

# MIKRO 220/220 R

## Microlitre centrifuges

Versatile: Microlitre and more



# MIKRO 220 / 220 R



**View into the centrifuging chamber**  
showing the 1158-L angle rotor

## HIGHLY IMPRESSIVE SAMPLE PREPARATION IN THE SHORTEST POSSIBLE TIME

The MIKRO 220 makes lab work much less stressful, not just because it is quiet in operation, but also because it prevents bottlenecks from developing before centrifugation runs. This model can achieve an RCF of 31,514 in just 26 seconds when holding 24 reaction tubes. Such high centrifugation speeds can reduce the time needed for centrifugation considerably.

Both models have been proven in use in the fields of genetic research, virology and bacteriology. In research labs they are used for the isolation of protein and RNA, and in clinical chemistry applications they are used in PCR laboratories for sample preparation.

### COMPREHENSIVE RANGE OF ACCESSORIES

A further plus point is the large range of rotors. The rotors can be easily changed and are automatically recognized by the centrifuge. The cooled MIKRO 220R can also hold two swing-out rotors for blood collection tubes and standard tubes.



**MIKRO 220**  
Microlitre centrifuge

**Cat. No. 2200**



**MIKRO 220R**  
Microlitre centrifuge with cooling

**Cat. No. 2205**

# MIKRO 220 / 220 R



## HIGH CAPACITY

The MIKRO 220 offers an extremely high capacity in the micro-litre range as it can hold up to 48 reaction tubes in an angle rotor and up to 60 tubes in a drum rotor. An angle rotor is available that can hold up to six 50 ml tubes.

## RELIABLE COOLING

The high cooling performance means that the desired sample temperature is reliably maintained, even when centrifuging samples at high speed.

## MAXIMUM SAFETY

The MIKRO 220/220R models contribute to safe working practices. Their robust metal construction and solid design ensure mechanical stability. The accessories with biocontainment (TÜV-tested in accordance with DIN EN 61010, Part 2-020) provide protection against dangerous aerosols.

## STURDY DESIGN

The centrifuge housing and lid with viewing port are made of metal and the centrifuging chamber is made of stainless steel.



## AT A GLANCE



### FIELDS OF APPLICATION

- **Research**  
Sample preparation for molecular biology procedures
- **Medical diagnostics**  
Sample preparation, for example in infection diagnostics
- **Education**  
Molecular biology practicals

### EASE OF OPERATION

- User-friendly design of operator panel and information display
- Parameters can be rapidly and easily set using the rotary knob
- Motorised lid locking
- Simple rotor change

### SAFETY

- Lid locking and holding
- Lid dropping protection
- Imbalance switch-off
- Accessories with biocontainment

### DESIGN

- Lid and housing of metal construction
- Centrifuging chamber of stainless steel
- Viewing port in the lid

### MAX. RCF

- 31.514

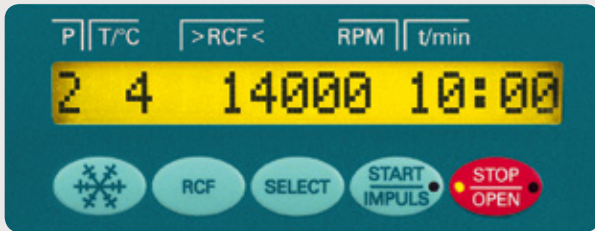
### MAX. CAPACITY

- 48x 1.5 / 2.0 ml tubes in angle rotor and 60 in drum rotor
- 6x 50 ml tubes

### OUR SERVICE

You will find information on Hettich partners in your country at [www.hettichlab.com](http://www.hettichlab.com)

# MIKRO 220 / 220 R



Operator panel of the cooled MIKRO 220 R

The N Plus control panel in the MIKRO 220 and 220 R ensures quick and easy operation. Parameters are selected using the “Select” key. The values are adjusted by turning the knob and saved by pressing the “Start/Impuls” button. The stored parameter combinations are retained after the centrifuge has been switched off.

The cooled MIKRO 220 R is equipped with a pre-cooling function (Fast Cool) and stand-by cooling. When the lid is closed, the stand-by cooling holds the set temperature. When the lid is opened, the cooling turns off automatically.

## SIMPLE OPERATION USING THE N-PLUS CONTROL SYSTEM

### KEYPAD

	Pre-cools the rotor chamber to the required temperature.
RCF	Switches from RPM to RCF display. Entry of the RCF in increments of 10. Input of rotor radius in mm in RCF mode.
SELECT	Guides the user through the menu options.
START IMPULS	Starts centrifugation/stores entries and changes. For short centrifugation steps.
STOP OPEN	Stops centrifugation manually. Opens the lid at standstill.

### ENTRY OF PARAMETERS

P	Entry of program number, with a choice of 10 programs.
T/°C	Entry of the temperature in increments of 1 °C from -20 °C to +40 °C (MIKRO 220 R).
RCF	Entry in increments of 10.
RPM	Entry in increments of 10.
RAD/mm	Entry of the rotor radius in mm
t/min	Entry of the centrifugation time (max. 99 min : 59 sec).
	Entry of the acceleration ramp 1-9 Entry of the braking ramp 1-9

# ACCESSORIES



## Angle rotor, 12-place



∠ 45°  
n = 18,000 min<sup>-1</sup>  
max. RCF 25,718

**Cat. No. 2218-A**

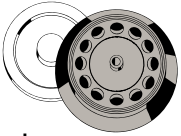










## Angle rotor, 24-place

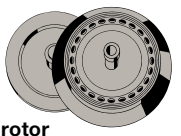












with bio-containment<sup>1)</sup>,  
phenol-resistant

∠ 45°  
n = 18,000 min<sup>-1</sup>  
max. RCF 31,514

**Cat. No. 1195-A**

capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	0.5
∅ x L in mm	6x18	6x45	8x30	8x45	11x38		10.7x36
Cat. No.	-				<b>2078</b>	<b>0536</b>	<b>Pediatric</b>
lid incl. 							
							
Cat. No.	<b>2024</b>		<b>2023</b>		<b>2031<sup>2)</sup></b>	-	<b>0788</b>
boring ∅ x L in mm	6x40		8x40		10.2x19	11.2x41	11.2x39
tubes per rotor	12						
max. RCF	25,718						24,270
radius in mm	71						67
run-up in sec	11						
run-down in sec, braked	10						
temperature in °C <sup>3)</sup>	-5						

capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	0.5
∅ x L in mm	6x18	6x45	8x30	8x45	11x38		10.7x36
Cat. No.	-				<b>2078</b>	<b>0536</b>	<b>Pediatric</b>
lid with bio-containment <sup>1)</sup> incl. 							
							
Cat. No.	<b>2024</b>		<b>2023</b>		<b>2031<sup>2)</sup></b>	-	<b>0788</b>
boring ∅ x L in mm	6x40		8x40		10.2x19	11.2x40.8	11.2x39
tubes per rotor	24						12
max. RCF	31,514						30,065
radius in mm	87						83
run-up in sec	26						
run-down in sec, braked	23						
temperature in °C <sup>3)</sup>	+3						

<sup>1)</sup> Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

<sup>2)</sup> For centrifugation at high speeds, we recommend to use form-fitting, phenol-resistant adapters 2031.

<sup>3)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.



# ACCESSORIES



## Angle rotor, 30-place



with bio-containment<sup>1)</sup>,  
phenol-resistant

∠ 45°  
n = 14,000 min<sup>-1</sup>  
max. RCF 21,255

**Cat. No. 1189-A**

## Angle rotor, 48-place, 2-row



with bio-containment<sup>1)</sup>,  
phenol-resistant

∠ 45°  
n = 14,000 min<sup>-1</sup>  
max. RCF outer 21,255/inner 18,845

**Cat. No. 1158-L**

capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	0.5
∅ x L in mm	6x18	6x45	8x30	8x45	11x38		10.7x36
<b>Cat. No.</b>	-				<b>2078</b>	<b>0536</b>	<b>Pediatric</b>
<b>lid with bio-containment<sup>1)</sup> incl.</b>							
<b>rotor Cat. No. 1189-A</b>							
<b>Cat. No.</b>	<b>2024</b>		<b>2023</b>		<b>2031<sup>2)</sup></b>		<b>-</b>
boring ∅ x L in mm	6x40		8x40		10.2x19		11.2x40.9
tubes per rotor	30						15
max. RCF	21,255						20,379
radius in mm	97						93
run-up in sec	20						
run-down in sec, braked	22						
temperature in °C <sup>3)</sup>	+3						

capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0
∅ x L in mm	6x18	6x45	8x30	8x45	11x38	
<b>Cat. No.</b>	-				<b>2078</b>	<b>0536</b>
<b>lid with bio-containment<sup>1)</sup> incl.</b>						
<b>rotor Cat. No. 1158-L</b>						
<b>Cat. No.</b>	<b>2024</b>		<b>2023</b>		<b>2031<sup>2)</sup></b>	
boring ∅ x L in mm	6x40		8x40		10.2x19	
tubes per rotor	48					
max. RCF outer/inner	21,255 / 18,845					
radius in mm outer/inner	97 / 86					
run-up in sec	21					
run-down in sec, braked	22					
temperature in °C <sup>3)</sup>	-4					

<sup>1)</sup> Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

<sup>2)</sup> For centrifugation at high speeds, we recommend to use form-fitting, phenol-resistant adapters 2031.

<sup>3)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

# ACCESSORIES



## Angle rotor, 20-place, for cryo tubes



∠ 40°  
n = 14,000 min<sup>-1</sup>  
max. RCF 18,407

**Cat. No. 2219-A**


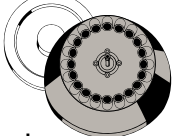
## Swing-out rotor, 24-place







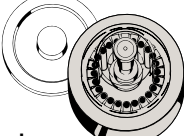


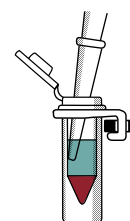
with bio-containment<sup>1)</sup>

∠ 90°  
n = 13,000 min<sup>-1</sup>  
max. RCF 18,516

**Cat. No. 1154-L**

capacity in ml	1.8
∅ x L in mm	-
<b>Cat. No.</b>	<b>cryo tubes</b>
lid <b>E3243</b> incl.	
<b>rotor</b> <b>Cat. No. 2219-A</b>	
<b>Cat. No.</b>	-
boring ∅ x L in mm	12.5 x 36
tubes per rotor	20
max. RCF	18,407
radius in mm	84
run-up in sec	21
run-down in sec, braked	21
temperature in °C <sup>3)</sup>	-9

capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0
∅ x L in mm	6 x 18	6 x 45	8 x 30	8 x 45	11 x 38	
<b>Cat. No.</b>	-				<b>2078</b>	<b>0536</b>
lid <b>2425</b> <sup>1)</sup> incl.						
<b>rotor</b> <b>Cat. No. 1154-L</b>						
<b>Cat. No.</b>	<b>2024</b>		<b>2023</b>		<b>2031</b> <sup>2)</sup>	-
boring ∅ x L in mm	6 x 40		8 x 40		10.2 x 19	11.5 x 38.5
tubes per rotor	24					
max. RCF	18,516					
radius in mm	98					
run-up in sec	25					
run-down in sec, braked	26					
temperature in °C <sup>3)</sup>	+1					



Centrifugation in the swing-out rotor makes the pellet collect exactly in the tip of the tubes. This facilitates analysis and further processing.

## lid optional for rotor 2219-A



with bio-containment<sup>1)</sup>,  
autoclavable

**Cat. No. 2425**

## lid optional for rotor 2219-A and 1154-L



with bio-containment<sup>1)</sup>,  
autoclavable  
und phenol-resistant

**Cat. No. 2423**

# ACCESSORIES



## Drum rotor, 6-place



n = 13,000 min<sup>-1</sup>  
max. RCF 14,171

**Cat. No. 1161**

## Angle rotor, 6-place, for PCR strips



lid 1162  
(optional)

∠ 45°  
n = 14,000 min<sup>-1</sup>  
max. RCF 18,845

**Cat. No. (without lid) 1160**

capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0
∅ x L in mm	6x18	6x45	8x30	8x45	11x38	
<b>Cat. No.</b>	-				<b>2078</b>	<b>0536</b>
lid incl.						
<b>rotor</b> <b>Cat. No. 1161</b>						
<b>Cat. No.</b>	<b>1378</b>		<b>1379</b>		<b>1377</b>	
boring ∅ x L in mm	6x40		8.4x43		10.8x37	
tubes per rotor	192		126		60	
max. RCF	14,171					
radius in mm	75					
run-up in sec	17					
run-down in sec, braked	18					
temperature in °C <sup>3)</sup>	-3					

capacity in ml	0.2	0.2
∅ x L in mm	6x18	-
<b>Cat. No.</b>	-	<b>PCR strips</b>
<b>rotor</b> <b>Cat. No. 1160</b>		
<b>Cat. No.</b>	-	
boring ∅ x L in mm	6.5x15.5	
tubes per rotor	48	6x8
max. RCF	18,845	
radius in mm	86	
run-up in sec	20	
run-down in sec, braked	22	
temperature in °C <sup>3)</sup>	-4	

<sup>1)</sup> Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

<sup>3)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

<sup>4)</sup> 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 <sup>4)</sup> is 4,000.



# ACCESSORIES
























## Angle rotor, 6-place



$\sphericalangle$  35°  
 $n = 6,000 \text{ min}^{-1}$   
 max. RCF 4,025

### Cat. No. 1016

capacity in ml	7	15	25	50	9–10	10	5	15	50	30	50	
Ø x L in mm	12x100	17x100	24x100	34x100	16x92	15x102	17x59	17x120	29x115	26x95	29x107	
<b>Cat. No.</b>	<b>0578<sup>4)</sup></b>	<b>0518<sup>4)</sup></b>	<b>0519<sup>4)</sup></b>	<b>0521<sup>4)</sup></b>	<b>blood / urine tubes</b>		-	<b>0509</b>	<b>0513</b>	<b>0545</b>	<b>0546</b>	
 <b>rotor</b> <b>Cat. No. 1016</b>												
				-								
<b>Cat. No.</b>	<b>1632</b>	<b>1635</b>	<b>1633</b>	-	<b>1635</b>		<b>1649</b>	<b>1631</b>	<b>1641</b>	<b>1633</b>	<b>1634</b>	
boring Ø x L in mm	13x92	17.5x95	26x88	35x96	17.5x95		17x51	17x98	30x98	26x88	29x95	
tubes per rotor	18	6							3	6		
max. RCF <sup>4)</sup>	3,944	3,783	3,703	4,025	3,783		3,622	3,824	3,824	3,703	3,904	
radius in mm	98	94	92	100	94		90	95	95	92	97	
run-up in sec	14											
run-down in sec, braked	17											
temperature in °C <sup>3)</sup>	-20											

# ACCESSORIES



## Angle rotor, 12-place



$\angle 35^\circ$   
 $n = 6,000 \text{ min}^{-1}$   
 max. RCF 4,146














Cat. No. 1015










## Hematocrit rotor, 24-place

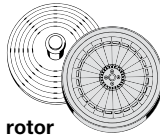



$n = 15,000 \text{ min}^{-1}$   
 max. RCF 21,382

Cat. No. 1023

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	
Ø x L in mm	12x75	17x100	8x66	13x65	11x66	11x92	13x90	15x92	16x92	15x102	
Cat. No.	0553 <sup>4)</sup>	0518 <sup>4)</sup>	blood collection / urine tubes								
 rotor Cat. No. 1015											
											
Cat. No.	1054-A	-	1054-A			-					
boring Ø x L in mm	13.5x60	17.7x88	13.5x60			17.7x88					
tubes per rotor	12										
max. RCF <sup>4)</sup>	3,300	4,146	3,300			4,146					
radius in mm	82	103	82			103					
run-up in sec	14										
run-down in sec, braked	16										
temperature in °C <sup>3)</sup>	-20										

capacity in ml	1.6–5	4–7	8.5–10	5	15
Ø x L in mm	13x75	13x100	16x100	17x59	17x120
Cat. No.	blood / urine tubes			-	0509
 rotor Cat. No. 1015					
					
Cat. No.	1054-A	1058	-	1064	-
boring Ø x L in mm	13.5x60	13.5x79	17.7x88	17x25	17.7x88
tubes per rotor	12				6
max. RCF <sup>4)</sup>	3,300	4,146	3,180		4,146
radius in mm	82	103	79		103
run-up in sec	14				
run-down in sec, braked	16				
temperature in °C <sup>3)</sup>	-20				

standard capillaries, heparinised	basic	self-sealing and mylar-coated
Cat. No.	2074	1071
lid as evaluation disk incl. 	 sealing putty	
rotor Cat. No. 1023	-	
Cat. No.	2077	-
boring Ø x L in mm	-	
capillaries pro rotor	24	
max. RCF	21,382	
radius in mm	85	
run-up in sec	11	
run-down in sec, braked	12	
temperature in °C <sup>3)</sup>	-11	

<sup>3)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

<sup>4)</sup> 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 <sup>4)</sup> is 4,000.

# ACCESSORIES



## ACCESSORIES FOR MIKRO 220R ONLY:

The rotors 2226 and 1020 can only be operated in the refrigerated MIKRO 220R.

### Swing-out rotor, 12-place



∠ 60°  
n = 5,000 min<sup>-1</sup>  
max. RCF 2,963

Cat. No. (without carriers) **2226**

### Swing-out rotor, 8-place



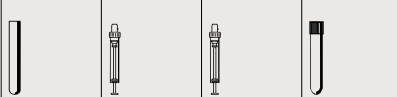
∠ 90°  
n = 5,000 min<sup>-1</sup>  
max. RCF 2,879

Cat. No. (without carriers) **1020**

capacity in ml	5	2.6–3.4	2.7–3	1.6–5
∅ x L in mm	12x75	13x65	11x66	13x75
<b>Cat. No.</b>	<b>0553<sup>4)</sup></b>	<b>blood collection tubes</b>		



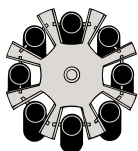
rotor  
Cat. No. **2226**



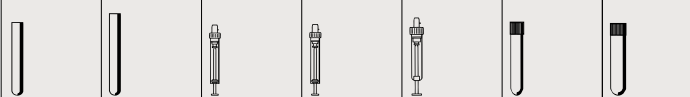
**Cat. No.** **1127-A**

boring ∅ x L in mm	13.2x53
tubes per rotor	12
max. RCF <sup>4)</sup>	2,963
radius in mm	106
run-up in sec	10
run-down in sec, braked	10
temperature in °C <sup>3)</sup>	-20

capacity in ml	5	6	2.6–3.4	2.7–3	4–5.5	1.6–5	4–7
∅ x L in mm	12x75	12x82	13x65	11x66	15x75	13x75	16x75
<b>Cat. No.</b>	<b>0553<sup>4)</sup></b>	<b>0501<sup>4)</sup></b>	<b>blood collection tubes</b>				



rotor  
Cat. No. **1020**



**Cat. No.** **1131-A**



**1132-A**

**1131-A**

**1132-A**

boring ∅ x L in mm	13x53	17.5x53	13x53	17.5x53
tubes per rotor	8			
max. RCF <sup>4)</sup>	2,879			
radius in mm	103			
run-up in sec	10			
run-down in sec, braked	10			
temperature in °C <sup>3)</sup>	-20			

# TECHNICAL DATA

TECHNOLOGY	MIKRO 220		MIKRO 220 R	
<b>Microlitre centrifuge, without rotor</b>	<b>classic</b>		<b>cooled</b>	
Power supply <sup>1)</sup>	200–240 V 1 ~	100–127 V 1 ~	200–240 V 1 ~	100–127 V 1 ~
Frequency	50–60 Hz	50–60 Hz	50 Hz	60 Hz
Consumption	510 VA	510 VA	850 VA	950 VA
Emission, Immunity	EN/IEC 61326-1, class B	FCC class B	EN/IEC 61326-1, class B	FCC class B
 Max. capacity	60 x 1.5 / 2.0 ml			
 Max. capacity	48 x 1.5 / 2.0 ml, 6 x 50 ml			
Max. RPM (speed)	18,000 min <sup>-1</sup>			
max. RCF	31,514			
Running time	1 sec–99 min : 59 sec, ∞ continuous run, short cycle mode (impulse key)			
Dimensions (H x W x D)	313 x 330 x 420 mm	313 x 330 x 420 mm	313 x 330 x 650 mm	313 x 330 x 650 mm
Weight	approx. 21 kg	approx. 21 kg	approx. 42 kg	approx. 42 kg
<b>Refrigeration</b>				
Temperature control, infinitely variable	-	-	from -20 to +40 °C	from -20 to +40 °C
<b>Cat. No.</b>	<b>2200</b>	<b>2200-01</b>	<b>2205</b>	<b>2205-01</b>

<sup>1)</sup> Other voltages on request.



Hettich centrifuges comply with all relevant EU standards in effect and conform to the European level of quality and safety for medical devices. Evidence is provided by national and international test marks such as IEC 61010 or the CE conformity. The ISO 9001, ISO 13485 and ISO 14001 certificates accredited to the company bear witness to the extreme care and responsibility Hettich puts into the manufacturing of centrifuges and their accessories.



Our certification as an “Authorised Economic Operator” enables accelerated customs clearance.



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