



These instructions for use for rotors supplement the operating manual for the centrifuge and do not replace it. Therefore, please also read the operating manual before starting up the rotors for the first time. You can find the current version of the operating manual on the Internet at www.eppendorf.com

1 Safety notes



WARNING! Risk of injury from improperly attached rotors, rotor lids and caps.

- ▶ Only centrifuge with firmly tightened rotor and rotor lid as well as with inserted carriers, buckets and correctly closed caps.
 - ▶ If unusual noises occur when the centrifuge starts, the rotor, the rotor lid or a cap may not be properly secured. Immediately press the **start/stop** key to stop centrifuging.
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CAUTION! Risk of injury due to asymmetric loading of a rotor.

- ▶ Load rotors symmetrically with identical tubes and/or plates and buckets.
- ▶ Only load adapters with suitable tubes or plates.
- ▶ Always use the same type of tubes and plates (weight, material/density and volume). Always observe the max. *g*-force of the tubes and plates as indicated by the manufacturer.
- ▶ Check symmetric loading by balancing the used adapter and tubes or plates with scales.



CAUTION! Risk of injury from overloaded rotor.

The centrifuge is designed for the centrifugation of material with a maximum density of 1.2 g/mL at maximum speed and filling volume and/or load.

- ▶ Do not exceed the maximum load of the rotor.



CAUTION! Risk of injury when turning the rotor manually.

- ▶ When turning a swing-bucket rotor, pay special attention to ensure that your fingers do not get jammed or get caught on the swinging buckets.



CAUTION! Risk of injury due to chemically damaged rotor lids or caps.

Transparent rotor lids or caps made from PC, PP, or PEI may lose their strength under the impact of organic solvents (e.g. phenol, chloroform).

- ▶ If rotor lids or caps have come into contact with organic solvents, they must be cleaned immediately.
- ▶ Regularly check the rotor lids and caps for damages and cracks.
- ▶ Immediately replace rotor lids or caps that have cracks or milky stains.



NOTICE! Damage to rotors from aggressive chemicals.

Rotors are high-quality components which withstand extreme stresses. This stability can be impaired by aggressive chemicals.

- ▶ Avoid using aggressive chemicals, including strong and weak alkalis, strong acids, solutions with mercury, copper and other heavy metal ions, halogenated hydrocarbons, concentrated saline solutions and phenol.
- ▶ If the rotor is contaminated by aggressive chemicals, clean it immediately using a neutral cleaning agent. This applies to the rotor bores, in particular.
- ▶ Due to the manufacturing process, color variations may occur on rotors marked "coated". These color variations do not effect service life or resistance to chemicals.



NOTICE! If handled incorrectly, the rotor can fall.

The swing-bucket rotor may fall if the buckets are used as handles.

- ▶ Remove the buckets before inserting and/or removing a swing-bucket rotor.
- ▶ Always use both hands to carry the rotor cross.



NOTICE! If handled incorrectly, the rotor can fall.

- ▶ Always pick up the rotor F-35-48-17 with both hands.
- ▶ In order to hold the rotor safely, possibly you have to remove 3 to 4 sleeves from the opposite outer row.

2 Service life



WARNING! Risk of injury from chemically or mechanically damaged accessories.

Even minor scratches and cracks can lead to serious internal material damage.

- ▶ Protect all accessory parts from mechanical damage.
- ▶ Inspect the accessories for damage before each use. Replace any damaged accessories.
- ▶ Do not use any rotor lids, buckets or caps showing signs of corrosion or mechanical damage (e.g. bending).
- ▶ Do not use any accessories whose maximum service life has been exceeded.
- ▶ When inserting the buckets and rotors, ensure that they do not become scratched.

Since 2012, Eppendorf has been stating the maximum service life of the rotors and accessories both in years and in the maximum number of cycles. The decisive factor for the service life is which case occurs first, usually this is the number of years in operation.

Each centrifugation run in which the rotor is accelerated and braked is counted as a cycle, independent of the speed and the duration of the centrifugation run.

Rotor/accessories*	Centrifuge	Max. service life from initial start-up	
		in cycles	in years
A-2-DWP-AT	5810/5810 R	100 000	7
A-2-DWP	5804/5804 R/5810/5810 R	34 000	7
A-2-MTP	5430/5430 R	100 000	7
A-4-38	5702/5702 R/5702 RH	100 000	7
A-4-44	5804/5804 R/5810/5810 R	34 000	7
A-4-62	5810/5810 R	40 000	7
A-4-81	5810/5810 R	100 000	7
A-8-17	5702/5702 R/5702 RH	75 000	7
F-35-6-30	5430/5430 R	75 000	7
F-34-6-38	5804/5804 R/5810/5810 R	75 000	7
F-35-48-17	5804/5804 R/5810/5810 R	100 000	7
F-45-64-5-PCR	5430/5430 R	75 000	7
FA-45-6-30	5804/5804 R/5810/5810 R	100 000	7
FA-45-48-11	5427 R/5430/5430 R 5804/5804 R/5810/5810 R	100 000	7


4 Instructions for use
Eppendorf Rotors
English (EN)

Rotor/accessories*	Centrifuge	Max. service life from initial start-up	
		in cycles	in years
FA-45-16-17	5430/5430 R	100 000	7
FA-45-12-17	5427 R	100 000	7
FA-45-20-17	5804/5804 R/5810/5810 R	100 000	7
S-4-72	5804/5804 R/5810/5810 R	100 000	7
S-4-104	5810/5810 R	100 000	7
S-24-11-AT	5427 R/5430/5430 R	100 000	7
T-60-11	5804/5804 R/5810/5810 R	n.a.	7
S-4x1000	5920 R	100 000	7
S-4x1000 with High-Capacity Bucket	5920 R	75 000	7
S-4x750	5920 R	100 000	7
F-6x85	5920 R	100 000	7
FA-8x85	5920 R	100 000	7
FA-6x50	5920 R	100 000	7
FA-48x2	5920 R	100 000	7
FA-30x2	5920 R	100 000	7
FA-20x5	5920 R	100 000	7
QuickLock rotor lid	–	–	3
Rotor lid and caps made from polycarbonate (PC), polypropylene (PP) or polyetherimide (PEI)	–	–	3
Bucket of Rotor A-8-11	5417 R	–	3
Plastic adapters	–	–	1

* **Service life of swing-bucket rotors:** Unless stated otherwise, the service life specified for the swing-bucket rotor applies both to the rotor cross and the buckets.

For all other rotors and their rotor lids there is no service life limit as long as the following conditions are met:

- correct use
- recommended care
- undamaged condition

On rotors, the manufacturing date is embossed in the format 03/12 (= March 2012) and/or the inside of the plastic lids, in the shape of a clock .

To ensure aerosol tightness, the following applies:

- ▶ Exchange aerosol-tight rotor lids and caps after 50 autoclaving cycles.
- ▶ For QuickLock rotor lids, replace the seal after 50 autoclaving cycles.

3 Cleaning and disinfection

Use a mild cleaning agent for cleaning. For disinfection, use alcohol (ethanol, isopropanol) or cleaning agents which contain alcohol.

Clean and disinfect the rotor and all accessories (rotor lid, buckets, sleeves, adapters, buckets and removal support).

1. Remove the rotor from the centrifuge.
2. Use a test tube brush to clean/disinfect the rotor bores on fixed-angle rotors or sleeves. Do not immerse the rotor as liquid may penetrate the openings.
3. QuickLock rotor lids and caps: Remove the seals and clean the groove below.
4. Clean the rotor cone with a soft, dry and lint-free cloth. Do not lubricate the rotor cone.
5. Check the rotor cone for damage.
6. Place the rotors and accessories on a cloth to dry. Place fixed-angle rotors with the rotor bores facing downwards.
7. QuickLock rotor lids and caps: Before the next centrifugation, replace the seal correctly into the clean and dry groove.



With the exception of rotor crosses A-2-MTP, A-4-81, S-4-72, S-4-104, S-4x750, and S-4x1000 all rotors, rotor lids, buckets, caps and adapters can be autoclaved (121 °C, 20 min).

After a maximum of 50 autoclaving cycles, the caps and, for QuickLock rotors, the seals must be replaced.

Do not use any stained, porous or otherwise defective gaskets. Also note the operating manual of the centrifuge and the supplement sheet on aerosol-tight centrifugation delivered together with the aerosol-tight rotors.



- ▶ After each cleaning and autoclaving process (121 °C, 20 min) and if it does not swing freely, apply a thin layer of pivot grease (order no. International 5810 350.050/North America 022634330) to the bucket grooves.
- ▶ Regularly apply a thin layer of pivot grease to the **lid thread** on fixed-angle rotors to prevent any damage.
- ▶ Ensure that the rotor cross pivots and the bucket grooves are free from contamination.

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Your local distributor: www.eppendorf.com/contact

Eppendorf AG · 22331 Hamburg · Germany

eppendorf@eppendorf.com · www.eppendorf.com

