eppendorf

Instructions for use
Adapter for S-4×Universal and S-4×Universal-Large rotors
English (EN)

This document is a supplement to the operating manuals for the Centrifuge 5910 R, Centrifuge 5910 Ri and Centrifuge 5920 R and does not replace them. Therefore, please also read the operating manuals of the centrifuges before using the rotors and accessories for the first time. You can find the current version of the operating manuals in the available languages on the Internet at www.eppendorf.com/manuals.

1 Safety

⚠️ **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 and/or plates.
- ▶ Only load adapters with suitable tubes or plates.
- ▶ Always use vessels and plates of the same type (weight, material/density and volume). Always observe the max. g-force of the vessels and plates indicated by the manufacturer.
- ▶ Use a balance to check that the load is symmetrical by balancing the adapters and vessels and/or plates that are used.

ℹ️ The swing-bucket rotor runs more smoothly if all buckets are loaded symmetrically and with the same weight.
- ▶ To reduce noise and vibrations, load the buckets of the swing-bucket rotor with the same weight.

2 Application
2.1 Performing a swing-out test

If you are using tubes or plates with the adapter for the first time, make sure that the buckets can swing freely.

1. Insert the tube or plate.
2. Swing the buckets manually up to 90°.
   - • Bucket swings freely.
   - • The tubes do not touch the rotor cross.

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2.2 Mixed loading with different adapters

Mixed loading of the S-4×Universal or S-4×Universal-Large rotors with different adapters is possible if the adapters are intended for the rotor.

▶ Always use adapters and tubes of the same type when loading opposite buckets.
▶ Load opposite buckets with the same weight (adapter, tubes, or plates and content).
▶ Set the radius for the correct *g-force*.

> 🛈 Information on the radius can be found on the adapter or in the operating manual of the centrifuge.

2.3 Centrifugation of polystyrene plates

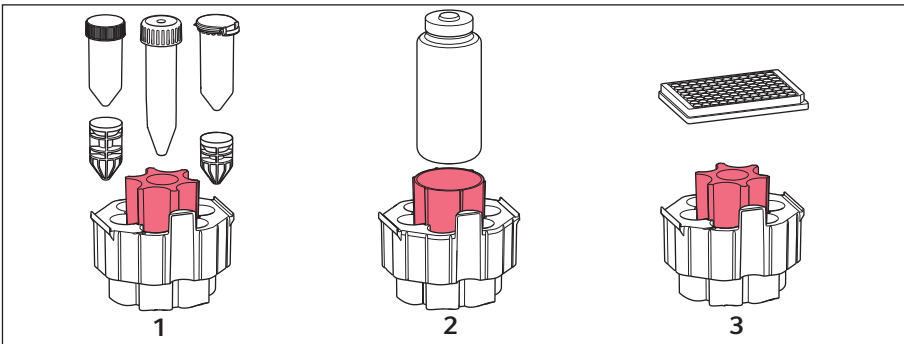Polystyrene plates (e.g., cell-culture plates or ELISA plates) are often clear.

▶ In the universal adapters polystyrene plates can only be centrifuged up to a max. of $1000 \times g$.
▶ If a higher *g*-force is required, perform a test run using a plate filled with water at the required rotational speed and centrifugation time.
▶ Note the manufacturer's information regarding the material and centrifugation stability.
▶ If in doubt, use the plate carrier.

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3 Product description
3.1 Adapter for conical 25 mL and 50 mL tubes, 250 mL bottles and microplates (color gray)

2 different inserts enable the use of conical 25 mL, 50 mL tubes or 250 mL bottles for centrifuging in the adapter.

🛈 The illustration shows the adapter for the S-4xUniversal rotor. The adapters for the S-4xUniversal and S-4xUniversal-Large rotors differ only in the number of bores.

3.1.1 Rotor S-4xUniversal for the Centrifuge 5910R and Centrifuge 5910Ri

No.	Tube/Plate	Quantity	Note
1	Conical 25 mL tubessnap cap	7	▸ Use the insert for conical tubes and the suitable adapter for conical 25 mL tubes.
	Conical 25 mL tubesscrew cap	7	
	Conical 50 mL tubesscrew cap	7	▸ Use the insert for conical tubes.
2	250 mL flat bottle	1	▸ Use the insert for bottles.
	175 mL – 225 mL conical bottle	1	▸ For conical bottles, use the insert for bottles and, in addition, the adapter provided by the manufacturer of the bottle.
3	Microplate 96/384	1	▸ To prevent any damage to the plate, use the insert for conical tubes. ▸ MTP cannot be centrifuged aerosol-tight.

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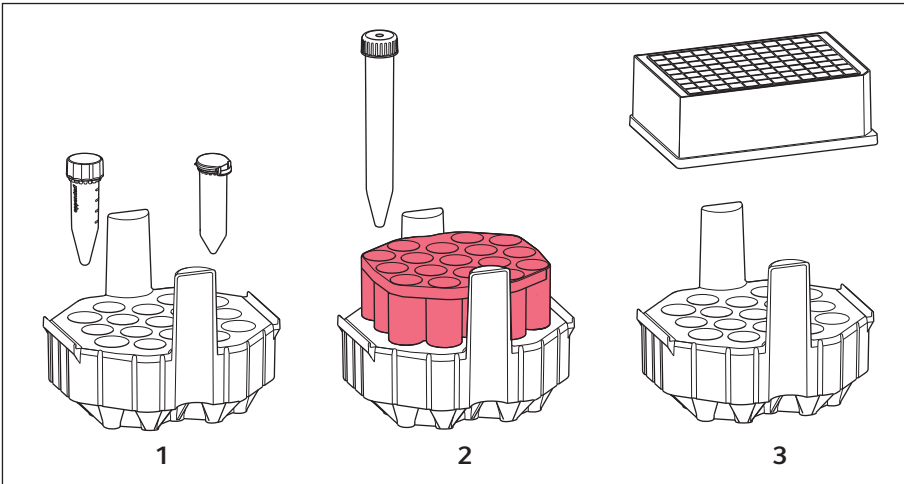**4** Adapter for S-4xUniversal and S-4×Universal-Large rotors
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3.1.2   Rotor S-4xUniversal-Large for the Centrifuge 5920R

No.	Tube/Plate	Quantity	Note
1	Conical 25 mL tubessnap cap	10	▶ Use the insert for conical tubes and the suitable adapter for conical 25 mL tubes.
	Conical 25 mL tubesscrew cap	10	
	Conical 50 mL tubesscrew cap	10	▶ Use the insert for conical tubes.
2	250 mL flat bottle	1	▶ Use the insert for bottles.
	175 mL – 225 mL conical bottle	1	▶ For conical bottles, use the insert for bottles and, in addition, the adapter provided by the manufacturer of the bottle.
3	Microplate 96/384	1	▶ To prevent any damage to the plate, use the insert for conical tubes.

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3.2 Adapter for Eppendorf Tubes 5 mL, conical 15 mL tubes and microplates/deepwell plates (color orange)

The illustration shows the adapter for the S-4xUniversal rotor. The adapters for the S-4xUniversal and S-4×Universal-Large rotors differ only in the number of bores.

1   2   3

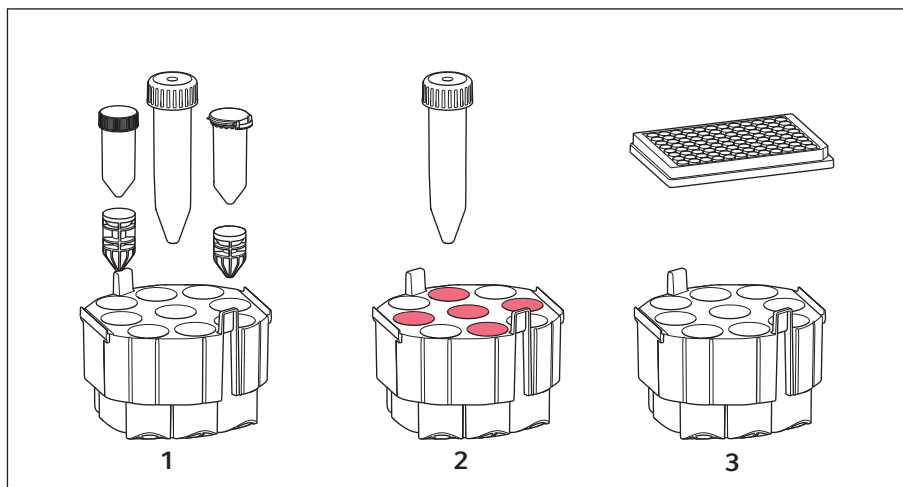### 3.2.1 Rotor S-4xUniversal for the Centrifuge 5910R and Centrifuge 5910Ri

No.	Tube/Plate	Quantity	Note
1	Eppendorf Tubes 5 mL snap cap and screw cap	17	▶ Only use the lower part of the adapter.
2	Conical 15 mL tubes	17	▶ Use the adapter with the upper part.
3	Microplate 96/384 Deepwell plate	1	▶ Only use the lower part of the adapter. ▶ DWP 96/1000 and DWP 96/2000 cannot be centrifuged aerosol-tight.

3.2.2 Rotor S-4xUniversal-Large for the Centrifuge 5920R

No.	Tube/Plate	Quantity	Note
1	Eppendorf Tubes 5 mL	24	▶ Only use the lower part of the adapter.
2	Conical 15 mL tubes	24	▶ Use the adapter with the upper part.
3	Microplate 96/384 Deepwell plate	1	▶ Only use the lower part of the adapter.

3.3 Adapter for conical 25 mL, 50 mL tubes and microplates (color blue)
3.3.1 Rotor S-4xUniversal for the Centrifuge 5910R and Centrifuge 5910Ri

No.	Tube/Plate	Quantity	Notes
1	Conical 25 mL tubes snap cap and screw cap	9	Use the adapter for conical 25 mL tubes.
	Conical 50 mL tubes	9	
2	Conical 50 mL tubes	5	▶ For centrifugation with an aerosol-tight cap, load the marked bores only.
3	Microplate 96/384	1	▶ MTP cannot be centrifuged aerosol-tight.

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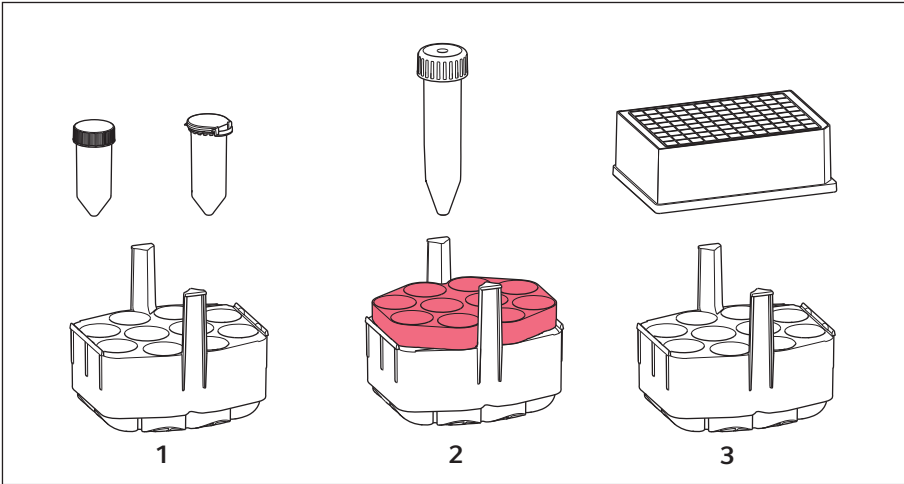### 3.3.2   Rotor S-4xUniversal-Large for the Centrifuge 5920R

No.	Tube/Plate	Quantity	Notes
1	Conical 25 mL tubes snap cap and screw cap	10	▶ Only use the lower part of the adapter.
2	Conical 50 mL tubes	10	▶ Use the adapter with the upper part.
3	Microplate 96/384 Deepwell plate	1	▶ Only use the lower part of the adapter.

🛈   You can find more technical data such as the rcf values and the radii of the adapters in the manual of the centrifuge.

4   Ordering information

Rotor S-4xUniversal for the Centrifuge 5910 R and Centrifuge 5910 Ri

Order no. (International)	Description
5910 751.001	**Adapter** for 25/50 mL conical tubes, 175-250 mL bottles and plates, for S-4xUniversal rotor set with 2 pieces
5910 769.008	**Adapter** for 25/50 mL conical tubes and plates, for S-4xUniversal rotor set with 2 pieces

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Order no. (International)	Description
5910 752.008	**Adapter** for 5/15 mL conical tubes and plates, for S-4xUniversal rotor set with 2 pieces

Rotor S-4xUniversal-Large for the Centrifuge 5920 R

Order no. (International)	Description
5920 755.005	**Adapter** for 25/50 mL conical tubes, 175-250 mL bottles and plates, for rotor S-4xUniversal-Large set with 2 pieces
5920 756.001	**Adapter** for 25/50 mL conical tubes and plates, for rotor S-4xUniversal-Large set with 2 pieces
5920 757.008	**Adapter** for 5/15 mL conical tubes and plates, for rotor S-4xUniversal-Large set with 2 pieces

Adapter for Eppendorf Conical Tubes 25 mL

Order no. (International)	Description
5820 733.004	**Adapter** for Eppendorf Conical Tubes 25 mL with snap cap, for centrifuges with rotors for conical 50 mL tubes set of 6 pieces
5820 734.000	**Adapter** for Eppendorf Conical Tubes 25 mL with screw cap, for centrifuges with rotors for conical 50 mL tubes set of 6 pieces