

# Eppendorf Certificate

## Certificate of Quality

**Eppendorf® Centrifuges MiniSpin®, 5415 D, 5415 R, 5417 R, 5418, 5418 R, 5424, 5424 R, 5427 R, 5430, 5430 R, 5702, 5702 R, 5702 RH, 5804, 5804 R, 5810, and 5810 R**

Eppendorf Centrifuges are tested in accordance with current manufacturing specifications and safety requirements.

Testing with respect to compliance within the defined limitations and tolerances includes assessment of

- rotational speed,
- run time,
- cooling performance, if applicable,

For Operational Qualification by certified service personnel, documentation including the defined limitations and tolerances is available and can be provided upon request.

The Eppendorf Quality Management System is certified in accordance with the international standards ISO 9001 and ISO 13485.

Hamburg, October 2012



Björn Arnold  
Product Manager



Dr. Birgit Schreiber  
Vice President  
Quality Management & Regulatory Affairs

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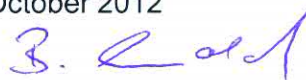
## Certificate of Quality - Addendum

**Eppendorf® Centrifuges MiniSpin®, 5415 D, 5415 R, 5417 R, 5418, 5418 R, 5424, 5424 R, 5427 R, 5430, 5430 R, 5702, 5702 R, 5702 RH, 5804, 5804 R, 5810, and 5810 R**

Limitations and tolerances

Eppendorf® Centrifuge	Rotor	Rotational Speed	Temperature	Run Time
MiniSpin®	F-45-12-11	13 400 rpm $\pm$ 402 rpm	$\Delta T \leq 14$ K	300 s $\pm$ 2 s
MiniSpin® plus	F-45-12-11	14 500 rpm $\pm$ 435 rpm	$\Delta T \leq 14$ K	300 s $\pm$ 2 s
5415 D	F-45-24-11	13 200 rpm $\pm$ 100 rpm	$\Delta T \leq 12$ K	300 s $\pm$ 2 s
5415 R	F-45-24-11	13 200 rpm $\pm$ 100 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5418	FA-45-18-11	14 000 rpm $\pm$ 100 rpm	$\Delta T \leq 12$ K	300 s $\pm$ 2 s
5418 R	FA-45-18-11	14 000 rpm $\pm$ 100 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5424 (100 V / 230 V)	FA-45-24-11	14 680 rpm $\pm$ 100 rpm	$\Delta T \leq 18$ K	300 s $\pm$ 2 s
5424 (120 V)	FA-45-24-11	15 000 rpm $\pm$ 100 rpm	$\Delta T \leq 18$ K	300 s $\pm$ 2 s
5424 R	FA-45-24-11	14 680 rpm $\pm$ 100 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5417 R	F-45-30-11	14 000 rpm $\pm$ 100 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5427 R	F-45-48-11	14 000 rpm $\pm$ 50 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5427 R	F-45-30-11	14 000 rpm $\pm$ 50 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5430	FA-45-30-11	14 000 rpm $\pm$ 100 rpm	$\Delta T \leq 14$ K	300 s $\pm$ 2 s
5430 R	FA-45-30-11	14 000 rpm $\pm$ 100 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5702	F-35-30-17	4 400 rpm $\pm$ 44 rpm	$\Delta T \leq 12$ K	300 s $\pm$ 2 s
5702	A-4-38	4 400 rpm $\pm$ 44 rpm	$\Delta T \leq 9$ K	300 s $\pm$ 2 s
5702 R	F-35-30-17	4 400 rpm $\pm$ 44 rpm	6 °C $\pm$ 2 °C @ 4 400 rpm	300 s $\pm$ 2 s
5702 R	A-4-38	4 400 rpm $\pm$ 44 rpm	6 °C $\pm$ 2 °C @ 4 400 rpm	300 s $\pm$ 2 s
5702 RH	F-35-30-17	4 400 rpm $\pm$ 44 rpm	6 °C $\pm$ 2 °C @ 4 400 rpm, 37 °C $\pm$ 2 °C @ 2 200 rpm	300 s $\pm$ 2 s
5702 RH	A-4-38	4 400 rpm $\pm$ 44 rpm	6 °C $\pm$ 2 °C @ 4 400 rpm, 37 °C $\pm$ 2 °C @ 2 200 rpm	300 s $\pm$ 2 s
5804	A-4-44	5 000 rpm $\pm$ 50 rpm	$\Delta T \leq 13$ K	300 s $\pm$ 2 s
5804 R	A-4-44	5 000 rpm $\pm$ 50 rpm	7 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5810	A-4-62	4 000 rpm $\pm$ 40 rpm	$\Delta T \leq 13$ K	300 s $\pm$ 2 s
5810 R	A-4-62	4 000 rpm $\pm$ 40 rpm	6 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5810	F-34-6-38	12 000 rpm $\pm$ 40 rpm	$\Delta T \leq 16$ K	300 s $\pm$ 2 s
5810 R	F-34-6-38	12 000 rpm $\pm$ 40 rpm	13 °C $\pm$ 2 °C	300 s $\pm$ 2 s
5810	A-4-81	4 000 rpm $\pm$ 40 rpm	$\Delta T \leq 13$ K	300 s $\pm$ 2 s
5810 R	A-4-81	4 000 rpm $\pm$ 40 rpm	8 °C $\pm$ 2 °C	300 s $\pm$ 2 s

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