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Rotor FA-6×250 ID

Instructions for Use

5595 705 905-00/2024-11

Table of contents

1 About this manual

1.1 Warning notice structure

HAZARD LEVEL! Type of danger

Source of danger
Consequences of disregarding the danger

– Measures to avoid the danger

Symbol	Hazard level	Type of danger	Meaning
	**DANGER**	Personal injury	Will lead to severe injuries or death.
	**WARNING**	Personal injury	May lead to severe injury or death.
	**CAUTION**	Personal injury	May lead to minor or moderate injuries.
	**NOTE**	Material damage	May lead to material damage.

1.2 Graphics

Depiction	Meaning
1. 2.	Work steps
•	Bullet point
Text	Display text
Key	Name for port, button, status lamp, or key
	Important information
	Hint

1.3 Other applicable documents

The following documents supplement the instructions for use:

- Instructions for use for SpinPro 6 R
- Instructions for use for SpinPro 7 R

2 Safety

2.1 Personal injury

2.1.1 Biological hazards

If unsuitable or damaged rotors, rotor lids or accessories are used in aerosol-tight centrifugation, hazardous aerosols may escape.

- Only use aerosol-tight rotors and rotor lids and aerosol-tight accessories.
- Check all rotors, rotor lids and accessories for perfect condition before each use.

2.1.2 Mechanical hazards

If you handle rotors incorrectly, the rotors may fall and injure people.

- Hold rotors with both hands.

If rotors break, sharp-edged fragments can be created that can injure people.

- Wear cut-resistant gloves when collecting sharp-edged fragments.
- Avoid material damage to the rotors.

2.2 Material damage

2.2.1 Chemical hazards

Aggressive chemicals as well as aggressive cleaning agents and disinfectants can damage the material of the device, rotor and accessories. This may cause damage to the interior of the device during operation.

- Protect all components from aggressive chemicals.
- Clean and disinfect all components only with recommended cleaning agents and disinfectants.
- Clean the rotor, device and accessories immediately if they come into contact with aggressive chemicals.
- Check all components for material changes before each use.
- Take a damaged device out of operation.
- Replace a damaged rotor.
- Replace damaged accessories.

2.2.2 Mechanical hazards

A damaged rotor or damaged accessories can be destroyed when used in the device.

- Check the rotor and accessories for visible damage and material changes before each use.
- Use only undamaged rotors and accessories.
- Use rotors and accessories only within their service life.

2.2.3 Incorrect handling

Improperly attached rotors can damage the device, rotor and tubes.

- Insert the rotor as described in this manual.
- Tighten the rotor nut.
- Close the rotor lids and caps, if present, as described in this manual.
- Stop centrifugation immediately if you hear any unusual noises.

2.2.4 Loss of samples

Incorrect handling of tubes may result in broken glass and sample loss.

- Use suitable tubes.
- Insert the tubes with an adapter as necessary.

Incorrect handling of tubes may cause sample loss.

- Observe the manufacturer's instructions for tubes.
- For centrifugation, only use liquids with a maximum density of 1.2 g/mL.

2.3 Information on product liability

The owner of the device will be held liable for personal and material damage in the following cases:

- The device is used outside of its intended use
- The device is not used in accordance with the operating manual
- Manipulation of safety devices
- The device has spare parts installed that are not authorized by Eppendorf SE
- The device is used with accessories or consumables that are not recommended by Eppendorf SE
- Cleaning agents are used that are not recommended by Eppendorf SE
- Chemicals are used that are not recommended by Eppendorf SE
- Shipment not in original packing or in improper substitute packing
- The device is maintained or repaired by persons not authorized by Eppendorf SE
- Unauthorized modifications

3 Delivery package

Quantity	Description
1	Rotor with lid
1	Pivot grease – 5 mL
1	Instructions for use

4 Product description

4.1 Features

Rotor FA-6×250 ID is a fixed-angle rotor with a capacity of up to 250 mL per hole.

The rotor has the following specific features:

- High-speed rotor
- RFID rotor detection
- Aerosol-tight centrifugation
- Eppendorf QuickLock Pro rotor lid lock

The following consumables can be used with the rotor:

- Flat bottom tubes, 250 mL
- Conical tube (skirted), 50 mL
- Tubes, 2.6 mL – 12 mL
- Conical tubes, 5 mL – 175 mL
- Round-bottom tubes, 5 mL – 85 mL

4.2 Product overview

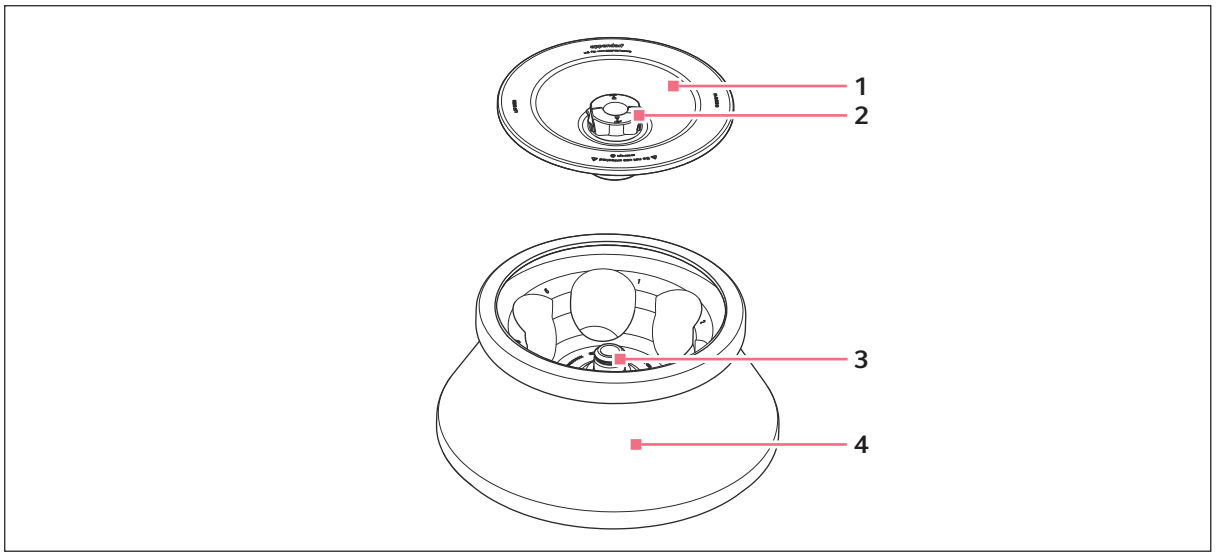


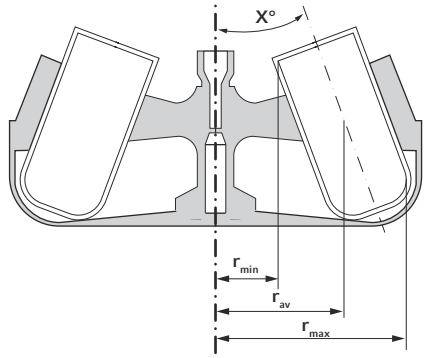
Fig. 4-1: Rotor components FA-6×250 ID

1	Rotor lid	3	Rotor hub
2	Unlocking mechanism	4	Rotor body

5 Application

5.1 k-factor

The k-factor is a rotor-specific factor for determining the sedimentation efficiency and depends on the position of the reaction tube in the rotor. The k-factor takes into account the *g* force and the distance. The smaller the k-factor, the shorter the centrifugation time.



$$k = \frac{\ln\left(\frac{r_{max}}{r_{min}}\right)}{n^2} \times 2.533 \times 10^{11}$$

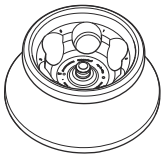
Fig. 5-1: Determination of the k-factor

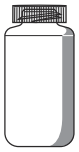
r_{max}	Maximum centrifugation radius	x^o	Rotation angle
r_{min}	Minimum centrifugation radius	n	Maximum rotation speed in rpm
r_{av}	Average centrifugation radius		

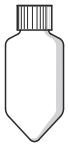
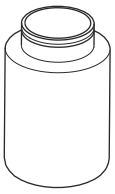
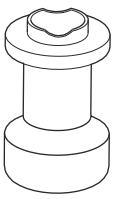
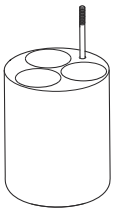
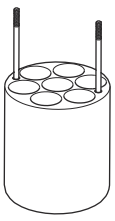
The k-factors can be found in the rotor tables.

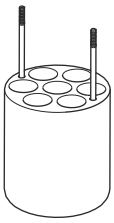
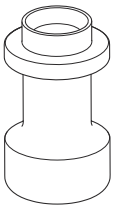
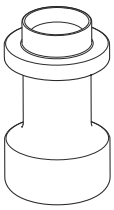
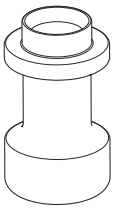
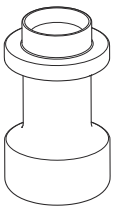
5.2 Rotor table

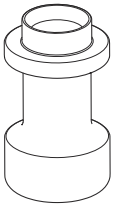
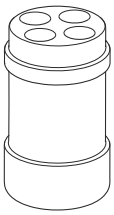
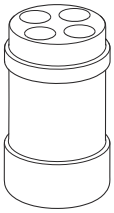
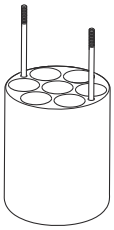
Suitable tubes for rotor FA-6×250 ID

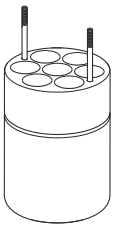
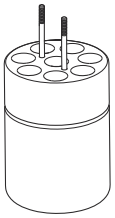
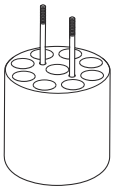
FA-6×250 ID		
	Max. *g*-value	15000 × *g*
	Max. rotational speed	9230 rpm
	Max. load (adapter, vessel and contents)	6 × 420 g

Tube	**Tube** **capacity** **Quantity per adapter/rotor**	**Adapter** **Order no. (International)**	**Bottom shape** **Tube diameter** **Max. length of tube**	**Max. *g*-value** **Radius**	**k-factor**
	Wide-neck bottle 250 mL 6	-	Flat Ø 62 mm 135 mm	15005 × *g* 15.8 cm	2147

Tube	Tube capacity Quantity per adapter/rotor	Adapter Order no. (International)	Bottom shape Tube diameter Max. length of tube	Max. *g*-value Radius	k-factor
	Conical tube 175 mL 1/6	- The manufacturer's adapter is required for conical flasks	Conical Ø 62 mm 139.4 mm	11118 × *g* 13.4 cm	3207
	Dished-bottom vessel 85 mL 1/6	 5920 768 000	Round Ø 38 mm 118 mm	13338 × *g* 14 cm	2165
	Dished-bottom vessel 50 mL 1/6	 5920 771 000	Round Ø 29 mm 125 mm	13166 × *g* 13.8 cm	1951
	Dished-bottom vessel 30 mL 3/18	 5920 767 003	Round Ø 26 mm 116 mm	14462 × *g* 15.2 cm	1026
	Dished-bottom vessel 16 mL 7/42	 5920 770 004	Round Ø 18 mm 115 mm	14605 × *g* 15.3 cm	1288

Tube	Tube capacity Quantity per adapter/rotor	Adapter Order no. (International)	Bottom shape Tube diameter Max. length of tube	Max. *g*-value Radius	k-factor
	Dished-bottom vessel 10 mL 7/42	 5920 769 006	Round Ø 17 mm 115 mm	14547 × *g* 15.3 cm	986
	Conical tube (skirted) 50 mL 1/6	 5920 766 007	Conical, skirted Ø 30 mm 125 mm	12699 × *g* 13.3 cm	1463
	Conical tube 50 mL 1/6	 5920 760 009	Conical Ø 30 mm 125 mm	13023 × *g* 13.7 cm	1574
	Conical tube 50 mL 1/6	 5920 760 009	Conical Ø 30 mm 125 mm	13023 × *g* 13.7 cm	1574
	Conical tube 25 mL	 5920 760 009	Conical Ø 30 mm	11118 × *g*	908

Tube	Tube capacity Quantity per adapter/rotor	Adapter Order no. (International)	Bottom shape Tube diameter Max. length of tube	Max. *g*-value Radius	k-factor
	 1/6	5820 734 000		11.7 cm	
	Conical tube 25 mL 1/6	 5920 760 009  5820 734 000	Conical Ø 30 mm	11118 × *g* 11.7 cm	908
	Conical tube 15 mL 4/24	 5920 761 005	Conical Ø 17 mm 122 mm	14081 × *g* 14.8 cm	1458
	Conical tube 5 mL 4/24	 5920 761 005	Conical Ø 17 mm 122 mm	11394 × *g* 12 cm	685
	Tube 9 mL 7/42	 5920 764 004	Round Ø 17.5 mm 112 mm	13833 × *g* 14.5 cm	783

Tube	Tube capacity Quantity per adapter/rotor	Adapter Order no. (International)	Bottom shape Tube diameter Max. length of tube	Max. *g*-value Radius	k-factor
	Tube 5.5 mL – 12 mL 7/42	 5920 762 001	Round Ø 16 mm 115 mm	14433 × *g* 15.2 cm	1176
	Tube 2.6 mL – 8 mL 8/48	 5920 763 008	Round Ø 13 mm 114 mm	14457 × *g* 15.2 cm	1413
	Dished-bottom vessel 5 mL 9/54	 5920 765 000	Round Ø 12 mm 114 mm	14576 × *g* 15.3 cm	803

5.3 Selecting the rotor and accessories

1. Select the rotor, adapter and tubes according to your application.
2. Use a rotor lid suitable for the rotor. Ensure that the rotor designation on the rotor and the rotor lid match.

3. Ensure that rotors, the rotor lid and accessories meet the following requirements:
    - Maximum service life not exceeded
    - Intact
    - No corrosion
    - No material changes
    - Undamaged and clean seals
    - Seals not protruding at any point
4. Make sure the tubes comply with the following requirements:
    - Approved by the manufacturer for this application
    - Chemically resistant to the sample
    - Designed to withstand the intended load
    - Intact
    - No deformation
    - Not brittle

5.4 Inserting the rotor

The rotor is detected automatically when inserted, it is equipped with RFID rotor identification. The device limits the speed of the detected rotor to its permissible maximum speed. The rotor detections allows the rotor to count the number of cycles used. The rotor detection prevents a rotor from being used in a device that is incompatible with the rotor. The rotor also prevents use after the number of cycles has been exceeded.

Tool:

- Rotor key

Prerequisites:

- A usable rotor is available.

1. Place the rotor vertically on the motor shaft.

   The rotor is detected.
2. Tighten the rotor nut. To do this, turn the rotor key clockwise.

5.5 Removing the rotor

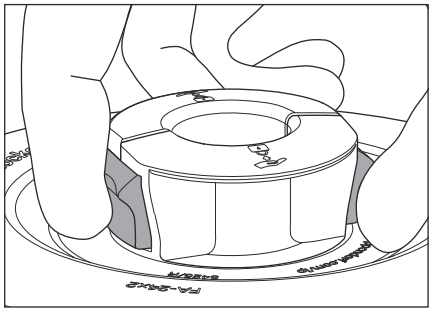
Tool:

- Rotor key

1. Loosen the rotor nut by turning the rotor key counterclockwise.
2. Lift the rotor vertically out of the device.

5.6 Opening the rotor lid

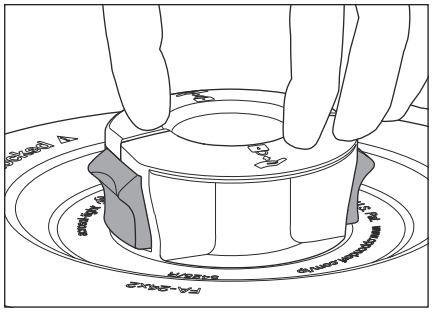
Opening the rotor lid with Eppendorf QuickLock Pro



1. Press the locking mechanism on both sides simultaneously.
2. Remove the rotor lid.

5.7 Closing the rotor lid

Closing the rotor lid with Eppendorf QuickLock Pro



1. Ensure that the rotor designation on the rotor and the rotor lid match.
2. Place the rotor lid on the rotor.
3. Push the handle down until the rotor lid audibly engages and the unlocking mechanism is back in its original position.

5.8 Loading the rotor

When using different tube types, the weight the rotor is loaded with must be distributed symmetrically.

NOTICE! Sample loss

Open tube lids can break off during centrifugation.

– Before centrifugation, make sure that the tube lids are closed correctly.

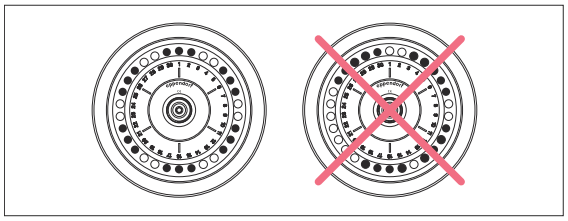
NOTICE! Damage to device

If rotor are loaded incorrectly, the rotor and the device may become damaged during centrifugation.

– Load the rotor symmetrically.
– Only load the rotor to its maximum load capacity.

Prerequisites:

- The tubes are filled.
- The filled tubes and adapters have the same weight.



1. Place the tubes in suitable adapters if necessary.
2. Insert tubes of the same weight in the rotor holes correctly aligned and symmetrically.

6 Maintenance

6.1 Maintenance plan

Interval	Maintenance work
As required	*Chapter 6.3.1 "Cleaning a contaminated fixed-angle rotor" on page 16*
	Chapter 6.3.2 "Cleaning a fixed-angle rotor after tube breakage" on page 17
	Chapter 6.4.1 "Decontaminating the rotor" on page 18
	Chapter 6.4.2 "Autoclaving the rotor" on page 18
Before each use	*Chapter 6.2.1 "Checking the rotor and accessories" on page 16*

6.2 Maintenance

6.2.1 Checking the rotor and accessories

1. Check the rotors and accessories for damage.

   Take damaged rotors and damaged accessories out of operation.

2. Check the service life of the rotors and the accessories.

   Replace rotors and accessories that have exceeded their service life.

6.3 Cleaning

6.3.1 Cleaning a contaminated fixed-angle rotor

Clean the rotor by hand.

Do not submerge the rotor under water. When submerged, liquid can enter the gaps of the rotor.

Material:

- Deionized water
- Soap-based cleaning agent
- Cloth
- Cleaning brush

Prerequisites:

- The rotor has been removed from the device.

1. Wet the cloth and cleaning brush with deionized water and cleaning agent.
2. Clean the rotor body and rotor lid.
3. To remove the cleaning agent from the rotor body and rotor lid, wipe these off with deionized water.
4. Let the rotor body and rotor lid dry.

Cleaning can dry out the seal areas on the rotor. This can result in sluggish rotor lid operation. If this is the case, lightly grease the seal with the supplied pivot grease.

6.3.2 Cleaning a fixed-angle rotor after tube breakage

Clean the rotor by hand.

Do not submerge the rotor under water. When submerged, liquid can enter the gaps of the rotor.

Very small glass particles can deposit in adapters and parts made of rubber, e.g., seals. Clean these parts very carefully.

WARNING! Contamination

Biological substances leak from broken tubes. People who come into contact with these substances may suffer damage to their health.

– Wear your personal protective equipment.
– If necessary, carry out decontamination before cleaning.

Material:

- Water
- Soap-based cleaning agent
- Cloth

1. Remove all glass splinters.
2. Remove the rotor and the accessories.
3. To remove any shards from tubes, clean the rotor, the rotor bores and the accessories with a damp cloth.

4. Replace the adapters to prevent any further damage.
5. Allow the rotor and the accessories to dry.

Cleaning can dry out the seal areas on the rotor. This can result in sluggish rotor lid operation. If this is the case, lightly grease the seal with the supplied pivot grease.

6.4 Decontamination

6.4.1 Decontaminating the rotor

Decontamination with at least 70% ethanol is described here. Observe the manufacturer's information when using an alternative disinfectant.

Material:
- Disinfectant with at least 70 % ethanol
- Deionized water
- Cloth

Prerequisites:
- The rotor has been removed from the device.

1. Wet the cloth with disinfectant.
2. Wipe the inside of the rotor and the accessories with the cloth.
3. Wipe off the disinfectant with deionized water.
4. Clean the rotor and the accessories.

Cleaning can dry out the seal areas on the rotor. This can result in sluggish rotor lid operation. If this is the case, lightly grease the seal with the supplied pivot grease.

6.4.2 Autoclaving the rotor

The following are autoclavable:
- Rotor body
- Rotor lid with seal

Protective equipment:
- Laboratory protective clothing

1. Autoclave the rotor body and the rotor lid at 121 °C with steam for 20 min.

- You can also autoclave the rotor body at 134 °C with steam for 20 min.
- Cleaning can dry out the seal areas on the rotor. This can result in sluggish rotor lid operation. If this is the case, lightly grease the seal with the supplied pivot grease.

7 Transport

7.1 Shipping the rotor

Use the original packing for transport. In the event that the original packing is no longer available, ensure that the rotor is adequately protected by replacement packing during storage and further transport. Eppendorf SE is not liable for damage caused by improper replacement packing.

WARNING! Contamination

If you store or ship a contaminated rotor, people may be contaminated and suffer damage to their health.

– Decontaminate the rotor before storage or shipping.

Material:

- Packing

Prerequisites:

- The rotor has been decontaminated and cleaned.

1. Download the decontamination certificate for return shipments from the webpage www.eppendorf.com.
2. Complete the decontamination certificate.
3. Pack the rotor.
4. Attach the decontamination certificate to the outside of the packing in a way that is safe for transport.
5. Ship the rotor.

8 Disposal

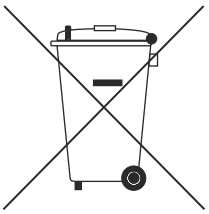
Electronics are installed in the corresponding rotor body, the remaining accessory parts are free of electrical elements. This rotor body contains only an RFID chip and no batteries or rechargeable batteries.

8.1 Legal regulations

EU countries

In EU member states, electrical and electronic equipment must be disposed of in accordance with Directive 2012/19/EU. This directive has been passed into national law by all EU member states.

Electrical and electronic equipment which has been put on the market after August 13, 2005 must be marked in a special way. According to the European standard the following symbol can be used to mark this equipment:



In the EU member states, batteries and rechargeable batteries must be disposed of in accordance with Directive 2006/66/EC. This directive has been passed into national law by all EU member states.

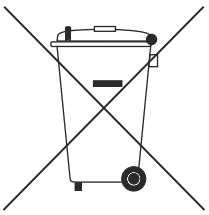
Non-EU countries

Non-EU countries have country-specific standards for the disposal of waste electrical and electronic equipment and the disposal of batteries and rechargeable batteries.

Notes on disposal of electrical and electronic equipment in the United Kingdom

In the United Kingdom, the disposal of electrical and electronic equipment is governed by national regulations which are based on national legislation from 2013, The Waste Electrical and Electronic Equipment Regulations 2013 (as amended), which apply to these devices.

According to these regulations, any electrical and electronic equipment that was put on the market after August 13, 2005 in the business-to-business sector – which applies to this product – must no longer be disposed of with household waste. They are marked with the following symbol to indicate this:



As the disposal regulations may differ from one country to another, please contact your supplier for more information.

8.2 Preparing for disposal

Preparing disposal according to legal regulations

For information on the legal regulations that apply in your country, contact your local authority and your Eppendorf partner.

1. Check which legal regulations apply to disposal in your country.
2. Choose a certified waste disposal company or contact your Eppendorf partner.
3. Decontaminate and clean the rotor before disposal.
4. If decontamination is not possible, dispose of the rotor as hazardous waste.

Creating a decontamination certificate

Prerequisites:

- The rotor has been decontaminated and cleaned.

1. Download a decontamination certificate from the webpage www.eppendorf.com.
2. Complete the decontamination certificate.

9 Technical data

9.1 Application parameters

Device	Maximum *g*-force	Maximum speed
SpinPro 6 R	10000 × *g*	7535 rpm
SpinPro 7 R	15005 × *g*	9230 rpm

9.2 Service life

As soon as the maximum number of cycles has been reached, the rotor must be replaced.

Eppendorf SE indicates the maximum service life for rotor and accessories in cycles.

A cycle counts as every centrifugation run in which the rotor is accelerated and then braked again, regardless of speed and duration of the centrifugation run.

The specified service life applies if the following conditions are met:

- Proper use
- Recommended care
- Good condition, free from damage

Components and accessories	**Service life from first use**
Rotor body	70000 cycles
Aerosol-tight QuickLock Pro rotor lid without replaceable seal	27000 cycles

Components and accessories	Number of autoclaving cycles	Time / temperature
Rotor body	100 autoclaving cycles	20 min / 121 °C
	50 autoclaving cycles	20 min / 134 °C
Aerosol-tight QuickLock Pro rotor lid without replaceable seal	50 autoclaving cycles	20 min / 121 °C

10 Ordering information

Description	Order no.
Rotor FA-6×250 ID Rotor FA-6×250 ID including rotor lid, aerosol-tight 1 pc.	5595 705 003
Rotor lid For rotor FA-6×250 ID including rotor lid, aerosol-tight 1 pc.	5595 706 005

Appendix

Rotor chemical resistance overview

A Assessment criteria

Marking	Resistance	Explanations
■■■	Resistant	Chemical can be used.
■■	Partially resistant	Chemical can cause discoloration of the surface.
■	Not resistant	Chemical can cause severe discoloration or damage to the surface. The chemical must only be used with great caution.
N/A	–	Chemical has not been tested.

B Acids and alkalis

Designation	Concentration	Rotor body and rotor lid	Rotor lid seal	Unlocking mechanism
Ammonia solution	2 %	■■	■■■	■■■
Ammonia solution	25 %	■	■■■	■■■
Acetic acid	12 %	■■	■■■	■■■
Acetic acid	96 %	■■	■■■	■■■
Sodium hydroxide	4 %	■	■■■	■■■
Sodium hydroxide	20 %	■	■■■	■■■
Perchloric acid	10 %	■	■■■	■
Nitric acid	6.3 %	■	■■■	■
Nitric acid	65 %	■	■	■
Hydrochloric acid	32 %	■	■■■	■
Hydrochloric acid	3.6 %	■	■■■	■■■
Sulfuric acid	16 %	■	■■■	■
Sulfuric acid	96 %	■	■	■
Trichloroacetic acid	10 %	■	■■■	■■
Trichloroacetic acid	40 %	■	■■■	■
Trifluoroacetic acid	10 %	■■	■■■	■■

C Organic solvents

Designation	Concentration	Rotor body and rotor lid	Rotor lid seal	Unlocking mechanism
Acetone	≥99.8 %	■■■	■	■■■
Acetonitrile	≥99.9 %	■■	■■■	■■■
Chloroform	—	■■■	■■■	■■■
Dichloromethane (methylene chloride)	≥99.5 %	■■	■■■	■■■
Diethyl ether	—	■■	■■■	■■
DMSO	10 %	■■	■■■	■■■
DMSO	50 %	■■	■■■	■■■
DMSO	100 %	■■	■■■	■■■
Acetic acid ethyl ester	≥99.5 %	■■■	■	■■■
Ethanol	96 %	■■■	■■■	■■■
Formaldehyde	37 %	■■■	■■■	■■■
Isoamyl alcohol	> % 98	■■■	■■■	■■■
Isopropanol	99.8 %	■■■	■■■	■■■
Methanol	99.9 %	■■	■■■	N/A
Petroleum ether	—	N/A	■■■	■■■
Phenol	—	■■	■■■	■■■
Toluol	—	■■■	■■■	■■■

D Cleaning and decontamination agents

Designation	Concentration	Rotor body and rotor lid	Rotor lid seal	Unlocking mechanism
Biocidal ZF	—	■■■	■■■	■■■
CaviCide	—	N/A	N/A	N/A
ClearKlens Bi-Spore, VH26	Mix 1 + 48 + 1	N/A	N/A	■■■
ClearKlens Cleansinald (SC), VH9	0.5 %	N/A	N/A	■■■
ClearKlens Tego 2000 (SC), VH25	1 %	N/A	N/A	■■■
COUNT-OFF Liquid Concentrate	2 %	■■■	■■■	■■■
COUNT-OFF Surface Cleaner	—	■■■	■■■	■■■
Descoton Forte	5 %	N/A	N/A	■■■
Dismozon pur (peroxide-based)	4 %	■■■	■■■	■■■
DNA *AWAY*	—	■■■	■■■	■■■
DNA-ExitusPlus	—	■■■	■■■	■■■
Ethanol	70 %	N/A	N/A	N/A
Formaldehyde	6 %	■■■	■■■	■■■
Helipur (phenol-based)	6 %	■■■	■■■	■■■
Hexaquart S (QAV-based[(1)])	5 %	■■■	■■■	■■■
Hi-TOR Plus (QAV-based[(1)])	—	■■■	■■■	■■■
Incidin Plus	3 %	N/A	N/A	N/A
Isopropanol	70 %	N/A	N/A	N/A
Klercide Low Residue Quat Unit Dose Concentrate	01:50	N/A	N/A	■■■
Klercide Sporicidal Low Residue Peroxide	—	N/A	N/A	■■■
Korsolex basic (aldehyde-based)	5 %	■■■	■■■	■■■

Designation	Concentration	Rotor body and rotor lid	Rotor lid seal	Unlocking mechanism
Medichem ID Kombi	3 %	N/A	N/A	■■■
Meliseptol (alcohol-based)	—	■■■	■■■	■■■
Sodium hypochlorite	6 %	■■■	■■■	■■■
Sodium hypochlorite	10 %	■	■■■	■■■
Rheosept	—	N/A	N/A	■■■
RNase AWAY	—	■■■	■■■	■■■
RNase-ExitusPlus	—	■■■	■■■	■■■
Sekusept Plus	1.5 %	N/A	N/A	■■■
Spor-Klenz	—	N/A	N/A	■
Hydrogen peroxide	6 %	■■■	■■■	■■■
Hydrogen peroxide	35 %	■■■	■■■	■■■

E Other solutions

Designation	Concentration	Rotor body and rotor lid	Rotor lid seal	Unlocking mechanism
Cesium chloride	1.86g/mL	■■■	■■■	■■■
EDTA (pH 8)	0.5 mol/L	■■■	■■■	■■■
Ficoll (Polysaccharide)	1.077 g/mL	■■■	■■■	■■■
Formamide	50 %	N/A	N/A	N/A
Glutaraldehyde	25 %	■■	■■■	■
Glycerol	50 %	■■■	■■■	■■■
Guanidinium thiocyanate	4 mol/L	■■	■■■	■■■
Guanidinium chloride	6 mol/L	■■■	■■■	■■■
	10 %	N/A	—	—
Mineral oil	—	■■■	■■■	■■■
Sodium acetate (pH 5.2)	2 mol/L	■■■	■■■	■■■
Paraffin oil	—	N/A	N/A	N/A
SDS	1 %	■■	■■■	■■■
TRIS buffer pH 7.5	1 mol/L	■■■	■■■	■■■
Triton X-100	1 %	■■■	■■■	■■■
Tween 20	1 %	■■■	■■■	■■■
Water	—	■■■	■■■	■■■

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