

MICROLITRE CENTRIFUGES

— MIKRO 220 | 220 R

FAST AND FLEXIBLE

The MIKRO 220 spins at an unmatched speed of 18,000 RPM and delivers an RCF of 31,514 in just 26 seconds. Ultimate flexibility is provided by a choice of 7 different rotors from 0.2 ml micro-liter tubes to 50 ml conical tubes, allowing for numerous research applications on a single machine.

This unit is available with refrigeration and a temperature range from -20 °C to +40 °C (MIKRO 220 R).



— HIGHLIGHTS

- RPM: 500 - 18,000 min⁻¹
Adjustable in increments of 10
- max. RCF: 31,514
- max. capacity: 60 x 2.0 ml
- Compact, high-performance microlitre centrifuge
- Choice of 8 rotors
- IVD-conform according to directive 98/79/EC
- impulse key for short cycle mode
- easy operation with keypad and control knob
- impulse key for short cycle mode
- 9 program memories for more individuality
- 9 individual acceleration and deceleration stages
- model 220 R coolable from -20 to +40 °C with pre-cooling function

— FEATURES

- metal housing and lid
- viewing port in the lid
- powered lid lock
- lid dropping protection
- emergency lid lock release
- stainless steel chamber
- automatic rotor recognition
- brushless drive
- error display
- imbalance switch-off
- backlit panel with actual values of all parameters
- auditory message after completion of the centrifugation run

TECHNICAL DATA

| | MIKRO 220 non-refrigerated | MIKRO 220 R refrigerated |
|---|--|--|
| voltage *) | 200 – 240 V 1 ~ | 200 – 240 V 1 ~ |
| frequency | 50 – 60 Hz | 50 Hz |
| consumption | 510 VA | 850 VA |
| emission, immunity | EN/IEC 61326-1, class B | EN/IEC 61326-1, class B |
| max. capacity | 48 x 1.5 / 2.0 ml, 6 x 50 ml | 48 x 1.5 / 2.0 ml, 6 x 50 ml |
| max. RPM | 18,000 min ⁻¹ | 18,000 min ⁻¹ |
| max. RCF | 31,514 | 31,514 |
| running time | 1 sec – 99 min, ∞ continuous run, short cycle mode (impulse button) | 1 sec – 99 min, ∞ continuous run, short cycle mode (impulse button) |
| dimensions (WxDxH) | 330x420x313 mm | 330x650x313 mm |
| weight | approx. 21 kg | approx. 42 kg |
| noise level | 59 dB (A) with rotor 1158-L | 60 dB (A) with rotor 1158-L |
| temperatur control, infinitely variable | - | from -20 to +40 °C |
| Cat. No. | 2200 | 2205 |
| 100 – 127 V 1 ~ / 50–60 Hz | 2200-01 | 2205-01 |
| consumption | 510 VA | 950 VA |
| emission, immunity | FCC class B | FCC class B |








*) Other voltages on request.

AVAILABLE ROTORS

SWING-OUT ROTORS

| | angle | max. RPM | max. capacity | Cat. No. | page |
|---|-------|--------------------------|---------------|---------------|------|
|  Swing-out rotor, 24-place | 90° | 13,000 min ⁻¹ | 24 x 2 ml | 1154-L | 4 |

ANGLE ROTOR

| | | | | | |
|---|-----|--------------------------|----------------|---------------|---|
|  Angle rotor, 24-place | 45° | 18,000 min ⁻¹ | 24 x 2 ml | 1195-A | 3 |
|  Angle rotor, 30-place | 45° | 14,000 min ⁻¹ | 30 x 2 ml | 1189-A | 3 |
|  Angle rotor, 48-place | 45° | 14,000 min ⁻¹ | 48 x 2 ml | 1158-L | 4 |
|  Angle rotor, 6-place | 45° | 6,000 min ⁻¹ | 6 x 50 ml | 1016 | 5 |
|  Drum rotor, 6-place | 90° | 13,000 min ⁻¹ | 60 x 2 ml | 1161 | 5 |
|  Angle rotor, 12-place | 35° | 6,000 min ⁻¹ | 12 x 15 ml | 1015 | 6 |
|  Angle rotor, 6-place | 45° | 14,000 min ⁻¹ | 6 x PCR-strips | 1160 | 6 |

— ANGLE ROTOR, 24-PLACE | 1195-A



| | |
|----------------------------------|-----------------------------------|
| Rotor | |
| max. RPM max. RCF | 18,000 min ⁻¹ 31,514 |
| max. capacity | 24 x 2 ml |
| run-up run-down, braked in sec | 26 23 |
| angle | 45° |
| temperature in °C ¹⁾ | +3 |
| Cat. No. | 1195-A |



| | |
|----------------------------------|------------------|
| Lid bioseal ⁵⁾ | |
| Cat. No. | INCLUSIVE |



| | | | | | | | |
|------------------------|-------------------------|--------|--------|--------|---------|---------|------------------|
| Vessels | | | | | | | |
| capacity in ml | 0.2 | 0.4 | 0.5 | 0.8 | 1.5 | 2.0 | 0.5 |
| Ø x L in mm | 6 x 18 | 6 x 45 | 8 x 30 | 8 x 45 | 11 x 38 | 11 x 38 | 10,7 x 36 |
| max. RCF ²⁾ | 31,514 | 31,514 | 31,514 | 31,514 | 31,514 | 31,514 | 31,514 |
| radius in mm | 87 | 87 | 87 | 87 | 87 | 87 | 83 |
| Cat. No. | microliter tubes | | | | | | Pediatric |



| | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|--------------------------|-------------|
| Adapter | | | | | | |
| boring Ø x L in mm | 6 x 40 | 6 x 40 | 8 x 40 | 8 x 40 | - | 11,2x40,8 |
| vessels per rotor | 24 | 24 | 24 | 24 | 24 | 12 |
| Cat. No. | 2024 | 2024 | 2023 | 2023 | 2031⁷⁾ | - |
| | | | | | | 0788 |

— ANGLE ROTOR, 30-PLACE | 1189-A



| | |
|----------------------------------|-----------------------------------|
| Rotor | |
| max. RPM max. RCF | 14,000 min ⁻¹ 21,255 |
| max. capacity | 30 x 2 ml |
| run-up run-down, braked in sec | 20 22 |
| angle max. noise level | 45° 58 dB (A) |
| temperature in °C ¹⁾ | +3 |
| Cat. No. | 1189-A |



| | |
|----------------------------------|------------------|
| Lid bioseal ⁵⁾ | |
| Cat. No. | INCLUSIVE |



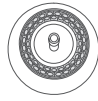
| | | | | | | | |
|------------------------|-------------------------|--------|--------|--------|---------|---------|------------------|
| Vessels | | | | | | | |
| capacity in ml | 0.2 | 0.4 | 0.5 | 0.8 | 1.5 | 2.0 | 0.5 |
| Ø x L in mm | 6 x 18 | 6 x 45 | 8 x 30 | 8 x 45 | 11 x 38 | 11 x 38 | 10,7 x 36 |
| max. RCF ²⁾ | 21,255 | 21,255 | 21,255 | 21,255 | 21,255 | 21,255 | 21,255 |
| radius in mm | 97 | 97 | 97 | 97 | 97 | 97 | 93 |
| Cat. No. | microliter tubes | | | | | | Pediatric |



| | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|--------------------------|-------------|
| Adapter | | | | | | |
| boring Ø x L in mm | 6 x 40 | 6 x 40 | 8 x 40 | 8 x 40 | - | 11,2x40,9 |
| vessels per rotor | 30 | 30 | 30 | 30 | 30 | 15 |
| Cat. No. | 2024 | 2024 | 2023 | 2023 | 2031⁷⁾ | - |
| | | | | | | 0788 |

- 1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
- 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.
- 7) For centrifugation at high speeds, we recommend to use conical, phenol-resistant adapters. Cat. No. 2031.

— ANGLE ROTOR, 48-PLACE | 1158-L



| | |
|----------------------------------|--------------------------------|
| Rotor | |
| max. RPM | 14,000 min ⁻¹ |
| max. RCF | 21,255 outside / 18,845 inside |
| max. capacity | 48 x 2 ml |
| run-up run-down, braked in sec | 21 22 |
| angle max. noise level | 45° 59 dB (A) |
| temperature in °C ¹⁾ | -4 |
| Cat. No. | 1158-L |



| | |
|----------------------------------|------------------|
| Lid bioseal ⁵⁾ | INCLUSIVE |
| Cat. No. | |



| | | | | | | | |
|------------------------|------------------|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Vessels | | | | | | | |
| capacity in ml | | 0.2 | 0.4 | 0.5 | 0.8 | 1.5 | 2.0 |
| Ø x L in mm | | 6 x 18 | 6 x 45 | 8 x 30 | 8 x 45 | 11 x 38 | 11 x 38 |
| max. RCF ²⁾ | outside / inside | 21,255 / 18,845 | 21,255 / 18,845 | 21,255 / 18,845 | 21,255 / 18,845 | 21,255 / 18,845 | 21,255 / 18,845 |
| radius in mm | outside / inside | 97 / 86 | 97 / 86 | 97 / 86 | 97 / 86 | 97 / 86 | 97 / 86 |
| Cat. No. | | microliter tubes | | | | | |



| | | | | | | | |
|--------------------|--|-------------|-------------|-------------|-------------|--------------------------|-----------|
| Adapter | | | | | | | |
| boring Ø x L in mm | | 6 x 40 | 6 x 40 | 8 x 40 | 8 x 40 | 10.2 x 19 | 11.4 x 39 |
| vessels per rotor | | 48 | 48 | 48 | 48 | 48 | 48 |
| Cat. No. | | 2024 | 2024 | 2023 | 2023 | 2031⁷⁾ | - |

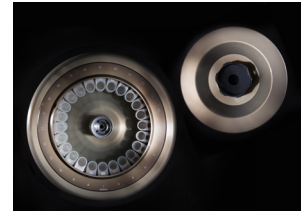
— SWING-OUT ROTOR, 24-PLACE | 1154-L



| | |
|----------------------------------|-----------------------------------|
| Rotor | |
| max. RPM max. RCF | 13,000 min ⁻¹ 18,516 |
| max. capacity | 24 x 2 ml |
| run-up run-down, braked in sec | 25 26 |
| angle max. noise level | 90° 60 dB (A) |
| temperature in °C ¹⁾ | +1 |
| Cat. No. | 1154-L |



| | |
|----------------------------------|------------------|
| Lid bioseal ⁵⁾ | INCLUSIVE |
| Cat. No. | |



| | | | | | | | |
|------------------------|--|-------------------------|--------|--------|--------|---------|---------|
| Vessels | | | | | | | |
| capacity in ml | | 0.2 | 0.4 | 0.5 | 0.8 | 1.5 | 2.0 |
| Ø x L in mm | | 6 x 18 | 6 x 45 | 8 x 30 | 8 x 45 | 11 x 38 | 11 x 38 |
| max. RCF ²⁾ | | 18,516 | 18,516 | 18,516 | 18,516 | 18,516 | 18,516 |
| radius in mm | | 98 | 98 | 98 | 98 | 98 | 98 |
| Cat. No. | | microliter tubes | | | | | |



| | | | | | | |
|--------------------|--|-------------|-------------|-------------|-------------|--------------------------|
| Adapter | | | | | | |
| boring Ø x L in mm | | 6 x 40 | 6 x 40 | 8 x 40 | 8 x 40 | 11.5 x 38.5 |
| vessels per rotor | | 24 | 24 | 24 | 24 | 24 |
| Cat. No. | | 2024 | 2024 | 2023 | 2023 | 2031⁷⁾ |

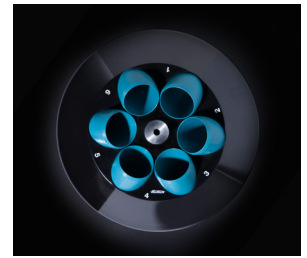
- 1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
- 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.
- 7) For centrifugation at high speeds, we recommend to use conical, phenol-resistant adapters. Cat. No. 2031.

— ANGLE ROTOR, 6-PLACE | 1016



Rotor

| | |
|----------------------------------|---------------------------------|
| max. RPM max. RCF | 6,000 min ⁻¹ 4,025 |
| max. capacity | 6 x 50 ml |
| run-up run-down, braked in sec | 14 17 |
| angle max. noise level | 35° 59 dB (A) |
| temperature in °C ¹⁾ | -20 |
| Cat. No. | 1016 |



Vessels

| | | | | | | | | | | | | | |
|------------------------|---------------------|--------|--------|--------|--------------------------------|--------|---------|----------|-------|----------------------|--------|-------|--------|
| capacity in ml | 7 | 15 | 25 | 50 | 9-10 | 10 | 1,6-5 | 4-7 | 5 | 15 | 50 | 30 | 50 |
| Ø x L in mm | 12x100 | 17x100 | 24x100 | 34x100 | 16x92 | 15x102 | 13 x 75 | 13 x 100 | 17x59 | 17x120 | 29x115 | 26x95 | 29x107 |
| max. RCF ²⁾ | 3,944 | 3,783 | 3,703 | 4,025 | 3,783 | 3,783 | 2,978 | 3,783 | 3,622 | 3,824 | 3,824 | 3,703 | 3,904 |
| radius in mm | 98 | 94 | 92 | 100 | 94 | 94 | 74 | 94 | 90 | 95 | 95 | 92 | 97 |
| Cat. No. | tubes ³⁾ | | | | blood collection / urine tubes | | | | - | tubes with screw cap | | | |



Adapter

| | | | | | | | | | | | | | |
|--------------------|-------------|-------------|-------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| boring Ø x L in mm | 13 x 92 | 17.5 x 95 | 26 x 88 | 35x96 | 17.5x95 | 17x51 | 17.5 x 95 | 17.5 x 95 | 17x51 | 17x98 | 30x98 | 26x88 | 29x95 |
| vessels per rotor | 18 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 |
| Cat. No. | 1632 | 1635 | 1633 | - | 1635 | 1635 | 1635 | 1635 | 1649 | 1631 | 1641 | 1633 | 1634 |

— DRUM ROTOR, 6-PLACE | 1161



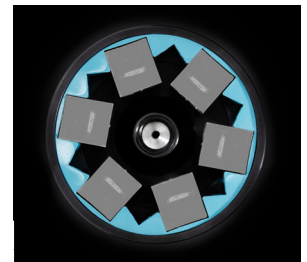
Rotor

| | |
|----------------------------------|-----------------------------------|
| max. RPM max. RCF | 13,000 min ⁻¹ 14,171 |
| max. capacity | 60 x 2 ml |
| run-up run-down, braked in sec | 17 18 |
| angle max. noise level | 90° 60 dB (A) |
| temperature in °C ¹⁾ | -3 |
| Cat. No. | 1161 |



Lid

| | |
|-----------------|------------------|
| Cat. No. | INCLUSIVE |
|-----------------|------------------|



Vessels

| | | | | | | |
|------------------------|------------------|--------|--------|--------|--------|--------|
| capacity in ml | 0.2 | 0.4 | 0.5 | 0.8 | 1.5 | 2.0 |
| Ø x L in mm | 6x18 | 6 x 45 | 8 x 30 | 8x45 | 11x38 | 11x38 |
| max. RCF ²⁾ | 14,171 | 14,171 | 14,171 | 14,171 | 14,171 | 14,171 |
| radius in mm | 75 | 75 | 75 | 75 | 75 | 75 |
| Cat. No. | microliter tubes | | | | | |

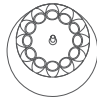


Adapter

| | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| boring Ø x L in mm | 6 x 40 | 6 x 40 | 8.4 x 43 | 8.4 x 43 | 10.8x37 | 10.8x37 |
| vessels per rotor | 192 | 192 | 126 | 126 | 60 | 60 |
| Cat. No. | 1378 | 1378 | 1379 | 1379 | 1377 | 1377 |

- 1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
- 2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.
- 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.
- 7) For centrifugation at high speeds, we recommend to use conical, phenol-resistant adapters. Cat. No. 2031.

— ANGLE ROTOR, 12-PLACE | 1015



Rotor

| | |
|----------------------------------|---------------------------------|
| max. RPM max. RCF | 6,000 min ⁻¹ 4,146 |
| max. capacity | 12 x 15 ml |
| run-up run-down, braked in sec | 14 16 |
| angle max. noise level | 35° 60 dB (A) |
| temperature in °C ¹⁾ | -20 |
| Cat. No. | 1015 |

Vessels

| | | | | | | | | | | | | | | | |
|------------------------|---------------------------|--------|---------------------------------------|---------|-------|-------|-------|---------|-------|--------|-------|--------|----------|----------|--------|
| capacity in ml | 5 | 15 | 1.1–1.4 | 2.6–3.4 | 2.7–3 | 4.5–5 | 4.9 | 7.5–8.5 | 9–10 | 10 | 1.6–5 | 4–7 | 8.5–10 | 5 | 15 |
| Ø x L in mm | 12x75 | 17x100 | 8x66 | 13x65 | 11x66 | 11x92 | 13x90 | 15x92 | 16x92 | 15x102 | 13x75 | 13x100 | 16x100 | 17x59 | 17x120 |
| max. RCF ²⁾ | 3,300 | 4,146 | 3,300 | 3,300 | 3,300 | 4,146 | 4,146 | 4,146 | 4,146 | 4,146 | 3,300 | 4,146 | 4,146 | 3,180 | 4,146 |
| radius in mm | 82 | 103 | 82 | 82 | 82 | 103 | 103 | 103 | 103 | 103 | 82 | 103 | 103 | 79 | 103 |
| Cat. No. | tubes²⁾ | | blood collection / urine tubes | | | | | | | | | | - | - | |



Adapter

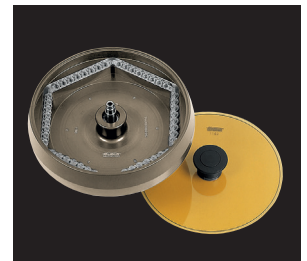
| | | | | | | | | | | | | | | | |
|--------------------|---------------|-----------|---------------|---------------|---------------|-----------|-----------|-----------|-----------|-----------|---------------|-------------|-----------|-------------|-----------|
| boring Ø x L in mm | 13.5 x 60 | 17.7 x 88 | 13.5 x 60 | 13.5 x 60 | 13.5 x 60 | 17.7 x 88 | 17.7 x 88 | 17.7 x 88 | 17.7 x 88 | 17.7 x 88 | 13.5 x 60 | 13.5 x 79 | 17.7 x 88 | 17 x 25 | 17.7 x 88 |
| vessels per rotor | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 6 |
| Cat. No. | 1054-A | - | 1054-A | 1054-A | 1054-A | - | - | - | - | - | 1054-A | 1058 | - | 1064 | - |

— ANGLE ROTOR, 6-PLACE | 1160



Rotor

| | |
|----------------------------------|-----------------------------------|
| max. RPM max. RCF | 14,000 min ⁻¹ 18,845 |
| max. capacity | 6 x 8 PCR strips |
| run up run down, braked in sec | 20 22 |
| angle | 45° |
| temperature in °C ¹⁾ | -4 |
| Cat. No. | 1160 |



Vessels

| | | |
|------------------------|----------|-------------------|
| capacity in ml | 0.2 | 0.2 |
| Ø x L in mm | 6x18 | - |
| max. RCF ²⁾ | 18,845 | 18,845 |
| radius in mm | 86 | 86 |
| Cat. No. | - | PCR strips |



Adapter

| | | |
|--------------------|------------|------------|
| boring Ø x L in mm | 6.5 x 15.5 | 6.5 x 15.5 |
| vessels per rotor | 48 | 6 x 8 |
| Cat. No. | - | - |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.

2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.

CERTIFICATIONS / REGISTRATIONS

Product certification:



Product registration:



Company certifications:

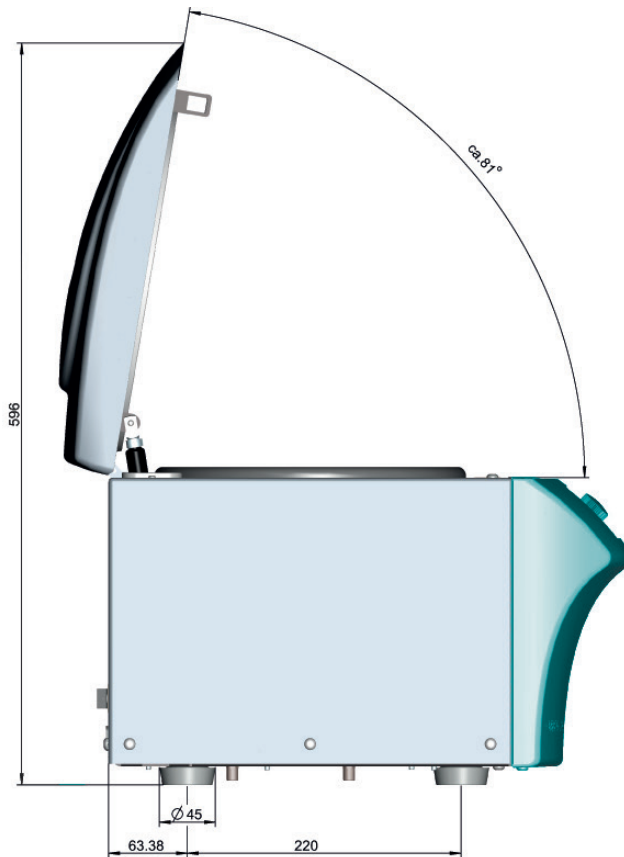


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DIMENSIONS – MIKRO 220



— DIMENSIONS – MIKRO 220 R

