Instructions for use
Eppendorf Rotors
English (EN)

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 the rotor and rotor lid firmly tightened and with inserted 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.

CAUTION! Risk of injury due to asymmetric loading of a rotor.

- Always load all positions of a swing-bucket rotor with buckets.
- Load rotors symmetrically with identical tubes or plates.
- Only load adapters with suitable tubes or plates.
- Always use the same type of tubes and plates (weight, material/density and volume). Observe the max. *g*-force of the tubes and plates specified by the manufacturer.
- Check that loading is symmetrical by balancing the adapters and tubes or plates used 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 or caps for damage 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 rotors, rotor lids, buckets or caps with signs of corrosion or mechanical damage (e.g. deformations).
- Do not use any accessories whose maximum service life has been exceeded.
- When inserting the buckets and rotors, make sure they do not cause any scratches.

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 from the first commissioning onward	
		in cycles	in years
A-2-DWP-AT	5810/5810 R	100000	7
A-2-DWP	5804/5804 R/5810/5810 R	34000	7
A-2-MTP	5430/5430 R	100000	7
A-4-38	5702/5702 R/5702 RH	100000	7
A-4-44	5804/5804 R/5810/5810 R	34000	7
A-4-62	5810/5810 R	40000	7
A-4-81	5810/5810 R	100000	7
A-8-17	5702/5702 R/5702 RH	75000	7
F-35-6-30	5430/5430 R	75000	7
F-34-6-38	5804/5804 R/5810/5810 R	75000	7
F-35-48-17	5804/5804 R/5810/5810 R	100000	7
F-45-64-5-PCR	5430/5430 R	75000	7
FA-45-6-30	5804/5804 R/5810/5810 R	100000	7
FA-45-48-11	5427 R/5430/5430 R 5804/5804 R/5810/5810 R	100000	7

Rotor/accessories*	Centrifuge	Max. service from the first commissioning onward	
		in cycles	in years
FA-45-16-17	5430/5430 R	100000	7
FA-45-12-17	5427 R	100000	7
FA-45-20-17	5804/5804 R/5810/5810 R	100000	7
S-4-72	5804/5804 R/5810/5810 R	100000	7
S-4-104	5810/5810 R	100000	7
S-24-11-AT	5427 R/5430/5430 R	100000	7
T-60-11	5804/5804 R/5810/5810 R	n/a	7
S-4×1000	5920 R	100000	7
S-4×1000 with High-Capacity Bucket	5920 R	75000	7
S-4×750	5920 R	100000	7
F-6×85	5920 R	100000	7
FA-8×85	5920 R	100000	7
FA-6×50	5920 R	100000	7
FA-48×2	5920 R	100000	7
FA-30×2	5920 R	100000	7
FA-20×5	5920 R	100000	7
QuickLock rotor lid	–	–	3
Rotor lid and caps made of polycarbonate (PC), polypropylene (PP) or polyetherimide (PEI)	–	–	3
A-8-11 bucket	5417 R	–	3
Plastic adapters	–	–	1

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

All other rotors and rotor lids can be used during the entire service life of the centrifuge if the following conditions are met:

- Proper use
- Recommended maintenance
- Undamaged condition

The date of manufacture is stamped on the rotors in the format *03/15* or *03/2015* (= March 2015). On the inside of the plastic rotor lid, the date of manufacture is stamped in the form of a clock.

To ensure aerosol tightness, the following applies:

- Replace aerosol-tight rotor lids and caps after 50 autoclaving cycles.
- Replace the seal of QuickLock rotor lids 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-4×750, and S-4×1000 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, porose 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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