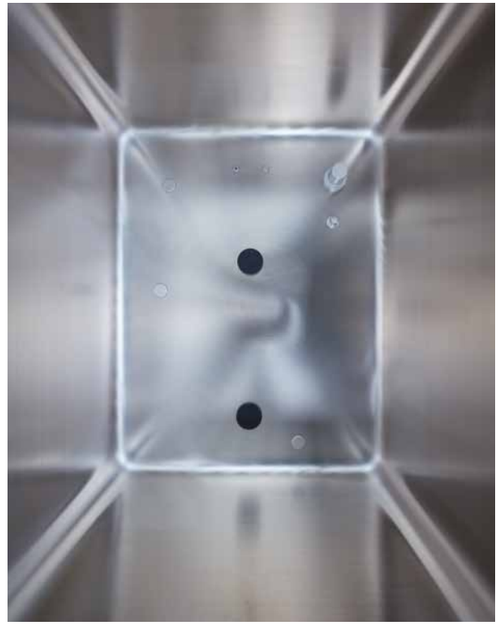
CellXpert® C170i

New



Up to 25 % more space: The fan-less design, the smart racking system and an innovative insulation concept ensure highest capacity with minimal footprint.

Easy cleaning and disinfection: Disassemble the interior within 40 seconds, quickly wipe the seamless chamber, and start the HTD by push of a button. If it is easy, it gets done.

	C170i	C170
Display	Touchscreen, onboard data log	Standard display
High temperature disinfection	180 °C standard (protocol downloadable)	140 °C standard
Inner door latch	magnetic, dual way	magnetic, single way
VisioNize®	onboard	box
User management (incl. option to restrict access to parameter settings and HTD-start)	yes	no
Customized tasks	yes	no
USB port	2 (front)	no

i For more information go to www.eppendorf.com

Technical specifications subject to change.

Ordering information

Door handle	Water/Humidity monitoring	Copper package	Order no.
right	–	–	6731 000.011
right	–	yes	6731 000.511
left	–	–	6731 000.021
left	–	yes	6731 000.521

CellXpert C170/C170i shelves, pans and stacking stand

Description	Order no.
Mid/upper stacking frame	6710 070.200
Lower stacking frame, with casters	6710 070.219
Additional shelves (2), perforated	6710 859.009
Multi-position shelf rack, 8 position, (standard on Galaxy® 170 R, optional on Galaxy® 170 S)	P0628-6390
Additional humidity tray, copper	P0628-6260
Additional humidity tray, stainless steel	P0628-6140

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CO2 INCUBATORS

CellXpert® C170

A reliable partner for your cell culture
Looking for a CO_2 incubator with a highly uniform atmosphere, fast recovery and effective contamination protection? A device that is easy to clean and use with a high useable volume to footprint ratio? Learn more about the CellXpert C170, the basic version of the C170i.
CellXpert – a new family of Eppendorf CO_2 incubators.

Optimal growth conditions
> Uniform temperature verified at 27 points (German DIN 12880 norm) by multiple temperature sensors and four individually controlled heating circuits
> Fast temperature and CO_2 recovery < 5 min without overshoot with advanced microprocessor control
> Vibration and turbulence protection by fan-less design

Effective contamination prevention
> 140 °C High Temperature Disinfection
> Easy cleaning with seamless chamber, fast disassembling
> Fan-less design
> No internal Hepa-filters that potentially contaminate the chamber after HTD

Save money
> Up to 25 % more usable space with fan-less design
> No internal spare parts that need regular replacement (Hepa-filters, UV-lamps etc.)
> Increased workflow speed for handling and cleaning

Ordering information

Description	Order no.
CellXpert® C170, non-segmented inner door, handle right side, 220 – 240 V/50 – 60 Hz	6734 000.011

Technical specifications subject to change.

New Brunswick™ S41i

Description
The New Brunswick S41i is the only CO_2 incubator with an Eppendorf shaker inside. The S41i precisely controls temperature, shaking speed, and CO_2, providing the ideal environment for growing mammalian and stem cells in culture. Accepts flasks up to 4 liters. Standard perforated shelf allows for static incubation at the same time as shaking and a second static shelf can be added as an option. Renowned triple eccentric drive provides stable, uniform and vibration-free motion connected to the shaking platform by four encapsulated support rods. The drive mechanism located below the chamber ensures that heat generated by the drive does not affect the critical environment within the chamber. The intuitive touch screen display and controls allow you to operate and monitor performance.

Product features
> Temperature range from 4 °C above ambient to 50 °C
> Shaking speeds between 25 – 400 rpm, 25 – 300 rpm if stacked
> Large 35.6 × 61 cm (14 in × 24 in) platform accommodates flasks up to 4 liters providing flexibility with your cultures
> Single or double stacked for increased capacity
> Inner and outer door saves valuable gass while maintaining the perfect environment for your cells
> Standard High Temperature Disinfection provides a sterile surface protecting your cells
> Intuitive touch screen ensures precise control of the culturing environment
> Perforated shelf allows for static incubation at the same time as shaking

New Brunswick™ S41i	
Universal platform	M1334-9920
125 mL Erlenmeyer flasks	20
250 mL Erlenmeyer flasks	16
500 mL Erlenmeyer flasks	12
1 L Erlenmeyer flasks	10
2 L Erlenmeyer flasks	4
2 L Lauber Thompson	4
2.8 L Fernbach flasks	3
3 L Erlenmeyer flasks	3
4 L Erlenmeyer flasks	3
Test tube rack, small, 30.0 x 8.0 x 12.9 cm	6
Test tube rack, medium, 36 × 8 × 12.9 cm	3
Test tube rack, large, 45 x 8 x12.9 cm	3
Platform size	36 × 61 cm (14 × 24 in)

CO_2 INCUBATORS

New Brunswick™ S41i

Applications
> Culturing of suspension cells requiring gentle agitation
> Incubating adherent cells on the shelf included with the unit: adding a 2nd static shelf and using the shaking platform as a 3rd shelf
> Adherent cells such as stem cells that require both incubation and periodic gentle shaking

Ordering information

Description	Order no.
New Brunswick™ S41i, 170 L, CO_2 incubator shaker with inner shelf and touch screen control, 1 shelf, 1 (2. optional) shelves, 230 V/50 Hz, orbit diameter 2.5 cm (1 in)	S41I230011
Interchangeable platform for New Brunswick™ S41i, 35.6 × 61 cm (14 × 24 in)	
Universal platform	M1334-9920
125 mL Erlenmeyer flask dedicated platform, comes complete with 32 clamps installed	M1334-9921
250 mL Erlenmeyer flask dedicated platform, comes complete with 24 clamps installed	M1334-9922
500 mL Erlenmeyer flask dedicated platform, comes complete with 15 clamps installed	M1334-9923
1 L Erlenmeyer flask dedicated platform, comes complete with 11 clamps installed	M1334-9924
2 L Erlenmeyer flask dedicated platform, comes complete with 6 clamps installed	M1334-9925
2.8 L Erlenmeyer flask dedicated platform, comes complete with 3 clamps installed	M1334-9926
4 L Erlenmeyer flask dedicated platform, comes complete with 3 clamps installed	M1334-9927
Stacking kit, allows up to 2 each New Brunswick™ S41i shakers to be stacked one on top of the other	P0628-6502
Additional shelf for New Brunswick™ S41i, perforated, can easily be added to the New Brunswick S41i for static cell culture of adherent cells	P0628-6181
Sticky pad adaptor kit, 2 anodized aluminum sheets, each 15.2 x 45.7 cm (6 x 18 in)	M1250-9504
Sticky pad, 20 × 20 cm (8 × 8 in)	M1250-9700

Ordering information for other voltage options begins on page 418

CO_2 Incubators Accessories

CO_2 Incubators Accessories	
Description	**Order no.**
Galaxy® CO_2, O_2, and RH gas analyzer	P0628-7890
Autozero port filter	P0628-5060
CO_2 cylinder auto-changeover controller	P0628-5000
In-line gas filter for Eppendorf CO_2 incubators, 2 pieces	6710 070.251
Temperature probe, 5 mm tip for gas analyzer	P0628-7881
Temperature probe, 100 mm tip for gas analyzer	P0628-7880
Galaxy® CO_2 gas analyzer	P0628-6150
Galaxy® CO_2 and O_2 gas analyzer	P0628-6831

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Cell Handling

Model	Innova® 40/40R	Innova® 42/42R	Innova® 43/43R
Page(s)	**330**	**331**	**332**
Dimensions (W × D × H)	55.9 × 76.2 × 61 cm / 22 × 30 × 24 in	62 × 75.4 × 82 cm / 32.3 × 29.7 × 32.3 in	115.6 × 81.3 × 103.1 cm / 45.5 × 20 × 40.6 in
External height (with lid/door open)	101.6 cm (40 in)	–	165.1 cm (65 in)
External depth (with lid/door open)	–	131 cm (51.6 in)	–
Weight w/o accessories	60 kg / 133 lb	99 kg / 217 lb	202 kg / 445 lb
Audible and visual alarms	yes	yes	yes
Available program modes	> Constant speed and temperature > Programmable multi-steps > RS-232 communication port	> Constant speed and temperature > Programmable multi-steps > RS-232 communication port	> Constant speed and temperature > Programmable multi-steps > RS-232 communication port
Drive mechanism	Triple-eccentric	Triple-eccentric	Triple-eccentric
cETLus and CE marked	yes	yes	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B	B, U, S (x2)	F
Memory	Non volatile with automatic power failure restart	Non volatile with automatic power failure restart	Non volatile with automatic power failure restart
Motor type	Solid state, DC brushless motor	Solid state, DC brushless motor	Solid state, DC brushless motor
Platform size	46 × 46 cm (18 × 18 in)	46 × 46 cm (18 × 18 in)	76 × 46 cm (30 × 18 in)
Slide-out platform	no	no	no
Space-saving glide-up doors	no	no	no
Speed range	25 – 500 rpm	25 – 400 rpm; 25 – 300 rpm when stacked and using flasks larger than 500 mL	25 – 500 rpm with 2.5 cm orbit; 25 – 300 rpm with 5.1 cm orbit
Steps per program	15	15	15
Stored programs	4	4	4
Temperature range	5 °C above ambient to 80 °C. (Innova 40R: 15 °C below ambient to 80 °C)		5 °C above ambient to 80 °C. (Innova 43R: 20 °C below ambient to 80 °C)
Temperature uniformity	±0.25 °C at 37 °C	±0.25 °C at 37 °C	±0.25 °C at 37 °C
Timer	0.01 – 99.59 h, continuous	0.01 – 99.59 h, continuous	0.01 – 99.59 h, continuous
Orbit	1.9/2.5 cm (0.75/1 in)		2.5/5.1 cm (1/2 in)

Model	Innova® 44/44R	Innova® S44i	Excella® E24/E24R	Excella® E25/E25R
Page(s)	**333**	**334**	**336**	**337**
Dimensions (W × D × H)	135 × 87.3 × 66 cm / 53.1 × 33.2 × 78 in	118.2 × 95.8 × 63.1 cm / 46.5 × 37.7 × 24 in	56 × 76.2 × 61 cm / 22 × 30 × 24 in	127 × 77 × 105.9 cm / 50 × 30.5 × 41.7 in
External height (with lid/door open)	119.3 cm (47 in)	115.8 cm (45.6 in)	101.6 cm (40 in)	165.1 cm (65 in)
External depth (with lid/door open)	–	–	–	–
Weight w/o accessories	238 kg / 525 lb	198 kg / 437 lb	60 kg / 133 lb	171 kg / 377 lb
Audible and visual alarms	yes	yes	yes	yes
Available program modes	> Constant speed and temperature > Programmable multi-steps > RS-232 communication port	> Constant speed and temperature > Timed mode up to 95:59 hours > Programming mode with multiple steps and cycling of program	> Constant speed and temperature > Timed shaking	> Constant speed and temperature > Timed shaking
Drive mechanism	Triple-eccentric	Eppendorf X-Drive with semi-automated counterbalance	Heavy-duty with permanently lubricated ball bearings	Heavy-duty with automatic power failure restart
cETLus and CE marked	yes	yes	yes	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	F, S (x3)	F, S (x3)	B	F
Memory	Non volatile with automatic power failure restart	Non volatile with automatic power failure restart	Non volatile with automatic power failure restart	Non volatile with automatic power failure restart
Motor type	Solid state, DC brushless motor	Solid state, DC brushless motor	Solid state, DC brushless motor	Solid state, DC brushless motor
Platform size	76 × 46 cm (30 × 18 in)	76 × 62 cm (30 × 24 in)	46 × 46 cm (18 × 18 in)	76 × 46 cm (30 × 18 in)
Slide-out platform	yes	yes	no	no
Space-saving glide-up doors	yes	yes	no	no
Speed range	25 – 400 rpm with 2.5 cm orbit; 25 – 300 rpm with 5.1 cm orbit or 2 stacked units; 25 – 250 rpm with 3 stacked units	2.5 cm orbit: 20 – 400 rpm adjustable at 1 rpm increment; 5.1 cm orbit: 20 – 300 rpm at 1 rpm increment	50 – 400 rpm	50 – 400 rpm
Steps per program	15	unlimited	–	–
Stored programs	4	unlimited	–	–
Temperature range	5 °C above ambient to 80 °C. (Innova 44R: 20 °C below ambient to 80 °C)	Incubated: 5 °C above ambient to 80 °C; Refrigerated: 20 °C below ambient (min. 4 °C) to 80 °C.	7 °C above ambient to 60 °C. (Excella 24R: 15 °C below ambient to 60 °C)	7 °C above ambient to 60 °C. (Excella 25R: 15 °C below ambient to 60 °C)
Temperature uniformity	±0.25 °C at 37 °C	±0.25 °C at 37 °C and 250 rpm	±0.5 °C at 37 °C	±0.5 °C at 37 °C
Timer	0.01 – 99.59 h, continuous	0.01 – 95.59 h, continuous	0.1 – 99.9 h	0.1 – 99.9 h
Orbit	2.5/5.1 cm (1/2 in)	2.5/5.1 cm (1/2 in)	1.9 cm (0.75 in)	2.5 cm (1 in)

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SELECTION GUIDE

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Cell Handling

Model	Innova® 2000
Page(s)	339
Dimensions (W × D × H)	35.5 × 37 × 14.6 cm / 14 × 14.5 × 5.8 in
Weight w/o accessories	15 kg / 33 lb
Audible and visual alarms	yes
Drive mechanism	Triple-eccentric with permanently lubricated ball bearings
cETLus and CE marked	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B
Motor type	Solid state, DC brushless motor
Orbit	1.9 cm (0.75 in)
Platform size	33 × 28 cm (13 × 11 in)
Timer	0.1 – 99.9 h

Model	Innova® 2050
Page(s)	339
Dimensions (W × D × H)	43 × 37 × 14.6 cm / 17 × 14.5 × 5.8 in
Weight w/o accessories	16 kg / 35 lb
Audible and visual alarms	yes
Drive mechanism	Triple-eccentric with permanently lubricated ball bearings
cETLus and CE marked	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B
Motor type	Solid state, DC brushless motor
Orbit	1.9 cm (0.75 in)
Platform size	41 × 31 cm (16 × 12 in)
Timer	0.1 – 99.9 h

Model	Innova® 2100
Page(s)	340
Dimensions (W × D × H)	48 × 55.5 × 16.3 cm / 19 × 21.9 × 6.4 in
Weight w/o accessories	34 kg / 75 lb
Audible and visual alarms	yes
Drive mechanism	Triple-eccentric with permanently lubricated ball bearings
cETLus and CE marked	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B
Motor type	Solid state, DC brushless motor
Orbit	1.9 cm (0.75 in)
Platform size	46 × 46 cm (18 × 18 in)
Timer	0.1 – 99.9 h

Model	Innova® 2150
Page(s)	340
Dimensions (W × D × H)	60.1 × 59.1 × 16.3 cm / 24 × 23.3 × 6.4 in
Weight w/o accessories	36 kg / 80 lb
Audible and visual alarms	yes
Drive mechanism	Triple-eccentric with permanently lubricated ball bearings
cETLus and CE marked	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B
Motor type	Solid state, DC brushless motor
Orbit	1.9 cm (0.75 in)
Platform size	61 × 46 cm (24 × 18 in)
Timer	0.1 – 99.9 h

Model	Innova® 2300
Page(s)	341
Dimensions (W × D × H)	76.2 × 56.6 × 16.3 cm / 30 × 22.3 × 6.4 in
Weight w/o accessories	48 kg / 105 lb
Audible and visual alarms	yes
Drive mechanism	Triple-eccentric with permanently lubricated ball bearings
cETLus and CE marked	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B
Motor type	Solid state, DC brushless motor
Orbit	2.5/5.1 cm (1/2 in)
Platform size	76 × 46 cm (30 × 18 in)
Timer	0.1 – 99.9 h

Model	Innova® 2350
Page(s)	341
Dimensions (W × D × H)	91.4 × 61 × 16.3 cm / 36 × 24 × 6.4 in
Weight w/o accessories	52 kg / 115 lb
Audible and visual alarms	yes
Drive mechanism	Triple-eccentric with permanently lubricated ball bearings
cETLus and CE marked	yes
Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)	B
Motor type	Solid state, DC brushless motor
Orbit	2.5/5.1 cm (1/2 in)
Platform size	91 × 61 cm (36 × 24 in)
Timer	0.1 – 99.9 h

i For more information go to www.eppendorf.com

epServices for premium performance

On page 398 you will find detailed information on services for these products!

Technical specifications subject to change.

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com

New Brunswick™ Innova® 40/40R

Description
The Innova 40 incubated and 40R incubated and refrigerated benchtop shakers provide years of dependable operation. The cast iron Eppendorf triple-eccentric counterbalanced drive is specifically designed to support high-speed applications and heavy workloads. Innova 40 incubated shakers provide very broad temperature capabilities for culturing a wide variety of organisms in flasks up to 3 L. A Refrigeration module is built into the Innova 40R.

Product features
> Triple-eccentric counterbalanced drive in cast iron housing provides vibration and trouble-free operation for years
> Compact benchtop model – fits easily on the bench and holds flasks up to 3 L
> Clear cover allows easy viewing of the cultures and lifts easily to access all samples
> Versatile accessory platform (sold separately) accommodates flasks up to 3 L as well as test tube racks and microplate holders
> Certified. Meets cETL, UL, CSA and CE standards

VisioNize

This icon tags devices that are connectable to the VisioNize® system. Further information are available at pages 10 – 11.

SHAKERS

Ordering information

Description	Order no.
New Brunswick™ Innova® 40, Innova® 40/40R	
230 V/50 Hz, orbit diameter 1.9 cm (3/4 in)	M1299-0082
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1299-0092
New Brunswick™ Innova® 40R, Innova® 40/40R	
230 V/50 Hz, orbit diameter 1.9 cm (3/4 in)	M1299-0086
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1299-0096
Remote alarm option, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40	M1320-8029
Drip pan, for universal platform M1250-9902	M1250-9906
Platform for Innova® 2100/40/40R/42/42R, Excella® E24/E24R, 45.7 × 45.7 cm, phenolic resin	
Universal platform, aluminum	M1250-9902
50 mL Erlenmeyer flask dedicated platform	M1194-9903
125 mL Erlenmeyer flask dedicated platform	M1194-9904
250 mL Erlenmeyer flask dedicated platform	M1194-9905
500 mL Erlenmeyer flask dedicated platform	M1194-9906
1 L Erlenmeyer flask dedicated platform	M1194-9907
2 L Erlenmeyer flask dedicated platform	M1194-9908
Sticky pad platform, sticky pads sold separately	M1250-9903
Quick-change platform kit, enables platform attachment without tools	M1192-9901
Utility carrier, holds racks and vessels between rubber-cushioned cross bars	M1194-9909
Utility tray, with non-skid rubber surface	M1194-9910
Rod kit, for utility carrier (one additional rod)	M1194-9923

↗ Ordering information for other voltage options begins on page 418

New Brunswick™ Innova® 42/42R

Description
The Innova 42 incubated and 42R incubated and refrigerated shakers are our most versatile incubator shakers. The programmable Innova 42 and 42R provide exceptional convenience allowing you to simultaneously shake and static incubate cultures under the same conditions. Use on or under the bench, or double stacked for space savings. An optional culture drawer, gassing manifold, remote alarm, and humidity monitor are available for both models; a photosynthetic light bank and UV germicidal light are available for the 42R.

Product features
> Cast iron triple-eccentric counterbalanced drive provides years of dependable operation
> Programmable Innova controls automatically changes temperature, speed, and optional photosynthetic and UV germicidal lights at timed intervals
> Large viewing window and internal light provide easy viewing of samples without the need to open the door
> Built-in water reservoir humidifies chamber to reduce sample evaporation, while also protecting unit from spills and including a drain for easy cleaning
> Versatile accessory platforms (sold separately) accommodates flasks up to 4 L as well as test tube racks and microplate holders

SHAKERS

Ordering information

Description	Order no.
New Brunswick™ Innova® 42, Innova® 42/42R	
230 V/50 Hz, orbit diameter 1.9 cm (3/4 in)	M1335-0002
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1335-0012
New Brunswick™ Innova® 42R, Innova® 42/42R	
230 V/50 Hz, orbit diameter 1.9 cm (3/4 in)	M1335-0006
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1335-0016
Photosynthetic light bank, programmable, Innova® 42R only	M1335-0300
UV germicidal light, programmable, Innova® 42R only	M1335-0400
Humidity monitor, for Innova® 42/42R	M1335-0500
12-port gassing manifold, for Innova® 42/42R	M1335-0600
Remote alarm option, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40	M1320-8029
Drip pan, for universal platform M1250-9902	M1250-9906
Platform for Innova® 2100/40/40R/42/42R, Excella® E24/E24R, 45.7 × 45.7 cm, phenolic resin	
Universal platform, aluminum	M1250-9902
50 mL Erlenmeyer flask dedicated platform	M1194-9903
125 mL Erlenmeyer flask dedicated platform	M1194-9904
250 mL Erlenmeyer flask dedicated platform	M1194-9905
500 mL Erlenmeyer flask dedicated platform	M1194-9906
1 L Erlenmeyer flask dedicated platform	M1194-9907
2 L Erlenmeyer flask dedicated platform	M1194-9908
Sticky pad platform, sticky pads sold separately	M1250-9903
Quick-change platform kit, enables platform attachment without tools	M1192-9901
Culture drawer, prevents plates from drying	M1335-0501
Stacking kit, for stacking Innova® 42/42R units	M1335-0800
Utility carrier, holds racks and vessels between rubber-cushioned cross bars	M1194-9909
Stacking kit, for stacking Innova® 4200/4230 units on top of Innova® 42/42R shakers	M1335-0810
Utility tray, with non-skid rubber surface	M1194-9910
Rod kit, for utility carrier (one additional rod)	M1194-9923
Additional perforated shelf and brackets, for Innova® 42/42R	M1335-0080

↗ Ordering information for other voltage options begins on page 418

New Brunswick™ Innova® 43/43R

Description
The Innova 43 incubated and Innova 43R incubated and refrigerated shakers are the perfect choice for handling large quantities or large volumes of cultures with precision and ease. The cast iron triple-eccentric counterbalanced drive is specifically designed to support high-speed applications and heavy workloads.

Product features
> Console style shaker/incubator with triple-eccentric drive – provides large capacity shaking for flasks up to 6 L
> Programmable Innova controls – automatically changes temperature, speed, and optional photosynthetic and UV germicidal lights at timed intervals
> Top mounted controls and display – for easy, ergonomic viewing and setting
> Foot pedal release with easy opening lid – provides hands-free operation
> RS-232 port for data logging
> Built-in water reservoir humidifies chamber to reduce sample evaporation while also protecting unit from spills and including a drain for easy cleaning

Ordering information

Description	Order no.
New Brunswick™ Innova® 43, Innova® 43/43R	
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1320-0002
230 V/50 Hz, orbit diameter 5.1 cm (2 in)	M1320-0012
New Brunswick™ Innova® 43R, Innova® 43/43R	
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1320-0006
230 V/50 Hz, orbit diameter 5.1 cm (2 in)	M1320-0016
Photosynthetic light bank, for Innova® 43R only, orbit diameter 2.5/5.1 cm (1/2 in)	M1320-0300
UV germicidal light, in the airflow path outside the chamber reduces the bio-burden of circulated air, Innova® 43R only, orbit diameter 2.5/5.1 cm (1/2 in)	M1320-0400
12-port gassing manifold, permits direct gassing into flasks, orbit diameter 2.5/5.1 cm (1/2 in)	M1320-0500
Humidity monitor, Innova® 43/43R, orbit diameter 2.5/5.1 cm (1/2 in)	M1320-0600
Remote alarm option, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40	M1320-8029
Platform for Innova® 2300/43/43R, Excella® E10/E25/E25R, 76 × 46 cm, aluminum	
Universal platform, aluminum	M1250-9920
50 mL Erlenmeyer flask dedicated platform	M1191-9908
125 mL Erlenmeyer flask dedicated platform	M1191-9909
250 mL Erlenmeyer flask dedicated platform	M1191-9910
500 mL Erlenmeyer flask dedicated platform	M1191-9911
1 L Erlenmeyer flask dedicated platform	AG-1
2 L Erlenmeyer flask dedicated platform	AG-2
2.8 L Fernbach flask dedicated platform	AG-28
6 L Erlenmeyer flask dedicated platform	AG-6
Sticky pad platform, sticky pads sold separately	M1250-9904
Utility tray, with non-skid rubber surface	AG-00

↗ Ordering information for other voltage options begins on page 418

New Brunswick™ Innova® 44/44R

Description
The Innova 44 incubated and 44R incubated and refrigerated shakers are stackable solutions that provide very broad temperature capabilities for culturing a wide variety of organisms in flasks up to 5 L. The cast iron triple-eccentric counterbalanced drive is specifically designed to support high-speed applications and heavy workloads. Refrigeration module is built into the Innova 44R, or can be easily added to 44, at any time.

Product features
> Stackable – up to three units for maximum space savings
> Programmable Innova controls automatically change temperature, speed, and optional photosynthetic and UV germicidal lights at timed intervals
> Versatile accessory platform (sold separately) accommodates flasks up to 5 L
> Slide-out platform mechanism – provides easy and effortless access to flasks located in the front and back of the shaker
> Built-in water reservoir humidifies chamber to reduce sample evaporation, while also protecting unit from spills, includes a drain for easy cleaning
> Pull-out service module allows access to all electronic and heating/cooling components, without having to unstack the units

Ordering information

Description	Order no.
New Brunswick™ Innova® 44, Innova® 44/44R	
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1282-0002
230 V/50 Hz, orbit diameter 5.1 cm (2 in)	M1282-0012
New Brunswick™ Innova® 44R, Innova® 44/44R	
230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1282-0006
230 V/50 Hz, orbit diameter 5.1 cm (2 in)	M1282-0016
Photosynthetic light bank, for Innova® 44R only, orbit diameter 2.5/5.1 cm (1/2 in)	M1282-9922
12-port gassing manifold, for Innova® 44R, orbit diameter 2.5/5.1 cm (1/2 in)	M1282-0291
Humidity monitor, for Innova® 44R, orbit diameter 2.5/5.1 cm (1/2 in)	M1282-5011
UV germicidal light, for Innova® 44R only, orbit diameter 2.5/5.1 cm (1/2 in)	M1282-9921
Remote alarm option, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40	M1320-8029
Aluminum platform for Innova® 44/44R, 76 × 46 cm, not interchangeable with other 76 × 46 cm platforms	
Universal platform	M1282-9904
125 mL Erlenmeyer flask dedicated platform	M1282-9905
250 mL Erlenmeyer flask dedicated platform	M1282-9906
500 mL Erlenmeyer flask dedicated platform	M1282-9907
1 L Erlenmeyer flask dedicated platform	M1282-9908
2 L Erlenmeyer flask dedicated platform	M1282-9909
2.8 L Fernbach flask dedicated platform	M1282-9910
4 L Erlenmeyer flask dedicated platform	M1282-9911
Sticky pad platform, sticky pads sold separately	M1282-9913
Heavy duty 0.95 cm-thick aluminum plate platform for Innova® 44/44R only, 76 × 46 cm, not interchangeable with other 76 × 46 cm platforms. Heavy-duty platforms are recommended for shaking full loads of flasks, 1 L and larger, containing more than 20 % volume or with baffles	
Universal platform	M1282-9915
1 L Erlenmeyer flask dedicated platform	M1282-9925
2 L Erlenmeyer flask dedicated platform	M1282-9926
Base riser, increases the height of the shaker for easier access, for Innova® 44/44R	
10.2 cm, short	M1282-0600
30.5 cm, medium	M1282-0800
40.6 cm, tall	M1282-0700
Stacking kit, for stacking one additional 44 or 44R	M1282-0500

SHAKERS

Technical specifications subject to change.

Innova® S44i

Description
Innova S44i is a large capacity, stackable shaker with temperature control functionality. It is designed to provide maximum flask and weight capacity at a compact footprint. Eppendorf X-Drive with software-guided counterbalance adjustment supports smooth shaking of uneven and heavy loads at high speeds. All Innova S44i in a triple stack can be operated at maximum speed.

The Innova S44i supports the integration of the shaker in regulated labs with its easy-to-use touchscreen user interface with user management capability, USB ports to download operational data and Ethernet for addition to customer network. Service products including installation and operation qualification allow seamless validation of the instrument.

1. High flask capacity in a smaller footprint to grow more cells in less space – 33 % more 500 mL flask capacity and 80 % more weight capacity than Innova 44
2. The new Eppendorf X-Drive with semi-automated counterbalance technology for smooth and vibration-free agitation
3. Double- or triple- stack the S44i for increased capacity
4. Intuitive touchscreen interface with unlimited programming and user management capability
5. New slide-out platform design with quick-release handle provides easy access to samples even at the back of the platform
6. Glide-up door for convenient and effortless chamber access
7. Easily reach all your samples using the slide-out platform
8. Photosynthetic LED light bank option provides uniform light across the platform for cyanobacteria and algae culture

Applications
> Grow bacteria, yeast, fungus, cyanobacteria and algae
> Plasmid dNA production and protein expression
> Process and media development
> Media screening and optimization
> Seed cultures for bioprocess scale-up
> Biofuel research
> Food quality testing

VisioNize

This icon tags devices that are connectable to the VisioNize® system. Further information are available at pages 10 – 11.

Ordering information

Description	Order no.
Innova® S44i, incubated, 230 V/50/60 Hz, orbit diameter 2.5 cm (1 in)	S44I300001
Innova® S44i, refrigerated, 230 V/50/60 Hz, orbit diameter 2.5 cm (1 in)	S44I310001
Innova® S44i, refrigerated, photosynthetic LED light bank, 230 V/50/60 Hz, orbit diameter 2.5 cm (1 in)	S44I311001
Innova® S44i, incubated, 230 V/50/60 Hz, orbit diameter 5.1 cm (2 in)	S44I320001
Innova® S44i, refrigerated, 230 V/50/60 Hz, orbit diameter 5.1 cm (2 in)	S44I330001
Innova® S44i, photosynthetic LED light bank, 230 V/50/60 Hz, orbit diameter 5.1 cm (2 in)	S44I331001
Universal platform	S44I040001
125 mL Erlenmeyer flask dedicated platform, 86 clamps	S44I040002
250 mL Erlenmeyer flask dedicated platform, 53 clamps	S44I040003
500 mL Erlenmeyer flask dedicated platform, 39 clamps	S44I040004

[1] Maximum agitation speed of Innova® S44i reduced to 300 rpm when stacked on one Innova® 44/44R and 250 rpm when triple stacked

Technical specifications subject to change.

LED lamps with adjustable intensity for uniform coverage over entire platform

Eppendorf X-Drive with five eccentric mounting points and adjustable counterbalance provides dependable operation

Technical specifications	
Model	**Innova® S44i**
Agitation	
Orbit	2.5/5.1 cm (1/2 in)
Drive mechanism	Eppendorf X-Drive with semi-automated counterbalance
Speed	2.5 cm (1 in) orbit: 20 – 400 rpm 5.1 cm (2 in) orbit: 20 – 300 rpm
Maximum platform load	35.4 kg (78 lb)
Temperature range	Incubated: 5 °C above ambient to 80 °C; Refrigerated: 20 °C below ambient (min. 4 °C) to 80 °C.
Temperature accuracy	±0.1 °C at 37 °C
Temperature uniformity	±0.25 °C at 37 °C and 250 rpm
Available program modes	> Constant speed and temperature > Timed mode up to 95:59 hours > Programming mode with multiple steps and cycling of program
Communication port	USB and Ethernet
Net weight	Incubated: 186 kg (411 lb) Refrigerated: 198 kg (437 lb)
Dimensions (W × D × H)	118.2 × 95.8 × 63.1 cm / 46.5 × 37.7 × 24 in
Photosynthetic LED light bank	
Intensity range	15 to 150 par adjustable in increments of 1 par
Main wavelength	Wide band spectrum; 400 – 700 nm

Ordering information

Description	Order no.
1 L Erlenmeyer flask dedicated platform, 23 clamps	S44I040005
2 L Erlenmeyer flask dedicated platform, 15 clamps	S44I040006
2.8 L Fernbach flask dedicated platform, 8 clamps	S44I040007
4 L Erlenmeyer flask dedicated platform, 8 clamps	S44I040008
10.5 cm (4.1 in) positioning base	S44I041001
30.7 cm (12.1 in) positioning base	S44I041002
Stacking kit, double stack of Innova® S44i	S44I041005
Stacking kit, Innova® S44i to Innova® 44/44R[1]	S44I041006
Stacking kit, triple stack of Innova® S44i	S44I041003
Static incubation shelf	S44I042001
Darkening window shade	S44I042002

[1] Maximum agitation speed of Innova® S44i reduced to 300 rpm when stacked on one Innova® 44/44R and 250 rpm when triple stacked

Ordering information for other voltage options begins on page 418

New Brunswick™ Excella® E24/E24R

Description
The benchtop Excella E24 incubated and model E24R incubated and refrigerated shakers accommodate test tubes or flasks up to 2.8 L in a tightly-sealed growth chamber featuring a clear acrylic lid for excellent visibility of all samples. A wide variety of platforms, clamps, and test tube racks provide for unlimited flexibility. The Excella E24 and E24R offer field calibration of temperature and speed through the microprocessor-controlled touch pad.

Product features
> Heavy-duty counterbalanced drive provides long life, vibration-free, quiet, and dependable operation
> Versatile accessory platform (sold separately) accommodates flasks up to 2.8 L as well as test tube racks and microplate holders
> User-friendly keypad with large LED display is clearly visible and easy to set
> Clear large lid provides excellent visibility minimizing the need to open the lid
> Audible and visual alarms alert you to setpoint deviations or end of study
> Acceleration/deceleration circuit prevents sudden starts and stops protecting your cells
> Microprocessor controls precisely regulate temperature, speed and running time

Ordering information

Description	Order no.
New Brunswick™ Excella® E24, Excella® E24/E24R	
230 V/50 Hz, orbit diameter 1.9 cm (3/4 in)	M1352-0002
New Brunswick™ Excella® E24R, Excella® E24/E24R	
230 V/50 Hz, orbit diameter 1.9 cm (3/4 in)	M1352-0006
Drip pan, for universal platform M1250-9902	M1250-9906
Platform for Innova® 2100/40/40R/42/42R, Excella® E24/E24R, 45.7 × 45.7 cm, phenolic resin	
Universal platform, aluminum	M1250-9902
50 mL Erlenmeyer flask dedicated platform	M1194-9903
125 mL Erlenmeyer flask dedicated platform	M1194-9904
250 mL Erlenmeyer flask dedicated platform	M1194-9905
500 mL Erlenmeyer flask dedicated platform	M1194-9906
1 L Erlenmeyer flask dedicated platform	M1194-9907
2 L Erlenmeyer flask dedicated platform	M1194-9908
Sticky pad platform, sticky pads sold separately	M1250-9903
Quick-change platform kit, enables platform attachment without tools	M1192-9901
Utility carrier, holds racks and vessels between rubber-cushioned cross bars	M1194-9909
Utility tray, with non-skid rubber surface	M1194-9910
Rod kit, for utility carrier (one additional rod)	M1194-9923
Spare parts kit, for E24 and E24R	M1352-6000

↗ Ordering information for other voltage options begins on page 418

New Brunswick™ Excella® E25/E25R

Description
The large console Excella E25 incubated and Excella E25R incubated and refrigerated shakers accommodate test tubes or flasks up to 6 L in a tightly-sealed growth chamber featuring a large viewing window for easy viewing of samples. A wide variety of platforms, clamps and test tube racks provide for unlimited flexibility. The Excella models E25 and E25R offer field calibration of temperature and speed through the microprocessor-controlled touch pad.

Product features
> Heavy-duty counterbalanced drive provides long life, vibration-free, quiet and dependable operation
> Large platform size provides increased flexibility with the number and size of cultures (sold separately)
> Large viewing window and internal light – for easy viewing of samples without the need to open the door
> Microprocessor controls precisely regulate temperature, speed and running time
> Audible and visual alarms alert you to setpoint deviations or end of study
> Powerful fan and heater provide rapid heat up and temperature recovery after door opening

Ordering information

Description	Order no.
New Brunswick™ Excella® E25, Excella® E25/E25R, 230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1353-0002
New Brunswick™ Excella® E25R, Excella® E25/E25R, 230 V/50 Hz, orbit diameter 2.5 cm (1 in)	M1353-0006
Platform for Innova® 2300/43/43R, Excella® E10/E25/E25R, 76 × 46 cm, aluminum	
Universal platform, aluminum	M1250-9920
50 mL Erlenmeyer flask dedicated platform	M1191-9908
125 mL Erlenmeyer flask dedicated platform	M1191-9909
250 mL Erlenmeyer flask dedicated platform	M1191-9910
500 mL Erlenmeyer flask dedicated platform	M1191-9911
1 L Erlenmeyer flask dedicated platform	AG-1
2 L Erlenmeyer flask dedicated platform	AG-2
2.8 L Fernbach flask dedicated platform	AG-28
6 L Erlenmeyer flask dedicated platform	AG-6
Sticky pad platform, sticky pads sold separately	M1250-9904
Utility tray, with non-skid rubber surface	AG-00

↗ Ordering information for other voltage options begins on page 418

Technical specifications subject to change.

Open Air Shakers

Description
For shaking in ambient conditions, on the bench, or in a warm or cold room, Innova Open Air Shakers are the instrument of choice. Dependable operation is due in large part to the Eppendorf triple-eccentric counterbalanced drive. Eppendorf offers a broad-based cast-iron support mechanism properly sized to each shaker and specifically designed to support high-speed applications and heavy workloads. Innova Open Air shakers are offered in 6 different sizes offering reliable, continuous-duty shaking of test tubes and flasks up to 6 L.

Product features
> Triple-eccentric counterbalanced drive in cast iron housing provides vibration and trouble-free operation for years
> Quiet operation provides a favorable work environment
> Shaking speeds between 25 – 500 rpm (±1 rpm) provide versatility for culturing a wide range of cell types
> Speed controlled and displayed in increments of 1 rpm
> Includes audible and visual alarms, timer (0 – 99.9 h) with continuous operation or automatic shut-off at the end of the study
> Enclosed electronics and mechanical components prevent internal damage from accidental spills
> Versatile 33 × 28 cm (13 × 11 in) accessory platform (sold separately) accommodates flasks up to 500 mL
> Low profile - less than 6" (15 cm) tall-enables use of multiple shakers in an incubator or environmental chamber

i For more information go to www.eppendorf.com

Technical specifications subject to change.

New Brunswick™ Innova® 2000

Ordering information

Description	Order no.
New Brunswick™ Innova® 2000, platform sold separately, 220/230 V/50/60 Hz, orbit diameter 1.9 cm (0.75 in)	M1190-0002
Platform for Innova® 2000, 33 × 28 cm, stainless steel	
Universal platform	M1001-0240
10 mL Erlenmeyer flask dedicated platform	AG2-10
25 mL Erlenmeyer flask dedicated platform	M1190-9919
50 mL Erlenmeyer flask dedicated platform	M1190-9915
125 mL Erlenmeyer flask dedicated platform	M1190-9916
250 mL Erlenmeyer flask dedicated platform	M1190-9917
500 mL Erlenmeyer flask dedicated platform	M1190-9918
Utility carrier, holds glassware between rubber-cushioned cross bars	AG2-UT
Utility tray, with non-skid rubber surface	AG2-00
Rod kit, for utility carrier (one additional rod)	M1001-9920
Capacity upgrade kit, to convert a Model 2000 to a Model 2050	M1190-9910
Temperature and speed monitoring kit, for recording on an external chart recorder	M1190-9909

Ordering information for other voltage options begins on page 418

New Brunswick™ Innova® 2050

Ordering information

Description	Order no.
New Brunswick™ Innova® 2050, platform sold separately, 220/230 V/50/60 Hz, orbit diameter 1.9 cm (0.75 in)	M1190-0012
Platform for Innova® 2050, 40.6 × 30.5 cm, stainless steel	
Universal platform	M1190-9900
10 mL Erlenmeyer flask dedicated platform	M1190-9901
25 mL Erlenmeyer flask dedicated platform	M1190-9902
50 mL Erlenmeyer flask dedicated platform	M1190-9903
125 mL Erlenmeyer flask dedicated platform	M1190-9904
250 mL Erlenmeyer flask dedicated platform	M1190-9905
500 mL Erlenmeyer flask dedicated platform	M1190-9906
1 L Erlenmeyer flask dedicated platform	M1190-9911
Utility carrier, holds glassware between rubber-cushioned cross bars	M1190-9907
Utility tray, with non-skid rubber surface	M1190-9908

Ordering information for other voltage options begins on page 418

New Brunswick™ Innova® 2100

Ordering information	
Description	**Order no.**
New Brunswick™ Innova® 2100, platform sold separately, 220/230 V/50/60 Hz, orbit diameter 1.9 cm (0.75 in)	M1194-0002
Drip pan, for universal platform M1250-9902	M1250-9906
Platform for Innova® 2100/40/40R/42/42R, Excella® E24/E24R, 45.7 × 45.7 cm, phenolic resin	
Universal platform, aluminum	M1250-9902
50 mL Erlenmeyer flask dedicated platform	M1194-9903
125 mL Erlenmeyer flask dedicated platform	M1194-9904
250 mL Erlenmeyer flask dedicated platform	M1194-9905
500 mL Erlenmeyer flask dedicated platform	M1194-9906
1 L Erlenmeyer flask dedicated platform	M1194-9907
2 L Erlenmeyer flask dedicated platform	M1194-9908
Sticky pad platform, sticky pads sold separately	M1250-9903
Quick-change platform kit, enables platform attachment without tools	M1192-9901
Utility carrier, holds racks and vessels between rubber-cushioned cross bars	M1194-9909
Utility tray, with non-skid rubber surface	M1194-9910
Rod kit, for utility carrier (one additional rod)	M1194-9923
Capacity upgrade kit, to convert a Model 2100 to a Model 2150	M1194-9926
Temperature and speed monitoring kit, for recording on an external chart recorder for Innova® 2100/2150/2300/2350	M1194-9924

Ordering information for other voltage options begins on page 418

New Brunswick™ Innova® 2150

Ordering information	
Description	**Order no.**
New Brunswick™ Innova® 2150, platform sold separately, 220/230 V/50/60 Hz, orbit diameter 1.9 cm (0.75 in)	M1194-0012
Interchangeable platform for Innova® 2150, 61 × 45.7 cm, phenolic resin	
Universal platform	M1194-9912
1 L Erlenmeyer flask dedicated platform	M1194-9919
2 L Erlenmeyer flask dedicated platform	M1194-9920
Utility carrier, holds glassware between rubber-cushioned cross bars	M1194-9921
Utility tray, with non-skid rubber surface	M1194-9922
Rod kit, for utility carrier (one additional rod)	M1194-9925
Quick-change platform kit, enables platform attachment without tools	M1194-9927
Temperature and speed monitoring kit, for recording on an external chart recorder for Innova® 2100/2150/2300/2350	M1194-9924

Ordering information for other voltage options begins on page 418

i For more information go to www.eppendorf.com

Technical specifications subject to change.

New Brunswick™ Innova® 2300

Ordering information	
Description	**Order no.**
New Brunswick™ Innova® 2300, platform sold separately	
220/230 V/50/60 Hz, orbit diameter 2.5 cm (1 in)	M1191-0002
220/230 V/50/60 Hz, orbit diameter 5.1 cm (2 in)	M1191-0022
Drip pan, to catch accidental spills, for use with universal platform M1250-9920	M1250-9921
Platform for Innova® 2300/43/43R, Excella® E10/E25/E25R, 76 × 46 cm, aluminum	
Universal platform, aluminum	M1250-9920
50 mL Erlenmeyer flask dedicated platform	M1191-9908
125 mL Erlenmeyer flask dedicated platform	M1191-9909
250 mL Erlenmeyer flask dedicated platform	M1191-9910
500 mL Erlenmeyer flask dedicated platform	M1191-9911
1 L Erlenmeyer flask dedicated platform	AG-1
2 L Erlenmeyer flask dedicated platform	AG-2
2.8 L Fernbach flask dedicated platform	AG-28
6 L Erlenmeyer flask dedicated platform	AG-6
Sticky pad platform, sticky pads sold separately	M1250-9904
Utility tray, with non-skid rubber surface	AG-00
Quick-change platform kit, enables platform attachment without tools	M1191-9904
Capacity upgrade kit, to convert a Model 2300 to a Model 2350	M1191-9905
Temperature and speed monitoring kit, for recording on an external chart recorder for Innova® 2100/2150/2300/2350	M1194-9924

Ordering information for other voltage options begins on page 418

New Brunswick™ Innova® 2350

Ordering information	
Description	**Order no.**
New Brunswick™ Innova® 2350, platform sold separately	
220/230 V/50/60 Hz, orbit diameter 2.5 cm (1 in)	M1191-0012
220/230 V/50/60 Hz, orbit diameter 5.1 cm (2 in)	M1191-0032
Interchangeable platform for Innova® 2350, 91.4 × 61 cm, marine plywood unless otherwise noted	
Universal platform	PTL-386
Universal platform, aluminum	PTL-393
125 mL Erlenmeyer flask dedicated platform	M1191-9912
250 mL Erlenmeyer flask dedicated platform	M1191-9913
500 mL Erlenmeyer flask dedicated platform	M1191-9914
Utility tray, with non-skid rubber surface	AG-21-00
Temperature and speed monitoring kit, for recording on an external chart recorder for Innova® 2100/2150/2300/2350	M1194-9924

Ordering information for other voltage options begins on page 418

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New Brunswick™ Innova® 5050/5051 Racking Systems

Description
Save space and stack Innova 2300 open air shakers. Model 5050 consists of a sturdy, stainless-steel rack to hold up to 4 Innova 2300 shakers. Innova 5051 rack extension can be added to support an additional 4 shakers, bringing the total number to 8 Innova 2300 shakers.

Product features
> Includes electrical strip for power multiple shakers
> Maximum speed 400 rpm for 2.5 cm (1 in) orbits and 300 rpm for 5.1 cm (2 in) orbits
> Larger flasks can be accomodated by removing adjustable-height shelves
> Comes pre-assembled

Ordering information

Description	Order no.
New Brunswick™ Innova® 5050 Rack System, 230/240 V/50/60 Hz	M1232-0101
New Brunswick™ Innova® 5051 Rack Extension, 230/240 V/50/60 Hz	M1232-0111

Clamps and Accessories for Universal Platforms

Dedicated platforms come with clamps of one size pre-installed.

Flask clamp, of one-piece stainless steel, fitted with springs for stability at elevated speeds.

Microplate racks and carriers mount to any universal platform and are used to secure microplates. Racks can either be ordered for stacking the plates or laying plates flat in a single layer.

Test tube racks, small, medium and large.

Utility carries secure vessels between adjustable, cushioned rods.

Universal platform shown with accessory clamps, test tube racks and sticky tape.

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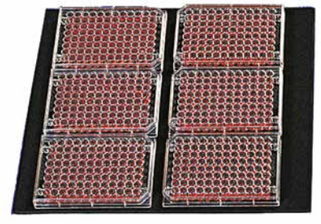

Utility trays provide a non-slip surface for low-speed applications.

Sticky pad (shown) and sticky tape replace clamps for speeds up to 250 rpm. Sticky pad requires an anodized aluminum surface.

Accessories

Description	Order no.
Test tube rack, small, 30.0 x 8.0 x 12.9 cm	
diameter 8 – 11 mm, 48 tubes	M1289-0001
diameter 12 – 15 mm, 34 tubes	M1289-0002
diameter 15 – 18 mm, 24 tubes	M1289-0003
diameter 18 – 21 mm, 18 tubes	M1289-0004
diameter 22 – 26 mm, 13 tubes	M1289-0005
diameter 26 – 30 mm, 12 tubes	M1289-0006
Test tube rack, medium, 36 × 8 × 12.9 cm	
diameter 8 – 11 mm, 60 tubes	M1289-0010
diameter 12 – 15 mm, 44 tubes	M1289-0020
diameter 15 – 18 mm, 31 tubes	M1289-0030
diameter 18 – 21 mm, 23 tubes	M1289-0040
diameter 22 – 26 mm, 16 tubes	M1289-0050
diameter 26 – 30 mm, 16 tubes	M1289-0060
Test tube rack, large, 45 x 8 x12.9 cm	
diameter 8 – 11 mm, 80 tubes	M1289-0100
diameter 12 – 15 mm, 60 tubes	M1289-0200
diameter 15 – 18 mm, 42 tubes	M1289-0300
diameter 18 – 21 mm, 30 tubes	M1289-0400
diameter 22 – 26 mm, 22 tubes	M1289-0500
diameter 26 – 30 mm, 20 tubes	M1289-0600
Clamp, for 1 L media bottles	ACSB-1000S
Clamp, for 500 mL media bottles	ACSB-500S
Angled test tube rack holder, for user-supplied test tube racks and microplates	TTR-210
Spacer bar for TTR-210	TTR-215
Microplate rack, single layer, for single layer of five plates	TTR-221
Microplate rack, stack, stack three deepwell or nine standard plates	M1289-0700
Sticky pad adaptor kit, 2 anodized aluminum sheets, each 15.2 x 45.7 cm (6 x 18 in)	M1250-9504
Sticky tape, 500 × 4.1 cm (16.4 feet × 1.6 in) roll	M1250-9600
Sticky pad, 20 × 20 cm (8 × 8 in)	M1250-9700
Drip pan, for universal platform M1250-9902	M1250-9906
Drip pan, to catch accidental spills, for use with universal platform M1250-9920	M1250-9921

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Universal Platforms and Clamps for Incubated Shakers

Universal Platforms and Clamps for Incubated Shakers

	Innova® 40/40R	Innova® 42/42R	Innova® 43/43R	Innova® 44/44R	Innova® S44i	Excella® E24/E24R	Excella® E25/E25R	Clamp	Clamp
	M1250-9902	M1250-9902	M1250-9920	M1282-9904	M1250-9920	M1250-9902	M1250-9920	Order no.	Dimensions (W × H)
10 mL Erlenmeyer flasks	109	109	183	187	238	109	183	ACE-10S	31 × 26 mm
25 mL Erlenmeyer flasks	64	64	92	93	238	64	92	M1190-9004	38 × 21 mm
50 mL Erlenmeyer flasks	45	45	92	91	130	45	92	M1190-9000	51 × 26 mm
125 mL Erlenmeyer flasks	21	21	39	39	81	21	39	M1190-9001	66 × 36 mm
250 mL Erlenmeyer flasks	18	18	30	30	49	18	30	M1190-9002	79 × 48 mm
500 mL Erlenmeyer flasks	14	14	18	24	36	14	18	M1190-9003	100 × 52 mm
1 L Erlenmeyer flasks	8	8	12	14	20	8	12	ACE-1000S	120 × 63 mm
2 L Erlenmeyer flasks	5	5	8	8	13	5	8	ACE-2000S	152 × 71 mm
500 mL media bottle flask	9	9	19	18	20	9	19	ACSB-500S	110 × 108 mm
1 L media bottle flask	8	8	13	13	20	8	13	ACSB-1000S	129 × 146 mm
2 L Lauber Thompson	5	5	8	8	13	5	8	M1190-9005	168 × 112 mm
2.8 L Fernbach flasks	4	4	6	6	8	4	6	ACFE-2800S	198 × 66 mm
3 L Erlenmeyer flasks	4	4	6	6	8	4	6	ACE-3000S	189 × 128 mm
4 L Erlenmeyer flasks		4	6	6	8		6	ACE-4000S	196 × 95 mm
5 L Erlenmeyer flasks		4	6	6	6		6	ACE-5000S	222 × 145 mm
6 L Erlenmeyer flasks		2	4		4		4	ACE-6000S	225 × 96 mm
Microplate rack, single layer	5	2	4	4	4	5	4	TTR-221	
Microplate rack, stack	8	8	16	16	20	8	16	M1289-0700	
Test tube rack, small, 30.0 x 8.0 x 12.9 cm	5	5	9	9	12	5	9	see page 342	
Test tube rack, medium, 36 × 8 × 12.9 cm	5	5	9	9	10	5	9	see page 342	
Test tube rack, large, 45 x 8 x12.9 cm	4	4	7	7	8	4	7	see page 342	
Platform size	46 × 46 cm (18 × 18 in)	46 × 46 cm (18 × 18 in)	76 × 46 cm (30 × 18 in)	76 × 46 cm (30 × 18 in)	76 × 62 cm (30 × 24 in)	46 × 46 cm (18 × 18 in)	76 × 46 cm (30 × 18 in)		

ACCESSORIES

Dedicated Platforms and Clamps for Incubated Shakers

	Innova® 40/40R		Innova® 42/42R		Innova® 43/43R		Innova® 44/44R		Innova® S44i		Excella® E24/E24R		Excella® E25/E25R	
	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.
50 mL Erlenmeyer flasks	64	M1194-9903	64	M1194-9903	108	M1191-9908					64	M1194-9903	108	M1191-9908
125 mL Erlenmeyer flasks	34	M1194-9904	34	M1194-9904	60	M1191-9909	60	M1282-9905	86	S44I040002	34	M1194-9904	60	M1191-9909
250 mL Erlenmeyer flasks	25	M1194-9905	25	M1194-9905	40	M1191-9910	40	M1282-9906	53	S44I040003	25	M1194-9905	40	M1191-9910
500 mL Erlenmeyer flasks	16	M1194-9906	16	M1194-9906	24	M1191-9911	24	M1282-9907	39	S44I040004	16	M1194-9906	24	M1191-9911
1 L Erlenmeyer flasks	9	M1194-9907	9	M1194-9907	15	AG-1	15	M1282-9908	23	S44I040005	9	M1194-9907	15	AG-1
2 L Erlenmeyer flasks	5	M1194-9908	5	M1194-9908	12	AG-2	12	M1282-9909	15	S44I040006	5	M1194-9908	12	AG-2
2.8 L Fernbach flasks	4	M1233-9932	4	M1233-9932	6	AG-28	6	M1282-9910	8	S44I040007	4	M1233-9932	6	AG-28
4 L Erlenmeyer flasks			4	M1233-9930	6	AG-4	6	M1282-9911	8	S44I040008			6	AG-4
6 L Erlenmeyer flasks					4	AG-6							4	AG-6
Sticky platform		M1250-9903		M1250-9903		M1250-9904		M1282-9913				M1250-9903		M1250-9904
Platform size	46 × 46 cm (18 × 18 in)		46 × 46 cm (18 × 18 in)		76 × 46 cm (30 × 18 in)		76 × 46 cm (30 × 18 in)		76 × 62 cm (30 × 24 in)		46 × 46 cm (18 × 18 in)		76 × 46 cm (30 × 18 in)	

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Universal Platforms and Clamps for Innova® Open Air Shakers

Universal Platforms and Clamps for Innova® Open Air Shakers

	Innova® 2000	Innova® 2050	Innova® 2100	Innova® 2150	Innova® 2300	Innova® 2350	Clamp	Clamp
	M1001-0240	M1190-9900	M1250-9902	M1194-9912	M1250-9920	PTL-386	Order no.	Dimensions (W × H)
10 mL Erlenmeyer flasks	60	86	109		183		ACE-10S	31 × 26 mm
25 mL Erlenmeyer flasks	20	32	64		92		M1190-9004	38 × 21 mm
50 mL Erlenmeyer flasks	15	32	45	63	92		M1190-9000	51 × 26 mm
125 mL Erlenmeyer flasks	11	16	21	35	39	75	M1190-9001	66 × 36 mm
250 mL Erlenmeyer flasks	6	10	18	24	30	50	M1190-9002	79 × 48 mm
500 mL Erlenmeyer flasks	4	8	14	20	18	30	M1190-9003	100 × 52 mm
1 L Erlenmeyer flasks			8	12	12	24	ACE-1000S	120 × 63 mm
2 L Erlenmeyer flasks			5	6	8	15	ACE-2000S	152 × 71 mm
500 mL media bottle flask	4	6	9	15	19	35	ACSB-500S	110 × 108 mm
1 L media bottle flask	2	4	8	11	13	23	ACSB-1000S	129 × 146 mm
2 L Lauber Thompson			4	5	6	12	M1190-9005	168 × 112 mm
2.8 L Fernbach flasks			4	5	6	12	ACFE-2800S	198 × 66 mm
3 L Erlenmeyer flasks			4	5	6	11	ACE-3000S	189 × 128 mm
4 L Erlenmeyer flasks			4	5	6	11	ACE-4000S	196 × 95 mm
5 L Erlenmeyer flasks			4	4	6	8	ACE-5000S	222 × 145 mm
6 L Erlenmeyer flasks			2	3	4	7	ACE-6000S	225 × 96 mm
Microplate rack, stack	3	8	8	16	16	16	M1289-0700	
Microplate rack, single layer		2	2	4	4	4	TTR-221	
Test tube rack, small, 30.0 x 8.0 x 12.9 cm	3	4	5	9	9	18	see page 342	
Test tube rack, medium, 36 × 8 × 12.9 cm		3	5	9	9	13	see page 342	
Test tube rack, large, 45 x 8 x12.9 cm			4	7	7	12	see page 342	
Platform size	33 × 28 cm (13 × 11 in)	41 × 31 cm (16 × 12 in)	46 × 46 cm (18 × 18 in)	61 × 46 cm (24 × 18 in)	76 × 46 cm (30 × 18 in)	91 × 61 cm (36 × 24 in)		

Dedicated Platforms and Clamps for Innova Open Air Shakers

	Innova® 2000		Innova® 2050		Innova® 2100		Innova® 2150		Innova® 2300		Innova® 2350	
	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.	Clamps	Order no.
10 mL Erlenmeyer flasks	60	AG2-10	86	M1190-9901								
25 mL Erlenmeyer flasks	32	M1190-9919	48	M1190-9902								
50 mL Erlenmeyer flasks	20	M1190-9915	35	M1190-9903	64	M1194-9903	80	M1194-9915	108	M1191-9908		
125 mL Erlenmeyer flasks	12	M1190-9916	20	M1190-9904	34	M1194-9904	48	M1194-9916	60	M1191-9909	96	M1191-9912
250 mL Erlenmeyer flasks	8	M1190-9917	12	M1190-9905	25	M1194-9905	35	M1194-9917	40	M1191-9910	70	M1191-9913
500 mL Erlenmeyer flasks	6	M1190-9918	8	M1190-9906	16	M1194-9906	20	M1194-9918	24	M1191-9911	40	M1191-9914
1 L Erlenmeyer flasks			6	M1190-9911	9	M1194-9907	12	M1194-9919	15	AG-1		
2 L Erlenmeyer flasks					5	M1194-9908	8	M1194-9920	12	AG-2		
2.8 L Fernbach flasks						M1233-9932			6	AG-28		
4 L Erlenmeyer flasks									6	AG-4		
6 L Erlenmeyer flasks									4	AG-6		
Sticky platform		M1190-0300				M1250-9903				M1250-9904		
Platform size		33 × 28 cm (13 × 11 in)		41 × 31 cm (16 × 12 in)		46 × 46 cm (18 × 18 in)		61 × 46 cm (24 × 18 in)		76 × 46 cm (30 × 18 in)		91 × 61 cm (36 × 24 in)

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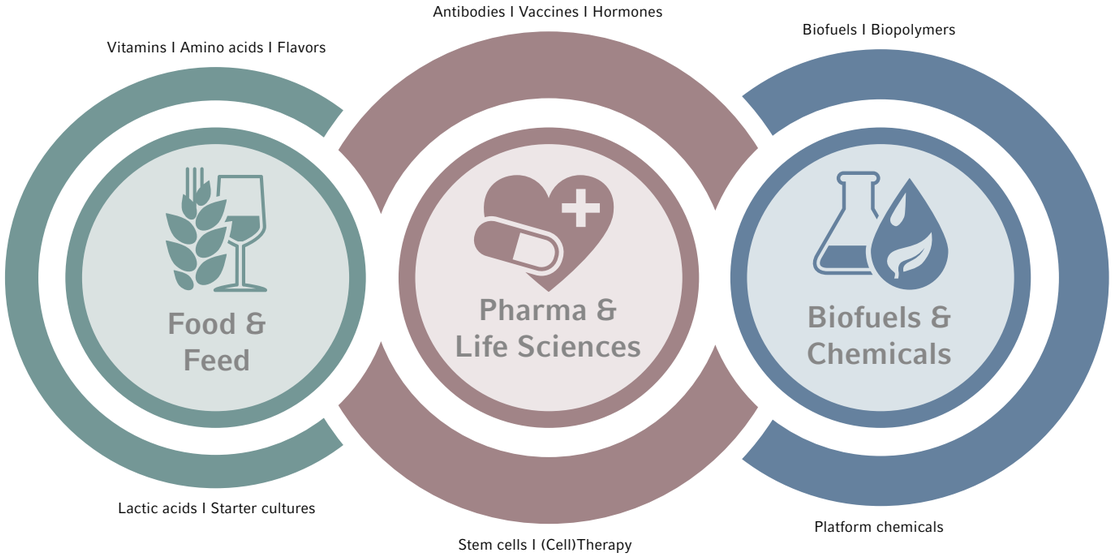
»Heal, fuel, and feed the world.«

Stephen Sherwin

Bioprocess engineers develop and produce a multitude of products and ingredients available today. Their applications are diverse, and the products can be found in pharmaceutical, chemical, and nutrition industries. Stephen Sherwin, former chairman of BIO association put it aptly: “Heal, fuel, and feed the world”.

Our Eppendorf bioprocess solutions are successfully used in these industries and in applied research for decades. By exploiting the strong synergies in bioreactor technology and polymer manufacturing, Eppendorf has emerged as a global player and valuable resource to its customers. With an integrated portfolio comprising software, instruments, consumables, and services, we can satisfy the demands of bioprocess development through production. In that way and in line with our corporate mission, we contribute to the efforts of Eppendorf customers worldwide to improve human living conditions.



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Addressing Our Customers' Challenges

Single-use equipment, automation, perfusion culture, and other techniques have the potential to increase efficiency and change the way scientists and engineers work. Along with process intensification comes the need to utilize resources wisely. Users have to cope with rising amounts of data in order to achieve their goals faster.

They are being appraised by process performance characteristics such as costs per run and turn-around times.
Eppendorf is the right partner to meet these challenges. Satisfying professionals with full solutions to their tasks is what our bioprocess specialists are focussing on day-to-day. Expert teams take care of our customers worldwide.

»Our bioprocess customers expect a special kind of support. Not only do our employees need to know their way around the technical devices; a knowledge of biological applications is also required. After all, we can only help if we understand exactly what our customers do and need. And in many cases, this close contact also results in new solutions.«
Dr. Karl Rix, Vice President, Head of Business Unit Bioprocess, Eppendorf

Process and Manufacturing
The biopharmaceutical landscape has long been dominated by the production of recombinant proteins and monoclonal antibodies (mABs). Nowadays, the industry is moving towards more diverse pipelines with a broader variety of biological active pharmaceutical ingredients (APIs), including biosimilars. Reacting to these rising demands, companies put flexible systems in place, optimized to balance costs and time-to-market.
Eppendorf offers flexible bioprocess solutions from a single source, supporting batch, fed-batch, continuous, and perfusion cultivation. From parallel small-scale bioreactor systems for early stage bioprocess development, benchtop bioreactors and fermentors for the laboratory scale to sterilize-in-place products for technology transfer and scale-up to production. They enable bioprocess professionals to establish robust and reproducible processes in all scales.

Control and Analytics
Monitoring and control is key in bioprocess development and ensures the process environment for optimum cell growth and high-titer production. Applying Process Analytical Technology (PAT) concepts provides real-time insights improving product quality. Predictive models of cell and process performance enhance process understanding and optimize control through forecasting and estimating optimum parameter settings. Statistical tools like Multivariate Data Analysis (MVA) help scientists to get the most out of their data.

Software solutions from Eppendorf make use of these techniques by providing more than just bioprocess control. Comprehensive data- and information management supports scientists in enhancing their development efforts.

Quality and Regulatory Aspects
The FDA's Quality by Design approach aims to design product quality and process efficiency into the process as early as possible. It includes the identification of critical process parameters (CPPs) and critical quality attributes (CQAs). These have to be monitored, controlled, and documented already early in biopharmaceutical development. Process automation opens up new possibilities in terms of quality control and validation, especially in GMP environments.
Eppendorf's parallel small-scale bioreactor systems support customers in implementing Quality by Design (QbD) principles in the development phase. Our advanced bioprocess control software is 21 CFR Part 11 compatible. Single-use bioreactor solutions from Eppendorf help make laboratories more efficient and safe.

Integration and Services
Bioprocess equipment requires first-class service to achieve optimum results. Globalization, digital technologies, rising cost pressures, and the urge to be flexible in their operations make companies in the bioprocessing space face new challenges. They have to adapt their processes, facilities, and supply chains to these needs, establish global networks, and ensure high-quality training of all employees.
At Eppendorf, we offer broad expertise in automation and integration of third-party devices, making sure your systems run efficiently and are seamlessly integrated. Eppendorf customers can rely on high-quality technical and application support as well as comprehensive training and technical documentation.

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Vaccines

Driven by epidemic events and by governmental vaccination programs, there is a rising demand for development of new vaccines and the industry is growing at a double-digit rate. Eppendorf bioprocess equipment helps companies in setting up flexible processes that help balancing costs and shortening time-to-market.
Learn more on www.eppendorf.com/vaccines

Antibodies/Hormones

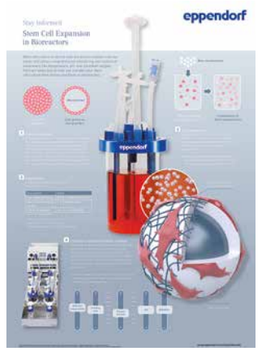
Improved cultivation techniques such as perfusion and new possibilities in data handling and automation enhance development of antibodies, therapeutic proteins, and active ingredients.
See how Eppendorf can support you with these initiatives on www.eppendorf.com/antibodies

Besides standard impellers, Eppendorf offers specially impellers which can facilitate continuous and perfusion processes: Spin filters, Cell-Lift impellers, and packed-bed basket impellers.
Fibra-Cel® disks are a solid support material for growth of adherent mammalian, animal, and insect cells, when secreted proteins are desired.

Key advantages:
> Cell densities averaging 10 times higher than traditional microcarriers, due to protection from shear forces
> Higher mass transfer of nutrients and oxygen
> Low pressure drop across the bed for efficient scale-up
> Higher surface-to-volume ratios

Stem Cells

Stem cell-based technologies are promising approaches for therapy and drug discovery. For commercialization, researchers are evaluating standardization of their cultures and efficient scale-up. Eppendorf customers rely on our bioprocess solutions for controlled cultivation of induced pluripotent stem cells (iPSCs), mesenchymal stem cells (MSCs), and others.



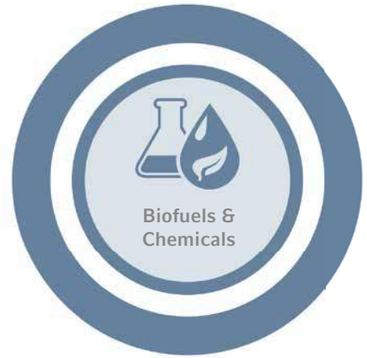
Researchers at Ncardia®, Netherlands rely on the DASbox® Mini Bioreactor System to develop a process for scaling up their production of iPSC-derived cardiovascular cells.
Find this and more research examples at www.eppendorf.com/stem-cell-bioprocessing

Food & Feed

Microorganisms are routinely used in the food and animal feed industries for processes such as alcohol fermentation, the acidification of dairy products or ensilage. Besides, bacteria and fungi are gaining popularity in the production of food additives such as vitamins, antioxidants or bioactive peptides.
Eppendorf fermentors are available in sizes ranging from 65 mL – 1,200 L and serve process engineers from research and process development through production:
> Strain and process characterization
> Scale-down
> High-cell-density fermentation
> Scale-up

Read how our customers at BIOMIN®, Evonik®, and others benefit from Eppendorf fermentation solutions:
www.eppendorf.com/food-feed

Chemicals



Chemical synthesis, with its use of partially toxic reagents and solvents as well as high energy consumption, is in direct conflict with the sustainable handling of energy and raw material resources. Meanwhile, a large variety of chemicals can be efficiently produced by microbial fermentation. They are used for example as building blocks for polymers, food supplements, and ingredients for cosmetics. Complex biopolymers have the potential to replace fossil-derived plastics in the future.

Learn more:
www.eppendorf.com/chemicals

Academic Customers

No matter which area you are doing research in: We understand that universities and other publicly funded institutes are facing special challenges, such as frequently changing staff and often limited budgets. Also for these requirements, Eppendorf has the right solution.

The BioFlo® 120 Auto Culture modes allow 1-touch process control for microbial and cell culture applications and make the control station the perfect workhorse for beginners.

BIOPROCESSING

Cell Handling

Model	DASbox® Mini Bioreactor System	DASGIP® Parallel Bioreactor Systems	BioFlo® 120	BioFlo® 320
Page	358	358	359	359
Working volume range[1)]	60 – 250 mL	0.2 – 3.8 L	0.25 – 40 L	0.25 – 40 L
Single-use vessels available	■	■	■	■
Glass vessels, autoclavable	■	■	■	■
Stainless-steel vessels, SIP				
Interchangeable vessels	■	■	■	■
Bacteria/yeasts/fungi	■	■	■	■
Plant cells/algae	■	■	■	■
Mammalian/animal cells	■	■	■	■
Stem cells	■	■	■	■
Insect cells	■	■	■	■
Number of parallel units	Up to 24	Up to 16		up to 8
Controller[2)]	DWC	DWC	BCS	BCS
Touchscreen controller			■	■
BioCommand®			■	■
DASware®	■	■	■	■
Gas mixing options	4 gas (air, N_2, O_2, CO_2)	4 gas (air, N_2, O_2, CO_2)	4 gas (air, N_2, O_2, CO_2)	4 gas (air, N_2, O_2, CO_2)
Gas flow control[3)]	TMFC	R or TMFC	R or TMFC	TMFC
Exhaust analysis	■	■	■	■
Optical density measurement	■	■	■	■
Validation				■

[1)] Realized using multiple vessel sizes [2)] Controllers: DWC = DASware® control, RPC = Reactor Process Controller, BCS = BioFlo® Control Software, PLC = Programmable Logic Controller [3)] Gas Flow Controllers: R = Rotameter, TMFC = Thermal Mass Flow Controller

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Are you searching for more bioprocess products? Have a look at our 2018/2019 bioprocess catalog - available online!

More information
at www.eppendorf.com/catalog,
in the Eppendorf App, and in the eShop.

Technical specifications subject to change.

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Cell Handling

Model	BioFlo® 510	CelliGen® 510	BioFlo® 610	BioFlo® Pro
Page	360	360	360	361
Working volume ranges[1]	10.75 – 32 L	10.75 – 32 L	13 – 100 L	45 – 1,200 L[1]
Single-use vessels available				
Glass vessels, autoclavable				
Stainless-steel vessels, SIP	■	■	■	■
Interchangeable vessels				
Bacteria/yeasts/fungi	■		■	■
Plant cells/algae	■	■	■	■
Mammalian/animal cells		■		
Stem cells		■		
Insect cells	■	■	■	■
Number of parallel units				
Controller[2]	RPC/PLC	RPC/PLC	RPC	PLC
Touchscreen controller	■	■	■	■
BioCommand®	■	■	■	■
DASware®				
Gas mixing options	4-gas (air, N_2, O_2, CO_2)	4-gas (air, N_2, O_2, CO_2)	2-gas (air, O_2)	2-gas (air, O_2)
Gas flow control[3]	TMFC	TMFC	TMFC	TMFC
Exhaust analysis	■	■	■	■
Optical density measurement				
Validation	■	■	■	■

[1] Realized using multiple vessel sizes [2] Controllers: DWC = DASware® control, RPC = Reactor Process Controller, BCS = BioFlo® Control Software, PLC = Programmable Logic Controller [3] Gas Flow Controllers: R = Rotameter, TMFC = Thermal Mass Flow Controller

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Parallel Bioprocessing for Unparalleled Results – Small-Scale Systems

DASbox® Mini Bioreactor System
60 - 250 mL working volume

Product features
> 4-fold parallel system extendable to up to 24 parallel operated glass or single-use bioreactors
> Suitable for cell culture and microbial fermentation
> Compact mini bioreactor system: requires only 7 cm (3 inches) bench space per bioreactor
> Optimal tool for DoE and scale down approaches
> Agitation control supporting overhead-driven Rushton, marine-type or pitched blade impellers
> Innovative liquid-free temperature control system needs no cooling agent supply and supports independent temperature control for each bioreactor
> Accurate monitoring and control of pH, DO and level
> Variable speed pumps for accurate liquid addition and operation in batch, fed-batch, continuous and cyclic perfusion mode
> 4 mass flow controllers per bioreactor allow for individual mixing of air, N_2, O_2 and CO_2 to headspace and/or submerged
> Novel liquid-free Peltier exhaust condenser with easy to handle slide in – slide out activation and deactivation
> DASware® control Software for advanced process control
> Compatible with DASware Software Suite for interconnectivity and bioprocess information management

DASGIP® Parallel Bioreactor Systems
0.2 – 3.8 L working volume

Product features
> Parallel operation of up to 16 glass or single-use bioreactors
> DASGIP Bioblock for advanced and user-friendly temperature control or temperature control via heat blankets and cooling fingers (benchtop bioreactors)
> Suitable for cell culture, microbial fermentation and phototrophic cultivation
> Modular design of control units allows for flexible system configurations that meet the demands of specific applications
> Control of agitation, pH, level and DO (including customizable cascade modes) in each bioreactor
> Variable speed pumps for accurate liquid addition and operation in batch, fed-batch, continuous and cyclic perfusion mode
> Optical absorbance measurement for online calculation of e.g. OD_{600} or cell dry weight
> TMFC individual gas mixing of air, N_2, O_2 and CO_2
> Online calculation of OTR, CTR and RQ
> DASware control Software for advanced process control
> Compatible with DASware Software Suite for interconnectivity and bioprocess information management

Exceedingly Versatile – Bench Scale Fermentors and Bioreactors

BioFlo® 120
0.4 – 10.5 L working volume (autoclavable),
0.25 – 40 L working volume (single-use)

Product features
> Updated flexible software platform for universal control of both microbial and cell culture applications
> New Auto Culture modes offer process control at the touch of a button
> Compatible with BioBLU® Single-Use Vessels for fermentation and cell culture applications
> Precise temperature control provided through interchangeable heat-blanketed or water-jacketed vessels
> High precision thermal mass flow controller (TMFC) for automatic gas flow control
> Automatic gas mix for four independent sparge gas supplies
> Available analog input/output connection for direct integration of accessories (i.e. scales, variable-speed pumps, etc.)
> Integrated Mettler Toledo® Intelligent Sensor Management (ISM) platform
> Integrated 7 in touchscreen for local process control
> Compatible with DASware Software Suite or BioCommand for bioprocess information management

BioFlo® 320
0.6 - 10.5 L working volume (autoclavable),
0.25 - 40 L working volume (single-use)

Product features
> Interchangeable autoclavable and BioBLU Single-Use Vessels
> Integrated Mettler Toledo Intelligent Sensor Management (ISM) platform
> Control up to eight systems from a single user interface
> Universal control for both microbial and cell culture applications
> Field-upgradable TMFC drawers for sparge and overlay gas
> Enhanced software package with new cascade and time profile features
> Built-in optical pH sensing technology for use with the BioBLU Single-Use Vessels
> Ethernet communication for multi-unit control, Eppendorf SCADA software, and IP addressing
> Up to six integrated pumps capable of operating in variable-speed mode
> Eight independently controlled process gas supplies
> Suitable for batch, fed batch, and continuous processes as well as perfusion
> Validation packages available for GMP regulated processes

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Industry Standards Meet Flexibility – Sterilizable-in-Place Fermentors and Bioreactors

BioFlo 510 and CelliGen 510
Bench- and pilot-scale SIP fermentor and bioreactor
10.75 – 32 L working volume

Product features
> SIP bench and pilot scale reactors designed to meet the needs of R&D through production
> Modular design allows for complete system flexibility
> Add or remove components pre- or post-delivery
> Multiple impeller and gas flow options
> Integrated skid design with mobile table option to simplify transport
> Features intuitive RPC control software and touchscreen interface
> Optional Allen Bradley® PLC
> Integrated load cell for online vessel volume monitoring
> Fully automated SIP sequence for sterilization
> Flush mounted vessel ports for enhanced vessel design and drainability
> Validation packages available
> 7 additional analog input/output connections for local integration of ancillary equipment
> ASME-rated pressure vessel

BioFlo 610
Pilot-scale SIP fermentor
13 – 100 L working volume

Product features
> Pilot production system without the traditional cost or footprint
> Modular design allows for complete system flexibility
> Add or remove components pre- or post-delivery
> Multiple impeller and gas flow options
> Integrated mobile skid simplifies transport
> Features intuitive RPC control software and touchscreen interface
> Integrated load cell for online vessel volume monitoring
> Fully automated SIP sequence for sterilization
> Flush mounted vessel ports for enhanced vessel design and drainability
> Validation packages available
> 7 additional analog input/output connections for local integration of ancillary equipment
> ASME-rated pressure vessel

BioFlo Pro
Large-scale SIP fermentor
45 – 1,200 L working volume

Product features
> Large scale industrial system supporting operation in accordance to cGMP and GAMP® guidelines
> Modular design with over a hundred options allows for high level of customization pre and post delivery
> Multiple impeller and gas flow options
> NEMA-4 (IP65) rated control cabinet with industry-standard Allen Bradley PLC
> Open piping skid allows for easy accessibility
> Fully automated SIP sequence for sterilization
> Clean-in-Place (CIP) options available for vessel and piping
> Flush mounted vessel ports for enhanced vessel design and drainability
> Validation packages available
> ASME-rated pressure vessel

i For more information go to www.eppendorf.com

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BioBLU® Single-Use Vessels – Dependability through Proven Design

Single-use simplicity
With renowned polymer expertise, Eppendorf is proud to offer the largest portfolio of rigid walled stirred-tank single-use vessels – in small and bench scale, to be operated with parallel DASbox Mini Bioreactor System, DASGIP Parallel Bioreactor Systems or BioFlo bench-scale systems.

From 65 mL to 40 L, working volume, Eppendorf has a single-use solution to meet your needs

Product features
> Proven performance and scalability of stirred-tank design
> User-friendly set-up for rapid turnaround, shorter development times and lower operating costs
> Specifically adapted designs available for microbial applications
> Packed-bed configuration with Fibra-Cel disks is ideal for perfusion/continuous processes
> USP Class VI and animal component-free materials, making vessels appropriate for GMP production
> Non-invasive or industry standard sensor technology

Technical specifications subject to change.

BioBLU c Single-Use Vessels for cell culture applications
Single-use solutions for small and bench scale cell culture applications. A full portfolio of vessels covers a working volume range of 100 mL - 40 L, offering unmatched scalability. The single-layer polymer design mitigates issues related to leachables and extractables.

BioBLU 5p Single-Use Vessel with packed bed
For the cultivation of adherent cells and for perfusion processes we offer the BioBLU 5p packed-bed vessel. It utilizes the proprietary Eppendorf packed-bed impeller design and is pre-loaded with Fibra-Cel® disks. Providing a shear-free environment, it is a premium choice in a wide variety of applications, including the production of secreted products and stem cell culture.

BioBLU f Single-Use Vessels for microbial applications
Single-use solutions for small and bench scale fermentation applications, covering a working volume range of 65 mL – 3.75 L. Fermentation processes have high mass transfer and heat removal requirements. Proven stirred-tank design, powerful overhead drives featuring Rushton-type impellers, and effective cooling make it possible for the BioBLU f vessels to achieve these demands.

BioBLU Single-Use Vessel Adaptor Kits
BioBLU vessels are designed for use with the Eppendorf DASbox and DASGIP systems, BioFlo 120, and BioFlo 320. A range of adaptor kits is offered as well, enabling your existing bioreactor system for single-use operation without the expense of replacing the whole system.
BioBLU Single-Use Vessel bundles provide you with highest flexibility. They ease up to switch your bioreactor system from single-use to reusable vessel usage, back and forth.

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Eppendorf Bioprocess Software – Much More Than Just Bioprocess Control

Eppendorf offers BioCommand and DASware control Supervisory Control and Data Acquisition (SCADA) software packages for advanced bioprocess control. The comprehensive DASware software suite provides next-generation bioprocess management.

DASware software suite
Next-generation bioprocess management
A suite of smart and flexible software solutions to accelerate bioprocess development, with DASware control for parallel bioprocess control. The DASware licences enable interconnectivity of bioreactors with external lab-devices, comprehensive data- and information management, Design of Experiments (DoE) and remote control of bioprocesses. DASware can be used with any Eppendorf benchtop bioreactor solution.

DASware control
> Advanced process monitoring, control, and data logging - for parallel cultivation with individual control of each bioreactor

DASware connect
> Integration into process control systems and legacy corporate historians facilitating company-wide access to all relevant bioprocess data

DASware access
> Remote monitoring and control of bioprocesses via PC, Notebook and Netbook or with the DASGIP iApp via iPhone®, iPod touch® and iPad®

DASware design
> Applies the Design of Experiments (DoE) concept via a full factorial DoE builder or by importing DoE designs from third-party DoE tools

DASware analyze
> Seamless integration of external lab devices to the bioreactor allows for process automation and feedback control loops

DASware discover
> A comprehensive and user-friendly information management solution for bioprocessing

Technical specifications subject to change.

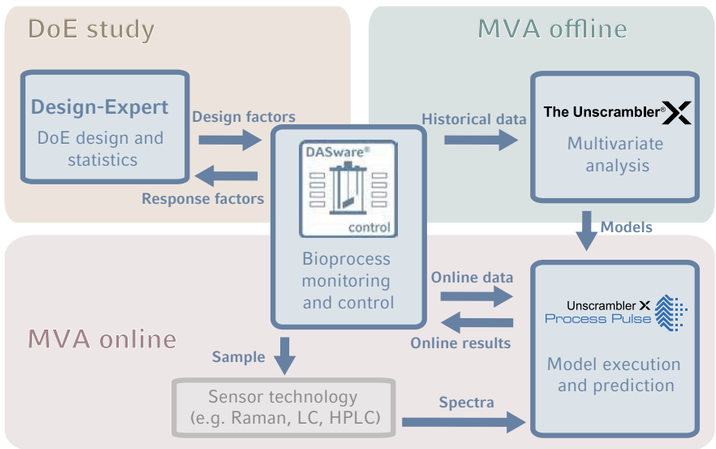
BioCommand software
The BioCommand software enhances your ability to monitor, control and log data from your fermentation and cell culture processes through your personal computer. Three distinct packages provide the tools needed for research, optimization, and if needed, the security and audit trails to support your regulatory requirements.

> **Track and Trend**: Provides the ability to trend and control parameter setpoints, establish alarm settings, and produce batch records; and is ideal for basic process management
> **Batch Control:** Additional enhanced control features including a sophisticated programming module, custom synoptic display window, and equipment lock feature
> **Batch Control Plus:** Includes three levels of security, event logs, and audit-trail capabilities to be compatible with the FDA 21 CFR Part 11

Features	Track and Trend	Batch Control	Batch Control Plus	DASware control
Batch info	■	■	■	■
User-defined event log	■	■	■	■
Summary	■	■	■	■
Loop info	■	■	■	■
Alarms	■	■	■	■
Trend graphs	■	■	■	■
Data log	■	■	■	■
Reports	■	■	■	■
Graphical programming		■	■	
Script programming		■	■	■
Synoptic display		■	■	■
Equipment lock		■	■	■
Audit trail/security			■	■
21 CFR Part 11			■	■[1)]
OPC compliance	■	■	■	■
Parallel calibration				■
DASware compatibility				■

[1)] 21 CFR Part 11 compatibility is available for DASware control as an optional package. Please contact us for further information.

Unlock the Box – Integrated Software Solutions for DoE and MVA



Bringing together the Eppendorf DASware control 5 software and the CAMO Software packages The Unscrambler® X with Design-Expert® and Unscrambler X Process Pulse II we present an integrated software solution for bioprocess control, DoE, and Multivariate Analysis (MVA).

Use cases:
> DoE studies: From experimental design to data analysis
> Offline MVA: Analyze historical data and develop batch trajectory models
> Online MVA: Implement models with real-time predictive control

Learn more at www.eppendorf.com/MVA

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BIOPROCESSING

epServices

Eppendorf is known as a market leader in providing outstanding quality and consistently reliable instruments and consumables. Above all, we are committed to providing cost-efficient, reliable services and tools to help you maintain premium performance for maximum productivity and uptime of our instruments and reproducibility of your application results. These services are performed by our dedicated Application, Training, and Technical Service teams worldwide.

Our certification support is designed to support compliance with your laboratory guidelines.

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Seminars and Trainings

Technical Service and Support

Maintenance and Certification

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Application Support

You can expect the highest standards of support for your products and applications from Eppendorf.
Our teams of Application Specialists and our highly trained Product Support Staff in the international Support Centers are pleased to help you with advice and assistance for all kinds of questions about our products and their applications:

> Liquid handling (pipettes, dispensers, automated LH workstations etc.) and centrifugation products, as well as plastic consumables such as Eppendorf test tubes and pipette tips.
> Molecular biology instruments and complete systems for PCR including reagents, consumables and instruments, nucleic acid purification (manual and automated), UV photometry (instrument and consumable), as well as cell manipulation.
> Bioprocess instruments and consumables incl. scalable hardware and software solutions.

Our highly trained Scientific Support Staff is available in all time zones to assist you with any questions concerning the handling of our products for achieving reliable results.

Knowledge Base
Various Application Notes, Short Protocols, FAQs, and videos are available on our website.

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Seminars and Training

Become a lab expert and benefit from our workshops and online training program
Professional training of your staff helps you achieve reliable and reproducible results in your laboratory every day. Our courses will teach you how to perform workflows in a straightforward manner as well as how to handle and maintain your instruments.
Our aim is to develop the necessary expertise within your team and to find practical solutions to your specific questions. On our website, we offer various workshops and webinars on specific laboratory topics in the areas of manual and automated Liquid Handling, Sample Handling, Cell Handling and Bioprocessing.

Workshops at Eppendorf Training Centers
Our courses include purely theoretical seminars as well as theoretical seminars in combination with hands-on training. All workshops are held at our specially equipped laboratory training centers in Hamburg (Germany), Kuala Lumpur (Malaysia), and Namur (Belgium). These courses cover between one and three days and are open for single or group registrations.
For larger groups, you have the option of booking a workshop or seminar directly at your company´s site. The contents of your training will be tailored to your specific requirements.

Training events at EMBL®
Additional courses are offered in co-operation with the renowned European Molecular Biology Laboratory EMBL in Heidelberg (Germany).

Online Training Portfolio
Our webinars cover diverse topics which include: scientific questions, application issues, calibration aspects and ergonomic features. You may participate in the live sessions or view the recordings at a later time.

Eppendorf Handling Solutions
This platform provides you with helpful and diversified information on interesting laboratory topics. Concrete solutions support you in making your job in the lab easier and more efficient. Additional material, such as posters, laboratory schedules, application notes or illustrative videos and clips can be viewed or downloaded at:

www.eppendorf.com/handling-solutions

How to register:
For detailed information on our comprehensive training program and to access the registration form, please visit our website:

www.eppendorf.com/training

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Eppendorf Training Center: Contents

Liquid Handling
The correct use of liquid handling systems is fundamental for reliable research results. By participating in this seminar, you will take home the following knowledge and skills:
> When to use which liquid handling system
> Correct pipetting techniques, decontamination and maintenance
> Introduction to basic statistical methods
> Calibration in accordance with ISO 8655

Cell Handling
Develop good practice and aseptic techniques and understand the needs of cell culture
> From freezing to passaging: essentials of cell cultivation
> Understanding and preventing contamination
> Good cell culture practice
> Optimizing reproducibility in cell culture

Bioprocess
Learn how to use your bioprocess system, including an introduction to the control software. Training may take place at the customer's site or in one of our Bioprocess Centers. We offer initial traning and advanced courses, all tailored to the customer's particular needs.

Molecular Biology
We offer various molecular biology courses, such as introductory DNA cloning, basic and advanced PCR troubleshooting and optimization techniques, as well as on-demand customized courses. These courses aim to increase both theoretical and technical knowledge in the broad field of molecular biology.

Micromanipulation Training at EMBL
Micromanipulation of single cells or embryos allows specific cell modifications and gene editing in order to address diverse questions in research. The following three courses, organized in collaboration with the EMBL in Heidelberg, impart basic knowledge and practice in the following micromanipulation techniques:

Microinjection into adherent cells
> Semi-automated microinjection of fluorescent labeled DNA and protein constructs
> Analysis of microinjected cells via fluorescence microscopy

Transgenic Animals
> Pronuclear or cytoplasmic injection of fertilized mouse oocytes
> Injection of embryonic stem cells into mouse blastocysts
> Piezo-assisted cell transfer into 8-cell stage embryos

Microinjection in Zebrafish and Medaka
> Microinjection of lineage tracers and CRISPR constructs into one-cell stage embryos
> Screening by imaging for successful events
> Design of CRISPR constructs

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Technical Service

Eppendorf is commited to providing complete service plans for your instruments to help you maintain premium performance of our instruments in your laboratory. Our technical and certification services will give you the sense of security over your instrument uptime, and performance - guaranteed by the high quality of our original spare parts. We inspect your instrument and provide a detailed report of its present condition as well as an estimate for maintenance, certification, or repair services, if deemed necessary.

Peace of mind
With just one phone call or service request through our webpage you can access our network of highly skilled service professionals. Our qualified service staff ensure timely and accurate resolutions are provided with professional guidance and care worldwide. For any technical support please contact your local service organization.

Long-term value
For the most productive long life and highest uptime of your Eppendorf instrument, we can provide complete and thorough technical support from pre-site inspection through installation, maintenance, certification, and repair services.

Through highly qualified service engineers, either available to come on site or at local service centers your system will always be up to date. We will manage enhanced features or available options you select to keep you on track with the state-of-the-art work in your field.

From the experts
Our Service Professionals in our three major centers of service excellence are all manufacturer trained and qualified at the headquarters and competence centers in Germany, the United States, and Malaysia to satisfy your high expectations on the quality of our product and service performance.

We provide technical support to more than 20 countries around the globe with consistent on-site service through our own service organizations, and to all other countries through our contract service provider network.

i For more information go to www.eppendorf.com/epServices.

Technical specifications subject to change.

Maintenance and Certification

Be ensured that, thanks to the regular maintenance, calibration and certification service performed by our trained service technicians, your precision instruments will continuously achieve repeatable results.

Preventive Maintenance
Preventive maintenance is a schedule of planned service measures aimed at the prevention of unexpected downtimes and failures through routine maintenance and early detection of problems. Eppendorf offers service programs to meet your individual needs, and to keep your instruments in perfect working order.

- **ESSENTIAL CHECK**
  Check of all fundamental functions of the product
- **ADVANCED MAINTENANCE**
  Preventive maintenance service to meet manufacturer specifications
- **PREMIUM SERVICE**
  Complete maintenance and repair service agreement solution for your peace of mind

Calibration and Verification
Regular calibration and verification services ensure the precision and accuracy of your instrument and pipetting tool is maintained, and that your results are consistent and reliable. We offer a range of service options from quick calibration to custom designed calibration services (i.e. GLP). The resulting certificates support the documentation for your high-quality Compliance Management System. We also provide pipette calibration services in ISO 17025 accredited laboratories in our major markets.

IQ/OQ Services
Installation Qualification & Operational Qualification services assure that instrumentation is installed and running according to manufacturer specifications. IQ/OQ documentation is supplied to help you prepare for your quality and regulatory audits.

Certification Support
Certification Support is designed to safeguard your results and to support compliance with your laboratory guidelines with the necessary certification documents.

All certificates and Material Safety Data Sheets (MSDS) are provided for download on www.eppendorf.com/epServices

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Pipette Performance Plans

Preventive Maintenance, Calibration and Adjustment Services
Precision and accuracy of the pipettes and dispensers are important for the quality of all your work results. Regular maintenance and calibration by Eppendorf assures a consistent result quality.

We offer a range of service options:
> Re-establishing the conformity to ISO 8655 specifications or manufacturer's specifications
> Our calibration portfolio includes calibrations according to ISO 8655
> Verifications at an economical price
> Customized designed calibration services
> Additional services on request

We provide high-quality pipette and dispenser calibration, certification, maintenance and repair services for all major brands of pipettes and dispensers – not just our own.

Value of service
> Consistent, reliable liquid handling handheld instruments
> Highest confidence in results
> GLP supporting documentation

Spa and Wellnes for your liquid-handling handheld instruments to generate reproducible results

www.eppendorf.com/pipette-video

Service Operation	BASIC	STANDARD	PREMIUM	CALIBRATION ISO 17025[4]
Order Number for calibration for fixed-volume pipettes	0050 600.015	0050 600.017	0050 600.025	0082 000.000
Order Number for calibration for adjustable-volume pipettes and dispensers	0050 600.071	0050 600.076	0050 600.084	0082 000.001
Order Number for calibration for 8-channel pipettes	0050 600.116	0050 600.122	0050 600.092	0082 000.002
Order Number for calibration for 12-channel pipettes	0050 600.128	0050 600.130	0050 600.033	0082 000.003
Order Number for calibration for 24- channel pipettes	0082 000.114	0082 000.115	0082 000.116	0082 000.117
Initial inspection to determine pipette condition			■	
Replace all defective parts[1]			■	
Maintenance and Cleaning Cleaning and lubrication of seals, o-rings and piston, replacement of small parts like seals and o-rings, checking seals for damage/integrity		■	■	■
Calibration according to ISO 8655 10 measurements per test volume (min, mid, max)[2]		■	■	■
Verification 4 measurements per test volume (min, mid, max)[2]	■			
Documentation Issue calibration report	■	■	■	■
ISO 17025 Calibration Certificate[4] Comprehensive certificate including ISO 17025 accreditation mark of the laboratory				■
Supporting Information Service turnaround (from time of receipt, in business days)[3]	3-5	3-5	3-5	3-5

[1] Handgrip, motor and PCB are priced separately. [2] 10 %, 50 % and 100 % of nominal volumes. [3] Standard value, deviations possible, excl. shipping duration. [4] Calibration in accredited laboratories

■ **BASIC**
Affordable verification

■ **STANDARD**
Maintenance and calibration according to ISO 8655

■ **PREMIUM**
Total care calibration services according to ISO 8655

■ **CALIBRATION ISO 17025**
Certificate with comprehensive data according to ISO 17025

> CUSTOMIZED
e.g. testing according to customer specifications

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

Additional services
> Trade-in program
> Reminder of service intervals
> Customized maintenance contracts
> Inspection of pipettes from all manufacturers – not just Eppendorf
> Emergency service
> On-site service
> Pipette training, with emphasis on ergonomics (PhysioCare Concept®)

Technical specifications subject to change.

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ep*Motion*® 96 Performance Plans

ep*Motion* 96 Performance Plans
The Eppendorf ep*Motion* 96 is a semi-automated electronic pipette system for fast and precise parallel 96-channel microplate processing. The reliability of the electronic parallel pipetting system movement is the prerequisite for high precision and reproducibility of the results across the whole 96- or 384-well plate. Maintaining and verifying your system´s accuracy and precision on a regular basis is thus highly recommended to make sure your system still dispenses according to the specification.

In the end you will receive assured results with your downstream applications and your valuable samples and reagents. Eppendorf offers a range of services for different user requirements including GLP supporting documentation

Value of service
> Confirmation of performance with manufacturer specifications
> Confidence in results
> GLP supporting documentation

96 × confidence by verified performance!

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number	0082 030.003	0082 030.004	0082 030.005	0082 030.007	0082 030.008
Checks and Maintenance					
Cleaning		■	■		
Lubrication of dispensing head		■	■		
Checking and exchanging of 96 o-rings from cones	■	■	■		
Software/firmware update if neccessary		■	■		
Verification (Calibration)					
Leak Test (50 µL and 300 µL)	■	■	■	■	■
Gravimetric Test – systematic error (50 µL and 300 µL)		■	■		■
Photometric Test – random error (2 volumes)		■	■		■
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
Calibration Report		■	■		■
IQ Report				■	
OQ Report/Certificate					■
Supporting Information					
Discount on parts replacement (block), labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[1)]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services included	one	one	one	n/a	n/a

Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 030.009
Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

SERVICE PRODUCTS

SERVICE PRODUCTS

Technical specifications subject to change.

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ep*Motion*® Performance Plans

ep*Motion* Performance Plans
ep*Motion* and its dispensing tools are precision instruments. As such, they should be regularly maintained and calibrated which will help ensure continuing high accuracy, precision and reproducibility. With our Performance Plans options we help you maintain premium performance of your ep*Motion* over an extended period of time. Our qualified service technicians will take care of your instrument. Our Certification Services include all function tests, calibration and adjustment services needed for Installation and Operational Qualification (IQ/OQ) of your instrument.

Dispensing tools calibration
Calibration of the dispensing tools are based on ISO 8655 supporting your GLP documentation.

Find more information about our training program at www.eppendorf.com/training

Value of service
> Confidence in high-quality results and instrument reliability
> Simple service process
> Professional maintenance

Keep your process in motion!

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number for ep*Motion*® 5070	0082 030.013	0082 030.014	0082 030.015	0082 030.017	0082 030.018
Order Number for ep*Motion*® 5073	0082 030.033	0082 030.034	0082 030.035	0082 030.037	0082 030.038
Order Number for ep*Motion*® 5075	0082 030.023	0082 030.024	0082 030.025	0082 030.027	0082 030.028
Cleaning and Maintenance					
Cleaning of housing/accessories	■	■	■		
Checking ep*Motion*® for external visible damages	■	■	■	■	■
Exchange of CAN bus cables/o-rings of dispensing tools		■	■		
Software update[1)]	■	■	■	■	■
Functional Check					
Instrument set-up, intitial operation, instruction of user				■	
Tip ejector, level sensor and carrier	■	■	■		■
Barcode Reader with epBlue™ ID[1)]	■	■	■		
Thermal modules[1)] and vacuum chamber[1)]	■	■	■	■	■
TMX module[1)]/TMX module w. Magnetic Finger module[1)]	■	■	■	■	■
UV light/CleanCap (HEPA Filter)[1)]	■	■	■	■	■
Memory					
Evaluation of stored data		■	■		
Verification					
Calibration/adjustment of level sensor and carrier		■	■	■	■
Calibration/adjustment of vacuum chamber[1)]		■	■		
Verification of operating parameters acc. to specifications					■[3)]
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[2)]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services included	one	one	one	n/a	n/a

Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:
> **For ep*Motion*® 5070: 0082 030.019**
> **For ep*Motion*® 5073: 0082 030.039**
> **For ep*Motion*® 5075: 0082 030.029**

Additionally, if you require a Customized Service, exchanges of spare parts, we will be very pleased to discuss your requirements.

Order Numbers for additional services:
> **1-channel dispensing tool calibration (< epBlue™ 40.0): 5070 005.036**
> **8-channel dispensing tool calibration (< epBlue™ 40.0): 5070 005.044**
> **1-channel dispensing tool calibration (≥ epBlue™ 40.0): 0050 600.255**
> **8-channel dispensing tool calibration (≥ epBlue™ 40.0): 0050 600.259**
> **Thermal module calibration: 5075 005.018**
> **TMX Module calibration: 5075 005.174**
> **HEPA filter exchange: 5073 920.061**
> **UV lamp exchange: 5073 920.070**

[1)] Where feature is present. [2)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3)] The detailed certification service contents are listed in the OQ Report.

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

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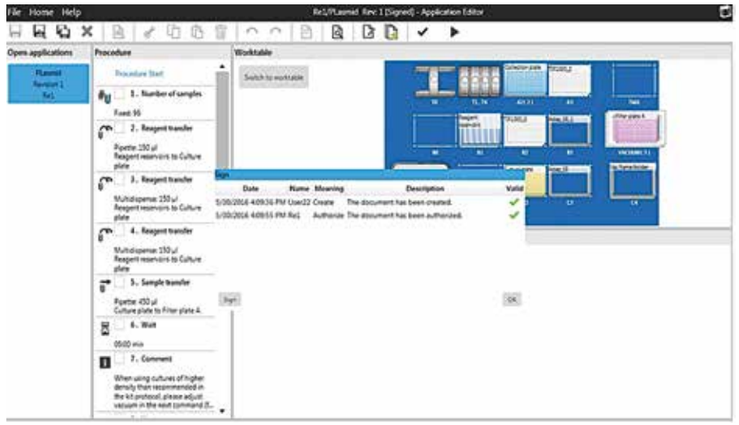
SERVICE PRODUCTS

ep*Motion*® and GxP Software Certification Plans

Certification Services
Eppendorf offers global certification services to facilitate customers' validation processes according to FDA 21 CFR Part 11, EU GMP Annex 11, GLP and GAMP® 5 over the complete lifecyle, by supporting in the Installation and Operational Qualification (IQ/OQ) process of the instrument and ep*Motion*® GxP software. The entire qualification will be documented in detail and the user will be extensively trained and certified personally.

Value of service
> System performance verifiably complies with the specifications
> GLP supporting documentation
> Reduced validation costs through standardized qualification and documentation

Good practice in Motion



Certification Plans	BASIC
Order Number	5075 005.182
Installation and Operational Qualification (IQ/OQ): according to Eppendorf SOPs incl. one single and one 8-channel dispensing tool calibration (based on ISO 8655), complete documentation and certificates	■
ep*Motion*®/epBlue™ User Starter Training: incl. training documents and certificates	■
ep*Motion*® GxP Software User, Administrator Lab and Administrator IT: incl. training documents and certificates	■

Additional Services:	Order no.
ep*Motion*® GxP Software Upgrade, Installation and User/Administrator Training, ep*Motion*®/epBlue™ Version	5075 005.220
ep*Motion*® GxP Software Operational Qualification (OQ), according to Eppendorf SOP's, incl. one single-channel and one 8-channel dispensing tool calibration (based on ISO 8655)	5075 005.212
ep*Motion*® GxP Software – single channel dispensing tool calibration (based on ISO 8655)	5075 005.239
ep*Motion*® GxP Software – 8-channel dispensing tool calibration (based on ISO 8655)	5075 005.247
Calibration/Temperature Adjustment TMX Eppendorf ThermoMixer® Module (ep*Motion*® 5075 TMX/M, 5073/t/vt)	5075 005.174
Calibration/Adjustment for each Thermal Module (ep*Motion*® 5075)	5075 005.018
Maintenance, Cleaning, exchange of wear and tear parts	on request
Re-qualification (customer-specific), after changes of system/process or environment	5070 005.052
Shut Down Services	5075 005.255
ep*Motion*® GxP Software User Training	5075 005.263

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

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SERVICE PRODUCTS

ep*Motion*® Application Implementation

Automated Pipetting – difficult Application?
Are you having trouble with a protocol or are not sure how to optimize your automated application? We are happy to advise and assist you with your application. Eppendorf offers various application support services for ep*Motion* users with low to high throughput experiments. Our network of highly skilled and extensively trained In-Field Automation Specialist are available for comprehensive application training and support after installation of your ep*Motion* and during the setup of your own advanced methods.

More ready-to-go methods, labware and software updates are available for downloading from our VIP login web page.
www.eppendorf.com/automation

Application Implementation Terms
Eppendorf will provide the on-site support to program your ep*Motion* methods for a single application as well as optimize all liquid classes needed for the application to the best of the instrument's capability. An initial in-house feasibility test is performed. Upon completion of the method on the customer's ep*Motion*, the application will be approved by the user. Optimization to the maximum level of performance!

SERVICE PRODUCTS

i For additional information, go to www.eppendorf.com/epServices.
Liquid Class Optimization and Eppendorf Training Center offers are only available in selected countries and the services offered may vary.

Application Implementation, Seminars and Training Options	
Application Implementation[1)]	on request
> The Eppendorf ep*Motion*® Application Implementation agreement standard is intended for both new and existing instruments. Eppendorf will provide the on-site support to program the desired application methods for a single application as well as optimize all liquid classes needed. All users will receive a customized training that will include all necessary elements to properly use this workflow. In addition, a customized user guide will be prepared and given to the account during their training, which includes instructions on reagent volumes, deck setup and accessories needed.	
Liquid Class Optimization[1)]	0082 030.169
> Initial inspection of the liquid	
> Adjustment of liquid class parameters	
> Confirmation that liquid is handled to the best of the instrument's capability	
On-site Training	
> ep*Motion*® introductory training: epBlue™ software programming and usage, hardware functionalties, etc	on request
> ep*Motion*® GxP software - two days training	5075 005.263

[1)] Our In-Field Application Specialist accomplishes the programming, optimization and/or support of an application project beyond the scope covered in the seminars and training. The application contract does not include or guarantee the generation of application relevant data. All equipment (ep*Motion*® and tools) must be within calibration and in good working condition prior to the initiation of the Application Implementation agreement. All liquids/reagents and consumables (tips, plates, tubes etc.) needed must be provided by the user.

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Temperature Control and Mixing Performance Plans

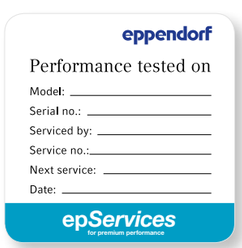
Temperature Control and Mixing Performance Plans
The right heating, cooling and mixing conditions are made very easy with our Temperature Control and Mixing instruments. We also understand that slight deviations in temperature and mixing frequency of your samples can affect their reaction conditions and may lead to non-reproducible results. To guarantee you the precise function of the instrument we offer manufacturer designed maintenance services. Our certification services support your Quality Management requirements with Installation Qualification (IQ) and Operational Qualification (OQ) in accordance with manufacturer specifications.

With our Performance Plans options we will make sure that your instruments are in good working condition by professional maintenance and certification service.

Value of service
> Reliable system operation and results
> GLP supporting documentation

We care for your samples – with our mix of services

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.



Technical specifications subject to change.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number	0082 100.003	0082 100.004	0082 100.005	0082 100.007	0082 100.008
External Checks and Maintenance					
Cleaning of housing		■	■		
Visual check of housing	■	■	■		
Visual check of plate holder		■	■		
Cleaning of accessories		■	■		
Visual check of accessories	■	■	■		
Internal Equipment and Fittings					
Cleaning of internal parts and assemblies		■	■		
Visual check of internal parts and assemblies		■	■		
Visual check of electrical connection		■	■		
Functional Check					
Check of delivery				■	
Instrument set-up and initial operation				■	
Instruction of user				■	
LED, display, and keyboard check		■	■		
Check of vortex sensor		■	■		
Functional check with service functions		■	■		
Check of SmartBlock or exchangeable thermoblock detection	■	■	■		■
Check of mixing, heating, cooling, and vortexing[1)]	■	■	■		
Check and measurement of mixing, heating, cooling, and vortexing					■
Check of overload protection		■	■		
Check of fans		■	■		
Check of ThermoTop detection		■	■		
Check of timer					■
Memory					
Evaluation of stored data		■	■		
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[2)]		
Contract period	one year	one year	one year	N/A	N/A
Number of preventive services included	one	one	one	N/A	N/A

Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 100.009
Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1)] Without measurement. [2)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

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SERVICE PRODUCTS

Centrifuge Performance Plans

Centrifuge Performance Plans
Quality Management Systems increasingly ask for regular service of centrifuges and rotors in either an operational or a disassembled state to ensure a safe working environment.
Functional inspections ensure that all technical specifications, such as temperature accuracy, rotational speed and operating time comply with the manufacturer specifications. The Centrifuge Performance Plans assist with your preparation for internal and external audits.

Value of service
> Highest degree of security in your lab
> GLP supporting documentation
> Productive long life of the system

Relax while your samples are spinning safely!

Take a break and watch this video about
recommended routine maintenance of your centrifuge
www.eppendorf.com/centrifuge-video

i For more information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.

SERVICE PRODUCTS

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number for microcentrifuge w/o refrigeration	0082 020.003	0082 020.004	0082 020.005	5424 860.036	0082 020.008
Order Number for microcentrifuge with refrigeration	0082 020.013	0082 020.014	0082 020.015	5424 860.044	0082 020.018
Order Number for multipurpose w/o refrigeration	0082 020.023	0082 020.024	0082 020.025	5810 860.040	0082 020.028
Order Number for multipurpose with refrigeration	0082 020.033	0082 020.034	0082 020.035	5810 860.059	0082 020.038
Cleaning and Maintenance					
Cleaning of housing/Checking condensation water tray [1]	■	■	■		
Cleaning and checking of rotor bowl and internal parts		■	■		
Checking of instrument for any damage	■	■	■		■
Checking of stability, housing, display and keypad		■	■		
Software update if required		■	■		
Checking of lid latch	■	■	■		■
Functional check					
Instrument set-up/Initial operation/Instruction of user				■	
Checking of rotor detection	■	■	■		
Checking of temperature sensors [1] and speed sensor		■	■		■
Checking of imbalance detection [1]		■	■		
Performing system test run	■	■	■	■	■
Memory					
Evaluating of stored data		■	■		
Verification					
Verification of operating parameters acc. to specifications					■ [3]
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■ [2]		
Contract period	one year	one year	one year	N/A	N/A
Number of preventive services included	one	one	one	N/A	N/A

Order numbers for combined Installation & Operational Qualification (IQ/OQ) services:
> **For microcentrifuge w/o refrigeration: 0082 020.009**
> **For microcentrifuge with refrigeration: 0082 020.019**
> **For multipurpose w/o refrigeration : 0082 020.029**
> **For multipurpose with refrigeration: 0082 020.039**

Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1] Where feature is present. [2] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3] The detailed certification service contents are listed in the OQ Report.

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Rotor Assurance Plans

Inspection Services
Rotors and buckets are subject to normal wear and tear during regular operation and may be damaged as a result. Surface scratches, among others, can affect the chemical resistance and accelerate the corrosion process. The stress of high number of cycles increases the likelihood of microscopic cracks. These microcracks can be detected early on during a qualified inspection which will allow the rotor to be exchanged before serious damage has occurred.

Value of service
> Sample integrity and consistent performance
> Maximizing rotor service life
> Confidence for safest operation
> Rotor care/use instructions
> Discount on new rotor

Confidence comes through professional inspection!

Take a break and watch this video about recommended routine maintenance of your centrifuge
www.eppendorf.com/centrifuge-video

Inspection service for rotors	Recommended service periods	Fixed-angle rotors	Swing-bucket rotors and buckets
Visual rotor inspection [1)]	Annually	5424 860.109	5810 860.113

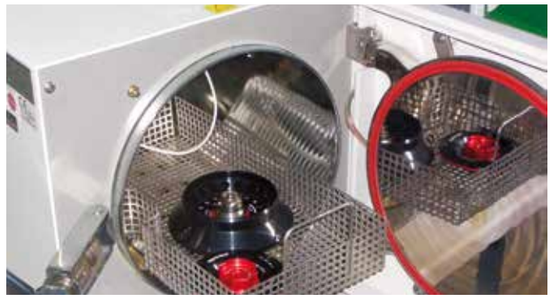
[1)] For all Eppendorf rotors and accessories

Order Number for obligatory check of rotor according to country-specific regulations: 5424 860.150

Attention:
All rotors must be clean and dry before inspection, or additional cleaning charges apply at prevailing rates.

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

Take Good Care of Your Rotor



Scratches on the rotor surface may reduce their resistance to chemicals and enhance the corrosion process. We recommend visually checking the rotor and rotor bores for residue and corrosion on a weekly or monthly basis depending on frequency of use. Regular maintenance and cleaning procedures will allow you to achieve the full lifetime of your equipment:

1. Switch off centrifuge and wipe centrifuge housing. If required, clean with mild detergents.
2. Remove buckets and rotor. For refrigerated centrifuges:
   > Defrost the ice on the rotor chamber surface.
   > Empty and clean the water collection tray.
3. Wipe rotor chamber and motor shaft. If needed, wipe with mild neutral detergent or use 70 % alcohol for disinfection. Note: UNPLUG centrifuge before using cleaning solutions.
4. Check rotor and buckets for corrosion. Take out of service if corroded or if any sign of damage is detected. Cleaning should be done at regular intervals and immediately after any spill!
5. If necessary/required, autoclave rotor, rotor lids and buckets at 121 °C, 20 min. Never use UV, beta, gamma radiation, or any high-energy radiation source. Clean rotor, rotor lid, rubber seal, buckets, and adapters with damp lint free cloth and diluted detergents, alcohol, or alcohol containing detergents. Afterwards, wipe seals with wet cloth and rinse thoroughly with distilled water. Use test-tube brush with non-metallic tip to clean the rotor bores.
6. Place parts on dry cloth upside down to dry. To prevent aerosol-tight lids/caps and seals from getting worn out/damaged, store lids/caps seperate from the bucket/rotor.
7. Take a small amount of centrifuge lubricant onto your finger.
8. Lubricate bucket grooves, pivots, and rubber seal. Check if seals of aerosol tight lids/caps need to be replaced. Aerosol-tightness is limited to undamaged seals. Lubricate the threads of the fixed angle rotors after cleaning and autoclaving.
9. Leave centrifuge lid open overnight to allow condensate evaporate.

SERVICE PRODUCTS

Photometry Performance Plans

Photometry Performance Plans
Qualitative and reproducible results depend upon quality instrumentation and measurements. To optimize photometric and fluorometric precision, accuracy, and linearity, your instrument should be routinely checked and adjusted by a qualified Eppendorf Service Technician. Photometry Performance Plans include a choice of preventive maintenance programs which are designed to verify that your instrument meets manufacturer specifications. We also take care of the optics cleaning, instrument adjustments and provide you with full documentation and certificates.
Installation Qualification (IQ) and Operational Qualification (OQ) certification services support your Quality Management requirements, providing you with qualified assurance that your photometer is delivering the highest possible quality results.

Value of service
> Reliable system operation over the total system lifetime
> GLP supporting documentation

Stay tuned to the right wavelength!

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number for Eppendorf BioPhotometer®	0082 110.003	0082 110.004	0082 110.005	0082 110.007	6132 005.018
Order Number for Eppendorf BioSpectrometer®	0082 110.013	0082 110.014	0082 110.015	0082 110.017	6135 005.019
Cleaning and Maintenance					
Cleaning of housing and cuvette shaft	■	■	■		
Cleaning and inspection of internal parts and light path		■	■		
Checking for damages	■	■	■	■	■
Inspection of housing/Testing of stability	■	■	■	■	
Software update		■	■		
Functional Check					
Instrument set-up, intitial operation, instruction of user				■	
Checking of keyboard, and display	■	■	■		■
Testing of printer output and USB port (master/slave[1])	■	■	■		■
Setting number of flashes		■	■		
dsDNA test – 260 nm (Biophotometer plus)	■	■	■		
Self test (Biospectrometer/Biophotometer D30)	■	■	■	■	■
Memory					
Evaluation of stored data		■	■		■
Verification					
Photometer Test (wavelength systematic error/precision and photometric accuracy/fluorescence test[1])		■	■		■
Temperature verification/adjustment[1]		■	■		■
Verification of operating parameters acc. to specifications					■[3]
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[2]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services included	one	one	one	n/a	n/a

Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:
> **For Eppendorf BioPhotometer®: 0082 110.009**
> **For Eppendorf BioSpectrometer®: 0082 110.019**

Order Numbers for additional services:
> **Photometer Test for Eppendorf BioPhotometer®: 6132 005.026**
> **Photometer Test for Eppendorf BioSpectrometer®: 6135 005.027**
> **Photometer Test for Eppendorf BioSpectrometer® fluorescence: 6137 005.008**
> **Temperature verification for Eppendorf BioSpectrometer® kinetic: 6136 005.004**

[1] Where feature is present. [2] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3] The detailed certification service contents are listed in the OQ Report.

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SERVICE PRODUCTS

Mastercycler® Performance Plans

Mastercycler Performance Plans
To ensure your instrument is operating consistently at peak performance and to guarantee reproducible results over an extended period of time, we offer service programs to meet your needs. Our maintenance service is a prerequisite for temperature verification of the cycler. The exact compliance of defined temperatures is critical for reproducible results.
Our certification services can support your Quality Management requirements by Installation Qualification (IQ) and Operational Qualification (OQ) in accordance with manufacturers' specifications to guarantee you the precise function of the instrument. With our Performance Plans options we will make sure that your instruments are in good working condition by professional maintenance and certification service from the manufacturer.

Additional stand-alone temperature verification and certification services:
Temperature verfication of selected well positions and adjustment of the cycler block temperature if necessary is highly recommended to ensure instrument consistency and accuracy.

Sequential temperature verification – measuring one temperature at the time
Order Number:
> For Mastercycler® X50, pro, nexus: 6321 897.000
> Temperature verification system (calibrated in an ISO 17025 accredited laboratory): 0082 040.027

Parallel temperature verification - measuring various wells at the same time and of ramping speeds between 40 – 90 °C.
Order Number:
> For Mastercycler® X50, pro, nexus, in selected countries: 6321 897.507

Please inquire locally for ordering information on Certification of Temperature Verification systems (Single-well and multi-well).

Value of service
> High confidence in results
> Permanently reliable and reproducible results
> GLP supporting documentation

Keep operating –
with absolute confidence

Technical specifications subject to change.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number for Mastercycler® X50, pro, nexus	0082 040.043	0082 040.044	0082 040.045	0082 040.047	0082 040.048
External Checks and Maintenance					
Cleaning of MC module		■	■		
Visual check of housing	■	■	■		
Cleaning of heated lid		■	■		
Visual check of accessories		■	■		
Internal Equipment and Fittings					
Cleaning of internal parts and assemblies		■	■		
Visual check of internal parts and assemblies		■	■		
Visual check of electrical connection (incl. mains power)		■	■		
Software update		■	■		
Functional Check					
Check of delivery				■	
Instrument set-up and initial operation				■	
Instruction of the user				■	
LED, display and keyboard check	■	■	■	■	■
Check USB-interface		■	■	■	■
Check touchscreen		■	■	■	■
Check of thermoblock	■	■	■	■	■
Check of heated lid	■	■	■	■	■
Check of fan(s)	■	■	■	■	■
Temperature verification – with single-channel system		■	■	■	■
Temperature verification – with multi-channel system (if available[1])		■	■	■	■
Memory					
Evaluation of stored data		■	■		
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[1]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services included	one	one	one	n/a	n/a

Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:
> **For Mastercycler® X50, pro, nexus: 0082 040.049**

Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

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SERVICE PRODUCTS

ULT Freezer Performance Plans

ULT Freezer Performance Plans

Eppendorf Ultra-Low Temperature (ULT) Freezers offer you the advanced design and intuitive features you like on the outside plus the security and performance you need for your most precious samples on the inside. Reliable and efficient performance can be expected for years of smooth operation from any of our ULT Freezers, which vary in configuration and capacity. In addition to our extensive standard warranty, Eppendorf offers ULT Freezer Performance Plans to suit your lab's needs while enhancing your peace of mind.
You can choose between essential function checks, preventive maintenance plans, or Installation and Operational (IQ/OQ) certification services. These protocols are designed to check, validate, and promote reliable freezer performance that coincide with our manufacturer specifications.

Value of service

> Increased uptime and reduced risk of system failure
> Long lifetime of instruments
> Confirmation of performance within manufacturer specification

Protect your priceless samples!

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

Technical specifications subject to change.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number	0082 070.003	0082 070.004	0082 070.005	0082 070.007	0082 070.008
External Checks and Maintenance					
Check installation environment	■	■	■	■	■
Check electrical supply and fittings		■	■	■	■
Check CO_2 /LN_2 backup system installation[1)]		■	■	■	■
Check independent temperature monitoring system[1)]		■	■	■	■
Operation of freezer lid gas strut (chest freezer only)		■	■		■
Alignment of door handle	■	■	■		■
Alignment and sealing of outer door (upright freezer only)		■	■		■
Air filter inspection and cleaning	■	■	■		■
Internal Equipment and Fittings					
Inspection and cleaning of heated vent/condensor	■	■	■		■
Condition and function of inner doors/lids		■	■		■
Compressors: operating temperature check		■	■		■
Cooling fan: condition of fan motor, bearings, fan blades		■	■		■
Condition of insulation – accessible cooling circuit pipes		■	■		■
Condition of accessible electrical wiring		■	■		■
Display and function keys operation	■	■	■		■
Chamber temperature sensor function, alarms function	■	■	■		■
RS-232 communications port functionality check		■	■		■
Validation and Metrology					
Validation and adjustment of operating parameters to within Eppendorf specifications	■	■	■		■[3)]
Documentation					
Check list provided	■	■	■		■
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[2)]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services	one	one	one	n/a	n/a
Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 070.009.					
Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.					

[1)] Where this optional feature is present. [2)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.[3)] The detailed certification service contents are listed in the OQ Report: e.g. test of battery, alarm, vacuum effectiveness, and final test run.

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SERVICE PRODUCTS

Cell Manipulation Performance Plans

Cell Manipulation Performance Plans

From our knowledgeable Sales and Field Application Specialists to our trained Customer Service and Technical Service Group, our entire team demonstrates a passion for helping you achieve success with your cell manipulation work. Our combination of excellent products and service will prepare you for optimal performance.

With our Performance Plans options we will ensure that your instruments are in good working condition by professional inspection and maintenance service including the exchange of parts due to wear and tear.

Installation Qualification and Operational Qualification (IQ/OQ) services assure that your Eppendorf cell manipulation instruments are delivered, installed, and consistently operating at peak performance to manufacturer specifications. IQ/OQ certification can support documentation for your Quality Management System.

Value of service

> Reliable system operation at peak performance over the total lifetime of the system
> GLP supporting documentation

Precise and accurate instruments will further improve your Cell Manipulation success!

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

Technical specifications subject to change.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number for Electroporators	0082 010.003	0082 010.004	0082 010.005	0082 010.007	0082 010.008
Order Number for Microinjectors/Micromanipulators	0082 010.013	0082 010.014	0082 010.015	0082 010.017	0082 010.018
External Checks and Maintenance					
Cleaning of housing	■	■	■		
Checking of keyboard		■	■		■
Visual inspection of display		■	■		■
Stability test	■	■	■		
Internal Equipment and Fittings					
Cleaning of internal assemblies		■	■		
Leak-tightness text (CellTram®/FemtoJet®)	■	■	■		■
Oil exchange (CellTram® Oil/vario)	■	■	■		
Inspection of contacts (Electroporator)		■	■		■
Software upgrade		■	■		
Functional check					
Check of delivery				■	
Instrument set-up and initial operation				■	
Instruction of user				■	
Motor module test (Micromanipulator)	■	■	■		■
System test	■	■	■		■
Memory					
Analysis of error statistics	■	■	■		■
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[1)]		
Contract period	one year	one year	one year	N/A	N/A
Number of preventive services included	one	one	one	N/A	N/A

Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:

> **For Electroporators: 0082 010.009**
> **For Microinjectors/Micromanipulators: 0082 010.019**
> **Eppendorf PiezoXpert® Actuator Verification: 5194 075.016**

Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

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SERVICE PRODUCTS

CO_2 Incubator Performance Plans

CO_2 Incubator Performance Plans

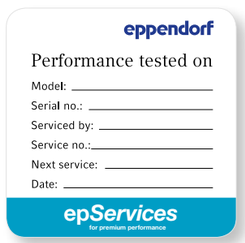
CO_2 incubators are the pivotal instruments in cell culture labs. They feature complex, dynamic control systems to maintain user-defined culturing parameters. Accurate measurement and control feedback of multiple environmental variables is necessary in order to optimize cell growth and proliferation, at the same time minimizing intercellular variation in physiology, metabolic function and expression.
CO_2 Incubator Performance Plan components include a choice of preventive maintenance protocols designed to check, validate and to promote continuous and stable incubator performance, optimizing instrument conformity with programmed culturing parameters. Installation Qualification (IQ) and Operational Qualification (OQ) certification services support your Quality Management requirements by providing you with qualified assurance that your CO_2 incubator is functioning correctly, in accordance with manufacturer specifications.

Value of service

> Reliable results over an extended period of time
> Improves consistency and productivity of culturing

Our service culture for peace of mind!

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.



Technical specifications subject to change.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number	0082 060.003	0082 060.004	0082 060.005	0082 060.007	0082 060.008
External Checks and Maintenance					
Check installation environment	■	■	■	■	■
Check electrical/gas supply and fittings		■	■	■	■
Replace in-line gas filter(s) and auto-zero filter		■	■		■
Check door seals and door hinges		■	■	■	■
Internal Equipment and Fittings					
Check condition of all chamber gas, temperature, humidity sensors		■	■	■	■
Check security of incubator shelf/shelves and racking system		■	■	■	■
Check sensor covers are present and undamaged		■	■		■
Check condition of humidity trays		■	■		■
Check condition of wiring system, PCB's, display and controller		■	■		■
Check alarms functionality		■	■		■
Validation and Metrology					
Validation and adjustment of operating parameters within Eppendorf specifications	■	■	■		■[2)]
Documentation					
Check list provided	■	■	■		■
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[1)]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services included	one	one	one	n/a	n/a

Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 060.009.

Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.[2)] The detailed certification service contents are listed in the OQ Report: e.g. verification of temperature, CO_2, speed, alarm, and final test run.

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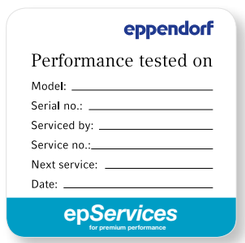
Biological Shaker Performance Plans

Biological Shaker Performance Plans
Biological shakers are essential to cell culture applications and are required to be in continuous use for years. Relatively small, short-term variations in shaker operation can significantly influence culturing outcomes, with negative effects on yields and/or cell expression. Eppendorf's Biological Shaker Performance Plans ensure consistent, reliable shaker performance meeting manufacturer specifications. Biological Shaker Performance Plans include a choice of preventive maintenance protocols which are designed to check and validate stable shaker performance.
Installation Qualification (IQ) and Operational Qualification (OQ) certification services support your Quality Management requirements by providing you with qualified assurance that your biological shaker is functioning correctly, in accordance with manufacturer specifications.

Value of service
> Improves reliability and consistancy
> Highest uptime and long lifetime of instruments

Care for your shaker – optimize your cultures!

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.



Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number for shakers with heating/cooling	0082 080.003	0082 080.004	0082 080.005	0082 080.007	0082 080.008
Order Number for open air shakers	0082 080.013	0082 080.014	0082 080.015	0082 080.017	0082 080.018
Order Number for shakers with heating	0082 080.023	0082 080.024	0082 080.025	0082 080.027	0082 080.028
Order Number for shaker S44i	0082 080.213	0082 080.214	0082 080.215	0082 080.217	0082 080.218
Order Number for industrial shakers	0082 080.033	0082 080.034	0082 080.035	0082 080.037	0082 080.038
External Checks and Maintenance					
Check installation environment	■	■	■	■	■
Check electrical/gas[1] supply and fittings		■	■	■	■
Check condition/operation of any door/lid open sensors		■	■	■	■
Check security of doors/lids, handles, door struts[1] and hinges		■	■	■	■
Internal Equipment and Fittings					
Check security of shaker mechanism; lubricate non-sealed bearings, as appropriate[1]		■	■		
Check shaker drive motor, and circulation fan[1]		■	■		■
Check condition of shaker drive belt; adjust belt tension as necessary		■	■		
Clean and check condenser[1]		■	■		
Validation and Metrology					
Validation and adjustment of operating parameters to within Eppendorf specifications	■	■	■		■[3]
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[2]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services included	one	one	one	n/a	n/a

Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:
> **For open shaker: 0082 080.019**
> **For shaker with heating: 0082 080.029**
> **For shaker with heating/cooling: 0082 080.009**
> **For shaker S44i: 0082 080.219**
> **For industrial shaker: 0082 080.039**

Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1] Where feature is present. [2] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3] The detailed certification service contents are listed in the OQ Report: e.g. verification of rpm, temperature, alarms, and final test run.

SERVICE PRODUCTS

Technical specifications subject to change.

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S41i Incubator Shaker Performance Plans

S41i Incubator Shaker Performance Plans

The versatility of the New Brunswick™ S41i Incubator Shaker supports simultaneous culture of adherent and suspension cultures. The smallest deviations in the culturing environment can result in undesirable outcomes. To ensure reproducible results and to protect your precious cultures from undesirable variables, we offer a range of maintenance services.
For your Quality Management requirements we also offer certification services that include Installation Qualification (IQ) and Operational Qualification (OQ) certification to provide optimal instrument performance, stability and accuracy of culturing parameters, in accordance with manufacturer specifications.

Value of service

> Reliable system performance and culturing results over the entire system lifetime
> GLP supporting documentation

Optimized system - relialble results!

i For more information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.

Service Operation	ESSENTIAL CHECK	ADVANCED MAINTENANCE	PREMIUM SERVICE	Installation Qualification (IQ)	Operational Qualification (OQ)
Order Number	0082 050.003	0082 050.004	0082 050.005	0082 050.007	0082 050.008
External Checks and Maintenance					
Check installation environment	■	■	■	■	■
Check electrical/gas supply and fittings		■	■	■	■
Replace in-line CO_2 filter and auto-zero filter		■	■		
Internal Equipment and Fittings					
Check security of shaker platform(s) and flask holders		■	■	■	■
Check security of incubator shelf/shelves and racking system		■	■	■	■
Replace platform support post boot seals		■	■		
Check condition of humidity trays		■	■		
Check condition of shaker drive belt		■	■		
Check condition of chamber CO_2 and temperature sensors	■	■	■		■
Validation and Metrology					
Validation and adjustment of operating parameters to within Eppendorf specifications	■	■	■		■[2)]
Documentation					
Check list provided	■	■	■		
Dated service sticker to confirm Eppendorf service	■	■	■	■	■
IQ Report and Certificate				■	
OQ Report and Certificate					■
Supporting Information					
Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired)			■[1)]		
Contract period	one year	one year	one year	n/a	n/a
Number of preventive services included	one	one	one	n/a	n/a

Order number for combined Installation & Operational Qualification (IQ/OQ) services: 0082 050.009.
Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.

[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.[2)] The detailed certification service contents are listed in the OQ Report: e.g. verification of temperature, CO_2, speed, alarm and final test run.

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SERVICE PRODUCTS

Bioprocess Performance Plans

Bioprocess Performance Plans
Bioprocess systems include several sophisticated technologies. Peak performance requires smooth interplay of the subsystems and fully functioning consumable parts. Regular maintenance by qualified engineers helps to ensure reliable operation, while deferring it can cause unreliable results, expensive repairs, and prolonged downtime. Eppendorf Bioprocess Performance Plans help you to maintain the optimal performance of your equipment over years of frequent use.

You will find details and ordering information for all Bioprocess Performance Plans in the Bioprocess Catalog 2018/2019!

www.eppendorf.com/catalog

Order Numbers for Different Mains Voltage Versions

The following products are available in the listed mains voltage versions. For mains voltage versions for which no separate order number is listed, the valid order numbers are also those listed in the first column or in the product description. The versions marked n.a. are not available. Order-related production is marked with *

Automated Liquid Handling

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentinia	ROW
ep*Motion*® 96	5069 000.012	5069 000.020	5069 000.039	5069 000.047	5069 000.004	5069 000.055	5069 000.004
ep*Motion*® 96 with 2-position slider	5069 000.110	5069 000.128	5069 000.136	5069 000.144	5069 000.101	5069 000.152	5069 000.101
ep*Motion*® 96xl	5069 000.217	5069 000.225	5069 000.233	5069 000.241	5069 000.209	5069 000.250	5069 000.209
ep*Motion*® 96xl with 2-position slider	5069 000.314	5069 000.322	5069 000.330	5069 000.349	5069 000.306	5069 000.357	5069 000.306
ep*Motion*® 5070 EasyCon	5070 006.032	5070 007.002	5070 007.003	5070 007.004	5070 007.001	5070 007.005	5070 007.001
ep*Motion*® 5070f EasyCon	5070 006.108	5070 007.102	5070 007.103	5070 007.104	5070 007.101	5070 007.105	5070 007.101
ep*Motion*® 5070 MultiCon	5070 000.282	5070 007.012	5070 007.013	5070 007.014	5070 007.011	5070 007.015	5070 007.011
ep*Motion*® 5070f MultiCon	5070 000.283	5070 007.112	5070 007.113	5070 007.114	5070 007.111	5070 007.115	5070 007.111
ep*Motion*® P5073	5073 000.000	5073 000.227	5073 000.035	5073 000.043	5073 000.019	5073 000.051	5073 000.019
ep*Motion*® M5073	5073 000.205	5073 000.221	5073 000.230	5073 000.248	5073 000.507	5073 000.256	5073 000.213
ep*Motion*® P5073c	5073 000.302	5073 007.202	5073 007.203	5073 007.204	5073 007.201	5073 007.205	5073 007.201
ep*Motion*® M5073c	5073 000.400	5073 007.302	5073 007.303	5073 007.304	5073 000.515	5073 007.305	5073 007.301
ep*Motion*® 5073l EasyCon	5073 000.582	5073 007.402	5073 007.403	5073 007.404	5073 007.401	5073 007.405	5073 007.401
ep*Motion*® 5073l MultiCon	5073 000.590	5073 007.412	5073 007.413	5073 007.414	5073 007.411	5073 007.415	5073 007.411
ep*Motion*® 5073lc EasyCon	5073 000.604	5073 007.502	5073 007.503	5073 007.504	5073 007.501	5073 007.505	5073 007.501
ep*Motion*® 5073lc MultiCon	5073 000.612	5073 007.512	5073 007.513	5073 007.514	5073 007.511	5073 007.515	5073 007.511
ep*Motion*® 5073m EasyCon	5073 000.787	5073 007.802	5073 007.803	5073 007.804	n.a.	5073 007.805	5073 007.801
ep*Motion*® 5073m MultiCon	5073 000.795	5073 007.812	5073 007.813	5073 007.814	5073 000.884	5073 007.815	5073 007.811
ep*Motion*® 5073mc EasyCon	5073 000.809	5073 007.902	5073 007.903	5073 007.904	n.a.	5073 007.905	5073 007.901
ep*Motion*® 5073mc MultiCon	5073 000.817	5073 007.912	5073 007.913	5073 007.914	5073 000.892	5073 007.915	5073 007.911
ep*Motion*® 5075l	5075 000.301	*	*	*	*	*	*
ep*Motion*® 5075t	5075 000.302	*	*	*	*	*	*
ep*Motion*® 5075t NGS solution	5075 000.962	*	*	*	*	*	*
ep*Motion*® 5075tC NGS solution	5075 000.963	*	*	*	*	*	*
ep*Motion*® 5075v	5075 000.303	*	*	*	*	*	*
ep*Motion*® 5075vt	5075 000.304	*	*	*	*	*	*
ep*Motion*® 5075m	5075 000.305	*	*	*	*	*	*

Sample Preparation

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentinia	ROW
Eppendorf ThermoMixer® C, basic device without thermoblock	5382 000.015	5382 000.031	5382 000.066	5382 000.074	5382 000.023	5382 000.082	5382 000.023
Eppendorf ThermoMixer® F0.5, with thermoblock for 24 reaction vessels 0.5 mL	5386 000.010	5386 000.036	5386 000.060	5386 000.079	5386 000.028	5386 000.087	5386 000.028
Eppendorf ThermoMixer® F1.5, with thermoblock for 24 reaction vessels 1.5 mL	5384 000.012	5384 000.039	5384 000.063	5384 000.071	5384 000.020	5384 000.080	5384 000.020
Eppendorf ThermoMixer® F2.0, with thermoblock for 24 reaction vessels 2.0 mL	5387 000.013	5387 000.030	5387 000.064	5387 000.072	5387 000.021	5387 000.080	5387 000.021
Eppendorf ThermoMixer® FP, with thermoblock for Microplates and Deepwell Plates, including lid	5385 000.016	5385 000.032	5385 000.067	5385 000.075	5385 000.024	5385 000.083	5385 000.024
Eppendorf ThermoStat™ C, basic device without thermoblock	5383 000.019	5383 000.035	5383 000.060	5383 000.078	5383 000.027	5383 000.086	5383 000.027
MixMate®, incl. 3 tube holders: PCR 96, 0.5 mL, 1.5/2.0 mL	5353 000.014	5353 000.030	5353 000.073	5353 000.081	n.a.	n.a.	5353 000.022

Centrifuges and Rotors - General Lab Products

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentinia	ROW
Centrifuge MiniSpin® plus, with Rotor F-45-12-11	5453 000.015	5452 000.060	5452 000.085		n.a.	n.a.	n.a.
Centrifuge MiniSpin®, with Rotor F-45-12-11	5452 000.010	5453 000.060	5453 000.089		n.a.	n.a.	n.a.
Centrifuge 5418 R, with Rotor FA-45-18-11 and rotor lid	5401 000.010	5401 000.060	5401 000.080		5401 000.030	5401 000.056	5401 000.021
Centrifuge 5420, without rotor	5420 000.318	5420 000.369	5420 000.288		5420 000.237	5420 000.253	5420 000.229
Centrifuge 5420, with aerosol-tight Rotor FA-24x2	5420 000.113	5420 000.164	5420 000.083		5420 000.032	5420 000.059	5420 000.024
Centrifuge 5424 R, with Rotor FA-45-24-11	5404 000.010	5404 000.060	5404 000.081		5404 000.030	5404 000.057	5404 000.022
Centrifuge 5424 R, with Rotor FA-45-24-11	5404 000.410	5404 000.460	5404 000.480		5404 000.430	5404 000.456	5404 000.421
Centrifuge 5424 R, without rotor	5404 000.610	5404 000.265	5404 000.286		n.a.	5404 000.251	5404 000.227
Centrifuge 5424 R, without rotor	5404 000.210	5404 000.660	5404 000.685		5404 000.634	5404 000.650	5404 000.626
Centrifuge 5425, without rotor	5405 000.310	5405 000.360	5405 000.280		n.a.	5405 000.255	5405 000.220
Centrifuge 5425, without rotor	5405 000.719	5405 000.760	5405 000.689		5405 000.638	5405 000.654	5405 000.620
Centrifuge 5425, with Rotor FA-24x2	5405 000.115	5405 000.166	5405 000.085		n.a.	5405 000.050	5405 000.026
Centrifuge 5425, with Rotor FA-24x2	5405 000.514	5405 000.565	5405 000.484		5405 000.433	5405 000.450	5405 000.425
Centrifuge 5427 R	5409 000.010	5409 000.060	5409 000.080		5409 000.039	5409 000.055	5409 000.020
Centrifuge 5427 R, with Rotor FA-45-12-17	5409 000.630	5409 000.660	5409 000.683		n.a.	5409 000.659	5409 000.624
Centrifuge 5427 R, with Rotor FA-45-30-11	5409 000.530	5409 000.565	5409 000.586		5409 000.519	5409 000.551	5409 000.527
Centrifuge 5427 R, with Rotor FA-45-48-11	5409 000.210	5409 000.260	5409 000.284		5409 000.233	5409 000.250	5409 000.225
Centrifuge 5430, without rotor	5427 000.015	5427 000.060	5427 000.089		5427 000.038	5427 000.054	5427 000.020
Centrifuge 5430, without rotor	5427 000.610	5427 000.660	5427 000.682		5427 000.631	5427 000.658	5427 000.623
Centrifuge 5430, with Rotor FA-45-30-11 incl. rotor lid	5427 000.210	5427 000.260	5427 000.283		5427 000.232	5427 000.259	5427 000.224
Centrifuge 5430, with Rotor FA-45-30-11 incl. rotor lid	5427 000.415	5427 000.465	5427 000.488		5427 000.437	5427 000.453	5427 000.429
Centrifuge 5430 R, without rotor	5428 000.205	5428 000.255	5428 000.287		5428 000.236	5428 000.252	5428 000.228
Centrifuge 5430 R, without rotor	5428 000.610	5428 000.655	5428 000.686		5428 000.635	5428 000.651	5428 000.627
Centrifuge 5430 R, with Rotor FA-45-30-11 incl. rotor lid	5428 000.010	5428 000.060	5428 000.082		5428 000.031	5428 000.058	5428 000.023
Centrifuge 5430 R, with Rotor FA-45-30-11 incl. rotor lid	5428 000.410	5428 000.460	5428 000.481		5428 000.430	5428 000.457	5428 000.422

Centrifuges and Rotors - General Lab Products

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentinia	ROW
Centrifuge 5702, without rotor	5702 000.010	5702 000.065	5702 000.086		5702 000.043	5702 000.051	5702 000.817
Centrifuge 5702, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters	5702 000.320	5702 000.365	5702 000.388		n.a.	5702 000.353	5702 000.345
Centrifuge 5702 R, without rotor	5703 000.010	5703 000.060	5703 000.080		5703 000.039	5703 000.055	5703 000.047
Centrifuge 5702 R, with Rotor A-4-38 incl. adapters for 13/16 mm blood collection tubes, 2 sets of 2 adapters	5703 000.320	5703 000.360	5703 000.381		n.a.	5703 000.357	5703 000.349
Centrifuge 5702 R, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters	5703 000.425	5703 000.460	5703 000.489		n.a.	5703 000.454	5703 000.470
Centrifuge 5702 RH, without rotor	5704 000.010	5704 000.060	5704 000.083		5704 000.032	5704 000.059	5704 000.040
Centrifuge 5804, without rotor	5804 000.010	5804 000.060	5804 000.080		n.a.	5804 000.056	5804 000.170
Centrifuge 5804 R, without rotor	5805 000.010	5805 000.060	5805 000.084		n.a.	5805 000.050	n.a.
Centrifuge 5804, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes	5804 000.320	5804 000.360	5804 000.382		*	5804 000.358	5804 000.374
Centrifuge 5804, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes	5804 000.520	5804 000.565	5804 000.587		*	5804 000.552	5804 000.544
Centrifuge 5804, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes	5804 000.320	5805 000.365	5805 000.386		*	5805 000.351	5805 000.378
Centrifuge 5804, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes	5804 000.520	5805 000.665	5805 000.688		*	5805 000.653	5805 000.645
Centrifuge 5810, without rotor	5810 000.010	5810 000.060	5810 000.084		n.a.	5810 000.050	5810 000.190
Centrifuge 5810 R, without rotor	5811 000.015	5811 000.065	5811 000.088		n.a.	n.a.	n.a.
Centrifuge 5810 R, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes	5811 000.325	5811 000.360	5811 000.380		*	5811 000.355	5811 000.371
Centrifuge 5810, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes	5810 000.420	5810 000.460	5810 000.483		*	5810 000.459	5810 000.475
Centrifuge 5810 R, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes	5811 000.420	5811 000.465	5811 000.487		*	5811 000.452	5811 000.479
Centrifuge 5810, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes	5810 000.525	5810 000.560	5810 000.580		*	5810 000.556	5810 000.548
Centrifuge 5810 R, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes	5811 000.620	5811 000.660	5811 000.681		*	5811 000.657	5811 000.649
Centrifuge 5810, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes	5810 000.620	5810 000.665	5810 000.688		*	5810 000.653	5810 000.670
Centrifuge 5810, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes	5810 000.320	5810 000.365	5810 000.386		5810 000.378	5810 000.351	5810 000.378
Centrifuge 5810 R, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes	5811 000.820	5810 000.665	5811 000.886		*	5811 000.851	5811 000.843
Centrifuge 5910 R, without rotor	5942 000.010	5942 000.060	5942 000.083			5942 000.059	5942 000.024
Centrifuge 5910 R, with Rotor S-4xUniversal	5942 000.315	5942 000.360	5942 000.385			5942 000.350	5942 000.326
Centrifuge 5910 R, with Rotor S-4xUniversal	5942 000.215	5942 000.265	5942 000.288			5942 000.253	5942 000.229
Centrifuge 5910 R, with Rotor S-4xUniversal	5942 000.410	5942 000.460	5942 000.482			5942 000.458	5942 000.423
Centrifuge 5910 R, with Rotor S-4x750	5942 000.515	5942 000.560	5942 000.580			5942 000.555	5942 000.520
Centrifuge 5910 R, with Rotor S-4x500	5942 000.615	5942 000.665	5942 000.687			5942 000.652	5942 000.628
Centrifuge 5910 R, with Rotor S-4x400	5942 000.710	5942 000.760	5942 000.784			5942 000.750	5942 000.725
Centrifuge 5920 R, without rotor	5948 000.010	5948 000.060	5948 000.085			5948 000.050	5948 000.026
Centrifuge 5920 R, with Rotor S-4xUniversal-Large	5948 000.910	5948 000.960	5948 000.980			5948 000.956	5948 000.921
Centrifuge 5920 R, with Rotor S-4xUniversal-Large	5948 000.810	5948 000.860	5948 000.883			5948 000.859	5948 000.824
Centrifuge 5920 R, with Rotor S-4x1000	5948 000.210	5948 000.260	5948 000.280			5948 000.255	5948 000.220
Centrifuge 5920 R, with Rotor S-4x1000	5948 000.410	5948 000.460	5948 000.484			5948 000.450	5948 000.425
Centrifuge 5920 R, with Rotor S-4x1000	5948 000.315	5948 000.365	5948 000.387			5948 000.352	5948 000.328
Centrifuge 5920 R, with Rotor S-4x750	5948 000.510	5948 000.560	5948 000.581			5948 000.557	5948 000.522
Concentrator plus basic device	5305 000.100	5305 000.169	5305 000.185	5305 000.193	5305 000.142	5305 000.150	n.a.
Concentrator plus complete system	5305 000.304	5305 000.363	5305 000.380	5305 000.398	5305 000.347	5305 000.355	5305 000.371
Concentrator plus complete system	5305 000.509	5305 000.568	5305 000.584	5305 000.592	5305 000.541	5305 000.550	5305 000.576
Concentrator plus complete system	5305 000.703	5305 000.762	5305 000.589	5305 000.797	5305 000.746	5305 000.754	5305 000.770

INDEX

Detection

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentinia	ROW
Eppendorf BioPhotometer® D30	6133 000.001	6133 000.028	6133 000.036	6133 000.044	6133 000.010	6133 000.052	6133 000.010
Eppendorf µCuvette® G1.0 and Eppendorf BioPhotometer® D30	6133 000.907	6133 000.909	6133 000.910	6133 000.911	6133 000.908	6133 000.912	6133 000.908
Eppendorf BioSpectrometer® basic	6135 000.009	6135 000.025	6135 000.033	6135 000.041	6135 000.017	6135 000.050	6135 000.050
Eppendorf BioSpectrometer® fluorescence	6137 000.006	6137 000.022	6137 000.030	6137 000.049	6137 000.014	6137 000.057	6137 000.014
Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® fluorescence	6137 000.901	6137 000.903	6137 000.904	6137 000.905	6137 000.902	6137 000.906	6137 000.902
Eppendorf BioSpectrometer® kinetic	6136 000.002	6136 000.029	6136 000.037	6136 000.045	6136 000.010	6136 000.053	6136 000.053
Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® kinetic	6136 000.800	6136 000.029	6136 000.827	6136 000.835	6136 000.851	6136 000.843	6136 000.851
Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® basic	6135 000.904	6135 000.906	6135 000.907	6135 000.908	6135 000.905	6135 000.909	6135 000.905
Thermal Printer DPU-S445	6135 011.000	6135 012.007	n.a.	n.a.	6135 010.004	n.a.	6135 011.000

PCR

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentinia	ROW
Mastercycler® nexus	6333 000.014	6333 000.049	6333 000.065	6333 000.073	6333 000.030	n.a.	6333 000.030
Mastercycler® nexus eco	6332 000.010	6332 000.045	6332 000.061	6332 000.070	6332 000.037	n.a.	6332 000.037
Mastercycler® nexus gradient	6331 000.017	6331 000.041	6331 000.068	6331 000.076	6331 000.033	n.a.	6331 000.033
Mastercycler® nexus flat	6335 000.011	6335 000.046	6335 000.062	6335 000.070	6335 000.038	6335 000.089	6335 000.038
Mastercycler® nexus flat eco	6330 000.013	6330 000.048	6330 000.064	6330 000.072	6330 000.021	6330 000.080	6330 000.021
Mastercycler® nexus GSX1	6345 000.010	6345 000.044	6345 000.060	6345 000.079	6345 000.028	6345 000.087	6345 000.028
Mastercycler® nexus GSX1e	6347 000.017	6347 000.041	6347 000.068	6347 000.076	6347 000.025	6347 000.084	6347 000.025
Mastercycler® nexus SX1e	6348 000.010	6348 000.045	6348 000.061	6348 000.070	6348 000.029	6348 000.088	6348 000.029
Mastercycler® nexus SX1	6346 000.013	6346 000.048	6346 000.064	6346 000.072	6346 000.021	6346 000.080	6346 000.021
Mastercycler® nexus GX2	6336 000.015	6336 000.040	6336 000.066	6336 000.074	n.a.	6336 000.082	6336 000.023
Mastercycler® nexus GX2e	6338 000.012	6338 000.047	6338 000.063	6338 000.071	n.a.	6338 000.080	6338 000.020
Mastercycler® nexus X2	6337 000.019	6337 000.043	6337 000.060	6337 000.078	6337 000.027	6337 000.086	n.a.
Mastercycler® nexus X2e	6339 000.016	6339 000.040	6339 000.067	6339 000.075	n.a.	6339 000.083	6339 000.024
Mastercycler® X50s	6311 000.010	6311 000.045	6311 000.061	6311 000.070	n.a.	6311 000.088	n.a.
Mastercycler® X50a	6313 000.018	6313 000.042	6313 000.069	6313 000.077	n.a.	6313 000.085	n.a.
Mastercycler® X50p	6315 000.015	6315 000.040	6315 000.066	6315 000.074	n.a.	n.a.	n.a.
Mastercycler® X50h	6316 000.019	6316 000.043	6316 000.060	6316 000.078	n.a.	6316 000.086	n.a.
Mastercycler® X50i	6301 000.012	6301 000.047	6301 000.063	6301 000.071	n.a.	6301 000.080	n.a.
Mastercycler® X50l	6303 000.010	6303 000.044	6303 000.060	6303 000.079	n.a.	6303 000.087	n.a.
Mastercycler® X50r	6305 000.017	6305 000.041	6305 000.068	6305 000.076	n.a.	6305 000.084	n.a.
Mastercycler® X50t	6306 000.010	6306 000.045	6306 000.061	6306 000.070	n.a.	6306 000.088	n.a.

INDEX

Freezers

Power supply	230 V, 50 Hz	120 V, 60 Hz	208-230 V, 60 Hz	120-220 V, 60 Hz
CryoCube® F570,with LED interface, classic cooling liquids, and air-cooling	F570300001	F570200005	F570400005	
CryoCube® F570h,with LED interface, green cooling liquids, and air-cooling	F570320001	F570220005		
CryoCube® F570hw,with LED interface, green cooling liquids, and water-cooling	F570320101			
Innova® U535,with LED interface, classic cooling liquids, and air-cooling	U9430-0001	U9430-0000	U9430-0002	
HEF® U410,with LED interface, green cooling liquids, and air-cooling	U9260-0008	U9260-0007		
Premium U410,with LED interface, classic cooling liquids, and air-cooling	U9260-0001	U9260-0000	U9260-0002	
Innova® U360,with LED interface, classic cooling liquids, and air-cooling	U9425-0001	U9425-0000		
Innova® U101,with LED interface, classic cooling liquids, and air-cooling	U9420-0001	U9420-0000		
Innova® C760 ,with LED interface, classic cooling liquids, and air-cooling	U9410-0001		U9410-0002	
CryoCube® FC660,with LED interface, classic cooling liquids, and air-cooling	F660300001		F660400005	
Innova® C585,with LED interface, classic cooling liquids, and air-cooling	U9400-0001	U9400-0000	U9400-0002	
CryoCube® FC660h,with LED interface, green cooling liquids, and air-cooling	F660320001		F660420005	
CO_2 back-up system, narrow version,	U9043-0004			U9043-0002
LN_2 back-up system, narrow version,	U9044-0004			U9044-0002
CO_2 back-up system, premium version,	U9043-0008			
LN_2 back-up system, premium version,	U9044-0008			U9044-0006

Power supply	Europe	UK/HKG	Australia	China	USA	Japan
F740h 3/DL/a 100V JP						F740040016
F740h 3/DL/a 208V + 120V Twistlock US					F740540015	
F740h 3/DL/a 230V EU	F740340011	F740340012	F740340013	F740340014		
F740h 3/DR/a 100V JP						F740040026
F740h 3/DR/a 208V + 120V Twistlock US					F740540024	
F740h 3/DR/a 230V EU	F740340021	F740340022	F740340023	F740340024		
F740h 5/DL/a 100V JP						F740400036
F740h 5/DL/a 208V + 120V Twistlock US					F740540035	
F740h 5/DL/a 230V EU	F740340031	F740340032	F740340033	F740340034		
F740h 3/DR/a 100V JP						F740040026
F740h 3/DR/a 208V + 120V Twistlock US					F740540025	
F740h 3/DR/a 230V EU	F740340021	F740340022	F740340023	F740340024		
CryoCube F740hi 5/DL/a 100V JP						F740020036
CryoCube F740hi 5/DL/a 120 US					F740220035	
CryoCube F740hi 5/DL/a 208V US					F740420035	
CryoCube F740hi, 5/DL/a, 230V/50Hz, EU	F740320031	F740320032	F740320033	F740320034		
CryoCube F740hi 3/DL/a 100V JP						F740020016
CryoCube F740hi 3/DL/a 120 US					F740220015	
CryoCube F740hi 3/DL/a 208V US					F740420015	
CryoCube F740hi, 3/DL/a, 230V/50Hz, EU	F740320011	F740320012	F740320013	F740320014		
CryoCube F740iw 5/DL/w 100V JP						F740020136
CryoCube F740iw 5/DL/w 120 US					F740220135	
CryoCube F740iw 5/DL/w 208V US					F740420135	
CryoCube F740hiw, 5/DL/w, 230V/50Hz, EU	F740320131	F740320132	F740320133	F740320134		
CryoCube F740hiw 3/DL/w 100V JP						F740020116
CryoCube F740hiw 3/DL/w 120 US					F740220115	
CryoCube F740hiw 3/DL/w 208V US					F740420115	
CryoCube F740hiw, 3/DL/w, 230V/50Hz, EU	F740320111	F740320112	F740320113	F740320114		

Cell Technology

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentinia	ROW
Eppendorf Eporator®, for bacteria and yeasts	4309 000.019	4309 000.035	4309 000.051	4309 000.060	4309 000.027	4309 000.078	n.a.
Eppendorf PiezoXpert®, for piezo-assisted micromanipulation, incl. actuator 2, foot control and spacer plate and grip head 4 size 0	5194 000.016	5194 000.032	5194 000.059	5194 000.067	5194 000.024	5194 000.075	n.a.
FemtoJet® 4x, programmable microinjector with external pressure supply (not included)	5253 000.017	5253 000.033	5253 000.050	5253 000.068	5253 000.025	5253 000.076	n.a.
FemtoJet® 4i, programmable microinjector with integrated pressure supply	5252 000.013	5252 000.030	5252 000.056	5252 000.064	5252 000.021	5252 000.072	n.a.
Eppendorf InjectMan® 4, micromanipulator with dynamic movement control	5192 000.019	5192 000.035	5192 000.043	5192 000.051	5192 000.027	5192 000.060	–
Eppendorf TransferMan® 4m, micromanipulator with DualSpeed™ joystick for direct and dynamic movement control[1)]	5191 000.015	5191 000.031	–	–	–	–	–
Eppendorf TransferMan® 4r, micromanipulator with DualSpeed™ joystick for direct and dynamic movement control	5193 000.012	5193 000.039	5193 000.047	5193 000.055	5193 000.020	5193 000.063	–

[1)] For availability in your country, please contact your local sales organization.

Incubator

Power supply	Europe	UK/HKG	Australia	China	ROW
Galaxy® 48 R,Standard	CO48300001	CO48300002	CO48300003	CO48300004	CO48200005
Galaxy® 48 R,1 – 19 % O_2 Control	CO48320001	CO48320002	CO48320003	CO48320004	CO48220005
Galaxy® 48 R,High-Temp Disinfection	CO48310001	CO48310002	CO48310003	CO48310004	CO48210005
Galaxy® 48 R,High-Temp Disinfection, 1 – 19 % O_2 Control	CO48330001	CO48330002	CO48330003	CO48330004	CO48230005
Galaxy® 48 R,High-Temp Disinfection, 2-Split Inner Door	CO48312001	CO48312002	CO48312003	CO48312004	CO48212005
Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % O_2 Control	CO48310041	CO48310042	CO48310043	CO48310044	CO48210045
Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % O_2 Control, Humidity Package	CO48310061	CO48310062	CO48310063	CO48310064	CO48210065
Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % O_2 Control, 2-Split Inner Door	CO48312041	CO48312042	CO48312043	CO48312044	CO48212045
Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % O_2 Control, 2-Split Inner Door, Humidity Package	CO48312061	CO48312062	CO48312063	CO48312064	CO48212065
Galaxy® 48 R,High-Temp Disinfection, 1 – 19 % O_2 Control, 2-Split Inner Door	CO48332001	CO48332002	CO48332003	CO48332004	CO48232005
Galaxy® 48 R,High-Temp Disinfection, 1 – 19 % O_2 Control, 2-Split Inner Door, Humidity Package	CO48332011	CO48332012	CO48332013	CO48332014	CO48232015

Power supply	Europe	UK/HKG	Australia	China	ROW
C170, Std, Right, 230 V EU	6734 000.011	6734 000.012	6734 000.013	6734 000.014	6734 010.015
C170i, Std, Right, 230 V EU	6731 000.011	6731 000.012	6731 000.013	6731 000.014	6731 010.015
C170i, Std, Right, Copper, 230 V EU	6731 000.511	6731 000.512	6731 000.513	6731 000.514	6731 010.515
C170i, Std, Left, 230 V EU	6731 000.021	6731 000.022	6731 000.023	6731 000.024	6731 010.025
C170i, Std, Left, Copper, 230 V EU	6731 000.521	6731 000.522	6731 000.523	6731 000.524	6731 010.525

Power supply	Europe	UK/HKG	Australia	China	ROW
New Brunswick™ S41i	S41I230011	S41I230012	S41I230013	S41I230014	S41I120010

Shaker

Power supply	230 V, 50 Hz	120 V, 60 Hz	100 V, 60 Hz	100 V, 50 Hz
New Brunswick™ Innova® 40, 1.9 cm (3/4 in)	M1299-0082	M1299-0080	M1299-0081	M1299-0083
New Brunswick™ Innova® 40, 2.5 cm (1 in)	M1299-0092	M1299-0090	M1299-0091	M1299-0093
New Brunswick™ Innova® 40R, 1.9 cm (3/4 in)	M1299-0086	M1299-0084	M1299-0085	M1299-0087
New Brunswick™ Innova® 40R, 2.5 cm (1 in)	M1299-0096	M1299-0094	M1299-0095	M1299-0097
New Brunswick™ Innova® 42, 1.9 cm (3/4 in)	M1335-0002	M1335-0000	M1335-0001	M1335-0003
New Brunswick™ Innova® 42, 2.5 cm (1 in)	M1335-0012	M1335-0010	M1335-0011	M1335-0013
New Brunswick™ Innova® 42R, 1.9 cm (3/4 in)	M1335-0006	M1335-0004	M1335-0005	M1335-0007
New Brunswick™ Innova® 42R, 2.5 cm (1 in)	M1335-0016	M1335-0014	M1335-0015	M1335-0017
New Brunswick™ Innova® 43, 2.5 cm (1 in)	M1320-0002	M1320-0000	M1320-0001	M1320-0003
New Brunswick™ Innova® 43, 5.1 cm (2 in)	M1320-0012	M1320-0010	M1320-0011	M1320-0013
New Brunswick™ Innova® 43R, 2.5 cm (1 in)	M1320-0006	M1320-0004	M1320-0005	M1320-0007
New Brunswick™ Innova® 43R, 5.1 cm (2 in)	M1320-0016	M1320-0014	M1320-0015	M1320-0017
New Brunswick™ Innova® 44, 2.5 cm (1 in)	M1282-0002	M1282-0000	M1282-0001	M1282-0003
New Brunswick™ Innova® 44, 5.1 cm (2 in)	M1282-0012	M1282-0010	M1282-0011	M1282-0013
New Brunswick™ Innova® 44R, 2.5 cm (1 in)	M1282-0006	M1282-0004	M1282-0005	M1282-0007
New Brunswick™ Innova® 44R, 5.1 cm (2 in)	M1282-0016	M1282-0014	M1282-0015	M1282-0017
New Brunswick™ I26, 2.5 cm (1 in)	M1324-0002	M1324-0000		
New Brunswick™ I26R, 2.5 cm (1 in)	M1324-0006	M1324-0004	M1324-0005	
New Brunswick™ Excella® E24, 1.9 cm (3/4 in)	M1352-0002	M1352-0000	M1352-0001	
New Brunswick™ Excella® E24R, 1.9 cm (3/4 in)	M1352-0006	M1352-0004	M1352-0005	
New Brunswick™ Excella® E25, 2.5 cm (1 in)	M1353-0002	M1353-0000	M1353-0001	M1353-0003

Power supply	Europe	UK/HKG	Australia	China	Japan	Argentina	Brazil	ROW
Innova® S44i, 2.5 cm (1 in) orbit, 2.5 cm (1 in)	S44i300001	S44i300002	S44i300003	S44i300004	S44i000006	S44i300008	S44i300009	S44i200005
Innova® S44i, 2.5 cm (1 in) orbit, 2.5 cm (1 in)	S44i310001	S44i310002	S44i310003	S44i310004	S44i010006	S44i310008	S44i310009	S44i210005
Innova® S44i, 2.5 cm (1 in) orbit, 2.5 cm (1 in)	S44i311001	S44i311002	S44i311003	S44i311004		S44i311008	S44i311009	S44i211005
Innova® S44i, 5.1 cm (2 in) orbit, 5.1 cm (2 in)	S44i320001	S44i320002	S44i320003	S44i320004	S44i020006	S44i320008	S44i320009	S44i220005
Innova® S44i, 5.1 cm (2 in) orbit, 5.1 cm (2 in)	S44i330001	S44i330002	S44i330003	S44i330004	S44i030006	S44i330008	S44i330009	S44i230005
Innova® S44i, 5.1 cm (2 in) orbit, 5.1 cm (2 in)	S44i331001	S44i331002	S44i331003	S44i331004		S44i331008	S44i331009	S44i231005

Power supply	230 V, 50 Hz	230 V, 50/60 Hz	220/230 V, 50/60 Hz	230/240 V, 50/60 Hz	240 V, 50/60 Hz
New Brunswick™ Excella® E25, 2.5 cm (1 in)	M1353-0002	n.a.	n.a.	n.a.	n.a.
New Brunswick™ Excella® E25R, 2.5 cm (1 in)	M1353-0006	n.a.	n.a.	n.a.	n.a.
New Brunswick™ Innova® 2000, 1.9 cm (0.75 in)	n.a.	n.a.	M1190-0002	n.a.	M1190-0003
New Brunswick™ Innova® 2050, 1.9 cm (0.75 in)	n.a.	n.a.	M1190-0012	n.a.	M1190-0013
New Brunswick™ Innova® 2100, 1.9 cm (0.75 in)	n.a.	n.a.	M1194-0002	n.a.	M1194-0003
New Brunswick™ Innova® 2150, 1.9 cm (0.75 in)	n.a.	n.a.	M1194-0012	n.a.	M1194-0013
New Brunswick™ Innova® 2300, 2.5 cm (1 in)	n.a.	n.a.	M1191-0002	n.a.	M1191-0003
New Brunswick™ Innova® 2300, 5.1 cm (2 in)	n.a.	n.a.	M1191-0022	n.a.	M1191-0023
New Brunswick™ Innova® 2350, 2.5 cm (1 in)	n.a.	n.a.	M1191-0012	n.a.	M1191-0013
New Brunswick™ Innova® 2350, 5.1 cm (2 in)	n.a.	n.a.	M1191-0032	n.a.	M1191-0033
New Brunswick™ Innova® 5000, 5.1 cm (2 in)	n.a.	n.a.	M1196-0002	n.a.	M1196-0003
New Brunswick™ Innova® 5050 Rack System	n.a.	n.a.	*	M1232-0101	*
New Brunswick™ Innova® 5051 Rack Extension	n.a.	n.a.	*	M1232-0111	*

Shaker

Power supply	120 V, 60 Hz	120 V, 50/60 Hz	100/120 V, 50/60 Hz	100 V, 60 Hz	100 V,50 Hz	100 V, 50/60 Hz
New Brunswick™ Excella® E25, 2.5 cm (1 in)	M1353-0000			M1353-0001		
New Brunswick™ Excella® E25R, 2.5 cm (1 in)	M1353-0004			M1353-0005		
New Brunswick™ Innova® 2000, 1.9 cm (0.75 in)		M1190-0000				M1190-0001
New Brunswick™ Innova® 2050, 1.9 cm (0.75 in)		M1190-0010				M1190-0011
New Brunswick™ Innova® 2100, 1.9 cm (0.75 in)		M1194-0000				M1194-0001
New Brunswick™ Innova® 2150, 1.9 cm (0.75 in)		M1194-0010				M1194-0011
New Brunswick™ Innova® 2300, 2.5 cm (1 in)		M1191-0000				M1191-0001
New Brunswick™ Innova® 2300, 5.1 cm (2 in)		M1191-0020				M1191-0021
New Brunswick™ Innova® 2350, 2.5 cm (1 in)		M1191-0010				M1191-0011
New Brunswick™ Innova® 2350, 5.1 cm (2 in)		M1191-0030				M1191-0031
New Brunswick™ Innova® 5000, 5.1 cm (2 in)		M1196-0000				M1196-0001
New Brunswick™ Innova® 5050 Rack System			M1232-0100			
New Brunswick™ Innova® 5051 Rack Extension			M1232-0110			