

## 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<sup>-1</sup>  
Adjustable in increments of 10
- max. RCF: 31,514
- max. capacity: 60 x 2.0 ml
- Compact, high-performance microlitre centrifuge
- Choice of 7 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 <sup>-1</sup>	18,000 min <sup>-1</sup>
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
<b>Cat. No.</b>	<b>2200</b>	<b>2205</b>
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 <sup>-1</sup>	24 x 2 ml	<b>1154-L</b>	4

### ANGLE ROTOR

 Angle rotor, 24-place	45°	18,000 min <sup>-1</sup>	24 x 2 ml	<b>1195-A</b>	3
 Angle rotor, 30-place	45°	14,000 min <sup>-1</sup>	30 x 2 ml	<b>1189-A</b>	3
 Angle rotor, 48-place	45°	14,000 min <sup>-1</sup>	48 x 2 ml	<b>1158-L</b>	4
 Angle rotor, 6-place	45°	6,000 min <sup>-1</sup>	6 x 50 ml	<b>1016</b>	5
 Drum rotor, 6-place	90°	13,000 min <sup>-1</sup>	60 x 2 ml	<b>1161</b>	5
 Angle rotor, 12-place	35°	6,000 min <sup>-1</sup>	12 x 15 ml	<b>1015</b>	6

## — ANGLE ROTOR, 24-PLACE | 1195-A



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



<b>Lid bioseal</b> <sup>5)</sup>	
<b>Cat. No.</b>	<b>INCLUSIVE</b>



<b>Vessels</b>							
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 <sup>2)</sup>	31,514	31,514	31,514	31,514	31,514	31,514	31,514
radius in mm	87	87	87	87	87	87	83
<b>Cat. No.</b>	<b>microliter tubes</b>						<b>Pediatric</b>



<b>Adapter</b>						
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
<b>Cat. No.</b>	<b>2024</b>	<b>2024</b>	<b>2023</b>	<b>2023</b>	<b>2031<sup>7)</sup></b>	<b>-</b>
						<b>0788</b>

## — ANGLE ROTOR, 30-PLACE | 1189-A



<b>Rotor</b>	
max. RPM   max. RCF	14,000 min <sup>-1</sup>   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 <sup>1)</sup>	+3
<b>Cat. No.</b>	<b>1189-A</b>



<b>Lid bioseal</b> <sup>5)</sup>	
<b>Cat. No.</b>	<b>INCLUSIVE</b>



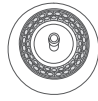
<b>Vessels</b>							
capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	0.5
Ø x L in mm	6 x 18	6 x 45	8 x 30	8 x 45	11 x 38	11 x 38	10,7 x 36
max. RCF <sup>2)</sup>	21,255	21,255	21,255	21,255	21,255	21,255	21,255
radius in mm	97	97	97	97	97	97	93
<b>Cat. No.</b>	<b>microliter tubes</b>						<b>Pediatric</b>



<b>Adapter</b>						
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
<b>Cat. No.</b>	<b>2024</b>	<b>2024</b>	<b>2023</b>	<b>2023</b>	<b>2031<sup>7)</sup></b>	<b>-</b>
						<b>0788</b>

- 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



<b>Rotor</b>	
max. RPM	14,000 min <sup>-1</sup>
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 <sup>1)</sup>	-4
<b>Cat. No.</b>	<b>1158-L</b>



<b>Lid bioseal</b> <sup>5)</sup>	<b>INCLUSIVE</b>
<b>Cat. No.</b>	



<b>Vessels</b>	
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 <sup>2)</sup>	outside / inside    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
<b>Cat. No.</b>	<b>microliter tubes</b>



<b>Adapter</b>	
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
<b>Cat. No.</b>	<b>2024    2024    2023    2023    2031<sup>7)</sup>    -</b>

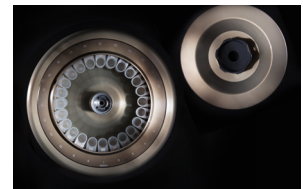
## — SWING-OUT ROTOR, 24-PLACE | 1154-L



<b>Rotor</b>	
max. RPM   max. RCF	13,000 min <sup>-1</sup>   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 <sup>1)</sup>	+1
<b>Cat. No.</b>	<b>1154-L</b>



<b>Lid bioseal</b> <sup>5)</sup>	<b>INCLUSIVE</b>
<b>Cat. No.</b>	



<b>Vessels</b>	
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 <sup>2)</sup>	18,516    18,516    18,516    18,516    18,516    18,516
radius in mm	98    98    98    98    98    98
<b>Cat. No.</b>	<b>microliter tubes</b>



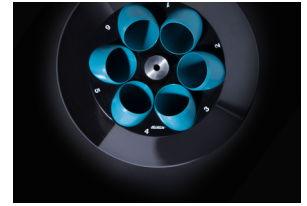
<b>Adapter</b>	
boring Ø x L in mm	6 x 40    6 x 40    8 x 40    8 x 40    -    11.5 x 38.5
vessels per rotor	24    24    24    24    24    24
<b>Cat. No.</b>	<b>2024    2024    2023    2023    2031<sup>7)</sup>    -</b>

- 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



<b>Rotor</b>	
max. RPM   max. RCF	6,000 min <sup>-1</sup>   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 <sup>1)</sup>	-20
<b>Cat. No.</b>	<b>1016</b>



<b>Vessels</b>														
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 <sup>2)</sup>		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
<b>Cat. No.</b>		<b>tubes<sup>3)</sup></b>				<b>blood collection / urine tubes</b>				<b>-</b>	<b>tubes with screw cap</b>			

<b>Adapter</b>														
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
<b>Cat. No.</b>		<b>1632</b>	<b>1635</b>	<b>1633</b>	<b>-</b>	<b>1635</b>	<b>1635</b>	<b>1635</b>	<b>1635</b>	<b>1649</b>	<b>1631</b>	<b>1641</b>	<b>1633</b>	<b>1634</b>

## — DRUM ROTOR, 6-PLACE | 1161



<b>Rotor</b>	
max. RPM   max. RCF	13,000 min <sup>-1</sup>   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 <sup>1)</sup>	-3
<b>Cat. No.</b>	<b>1161</b>

<b>Lid</b>	<b>Cat. No.</b>	<b>INCLUSIVE</b>
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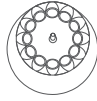


<b>Vessels</b>							
capacity in ml		0.2	0.4	0.5	0.8	1.5	2.0
Ø x L in mm		6x18	6 x 45	8 x 30	8x45	11x38	11x38
max. RCF <sup>2)</sup>		14,171	14,171	14,171	14,171	14,171	14,171
radius in mm		75	75	75	75	75	75
<b>Cat. No.</b>		<b>microliter tubes</b>					

<b>Adapter</b>							
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
<b>Cat. No.</b>		<b>1378</b>	<b>1378</b>	<b>1379</b>	<b>1379</b>	<b>1377</b>	<b>1377</b>

- 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 <sup>-1</sup>   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 <sup>1)</sup>	-20
<b>Cat. No.</b>	<b>1015</b>

### 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 <sup>2)</sup>	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
<b>Cat. No.</b>	<b>tubes<sup>2)</sup></b>	<b>blood collection / urine tubes</b>												<b>-</b>	<b>-</b>



### 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
<b>Cat. No.</b>	<b>1054-A</b>	<b>-</b>	<b>1054-A</b>	<b>1054-A</b>	<b>1054-A</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1054-A</b>	<b>1058</b>	<b>-</b>	<b>1064</b>	<b>-</b>

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:



## DOWNLOADS

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## DIMENSIONS – MIKRO 220

