

# Herolab

*Manufacturer of Life Science  
Instruments since 1979*

..quiet

...whisper quiet  
< 50 dbA

**22.000 rpm**



*MicroGen<sup>®</sup> M*



*MicroGen<sup>®</sup> MR*



**Microliter Centrifuges**  
with and without refrigeration

Catalog No.	Description		Voltage	Phases	Hz
21 14 000	MicroCen M		230 V	1	50/60 Hz
21 14 004	MicroCen M		115 V	1	60 Hz
21 14 010	MicroCen MR	refrigerated	230 V	1	50/60 Hz
21 14 014	MicroCen MR	refrigerated	115 V	1	60 Hz

- microprocessor controlled
- especially for microliter tubes
- maximum capacity: 30 x 2.2 ml or 12x10 ml AOR tubes with screw cap
- 6 angle rotors, 1 swing-out rotor, 1 microhematocrit rotor
- speed: 500 – 16,000 rpm / 22,000 rpm, in steps of 100 rpm
- g-force (RCF): 20,464 x g / 37,878 x g, in steps equivalent to 100 rpm
- Audible signal at end of run and with failure message
- timer: up to 60 min, in 1 min increments, on request up to 999 min.
- HOLD for longer runs / PULSE for short runs
- 9 acceleration and deceleration ramps
- maintenance free, brushless induction drive
- stainless steel chamber with additional inner guard ring
- overspeed detection, imbalance detection and cut-off
- motorized lid lock, automatic lid opening, emergency lid lock release
- LCD display for both current and preset values of speed/g-force, time and temperature (temperature only at refrigerated model MicroCen MR)



### Swing-out Rotor

*MicroGen® M      MicroGen® MR*

Cat.-No.	Type	Max. Capacity		Max. Speed	Max. g-Force	Max. Speed	Max. g-Force
21 14 700	TS 24.2 <sup>H</sup>	24 x 2.2 ml	incl. windshield with hermetic sealing lid and 6 carriers for 4 tubes 2.2 ml	12,500 rpm	12,927 x g	14,000 rpm	16,215 x g



Cat. No. 21 14 700



Cat. No. 21 14 750

### Microhematocrit-Rotor

*MicroGen® M      MicroGen® MR*

Cat.-No.	Type	Max. Capacity		Max. Speed	Max. g-Force	Max. Speed	Max. g-Force
21 14 750	TF 24 MH	24 Capillaries 50 µl ø 1.5 x 75 mm	complete with rotor lid and capillary reader card	12,000 rpm	14,489 x g	12,000 rpm	14,489 x g

## Angle Rotors ( <sup>H</sup>with hermetic sealing lid)




*MicroGen<sup>®</sup>M*

*MicroGen<sup>®</sup>MR*

Cat.-No.	Type	Max. Capacity	Angle		Max. Speed	Max. g-Force	Max. Speed	Max. g-Force
21 14 200	TF 12.8 <sup>H</sup>	12 PCR strips of 8 x 0.2 ml	45°	Reaction Vials	12,000 rpm	15,777 x g	14,000 rpm	21,475 x g
21 14 170	TF 12.2 <sup>H</sup>	12 x 1.5/2.2 ml	45°	Reaction Vials	16,000 rpm	20,035 x g	22,000 rpm	37,878 x g
21 14 180	TF 18.2 <sup>H</sup>	18 x 1.5/2.2 ml	45°	Reaction Vials	16,000 rpm	20,464 x g	20,000 rpm	31,975 x g
21 14 151	TF 24.2 <sup>H</sup>	24 x 1.5/2.2 ml	45°	Reaction Vials	14,000 rpm	17,859 x g	17,000 rpm	26,333 x g
21 14 105	TF 30.2 <sup>H</sup>	30 x 1.5/2.2 ml	45°	Reaction Vials	12,000 rpm	15,133 x g	15,000 rpm	23,646 x g
21 14 175	TF 12.5 <sup>H</sup>	Biosafe 12 x 5 ml	40°	Reaction Vials	14,000 rpm	18,406 x g	16,000 rpm	24,041 x g
21 14 251	TF 12.10 <sup>H</sup>	12 x 10 ml	35°		14,000 rpm	18,188 x g	16,000 rpm	23,755 x g



## Accessories for Rotors TF 12.2, TF 18.2, TF 24.2, TF 30.2 and TS 24.2:

Tubes	2.0-2.2 ml	1.5 ml	0.5-0.7 ml	0.25-0.4 ml	0.2 ml
Tubes Ø x Length (mm)	11/13 x 40 mm	11/13 x 40 mm	8/10 x 28-31 mm	Ø 6 mm	PCR <sup>®</sup> Tubes
Material + Herolab Cat. No.	Tubes not available from Herolab	conical with lid PP: <b>25 20 50</b>	Tubes not available from Herolab	Tubes not available from Herolab	Tubes not available from Herolab
Necessary Adapters	---	---			
Herolab Cat. No.	---	---	<b>25 50 06</b>	<b>25 50 05</b>	<b>25 50 07</b>
Tubes per Adapter	-	-	1	1	1



## Tubes for Rotors TF 12.2, TF 18.2, TF 24.2, TF 30.2 and TS 24.2:

Cat. No.	Tubes	Size	Tested up to ... rpm	Tested up to ... x g	Units per pack
25 20 50	1.5 ml PP conical with lid (Reaction Vials)	Ø 11 x 40 mm	16,000	30,000	1,000

For detailed Information about the comprehensive range of **centrifuge tubes und bottles** from our production and their possible use in centrifuges of other manufacturers please refer to our catalog "Centrifuge Labware".

We also manufacture the most popular tubes and bottles for Ultra Centrifuges.



Specification	<i>MicroCent<sup>®</sup>M</i>	<i>MicroCent<sup>®</sup>MR</i>
Catalog No. (230V, 50/60 Hz, 1 Phase)	21 14 000	21 14 010
Maximum Capacity	30 x 2.2 ml	30 x 2.2 ml
Maximum Speed	16,000 rpm	22,000 rpm
Max. g-Force/RCF (depending on rotor)	20,464 x g	37,878 x g
Minimum Speed	> 500 rpm	> 500 rpm
Rotor Detection	APRI™ System = Automatic positive rotor identification for Herolab rotors	
Program Memory	10 programs	
Display	LCD Display for current and preset values	
User Interface	Operating panel with buttons and one rotary knob	
Preset Time	Up to 60 minutes in steps of 1 min., on request up to 999 min. „HOLD“ for longer runs / „PULSE“ for short runs	
Preset Speed	From 500 rpm to max. speed in steps of 100 rpm	
Preset g-Force/RCF	With increments equivalent to 100 rpm	
Drive System	Direct self-centering drive system with brushless induction motor	
Speed Accuracy	± 2 rpm at 1,000 rpm / ± 20 rpm at max. speed	
Acceleration Time (depending on rotor)	30 sec. – 1.5 min.	
Deceleration Time (depending on rotor)	40 sec. – 2.5 min.	
Acceleration/Deceleration Rates	9 Ramps in steps of 15 sec. from 0 to 120 sec. in the range of 0 – 1.000 rpm	
Braking System	Dynamic electric brake system – Acoustic Signal at the end of run	
Temperature Set Range	n.a.	-20°C to +40°C in steps of 1°C
Cooling at Standstill	n.a.	YES
Temperature Control Accuracy	n.a.	±1°C on calibrated rotor
Temperature Control System	n.a.	Bypass System
Overtemperature Protection	n.a.	YES
Refrigeration System	n.a.	CFC-free refrigerant
Safety Features	Overspeed detection Imbalance detection and cut-off Four point lid fixing Automatic motor driven lid lock with emergency lid lock release Stainless steel chamber with additional inner guard ring	
Dimensions (W x D x H): in cm (in inches)	33.4 x 49.0 x 31.0 (13.1 x 19.3 x 12.2)	33.4 x 74.0 x 31.0 (13.1 x 29.1 x 12.2)
Shipping Dimensions in cm (in inches)	80.0 x 65.0 x 59.0 (31.5 x 25.6 x 23.2)	85.0 x 65.0 x 59.0 (33.5 x 25.6 x 23.2)
Net Weight	32.0 kg (70.5 lbs.)	49.5 kg (109.1 lbs.)
Gross Weight	46.0 kg (101.4 lbs.)	64.0 kg (140.1 lbs.)

