

HERAEUS[®] LABOFUGE[®] 400 AND 400 R GENERAL PURPOSE CENTRIFUGES

Great value and functionality for routine work



The Labofuge[®] 400 tabletop centrifuge and the refrigerated version, the Labofuge[®] 400 R, are ideal for centrifuging average sized samples in routine laboratory applications in the fields of research, biology and medicine.

Thanks to an extensive range of rotors and accessories, these centrifuges can be used for practically every separation task: from highspeed centrifugation in microliter tubes to gentle sedimentation of animal cell cultures in conical tissue culture tubes. Of course, the right capacity is also available for your particular needs. The swinging bucket rotor can handle, for example, 36 x 7 ml tubes, 12 x 15 ml conical tissue culture tubes or 28 x 15 ml tubes for aerosol tight centrifugation.

A unique feature of this series is the rotor for centrifuging microplates. The rotor is designed with a radius of 15 cm (5.9 inch) so that the microplates can swing out vertically. The sediment is concentrated in the center of the wells for easy and accurate photometric analysis.

Accessories

We have developed safety carts for the Labofuge[®] 400 and Labofuge[®] 400 R so that they can be used in an under-bench set-up or as mobile tabletop units.

Service

Heraeus[®] centrifuges are designed for everyday use in the laboratory.

The digital self-diagnosis program monitors the Labofuge[®] 400 and the Labofuge[®] 400 R and immediately indicates failures on the display.

The Labofuge[®] 400 can also take a rotor which holds 2 microplates. Used together with a 24-place fixed angle rotor for 1.5/2.0 ml microliter tubes, the Labofuge[®] 400 is transformed into a highspeed microliter centrifuge.

Adapter sets, enabling centrifugation of all commercially available microliter tubes from 0.2 ml to 0.6 ml, are available as an option. The polypropylene plastic rotor can be autoclaved and offers wide ranging chemical resistance.

Biocontainment

As an alternative, the rotor can be sealed with an aerosol tight screw lid for applications involving radioactive or infectious materials. A snap lid for quick closing and an aerosol tight lid are both included. The swinging bucket rotor's round buckets can also be sealed with aerosol tight screw caps.

A 24-place haematocrit rotor for determining exact haematocrit values can also be used in the Labofuge[®] 400.¹⁾

¹⁾ Not available for sale in the U.S.



LABOFUGE[®] 400

The Labofuge[®] 400 is equipped with a new air cooling system which makes it extremely quiet (less than 58 dB).

The versatile swinging bucket rotor can accommodate round buckets or special cyto buckets. There are different Centri-Lab[®] adapters for the aerosol tight round bucket so that a variety of centrifugation tubes can be used in the swinging bucket rotor. All common types of cyto centrifugation can be carried out with the cyto bucket in combination with our extensive range of accessories.

Labofuge[®] 400 – extremely quiet as a result of a new type of air cooling system

LABOFUGE[®] 400 R

In many separation tasks, it is essential to maintain a constant sample temperature. The Labofuge[®] 400 R ensures low temperatures (0 – 4 °C) even during long runs or centrifugation at high speeds.

The Labofuge[®] 400 R operates with the same versatile range of rotors and accessories as the Labofuge[®] 400, but achieves significantly higher speeds.

A microprocessor controlled temperature surveillance system prevents samples from freezing.

For example, if samples are kept in the closed rotor chamber of the Labofuge[®] 400 R for an extended period of time after centrifugation, there is no danger of freezing despite standstill cooling. Of course, the Labofuge[®] 400 R operates with the CFC-free refrigerant, R134 a.



Swinging bucket rotor 75008179 with round bucket 75008172 (left), aerosol tight cap 75008173 (middle) and cyto bucket 75008176 (right)



The Labofuge[®] 400 R ensures stable sample temperatures during centrifugation



Microplate rotor 75008177



Fixed angle rotor for microliter tubes
75003325



Haematocrit rotor 75008171 ¹⁾

¹⁾ Not available for sale in the U.S.



ADVANTAGES

Labofuges[®] 400 and 400 R are designed with state-of-the-art technology, providing clear advantages for routine operations.

- user friendly
MEGACONTROL II micro-processor controller
- LED indicators for temperature, speed, RCF settings and runtime (1–99 min, continuous operation)
- quick-run function for short spins

- soft-start/soft-brake function for gentle centrifugation and tapered braking for sensitive samples.

- smooth and quiet operation
- maintenance free induction drive
- effective safety concept (complies with IEC 1010)
 - automatic imbalance cut-out
 - steel jacket system

- rotor overspeed protection
- accessories for aerosol tight centrifugation

- Labofuge[®] 400 R operates with highly effective, environmentally safe cooling technology
 - standstill cooling
 - R134a, CFC-free refrigerant
 - sample freezing protection

TECHNICAL DATA

		Labofuge ¹⁾ 400 R	Labofuge ¹⁾ 400
Setting range	rpm	Steps of 100	Steps of 100
Max. capacity	ml	4 x 180	4 x 180
Min. temperature	°C	0 – 4	in accord.
at max. speed and room temperature of 20 °C			with DIN 58970
Temperature range	°C	0 – 40	–
Max. noise level	dB	58	58
at max. speed with round bucket			
Dimensions (H x W x D)	mm	340 x 625 x 600	310 x 436 x 568
	inch	13.4 x 24.6 x 23.6	12.2 x 17.2 x 22.4
Weight	kg / lbs	74 / 16	40 / 88
Swinging bucket rotor 4 x 180 ml			
with round bucket – max. radius 17.4 cm (6.9 inch)			
Max. speed	rpm	4,500	3,500
Max. RCF	x g	3,939	2,383
Min. speed	rpm	300	300
Min. RCF	x g	17	17
Accel. time	s	47	50
Braking time	s	50	35
with cyto bucket – max. radius 11.1 cm (4.4 inch)			
Max. speed	rpm	3,500	3,000
Max. RCF	x g	1,520	1,117
Min. speed	rpm	300	300
Min. RCF	x g	11	11
Accel. time	s	17	25
Braking time	s	28	20
Rotor for 2 x 1 microplates – max. radius 15.0 cm (5.9 inch)			
Max. speed	rpm	3,000	3,000
Max. RCF	x g	1,509	1,509
Min. speed	rpm	300	300
Min. RCF	x g	15	15
Accel. time	s	8	20
Braking time	s	22	20
Max. load per carrier	g	180	180
Fixed angle rotor 18 x 15 ml – max. radius 11.3 cm (4.4 inch)			
Max. speed	rpm	4,500	4,000
Max. RCF	x g	2,558	2,021
Min. speed	rpm	300	300
Min. RCF	x g	11	11
Accel. time	s	15	15
Braking time	s	20	20
Microliter fixed angle rotor 24 x 1.5/2 ml – max. radius 8.5 cm (3.4 inch)			
Max. speed	rpm	13,000	11,500
Max. RCF	x g	16,060	12,568
Min. speed	rpm	1,000	1,000
Min. RCF	x g	95	95
Accel. time	s	60	60
Braking time	s	25	22
Haematocrit rotor for 24 capillaries – max. radius 9.3 cm (3.7 inch) ¹⁾			
Max. speed	rpm	12,000	11,500
Max. RCF	x g	14,926	13,749
Min. speed	rpm	1,000	1,000
Min. RCF	x g	103	103
Accel. time	s	13	20
Braking time	s	16	25
Power consumption			
Drive	kW	0.5	0.25
Cooling unit	kW	0.26	–
No approval required in accord. with UVV-VBG 7z			

¹⁾ Not available for sale in the U.S.

CYTO ACCESSORIES



Cyto accessories for swinging bucket rotor – 75008179 and cyto bucket – 75008176		
Type		Order no.
100 micro tubes	0.75 ml with 0.5 mm bottom opening	75001153
	1.5 ml with 0.5 mm bottom opening	75001152
Lid	for working without micro tubes	76003422
Cyto container	with 2 cylindrical bores for sample volumes of approx. 1.5 ml	75003415
Cyto container	with 2 conical bores for sample volumes of approx. 3.0 ml	75003416
100 filter cards	for cyto container 75003415	76003424
	for cyto container 75003416	76003425
Tube carrier	for cyto container and slide	75003414

ORDERING INFORMATION

Centrifuges			Order no.
Labofuge [®] 400 – set	(230 V; 50/60 Hz)	incl. swinging bucket rotor, four round buckets and four aerosol tight caps	75008370
Labofuge [®] 400 – set	(230 V; 50/60 Hz)	incl. rotor for microplates	75008371
Labofuge [®] 400	(230 V; 50/60 Hz)	without accessories	75008150
Labofuge [®] 400	(110 – 120 V; 60 Hz)	without accessories	75008157
Labofuge [®] 400 R – set	(230 V; 50 Hz)	incl. swinging bucket rotor, four round buckets and four aerosol tight caps	75008375
Labofuge [®] 400 R	(230 V; 50 Hz)	without accessories	75008162
Labofuge [®] 400 R	(110 – 120 V; 60 Hz)	without accessories	75008164














For easy ordering, take advantage of our low-priced "sets" (not in USA), completely equipped to handle a wide range of centrifuga

tion applications

Accessories				Order no.
Swinging bucket rotor for 4 x 180 ml				75008179
Round bucket				75008172
Aerosol tight cap for round bucket				75008173
180 ml (polypropylene) bottle with screw lid (without adapter)				76003026
Cyto bucket for cyto accessories				75008176
Rotor for microplates				75008177
Fixed angle rotor for 18 x 15 ml				75008178
Adapter for reduction to 7 ml				75003053
24-place microliter rotor with snap-on lid and aerosol tight screw lid ¹⁾				75003325
24-place haematocrit rotor incl. reading graph (not sold in USA)				75008171
Safety trolleys				Order no.
As underbench unit:				
for Labofuge [®] 400	H x W x D	mm / inch	270 x 470 x 530 / 10.6 x 18.5 x 20.9	76000070
for Labofuge [®] 400 R	H x W x D	mm / inch	270 x 715 x 570 / 10.6 x 28.1 x 22.4	76000071
As mobile tabletop unit				
for Labofuge [®] 400	H x W x D	mm / inch	590 x 470 x 530 / 23.2 x 18.5 x 20.9	76000080
for Labofuge [®] 400 R	H x W x D	mm / inch	590 x 715 x 570 / 23.2 x 28.1 x 22.4	76000081

¹⁾ For information concerning accessories please contact your nearest Kendro representative

CENTRI-LAB[®] ADAPTER FOR ROUND BUCKETS

For use with:														
Nominal volume of tube	ml	1.5/2.0	7	7	12	15	15	15	15	25	25	50	50	100
No. of tubes per adapter		12	9	7	2	7	4	3	1	1	2	1	1	1
No. of tubes per rotor		48	36	28	8	28	16	12	4	4	8	4	4	4
Type of tube ²⁾		ML	DIN	Blood c.	US-Urine	DIN	Blood c.	Con	Con	Univ.	DIN	DIN	Con	DIN
Max. length of tube														
With aerosol tight cap	mm ³⁾	42	125	126	127	126	129	133	133	121	126	132	133	128
Without aerosol tight cap	mm ³⁾	42	135	135	131	135	135	135	145	130	135	138	138	133
Diameter of tube	mm ³⁾	11	13	14	17	17	17	17	17	25.5	25	35	29.5	48
Diameter of cap	mm ³⁾	13.5	15	18.5	26	18.5	20	23.5	23.5	53	27	39	39	47.5
Color of adapter		black	yellow	grey	org./red	red	white	brown	brown	green	org./red	green	green/y.	blue
For tubes with bottom shape ³⁾		F/C	F/R	F/R	C	F/R	F/R	C	C	F	F/R	F/R	C	F/R
Adapter order no. (7500XXXX)		8190	8189	8188	8195	8186	8185	8187	8197	⁴⁾ 8196 ⁴⁾	8184	8182	8183	8181

²⁾ Type of tube: ML = microliter tube; Blood c. = Blood collection tube; US-Urine = conical urine tube; Con = conical tissue culture tube; Univ. = Universal Container;

DIN = borosilicate tube with dimensions according DIN

³⁾ Adapters can hold tubes with the following shaped bottoms: F = flat bottom; R = round bottom; C = conical bottom

⁴⁾ Not available for sale in the U.S.

⁵⁾ 25.4 mm = 1 inch

For Ordering or Technical Information

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