

HiCen[®] F + 18

Herolab



High-Speed Floor Centrifuges

August 2007

High-speed Floor Centrifuges

For more than 20 years, Herolab has been a leading force in the technological development of centrifuges. Many centrifuges in the field today, although not sold under the name Herolab, are examples of this skilled engineering and electronic know-how. As Europe's largest manufacturer of high-speed centrifuge tubes and bottles Herolab profits from its relationship to the leading centrifuge manufacturers in the field today.

In 1993 the Herolab range of centrifuges was launched. The *UniCen® Series* was soon followed by *MicroCen® 13*. Thus starting a story of success, leading to the development of high-speed centrifuges with a maximum capacity of up to 6 liters. Customers all over the world appreciate the quality and reliability offered by our „Made in Germany - Made by Herolab“ centrifuges. Advanced features like the **APRI™** (Automatic Positive Rotor Identification) system and the combination of a fully digital control combined with an analog entry makes them easy to operate.

High-speed Floor Centrifuges – Mobile and Compact

Both the refrigerated *HiGen® 18* and the non-refrigerated *HiGen® F* are microprocessor controlled. They can be permanently installed in the laboratory but with their height of only 68.5 cm they can easily be moved and fit under the lab bench as well. Their maximum capacity is 6 x 250 ml in a fixed angle rotor and 4 x 500 ml in a swing-out rotor.

The large display informs about actual and preset values which can be set easily with only a single rotary knob. The brushless self-centering drive system operates extremely quiet. Their small footprint combined with the flexibility to move to any free space in the laboratory and the wide choice of rotors matched with tubes and bottles from Herolab's production make them the right instrument for most of the separation needs.



The *HiGen® 18* with its CFC-free refrigeration system and a maximum speed of 18,000 rpm (= 36,223 x g with rotor AF 24.2) is a real high performance high-speed centrifuge and can be used for a great variety of applications.

The non-refrigerated *HiGen® F* has the same dimensions but its maximum speed is 14,000 rpm. It is often bought for clinical or research applications and is another Herolab instrument for the daily routine.

Technical Data:

Maximum speed:
Maximum g-force (with rotor AF 24.2):
Maximum capacity:
Temperature range:
Programmable for up to 30 programs
APRI™: Automatic rotor identification of Herolab rotors
Various acceleration and deceleration rates
Imbalance detection and cut-off
Automatic motor driven lid lock and opening device with emergency lid lock release

HiGen® F

14,000 rpm
21,913 x g
4 x 500 ml
n. a.

HiGen® 18

18,000 rpm
36,223 x g
4 x 500 ml
-20 to + 40°C

The further technical details are going to convince you. Guaranteed!



All products built by Herolab carry the CE sign. Herolab has its own Quality Management System which is conform with ISO 9001.

All prices without VAT, ex works. – Herolab reserves the right to change technical specifications and prices without prior notice.

Centrifugation - HiCen F+18 - Info - E OP 2007-08.doc

High-speed Floor Centrifuges

Specification

Centrifuge	HiCen [®] F	HiCen [®] 18	 <p>Rotors of other manufacturers can be used if they are made for the same conical spindle.</p>
Catalog No. (230 V, 50/60 Hz)	21 10 150	21 10 650 (50 Hz)	
Maximum Speed (rpm)	14,000	18,000	
Max. g-Force (depending on rotor) in x g	21,913	36,223	
Maximum Capacity	4 x 500 ml	4 x 500 ml	
APRI™ System for Herolab Rotors	Automatic positive rotor identification of Herolab rotors		
Programmability	30 programs		
Information Display	color TFT display of both preset and actual values		
User Interface	one rotary knob for all parameters		
Preset Time	from 0 to 300 min with increments of 1 min; "hold" for longer runs		
Preset Speed	from 500 rpm to max. speed with increments of 100 rpm		
Preset g-Force	with increments of 10 x g		
Drive System	direct self-centering drive system with brushless induction motor		
Speed Accuracy	±5 rpm at 1,000 rpm ±30 rpm at max. speed		
Acceleration Time depending on rotor	30 sec. – 2.5 min.		
Deceleration Time depending on rotor	40 sec. – 3.5 min.		
Acceleration and Deceleration Curves	linear, see rates		
Acceleration and Deceleration Rates	in 8 steps of 30 sec. from 30 to 240 sec. in the range of 0-1,000 rpm		
Braking System	dynamic electric brake system		
Temperature Set Range	n.a.	-20°C to +40°C with increments of 1°C	
Pre-cooling at standstill	n.a.	yes	
Temperature Control Accuracy	n.a.	±2°C on tested rotor	
Temperature Control System	n.a.	Bypass System	
Sample Protection	n.a.	±4°C to ±10°C form preset temperature	
Refrigeration System	n.a.	non-CFC 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 Overtemperature protection		
Average Heat Output	1,5 kW	1,8 kW	
Dimensions W x H x D in cm (inches)	68.5 x 56.0 x 70.0 (27 x 22 x 27.5)	68.5 x 56.0 x 70.0 (27 x 22 x 27.5)	
Shipping Dimensions in cm (inches)	105 x 72 x 77 (41.3 x 28.3 x 30.3)	105 x 72 x 77 (41.3 x 28.3 x 30.3)	
Net Weight in kg (lbs.)	110.0 (243.0)	165.0 (364.0)	
Gross Weight in kg (lbs.)	130.0 (287.0)	185.0 (408.0)	
Warranty for centrifuge	2 years		
Extended warranty	see separate sheet		
Warranty for rotors	7 years		

The instruments are according to several international safety standards like IEC 1010, incl. the German Standards VDE and UVV-VBG 7z

All products built by Herolab carry the CE sign. Herolab has its own Quality Management System which is conform with ISO 9001.

All prices without VAT, ex works. – Herolab reserves the right to change technical specifications and prices without prior notice.

Centrifugation - HiCen F+18 - Info - E OP 2007-08.doc

High-speed Floor Centrifuges

Prices for HiGen® F + 18

Herolab Cat. No.	Centrifuge	Short Description	Nominal Voltage	Phases	Hz
21 10 150	HiGen® F	Centrifuge, Standard for Europe	230 V	1	50/60
21 10 151	HiGen® F	Centrifuge	115 V	1	50/60
21 10 650	HiGen® 18	Centrifuge, Standard for Europe	230 V	1	50
21 10 652	HiGen® 18	Centrifuge	100 V	1	50
			115 V	1	60
21 10 654	HiGen® 18	Centrifuge	208-220 V	1	60
21 10 656	HiGen® 18	Centrifuge	400 V	3	50
			440 V	3	60
21 10 658	HiGen® 18	Centrifuge, Middle East Version	208-220 V	1	50

Herolab Rotors for HiGen® F + 18

(and models of other brands with the identical conical drive spindle)

→ For detailed information and suitable adapters and tube racks please refer to our catalog "Rotors for High-Speed Centrifuges"



Fixed Angle Rotors (general data)

(for performance in respective centrifuges see rotor data chart)

Herolab Cat. No.	Rotor type	Number of tubes x max. volume in ml	Angle	Radius in cm	Max. speed in rpm	Max. g-force (x g)
20 96 100	AF 24.2	24 x 2.2 ml	45°	10.00	18,000	36,223
20 94 100	AF 20.10	20 x 10 ml	25°	9.80	18,000	35,499
20 35 00	A 12.24	12 x 14 ml	40°	9.30	18,000	33,688
20 26 00	A 24.24	24 x 16 ml	28°	11.02	13,000	20,821
20 21 00	A 8.24	8 x 50 ml	34°	10.80	15,000	27,167
20 93 100	AF 8.50.2	8 x 50 ml	25°	9.60	18,000	34,774
20 98 100	AF 8.50.3	8 x 50 ml Falcon	40°	10.40	13,500	21,191
20 44 00	A 12.17	12 x 50 ml	34°	13.00	10,000	14,534
20 92 100	AF 6.80	6 x 80 ml	25°	9.80	16,500	29,829
20 71 00	A 8.20	8 x 94 ml	25°	11.20	10,000	12,522
20 22 100	AF 6.250	6 x 250 ml	30°	14.50	10,000	16,211

All products built by Herolab carry the CE sign. Herolab has its own Quality Management System which is conform with ISO 9001.

All prices without VAT, ex works. – Herolab reserves the right to change technical specifications and prices without prior notice.

Centrifugation - HiCen F+18 - Info - E OP 2007-08.doc

High-speed Floor Centrifuges

Swing-Out Rotors (general data)

(for performance in respective centrifuges see rotor data chart)



Herolab Cat. No.	Rotor type	Number of tubes x max. volume in ml	Radius in cm	Max. speed (rpm)	Max. g-force (x g)
20 97 100	AS 2.6 with 2 carriers	6 Microwell plates	11.00	5,000	3,075
20 90 500	AS 4.500	4 x 500	17.20	5,250	5,300
20 90 510	Set of buckets	with 4 pieces for 1 x 500			
20 90 520	Set of buckets	with 4 pieces for tube racks (see additional list)			

Rotor Data Chart

Rotor			Max. Speed and g-force in Centrifuge			
Cat. No.	Type	Radius (cm)	HiCen® F		HiCen® 18	
			rpm	x g	rpm	x g
20 96 100	AF 24.2	10.00	14,000	21,913	18,000	36,223
20 35 00	A 12.24	9.30	12,000	14,972	18,000	33,688
20 94 100	AF 20.10	9.80	11,000	13,257	18,000	35,499
20 92 100	AF 6.80	9.80	10,000	10,956	16,500	29,829
20 21 00	A 8.24	10.80	10,000	12,074	15,000	27,167
20 93 100	AF 8.50.2	9.60	9,000	8,694	18,000	34,774
20 98 100	AF 8.50.3	10.40	9,000	9,418	13,500	21,191
20 26 00	A 24.24	11.02	9,000	9,979	13,000	20,821
20 71 00	A 8.20	11.20	8,000	8,014	10,000	12,522
20 44 00	A 12.17	13.00	7,000	7,122	10,000	14,534
20 22 100	AF 6.250	14.50	7,000	7,943	10,000	16,211
20 90 500	AS 4.500	17.20	4,500	3,984	5,250	5,300
20 97 100	AS 2.6	11.00	4,000	1,968	5,000	3,075

For further information about the choice of rotors and the comprehensive range of tubes and bottles from our production as well as their possible use in centrifuges of other manufacturers we refer to the adjoining catalogs.

The consumables also include the most common tubes and bottles for ultra centrifuges.



All rotors listed above are made of high-strength aluminum alloy and are therefore very heavy, especially the types with big volume. For frequent changes we recommend carbon fiber rotors, which are sometimes only half as heavy but also more expensive. We can deliver these rotors from the best supplier.



Please contact us by phone or e-mail if you need further information or an offer.

All products built by Herolab carry the CE sign. Herolab has its own Quality Management System which is conform with ISO 9001. All prices without VAT, ex works. – Herolab reserves the right to change technical specifications and prices without prior notice.

Centrifugation - HiCen F+18 - Info - E OP 2007-08.doc