

Instructions for use

S-4-72/S-4-104

English (EN)

This document supplements the operation manual Centrifuge 5804/5804 R/5810/5810 R and does 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 on the Internet at www.eppendorf.com.

1 Product description

The rotor S-4-72 is a swing-bucket rotor with a maximum capacity of 4 × 250 mL for the Centrifuge 5804/5804 R/5810/5810 R.

The rotor S-4-104 is a swing-bucket rotor with a maximum capacity of 4 × 750 mL for the Centrifuge 5810/5810 R. This rotor has also been designed for centrifugation of Deepwell plates, microplates and PCR plates in plate buckets.

2 Safety notes



NOTICE! If handled incorrectly, the rotor can fall over.

The rotor can fall over if the buckets are used as a handle.

- ▶ Remove the buckets before inserting and/or removing a swing-bucket rotor.
 - ▶ Always use both hands to carry the rotor cross.
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Only S-4-104



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 should 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.
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WARNING! Damage to health due to rotor lids and caps which are not aerosol-tight.

The aerosol tightness of rotor lids and caps is affected by autoclaving, mechanical strain and contamination by chemicals.

- ▶ Check the integrity of the seals of the aerosol-tight caps before each use.
 - ▶ Only work with undamaged and clean seals.
 - ▶ Do not close aerosol-tight rotors and buckets for storing them.
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3 **Centrifuging**

-  Follow the notes in the operating manual of the centrifuge on inserting the rotor, symmetric loading of buckets, max. load per bucket and the max. loading height/tube length of the buckets.

3.1 Required software version

Prerequisites

The required software version is installed.

Rotor	Software version required for operating the rotor	Software update for older devices possible
S-4-72, S-4-104	from software version 8.4	from software version 7.0

The installed software version is displayed shortly after switching on the device.

- Update the software of older centrifuges before using the rotor.
Software updates must be carried out by an authorized service technician. Please contact your dealer if necessary.

Operating the rotor with incompatible software may result in sample loss due to incorrect centrifugation parameters.

3.2 Inserting and removing the rotor S-4-104



NOTICE! Buckets swinging out in the wrong direction.

When working with the rotor S-4-104, using the wrong adapters with 500 mL Corning tubes may lead to the loss of samples or damage to the centrifuge.

- Only use the Eppendorf adapter intended for this purpose.
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- To insert and remove the rotor S-4-104, use the rotor key supplied with the rotor. This rotor key is different from the one in the delivery package of Centrifuge 5810/5810 R.

3.3 Loading buckets

3.3.1 Loading round buckets

To prevent imbalance, align the adapters in the 750 mL round bucket symmetrically.

- ▶ Turn the adapter in the round bucket to the position where the markings on the adapter and the bucket are aligned.

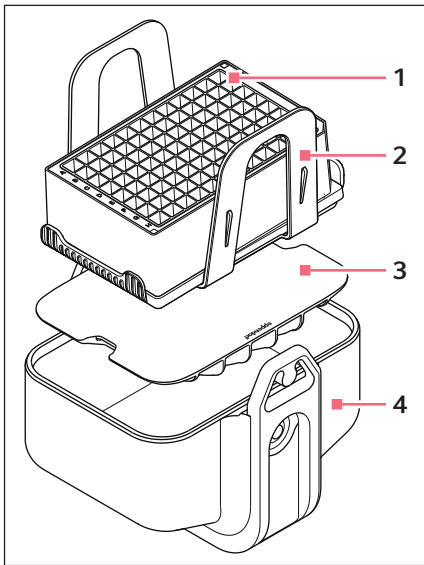
3.3.2 Loading plate buckets



NOTICE! Sample loss due to incorrect loading of the plate bucket.

The plate can be damaged if the base element is missing or inserted incorrectly in the bucket.

- ▶ Ensure that the base element is inserted correctly before centrifugation.



- 1 Plate (DWP here)
- 2 Plate carrier/removal tool
- 3 Base element
- 4 Plate bucket (aerosol-tight capable)

1. Place the plate on the plate carrier/removal tool.
2. Insert the base element into the plate bucket.
3. Place the plate carrier/removal tool with the plate into the bucket.

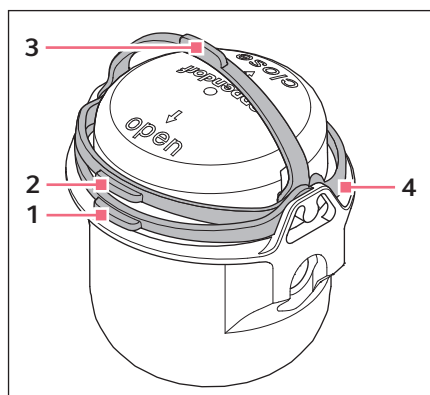
3.4 Closing the bucket with the cap



NOTICE! Damage to the cap hook.

If the cap is not fitted correctly on the bucket, the sealing clamp may break during closing.

- Before you fold the sealing clamp, check that the cap is positioned correctly.



1. Fold the cap clamp to the **open** position (1).
2. Place the cap on the bucket and push the cap down in such a way that the clamp is lifted slightly (2).
3. To transport the bucket, fold the clamp to the carrying position (3).
4. To seal the bucket so that it is aerosol-tight, fold the clamp beyond the latch into the **close** position. The clamp has only been folded correctly if there is an audible **click** (4).

3.5 Transporting the bucket

When the bucket is closed you can lift it up with the clamp and transport it. Aerosol tightness will also be maintained in the carrying position.

1. To transport the bucket, fold the clamp to the carrying position (3).
2. Lift the bucket with the clamp.



Transport the bucket carefully in the carrying position. Do not swing it backwards and forwards, as aerosol tightness will not be maintained.

3.6 Opening the bucket

- Fold the cap clamp to the **open** position (1).

When the clamp is pushed down the cap will lift slightly. The cap can then be lifted off the bucket.



As the air cools down, it can generate a vacuum in the bucket.

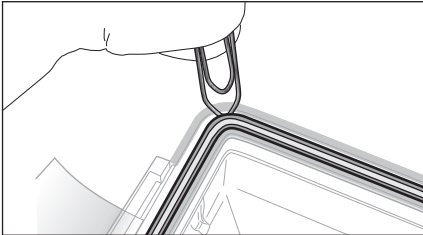
- To open the cap, fold the clamp fully to the **open** position. The clamp acts as a lever and lifts the cap off the bucket.

4 Maintenance

4.1 Replacing the cap seal

The seals of aerosol-tight caps can be replaced.

4.1.1 Removing the seal



1. Lift the rubber seal from the groove using a blunt lever. You can, for instance, use the rounded side of a paper clip. Please take care not to damage the seal with the wire ends.
2. Carefully pull the seal out of the groove.

4.1.2 Inserting the seal



NOTICE! Faulty sealing when the seal is handled incorrectly.

- ▶ Uniformly insert the seal.
- ▶ Do not pull the seal lengthwise.

1. Check the integrity of the seal.
Do not use any damaged, discolored or dirty seals.
2. Place the seal over the groove and press the seal slightly into the groove.
3. Place the cap on the bucket and close the cap fully.
4. Remove the cap and check that the seal is seated correctly.



If the seal is too long or too short remove it from the groove. Repeat inserting the seal.

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5 Technical data

Rotor S-4-104

Max. <i>g</i> -force (rcf)/rotational speed (rpm): Round bucket 750 mL Plate bucket (aerosol-tight capable)	$3,214 \times g/3,900$ rpm $2,568 \times g/3,900$ rpm
Max. loading height / tube length: Round bucket 750 mL Plate bucket (aerosol-tight capable)	Please note the technical data in the operating manual of the centrifuge.
Max. load per bucket: Round bucket 750 mL Plate bucket (aerosol-tight capable)	1,000 g (adapter, tube and contents) 530 g (plate carrier/removal tool, base element, plate and contents)
Max. centrifugation radius: Round bucket 750 mL Plate bucket (aerosol-tight capable)	18.9 cm 15.1 cm

Rotor S-4-72

Max. <i>g</i> -force (rcf)/rotational speed (rpm): Round bucket 250 mL	$3,234 \times g/4,200$ rpm
Max. loading height / tube length: Round bucket 250 mL	Please note the technical data in the operating manual of the centrifuge.
Max. load per bore: (adapter, tube and contents) Round bucket 250 mL	500 g
Max. centrifugation radius: Round bucket 250 mL	16.4 cm

Additional technical data and order numbers can be found in the operating manual.

Your local distributor: www.eppendorf.com/contact

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