

Heraeus

BIOFUGE® STRATOS HIGHSPEED TABLE TOP CENTRIFUGE

Intelligent centrifugation



Kendro
Quality Products – Lifetime Care

INTELLIGENT

Until now, intelligent technology has been reserved for floor standing centrifuges but, for the first time, it has now been used in the design of a refrigerated highspeed table top centrifuge – Biofuge stratos by Kendro Laboratory Products. Intelligent technology guarantees greatest benefits for the demanding user of a highspeed centrifuge.



Lid closed – fully automatic

Gentle pushing of the lid automatically engages two locks – rapidly and safely.



Balancing by eye

The Biofuge stratos is characterised by minimum noise, maximum imbalance stability and extreme reliability. An innovative drive with “active damping” was specifically designed for highspeed applications (see also page 6). The unique spindle drive offers many benefits.

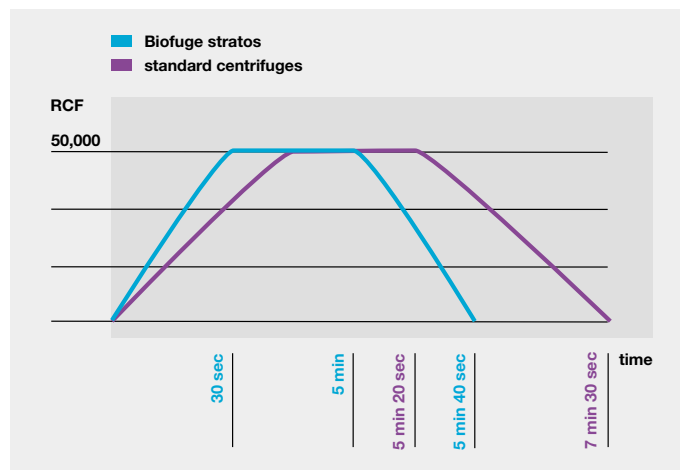
Safety in case of sample loss

The patented electronic imbalance recognition system is ideally matched to every rotor. It recognises imbalance even during a run.

- Large sample losses are detected during a run. The Biofuge stratos brakes automatically.
- Only imbalances caused by incorrect loading lead to error messages – false alarms are avoided.
- Inadmissible imbalances are detected specifically for every rotor. This protects the centrifuge's drive.

- Your samples can be simply balanced by eye.
- Loud rotors and resuspended sediments become a thing of the past.
- Service costs for broken drive needles are avoided.





No waiting

A powerful drive accelerates the Biofuge stratos' rotors in record times: 50,000 x g in 30 seconds. The extremely short braking and acceleration times save a lot of time and allow increased sample throughput.



Clear

The new Easycontrol user panel makes your work as simple as possible.

- Clear display of all values – no hidden functions
- Internationally recognised symbols
- Nine programs to save the most important run parameters
- "Pretemp" program for rapid pre-cooling

Wrong speed? No problem.

Within a few seconds the automatic rotor recognition system detects if the programmed speed is too high. The Biofuge stratos' display signals the maximum permissible value for the rotor used. You can confirm this value by pressing the START key or you can enter a new value.

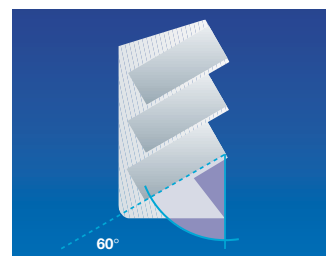


FLEXIBLE

The Biofuge stratos' extensive range of rotors is outstanding. Ten rotors – fixed angle, microlitre, swing-out and continuous flow rotors are at your disposal. All common types of tube from 0.2 to 180 ml can be spun in the Biofuge stratos.

The new aerosol tight rotors and buckets offer the greatest possible user safety. During the rotors' development we have improved the sealing mechanism. The safe biological centrifugation with the Biofuge stratos' rotors was certified by the independent CAMR test institute in Porton-Down, Great Britain, using a microbiological test procedure.

Additional safety is provided by tubes with sealed lids. For this reason, Kendro has extended its range of accessories to include these tubes.



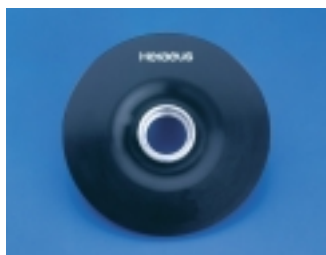
High sample throughput

80 x 2 ml tubes can be spun in the drum rotor.

- New: a rack with a 60 ° angle converts the drum into a 48-place fixed angle rotor – with an identical RCF value for all samples.

General purpose swing-out rotors

- A swing-out rotor for DIN, blood, conical and other tubes up to 180 ml.
- The bucket is suitable for extra long tubes up to 138 mm.
- A vertical swing-out rotor for microlitre plates ensures optimum sedimentation.



highspeed fixed angle rotors

- All fixed angle rotors are aerosol tight.
- Reduced acceleration and braking times through reduced weight.
- A lid for all fixed angle and microlitre rotors avoids any possibility of confusion.



**Only at Heraeus®:
continuous flow operation
on a table top**

- The Contifuge stratos provides time savings of several hours for sample volumes in excess of 20 l.
- The high RCF value guarantees the quantitative sedimentation in the field of bio-technology and for water sample examination.
- Titanium rotor for maximum chemical resistance.



**A new principle –
Highconic®**

10,000 x g for conical (Falcon® type) and highspeed tubes.

- As a result of the 45 ° angle, the sediment remains at the bottom of the tube.
- The flat angle prevents sample loss at the rim of the tube.

50,000 x g for 24 samples

A 24-place rotor provides high performance for 1.5 ml micro tubes.

- Acceleration in excess of 50,000 x g in only 30 seconds.

Indefinitely autoclavable

The 24 x 2 ml rotor is particularly suitable for infectious samples.

- The special alloy rotor is indefinitely autoclavable.



RELIABLE AND USER FRIENDLY

Kendro has set a new technological standard for high-speed table top centrifuges with the new spindle drive.

- high RCF values for all types of rotor
- extremely short acceleration and braking times
- balancing by eye
- extremely quiet run conditions
- outstandingly sturdy for everyday laboratory work
- very flexible as a result of an extensive range of rotors

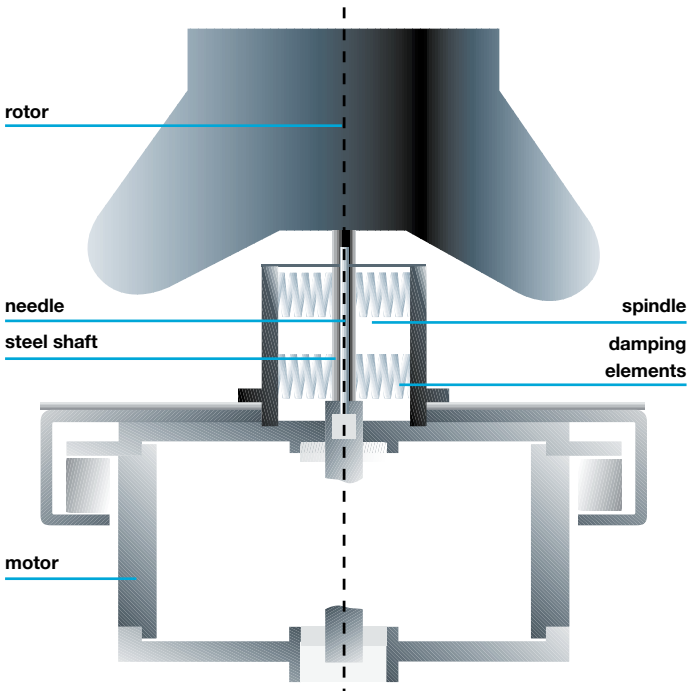
Limited – the common needle drive

With a centrifuge, the motor's driving power is transferred to the rotor via a shaft. Common high-speed centrifuges achieve this via a flexible needle ("needle drive"), which is inexpensive and quite sufficient for the operation of high-speed fixed angle rotors up to 6 x 94 ml. The needle drive is not suitable when different rotors with high g-forces and very short acceleration and braking times are used:

- The needles often break when used for very short acceleration and braking times.
- Swing-out rotors are just as damaging.
- The needle drive is very sensitive to imbalance.
- Sample whirling can occur during braking at resonance speed.

Intelligent – the Biofuge stratos' spindle drive

The spindle drive, which is unique for a table top centrifuge, features an elastic needle which is damped ("active damping", see illustration). The motor is totally independent from the rotor and does not feel any of the pressure and movements that the rotor causes. The spindle drive therefore offers indispensable benefits for the sophisticated user of a highspeed centrifuge.



Benefit	Customer usage
The spindle drive relieves the drive shaft from the weight of the rotor	Very short acceleration and braking times, no needle breakage
The sensitivity to imbalance is reduced	Exact balancing is not necessary (visual balancing)
Rotor resonance is damped	Sample sediments are not whirled during braking process
Rotor disturbance is reduced	No disturbing noises, extremely quiet operation, no damage to the motor bearing
The spindle tolerates the "hard" lowering of the rotors	The Biofuge stratos is very sturdy for everyday laboratory work
The spindle is supplied as a complete set including sensors	The entire spindle is easy to fit and service

ECONOMICAL AND SPACE SAVING

Flexible – the rotor diversity

With a selection of ten different rotors and numerous adaptors, the Biofuge stratos has the most flexible range of accessories on the table top centrifuge market. It is therefore a compact and application orientated centrifuge for every application in molecular biology, biochemical and medical research.

The table shows that some of the highspeed centrifuges available in the market cannot offer the Biofuge stratos' flexibility (centrifuge 1, 2 of the table). It is now possible to upgrade the Biofuge stratos with further rotors at any time. When on a limited budget, this is definitely more economical than purchasing an additional centrifuge with new rotors.

Use of rotor types in highspeed table top centrifuges

Rotor type	Biofuge stratos	centrifuge 1	centrifuge 2	centrifuge 3	centrifuge 4
Microlitre rotor	■	■	■	■	■
Highspeed rotor	■	■	■	■	■
Falcon® fixed angle rotor	■	■ ¹		■ ¹	■ ¹
Swing-out rotor (Falcon®, DIN, blood tubes)	■		■	■	■
Microtitre plate rotor	■			■	■
Continuous flow rotor	■				

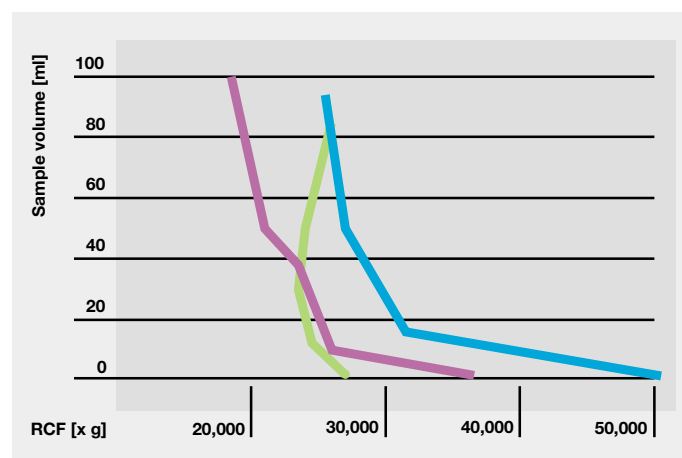
¹ Only partly suitable for Falcon® tubes due to steep angle

Powerful – the RCF values

The Biofuge stratos' extreme flexibility is characterised by high RCF values for all rotors. Centrifuges with virtually comparable flexibility (centrifuge 3, 4 of the table/graph) are, however, considerably less powerful because they do not have the Biofuge stratos' pioneering spindle drive.

■ Biofuge® stratos
■ centrifuge 3 (table 1)
■ centrifuge 4 (table 1)

Highspeed angle rotors' RCF values and volumes



Time saving – the run times

Short run times save time and consequently costs and they also increase the throughput of samples.

The graph opposite illustrates to which extent the Biofuge stratos' high RCF values and short braking times reduce the centrifuge's overall run time.

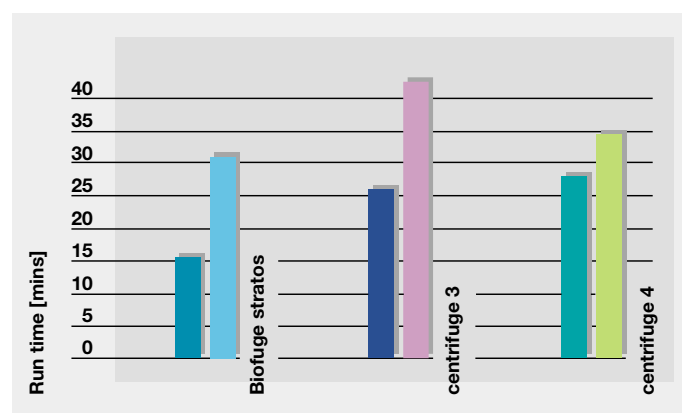
At maximum speed, a 8 x 50 ml rotor was operated for 30 minutes and a 24 x 1.5 ml rotor was spun for 15 minutes in the Biofuge stratos. After adding the braking

times, the entire centrifugation process' run time is established, as graphically illustrated.

Centrifuge 3 and 4 require a considerably longer run time to achieve the same separation results. This is due to the lower RCF values and partly the longer braking times.

■ 24 x 1.5 l ■ 8 x 50 ml
■ ■ ■

Microlitre and fixed angle rotors' run times in highspeed table top centrifuges



BIOLOGICALLY SAFE CENTRIFUGATION

In accordance with EN 61 010, when working with toxic and infectious materials, "it has to be guaranteed... depending on the biological agents' risk potential, that aerosols are either not created or cannot reach the work area's atmosphere". For centrifugation this results in the compelling necessity that both, tubes with sealed lid and rotors or swing-out buckets must be used with an aerosol tight cap.

Sealed tubes

The Biofuge stratos' range of accessories was consistently designed for biologically safe centrifugation. New tubes with sealed lids for highspeed applications were included in the tube range (page 13 ff).

Rotors – safe down to the smallest detail

The design of swing-out buckets and all fixed angle and microlitre rotors ensures a maximum seal.

At highsPEEDS the seals generally lose their effect when leaked liquid exerts a direct influence on them. At 50,000 x g, 1 ml of liquid puts a strain of 50 kg on the seals.

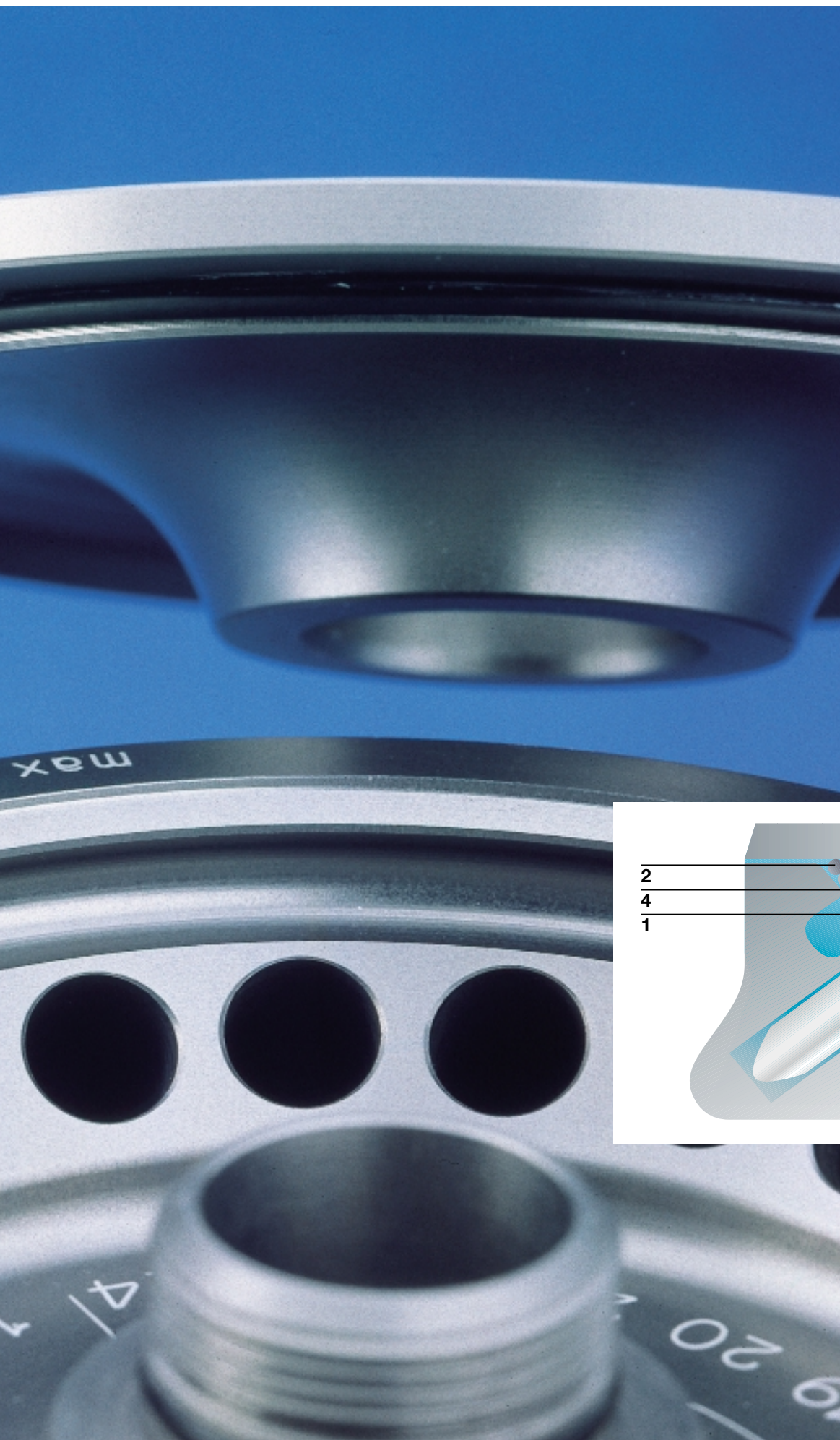
Test guidelines

Every user is obliged to regularly check their centrifugation accessories. Kendro assists with a test procedure, described in the operating instructions, which is in accordance with British standards.

Certified safety

The Biofuge stratos' aerosol tightness was certified by the independent CAMR test institute in Porton-Down, Great Britain, using a microbiological test procedure.

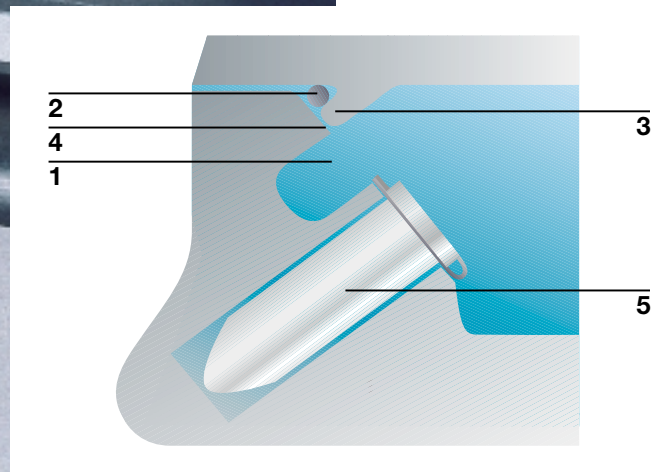




Angle rotors have a surrounding groove (1) above the tube boring which collects leaked liquids and aerosols which therefore cannot have an effect on the seal (2). The risk of spilling liquids is thus limited. This effect is supported by a liquid rejecter at the rotor lid (3) which, at the same time, holds the sealing ring.

An important detail is the inward pointing upper rotor edge (4). During a run the sealing ring presses against the centrifugal force and therefore actively supports the sealing effect. Furthermore, unscrewing the lid is very easy because the rotor lid including sealing ring lies on this edge.

The diagram illustrates the Biofuge stratos' angle rotor sealing principle.



- 1 Groove which is designed to collect leaked liquids and aerosols
- 2 Sealing ring
- 3 Liquid rejecter at the rotor lid
- 4 Inward pointing edge
- 5 Tube in the boring

TECHNICAL DATA/ORDER NUMBERS



Fixed angle rotors

Fixed angle rotors		6 x 94 ml	8 x 50 ml	16 x 16 ml	Highconic® rotor
Order no.		75003334	75003335	75003336	75003046
Angle	°	26	34	23	45
Max. speed	rpm	15,000 (13,000)*	15,000 (13,000)*	17,000 (14,000)*	8,500
Max. RCF		25,410 (19,083)*	26,920 (20,217)*	31,660 (21,475)*	10,015
Max. capacity	ml	6 x 94	8 x 50	16 x 16	6 x 50
Acceleration/braking time	s	70/60	75/60	60/55	35/40
Min. temp. at max. speed	°C	-5 (-10)*	-1 (-8)*	2 (-9)*	-18 (-14)*
Max. speed at 4 °C		15,000	15,000	17,000	8,500
Max./min. radius	cm	10.1/6.3	10.7/5.6	9.8/6.4	12.4/6.0
k-factor		531 (707)*	729 (970)*	373 (551)*	2,545
Distinctive features		aerosol tight	aerosol tight	aerosol tight	aerosol tight, indefinitely autoclavable (121 °C)

* () for use with Biofuge stratos 120 V/60 Hz version



Adaptors for fixed angle rotors

Volume	Max. tube size		Rotor 75003334		Rotor 75003335		Rotor 75003336	
	D (mm)	L (mm)	Tubes per rotor	Order no. adaptor	Tubes per rotor	Order no. adaptor	Tubes per rotor	Order no. adaptor
1.5 ml	11	51	24	76002905	24	76002902	16	76002900
3.5 ml	11	91	24	75003091	24	76002903	16	76002901
6.5 ml	13	108	12	75003092	8	75003097	16	75003079
12 ml	16	89	12	75003093	8	75003098	–	–
16 ml	18	114	6	76002906	8	76002904	16	without ad.
38 ml	25	104	6	75003094	8	75003099	–	–
50 ml	29	114	6	75003014	8	without ad.	–	–
94 ml	38	114	6	without ad.	–	–	–	–

Adaptors for Highconic® rotor 75003046

Volume	Max. tube size		Amount/ Rotor	Order no. Adaptor
	D (mm)	L (mm)		
4 x 1.5 ml	11	58	24	76002905
4 x 3.5 ml	11	103	24	75003091
2 x 6.5 ml	13	115	12	75003092
2 x 12 ml	16	96	12	75003093
1 x 16 ml	18	124	6	76002906
1 x 38 ml	25	112	6	75003094
1 x 50 ml	29	118	6	75003014
1 x 15 ml Falcon®	16.5	120	6	75003095
1 x 50 ml Falcon® ¹⁾	30	117	6	75003096

¹⁾ Included in the price of the rotor



TECHNICAL DATA/ORDER NUMBERS



Microlitre rotors

Microlitre rotors		24 x 1.5/2 ml	24 x 1.5 ml	drum rotor
Order no.		75003332	75003331	75003044
Angle	°	45	45	60/90
Max. speed	rpm	17,000	23,300 (22,000)*	13,000
Max. RCF		28,110	50,377 (44,912)	16,438
Max. capacity	ml	24 x 1.5/2	24 x 1.5	80 x 2
Acceleration/braking time	s	27/35	30/40	30/35
Min. temp. at max. speed	°C	-13 (-8)*	8 (5)*	-15 (-12)*
Max. speed at 4°C		17,000	22,500	13,000
Max./min. radius	cm	8.7/5.9	8.3/5.9	8.7/3.8
k-factor		340	159 (179)*	1242
Distinctive features		aerosol tight, indefinitely autoclavable (121 °C)	aerosol tight	48-place angle rotor with 8 x rack 75001498

* () for use with Biofuge stratos 120 V/60 Hz version

Adaptor sets for microlitre rotors 75003332 and 75003331

Adaptor sets with 24 reducer sleeves	Colour	Rotor 3332 Order no.	Rotor 3331 Order no.
for 0.5/0.6 ml microlitre tubes	turquoise	76003758	76003252
for 0.25/0.4 ml microlitre tubes	red	76003759	76003251 ¹⁾
for 0.2 ml PCR tubes	grey	76003750	76003250

¹⁾ Only suitable for 0.25 ml tubes



Racks for the drum rotor 75003044

Rack for	Amount per		Colour	Order no.
	adaptor	Rotor		
1.5 ml microlitre tubes	10	80	yellow	76001499
1.5/2 ml microlitre tubes	10	80	red	76001244
0.3 ml microcapillary tubes	8	64	blue	76001246
0.5/0.6 ml microlitre tubes	15	120	green	76001247
0.25/0.4 ml microlitre tubes	20	160	yellow	76001248
1.5/2 ml microlitre tubes (60 ° angle)	6	48	white	75001498
PCR strips (each 8 tubes)	3	12	white	76001587



TECHNICAL DATA/ORDER NUMBERS

Swing-out rotors

Swing-out rotors		4 x 180 ml	2 x microtitre
Order no.		75003047	75003048
Order no. round bucket		75008172	–
Order no. aerosol tight cap		75008173	–
Max. speed	rpm	5,000 (4,500)*	3,000
Max. RCF		4,863 (3,939)*	1,370
Max. capacity	ml	4 x 180	2 microtitre plate
Acceleration/braking time	s	45/55	30/35
Min. temp. at $n_{\max}$	°C	-15 (-14)*	-19 (-15)*
Max./min. radius	cm	17.4/9.4	13.6/–
Distinctive features		aerosol tight	max. shelf height 5.7 cm

* () for use with Biofuge stratos 120 V/60 Hz version

Adaptor for the round bucket 75008172 in swing-out rotor 75003047

Adaptor for	Max. tube size (mm)		Lid	Tube Rotor	Colour	Order no. adaptor
	D	L ¹⁾				
12 x 1.5/2 ml	11	42	13.6	48	black	75008190
9 x 7 ml DIN	13	125/135	15.2	36	yellow	75008189
7 x 7 ml blood collection	13	126/135	18.5	28	grey	75008188
7 x 15 ml DIN	18	126/135	18.5	28	red	75008186
4 x 15 ml blood collection	18	129/135	20	16	white	75008185
3 x 15 ml Falcon®	17	133/135	23.7	12	brown	75008187
1 x 25 ml DIN	25	126/135	27	4	orange	75008184
1 x 25 ml universal container	26	121/130	53	4	green	75008196
1 x 50 ml Falcon®	30	133/138	39	4	green/yellow	75008183
1 x 50 ml DIN	36	132/138	39	4	green	75008182
1 x 100 ml	45	128/133	47.5	4	blue	75008181
2 x US urine	17			8	brown/red	75008195

¹⁾ Length with/without aerosol tight cap

D = max. diameter; L = max. tube length; cap = max. cap diameter



Continuous flow rotor

Continuous flow rotor order no.		75003049	75003054
Max. speed	rpm	17,000	10,000
Max. RCF		25,040	8,665
Max. capacity	ml	400 ml sediment	400 ml sediment
Acceleration/braking time	s	80/60	36/35
Max./min. radius	cm	7.75/5.0	7.75/5.0
Distinctive features		indefinitely autoclavable (121 °C)	indefinitely autoclavable (121 °C)
Material		titan	coated aluminium

Continuous flow rotor accessories

High performance insert for HCT 22,300 rotor	75015339
--	----------

CENTRIFUGE TUBES AND TOPS

Highspeed tubes with round bases

- made of polycarbonate with glass like transparency
- made of polypropylene with high chemical resistance



Oak-Ridge buckets

- including aerosol tight cap
- for leakage free closing up to the edge of filled tubes
- recommended for centrifugation of critical substances



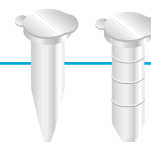
Sealing plug

- to seal buckets with round bases as splash and dust protection



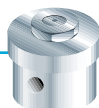
Microlitre tubes

- for small volumes and high-speeds



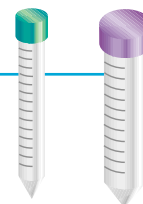
Sealing caps

- for tight closing of smooth sided buckets
- unlimited use



Conical tubes

- "Falcon®" type
- for work with cell cultures



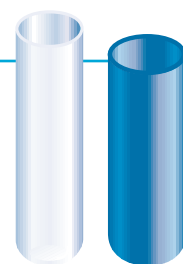
Screw lid

- made of metal
- for tight closing of polycarbonate tubes with thread



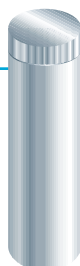
Corex® glass

- if glass is indispensable
- for applications to 12,000 x g
- use always in combination with a rubber adaptor



Stainless steel buckets

- with high chemical resistance
- sturdy and unlimited use



Borosilicate glass

- for gravitational fields up to 4,000 x g
- with high chemical resistance
- indefinitely autoclavable

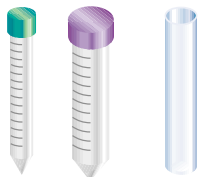


CENTRIFUGE TUBES AND TOPS



**Micro tubes for microlitre rotors order no. 75003331, 75003332
and drum rotor order no. 75003044**

Capacity	Type	Packed/unit	Order no.
0.4 ml	Microlitre tube, PE, with snap lid	1,000	76001166
1.5 ml	Microlitre tube, PE, with snap lid	500	76001163
	Microlitre tube, PP, with screw lid	500	76001148
2.0 ml	Microlitre tube, PE, with snap lid	500	76001169



**Centrifuge tubes for the swing-out rotor order no. 75003047
with swing-out bucket order no. 75008172**

Capacity	Type	Packed/unit	Order no.
1.5/2 ml	for adaptor order no. 75008190:		
	1.5 ml microlitre tube, PE, with snap lid	500	76001163
	1.5 ml microlitre tube, PP, with screw lid	500	76001148
	2.0 ml microlitre tube, PE, with snap lid	500	76001169
3.5 ml	for adaptor order no. 75008189:		
	tube with round base, PPCO, 3.5 ml	10	75002994
	tube with round base, PC, 3.5 ml	10	75003068
	sealing plug, PP	20	75003069
7 ml	for adaptor order no. 75008189:		
	borosilicate glass, DIN	100	76009001
15 ml	for adaptor order no. 75008186:		
	borosilicate glass, DIN	100	76009003
	borosilicate glass, DIN, graduated	1	75001137
	borosilicate glass, conical, 12.5 ml	100	76009002
	borosilicate glass, conical, graduated, 12.5 ml	1	75001136
	tube with round base, PP	1	76009080
15 ml con.	for adaptor order no. 75008187:		
	"Falcon®" type	125	76002845
25 ml	for adaptor order no. 75008184:		
	borosilicate glass, DIN	50	76009006
	borosilicate glass, DIN, graduated	1	75001143
50 ml	for adaptor order no. 75008182:		
	borosilicate glass, DIN	10	76009005
	borosilicate glass, DIN, graduated	1	75001138
	tube with round base, graduated, PC	1	76009093
	tube with round base, PP	1	76009082
	rubber pad for tube 76009093 and 76009082	1	76001805
50 ml con.	for adaptor order no. 75008183:		
	"Falcon®" type	25	76002844
100 ml	for adaptor order no. 75008181:		
	borosilicate glass, DIN	10	76009007
	borosilicate glass, DIN, graduated	1	75001146
	tube with round base, graduated, PC	1	76009095
	tube with round base, PP	1	76009084
180 ml	use without adaptor:		
	bottle incl. screw lid, PP	1	76003026

material descriptions: PC = polycarbonate, PP = polypropylene, PPCO = polypropylenecopolymer, PE = polyethylene

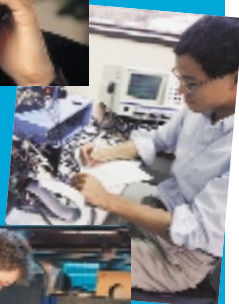
**Centrifuge tubes for fixed angle rotors order no. 75003046,75003334,
75003335, 75003336**

Capacity	Type	Packed/unit	Order no.
3.5 ml	tube with round base, PPCO	10	75002994
	tube with round base, PC	10	75003068
	sealing plug, PP	20	75003069
6.5 ml	tube with round base, PC	10	75003071
	tube with round base, PPCO	10	75003072
	sealing plug, PP	20	75003073
12 ml	tube with round base, PC	1	76002804
	tube with round base, PPCO	1	76002856
	tube with round base, PC, with thread	1	75002805
	screw lid for tube 2805	1	75001559
	Oak-Ridge tube, PC, incl. aerosol tight cap	10	75003074
	Oak-Ridge tube, PPCO, incl. aerosol tight cap	10	75003075
15 ml con.*	"Falcon®" type	125	76002845
16 ml	tube with round base, PC	10	75002950
	tube with round base, PPCO	10	75002951
	sealing plug, PP	10	75002957
	tube with round base, stainless steel	1	75002955
	incl. screw lid		
	Oak-Ridge tube, PC, incl. aerosol tight cap	10	75003076
	Oak-Ridge tube, PPCO, incl. aerosol tight cap	10	75003077
38 ml	tube with round base, PC	1	76002809
	tube with round base, PPCO	1	76002871
	sealing cap for tube 2809 and 2871	1	76001528
	tube with round base, PC, with thread	1	75002828
	screw lid for tube 2828	1	75001547
	Oak-Ridge tube, PC, incl. aerosol tight cap	10	75003078
	Oak-Ridge tube, PPCO, incl. aerosol tight cap	10	75003086
50 ml	tube with round base, PC	10	75002958
	tube with round base, PPCO	10	75002959
	sealing plug, PP	20	75002974
	bucket with round base, stainless steel, incl. screw lid	1	75002968
	Oak-Ridge tube, PC, incl. aerosol tight cap	10	75003087
	Oak-Ridge tube, PPCO, incl. aerosol tight cap	10	75003088
	Oak-Ridge tube, Teflon, incl. screw lid	2	75002966
	Corex® glass, 15 ml	1	75002954
	rubber adaptor for Corex® glass 2954	2	75002971
	Corex® glass, 25 ml with screw lid	1	75002970
	rubber adaptor for Corex® glass 2970	2	75002973
	Corex® glass, 30 ml	1	75002969
	rubber adaptor for Corex® glass 2969	2	75002972
50 ml con.*	"Falcon®" type	25	76002844
94 ml	tube with round base, PC	1	76002810
	sealing cap for tube 2810	1	75001568
	tube with round base, PC, with thread	1	75002829
	screw lid for 94 ml tube 2829	1	75001540
	tube with round base, PPCO thick	1	76002872
	tube with round base, PPCO thin	25	76002837
	tube with round base, stainless steel	1	75002883
	sealing cap for tubes 2837 and 2883	1	75001569
	Oak-Ridge tube, 85 ml PC	10	75002976

* only for rotor 3046



FAST AND PRECISE SERVICE



Fast response times and competent solutions is our performance promise to our customers all over the world. Our comprehensive service package does not only include repairs and maintenance.

For us, service means technological competence, advice on applications and excellent logistics. The basis for this is our equipment's outstanding quality.

For these reasons, your decision to work together with Kendro is also the first step towards a reliable and reassuring service partnership.

TECHNICAL DATA/ORDER NUMBERS

Biofuge stratos and Contifuge stratos

Drive		induction drive without carbon brushes
Control		microprocessor control through Easycontrol II
Min./max. speed	rpm	300/23,300, adjustable in increments of 10
Max. RCF		50,377
Max. capacity	ml	4 x 180
Braking/accel. curves		9/9
Programs		9 + 1 pre-cooling program
Noise at max. speed	dB	< 60
Run time		0 – 9 hrs 59 mins, continuous operation
Temperature range	°C	–19 to +40
Functions		RCF selection, Quick-run
Rotor recognition		automatic
Imbalance recognition		electronic, depending on speed and ideally suited to every rotor
Construction		galvanised steel chassis with armoured chamber
Equipment safety		lid lock and interlock (two automatic locks)
External dimensions (h x w x d)	mm	395 x 640 x 595
Weight (excluding rotor)	kg	134
Power consumption	W	1,400 W (cooling system ca. 900 W)
Test standards		manufactured and tested in accordance with EN 61 010-1, EN 61 010-2-020, EN 50 081-1, EN 50 082-1 Requiring approval in accordance with UVV VBG 7z

Type	Equipment	Order no.
Biofuge stratos	230 V, 50/60 Hz	75005282
	200/208 V, 50/60 Hz	75005284
	120 V/60 Hz	75005286
Contifuge stratos	230 V, 50/60 Hz	75005283
	200/208 V, 50/60 Hz	75005285

For Ordering or Technical Information

Australia	Kendro Laboratory Products Pty Ltd · Lane Cove, Sydney · NSW 2066 · Tel. +61 (0) 2-9936 1540 · Fax +61 (0) 2-9427 9765 · info@kendro.com.au
Austria	Kendro Laboratory Products GmbH · Vienna · Tel. +43 (0) 1-801 40 0 · Fax +43 (0) 1-801 40 40 · office@kendro.at
Canada	Kendro Laboratory Products International Sales · Newtown, CT · USA · Tel. +1 203-270 2080 · Fax +1 203-270 2166 · info@kendro.com
China	Kendro Laboratory Products Beijing Rep. Office · Beijing · Tel. +86 (0) 10-6501 3810 · Fax +86 (0) 10-6501 4229 · kendrobj@163b.com
	Kendro Laboratory Products (H.K.) Limited · Hong Kong · Tel. +852 2711 3910 · Fax +852 2711 3858 · info@kendro.com
	Kendro Laboratory Products Shanghai Rep. Office · Shanghai · Tel. +86 (0) 21-5490 0216 · Fax +86 (0) 21-5490 0230 · kendrosh@public4.sta.net.cn
Denmark	AxeB AB · Albertslund · Tel. +45 (0) 43-6246 47 · Fax +45 (0) 43-6246 41 · info@axeB.dk
France	Kendro Laboratory Products SAS · Courtaboeuf cedex · Tel. +33 (0) 1-69 18 77 77 · Fax +33 (0) 1-60 92 00 34 · info@kendro.fr
Germany	Kendro Laboratory Products GmbH · Hanau · Tel. +49 (0) 1805-536 376 · Fax +49 (0) 1805-112 114 · info@kendro.de
India	Kendro Laboratory Products (India) Pvt. Ltd. · New Delhi · Tel. +91 (0) 11-26 18 48 40 · Fax +91 (0) 11-26 18 53 97 · kendro.india@vsnl.com
Italy	AHSI S.p.A. · Cornate D'Adda · Tel. +39 039-68 271 · Fax +39 039-68 27 500 · info@ahsi.it
Japan	Nippon Kendro Co. Ltd. · Tokyo · Tel. +81 (0) 3-3517 1661 · Fax +81 (0) 3-3517 1664 · info@kendro.co.jp
New Zealand	Kendro Instruments New Zealand · Auckland · Tel. +64 (0) 9-525 03 33 · Fax +64 (0) 9-525 03 37 · info@kendro.co.nz
Poland	Kendromed Spółka z o.o. · Warsaw · Tel. +48 (0) 22-663 43 23 · Fax +48 (0) 22-663 43 25 · kendro.warszawa@kendro.com.pl
Portugal	Heraeus S.A. · Massamá · Tel. +351 (0) 214-387 630 · Fax +351 (0) 214-387 636 · heraeus@mail.telepac.pt
Spain	Heraeus S.A. · Madrid · Tel. +34 (0) 91-358 19 96 · Fax +34 (0) 91-358 20 67 · laboratorio@heraeus.es
Sweden	AxeB AB · Sollentuna · Tel. +46 (0) 8-585 777 50 · Fax +46 (0) 8-623 15 45 · info@axeB.se
Switzerland	Kendro Laboratory Products AG · Zurich · Tel. +41 (0) 1-454 12 12 · Fax +41 (0) 1-454 12 99 · kendro-ag@swissonline.ch
	Kendro Laboratory Products SA · Carouge (Geneva) · Tel. +41 (0) 22-343 21 67 · Fax +41 (0) 22-342 38 31 · kendro-sa@swissonline.ch
U.K./Ireland	Kendro Laboratory Products PLC · Bishop's Stortford · Herts · Tel. +44 (0) 1279-827 700 · Fax +44 (0) 1279-827 750 · kendro@kendro.co.uk
USA	Kendro Laboratory Products · Newtown, CT · Tel. +1 800-522 7746 · Fax +1 203-270 2166 · info@kendro.com
All other countries in	
Asia Pacific	Kendro Laboratory Products (H.K.) Limited · Hong Kong · Tel. +852 2711 3910 · Fax +852 2711 3858 · info@kendro.com
Europe, Middle East, Africa	Kendro Laboratory Products International Sales · Hanau · Germany · Tel. +49 (0) 1805-536 376 · Fax +49 (0) 1805-112 114 · info@kendro.de
Latin America	Kendro Laboratory Products International Sales · Newtown, CT · USA · Tel. +1 203-270 2080 · Fax +1 203-270 2210 · info@kendro.com
Internet	http://www.kendro.com

 **Quality Products – Lifetime Care**

Heraeus

Registered to ISO 9001. Kendro Laboratory Products meet or exceed stringent quality and product safety standards.
©2002 Kendro Laboratory Products. All Rights Reserved. Printed in Germany 2C 06/03 4t Druckerei – 304-101-1