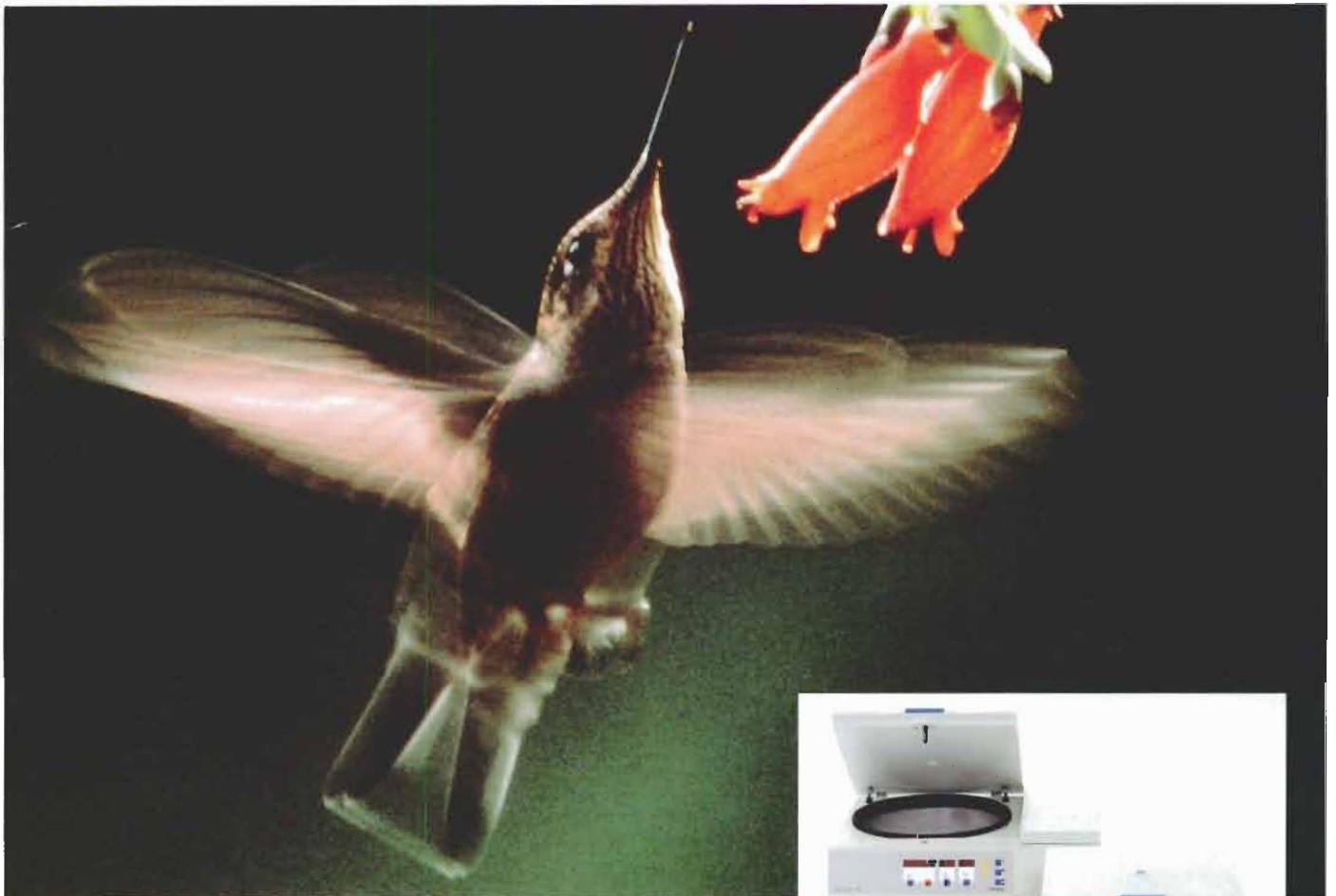


Megafuges 1.0/1.0 S/1.0 R/1.0 RS
Megafuges 2.0/2.0 R/2.0 RS
Universal Centrifuges





Megafuge 1.0 R – universal table-top centrifuge with refrigeration



Megafuge 2.0 – universal table-top centrifuge

Typical Applications

- Serological testing
- Cell-biological testing
- Separating blood components
- Analysing minute sample volumes
- Radio immuno assays
- Preparing cell cultures
- Separating infectious and toxic suspensions
- Precipitating particles from medical and biological liquids (cyto-centrifugation).

Megafuges

- Induction drive
- Microprocessor control
- Max. RCF: 6240 x g with sealed rotor
- Max. capacity
4 x 400 ml (1.0/1.0 R)
4 x 500 ml (2.0/2.0 R)
- Swing-out rotor with extensive range of buckets
- Sealed rotor safely contains aerosols, bacteria and viruses
- Flexible Centri-Lab, systems for all sample volumes
- Cyto-centrifugation
- Hermetically sealed accessories

Refrigerated Megafuges

- Environmentally-friendly CFC-free refrigerant
- Minimum sample temperature of 0 – 4 °C at maximum speed
- Maximum 17.860 x g for centrifuging microlitre tubes

Megafuges with SEPACONTROL

- SEPACONTROL microprocessor control providing an extensive range of functions

Megafuges: The Ideal Solution for all Laboratory Separation Processes

Heraeus' universal centrifuges, **Megafuge 1.0 and 2.0 without refrigeration and Megafuge 1.0 R and 2.0 R with refrigeration, are the ideal instruments for all routine laboratory separation processes.**

Whilst all Megafuges offer the same outstanding performance, Megafuges 2.0 and 2.0 R are designed to handle greater capacities.

Megafuges 1.0 and 1.0 R can handle up to 48 blood collection tubes or 12 "Falcon"-type tubes (50 ml). With Megafuges 2.0 and 2.0 R, up to 76 blood collection tubes or 16 "Falcon"-type tubes (50 ml) can be processed at one time.

Maintenance free

All Megafuges are driven by a frequency-controlled induction motor. This ensures extremely quick braking and acceleration times and a long service life of the centrifuge. The drive requires virtually no maintenance – no carbon brushes to be replaced, low dust build-up.

Smooth Operation

In designing the Megafuge, Heraeus engineers used an innovative material for the base of the centrifuge housing. This material, called "Centricast", guarantees extremely smooth and quiet operation.

Environmentally Friendly

The cooling system of the Megafuges 1.0 R and 2.0 R operates with the environmentally-friendly and CFC-free refrigerant R 134a.

Convenient Operation

Thanks to their microprocessor controller MEGACONTROL II, Megafuges are extremely easy to use and permit results to be reproduced with a high degree of accuracy. The conveniently arranged control buttons and easy-to-read digital displays ensure simple operation and prevent errors.

With a push of a button, the centrifuge displays the current RCF value. The RCF value can also be preset.

A quick-run function has been included for briefly centrifuging samples. When working with highly sensitive samples, the soft-brake function ensures gentle processing. The cut-off time for braking can be preset as well.

Built-In Safety

All Megafuges are specially designed with the rotor chamber inside a protective housing and are equipped with an automatic lid lock and lid interlock. Of course, they also meet all international safety standards.

SEPACONTROL operating panel

The Megafuge 1.0 S/1.0 RS and

Megafuge 2.0 RS with SEPACONTROL microprocessor control which offers the following advanced functions:

- 9 deceleration and acceleration curves and free run-down
- 32 program segments for routine applications
- Selection of speed, RCF, rotor, radius
- Selection of time and delay (lead time)
- Selection of temperature and delta-T (temperature range)

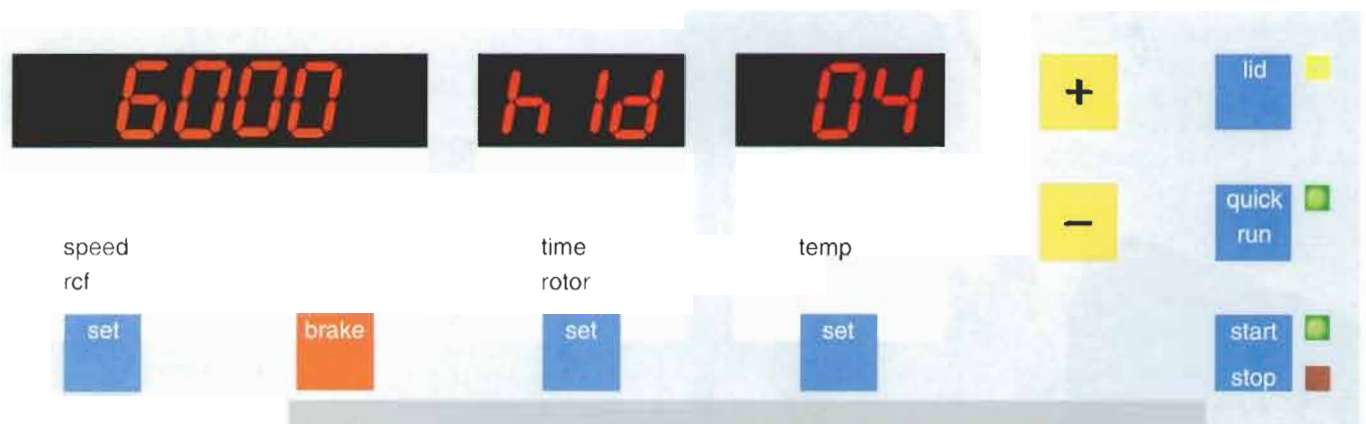
Easy to Service

The Megafuges are designed for day-to-day laboratory use. The drive requires virtually no maintenance.

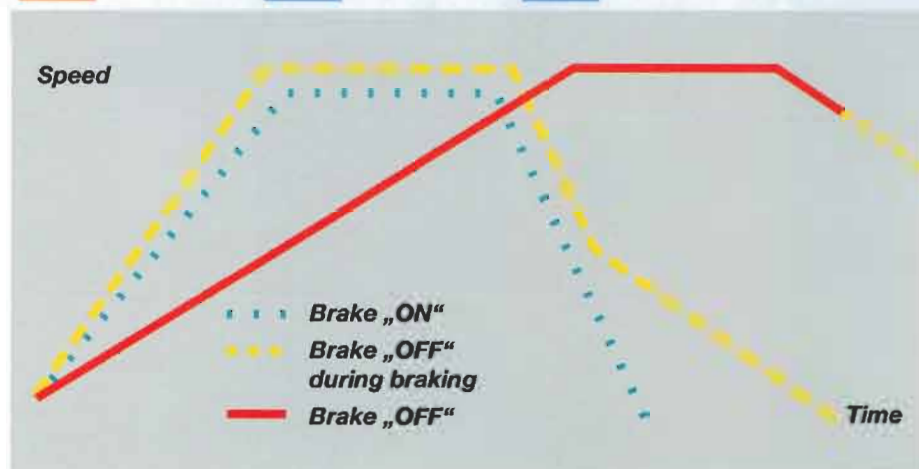
The centrifuges are equipped with a digital self diagnosis system for constant monitoring of status. If a fault is detected, a signal is immediately generated.

With a support and service organisation available to customers throughout the world, Heraeus Instruments offers a complete package featuring outstanding performance, maximum safety and exceptional reliability.

It also includes a 2 year warranty on all Megafuges and an additional 3 year warranty on refrigeration.



The microprocessor controller MEGACONTROL II with digital display provides pre-selection of temperature (only applies to Megafuges with refrigeration), time, speed and RCF value. The soft-start and soft-brake functions ensure gentle centrifugation of sensitive samples.



Highly Versatile Swing-Out Rotor

Thanks to their exceptionally large line of accessories, the Megafuges can be used in a wide range of applications. The 4-place swing-out rotors can be used with various carrier systems: round buckets with hermetically sealed caps, carriers for microtitre plates and two rectangular buckets (the latter only applies to Megafuges 1.0 and 1.0 R).

Hermetically Sealed Round and Rectangular Buckets

Aerosol-proof buckets for a variety of adaptors are available for the high-volume swing-out rotors. The hermetically sealed round buckets, tested using the Porton Down Test¹⁾, offer a maximum capacity of 400 and 500 ml. The rectangular buckets can handle up to 150 ml. All hermetically sealed buckets are equipped with a transparent lid. The operator will therefore immediately notice if a tube has broken.

Sealed Rotor

The 4-place sealed rotor safely contains aerosols, bacteria and viruses, guaranteeing maximum operational safety. This means that infectious matter can neither enter the centrifuge nor escape into the environment. A broken tube can be detected immediately through the clear polycarbonate lid. In this case, the entire rotor can be autoclaved while still closed.

The Centri-Lab, type A tube rack can be used as a universal adaptor system.

Centri-Lab® System

Heraeus Instruments offers the flexible Centri-Lab system in various sizes and with uniform colour coding. This system can be used with all round and rectangular buckets.

These racks distinguish themselves through high mechanical and chemical resistance and can be autoclaved.

Special adaptors are available for centrifuging large tubes in round buckets.

High-Speed Microlitre Centrifugation

Megafuges with refrigeration can be equipped with an aerosol-proof 18-place 1.5/2.0 ml microlitre rotor (15.000 rpm max.). The rotor is supplied complete with 3 adaptor sets for safe centrifugation of all standard microlitre tubes with a volume from 0.2 to 2.0 ml micro-tubes.

If you plan to use the microlitre rotor on a regular basis, you may wish to consider our new, very reasonably priced Biofuge fresco and Biofuge pico microlitre centrifuges.

Cyto-Centrifugation

Cyto-accessories, used for centrifuging samples on microscopic slides, are compatible with all Megafuges. They can be used with both the sealed rotor and rectangular buckets 75002252 and 75008030.

For more information on this subject, please refer to the "Cyto-Accessories" brochure.

Safety Trolleys

The Megafuge in combination with a safety trolley transforms a table-top centrifuge into a mobile underbench unit.



1) Porton Down Test: Microbiological test in which tubes are intentionally broken during centrifugation to determine the effectiveness of an accessory's hermetic seal.

Swing-Out Rotor for Megafuges 1.0 and 1.0 R

Sealed

Swing-out rotor 75002704 for Megafuges 1.0 and 1.0 R		Round bucket 75007570	Rectangular bucket 75002252	Rectangular bucket 75008030	Carrier for microtitre plates 75007586
Carrier system					
Order no.					
Cap order number		7584	–	included	–
Centri-Lab® type		E	A	A	–
Max. capacity	ml	4 x 400	48 x 15	48 x 15	8 plates
Max. speed	rpm	4.000	4.000	4.000	2.800
Max. RCF	x g	3.345	3.020	3.220	1.280
Min. temp at max. speed	°C	-/4	-/0	-/2	-/0
Max. acceleration time ¹⁾	s	50	45	55/50	15/20
Min. braking time ¹⁾	s	45	45/55	45/55	30/35
Max. radius	cm	18.7	16.9	18.0	14.6

¹⁾ Measured at 230 V



Swing-out rotor with round bucket 75007570 (top right), rectangular bucket 75008030 (top left), rectangular bucket 75002252 (bottom right) and carrier for microtitre plates 75007586 (bottom left).

Round bucket 75007570 with hermetically sealed cap 75007584 and adaptors

Type E Adaptor for Round Bucket 75007570

Accessories for swing-out rotor 75002704 with bucket 75007570¹⁾

Nominal volume of tube	ml	1.5/2.0	7	7	15	15	25	25	50	50	50	100	250	400
No. of tubes per adaptor	ea.	34	10	18	7	10	5	5	3	3	3	1	1	–
No. of tubes per rotor	ea.	136	40	72	28	40	20	20	12	12	12	4	4	4
Tube type ²⁾		Eppen.	Blood c.	DIN	Falc.	DIN	DIN	US Urine	DIN	Univ.	Falc.	DIN	Bottle	Bottle
Max. length of tube	mm	46	123	123	119	122	121	123	120	120	119	134	135	135
Bore of tube	mm	11	14	13	17	17	25	16.5	34.5	25.5	29	45	62	81
Diameter of cap	mm	–	18	14	23	18	29	27.5	36	32	37.5	59	–	–
Colour of adaptor		black	grey	yellow	brown	red	orange	or./red	green	green	green	blue	nat.	–
Tube order no. (7500XXXX) ³⁾		1163 ⁴⁾	–	9001 ⁵⁾	2858 ⁶⁾	9003 ⁷⁾	9006 ⁸⁾	–	9005 ⁹⁾	–	2844 ¹⁰⁾	9007 ¹¹⁾	7894 ¹²⁾	7583 ¹³⁾
Adaptor order no. (7500XXXX)		7578	7579	7571	7576	7572	7573	7581	7574	7580	7577	7575	7582	–



Type A Adaptor for Rectangular Buckets 75002252 and 75008030

Accessories for swing-out rotor 75002704 with bucket 75008030 and 75002252

Nominal volume of tube	ml	1.5	7	7	15	15	15	25	25	50	50	50	50	100	150
No. of tubes per adaptor	ea.	40	20	12	11	6	12	5	4	2	2	2	1	1	1
No. of tubes per rotor	ea.	160	80	48	44	24	48	20	16	8	8	8	4	4	4
Tube type ²⁾		Eppen.	DIN	Blood c.	Blood c.	Falc.	DIN	DiN	Univ.	DIN	Falc.	Univ.	Oil test	DIN	DIN
Max. tube length for 8030	mm	45	115	117	117	120	115	115	120	115	120	120	–	120	110
Max. tube length for 2252	mm	45	100	100	100	–	100	100	100	117	–	–	–	110	110
Bore of tube	mm	11	13	14	17	17	17	25	25.5	35	29.5	29.5	–	45	55
Diameter of cap	mm	–	14	18	19.5	22	18	25.5	31	36	37.5	37.5	–	48	–
Colour of adaptor		black	yellow	grey	white	brown	red	orange	green	green	gr./yel.	gr./yel.	nat.	blue	grey
Tube order no. (7500XXXX) ³⁾		1163 ⁴⁾	9001 ⁵⁾	–	–	2858 ⁶⁾	9003 ⁷⁾	9006 ⁸⁾	–	9005 ⁹⁾	2844 ¹⁰⁾	–	3113 ¹¹⁾	9007 ¹²⁾	1132 ¹³⁾
Adaptor order no. (7500XXXX)		5335	5321	5330	5327	5387 ¹⁴⁾	5322	5323	5391	5324	5386	5389 ¹⁵⁾	5339	5325	5326



¹⁾ Hermetically sealed cap (order no. 75007584) also available on request.

²⁾ Tube types: Eppen. = Eppendorf-type micro-tube; Blood coll. = blood collection tube, e.g. "Vacutainer", "Monovette"; Falc. = Falcon-type conical tube; Oil test = oil test tube; Univ. = universal container type with vertical edge; US Urine = US urine tubes.

³⁾ Description of standard tubes: ⁴⁾ micro-tubes; ⁵⁾ borosilicate glass; ⁶⁾ screw-capped tube (Nunc) 12 ml; ⁷⁾ screw-capped tube (Falcon 50 ml); ⁸⁾ oil test tube (pear-shaped); ⁹⁾ PP bottle incl. screw cap.

¹⁰⁾ Adaptor cannot be used with bucket 75002252; for 15 ml Falcon tubes the adaptor 5388 can be used.

Adaptors can be used with tubes featuring the following shaped bottoms: F = flat, C = conical, R = round, S = special



Swing-out rotor with round bucket 75008160 (left), hermetically sealed cap 75008081 (middle) and carrier for microtitre plates 75008083

Swing-out rotor 75008155 for Megafuges 2.0 and 2.0 R

Carrier system		Round bucket	Carrier for microtitre plates
Order no.		75008160	75008083
Cap order number		75008081	–
Centri-Lab, type		C	–
Max. capacity	ml	4 x 500	8 plates
Max. speed	rpm	3.500/4.000	3.300
Max. RCF	x g	2.575/3.360	1.850
Min. temp at max. speed	°C	–/0	–/0
Max. acceleration time ¹⁾	s	55/65	35
Min. braking time ¹⁾	s	55/60	40/35
Max. radius	cm	18.8	15.2

¹⁾ Measured at 230 V

Type C Adaptor for Round Bucket 75008160



Round bucket 75008160 with adaptors

Accessories for swing-out rotor 75008155 with bucket 75008160¹⁾

Nominal volume of tube	ml	1.5/2.0	7	7	15	15	15
No. of tubes per adaptor	ea.	48	35	19	19	17	12
No. of tubes per rotor	ea.	192	140	76	76	68	48
Tube type ²⁾		Eppen.	DIN	Blood c.	DIN	Blood c.	Falc.
Max. length of tube	mm	42	122 ³⁾	122 ³⁾	122 ³⁾	122 ³⁾	122 ³⁾
Bore of tube	mm	11	13	14	17	17	17
Diameter of cap	mm	–	14	18.5	18.5	20	23.5
Colour of adaptor		black	yellow	grey	red	white	brown
Tube order no. (7500XXXX) ⁴⁾		1163 ⁵⁾	9001 ⁶⁾	–	9003 ⁷⁾	–	2858 ⁸⁾
Adaptor order no. (7500XXXX)		8132	8133	8134	8135	8136	8137



Megafuges 2.0 and 2.0 R are sold as complete sets with swing-out rotor 8155, 4 round buckets 8160, 4 hermetically sealed caps 8081 and 4 plastic bottles.

Accessories for swing-out rotor 75008155 with bucket 75008160¹⁾

Nominal volume of tube	ml	25	50	50	100	250	500
No. of tubes per adaptor	ea.	7	4	4	2	1	–
No. of tubes per rotor	ea.	28	16	16	8	4	4
Tube type ²⁾		DIN	DIN	Falc.	DIN	Div.	Bottle
Max. length of tube	mm	122 ³⁾	122	122	122	136	125
Bore of tube	mm	25	35	29.5	45	62.5	100
Diameter of cap	mm	31	39	39	47.5	–	87
Colour of adaptor		orange	green	gr./yel.	blue	nat.	–
Tube order no. (7500XXXX) ⁴⁾		9006 ⁵⁾	9005 ⁶⁾	2844 ⁷⁾	9007 ⁸⁾	7894 ⁹⁾	8148 ¹⁰⁾
Adaptor order no. (7500XXXX)		8138	8140	8141	8142	8144	–



¹⁾ Hermetically sealed cap (order no. 75008081) also available on request.

²⁾ Tube types: Eppen. = Eppendorf type micro-tube; Blood coll. = blood collection tube, e.g. "Vacutainer", "Monovette";

Falc. = Falcon-type conical tube; Var. = various tubes with flat bottoms; HI = Heraeus Instruments tube.

³⁾ Additional pad required for 200 ml conical tubes, available from the tube manufacturers.

⁴⁾ Description of standard tubes: ⁵⁾ micro-tubes; ⁶⁾ borosilicate glass; ⁷⁾ screw-capped tube (Nunc) 12 ml; ⁸⁾ screw-capped tube (Falcon) 50 ml; ⁹⁾ polypropylene, with screw cap.

¹⁰⁾ Max. tube length if centrally positioned = 136 mm.

Adaptors can be used with tubes featuring the following shaped bottoms: F = flat, C = conical, R = round.

Sealed Rotor for Megafuge 1.0/1.0R, 2.0/2.0 R

Sealed rotor 75003360

Sealed rotor incl. bucket		Megafuge 1.0	Megafuge 1.0 R	Megafuge 2.0	Megafuge 2.0 R
Max. capacity	ml	48 x 15	48 x 15	48 x 15	48 x 15
Max. speed	rpm	6.000	6.000	6.000	6.000
Max. RCF	x g	6.240	6.240	6.240	6.240
Min. temp at max. speed	°C	-	0	-	0
Max. acceleration time ¹⁾	s	70	75	75	80
Min. braking time ¹⁾	s	90	100	95	95
Max. radius	cm	15.5	15.5	15.5	15.5

¹⁾ Measured at 230 V



Type A Adaptor for Sealed Rotor 75003360

Accessories for sealed rotor 75003360

Nominal volume of tube	ml	1.5	7	7	15	15	15	25	25	50	50	50	100
No. of tubes per adaptor	ea.	40	20	12	11	4	12	5	4	2	2	1	1
No. of tubes per rotor	ea.	160	80	48	44	16	48	20	16	8	8	4	4
Tube type ¹⁾		Eppen.	DIN	Blood c.	Blood c.	Falc.	DIN	DIN	Univ.	DIN	Falc.	Oil test	DIN
Max. length of tube	mm	45	100	100	100	120	100	100	100	100	117	-	110
Bore of tube	mm	11	13	14	17	17	17	25	25.5	35	29.5	-	45
Diameter of cap	mm	-	14	18	19.5	22	18	25.5	31	36	37.5	-	48
Colour of adaptor		black	yellow	grey	white	brown	red	orange	green	green	gr./yel.	nat.	blue
Tube order no. (7500XXXX) ²⁾		1163 ^{a)}	9001 ^{b)}	-	-	2858 ^{c)}	9003 ^{b)}	9006 ^{b)}	-	9005 ^{b)}	2844 ^{d)}	3113 ^{e)}	9007 ^{b)}
Adaptor order no. (7500XXXX)		5335	5321	5330	5327	5388	5322	5323	5391	5324	5386	5339	5325



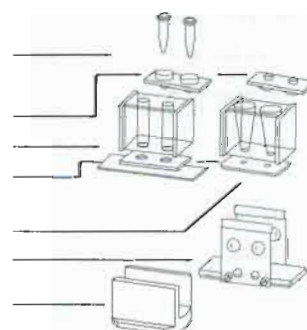
¹⁾ Tube types: Eppen. = Eppendorf-type micro-tube; Blood coll. = blood collection tube, e.g. "Vacutainer", "Monovette"; Falc. = Falcon-type conical tube; Oil test = oil test tube; Univ. = universal container type with vertical edge.

²⁾ Description of standard tubes: a) micro-tubes; b) borosilicate glass; c) screw-capped tube (Nunc) 12 ml; d) screw-capped tube (Falcon) 50 ml, e) oil test tube (pear-shaped). Adaptors can be used with tubes featuring the following shaped bottoms: F = flat, C = conical, R = round, S = special.

Cyto-Accessories for Megafuges 1.0/1.0 R, 2.0/2.0 R

Cyto-accessories for sealed rotor 75003360 and bucket 75002252 or 75008030

Type		Order no.
100 micro-tubes	0.75 ml with 0.5 mm opening in bottom	75001153
	1.5 ml with 0.5 mm opening in bottom	75001152
Lid	for working w/o micro-tubes	76003422
Cyto-container	with 2 cylindrical bores for approx. 1.5 ml sample volumes	75003415
	with 2 conical bores for approx. 3.0 ml sample volumes	75003416
100 filter cards	for cyto-container 75003415	76003424
	for cyto-container 75003416	76003425
Clip carrier	for holding a cyto-container and a slide	75003414
Support insert	for using cyto-accessories	
	with buckets 75008030, 75002252 and rotor 75003360	75003417



Microlitre Rotor for Megafuges 1.0 R/2.0 R

Microlitre rotor 75003041

Microlitre rotor		Megafuge 1.0 R	Megafuge 2.0 R
Max. capacity	ml	18 x 1.5/2.0	18 x 1.5/2.0
Max. speed	rpm	15.000	15.000
Max. RCF	x g	17.860	17.860
Min. temp at max. speed	°C	< 4	< 4
Max. acceleration time ¹⁾	s	20	20
Min. braking time ¹⁾	s	30	30
Max. radius	cm	7.1	7.1

¹⁾ Measured at 230 V



		Megafuge 1.0/ Megafuge 1.0 S	Megafuge 1.0 R/ Megafuge 1.0 RS	Megafuge 2.0	Megafuge 2.0 R/ Megafuge 2.0 RS
Type		Universal table top centrifuge	Universal table top centrifuge with refrigeration	Universal table top centrifuge	Universal table top centrifuge with refrigeration
Max. RCF	x g	6.240	6.240 (17.860)	6.240	6.240 (17.860)
Max. speed	rpm	6.000	6.000 (15.000)	6.000	6.000 (15.000)
Max. capacity	ml	4 x 400	4 x 400 (18 x 1.5/2.0)	4 x 500	4 x 500 (18 x 1.5/2.0)
Control		Microprocessor MEGACONTROL II/ Microprocessor SEPACONTROL		Microprocessor MEGACONTROL II	Microprocessor MEGACONTROL II/ SEPACONTROL
Acceleration profiles		MEGACONTROL II: Normal or "Soft-run"/SEPACONTROL: 9 acceleration profiles			
Deceleration profiles		MEGACONTROL II: On/off brake, adjustable brake cut-off/SEPACONTROL: 9 deceleration profiles and free run-down			
Run time		MEGACONTROL II: 1 – 99 min., continuous operation/SEPACONTROL: 1 min. – 99 h, continuous operation			
Program memory		MEGACONTROL II: The data last entered remains stored/SEPACONTROL: Memory space 32 programs. In case of a power failure, the data is retained for 3 weeks.			
Temperature range	°C	–	0 to 40	–	0 to 40
Safety Design		Lid lock and lid interlock, imbalance cut-out, armoured rotor chamber, in compliance with IEC 1010.			
		Steel housing with plastic front panel Centricast base	Steel housing with plastic front panel, Centricast base, stainless-steel rotor chamber	Steel housing with plastic front panel, Centricast base,	Steel housing with plastic front panel, Centricast base, stainless-steel rotor chamber
Dimensions (h/w/d)	mm	390/460/520	390/705/557	390/460/520	390/705/557
Weight (w/o rotor)	kg	Approx. 55	Approx. 104	Approx. 60	Approx. 111
Power consumption	kW	0.7	1.1	0.7	1.1

Order Numbers

Model		230 V; 50/60 Hz	110 – 120 V; 60 Hz
Megafuge 1.0	Table top centrifuge w/o accessories	75003490	75003491
Megafuge 1.0 S	Table top centrifuge with microprocessor SEPACONTROL; w/o accessories	75003497	–
Megafuge 1.0 R	Table top centrifuge with refrigeration w/o accessories	75003060	75003061
Megafuge 1.0 RS	Table top centrifuge with refrigeration and microprocessor SEPACONTROL; w/o accessories	75015552	75015562
Megafuge 2.0 – Set	Table top centrifuge with swing-out rotor, 4 round buckets 500 ml, 4 hermetically sealed caps, 4 plastic bottles	75003488	–
Megafuge 2.0 R – Set	Table top centrifuge with refrigeration with swing-out rotor, 4 round buckets 500 ml, 4 hermetically sealed caps, 4 plastic bottles	75003089	–
Megafuge 2.0	Table top centrifuge w/o accessories	–	75003485
Megafuge 2.0 R	Table top centrifuge with refrigeration w/o accessories	–	75003085
Megafuge 2.0 RS	Table top centrifuge with refrigeration and microprocessor SEPACONTROL; w/o accessories	75015505	75003083
Accessories			
Model			
Safety trolleys (as underbench unit)	h/w/d: 270/470/530 for Megafuge 1.0/1.0 S/2.0 h/w/d: 270/715/570 for Megafuge 1.0 R/1.0 RS/2.0 R/2.0 RS		76000070 76000071

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