




ROTANTA 460 / 460 R

Advanced laboratory technology makes a significant contribution to shortening processing times

Enhanced performance and an extended range of accessories guarantee fast, trouble-free

operation in daily laboratory use. With a maximum capacity of 3 litres per run, the ROTANTA centrifuges are proving themselves in clinics and laboratory centres, as well as in Life Science R & D departments.



TECHNOLOGY		ROTANTA 460		ROTANTA 460 R ^{>)}	
Benchtop centrifuge, without rotor		classic		cooled	
Power supply*)		200 – 240 V 1 ~	100 – 127 V 1 ~	200 – 240 V 1 ~	100-127 V1 ~ 100 V 1 ~
Frequency		50 – 60 Hz		50 Hz	60 Hz 50 Hz
Consumption		1,000 VA	1,100 VA	1,800 VA	2,000 VA
Emission, Immunity		EN / IEC 61326-1, class B	FCC class B	EN / IEC 61326-1, class B	FCC class B
 Max. capacity	4 x 750 ml				
 Max. RPM (speed)	15,000 min ⁻¹				
 Max. RCF	24,400				
Running time		1 s–99 h : 59 min : 59 s, ∞ continuous run, short cycle mode			
Dimensions (H x W x D)		456 x 554 x 706 mm	456 x 554 x 715 mm	456 x 770 x 706 mm	456 x 770 x 715 mm
Weight		approx. 101 kg	approx. 111 kg	approx. 141 kg	approx. 151 kg
Refrigeration					
temperature control, infinitely variable		-		from -20 to +40 °C	
Cat. No.		5650	5650-01	5660	5660-01

^{*)} Other voltages on request.



^{>)} For a list of further versions of this model, please refer to page 12.

ROTANTA 460 RC / 460 RF

Model ROTANTA 460 RC is a refrigerated floor-standing centrifuge. It rests on castors, can be easily pushed beneath the workbench and

thus does not take up any space on top of the workbench. A further option is the refrigerated ROTANTA 460 RF floor-standing centrifuge.



TECHNOLOGY	ROTANTA 460 RC ^{>)}		ROTANTA 460 RF ^{>)}	
	Underbench centrifuge, cooled, without rotor		Floorstanding centrifuge, cooled, without rotor	
Power supply*)	200 – 240 V 1~		100 – 127 V 1 ~	100 V 1 ~
Frequency	50 Hz		60 Hz	50 Hz
Consumption	1,800 VA		2,000 VA	
Emission, Immunity	EN / IEC 61326-1, class B		EN / IEC 61326-1, class B	FCC class B
 Max. capacity	4 x 750 ml			
 Max. RPM (speed)	15,000 min ⁻¹			
Max. RCF	24,400			
Running time	1 s–99 h : 59 min : 59 s, ∞ continuous run, short cycle mode			
Dimensions (H x W x D)	683 x 554 x 697 mm		961 x 554 x 697 mm	
Weight	approx. 140 kg		approx. 164 kg	approx. 174 kg
Refrigeration				
temperaturee control, infinitely variable	from -20 to +40 °C			
Cat. No.	5670		5675	5675-01

ROTORS













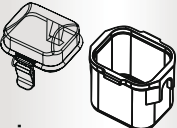










Swing-out rotor, 4-place













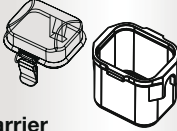










illustrated with carriers 5625-A
and lids 5627 with bio-containment ⁵⁾

✂ 90° n = 4,600 min⁻¹ max. RCF 5,063

Cat. No. (without carriers) 5699-R

capacity in ml	1.5	2.0	3	4	4	5	6	7	15	25	50	94
Ø x L in mm	11 x 38		10 x 60	10 x 88	12 x 60	12 x 75	12 x 82	12 x 100	17 x 100	24 x 100	34 x 100	38 x 102
Cat. No.	2078	0536	-			0553 ²⁾	0501 ²⁾	0578 ²⁾	0518 ²⁾	0519 ²⁾	0521 ²⁾	0549
lid with bio-containment ⁵⁾ Cat. No. 5627												
 carrier Cat. No. 5625-A												
Cat. No.	4730				4732				4733	4734	4735	4736
boring Ø x L in mm	11 x 84				13.5 x 84				17.5 x 84	26.5 x 84	36 x 80	42 x 80
tubes per rotor	224		120		80				68	24	12	
max. RCF ²⁾ upper / lower	3,572 / 4,637				4,637						4,495	
radius in mm upper / lower	151 / 196				196						190	
run-up in sec					90							
run-down in sec, braked					95							
temperature in °C ¹⁾					+4							

capacity in ml	100	100	250	1.1 – 1.4	2.6 – 3.4	2.7 – 3	4 – 5.5	4.5 – 5	4.9	7.5 – 8.5	9 – 10	10
Ø x L in mm	44 x 100	40 x 115	65 x 115	8 x 66	13 x 65	11 x 66	15 x 75	11 x 92	13 x 90	15 x 92	16 x 92	15 x 102
Cat. No.	0526 ²⁾	0523 ²⁾	0530 ²⁾	blood collection / urine tubes								
lid with bio-containment ⁵⁾ Cat. No. 5627												
 carrier Cat. No. 5625-A												
Cat. No.	4737	4736	4738	4730	4732		4733	4732		4733		
boring Ø x L in mm	46 x 84	42 x 80	66 x 80	11 x 84	13.5 x 84		17.5 x 84	13.5 x 84		17.5 x 84		
tubes per rotor	8	12	4	120	80		68	80		68		
max. RCF ²⁾	4,637	4,495		4,637								
radius in mm	196	190		196								
run-up in sec	90											
run-down in sec, braked	95											
temperature in °C ¹⁾	+4											

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

















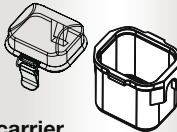















²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.



























⁴⁾ Please remove the inserts.

Swing-out rotor 5699-R



Most of the adapters for carriers 5625-A and 4880 are built in layers. For shorter tubes, 1 to 2 layers should be removed. In the tables, the required layers are marked in grey.

capacity in ml	1.6–5	4–7	4–7	8.5–10	14	15	50	12	25	30	50	10	30	50	85	94					
Ø x L in mm	13x75	13x100	16x75	16x100	16.5x106	17x120	29x115	17x100	25x90	25x110	29x115	16x80	26x95	29x107	38x106	38x102					
Cat. No.	blood collection / urine tubes				-	0509	0513	-				-	0545	0546	0547	0538 ¹³⁾					
lid with bio-containment ⁵⁾ Cat. No. 5627																					
 carrier Cat. No. 5625-A																					
Cat. No.	4732		4733		4739 ⁴⁾		4739	4740	4739 ⁴⁾		4734		4740 ⁴⁾		4733	4734	4740 ⁴⁾		4736		
boring Ø x L in mm	13.5x84		17.5x84		17x80		30x80		17x80		26.5x84		30x80		17.5x84		26.5x84		30x80	42x80	
tubes per rotor	80		68		48		20		48		24		20		68		24		20		12
max. RCF ²⁾	4,637																	4,495			
radius in mm	196																	190			
run-up in sec	90																				
run-down in sec, braked	95																				
temperature in °C ¹⁾	+4																				

capacity in ml	1.5	2.0	3	4	4	5	6	7	15	25	45	50	94	100
Ø x L in mm	11x38		10x60	10x88	12x60	12x75	12x82	12x100	17x100	24x100	31x100	34x100	38x102	40x115
Cat. No.	2078	0536	-			0553 ²⁾	0501 ²⁾	0578 ²⁾	0518 ²⁾	0519 ²⁾	-	0521 ²⁾	0549	0523 ²⁾
lid with bio-containment ⁵⁾ Cat. No. 4883														
 carrier Cat. No. 4880														
Cat. No.	4830			4832			4833	4834	4835		4836			
boring Ø x L in mm	11x84			13.5x84			17.5x84	26.5x84	36x80		42x80			
tubes per rotor	192		96		76				28		16		12	
max. RCF ²⁾ upper / lower	3,572/4,637					4,637						4,495		
radius in mm upper / lower	151/196					196						190		
run-up in sec	90													
run-down in sec, braked	95													
temperature in °C ¹⁾	+4													

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.































¹³⁾ The screw cap for tube No. 0538 is available with Cat. No. 0539. Dimensions with cap 38 x 110 mm.









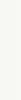
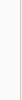


















ROTORS

Swing-out rotor 5699-R



illustrated with carriers 4880
and lids 4883 with bio-containment ⁵⁾

capacity in ml	100	250	1.1–1.4	2.6–3.4	2.6–3.4	2.7–3	4–5.5	4.5–5	4.9	4.9	7.5–8.5	9–10	9–10	10	1.6–5	1.6–5
Ø x L in mm	44x100	65x115	8x66	13x65	13x65	11x66	15x75	11x92	13x90	13x90	15x92	16x92	16x92	15x102	13x75	13x75
Cat. No.	0526 ²⁾	0530 ²⁾	blood collection / urine tubes													
lid with bio-containment ⁵⁾ Cat. No. 4883																
carrier Cat. No. 4880																
Cat. No.	4837	4838	4830	4847	4832	4833	4832	4847 ⁴⁾	4833	4848	4833	4847	4832			
boring Ø x L in mm	46x84	66x80	11x84	13.2x61	13.5x84	17.5x84	13.5x84	13.2x61	17.5x84	17.5x61	17.5x84	13.2x61	13.5x84			
tubes per rotor	8	4	96	108	76				108	76	88	76	108	76		
max. RCF ²⁾	4,637	4,495	4,637	4,116	4,637				4,684	4,637	4,684	4,637	4,116	4,637		
radius in mm	196	190	196	174	196				198	196	198	196	174	196		
run-up in sec	90															
run-down in sec, braked	95															
temperature in °C ¹⁾	+4															

capacity in ml	4–7	4–7	4–7	4–7	8	8.5–10	8.5–10	5	14	15	50	50	12	25	30
Ø x L in mm	13x100	13x100	16x75	16x75	16x125	16x100	16x100	17x59	16.5x106	17x120	29x115	29x115	17x100	25x90	25x110
Cat. No.	blood collection / urine tubes							-	0509	0513	0513	-	-		
lid with bio-containment ⁵⁾ Cat. No. 4883															
carrier Cat. No. 4880															
Cat. No.	4847 ⁴⁾	4832	4833	4848	4833	4848	4839	4839 ⁴⁾	4839	5647	4840	4839 ⁴⁾	4834		
boring Ø x L in mm	13.2x61	13.5x84	17.5x84	17.5x61	17.5x84	17.5x61	17x80			30x96.5	30x80	17x80	26.5x84		
tubes per rotor	108	76	76	88	76	88	56			28	20	56	28		
max. RCF ²⁾	4,684	4,637	4,637	4,684	4,637	4,684	4,637			4,708	4,637				
radius in mm	198	196	196	198	196	198	196			199	196				
run-up in sec	90														
run-down in sec, braked	95														
temperature in °C ¹⁾	+4														

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, carrier 1560 cannot be closed with lid 1561.

⁴⁾ Please remove the inserts.










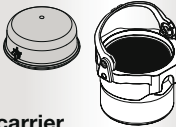





Swing-out rotor 5699-R



Carrier 4885

The 4880 carrier is also available without a lid and clamp lock. The catalogue number is 4885.¹⁷⁾

capacity in ml	50	50	10	10	30	50	50	85	94	250	290	500	600	650	750
Ø x L in mm	29x115	29x115	16x80	16x80	26x95	29x107	29x107	38x106	38x102	61x122	62x137	96x147	93x134	97x139	97x152
Cat. No.	-	-	-	-	0545	0546	0546	0547	0538 ¹³⁾	5127 ²⁸⁾	- ²⁸⁾	Corning®	0551 ²⁸⁾	0554 ²⁸⁾	0512 ²⁸⁾
lid with bio-containment ⁵⁾ Cat. No. 4883															
carrier Cat. No. 4880															
Cat. No.	5647 ⁴⁾	4840 ⁴⁾	4833	4848	4834	4840 ⁴⁾	5647 ⁴⁾	4836	4841	4845	4846	4845	4846	4845	4845
boring Ø x L in mm	30x96.5	30x80	17.5x84	17.5x61	26.5x84	30x80	30x96.5	42x80	62x100	98x100	94x95	98x100	94x95	98x100	98x100
tubes per rotor	28	20	76	88	28	20	28	12	4	4	4	4	4	4	4
max. RCF ²⁾	4,708	4,637	4,637	4,684	4,637	4,708	4,495	4,779	4,779	4,779	4,779	4,779	4,779	4,779	4,779
radius in mm	199	196	196	198	196	199	190	202	202	202	202	202	202	202	202
run-up in sec	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
run-down in sec, braked	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
temperature in °C ¹⁾	+4	+4	+4	+4	+4	+4	+4	+4	+4	+4	+4	+4	+4	+4	+4

capacity in ml	450	750	30/50		40	160	200		
Ø x L in mm	97x110	96x135	-						
Cat. No.	4447	4234-A	Falcon®	Corning®	Nunc®	Nunc®	Falcon®	Greiner	Nunc®
lid with bio-containment ⁵⁾ Cat. No. 4883									
 carrier Cat. No. 4880									
Cat. No.	4845		4849		4852	4851	4831		
boring Ø x L in mm	98x100						-		
tubes per rotor	4						4		
max. RCF ²⁾	4,779						4,613 ³¹⁾		
radius in mm	202						195		
run-up in sec					90				
run-down in sec, braked					95				
temperature in °C ¹⁾					+4				

Accommodated cell culture flasks:

30/50 ml

from Becton Dickinson, No. 353014
from Corning, No. 430168

40 ml

from Nunc, No. 156340

160 ml

from Nunc, No. 156472
from Sarstedt, No. 83.3911.xxx

200 ml

from Becton Dickinson, No. 353024
from Greiner, No. 658170
from Nunc, No. 153732 or 147589

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

¹³⁾ The screw cap for tube No. 0538 is available with Cat. No. 0539. Dimensions with cap 38 x 110 mm.

¹⁷⁾ With the E3905 add-on kit and the 4783 lid, the 4785 carrier can be converted at a later time to a 4780 carrier with single-hand clamp lock.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

³¹⁾ Please note that the RCF values indicated refer only to rotor performance. The max. RCF for the accommodated cell culture flasks is 2,300.

ROTORS















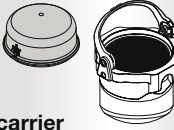










Swing-out rotor **5699-R**

















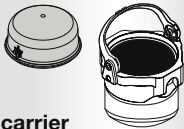











illustrated with carriers 4890
and lids 4883
with bio-containment ¹⁾



illustrated with
carriers 4890

capacity in ml	1.5	2.0	5	7	8	9	15	25	50	100	2.6–3.4	2.7–3	4–5.5	4.5–5
Ø x L in mm	11x38		12x75	12x100	16x81	14x100	17x100	24x100	34x100	44x100	13x65	11x66	15x75	11x92
Cat. No.	2078	0536	0553 ²⁾	0578 ²⁾	-	0500 ²⁾	0518 ²⁾	0519 ²⁾	0521 ²⁾	0526 ²⁾	blood collection tubes			
lid with bio-containment ³⁾ Cat. No. 4883														
 carrier Cat. No. 4890								 + 0726						
Cat. No.	4432		4433		4434			4438	4439	4442	4435	4433	4434	4433
boring Ø x L in mm	11.5x38		13x58		17.5x53			26x72	36x79	45x78	13.5x58	13x58	17.5x53	13x58
tubes per rotor	168		120		76			28	16	8	84	120	76	120
max. RCF ²⁾ upper / lower	3,407/4,542		4,471		4,637			4,353	4,424	4,400	4,471		4,637	4,471
radius in mm upper / lower	144/192		189		196			184	187	186	189		196	189
run-up in sec	90													
run-down in sec. braked	95													
temperature in °C ¹⁾	+4													

capacity in ml	4.9	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8	8.5–10	10	15	50	25	30	50	50	
Ø x L in mm	13x90	15x92	16x92	15x102	13x75	13x100	16x75	16x125	16x100	16x80	17x120	29x115	25x90	25x110	29x115	29x107	
Cat. No.	blood collection / urine tubes										-	0509	0513	-	-	-	0546
lid with bio-containment ³⁾ Cat. No. 4883																	
 carrier Cat. No. 4890																	
Cat. No.	4435	4434			4435		4434			4469		4468	4438		4468⁴⁾	4468	
boring Ø x L in mm	13.5x58	17.5x53			13.5x58		17.5x53			17x93.1		31x96	26x72		31x96		
tubes per rotor	84	76			84		76			56		28	28		28		
max. RCF ²⁾	4,471	4,637			4,471		4,637			4,755		4,613	4,566		4,613		
radius in mm	189	196			189		196			201		195	193		195		
run-up in sec	90																
run-down in sec, braked	95																
temperature in °C ¹⁾	+4																

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, carrier 1560 cannot be closed with lid 1561.

⁴⁾ Please remove the inserts.

Swing-out rotor 5699-R



Carrier 4895

The 4890 carrier is also available without a lid and clamp lock. The catalogue number is 4895.¹⁷⁾

capacity in ml	250	290	650	750	175	175	200	225	250	500
Ø x L in mm	61x122	62x137	97x139	97x152	61x118	62x144	60x130	61x137	60x162	96x147
Cat. No.	5127²⁸⁾	-²⁸⁾	0554²⁸⁾	0512²⁸⁾	Falcon®	Nalgene®	Nunc®	Falcon®	Corning®	Corning®
lid with bio-containment ⁵⁾ Cat. No. 4883										
carrier Cat. No. 4890										
Cat. No.	4443	4451	4440	4430	4440	4430	4440	4430	4449	
boring Ø x L in mm	62x92	98.4x116								
tubes per rotor					4					
max. RCF ²⁾		4,873					5,063			
radius in mm		206					214			
run-up in sec					90					
run-down in sec, braked					95					
temperature in °C ¹⁾					+4					

capacity in ml	450	750	450
Ø x L in mm	97x110	96x135	triple system without filter
Cat. No.	4447	4234-A	blood bags³²⁾
lid with bio-containment ⁵⁾ Cat. No. 4883			
carrier Cat. No. 4890			
Cat. No.	4451	-	
boring Ø x L in mm	98.4x116		
tubes per rotor		4	
max. RCF ²⁾		5,063	
radius in mm		214	
run-up in sec		90	
run-down in sec, braked		95	
temperature in °C ¹⁾		+4	

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

¹⁷⁾ With the E3905 add-on kit and the 4783 lid, the 4785 carrier can be converted at a later time to a 4780 carrier with single-hand clamp lock.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

³²⁾ We recommend the use of the refrigerated ROTANTA 460 R, 460 RC or 460 RF to ensure that the temperature of the blood is maintained during centrifugation.

ROTORS





Swing-out rotor **5699-R**

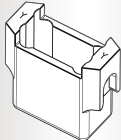
















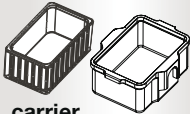









carrier 5691-A, insert 5692
and holders 5693 and 5695



illustrated with
carriers 5628
and adapters
6338-B

capacity in ml	450	
blood bags³⁾	triple system	quadruple system
Cat. No.	5693	5695
	holder for systems without filter 	holder for systems with or without filter 
carrier Cat. No. 5691-A		
Cat. No.	5692	
boring Ø x L in mm	-	
blood bag systems per rotor	4	
max. RCF ²⁾	4,637	
radius in mm	196	
run-up in sec	90	
run-down in sec, braked	95	
temperature in °C ¹⁾	+11	

capacity in ml	-
L x W x H in mm	152.5x85.5x12
Cat. No.	-
	TaqMan Array 
carrier Cat. No. 5636	
Cat. No.	5648
boring Ø x L in mm	-
arrays per rotor	12
max. RCF ²⁾	4,921
radius in mm	208
run-up in sec	90
run-down in sec, braked	95
temperature in °C ¹⁾	+4

capacity in ml	1.5	2.0	3	5	6	7	9	25	50	100	100	250
Ø x L in mm	11x38		10x60	12x75	12x82	12x100	14x100	24x100	34x100	44x100	40x115	65x115
Cat. No.	2078	0536	-	0553²⁾	0501²⁾	0578²⁾	0500²⁾	0519²⁾	0521²⁾	0526²⁾	0523²⁾	0530²⁾
(without lid 5629) adapting frame Cat. No. 5220-A												
 carrier Cat. No. 5628 ¹⁾	+ 5220-A 		+ 5220-A 	+ 5220-A 			+ 5220-A 	+ 5220-A 	+ 5220-A 	+ 5220-A 	+ 5220-A 	+ 5220-A 
Cat. No.²⁾	5281		5267	5268			5264	5242	5243	5262	5249	5263-A
boring Ø x L in mm	11.5x50		11x44	13.5x52			16x50	26x86	36x86	45.5x86	42x86	66x87
tubes per rotor	128		160	96			96	40	16	8		4
max. RCF ²⁾	4,164		4,069	4,164			4,116	4,093		4,069		4,045
radius in mm	176		172	176			174	173		172		171
run-up in sec	90											
run-down in sec, braked	95											
temperature in °C ¹⁾	+4											

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.


























⁴⁾ Please remove the inserts.

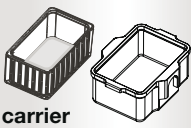
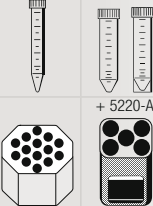



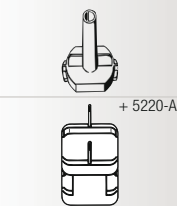
¹¹⁾ Please make sure not to exceed the max. permissible loading weight of 800 g of carrier 5628. The loading weight is the sum of the weight of the respective adapters, of frame 5220-A (where required), the tubes, and their contents.

Swing-out rotor 5699-R



illustrated with carriers 5628,
adapting frame 5220-A and
adapters 5258

capacity in ml	1.1–1.4	2.6–3.4	2.7–3	4–5.5	4.5–5	4.9	7.5–8.5	9–10	1.6–5	4–7	4–7	8.5–10
Ø x L in mm	8x66	13x65	11x66	15x75	11x92	13x90	15x92	16x92	13x75	16x75	13x100	16x100
Cat. No.	blood collection / urine tubes											
(without lid 5629) adapting frame Cat. No. 5220-A												
 carrier Cat. No. 5628 ¹⁾												
Cat. No. ²⁾	5267	5268	5227	5264	5227	5268	5264	5258	5268	5264	5268	5258
boring Ø x L in mm	11x44	13.5x52	12.5x42	16x50	12.5x42	13.5x52	16x50	17.6x86	13.5x52	16x50	13.5x52	17.6x86
tubes per rotor	160	96	160	96	160	96	96	88	96		88	
max. RCF ²⁾	4,069	4,164	4,116		4,164		4,116	4,093	4,164	4,116	4,164	4,093
radius in mm	172	176	174		176		174	173	176	174	176	173
run-up in sec	90											
run-down in sec, braked	95											
temperature in °C ¹⁾	+4											

capacity in ml	15	30	50	50	250	two-tier frame for cyto accessories
Ø x L in mm	17x120	25x110	29x115	29x115	61x122	
Cat. No.	0509	-	0513	-	5127²⁸⁾	cyto chambers
(without lid 5629) adapting frame Cat. No. 5220-A						
carrier Cat. No. 5628 ¹⁾		+ 5220-A			+ 5220-A + 6319	+ 5220-A
Cat. No.²²⁾	6337-B	5266⁴⁾	6338-B	6339-A	5263-A⁴⁾	5280
boring Ø x L in mm	17x90	26x86	30x90	30x87	66x87	-
tubes per rotor	56	40	24	24	4	16
max. RCF ²⁾ upper / lower	4,258	4,187	4,258	4,187		2,744/4,069
radius in mm upper / lower	180	177	180	177		116/172
run-up in sec	90					
run-down in sec, braked	95					
temperature in °C ¹⁾	+4					



Carrier 5628, adapting frame 5220-A and
adapters 5258



Carrier 5628 and adapter 6338-B

²²⁾ With the exception of adapters 5263-A, 6337-B, 6338-B and 6339-A, two of these adapters need to be placed into carrier 5628.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.


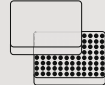
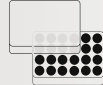






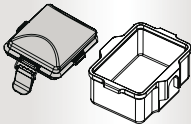
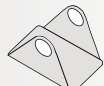

³²⁾ We recommend the use of the refrigerated ROTANTA 460 R, 460 RC or 460 RF to ensure that the temperature of the blood is maintained during centrifugation.

ROTORS

Swing-out rotor **5699-R**



illustrated with carriers 5628
and lids 5629 with bio-containment ⁵⁾
and removal frame 4626

D x W x H in mm	86x128x15	86x128x17.5	86x128x22	86x128x44.5	86x128x46	86x128x83	59x84x11	82x124x20	-
capacity in ml	-								0.2
Cat. No.	MTP		CP	DWP	MS	QP	Microtest plate (Terasaki)	PCR plate, 96 wells	PCR strips
lid with bio-containment ⁵⁾ Cat. No. 5629									
 carrier Cat. No. 5628 ¹⁾									
Cat. No.	4626							4626 + 1485	
boring Ø x L in mm	-								
plates / strips per rotor	24	20	16	4	4	4	8	4	48x8
max. RCF ²⁾	4,211								
radius in mm	max. 178								
run-up in sec	90								
run-down in sec, braked	95								
temperature in °C ¹⁾	+4								

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.










²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

Swing-out rotor 5699-R



illustrated with carriers 5630-B
and removal frame 4626

capacity in ml	40	160	200		
T x B x H in mm	-				
Cat. No.	Nunc®	Nunc®	Falcon®	Greiner	Nunc®
 carrier Cat. No. 5630-B					
					
Cat. No.	5672	5673	5671		
boring Ø x L in mm	-				
flasks per rotor	4				
max. RCF ²⁾	3,785 ³⁾				
radius in mm	160				
run-up in sec	90				
run-down in sec, braked	95				
temperature in °C ¹⁾	+4				

Accommodated cell culture flask:

40 ml

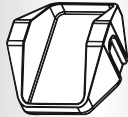

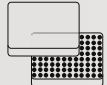
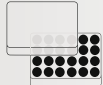






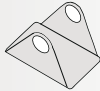
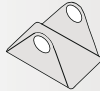

from Nunc, No. 156340 or 156367

160 ml

from Nunc, No. 156472 or 156499
from Sarstedt, No. 83.3911.xxx

200 ml

from Becton Dickinson, No. 353024
from Greiner, No. 658170
from Nunc, No. 153732 or 147589

T x B x H in mm	86x128x15	86x128x17.5	86x128x22	86x128x44.5	86x128x46	86x128x83	59x84x11	82x124x20	-
capacity in ml	-								0.2
Cat. No.	MTP		CP	DWP	MS	QP	Microtest plate (Terasaki)	PCR plate, 96 wells	PCR strips
									
								 	
carrier Cat. No. 5630-B									
Cat. No.	4626							4626 + 1485	
boring Ø x L in mm	-								
plates / strips per rotor	20	16	12	4	4	4	8	4	48x8
max. RCF ²⁾	3,832								
radius in mm	max. 162								
run-up in sec	90								
run-down in sec, braked	95								
temperature in °C ¹⁾	+4								

¹⁾ Please make sure not to exceed the max. permissible loading weight of 800 g of carrier 5628. The loading weight is the sum of the weight of the respective adapters, of frame 5220-A (where required), the tubes, and their contents.

³⁾ Please note that the RCF values indicated refer only to rotor performance. The max. RCF for the accommodated cell culture flasks is 2,300.

ROTORS

Swing-out rotor, 4 -place














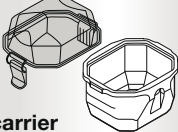













illustrated with carriers 5651-A
and lids 5652 with bio-containment ⁵⁾

↻ 90° n = 3,800 min⁻¹ max. RCF 3,196

Cat. No. (without carriers) 5654

capacity in ml	3	4	4	5	6	7	10	15	1.1–1.4	2.6–3.4	2.7–3	4.5–5
Ø x L in mm	10x60	10x88	12x60	12x75	12x82	12x100	13x100	17x100	8x66	13x65	11x66	11x92
Cat. No.	-	-	-	0553²⁾	0501²⁾	0578²⁾	-	0518²⁾	blood collection tubes			
lid with bio-containment ⁵⁾ Cat. No. 5652												
carrier Cat. No. 5651-A												
Cat. No.	5684						5674	5685	5682	5684	5674	5684
boring Ø x L in mm	12.5x40						13.2x42.4	17.2x46.5	12.5x40	13.2x42.4	12.5x40	12.5x40
tubes per rotor	292						196	188	148	292	196	292
max. RCF ²⁾	2,874						2,906	2,970	2,874	2,906	2,906	2,874
radius in mm	178						180	184	178	180	180	178
run-up in sec	61											
run-down in sec, braked	57											
temperature in °C ¹⁾	0											

capacity in ml	4–5.5	4.9	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8.5–10	10	5	15	50
Ø x L in mm	15x75	13x90	15x92	16x92	15x102	13x75	16x75	13x100	16x100	16x80	17x59	17x120	29x115
Cat. No.	blood collection / urine tubes										-	0509	0513
lid with bio-containment ⁵⁾ Cat. No. 5652													
 carrier Cat. No. 5651-A													
Cat. No.	5682	5674	5682		5674		5682	5674	5685	5682	5688	5683	5686
boring Ø x L in mm	17.2x46.5	13.2x42.4	17.2x46.5		13.2x42.4		17.2x46.5	13.2x42.4	13.2x42.4	17.2x46.5	17x42	17x60	30x60
tubes per rotor	148	196	148		196		148	196	188	148	80	96	40
max. RCF ²⁾	2,970	2,906	2,970		2,906		2,970	2,906	2,906	2,970	3,196	3,196	3,196
radius in mm	184	180	184		180		184	180	180	184	198	198	198
run-up in sec	61												
run-down in sec, braked	57												
temperature in °C ¹⁾	0												

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.






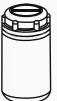





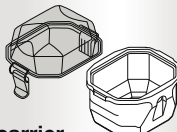









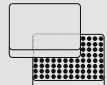







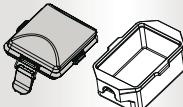


²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, carrier 1560 cannot be closed with lid 1561.

Swing-out rotor 5654



illustrated with carriers 5651-A
and lids 5652 with bio-containment ⁵⁾

capacity in ml	175	175	200	225	250	290	450	500	600	650	750
Ø x L in mm	61x118	62x144	60x130	61x137	61x122	62x137	97x110	96x147	93x134	97x139	97x152
Cat. No.	Falcon®	Nalgene®	Nunc®	Falcon®	5127 ²⁸⁾	- ²⁸⁾	4447	Corning®	0551 ²⁸⁾	0554 ²⁸⁾	0512 ²⁸⁾
lid with bio-containment ⁵⁾ Cat. No. 5652											
 carrier Cat. No. 5651-A											
Cat. No.	5681						5687				
boring Ø x L in mm	62x100						98x100				
tubes per rotor	8						4				
max. RCF ²⁾							3,196				
radius in mm							198				
run-up in sec							61				
run-down in sec, braked							57				
temperature in °C ¹⁾							0				
D x W x H in mm	86x128x15	86x128x17.5	86x128x22	86x128x44.5	86x128x46	86x128x83	59x84x11	82x124x20	-		
capacity in ml	-									0.2	
Cat. No.	MTP		CP	DWP	MS	QP	Microtest plate (Terasaki)	PCR plate, 96 wells	PCR strips		
lid with bio-containment ⁵⁾ Cat. No. 5629											
 carrier Cat. No. 5653											
Cat. No.	4626								4626 + 1485		
boring Ø x L in mm	-										
plates / strips per rotor	24	20	16	4	4	4	8	4	48x8		
max. RCF ²⁾	2,890										
radius in mm	max. 179										
run-up in sec	61										
run-down in sec, braked	57										
temperature in °C ¹⁾	-4										

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

ROTORS

Swing-out rotor, 4 -place





















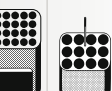
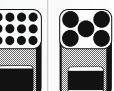
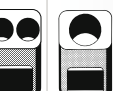
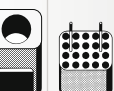
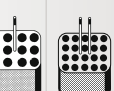





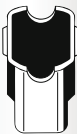





























illustrated with carriers 5051
and lids 5053



↻ 90° n = 4,000 min⁻¹ max. RCF 3,095

Cat. No. (without carriers) 5694

capacity in ml	1.5	2.0	1.5	2.0	5	6	7	9	15	25	50	100	100	1.1–1.4	2.6–3.4	2.7–3	4–5.5		
Ø x L in mm	11x38		11x38		12x75	12x82	12x100	14x100	17x100	24x100	34x100	44x100	40x115	8x66	13x65	11x66	15x75		
Cat. No.	-	-	2078	0536	0553 ²⁾	0501 ²⁾	0578 ²⁾	0500 ²⁾	0518 ²⁾	0519 ²⁾	0521 ²⁾	0526 ²⁾	0523 ²⁾	blood collection tubes					
lid Cat. No. 5053																			
carrier Cat. No. 5051																			
Cat. No.	5257		5281		5227		5247 ¹⁸⁾		5264	5248 ¹⁸⁾		5242	5243	5262	5249	5267	5268	5227	5264
boring Ø x L in mm	12.5x42		11.5x50		12.5x42		12.5x86		16x50	17.5x86		26x86	36x86	45.5x86	42x86	11x44	13.5x52	12.5x42	16x50
tubes per rotor	160		64		80		80		48	48		20	8	4		80	48	80	48
max. RCF ²⁾ upper / lower	1,950/2,826		2,826		2,773		2,755		2,773	2,755		2,755		2,755		2,737	2,808	2,773	
radius in mm upper / lower	109/158		158		155		154		155	154		154		154		153	157	155	
run-up in sec	42																		
run-down in sec, braked	51																		
temperature in °C ¹⁾	-3																		

capacity in ml	4.5–5	4.9	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8.5–10	15	50	12	30	50	two-tier frame for cyto accessories	
Ø x L in mm	11x92	13x90	15x92	16x92	15x102	13x75	16x75	13x100	16x100	17x120	29x115	17x100	25x110	29x115		
Cat. No.	blood collection / urine tubes										0509	0513	-	-	cyto chambers	
lid Cat. No. 5053																
carrier Cat. No. 5051																
Cat. No.	5227	5268	5264	5258	5268	5264	6301	5248	6306	5259	6306	5266	5243	5280		
boring Ø x L in mm	12.5x42	13.5x52	16x50	17.6x86	13.5x52	16x50	13.5x86	17.5x86	17x90	30x86	17x90	26x86	36x86	-		
tubes per rotor	80	48	48	44	48				28	8	28	20	8	8		
max. RCF ²⁾ upper / lower	2,773	2,808	2,773	2,755	2,808	2,773	2,755		2,898	2,826	2,898	2,755		1,735/2,737		
radius in mm upper / lower	155	157	155	154	157	155	154		162	158	162	154		97/153		
run-up in sec	42															
run-down in sec, braked	51															
temperature in °C ¹⁾	-3															

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.













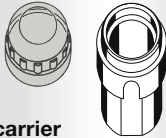











²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.























³⁾ When using these tubes, carrier 1560 cannot be closed with lid 1561.

Swing-out rotor 5694



illustrated with carriers 5092

capacity in ml	5	6	7	15	25	50	100	100	250	1.1–1.4	1.1–1.4	2.6–3.4
Ø x L in mm	12x75	12x82	12x100	17 x 100	24x100	34x100	44x100	40x115	65x115	8x66	8x66	13x65
Cat. No.	0553²⁾	0501²⁾	0578²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	0523²⁾	0530²⁾	blood collection tubes		
lid with bio-containment ⁵⁾ Cat. No. 5093												
 carrier Cat. No. 5092												
Cat. No.	5128		5120	5136	5122	5124	5125	5126	1791	5137	5138	5137
boring Ø x L in mm	12.8x45		12.8x82	17.5 x 60.7	25.5x82	35.5x82.5	45.5x85	42x85	66x103	13.5x60.7	12.8x54.5	13.5x60.7
tubes per rotor	48			32	16	4				32	48	32
max. RCF ²⁾	3,005			2,952	2,898	2,952	2,952		3,095	2,952	2,540	2,952
radius in mm	168			165	162	165	165		173	165	142	165
run-up in sec	42											
run-down in sec, braked	51											
temperature in °C ¹⁾	-3											

capacity in ml	2.6–3.4	2.7–3	2.7–3	4–5.5	4.5–5	4.9	7.5–8.5	9–10	10	1.6–5	1.6–5	4–7
Ø x L in mm	13x65	11x66	11x66	15x75	11x92	13x90	15x92	16x92	15x102	13x75	13x75	13x100
Cat. No.	blood collection / urine tubes											
lid with bio-containment ⁵⁾ Cat. No. 5093												
												
carrier Cat. No. 5092												
Cat. No.	5138	5137	5138	5136	5120	5137	5136			5137	5138	5120
boring Ø x L in mm	12.8x54.5	13.5x60.7	12.8x54.5	17.5x60.7	12.8x82	13.5x60.7	17.5x60.7			13.5x60.7	12.8x54.5	12.8x82
tubes per rotor	48	32	48	32	48	32			48			
max. RCF ²⁾	2,540	2,952	2,540	2,952	3,005	2,952			2,540 3,005			
radius in mm	142	165	142	165	168	165			142 168			
run-up in sec	42											
run-down in sec, braked	51											
temperature in °C ¹⁾	-3											

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

























¹⁸⁾ With Cat. No. 5247-91 or 5248-91 these adapters can also be ordered with a decanting aid.

ROTORS

Swing-out rotor **5694**



illustrated with carriers 5092

capacity in ml	4–7	8	8.5–10	15	50	12	25	30	50	10	250	290
Ø x L in mm	16x75	16 x 125	16x100	17x120	29x115	17x100	25x90	25x110	29x115	16x80	61x122	62x137
Cat. No.	blood collection tubes			0509	0513	-					5127²⁸⁾	-²⁸⁾
lid with bio-containment ⁵⁾ Cat. No. 5093												
carrier Cat. No. 5092												
Cat. No.	5136	5121⁴⁾	5136	5129	5123	5121	5134	5122	5135	5136	6319	
boring Ø x L in mm	17.5x60.7	17.5x82	17.5x60.7	17x85	30x85	17.5x82	26x73	25.5x82	30x99	17.5x60.7	66x103	
tubes per rotor	32	28	32	28	8	28	12	16	8	32	4	
max. RCF ²⁾	2,952	3,059	2,952	3,095		3,005	2,826	2,898	3,023	2,952	3,095	
radius in mm	165	171	165	173		168	158	162	169	165	173	
run-up in sec	42											
run-down in sec, braked	51											
temperature in °C ¹⁾	-3											

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, carrier 1560 cannot be closed with lid 1561.

⁴⁾ Please remove the inserts.






















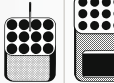
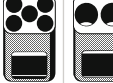



Swing-out rotor, 6-place





































illustrated with carriers 5051

↻ 90° n = 4,000 min⁻¹ max. RCF 3,631

Cat. No. (without carriers) 4446

capacity in ml	1.5	2.0	1.5	2.0	3	5	6	7	9	15	25	50	100	100	1.1–1.4	2.6–3.4	2.7–3		
Ø x L in mm	11x38		11x38		10x60	12x75	12x82	12x100	14x100	17x100	24x100	34x100	44x100	40x115	8x66	13x65	11x66		
Cat. No.	-	-	2078	0536	-	0553 ²⁾	0501 ²⁾	0578 ²⁾	0500 ²⁾	0518 ²⁾	0519 ²⁾	0521 ²⁾	0526 ²⁾	0523 ²⁾	blood / urine tubes				
lid Cat. No. 5053																			
carrier Cat. No. 5051																			
Cat. No.	5257		5281		5267	5227		5247 ¹⁸⁾	5264	5248 ¹⁸⁾	5242	5243	5262	5249	5267	5268	5227		
boring Ø x L in mm	12.5x42		11.5x50		11x44	12.5x42		12.5x86	16x50	17.5x86	26x86	36x86	45.5x86	42x86	11x44	13.5x52	12.5x42		
tubes per rotor	240		96		120	120		120	72	72	30	12	6	6	120	72	120		
max. RCF ²⁾ upper / lower	2,486/3,363		3,363		3,274	3,309		3,291	3,309	3,291				3,274				3,345	3,309
radius in mm upper / lower	139/188		188		183	185		184	185	184				183				187	185
run-up in sec	45																		
run-down in sec, braked	55																		
temperature in °C ¹⁾	0																		

125
124

capacity in ml	4–5.5	4.5–5	4.9	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8.5–10	15	50	12	30	50	two-tier frame for cyto accessories		
Ø x L in mm	15x75	11x92	13x90	15x92	16x92	15x102	13x75	16x75	13x100	16x100	17x120	29x115	17x100	25x110	29x115			
Cat. No.	blood collection / urine tubes										0509	0513	-	-	cyto chambers			
lid Cat. No. 5053 																		
																		
carrier Cat. No. 5051																		
Cat. No.	5264	5227	5268	5264	5258	5268	5264	5268	5248	6306	5259	6306	5266	5243	5280			
boring Ø x L in mm	16x50	12.5x42	13.5x52	16x50	17.6x86	13.5x52	16x50	13.5x52	17.5x86	17x90	30x86	17x90	26x86	36x86	-			
tubes per rotor	72	120	72	72	66	72				42	12	42	30	12	12			
max. RCF ²⁾ upper / lower	3,309	3,309	3,345	3,309	3,291	3,345	3,309	3,345	3,291	3,434	3,363	3,434	3,291	3,291	2,290/3,291			
radius in mm upper / lower	185	185	187	185	184	187	185	187	184	192	188	192	184	184	128/184			
run-up in sec	45																	
run-down in sec, braked	55																	
temperature in °C ¹⁾	0																	

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

¹⁸⁾ With Cat. No. 5247-91 or 5248-91 these adapters can also be ordered with a decanting aid.













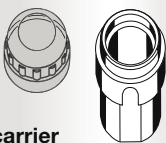











²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

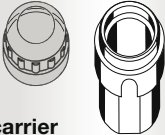























ROTORS

Swing-out rotor 4446



illustrated with carriers 5092 and
lids 5093 with bio-containment ⁵⁾

capacity in ml	5	6	7	15	25	50	100	100	250	1.1–1.4	1.1–1.4	2.6–3.4
Ø x L in mm	12x75	12x82	12x100	17x100	24x100	34x100	44x100	40x115	65x115	8x66	8x66	13x65
Cat. No.	0553²⁾	0501²⁾	0578²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	0523²⁾	0530²⁾	blood collection tubes		
lid with bio-containment ⁵⁾ Cat. No. 5093												
 carrier Cat. No. 5092												
Cat. No.	5128		5120	5136	5122	5124	5125	5126	1791	5137	5138	5137
boring Ø x L in mm	12.8x45		12.8x82	17.5 x 60.7	25.5x82	35.5x82.5	45.5x85	42x85	66x103	13.5x60.7	12.8x54.5	13.5x60.7
tubes per rotor	72			48	24	6			6	48	72	48
max. RCF ²⁾	3,542			3,488	3,434	3,488			3,631	3,488	3,077	3,488
radius in mm	198			195	192	195			203	195	172	195
run-up in sec	45											
run-down in sec, braked	55											
temperature in °C ¹⁾	0											
























capacity in ml	2.6–3.4	2.7–3	2.7–3	4.9	4–5.5	4.5–5	7.5–8.5	9–10	10	1.6–5	1.6–5	4–7
Ø x L in mm	13x65	11x66	11x66	13x90	15x75	11x92	15x92	16x92	15x102	13x75	13x75	13x100
Cat. No.	blood collection / urine tubes											
lid with bio-containment ⁵⁾ Cat. No. 5093 												
												
carrier Cat. No. 5092												
Cat. No.	5138	5137	5138	5137	5136	5120	5136	5136		5137	5138	5120
boring Ø x L in mm	12.8x54.5	13.5x60.7	12.8x54.5	13.5x60.7	17.5x60.7	12.8x82	17.5x60.7	17.5x60.7		13.5x60.7	12.8x54.5	12.8x82
tubes per rotor	72	48	72	48		72	48				72	72
max. RCF ²⁾	3,077	3,488	3,077	3,488		3,542	3,488				3,077	3,542
radius in mm	172	195	172	195		198	195				172	198
run-up in sec	45											
run-down in sec, braked	55											
temperature in °C ¹⁾	0											

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, carrier 1560 cannot be closed with lid 1561.

Swing-out rotor 4446

capacity in ml	4–7	8	8.5–10	15	50	12	25	30	50	10	250	290
Ø x L in mm	16x75	16x125	16x100	17x120	29x115	17x100	25x90	25x110	29x115	16x80	61x122	62x137
Cat. No.	blood collection tubes			0509	0513	-	-	-	-	-	5127 ²⁸⁾	- ²⁸⁾
lid with bio-containment ⁵⁾ Cat. No. 5093												
carrier Cat. No. 5092												
Cat. No.	5136	5121	5136	5129	5123	5121	5134	5122	5135	5136	6319	
boring Ø x L in mm	17.5x60.7	17.5x82	17.5x60.7	17x85	30x85	17.5x82	26x73	25.5x82	30x99	17.5x60.7	66x103	
tubes per rotor	48	42	48	42	12	42	18	24	12	48	6	
max. RCF ²⁾	3,488	3,542	3,488	3,631		3,542	3,363	3,434	3,560	3,488	3,631	
radius in mm	195	198	195	203		198	188	192	199	195	203	
run-up in sec	45											
run-down in sec, braked	55											
temperature in °C ¹⁾	0											

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

ROTORS

Swing-out rotor, 2 -place





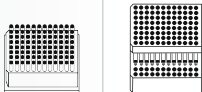








illustrated with carriers 5631 and
lids 4627 with bio-containment ⁵⁾
and removal frame 4626

✶ 90° n = 5,900 / 6,200 min⁻¹

max. RCF 5,838 / 6,446

Cat. No. (without carriers) **5622**

D x W x H in mm	86x128x15	86x128x17.5	86x128x22	86x128x44.5	86x128x46	86x128x83	59x84x11	82x124x20	-
capacity in ml	-								0.2
Cat. No.	MTP		CP	DWP	MS	QP	Microtest plate (Terasaki)	PCR plate, 96 wells	PCR strips
lid with bio-containment ⁹⁾ Cat. No. 4627									
carrier Cat. No. 5631								 	
Cat. No.	4626							4626 + 1485	
boring Ø x L in mm	-							-	
plates / strips per rotor	12	10	8	2			4	2	24x8
max. RCF ²⁾ classic/ cooled	5,838/6,446								
radius in mm	max. 150								
run-up in sec classic/ cooled	50/52								
run-down in sec, braked classic/ cooled	32/39								
temperature in °C ¹⁾	+12								

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

Angle rotor, 30-place



with bio-containment⁵⁾,
phenol-resistant

✂ 45° n = 15,000 min⁻¹ max. RCF 24,400
Cat. No. 4489-A








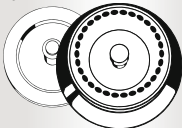



Angle rotor, 6-place












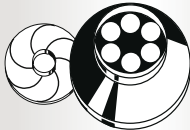
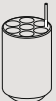

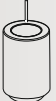

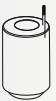
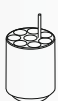





with bio-containment⁵⁾

✂ 25° n = 8,500 / 9,500 min⁻¹
Cat. No. 5645

max. RCF 11,228 / 14,025

capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	0.5
Ø x L in mm	6x18	6x45	8x30	8x45	11x38		10.7x36
Cat. No.	-				2078	0536	Pediatric
lid with bio-containment ⁵⁾ incl.							
 Rotor Cat. No. 4489-A							
Cat. No.	2024		2023		2031⁷⁾	-	0788
boring Ø x L in mm	6x40		8x40		10.2x19	11.2x40.1	11.2x40.1
tubes per rotor			30				15
max. RCF ²⁾			24,400				23,394
radius in mm			97				93
run-up in sec					73		
run-down in sec, braked					77		
temperature in °C ¹⁾					+7		

capacity in ml	15	25	94	15	50	10	30	50	85	94	250
Ø x L in mm	17x100	24x100	38x102	17x120	29x115	16x80	26x95	29x107	38x106	38x102	61x122
Cat. No.	0518 ²⁾	0519 ²⁾	0549	0509	0513	-	0545	0546	0547	0538 ¹³⁾	5127 ²⁸⁾
lid with bio-containment ⁵⁾ incl.											
 Rotor Cat. No. 5645											
Cat. No.	5646	5642	5644	5637	5638	5641	5642	5643	5644	-	
boring Ø x L in mm	17.6 x 83	26 x 80	38.6 x 88	17 x 106	30 x 100	16.6 x 70	26 x 80	29 x 90	38.6 x 88	61.5 x 109	
tubes per rotor	42	18	6	30	6	48	18	6			
max. RCF ²⁾ classic /cooled	10,662/13,319	10,339/12,915	9,855/12,310	10,339 / 12,915	9,693 / 12,108	10,743/13,420	10,339/12,915	9,693/12,108	9,855/12,310		11,228/14,025
radius in mm	132	128	122	128	120	133	128	120	122		139
run-up in sec classic/cooled	98/115										
run-down in sec, braked classic/cooled	105/120										
temperature in °C ¹⁾	+4										

⁷⁾ For centrifugation at high speeds, we recommend to use form-fitting, phenol-resistant adapters 2031.

¹³⁾ The screw cap for tube No. 0538 is available with Cat. No. 0539. Dimensions with cap 38 x 110 mm.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

ROTORS

Angle rotor, 6 -place



























with bio-containment ⁵⁾

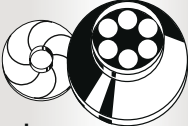







✂ 45° n = 11,500 min⁻¹ max. RCF 18,038
Cat. No. 5615

Angle rotor, 6-place, for Schlenk tubes



✂ 45° n = 2,000 min⁻¹ max. RCF 805
Cat. No. 5616 ³⁴⁾

capacity in ml	0.5	1.5	2.0	3	15	25	50	94	7.5–8.5	9–10	10	8.5–10	5	15	50
Ø x L in mm	10.7x36	11x38		10x60	17x100	24x100	34x100	38x102	15x92	16x92	15x102	16x100	17x59	17x120	29x115
Cat. No.	Pediatric	2078	0536	-	0518²⁾	0519²⁾	0521²⁾	0549	blood / urine tubes				-	0509	0513
lid with bio-containment ⁵⁾ incl.															
 rotor Cat. No. 5615															
															
Cat. No.	1449				1451	1447	1463	-	1451				1476	1466	1454
boring Ø x L in mm	11.4x39				17.5x92	26x85	35x89	38.2x89.6	17.5x92				17x51	17x106	29.8x97
tubes per rotor	24				6										
max. RCF ²⁾	17,299				17,003	16,560	17,743	18,038	17,003				16,856	17,299	17,595
radius in mm	117				115	112	120	122	115				114	117	119
run-up in sec	66														
run-down in sec, braked	68														
temperature in °C ¹⁾	+4														

capacity in ml	10	30	50	85	94
Ø x L in mm	16x80	26x95	29x107	38x106	38x102
Cat. No.	-	0545	0546	0547	0538¹³⁾
lid with bio-containment ⁵⁾ incl.					
rotor Cat. No. 5615					
Cat. No.	1448	1447	1446	-	
boring Ø x L in mm	16.5x74	26x85	29x92	38.2x89.6	
tubes per rotor	12	6			
max. RCF ²⁾	17,003	16,560	17,299	18,038	
radius in mm	115	112	117	122	
run-up in sec	66				
run-down in sec, braked	68				
temperature in °C ¹⁾	+4				

capacity in ml	25	50
Ø x L in mm	24x146.5	38x148.5
Cat. No.	0532	0533
rotor Cat. No. 5616³⁴⁾		
Cat. No.	4317	-
boring Ø x L in mm	25x86	38.5x89.9
tubes per rotor	6	
max. RCF ²⁾	783	805
radius in mm	175	180
run-up in sec	17	
run-down in sec, braked	21	
temperature in °C ¹⁾	-14	

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

ROTORS

Swing-out rotor, 4-place,
for ASTM tubes + 50 ml Babcock bottles






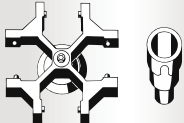







↗ 90° n = 2,000 min⁻¹ max. RCF 984
Cat. No. (without carriers) 4474

Swing-out rotor, 6-place,
for chrome bath tubes



↗ 90° n = 2,000 min⁻¹ max. RCF 917
Cat. No. 4619³⁴⁾

capacity in ml	50	100	100	100	50
Ø x L in mm	45 x 130	58 x 161	44 x 168	37 x 200	36.5 x 185
Cat. No.	ASTM ²⁾	ASTM 0528 ²⁾	ASTM ²⁾	ASTM 0531 ²⁾	Babcock
carrier Cat. No. 4275					
 rotor Cat. No. 4474					
Cat. No.	4278-A	0771	4277	4276-A	0703-A
boring Ø x L in mm	-				
tubes per rotor	4				
max. RCF ²⁾	984		961		912
radius in mm	220		215		204
run-up in sec	17				
run-down in sec, braked	20				
temperature in °C ¹⁾	-8				

capacity in ml	30
Ø x L in mm	24x151
Cat. No.	0529/0508⁶⁾
rotor Cat. No. 4619 ³⁴⁾	
Cat. No.	-
boring Ø x L in mm	-
tubes per rotor	6
max. RCF ²⁾	917
radius in mm	205
run-up in sec	17
run-down in sec, braked	21
temperature in °C ¹⁾	-11

⁶⁾ A rubber stopper for closing the tube is available under Cat. No. 0535. The tube may not be centrifuged with the stopper. The stopper only serves to close the tube for agitating or mixing.

¹³⁾ The screw cap for tube No. 0538 is available with Cat. No. 0539. Dimensions with cap 38 x 110 mm.

³⁴⁾ In the heatable models 5660-50, 5660-51, 5660-70, 5670-50 and 5675-50, rotor 5616 may only be used up to a maximum of +40 °C.




ROTOFIX 46 / 46 H

Special applications require special solutions

The robust and highly adaptable ROTOFIX 46 / 46 H models have been specially developed for use in industrial and research laboratories.

They are mainly used for standardized quality assurance procedures, but are also suited to special applications in research.



TECHNOLOGY		ROTOFIX 46		ROTOFIX 46 H	
Benchtop centrifuge, without rotor		classic		heated	
Power supply ¹⁾		200–240 V 1 ~	100–127 V 1 ~	200–240 V 1 ~	100–127 V 1 ~
Frequency		50–60 Hz			
Consumption		460 VA	500 VA	600 VA	650 VA
Emission, Immunity		EN/IEC 61326-1, class B	FCC class B	EN/IEC 61326-1, class B	FCC class B
	Max. capacity	4 x 290 ml		4 x 100 ml	
	Max. RPM (speed)	4,000 min ⁻¹		2,000 min ⁻¹	
	Max. RCF	3,095		984	
Running time		1 s – 99 min : 59 sec, continuous run, short cycle mode (impulse key)			
Dimensions (H x W x D)		345 x 538 x 647 mm			
Weight		approx. 60 kg			
Heating					
Temperature setting, infinitely variable (dependent on the ambient temperature) ¹⁵⁾		-		from +10 °C to +90 °C	
Cat. No.		4600	4600-01	4600-50	4600-51

^{*)} Other voltages on request.

¹⁵⁾ With the heating switched-off, the temperature within the centrifuge will be above ambient temperature, depending on the speed, type of rotor and run time. Activation of the heating can cause this temperature to rise, but it cannot be reduced to a lower value.

Because of their assigned use, ROTOFIX 46 / 46 H centrifuges **are not classified as medical products.**

The sulphuric acid content of chrome baths used in galvanizing facilities has to be checked regularly for quality assurance purposes. Measurements may be carried out using chrome bath tubes which can be centrifuged in the ROTOFIX 46.

Schlenk tubes – glass vessels widely used in organometallic and coordination chemistry – can be centrifuged in the 5616 rotor in the ROTOFIX 46.

Substances that have been prepared in the Schlenk tubes can then be separated in the tubes through centrifugation, if necessary.

The ROTOFIX 46 H is equipped with heating. For standardized petroleum tests suitable sample tubes can be centrifuged at the required temperature.

SPECIAL TUBES

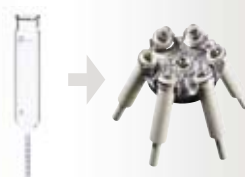
ASTM tubes

are designed to meet the requirements of the **A**merican **S**ociety for **T**esting **M**aterials.



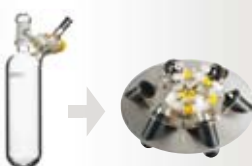
Chrome bath tubes

are used to determine the sulphuric acid content of chrome baths.



Schlenk tubes

Substances that have been prepared in Schlenk tubes can also be separated in them through centrifugation in rotor 5616.



ROTOFIX 46

illustrated with rotor 5616

Cat. No. 4600

ROTORS FOR ROTOFIX 46 AND 46 H

Swing-out rotor, 4-place,
for ASTM tubes and 50 ml Babcock flask



illustrated with
carriers 4275

✂ 90° n = 2,000 min⁻¹
max. RCF 984

Cat. No. (without carriers) 4474

Swing-out rotor, 6-place,
for chrome bath tubes



✂ 90° n = 2,000 min⁻¹
max. RCF 917











Cat. No. 4619³⁴⁾

Angle rotor, 6-place,
for Schlenk tubes



✂ 45° n = 2,000 min⁻¹
max. RCF 805

Cat. No. 5616³⁴⁾

capacity in ml	50	100	100	100	50
Ø x L in mm	45x130	58x161	44x168	37x200	36.5x185
Cat. No.	ASTM ²⁾	ASTM 0528 ²⁾	ASTM ²⁾	ASTM 0531 ²⁾	Babcock
Carrier Cat. No. 4275					
Rotor Cat. No. 4474					
Cat. No.	4278-A	0771	4277	4276-A	0703-A
boring Ø x L in mm	-				
tubes per rotor	4				
max. RCF ²⁾	984		961		912
radius in mm	220		215		204
run-up in sec	16				
run-down in sec, braked	40				

capacity in ml	30
Ø x L in mm	24x151
Cat. No.	0529/0508⁶⁾
Rotor Cat. No. 4619 ³⁴⁾	
Cat. No.	-
boring Ø x L in mm	-
tubes per rotor	6
max. RCF ²⁾	917
radius in mm	205
run-up in sec	15
run-down in sec, braked	20

capacity in ml	25	50
Ø x L in mm	24 x 146.5	38 x 148.5
Cat. No.	0532	0533
Rotor Cat. No. 5616 ³⁴⁾		
Cat. No.	4317	-
boring Ø x L in mm	25 x 86	38.5 x 89.9
tubes per rotor	6	
max. RCF ²⁾	783	805
radius in mm	175	180
run-up in sec	15	
run-down in sec, braked	35	

The method used for determination of the sulphate content of chrome baths can be ordered from Hettich free of charge.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for ASTM tubes annotated with footnote ²⁾ is 700.

⁶⁾ The tube may not be centrifuged with the stopper. The stopper only serves to close the tube for agitating or mixing.

³⁴⁾ In heatable model ROTOFIX 46 H, rotors 4619 and 5616 may only be used up to a maximum of + 40 °C.












ROTOR FOR ROTOFIX 46, **NOT FOR ROTOFIX 46 H**











Swing-out rotor, 4 -place



illustrated with carriers 5051
and lids 5053

↻ 90° n = 4,000 min⁻¹ max. RCF 3,095
Cat. No. (without carriers) 5694

capacity in ml	3	5	6	7	9	15	25	50	100	100
Ø x L in mm	10 x 60	12 x 75	12 x 82	12 x 100	14 x 100	17 x 100	24 x 100	34 x 100	44 x 100	40 x 115
Cat. No.	-	0553 ²⁾	0501 ²⁾	0578 ²⁾	0500 ²⁾	0518 ²⁾	0519 ²⁾	0521 ²⁾	0526 ²⁾	0523 ²⁾
lid Cat. No. 5053										
Carrier Cat. No. 5051										
Cat. No.	5267	5227		5247 ¹⁸⁾	5264	5248 ¹⁸⁾	5242	5243	5262	5249
boring Ø x L in mm	11 x 44	12.5 x 42		12.5 x 86	16 x 50	17.5 x 86	26 x 86	36 x 86	45.5 x 86	42 x 86
tubes per rotor	80				48		20	8	4	
max. RCF ²⁾	2,737	2,773		2,755	2,773	2, 755				
radius in mm	153	155		154	155	154				
run-up in sec	40									
run-down in sec, braked	45									

capacity in ml	15	50	12	30	50
Ø x L in mm	17 x 120	29 x 115	17 x 100	25 x 110	29 x 115
Cat. No.	0509	0513	-	-	
lid Cat. No. 5053					
Carrier Cat. No. 5051					
Cat. No.	6306	5259	6306	5266	5243⁴⁾
boring Ø x L in mm	17 x 90	30 x 86	17 x 90	26 x 86	36 x 86
tubes per rotor	28	8	28	20	8
max. RCF ²⁾	2,898	2,826	2,898	2,755	
radius in mm	162	158	162	154	
run-up in sec	40				
run-down in sec, braked	45				

³⁾ When using these tubes, carrier 5051 cannot be closed with lid 5053.

⁴⁾ Please remove the inserts.











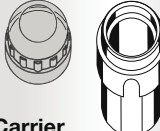








¹⁸⁾ With Cat. No. 5247-91 or 5248-91 these adapters can also be ordered with a decanting aid.

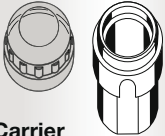
















ROTOR

FOR ROTOFIX 46, **NOT FOR ROTOFIX 46 H**
Swing-out rotor **5694**



Illustrated with carriers 5092
and lids 5093
with bio-containment⁵⁾

capacity in ml	4	5	6	7	15	25	50	100	100	250	
Ø x L in mm	12 x 60	12x75	12x82	12x100	17x100	24x100	34x100	44x100	40x115	65x115	
Cat. No.	-	0553²⁾	0501²⁾	0578²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	0523²⁾	0530²⁾	
lid with bio-containment ⁵⁾ Cat. No. 5093											
 Carrier Cat. No. 5092											
Cat. No.	5128			5120	5136	5122	5124	5125	5126	1791	
boring Ø x L in mm	12.8x45			12.8x82	17.5 x 60.7	25.5x82	35.5x82.5	45.5x85	42x85	66x103	
tubes per rotor	48				32	16	4				
max. RCF ²⁾	3,005				2,952	2,898	2,952				3,095
radius in mm	168				165	162	165				173
run-up in sec	40										
run-down in sec, braked	45										

capacity in ml	15	50	12	25	30	50	10	250	290
Ø x L in mm	17x120	29x115	17x100	25x90	25x110	29x115	16x80	61x122	62x137
Cat. No.	0509	0513	-					5127 ²⁸⁾	- ²⁸⁾
lid with bio-containment ⁵⁾ Cat. No. 5093									
Carrier Cat. No. 5092									
Cat. No.	5129	5123	5121	5134	5122	5135	5136	6319	
boring Ø x L in mm	17x85	30x85	17.5x82	26x73	25.5x82	30x99	17.5x60.7	66x103	
tubes per rotor	28	8	28	12	16	8	32	4	
max. RCF ²⁾	3,095		3,005	2,826	2,898	3,023	2,952	3,095	
radius in mm	173		168	158	162	169	165	173	
run-up in sec	40								
run-down in sec, braked	45								

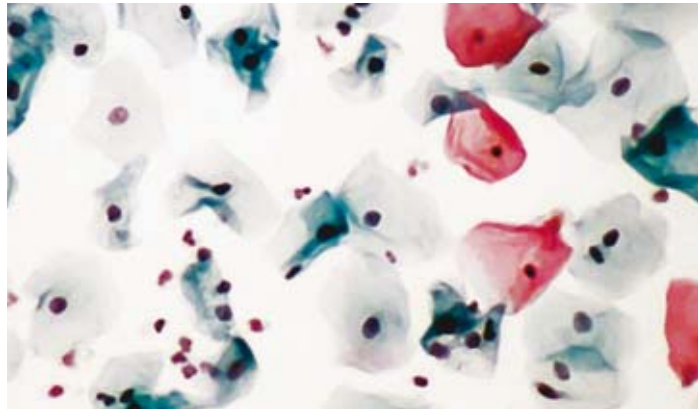
⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

CYTO-SYSTEM

Cytological preparations – fast and economic

Cytologists have to deal with considerable challenges: time and cost pressure, the need for 24 / 7 availability of cytology diagnostics, and in many cases the increased number of diagnostic parameters required for the same quantity of samples. The Hettich cytological system provides reliable, flexible and cost-saving solutions to meet the requirements of cytology laboratories.



Unbeatable flexibility

The exceptional range of accessories makes the Hettich Cyto system unique on the market. This range enables performance of all of the common centrifugation procedures used to yield cytological preparations. In addition to the classical Hettich method alternative methods (such as those using the Shandon®³⁹⁾ cyto centrifuge) can also be carried out in Hettich centrifuges.

APPLICATIONS

Hettich methods for optimum preparations

We have prepared comprehensive descriptions of methods in close co-operation with users for our classical range of accessories. These methods can be obtained without charge.

They provide support for the preparation of different body fluids such as:

- Cerebrospinal fluid
- Bronchial washings (BAL)
- Pleural effusion
- Ascites
- Urine

Hettich specialists would be happy to answer any questions.

Valuable time savings

The new 12-place rotors complete the product range and are particularly suitable for labs that have a large throughput. Up to 12 samples can be centrifuged in a single run. The accessories tailored to the particular application are also offered as a complete package. This saves time in procurement.

Optimal cell yield

The cytologist can select the most appropriate accessories for the body fluid to be analysed. This creates ideal starting conditions to achieve the best results. The comprehensive Hettich methods for the classical cyto accessories provide valuable information on how optimal preparations can be derived from the different samples.

Low purchase costs

The cytological accessories fit in standard Hettich lab centrifuges in which tubes can also be centrifuged. It is therefore not necessary to purchase an expensive cyto centrifuge. This not only saves money, it also saves space on the lab bench.

³⁹⁾ Shandon® is a registered trademark of Thermo Fisher Scientific Inc.



CLASSICAL CYTO ACCESSORIES

Proven standard

Cytologists have valued the classical Hettich Cyto System for many years, because of the high cell yield and the high quality of the preparations derived with these accessories. They enable dry or wet preparations as the sedimentation and drying steps are separate. With classical cyto chambers a seal prevents the loss of cells during sedimentation. Drying (which is not necessary if wet fixation is carried out) is performed in a second centrifugation step once the cells already adhere to the slide.

The classical cyto accessories fit in almost all of the Hettich centrifuge models. A conventional centrifuge can be converted into a cyto centrifuge through a simple exchange of the carriers. One-funnel chambers are available in four different sizes, and there are two kinds of multi-funnel chambers. Cytologists thus have a solution for every application. Sample volumes of up to 2 x 8 ml can be handled in the large-capacity chambers together with the double slide carrier. This therefore dispenses with the need for cell enrichment in an extra step.



12-PLACE CYTO ROTORS AND ACCESSORIES

New solutions

In addition to the classical 4-place, 6-place and 8-place rotors, Hettich has now introduced two 12-place cyto rotors – one open and one closed. This completes the range of cyto products.

Cytological labs that wish to use methods other than the proven Hettich ones can now also use Hettich lab centrifuges. There is no need to acquire a special cyto centrifuge. The new 12-place cyto rotors fit in the benchtop centrifuge models ROTOFIX 32 A and UNIVERSAL 320. They can be fitted and removed very easily without the need for tools.

Assembly of a complete cyto insert with carrier 1660 for cyto chambers:



Cyto chambers



One-funnel chambers

We recommend:
1 ml chambers for small quantities of samples which are low in cells, such as cerebrospinal fluid; 2 / 4 ml chambers for samples rich in cells such as pleural effusions, ascites and BAL; 8 ml chambers for high-volume samples such as urine.



Multi-funnel chambers

If a number of sediments are required from a single sample (for example for tests with different antibodies) then the multi-funnel chambers may be used. If the 4-place chambers are used in combination with the double slide carrier then up to 8 individual sediments can be prepared per microscope slide.

Slide carriers



Slide carriers for one and two chambers

The surface area of two 8 ml chambers is especially suited for the evaluation of a large number of cells, e.g. when searching for tumour cells.

Two-tier frame

















Two-tier frame 5280

for the use of cytology accessories in large benchtop centrifuges or floor-standing centrifuges: Up to 16 cytological preparations can be obtained in one run.

Cyto chambers




for slide carrier 1662 and slide carrier for two chambers 1670
to fit carriers 1660 and 1452 and two-tier frame 5280

The following products have been removed
from our range, but may still be ordered
from us:





Cyto chambers						
Capacity in ml	1	2	4	8	3x2	4x1
Area in mm ²	30	60	120	240	3x60	4x30
Ø in mm	6.2	8.7	12.4	17.5	3x8.7	4x6.2
Cat. No.	1663	1664	1665	1666	1667	1668
Filter cards for 1662						
Cat. No.	1675			1676	1677	1678
Filter cards for 1670						
Cat. No.	1692			1691	1694	1693

Product	Cat. No.
Carrier	1680
Angle chambers	1671
	1672
	1673
Filter cards	1696
	1697
	1698
Slide carrier	1470
Cyto chambers	1471
	1475


Slide carriers

Slide carrier (autoclavable)	Slide carrier with ring	Slide carrier for two chambers
		
Cat. No.	1662	1670

Carriers

Carriers (autoclavable)	Carrier	Lid for 1660	Carrier
			
Cat. No.	1660	1661	1452

Two-tier frame

Two-tier frame (autoclavable)	
Cat. No.	5280

Possible Combinations

Centrifuge	4-place rotor	6-place rotor	8-place rotor
ROTOFIX 32A	1624 + 1660	1626 + 1660	
UNIVERSAL 320 / 320 R	1624 + 1660 1494 + 1452	1626 + 1660	
ROTINA 380 / 380 R	1798 + 5051 + 5280	1726 + 1660	1748 + 1660
ROTINA 420 / 420 R	4753 + 5051 + 5280		4758 + 1660
ROTANTA 460 / 460 R / 460 RC / 460 RF	5699-R + 5628 + 5220-A + 2x5280 5694 + 5051 + 5280	4446 + 5051 + 5280	
ROTIXA 500 RS		4296 + 5051 + 5280	

Special rotors for cytology:

12 cytological preparations in a single step – rotor 1515-A with lid (above) and disk rotor 1520 enable this:



Disposable cyto chambers



The practical disposable cyto chambers eliminate the problem of cross-contamination with cells and save time as there is no need for cleaning and disinfection. The filter card / seal fixed to the chamber guarantees that handling is very simple.

Re-usable cyto chambers



These cyto chambers can be re-used many times and are supplied without filter cards / seals. They must be cleaned and disinfected after use before they are used again.

Clip



for cyto chambers

Stand



for disk rotor 1520

Closed rotor, 12-place



with bio-containment⁵⁾,
autoclavable, illustr. with
clips and cyto chambers

✂ 90° n = 2,000 min⁻¹ max. RCF 438

Cat. No. 1515-A (without clips and cyto chambers)

Open disk rotor, 12-place



autoclavable, illustr. with
clips, cyto chambers and
stand

✂ 90° n = 2,000 min⁻¹ max. RCF 438

Cat. No. 1520 (without clips, cyto chambers and stand)

Cyto chambers

Disposable cyto chambers			
Capacity in ml	0.5	0.2	6 ²¹⁾
Area in mm ² / (LxW) in mm	28.3		13.4x22
Ø in mm	6		-
Cat. No.	1531 (50 pcs.) 1534 (500 pcs.)	1532 (50 pcs.)	1535 (100 pcs.) 1533 (500 pcs.)
Filter cards / seals			
Cat. No.	Filter card, white (incl.)	Filter card, brown (incl.)	Seal (incl.)

Re-usable cyto chambers (autoclavable)		
Capacity in ml	0.5	6 ²¹⁾
Area in mm ² / (LxW) in mm	28.3	13.4x22
Ø in mm	6	-
Cat. No.	1538 (12 pcs.)	1536 (12 pcs.)
Filter cards / seals		
Cat. No.	1539 (200 pcs.)	1537 (100 pcs.)

Clips

Clips (autoclavable)	
Cat. No.	1524 (4 pcs.)

Stand

Stand for disk rotor 1520	
Cat. No.	1528

Possible Combinations

Centrifuge	12-place rotor 1515-A	12-place rotor 1520
ROTOFIX 32A	1524	1524
UNIVERSAL 320 / 320 R	1524	1524

Disposable Pasteur pipettes for removing the supernatant are available under Cat. No. **0552**.

Please note that RCF values in excess of 1,100 may lead to glass breakage.

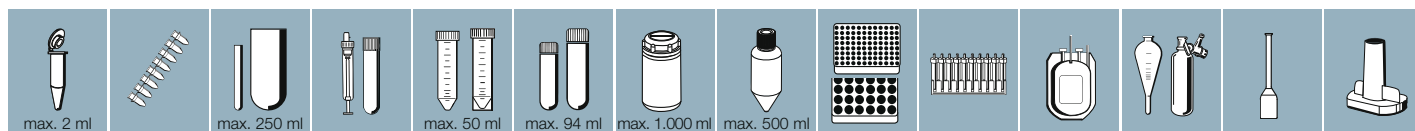
⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

²¹⁾ This is the maximum capacity. The recommended quantity to be used per chamber is 4 ml.



High performance, throughput and capacity

FLOOR





ROTIXA 500 RS

Best for high sample throughput

ROTIXA has become a synonym for high sample throughput. This is why the ROTIXA models are the centrifuges of choice for medical routine laboratories, as well as research and quality

control laboratories in the life science industry. ROTIXA centrifuges feature the extended S control panel.



TECHNOLOGY		ROTIXA 500 RS ^{>)}	
Floorstanding centrifuge, without rotor		cooled	
Power supply ^{*)}		230 – 240 V 1 ~	220 V 1 ~
Frequency		50 Hz	60 Hz
Consumption		3,800 VA	
Emission, Immunity		EN/IEC 61326-1, class B	
	Max. capacity	4 x 1,000 ml	
	Max. RPM (speed)	11,500 min ⁻¹	
	Max. RCF	18,038	
Running time		1 sec – 999 min : 59 sec, ∞ continuous run	
Dimensions (H x W x D)		973 x 650 x 814 mm	
Weight		approx. 219 kg	
Refrigeration			
Temperature control, infinitely variable		from -20 to +40 °C	
Cat. No.		4950	

^{*)} Other voltages on request.

^{>)} For a list of further versions of this model, please refer to page 12.

Swing-out rotor, 4-place



illustrated with carriers 4295-A
and lids 4229-B

✂ 90° n = 4,500 min⁻¹ max. RCF 5,252

Cat. No. (without carriers) 4294

capacity in ml	0.8	1.5	2.0	4	5	6	7	9	12	15	25	50	94	100
Ø x L in mm	8x45	11x38	10x88	12x75	12x82	12x100	14x100	16x101	17x100	24x100	34x100	38x102	40x115	
Cat. No.	-	2078	0536	-	0553 ²⁾	0501 ²⁾	0578 ²⁾	0500 ²⁾	-	0518 ²⁾	0519 ²⁾	0521 ²⁾	0549	0523 ²⁾
lid Cat. No. 4229-B														
carrier Cat. No. 4295-A														
Cat. No.	4226	4225	4224	4213-93	4213	4223	4214	4215	4216	4218				
boring Ø x L in mm	8.2x36	11.2x46	11x74	12.5x36	12.5x74	16x74	17.5x74	26x74	35x74	41.5x74				
tubes per rotor	312	336	252	192	192	100	120	44	24	16				
max. RCF ²⁾ upper / lower	4,777	3,690 / 4,867				4,777								
radius in mm upper / lower	211	163 / 215				211								
run-up in sec						115								
run-down in sec, braked						116								
temperature in °C ¹⁾						+6								

capacity in ml	2.6-3.4	2.7-3	4-5.5	4.5-5	7.5-8.5	9-10	10	1.6-5	4-7	4-7	8	8.5-10
Ø x L in mm	13x65	11x66	15x75	11x92	15x92	16x92	15x102	13x75	13x100	16x75	16x125	16x100
Cat. No.	blood collection / urine tubes											
lid Cat. No. 4229-B												
carrier Cat. No. 4295-A												
Cat. No.	4222-93	4213-93	4214-93	4213	4214	4220	4214	4222-93	4222	4214-93	4223	4214
boring Ø x L in mm	13.2x36	12.5x36	17.5x36	12.5x74	17.5x74	17.5x74	17.5x74	13.2x36	13.2x74	17.5x36	16x74	17.5x74
tubes per rotor	120	192	120	192	120	64	120	120			100	120
max. RCF ²⁾						4,777						
radius in mm						211						
run-up in sec						115						
run-down in sec, braked						116						
temperature in °C ¹⁾						+6						

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.



























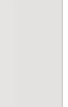
³⁾ When using these tubes, carrier 4295-A cannot be closed with lid 4229-B.







ROTORS

Swing-out rotor 4294



illustrated with
carriers 4295-A

capacity in ml	15	50	12	25	30	50	85	94	250	290	600	650	750	
Ø x L in mm	17x120	29x115	17x100	25x90	25x110	29x115	38x106	38x102	61x122	62x137	93x134	97x139	97x152	
Cat. No.	0509	0513	-	-	-	-	0547	0538 ¹³⁾	5127 ²⁸⁾	- ²⁸⁾	0551 ²⁸⁾	0554 ²⁸⁾	0512 ²⁸⁾	
lid Cat. No. 4229-B														
<div> carrier Cat. No. 4295-A</div> 														
Cat. No.	4232	4245-A	4220	4241	4215	4249	4218		4238		4233	4258		
boring Ø x L in mm	17x70	30x70	17.5x74	26x73	26x74	30x96	41.5x74		62x90		94x105	97.5x105		
tubes per rotor	92	32	64	32	44	24	16				4			
max. RCF ²⁾	4,958		4,777			4,867	4,777					4,958		
radius in mm	219		211			215	211					219		
run-up in sec							115							
run-down in sec, braked							116							
temperature in °C ¹⁾							+6							

capacity in ml	750	250	500
Ø x L in mm	96 x 135	60 x 162	96 x 147
Cat. No.	4234-A	Corning®	Corning®
lid Cat. No. 4229-B			
carrier Cat. No. 4295-A			
Cat. No.	4258	6322	4258
boring Ø x L in mm	97.5 x 105	61 x 125	97.5 x 105
tubes per rotor	4		
max. RCF ²⁾	4,958	4,777	4,958
radius in mm	219	211	219
run-up in sec	115		
run-down in sec, braked	116		
temperature in °C ¹⁾	+6		

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.


















²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.






















³⁾ When using these tubes, carrier 4295-A cannot be closed with lid 4229-B.

Swing-out rotor 4294



illustrated with
carriers 4290

capacity in ml	5	6	7	9	12	15	2.6 - 3.4	4.9	4-5.5	7.5 - 8.5	9 - 10	10
Ø x L in mm	12 x 75	12 x 82	12 x 100	14 x 100	16 x 101	17 x 100	13 x 65	13 x 90	15 x 75	15 x 92	16 x 92	15 x 102
Cat. No.	0553 ²⁾	0501 ²⁾	0578 ²⁾	0500 ²⁾	-	0518 ²⁾	blood collection / urine tubes					
lid with bio-containment ⁵⁾ Cat. No. 4291												
carrier Cat. No. 4290												
Cat. No.	4273			4338		4273		4338		4311		
boring Ø x L in mm	13.2 x 57			17.5 x 62		13.2 x 57		17.5 x 62		17.5 x 63		
tubes per rotor	200			168		200		168		132		
max. RCF ²⁾	4,551			4,551		4,551		4,551		4,573		
radius in mm	201			201		201		201		202		
run-up in sec	115											
run-down in sec, braked	116											
temperature in °C ¹⁾	+ 2											

capacity in ml	1.6-5	4-7	4-7	8.5-10	10	12	15	15	50	50	50	50
Ø x L in mm	13 x 75	13 x 100	16 x 75	16 x 100	16 x 80	17 x 100	17 x 120	17 x 120	29 x 115	29 x 115	29 x 115	29 x 115
Cat. No.	blood collection / urine tubes				-	-	0509	0509	0513	0513	-	-
lid with bio-containment ⁵⁾ Cat. No. 4291												
carrier Cat. No. 4290												
Cat. No.	4273		4338		4310	4314	4320³⁾	4321	4323³⁾	4313	4339³⁾	
boring Ø x L in mm	13.2 x 57		17.5 x 62		17.2 x 57	17 x 60	17 x 60	30 x 60	30 x 60	30 x 56	30 x 56	
tubes per rotor	200		168		112	68	112	32	40	32	40	
max. RCF ²⁾	4,551		4,551		4,437	4,618	4,618	4,618	4,618	4,528	4,528	
radius in mm	201		201		196	204	204	204	204	200	200	
run-up in sec	115											
run-down in sec, braked	116											
temperature in °C ¹⁾	+ 2											

³⁾ When using these adapters, carrier 4290 cannot be closed with lid 4291.

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.













¹³⁾ The screw cap for tube No. 0538 is available with Cat. No. 0539. Dimensions with cap 38 x 110 mm.







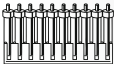





ROTORS

Swing-out rotor 4294



Carrier 4280, illustrated with
Deep Well Plates and removal aid 4279

D x W x H in mm	86x128x15	86x128x17.5	86x128x22	86x128x44.5	86x128x46	86x128x83	82x124x20	-
Cat. No.	MTP		CP	DWP	MS	QP	PCR plate 96 wells	PCR strips
lid with bio-containment ⁵⁾ Cat. No. 5629								
 carrier Cat. No. 4280							 + 	
Cat. No.	4279						4279 + 1485	
boring Ø x L in mm	-							
plates / strips per rotor	24		20	8	4			48x8
max. RCF ²⁾	4,573							
radius in mm	202							
run-up in sec	115							
run-down in sec, braked	116							
temperature in °C ¹⁾	+5							

D x W x H in mm	86x128x15	86x128x17.5	86x128x22	86x128x44.5	86x128x46	18x164x46	82x124x20	-
Cat. No.	MTP		CP	DWP	MS	LKB racks	PCR plate 96 wells	PCR strips
 carrier Cat. No. 4299-N								
								
Cat. No.	4236					-	4236 + 1485	
boring Ø x L in mm	-							
plates / strips per rotor	16		8	4		16	4	48x8
max. RCF ²⁾	3,939					4,120	3,939	
radius in mm	174					182	174	
run-up in sec	115							
run-down in sec, braked	116							
temperature in °C ¹⁾	+4							

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

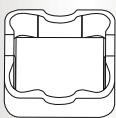


²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.
















³⁾ When using these tubes, bucket 4255 cannot be closed with its lid.




























Swing-out rotor 4294



Carrier 4254, illustrated with
bucket 4255 with lid

D x W x H in mm	20x118x70
Hitachi Racks	
Cat. No.	-
	
carrier Cat. No. 4257	
Cat. No.	4259-A²⁶⁾
boring Ø x L in mm	-
racks per rotor	20
max. RCF ²⁾	4,867
radius in mm	215
run-up in sec	115
run-down in sec, braked	116
temperature in °C ¹⁾	+7

capacity in ml	5	7	9	15	25	50	100
Ø x L in mm	12x75	12x100	14x100	17x100	24x100	34x100	44x100
Cat. No.	0553²⁾	0578²⁾	0500²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾
bucket Cat. No. 4255							
							
carrier Cat. No. 4254					+ 0726		
Cat. No.	4433	4434	4438	4439	4442		
boring Ø x L in mm	13x58	17.5x53	26x72	36x79	45x78		
tubes per rotor	120	76	28	16	8		
max. RCF ²⁾	4,618	4,777	4,505	4,573	4,551		
radius in mm	204	211	199	202	201		
run-up in sec	115						
run-down in sec, braked	116						
temperature in °C ¹⁾	+5						

























capacity in ml	2.6–3.4	2.7–3	4–5.5	4.5–5	4.9	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8	8.5–10
Ø x L in mm	13x65	11x66	15x75	11x92	13x90	15x92	16x92	15x102	13x75	13x100	16x75	16x125	16x100
Cat. No.	blood collection / urine tubes												
bucket Cat. No. 4255													
													
carrier Cat. No. 4254													
Cat. No.	4435	4433	4434	4433	4435	4434	4435	4434	4435	4434	4435	4434	4435
boring Ø x L in mm	13.5x58	13x58	17.5x53	13x58	13.5x58	17.5x53	13.5x58	17.5x53	13.5x58	17.5x53	13.5x58	17.5x53	13.5x58
tubes per rotor	84	120	76	120	84	76	84	76	84	76	84	76	84
max. RCF ²⁾	4,618	4,777	4,777	4,618	4,618	4,777	4,777	4,777	4,618	4,618	4,777	4,777	4,777
radius in mm	204	211	211	204	204	211	211	211	204	204	211	211	211
run-up in sec	115												
run-down in sec, braked	116												
temperature in °C ¹⁾	+5												




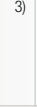

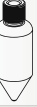






⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

²⁶⁾ When using removal frame 4259-A, please take the insert out of carrier 4257.

ROTORS

Swing-out rotor 4294

capacity in ml	15	30	50	25	30	10	250	290	650	750	1,000	1,000
Ø x L in mm	17x120	25x110	29x115	25x90	25x110	16x80	61x122	62x137	97x139	97x152	96x176	98x138
Cat. No.	0509	-	0513	-	-	-	5127 ²⁸⁾	- ²⁸⁾	0554 ²⁸⁾	0512 ²⁸⁾	4239 ²⁸⁾	4255
bucket Cat. No. 4255												
												
carrier Cat. No. 4254												
Cat. No.	4437	4438	4441	4438		4434	4443		-		-	
boring Ø x L in mm	17 x 88	26 x 72	30 x 87	26 x 72		17.5 x 53	62 x 92		98 x 138		-	
tubes per rotor	48	28	20	28		76			4			
max. RCF ²⁾	4,890	4,709	4,890	4,709		4,777	5,003		5,184			
radius in mm	216	208	216	208		211	221		229			
run-up in sec	115											
run-down in sec, braked	116											
temperature in °C ¹⁾	+5											

capacity in ml	175	175	200	225	250	500
Ø x L in mm	61 x 118	62 x 144	60 x 130	61 x 137	60 x 162	96 x 147
Cat. No.	Falcon®	Nalgene®	Nunc®	Falcon®	Corning®	
bucket Cat. No. 4255						
 carrier Cat. No. 4254						
Cat. No.	4440	4430		4440	4430	4449
boring Ø x L in mm	-					
tubes per rotor	4					
max. RCF ²⁾	5,184					
radius in mm	229					
run-up in sec	115					
run-down in sec, braked	116					
temperature in °C ¹⁾	+ 5					

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

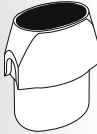

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.



³⁾ When using these tubes, carrier 4255 cannot be closed with its lid.

Swing-out rotor 4294



illustrated with carriers 4298-A
and inserts 4237-A

capacity in ml	450	500
blood bags	triple	
Cat. No.	-	-
		
carrier Cat. No. 4293		
Cat. No.	4244-A	
boring Ø x L in mm	-	
blood bag systems per rotor	4	
max. RCF	5,252	
radius in mm	232	
run-up in sec	115	
run-down in sec, braked	116	
temperature in °C ¹⁾	+2	

capacity in ml	450	500	750	1,000
blood bags	quadruple		single	single
Cat. No.	-		-	-
				
carrier Cat. No. 4298-A				
Cat. No.	4237-A		-	
boring Ø x L in mm	-			
blood bag systems per rotor	4			
max. RCF	5,003		5,071	
radius in mm	221		224	
run-up in sec	115			
run-down in sec, braked	116			
temperature in °C ¹⁾	+3			



HettLiner

Blood bags can be secured in inserts using HettLiners. After centrifuging, they can be removed by their loops without disturbing the sediment.

Cat. No. 4564



Set of balancing weights

If blood bag carriers are not filled to the same weight, then balancing weights can be used to make up the difference.

Cat. No. 4566

^{2b)} At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

ROTORS



























Swing-out rotor, 6-place

































illustrated with carriers 5051
and lids 5053

✂ 90° n = 4,000 min⁻¹ max. RCF 3,631

Cat. No. (without carriers) 4296

capacity in ml	1.5	2.0	1.5	2.0	5	6	7	9	15	25	50	100	100	two-tier frame for cyto accessories
Ø x L in mm	11x38		11x38		12x75	12x82	12x100	14x100	17x100	24x100	34x100	44x100	40x115	
Cat. No.	-	-	2078	0536	0553 ²⁾	0501 ²⁾	0578 ²⁾	0500 ²⁾	0518 ²⁾	0519 ²⁾	0521 ²⁾	0526 ²⁾	0523 ²⁾	cyto chambers
lid Cat. No. 5053														
 carrier Cat. No. 5051														
Cat. No.	5257		5281		5227		5247 ¹⁸⁾	5264	5248 ¹⁸⁾	5242	5243	5262	5249	5280
boring Ø x L in mm	12.5x42		11.5x50		12.5x42		12.5x86	16x50	17.5x86	26x86	36x86	45.5x86	42x86	-
tubes per rotor	240		96		120		120	72	72	30	12	6		12
max. RCF ²⁾ oben/unten	2,486/3,363		3,363		3,309		3,291	3,309	3,291			3,291		2,290/3,274
radius in mm oben/unten	139/188		188		185		184	185	184			184		128/183
run-up in sec	33													
run-down in sec, braked	50													
temperature in °C ¹⁾	0													

capacity in ml	1.1–1.4	2.6–3.4	2.7–3	4–5.5	4.5–5	4.9	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8.5–10	15	50	
Ø x L in mm	8x66	13x65	11x66	15x75	11x92	13x90	15x92	16x92	15x102	13x75	13x100	16x75	16x100	17x120	29x115	
Cat. No.	blood collection / urine tubes													0509	0513	
lid Cat. No. 5053																
carrier Cat. No. 5051																
Cat. No.	5267	5268	5227	5264	5227	5268	5264	5258		5268	6301	5264	5248	6306	5259	
boring Ø x L in mm	11x44	13.5x52	12.5x42	16x50	12.5x42	13.5x52	16x50	17.6x86		13.5x52	13.5x86	16x50	17.5x86	17x90	30x86	
tubes per rotor	120	72	120	72	120	72		66		72			42		12	
max. RCF ²⁾	3,274	3,345	3,309	3,309	3,309	3,345	3,309	3,291		3,345	3,291	3,309	3,291	3,434	3,363	
radius in mm	183	187	185	185	185	187	185	184		187	184	185	184	192	188	
run-up in sec	33															
run-down in sec, braked	50															
temperature in °C ¹⁾	0															

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, carrier 5051 resp. 5092 cannot be closed with its lid 5053 resp. 5093.

Swing-out rotor 4296



illustrated with
carriers 5051



illustrated with carriers 5092
and lids 5093
with bio-containment⁵⁾

capacity in ml	12	30	50
Ø x L in mm	17x100	25x110	29x115

Cat. No.	-		
lid Cat. No. 5053			
carrier Cat. No. 5051			

Cat. No.	6306	5266	5243
boring Ø x L in mm	17x90	26x86	36x86
tubes per rotor	42	30	12
max. RCF ²⁾	3,434	3,291	
radius in mm	192	184	
run-up in sec		33	
run-down in sec, braked		50	
temperature in °C ¹⁾		0	

capacity in ml	5	6	7	15	25	50	100	100
Ø x L in mm	12x75	12x82	12x100	17x100	24x100	34x100	44x100	40x115

Cat. No.	0553²⁾	0501²⁾	0578²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	0523²⁾
lid with bio-containment ⁵⁾ Cat. No. 5093								
carrier Cat. No. 5092								

Cat. No.	5128	5120	5136	5122	5124	5125	5126
boring Ø x L in mm	12.8x45	12.8x82	17.5x60.7	25.5x82	35.5x82.5	45.5x85	42x85
tubes per rotor	72		48	24		6	
max. RCF ²⁾	3,542		3,488	3,434		3,488	
radius in mm	198		195	192		195	
run-up in sec				33			
run-down in sec, braked				50			
temperature in °C ¹⁾				-2			

capacity in ml	250	1.1–1.4	1.1–1.4	2.6–3.4	2.7–3	2.7–3	4.5–5	4–5.5	4.9	7.5–8.5	9–10	10	1.6–5
Ø x L in mm	65x115	8x66	8x66	13x65	11x66	11x66	11x92	15x75	13x90	15x92	16x92	15x102	13x75

Cat. No.	0530²⁾	blood collection / urine tubes											
lid with bio-containment ⁵⁾ Cat. No. 5093													
carrier Cat. No. 5092													
























Cat. No.	1791	5137	5138	5138	5137	5138	5120	5136	5137	5136	5138
boring Ø x L in mm	66x103	13.5x60.7	12.8x54.5	12.8x54.5	13.5x60.7	12.8x54.5	12.8x82	17.5x60.7	13.5x60.7	17.5x60.7	12.8x54.5
tubes per rotor	6	48	72		48	72			48		72
max. RCF ²⁾	3,631	3,488	3,077		3,488	3,077	3,542		3,488		3,077
radius in mm	203	195	172		195	172	198		195		172
run-up in sec							33				
run-down in sec, braked							50				
temperature in °C ¹⁾							-2				

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

¹⁸⁾ With Cat. No. 5247-91 or 5248-91 these adapters can also be ordered with a decanting aid.

ROTORS

Swing-out rotor 4296

capacity in ml	4–7	4–7	8.5–10	8	15	50	25	30	50	10	250	290	
Ø x L in mm	13x100	16x75	16x100	16x125	17x120	29x115	25x90	25x110	29x115	16x80	61x122	62x137	
Cat. No.	blood / urine tubes					0509	0513	-				5127 ²⁸⁾	- ²⁸⁾
lid with bio-containment ⁵⁾ Cat. No. 5093													
carrier Cat. No. 5092													
Cat. No.	5120	5136	5121 ⁴⁾	5129	5123	5134	5122	5135	5136	6319			
boring Ø x L in mm	12.8x82	17.5x60.7	17.5x82	17x85	30x85	26x73	25.5x82	30x99	17.5x60.7	66x103			
tubes per rotor	72	48	42		12	18	24	12	48	6			
max. RCF ²⁾	3,542	3,488	3,542	3,631	3,631	3,363	3,434	3,560	3,488	3,631			
radius in mm	198	195	198	203	203	188	192	199	195	203			
run-up in sec	33												
run-down in sec, braked	50												
temperature in °C ¹⁾	-2												

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

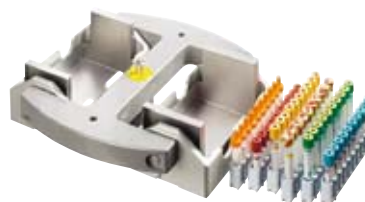
²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, carrier 5051 resp. 5092 cannot be closed with its lid 5053 resp. 5093.

Swing-out rotor, 2-place







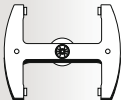





illustrated with carriers
4285-A, adapters 4281
and Deep Well Plates



illustrated with carriers
4285-A, adapters 4283-B
and Olympus racks

✂ 90° n = 3,600 min⁻¹ max. RCF 2,652
Cat. No. (without carriers) 4282

D x W x H in mm	86x128x15	86x128x17.5	86x128x22	86x128x44.5	59x84x11	82x124x20	-
Cat. No.	MTP		CP	DWP	Microtest plate (Terasaki)	PCR plate 96 wells	PCR strips
carrier Cat. No. 4285-A							
 rotor Cat. No. 4282						 	
Cat. No.	4281					4281 + 2 x 1485	
boring Ø x L in mm	-						
plates / racks per rotor	16		12	4			48x8
max. RCF ²⁾	2,434						
radius in mm	168						
run-up in sec	87						
run-down in sec, braked	94						
temperature in °C ¹⁾	-2						

D x W x H in mm	20x176x41	20x118x70	25x193x60	110x210x44
Cat. No.	Olympus racks	Hitachi racks	Behring racks	rack, 50-place
carrier Cat. No. 4285-A				
rotor Cat. No. 4282				
Cat. No.	4283-B	4287-B	4288-A	4263-A
boring Ø x L in mm	-			
plates / racks per rotor	12	20	10	2
max. RCF ²⁾	2,652			2,579
radius in mm	183			178
run-up in sec	87			
run-down in sec, braked	94			
temperature in °C ¹⁾	-2			

⁴⁾ Please remove the inserts.

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

ROTORS

Angle rotor, 6-place



with bio-containment ⁵⁾

✂ 25° n = 9,500 min⁻¹
Cat. No. 4266

max. RCF 14,025

























Angle rotor, 6-place



with bio-containment ⁵⁾

✂ 45° n = 11,500 min⁻¹ max. RCF 18,038
Cat. No. 4246

capacity in ml	15	25	94	15	50	10	30	50	85	94	250
Ø x L in mm	17x100	24x100	38x102	17 x 120	29 x 115	16x80	26x95	29x107	38x106	38x102	61x122
Cat. No.	0518 ²⁾	0519 ²⁾	0549	0509	0513	-	0545	0546	0547	0538 ¹³⁾	5127 ²⁸⁾
lid with bio-containment ⁵⁾ incl.											
rotor Cat. No. 4266											
Cat. No.	5646	5642	5644	5637	5638	5641	5642	5643	5644	-	-
boring Ø x L in mm	17.6x83	26x80	38.6x88	17 x 106	30 x 100	16.6x70	26x80	29x90	38.6x88	61.5x109	-
tubes per rotor	42	18	6	30	6	48	18	6	6	6	6
max. RCF ²⁾	13,319	12,915	12,310	12,915	12,108	13,420	12,915	12,108	12,310	14,025	14,025
radius in mm	132	128	122	128	120	133	128	120	122	139	139
run-up in sec	82										
run-down in sec, braked	96										
temperature in °C ¹⁾	+2										

capacity in ml	0.5	1.5	2.0	3	15	25	50	94	7.5–8.5	9–10	10	8.5–10	5	15	50
Ø x L in mm	10.7x36	11x38		10x60	17x100	24x100	34x100	38x102	15x92	16x92	15x102	16x100	17x59	17x120	29x115
Cat. No.	Pediatric	2078	0536	-	0518²⁾	0519²⁾	0521²⁾	0549	blood collection / urine tubes				-	0509	0513
lid with bio-containment ⁵⁾ incl.															
 rotor Cat. No. 4246															
Cat. No.	1449				1451	1447	1463	-	1451				1476	1466	1454
boring Ø x L in mm	11.4x39				17.5x92	26x85	35x89	38.2x89.6	17.5x92				17x51	17x106	29.8x97
tubes per rotor	24								6						
max. RCF ²⁾	17,299				17,003	16,560	17,743	18,038	17,003				16,856	17,299	17,595
radius in mm	117				115	112	120	122	115				114	117	119
run-up in sec	66														
run-down in sec, braked	68														
temperature in °C ¹⁾	+4														

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.










⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.




Angle rotor, 4246

Angle rotor, 6-place, for Schlenk tubes



✂ 45° n = 2,000 min⁻¹ max. RCF 805
Cat. No. 4316 ³⁴⁾

capacity in ml	10	30	50	85	94
Ø x L in mm	16x80	26x95	29x107	38x106	38x102
Cat. No.	-	0545	0546	0547	0538¹³⁾
lid with bio-containment ⁵⁾ incl.					
 rotor Cat. No. 4246					
					
Cat. No.	1448	1447	1446	-	
boring Ø x L in mm	16.5x74	26x85	29x92	38.2x89.6	
tubes per rotor	12	6			
max. RCF ²⁾	17,003	16,560	17,299	18,038	
radius in mm	115	112	117	122	
run-up in sec	66				
run-down in sec, braked	68				
temperature in °C ¹⁾	+4				

capacity in ml	25	50
Ø x L in mm	24 x 146.5	38 x 148.5
Cat. No.	0532	0533
 rotor Cat. No. 4316 ³⁴⁾		
Cat. No.	4317	-
boring Ø x L in mm	25x86	-
tubes per rotor	6	
max. RCF ²⁾	783	805
radius in mm	175	180
run-up in sec	16	
run-down in sec, braked	29	
temperature in °C ¹⁾	- 10	

¹³⁾ The screw cap for tube No. 0538 is available with Cat. No. 0539. Dimensions with cap 38 x 110 mm.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

³⁴⁾ In the heatable model 4950-50, rotor 4316 may only be used up to a maximum of +40 °C.











ROTOR

Swing-out rotor, 4-place, for ASTM tubes
+ 50 ml Babcock bottles



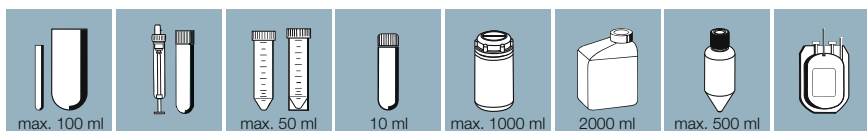
illustrated with
carriers 4275

↗ 90° $n = 2,000 \text{ min}^{-1}$ max. RCF 984
Cat. No. (without carriers) 4274

capacity in ml	50	100	100	100	50
Ø x L in mm	45x130	58x161	44x168	37x200	36.5x185
Cat. No.	ASTM ²⁾	ASTM 0528 ²⁾	ASTM ²⁾	ASTM 0531 ²⁾	Babcock
carrier Cat. No. 4275					
rotor Cat. No. 4274					
Cat. No.	4278-A	0771	4277	4276-A	0703-A
boring Ø x L in mm	-				
tubes per rotor	4				
max. RCF ²⁾	984		961		912
radius in mm	220		215		204
run-up in sec	16				
run-down in sec, braked	38				
temperature in °C ¹⁾	-5				

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 700.






ROTO SILENTA 630 RS

Blood bags and much more

Now even safer and with smoother, quieter operation. Thanks to its improved running performance, the ROTO SILENTA 630 RS guarantees best separating results with blood bags, bottles up to 2,000 ml, tubes and blood collection tubes. Every commercial blood bag system can be accommodated.

Loading the carriers and inserts is convenient and easy. Wind shielding the rotor is not necessary.



TECHNOLOGY		ROTO SILENTA 630 RS ^{>)}	
Floorstanding centrifuge, without rotor		cooled	
Power supply*)		400 V 3~ + N	208 – 220 V +6 / -10 % 3~ (+ N) + PE, with internal transformer
Frequency		50 – 60 Hz	50 – 60 Hz
Consumption		9,700 VA	9,000 VA
Emission, Immunity		EN / IEC 61326-1, class B	
	Max. capacity	6 x 2.000 ml	
	Max. RPM (speed)	6,000 min ⁻¹	
	Max. RCF	6,520	
Running time		1 sec – 999 min : 59 sec, ∞ continuous run	
Dimensions (H x W x D)		973 x 813 x 1,015 mm	
Weight		approx. 355 kg	approx. 401 kg
Refrigeration			
Temperature control, infinitely variable		from -20 to +40 °C	
Cat. No.		5005	5005-08

*) Other voltages on request.

>) For a list of further versions of this model, please refer to page 12.

ROTORS

Swing-out rotor, 6-place










illustrated with carriers 4591-A
and inserts 4592-B

In the following tables, the values for
6-place rotor 4176 have a white back-
ground, and those for 4-place rotor
4174 have a turquoise background.

↗ 90° n = 4,500 min⁻¹ max. RCF 6,520

Cat. No. (without carriers) 4176

capacity in ml	500	500	500	750
blood bags	quadruple	quadruple	quadruple	single
Cat. No.	-	-	-	-
 Carrier Cat. No. 4524-A				
Cat. No.	4525-A	4529³⁰⁾-AO,-AM,-AU	4592-B	
boring Ø x L in mm	-			
blood bag systems per rotor		12	8	
max. RCF		6,498	5,683	
max. RCF ³⁰⁾		1,000	1,000	
radius in mm		287	251	
run-up in sec		125	125	
run-down in sec, braked		197	197	
temperature in °C ¹⁾		+16	+10	

capacity in ml	450
blood bags	quadruple
Cat. No.	-
	
Carrier Cat. No. 4546-A	
Cat. No.	4559-A
boring Ø x L in mm	-
blood bag systems per rotor	12 8
max. RCF	6,271 5,479
radius in mm	277 242
run-up in sec	125 125
run-down in sec, braked	197 197
temperature in °C ¹⁾	+13 0



carrier 4524-A
with insert 4525-A

insert 4529-A in 4529-AM
version (hooks for suspend-
ing the blood bags are fixed
in middle position)



carrier 4546-A
with insert 4559-A

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

³⁰⁾ When using inserts 4529-AO, 4529-AM, 4529-AU at lower speeds (e.g. for processing thrombocytes), the blood bags may be hung up to avoid accumulation of erythrocytes. Hooks at three different heights (4529-AO upper position, 4529-AM middle position, 4529-AU low position) allow to meet specific customer requirements. Suspended blood bags, however, may not be exposed to a RCF exceeding 1,000.




Swing-out rotor, 4-place





illustrated with carriers 4591-A
and inserts 4592-B

↗ 90° n = 4,500 min⁻¹ max. RCF 5,705

Cat. No. (without carriers) 4174

capacity in ml	450	500	750
blood bags	triple	quadruple	single
Cat. No.	-	-	-
Carrier Cat. No. 4591-A			
Cat. No.	4598	4592-B	
boring Ø x L in mm	-		
blood bag systems per rotor	12	8	
max. RCF	6,498	5,705	
radius in mm	287	252	
run-up in sec	125	125	
run-down in sec, braked	197	197	
temperature in °C ¹⁾	+16	+10	

capacity in ml	max. 1,600 ⁴⁰⁾	2,000
H x W x D in mm	-	180 x 150 x 100
Cat. No.	-	0550
Carrier Cat. No. 4595-C ³⁵⁾		
Cat. No.	4596-A	-
H x W x D in mm	146 x 145 x 91	-
blood bag systems per rotor	6 4	6 4
max. RCF	3,821 3,328	3,848 3,369
radius in mm	279 243	281 246
run-up in sec	125 125	29 95
run-down in sec, braked	197 197	41 131
temperature in °C ¹⁾	+16 -8	+16 -8



carrier 4591-A
with insert 4592-B



carrier 4595-C with insert 4596-A




³⁵⁾ Adapter for accommodating sample tubes and blood collection tubes in carrier 4595-C on request.




⁴⁰⁾ Dependent on the material to be centrifuged.

ROTORS

Swing-out rotors 4176 / 4174

In the following tables, the values for 6-place rotor 4176 have a white background, and those for 4-place rotor 4174 have a turquoise background.

capacity in ml	500	750	1,000
blood bags	quadruple	single	single
Cat. No.	-	-	-
 Carrier Cat. No. 4523-A			
Cat. No.	4516-A	-	-
boring Ø x L in mm	-	-	-
blood bag systems per rotor	6 4	6 4	6 4
max. RCF	6,452	5,637	6,520 5,705
radius in mm	285	249	288 252
run-up in sec		125	125
run-down in sec, braked		197	197
temperature in °C ¹⁾		+9	+3

capacity in ml	500	450
blood bags	quadruple	triple
Cat. No.	-	-
lid Cat. No. 5621 		
Cat. No.	4547-B	4548
boring Ø x L in mm	-	-
blood bag systems per rotor	6 4	6 4
max. RCF	6,316	5,501
radius in mm	279	243
run-up in sec	125	125
run-down in sec, braked	197	197
temperature in °C ¹⁾	+9	-9



carrier 4523-A
with insert 4516-A



carrier 4547-B with insert 4548
and lid 5621

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

Accessories for centrifuging blood bag systems

HettLiner

Blood bags can be secured in adapters using HettLiners. After centrifuging, they can be removed by their loops without disturbing the sediment.



Cat. No. 4564

Set of compensatory weights

If blood bag carriers are not filled to the same weight, then compensatory weights can be used to make up the difference.



Cat. No. 4566

40 balancing weights, 2 g each
20 balancing weights, 5 g each
10 balancing weights, 10 g each
5 balancing weights, 20 g each
5 balancing weights, 40 g each

Loading aid

Quick and easy packing of blood bag systems with loading aid.



Cat. No. 4509

Balancing inserts

In case there are not enough blood bag systems to occupy every carrier of the rotor, empty carriers can be filled with balancing inserts. Taring weights supplied with the inserts may be used for fine balancing.



Cat. No. 4584-A (for insert 4559-A)

Cat. No. 4587-A (for insert 4592-B)

Cat. No. 4589-A (for insert 4516-A)


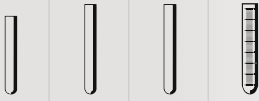



















ROTORS

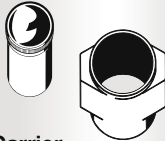











Swing-out rotors 4176 / 4174



carrier 4579-A, illustrated with
bucket 4255 with lid

In the following tables, the values for
6-place rotor 4176 have a white back-
ground, and those for 4-place rotor
4174 have a turquoise background.

capacity in ml	5	7	9	15	25	50	100	2.6–3.4	2.7–3	
Ø x L in mm	12x75	12x100	14x100	17x100	24x100	34x100	44x100	13x65	11x66	
Cat. No.	0553 ²⁾	0578 ²⁾	0500 ²⁾	0518 ²⁾	0519 ²⁾	0521 ²⁾	0526 ²⁾	blood collection tubes		
bucket Cat. No. 4255										
										
Carrier Cat. No. 4579-A										
Cat. No.	4433		4434		4438	4439	4442	4435	4433	
boring Ø x L in mm	13x58		17.5x53		26x72	36x79	45x78	13.5x58	13x58	
tubes per rotor	180 120		114 76		42 28	24 16	12 8	126 84	180 120	
max. RCF ²⁾	5,750 4,935		5,886 5,094		5,615 4,845	5,705 4,890	5,683 4,867	5,750 4,935	5,750 4,935	
radius in mm	254 218		260 225		248 214	252 216	251 215	254 218	254 218	
run-up in sec						125	125			
run-down in sec, braked						197	197			
temperature in °C ¹⁾						+4	-11			

capacity in ml	4–5.5	4.5–5	4.9	9–10	10	1.6–5	4–7	4–7	8.5–10	15	50		
Ø x L in mm	15x75	11x92	13x90	16x92	15x102	13x75	13x100	16x75	16x100	17x120	29x115		
Cat. No.	blood collection / urine tubes									0509	0513		
bucket Cat. No. 4255													
Carrier Cat. No. 4579-A													
Cat. No.	4434	4433	4435	4434		4435		4434		4437	4441		
boring Ø x L in mm	17.5x53		13x58	13.5x58		17.5x53		13.5x58		17.5x53	17x88	30x87	
tubes per rotor	114 76	180 120	126 84	114 76		126 84		114 76		72 48	30 20		
max. RCF ²⁾	5,886 5,094	5,750	4,935	5,886 5,094		5,750 4,935		5,886 5,094		6,022 5,207	5,999 5,207		
radius in mm	260 225	254	218	260 225		254 218		260 225		266 230	265 230		
run-up in sec						125	125						
run-down in sec, braked						197	197						
temperature in °C ¹⁾						+4	-11						

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

³⁾ When using these tubes, bucket 4255 cannot be closed with its lid.

Swing-out rotors 4176 / 4174



rotor 4176, illustrated with
carriers 4522-A

capacity in ml	25	30	10	250	290	650	750	1.000	1.000	175	175
Ø x L in mm	25x90	25x110	16x80	61x122	62x137	97x139	97x152	96x176	98x138	61x118	61x144
Cat. No.	-	-	-	5127 ²⁸⁾	- ²⁸⁾	0554 ²⁸⁾	0512 ²⁸⁾	4239 ²⁸⁾	4255	Falcon®	Nalgene®
bucket Cat. No. 4255											
Carrier Cat. No. 4579-A											
Cat. No.	4438	4434	4443	-	-	4440	4430	-	-	-	-
boring Ø x L in mm	26x72	17.5x53	62x92	98x138	-	-	-	-	-	-	-
tubes per rotor	42 28	114 76	6 4	6 4	6 4	6 4	6 4	6 4	6 4	6 4	6 4
max. RCF ²⁾	5,818 5,026	5,886 5,094	6,113 5,320	6,113 5,320	6,294 5,501	6,294 5,501	6,294 5,501	6,294 5,501	6,294 5,501	6,294 5,501	6,294 5,501
radius in mm	257 222	260 225	270 235	270 235	278 243	278 243	278 243	278 243	278 243	278 243	278 243
run-up in sec			125 125	125 125	125 125	125 125	125 125	125 125	125 125	125 125	125 125
run-down in sec, braked			197 197	197 197	197 197	197 197	197 197	197 197	197 197	197 197	197 197
temperature in °C ¹⁾			+4 -11	+4 -11	+4 -11	+4 -11	+4 -11	+4 -11	+4 -11	+4 -11	+4 -11

capacity in ml	200	225	250	500
Ø x L in mm	60x130	61x137	60x162	96x147
Cat. No.	Nunc®	Falcon®	Corning®	
bucket Cat. No. 4255				
Carrier Cat. No. 4579-A				
Cat. No.	4430	4440	4430	4449
boring Ø x L in mm	-	-	-	-
tubes per rotor	6 4	6 4	6 4	6 4
max. RCF ²⁾	6,294 5,501	6,294 5,501	6,294 5,501	6,294 5,501
radius in mm	278 243	278 243	278 243	278 243
run-up in sec	125 125	125 125	125 125	125 125
run-down in sec, braked	197 197	197 197	197 197	197 197
temperature in °C ¹⁾	+4 -11	+4 -11	+4 -11	+4 -11

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.


























ROTORS
























Swing-out rotors 4176 / 4174



carrier 4522-A with adapters for Falcon® tubes, blood collection tubes and bottles

In the following tables, the values for 6-place rotor 4176 have a white background, and those for 4-place rotor 4174 have a turquoise background.

capacity in ml	4	5	6	7	12	15	25	50	100	2.6–3.4	2.7–3	4–5.5
Ø x L in mm	10x88	12x75	12x82	12x100	16x101	17x100	24x100	34x100	40x115	13x65	11x66	15x75
Cat. No.	-	0553 ²⁾	0501 ²⁾	0578 ²⁾	-	0518 ²⁾	0519 ²⁾	0521 ²⁾	0523 ²⁾	blood collection tubes		
 Carrier Cat. No. 4522-A												
												
Cat. No.	4224	4213-93	4213	4223	4214	4215	4216	4218	4222-93	4213-93	4214-93	
boring Ø x L in mm	11x74	12.5x36	12.5x74	16x74	17.5x74	26x74	35x74	41.5x74	13.2x36	12.5x36	17.5x36	
tubes per rotor	378 252	288 192	150 100	180 120	66 44	36 24	24 16	180 120	288 192	180 120		
max. RCF ²⁾						5,818	5,003					
radius in mm						257	221					
run-up in sec						125	125					
run-down in sec, braked						197	197					
temperature in °C ¹⁾						+ 14	- 1					

capacity in ml	4.5–5	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8	8.5–10	15	50
Ø x L in mm	11x92	15x92	16x92	15x102	13x75	16x75	13x100	16x125	16x100	17x120	29x115
Cat. No.	blood collection / urine tubes									0509	0513
											
											
Carrier Cat. No. 4522-A											
Cat. No.	4213	4214	4220	4214	4222-93	4214-93	4222	4223	4214	4232	4245-A
boring Ø x L in mm	12.5x74	17.5x74			13.2x36	17.5x36	13.2x74	16x74	17.5x74	17x70	30x70
tubes per rotor	288 192	180 120	96 64		180	120		150 100	180 120	138 92	48 32
max. RCF ²⁾					5,818	5,003				5,999	5,184
radius in mm					257	221				265	229
run-up in sec					125	125					
run-down in sec, braked					197	197					
temperature in °C ¹⁾					+14	-1					






















¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.






²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

Swing-out rotors 4176 / 4174

capacity in ml	12	25	30	50	250	290	600	650	750	750	
Ø x L in mm	17x100	25x90	25x110	29x115	61x122	62x137	93x134	97x139	97x152	96x135	
Cat. No.	-	-	-	-	-	5127 ²⁸⁾	- ²⁸⁾	0551 ²⁸⁾	0554 ²⁸⁾	0512 ²⁸⁾	4234-A
 Carrier Cat. No. 4522-A											
											
Cat. No.	4220	4241	4215	4249	4238	4233	4258				
boring Ø x L in mm	17.5x74	26x73	26x74	30x96	62x90	94x105	97.5x105				
tubes per rotor	96 64	48 32	66 44	36 24	6 4						
max. RCF ²⁾	5,818		5,003	5,909	5,094	5,818	5,003	5,999		5,184	
radius in mm	257		221	261	225	257	221	265		229	
run-up in sec	125 125										
run-down in sec, braked	197 197										
temperature in °C ¹⁾	+14 -1										

capacity in ml	250	500
Ø x L in mm	60x162	96x147
Cat. No.	Corning®	Corning®
 Carrier Cat. No. 4522-A		
		
Cat. No.	6322	4258 + 4449
boring Ø x L in mm	61x125	97.5x105
tubes per rotor	6 4	
max. RCF ²⁾	5,818 5,003	5,999 5,184
radius in mm	257 221	265 229
run-up in sec	125 125	
run-down in sec, braked	197 197	
temperature in °C ¹⁾	+14 -1	

Centrifugation of toxic or infectious samples:

Bucket 5052 with lid 5057 is available for use with hazardous samples. Lid 5057 provides aerosol-proof containment⁵⁾ and thus protects both the user and the environment against contamination.

Buckets 5052 and 4522-A have the same internal dimensions. This allows centrifugation of the adapters and sample tubes from the 4522-A bucket in bucket 5052 under the same conditions without the development of aerosols. Only if adapter 6322 is used will it not be possible to close bucket 5052 with lid 5057.



lid 5057

ROTORS

Swing-out rotors 4176 / 4174



rotor 4176, illustrated with
carriers 4547-B and lids 5621

In the following tables, the values for
6-place rotor 4176 have a white back-
ground, and those for 4-place rotor
4174 have a turquoise background.

capacity in ml	5	7	9	15	25	50	100	2.6–3.4	2.7–3	4–5.5	4.5–5	4.9
Ø x L in mm	12x75	12x100	14x100	17x100	24x100	34x100	44x100	13x65	11x66	15x75	11x92	13x90
Cat. No.	0553²⁾	0578²⁾	0500²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	blood collection / urine tubes				
lid Cat. No. 5621												
Carrier Cat. No. 4547-B												
Cat. No.	4433	4434	4438	4439	4442	4435	4433	4434	4433	4435		
boring Ø x L in mm	13x58	17.5x53	26x72	36x79	45x78	13.5x58	13x58	17.5x53	13x58	13.5x58		
tubes per rotor	180 120	114 76	42 28	24 16	12 8	126 84	180 120	114 76	180 120	126 84		
max. RCF ²⁾	5,841 5,026	5,977 5,184	5,728 4,913	5,773 4,981	5,750 4,958	5,841 5,026	5,977 5,184	5,841 5,026	5,977 5,184	5,841 5,026		
radius in mm	258 222	264 229	253 217	255 220	254 219	258 222	264 229	258 222	264 229	258 222		
run-up in sec						125 125						
run-down in sec, braked						197 197						
temperature in °C ¹⁾						+9 -9						

capacity in ml	7.5–8.5	9–10	10	1.6–5	4–7	4–7	8	8.5–10	15	50	25	30	10
Ø x L in mm	15x92	16x92	15x102	13x75	13x100	16x75	16x125	16x100	17x120	29x115	25x90	25x110	16x80
Cat. No.	blood collection / urine tubes								0509	0513	-	-	-
lid Cat. No. 5621													
Carrier Cat. No. 4547-B													
Cat. No.	4434	4435	4434	4437	4441	4438	4434						
boring Ø x L in mm	17.5x53	13.5x58	17.5x53	17x88	30x87	26x72	17.5x53						
tubes per rotor	114 76	126 84	114 76	72 48	30 20	42 28	114 76						
max. RCF ²⁾	5,977 5,184	5,841 5,026	5,977 5,184	6,090 5,298	5,909 5,117	5,977 5,184	5,977 5,184						
radius in mm	264 229	258 222	264 229	269 234	261 226	264 229	264 229						
run-up in sec						125 125							
run-down in sec, braked						197 197							
temperature in °C ¹⁾						+9 -9							

¹⁾ Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be attained by reducing the speed.

²⁾ Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote ²⁾ is 4,000.

⁵⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

Swing-out rotors 4176 / 4174



rotor 4176, illustrated with
carriers 4547-B and lids 5621























Angle rotor, 6-place













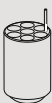



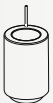







with bio-containment ⁵⁾

✶ 25° n = 6,000 min⁻¹
Cat. No. 4570

max. RCF 5,594

capacity in ml	250	290	650	750	1.000	175	175	200	225	250	500
Ø x L in mm	61x122	62x137	97x139	97x152	96x176	61x118	61x144	60x130	61x137	60x162	96x147
Cat. No.	5127 ²⁸⁾	- ²⁸⁾	0554 ²⁸⁾	0512 ²⁸⁾	4239 ²⁸⁾	Falcon®	Nalgene®	Nunc®	Falcon®	Corning®	
lid Cat. No. 5621											
Carrier Cat. No. 4547-B											
Cat. No.	4443	-				4440	4430	4440	4430	4449	
boring Ø x L in mm	62x92	98x141				-					
tubes per rotor	6 4										
max. RCF ²⁾	6,203	5,411					6,384	5,592			
radius in mm	274	239					282	247			
run-up in sec						125	125				
run-down in sec, braked						197	197				
temperature in °C ¹⁾						+9	-9				

capacity in ml	15	25	15	50	94	10	30	50	85	94	250
Ø x L in mm	17x100	24 x100	17 x 120	29 x 115	38 x 102	16 x 80	26 x 95	29 x 107	38 x 106	38 x 102	61 x 122
Cat. No.	0518²⁾	0519²⁾	0509	0513	0549	-	0545	0546	0547	0538¹³⁾	5127²⁸⁾
lid with bio-containment ³⁾ incl.											
 Rotor Cat. No. 4570											
Cat. No.	5646	5642	5637	5638	5644	5641	5642	5643	5644	-	
boring Ø x L in mm	17,6 x 83	26 x 80	17 x 106	30 x 100	38,6 x 88	16,6 x 70	26 x 80	29 x 90	38,6 x 88	61,5 x 109	
tubes per rotor	42	18	30	6	6	48	18	6	6	6	
max. RCF ²⁾	5.315	5.152	5.152	4.830	4.910	5.353	5.152	4.830	4.910	5.594	
radius in mm	132	128	128	120	122	133	128	120	122	139	
run-up in sec						64					
run-down in sec, braked						69					
temperature in °C ¹⁾						-16					

¹³⁾ The screw cap for tube No. 0538 is available with Cat. No. 0539. Dimensions with cap 38 x 110 mm.

²⁸⁾ At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

HETTINFO

HettInfo guarantees reliability, transparency and flexibility of data documentation.

Data documentation and traceability have to satisfy increasingly stringent requirements. As a consequence, more and more time has to be spent on documentation. With HettInfo transparency can be increased and at the same time processes can be streamlined and rationalized.



Packing room with external barcode unit



Barcode Kit ROTO SILENTA 630 RS



Centrifugation programs and the operator code can also be scanned-in by barcode.

Data log

Minimum PC requirements

(available from specialist computer resellers)

Processor	Pentium
Clock frequency	1 GHz
RAM	2 GB
Hard disk	20 GB
Interface	free RS 232
VGA graphics card	128 MB
Resolution	1024x768 (16 bit)
Operating system	Microsoft Windows XP ^{®#} (SP 3), Windows 7 or Windows 8

Additional components: network adapter card

(available from specialist computer resellers)

The HettInfo data documentation system consists of combinable modules and can be easily adapted to the required number of centrifuges. Up to 29 centrifuges and 3 external barcode units can be integrated into the network, which is reliable and absolutely immune to disturbances.

HettInfo enables logging of all centrifugation data. The user can log the date, end of the centrifugation run, program number and the temperature, and can select and de-select additional optional parameters. If barcode kits are used, the barcodes of blood bags and users can also be logged. In addition, the result of each run is automatically stored with all logged data. This simplifies any search for incorrect centrifuge runs.

Modern data back-up mechanisms increase data integrity. To avoid duplication and to ensure that higher-level databases are kept up to date, all data acquired using HettInfo can be integrated into these databases. For this, the data is stored in CSV format at the desired storage location. Time-consuming and costly programming of the interface is not required.

Basic Kits		
Program functions that can be connected:	HettInfo Light Cat. No. 0910-L	HettInfo Cat. No. 0910-F
29 centrifuges	●	●
29 barcode kits	●	●
3 external barcode kits		●

Logging and storage of process data:

Daily run time data	●	●
Overall run time data	●	●
Barcode result data	●	●
User barcodes and users		●
Centrifuge fault tables	●	●

Database functions:

Delete table data	●	●
Print centrifuge report table		●
Print centrifuge fault table		●
Print barcode report table		●
Print barcode fault list		●
Print duplicate barcodes		●
Search barcodes		●
Delete packing room data		●
Password protection		●
Packing room		●
User administration		●

^{®#} Microsoft, Windows and Windows XP are either registered trademarks or brand names of the Microsoft Corporation in the USA and/or in other countries.

Participants

The data collected through HettInfo by the participants is stored on a PC with a RS 232 interface. Participants are centrifuges with an online kit, an online kit plus a barcode kit, external barcode units and additional distributors. A centrifuge fitted with a barcode kit requires an online kit. In principle any centrifuge with an S or C control panel can be connected to HettInfo through an online kit.

Barcodes can be captured and documented through the use of a barcode kit or an external barcode kit. In addition to barcodes on blood bags, user data can also be captured via barcodes. This ensures full traceability and saves time and labour.



Key to symbols:



Capture of centrifuge data



Scanning of barcodes





Data distributors

With HettInfo, up to 29 centrifuges can be controlled by a single PC.

Data distributors ordered with the centrifuges are pre-installed and conform with the number of participants. Robust optical cables for connecting the participants are included in delivery. Everything is provided for start-up.

ROTO SILENTA 630 RS and ROTIXA 500 RS centrifuges can be retrofitted for connection to HettInfo at any time.

Article	Cat. No.	Scope of supply
Basis-Kit HettInfo	0910-F^{c)}	Software with all functions (full version), fibre-optic cable ^{b)} for connection to one participant or distributor, RS 232 cable, opto data box
Basis-Kit HettInfo Light	0910-L^{c)}	Software with limited functionality, fibre-optic cable ^{b)} for connection to one participant or distributor, RS 232 cable, opto data box

	Online-Kit ROTO SILENTA 630 RS	0951-10	Opto interface for a ROTO SILENTA 630 RS centrifuge
	Online-Kit ROTIXA 500 RS	0941-10	Opto interface for a ROTIXA 500 RS centrifuge
	Barcode-Kit ROTO SILENTA 630 RS	0950-10^{d)}	Front panel for ROTO SILENTA 630 RS with barcode unit and barcode scanner
	Barcode-Kit external for a packing room or for use on a centrifuge with C or S control panel and Online Kit	0915-10^{c)}	Barcode station with barcode scanner

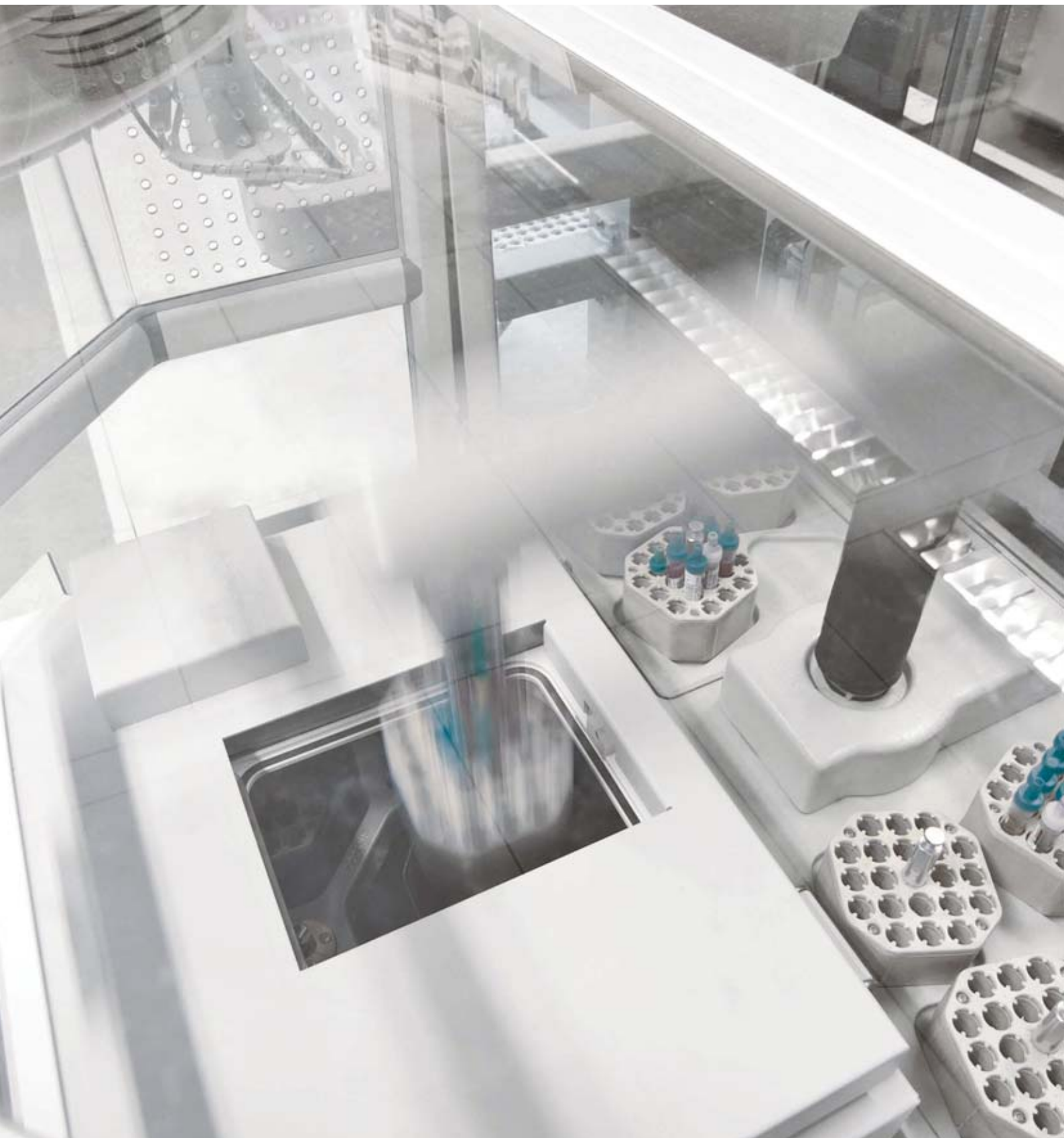
Distributor, small	0911-10	For connection of max. 8 participants
Distributor, large	0912-10	For connection of max. 15 participants
Connection Kit	0913-10	For connection of 1 participant, with fibre-optic cable ^{a)}

a) Fibre-optic cable in standard length (10 metres). Other lengths on request.

b) Fibre-optic cable in standard length (20 metres). Other lengths on request.

c) 100 - 240 V version, 50 - 60 Hz

d) 230 V version. Other voltages on request.



Automatically safe and fast

ROBOTIC

ROBOTIC CENTRIFUGES



Robotically operated centrifuges are used wherever sample processing can be automated, and make a significant contribution to the rationalisation and safety of routine tasks. They can be tailored for numerous applications.

More information is available free of charge from **robotic@hettichlab.com**.

Automatic, and therefore faster and more reliable

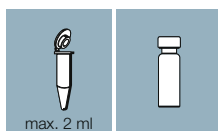
Hettich robotically operated centrifuges have been performing reliably in the laboratory for more than 20 years. They enable time-consuming, repetitive process steps to be carried out automatically. This not only minimises the risk of infection, but also allows laboratory personnel to concentrate on other tasks.

The floorstanding ROTANTA 460 Robotic centrifuges are recommended where large numbers of samples are involved. The MIKRO 220 Robotic, ROTINA 380 and 380 R Robotic models are ideally suited if you are looking for a benchtop solution.

Custom solutions

The Robotic models can be integrated into any workstation. However, automated applications require customized solutions. In addition to our standard range of accessories we therefore also manufacture special carriers and inserts that can be tailored to your robot and your application.





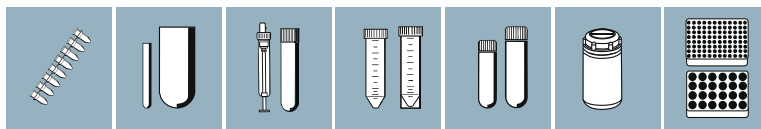
MIKRO 220 Robotic

The MIKRO 220 Robotic is an air-cooled, robotically operated microlitre centrifuge with PC control. Wherever processes can be automated, it will optimize the workflow. It centrifuges tubes up to 2.0 ml, e.g. microlitre tubes or HPLC tubes, quickly and safely (provided that flammable solvents

are not used). This qualifies it for sample preparation in research laboratories of the life sciences as well as for daily routine tasks in medical diagnostics or industrial quality control.



TECHNOLOGY	MIKRO 220 Robotic
Centrifuge, without rotor	without cooling
	Front hatch
Voltage	Can be operated at different voltages. Units are fitted with a transformer.
Frequency	50 – 60 Hz
Consumption	480 VA
Max. RPM (speed)	13,000 min ⁻¹
Max. RCF	18,516
Permissible density	1.2 kg / dm ³
Dimensions (H x W x D)	267 x 410 x 414 mm
Weight	approx. 27 kg
Cooling	
Temperature control, continuous	-
Cat. No.	2350



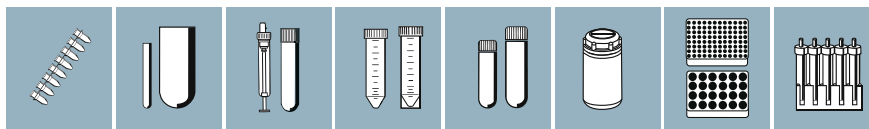
ROTINA 380 / 380 R / 380 RC Robotic

The ROTINA 380 Robotic models are available as air-cooled or cooled benchtop centrifuges and as cooled underbench units. They centrifuge microtitre plates and blood collection tubes quickly and reliably. The ROTINA 380 RC Robotic is ideally suited for setting up an automated workstation for routine clinical chemistry.

It can carry out special tasks, such as the centrifugation of STAT samples. In the research sector, the ROTINA 380 Robotic models also make a valuable contribution.



TECHNOLOGY	ROTINA 380 Robotic	ROTINA 380 R Robotic	ROTINA 380 RC Robotic
Centrifuge, without rotor	without cooling	with cooling	with cooling
	Rear hatch / front hatch		
Voltage	Can be operated at different voltages. Units are fitted with a transformer.		
Frequency	50 – 60 Hz		
Consumption	750 VA	1,500 VA	1,500 VA
Max. RPM (speed)	5,100 min ⁻¹		
Max. RCF	4,696		
Permissible density	1.2 kg / dm ³		
Dimensions (H x W x D)	447 x 470 x 579 mm	447 x 680 x 579 mm	622 x 470 x 579 mm
Weight	approx. 81 kg	approx. 113 kg	approx. 120 kg
Cooling			
Temperature control, continuous	-	from -20 to +40 °C	from -20 to +40 °C
Cat. No.	3700 / 3700-10	3702 / 3702-10	3704 / 3704-10



ROTANTA 460 Robotic

The ROTANTA 460 Robotic is a cooled, floor-standing centrifuge. Robotic centrifuges from the ROTANTA range have been an integral part of numerous laboratory automation systems for several decades. Today automated sample preparation is indispensable in medical diagnostics.

Robotically operated ROTANTA models have long been successfully deployed in biotechnology research laboratories and in the pharmaceutical industry, for example for high-throughput screening.



TECHNOLOGY	ROTANTA 460 Robotic ³⁶⁾
Centrifuge, without rotor	with cooling
	Rear hatch / front hatch
Voltage	Can be operated at different voltages. Units are fitted with a transformer.
Frequency	50 – 60 Hz
Consumption	1,800 VA
Max. RPM (speed)	6,200 min ⁻¹
Max. RCF	6,446
Permissible density	1.2 kg / dm ³
Dimensions (H x W x D)	684 x 554 x 697 mm
Weight	approx. 159 kg
Cooling	
Temperature control, continuous	from -20 to +40 °C
Cat. No.	5680-RS232 / 5680-10-RS232

³⁶⁾ Also available on castors.

STANDARD ACCESSORIES FOR ROBOTIC CENTRIFUGES

MIKRO 220 Robotic

The MIKRO 220 Robotic can run with a swing-out rotor for microlitre tubes and a swing-out rotor for HPLC tubes. Centrifugation of flammable materials is not allowed; application is therefore restricted to non-flammable solvents.

Swing-out rotor, 24-place, for microlitre tubes



Cat. No. (with carriers) 2394

Swing-out rotor, 12-place, for HPLC tubes



Cat. No. (with carriers) 2362

ROTINA 380 / 380 R / 380 RC Robotic

The standard accessories for the ROTINA 380 Robotic models include two swing-out rotors with suitable carriers.

Swing-out rotor, 4-place illustrated with carriers 3725-R



Cat. No. (without carriers) 3724-R

Swing-out rotor, 2-place illustrated with carriers 3730-R



Cat. No. (without carriers) 3722-R

ROTANTA 460 Robotic

A comprehensive range of standard accessories is available for ROTANTA 460 Robotic centrifuges. Three swing-out rotors and eleven sorts of carriers are available for centrifuging different tubes and plates.

Swing-out rotor, 4-place illustrated with carriers 4486-R



Cat. No. (without carriers) 4444

Swing-out rotor, 4-place illustrated with carriers 5632-R



Cat. No. (without carriers) 5699-R

Swing-out rotor, 2-place illustrated with carriers 5631-R



Cat. No. (without carriers) 5622



Hands-free cell washing

WASH



ROTOLAVIT II



according to directive 98/79/EC

Automatic cell washing system for serological testing.

The ROTOLAVIT II cell washing system facilitates routine tasks in transfusion centre laboratories. It was developed for cross-matching, as well as antibody search and differentiation, and for cell washing in TB tests.

Its modern touch screen enables the simple and rapid input of up to 20 different programs. The centrifuge has a small footprint and delivers reliable results at low costs for consumables.



rotor, 12-place $\angle 45^\circ$
Cat. No. 1017-A




rotor, 24-place $\angle 45^\circ$
Cat. No. 1018-A

Either for standard tubes 10 x 75 mm or 12 x 75 mm.

Cat. No. for 12 x 75 mm tubes: **0553**.

The use of 10 x 75 mm tubes requires adapters No. **1019**.



TECHNOLOGY		ROTOLAVIT II	
Cell Washing System, without rotor			
Power supply		100 – 240 V 1 ~	11 – 30 V 1 ~
Frequency		50–60 Hz	DC
Consumption		144 VA	
Emission, Immunity		EN / IEC 61326-3-2 / FCC CFR47 part 15, ed 2015-04-21 (e-CFR) class B	
	Max. capacity	24 standard tubes (10 x 75 mm or 12 x 75 mm)	
	Max. RPM (speed)	3,500 min ⁻¹	
	Max. RCF	1,438	
	Radius (both rotors)	105 mm	
Dimensions (H x W x D)		280 x 330 x 480 mm	
Weight		approx. 24.5 kg	
Cat. No.		1008	1008-03



Efficient use of valuable space

INCUBATORS

HETTCUBE RANGE

Warm for your samples,
cool for the climate





MODEL	HettCube 200	200 R	HettCube 400	400 R	HettCube 600	600 R
Temperature range for incubators / cooled incubators	1 K above ambient temperature up to +65 °C / 0 °C to +65 °C					
Exterior dimensions (without bushing and door handle) W x D x H in mm	710 x 825 x 970		710 x 825 x 1425		710 x 825 x 1990	
Interior dimensions W x D x H in mm	535 x 690 x 420		535 x 690 x 850		535 x 690 x 1415	
Internal volume in litres	150		310		520	
Valid. usable volume as per DIN 12880:2007-05 in l	82		199		351	
Percentage valid. usable volume / internal volume	54 %		64 %		67 %	
Footprint in m ²	0.6		0.6		0.6	
Weight in kg	92	103	117	128	164	175
Number of trays provided as standard	2 (1 standard + 1 HTS)		3 (2 standard + 1 HTS)		4 (3 standard + 1 HTS)	
Temperature fluctuation at +37 °C			± 0.1 K			
Temperature uniformity at +37 °C			± 0.2 K			
Temperature uniformity at +25 °C			± 0.1 K			
Recovery time after door has been opened for 30 sec at +37 °C	≤ 3 min		≤ 4.5 min		≤ 5.5 min	
Energy consumption at +37 °C	0.033 kWh		0.043 kWh		0.049 kWh	
Noise level	≤ 41 dB(A)	≤ 44 dB(A)	≤ 41 dB(A)	≤ 44 dB(A)	≤ 41 dB(A)	≤ 44 dB(A)
Power supply	220 – 240 V 1 ~ / 50 – 60 Hz					
Cat. No.	62000	62005	64000	64005	66000	66005

OTHER VOLTAGES	Cat. No.					
120 V 1 ~ / 50 – 60 Hz	62000-01	62005-01	64000-01	64005-01	66000-01	66005-01
110 V 1 ~ / 50 – 60 Hz	62000-03	62005-03	64000-03	64005-03	66000-03	66005-03
100 V 1 ~ / 50 – 60 Hz	62000-04	62005-04	64000-04	64005-04	66000-04	66005-04
127 V 1 ~ / 50 – 60 Hz	62000-05	62005-05	64000-05	64005-05	66000-05	66005-05
Weight in kg*	97	108	122	133	169	180
Energy consumption at +37 °C*	0.04 kWh		0.05 kWh		0.06 kWh	
Noise level*	≤ 42 dB(A)	≤ 44 dB(A)	≤ 42 dB(A)	≤ 44 dB(A)	≤ 42 dB(A)	≤ 44 dB(A)

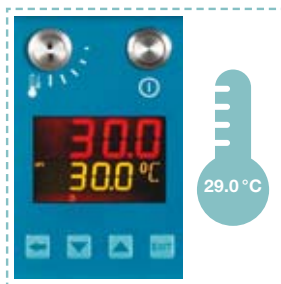
* All other data are the same as for the product versions with standard voltage (220 – 240 V 1 ~ / 50 – 60 Hz).

All temperature values were ascertained at an ambient temperature of +22 °C in accordance with DIN 12880:2007-5. The data apply for incubators with standard features.

ALL BENEFITS AT A GLANCE

More benefits for you.

The most important advantages of our three models are presented below. HettCube incubators will cater for all your requirements. See for yourself and save money. At an operating temperature of 37 °C a HettCube incubator consumes less than 0.05 kWh.



PROTECT THE ENVIRONMENT

HettCube incubators can also operate at a temperature 1 K above a stable ambient temperature. This allows a HettCube incubator to be used without cooling in situations in which incubators from other manufacturers must have cooling.



SAVE SPACE

The door does not require space at the side to open. This means that the incubator can be positioned in a corner or close to other lab equipment. The door hinges can easily be moved from one side of the incubator to the other.



PROVIDE PROTECTION

The practical door-locking mechanism locks both the door and the control panel at the same time. This prevents inadvertent changes to parameters and harmful effects on cultures.



PREPARED CONNECTION

One bushing on the rear panel is provided as standard.



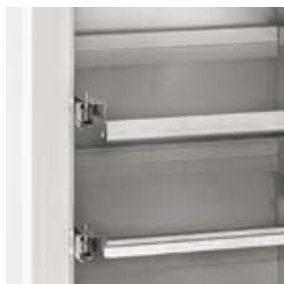
MOBILE STABILITY

The HettCube 400 and 600 models have castors for moving them to the desired position. Once in position they can be fixed with adjustable feet.



CLOSING BY ITSELF

A HettCube incubator will close automatically at an opening angle below 90°. A magnetic mechanism assists this automatic closing.



EASY CLEANING

The internal lining, drawers and shelves are made of stainless steel and can be readily removed for thorough cleaning and autoclaving.



UNIMPEDED ACCESS

Loading and unloading of the incubators is much easier because there is no inner door. Optional shelves and drawers run on telescopic rails and can be pulled out up to 70 %.



SAFE GRIP

Rounded grips on the standard shelves keep your gloves safe from ripping.

REMARKABLY QUIET

The fan is located outside the usable space. So HettCubes generate a remarkably low noise level of ≤ 44 dB(A).

HIGH-QUALITY EQUIPMENT

Each HettCube comes with an HTS tray with telescopic rails as a standard feature.

PERFECT CONDITIONS

Temperature control principle

Constant temperature.

Homogeneous temperature distribution.

Our guardians of culture: the HettCube range combines the advantages of natural and forced convection. The fan is housed outside the usable space, so that there is a low air flow inside the incubator. The temperature is maintained by radiated heat, preventing the formation of hot spots. Cultures do not dry out and the conditions inside the incubator are the same at all points, helping to deliver reproducible results. This sophisticated air circulation system, along with the good insulation, makes an inner door unnecessary.



Validated usable volume

Up to 67 % of the interior space is validated usable volume as per DIN 12880:2007-05.

In the laboratory every centimetre counts. For this reason, we decided against a strong air flow, which achieves validated temperature homogeneity in only 50 % of the interior space, and opted for gentle air flow. This, along with our highly efficient, space-saving insulation, allows you to benefit from a maximum validated usable volume and a minimum footprint.

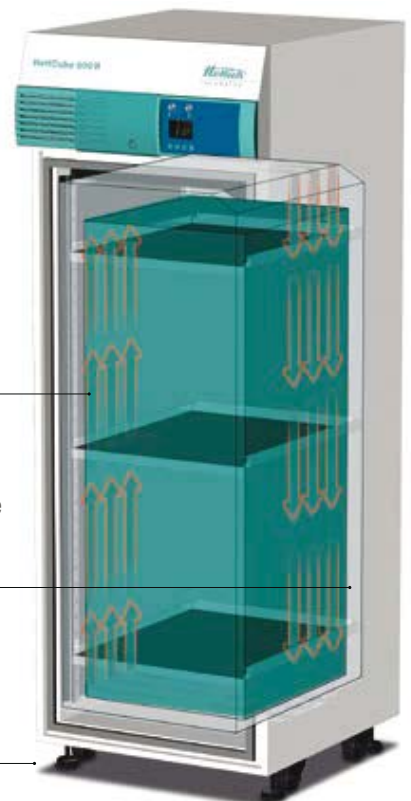
MODEL	200 / 200 R	400 / 400 R	600 / 600 R
Internal volume in litres	150	310	520
Validated usable volume in litres	82	199	351
Percentage of validated usable volume in the interior	54 %	64 %	67 %

Interior
Validated usable volume according to DIN 12880:2007-05

Gentle air flow: large validated usable volume. Guaranteed temperature homogeneity according to DIN 12880:2007-05.

Space-saving high-performance insulation provides additional usable interior space.

Small footprint.

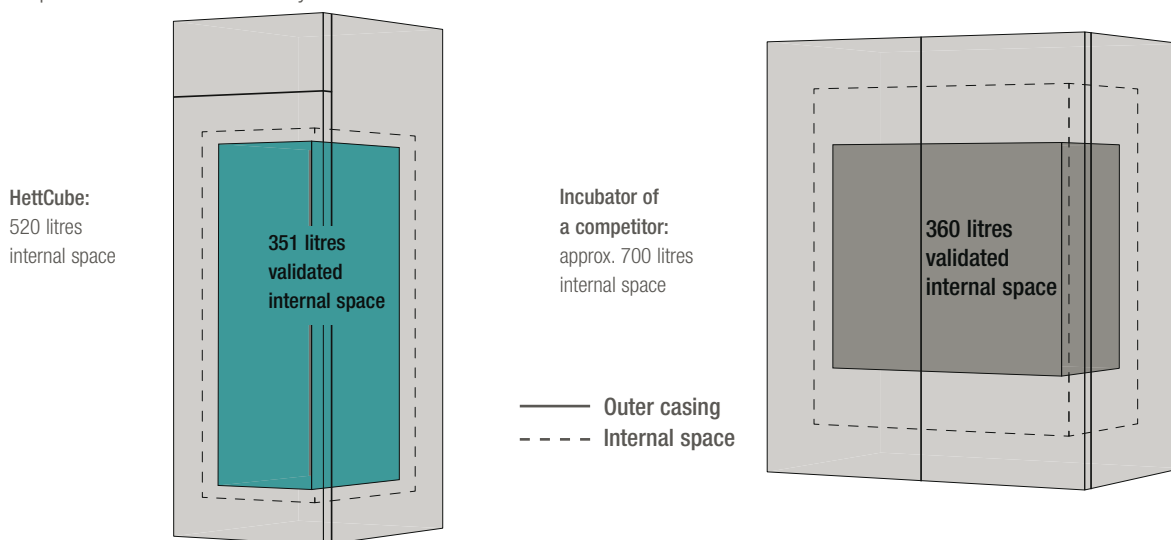


VALIDATED USABLE VOLUME

What really counts:

Only the validated usable volume in an incubator can guarantee homogenous temperature distribution for the cultures and therefore reliable results. However, a large internal space does not necessarily mean that the validated

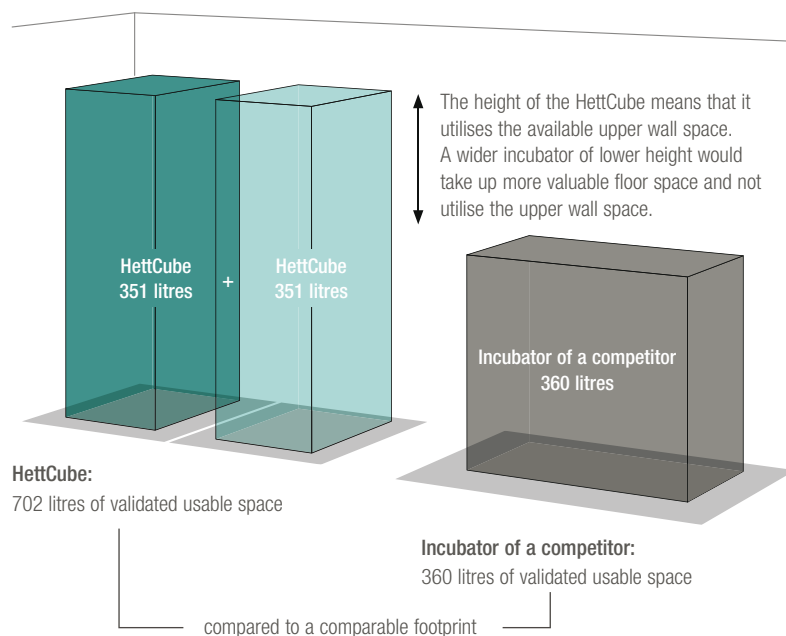
usable space is large. For a given size, HettCube models offer 20-30 % more validated usable space than other incubators.



Almost TWICE as much usable volume on the same footprint

For the same footprint, HettCube incubators offer 85 % more usable space, since two HettCube units fit into a

space that is only slightly greater than that occupied by a single unit of a competitor.



A HettCube incubator brings cost savings:

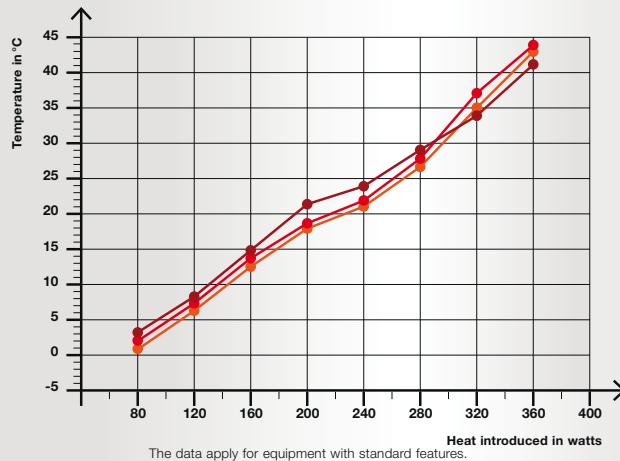
HettCube	Competitor
Gentle air flow + High-performance insulation + Small footprint =	Strong air flow + Bulky insulation + Large footprint =
Maximum loading capacity + cost savings per m ² laboratory space	Low loading capacity + higher costs per m ² laboratory space

PRACTICAL ACCESSORIES

Reliable compensation of temperature differences between the inside and outside

Heat compensation of the HettCube 200 R/400 R/600 R

Lowest attainable temperature values upon introduction of equipment with different heat outputs.



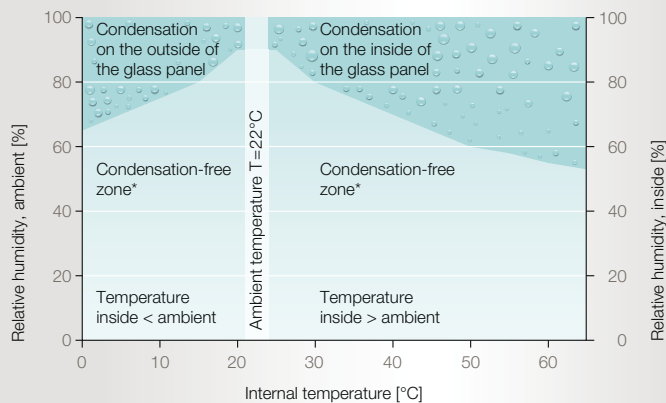
HettCube models react to changes in ambient conditions. Temperature fluctuations outside the incubator and energy introduced into the usable space by external equipment are compensated for immediately and actively.

- Temperature HettCube 200 R (0 °C to +65 °C)
- Temperature HettCube 400 R (0 °C to +65 °C)
- Temperature HettCube 600 R (0 °C to +65 °C)

HettCubes with glass door

The glass door enables users to check on their cultures without opening the door. The contents of the incubator can be easily reached since there is no additional inner door. The well-conceived air-guiding system makes this possible.

Condensation diagram for HettCubes size 200 / 400 / 600 with glass door at an ambient temperature of +22 °C



Glass door for 600 and 600 R

Cat. No. 60013

Hettich Tray System (HTS)

The Hettich Tray System, which fits in all three incubator sizes, allows the internal space of the HettCube to be used optimally. The trays, drawers, holders and rails are separate components. You just hang the rails in the grids of the holders and put in the tray or drawer of your choice.

Purchase information is provided on page 198.



HTS telescopic tray included

The advantages

- **Ideal grid dimensions**
The holders for the rails are placed to make optimum use of the internal space.
- **Standardised frame**
HTS trays and drawers are interchangeable. They fit in any HettCube.
- **Seal-welded drawers**
Liquids cannot drip to the floor.
- **High-quality stainless steel**
All of the components can be autoclaved in case of contamination.
- **Tray pulls out up to 70 %**
Telescopic rails make it easy to work and permit use of the entire surface area. Even samples that are way in the back can be easily reached. HTS trays and drawers can be inserted and removed almost horizontally.
- **Rugged pull-out mechanism**
External equipment like the Hettich HSM 10 orbital shaker can be loaded and unloaded with no trouble. A fixation kit (Cat. No. 60919) which additionally dampens the shaker movement in the cabinet is supplied at no charge.



HettCube 400 R shown with glass door and a Hettich HSM 10 shaker

PRACTICAL ACCESSORIES

Hettich-Rack_L and Hettich-Rack_{XL} (Löwenstein) for 16 tubes³⁷⁾

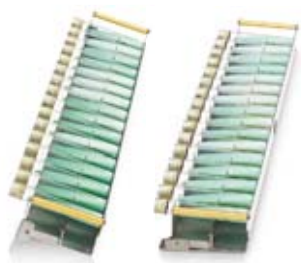
These flexible racks simplify handling, save time and enable the use of

- tubes of different diameters (15 - 20 mm)
- tubes of different lengths (100-125 mm or 126-170 mm)

- different slant angles³⁸⁾ (5° or 20°).

The slant angle of the tubes can be very easily changed without the need for tools.

The racks are of high-quality stainless steel and can be autoclaved.



Hettich-Rack_L

for tubes of length 100 -125 mm, handle of gold colour

Cat. No. 60027



Hettich-Rack_{XL}

for tubes of length 126 -170 mm, handle of champagne colour

Cat. No. 60028

Hettich orbital shaker (HSM 10) sets to fit in Hettich incubators with and without cooling³⁷⁾

The robust metal casing of the shaker enables it to withstand temperatures up to +65 °C and ensures a long service life. It is available with different platforms depending on the microbio-

logical application. Each combination of shaker and platform is a complete unit.

Technical Data HSM 10

- Shaking frequency: 50-250 RPM
- Max. load: 10 kg
- Dimensions (W x D x H): 410x595x140 mm
- Timer



HSM 10 (set 1)

including the universal platform (5 tension rollers) for different vessels

Cat. No. 60905



HSM 10 (set 2)

including platform (antislip mat) for a wide range of containers

Cat. No. 60906



HSM 10 (set 3)

including platform for Erlenmeyer flasks, with a set of 18 clamps of different sizes

Cat. No. 60907

³⁷⁾ More information is available from info@hettichlab.com or can be downloaded from our website www.hettichlab.com

³⁸⁾ The slant of the agar increases the surface area available for growth. It is necessary to use test tubes to hold the agar for micro-organisms that grow very slowly to avoid the cultures drying out.

Standard features

- RS 485/422 interface
- Microprocessor controller with program functions: Protection against temperatures above or below the set value. Temperatures can be set with an accuracy of 0.1 °C.
- Potential-free alarm output
- Acoustic and visual alarms
- Temperature selection monitor class 3.1
- Bushing on rear panel
- Control panel and door lockable simultaneously
- Interior of high-quality stainless steel (W-St 1.4301 (ASTM 304))
- One HTS tray (with telescopic rails)
- Factory certificate based on the Hettich QM system, mean value of 9 measurement points as per DIN 12880:2007-05 at 37 °C



Options and features

Customise your HettCube model to suit your individual requirements. The optional Hettich components satisfy the same high quality requirements as the incubators.

	Cat. No.
USB converter incl. connecting cable and software for programming and recording (60901)	60501
Ethernet converter incl. connecting cable and software for programming and recording (60901)	60502
Software for programming and recording data for a HettCube incubator for up to 60 days	60901
Independent, flexible PT 100 sensor (4-wire) with 4 – 20 mA analogue output on the rear panel, with external alarm monitoring for recording temperature in the event of a power failure (LIM compatible)	60503
Independent, flexible PT 100 sensor (4-wire) with 4-pole connection on the rear panel (LIM compatible)	60504
Object temperature display with flexible PT 100 sensor (4-wire), with data logging by Hettich software	60505
EU internal socket outlet IP 54, max. load 400 watts	60511
US internal socket outlet NEMA 5-15 R, IP 54, max. load 400 watts	60508
UK internal socket outlet BS 1363, IP 54, max. load 400 watts	60509
CH internal socket outlet SEV 1011, IP 54, max. load 400 watts	60510
Additional internal socket outlet for an electrical unit to connect to one of the main socket outlets (60508 – 60511). Max. 5 socket outlets per HettCube model (including the main one).	60520



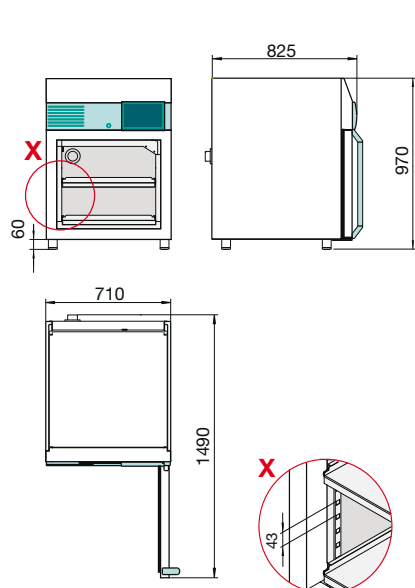
Options and features

	Cat. No.
Bushing on the left side of the incubator, Ø 22 mm	60006
Bushing on the left side of the incubator, Ø 42 mm	60007
Bushing on the left side of the incubator, Ø 67 mm	60008
Stacking kit, for safe stacking of two HettCube 200 or 200 R models on top of each other	60009
Tray of stainless steel with guide rails of stainless steel (standard tray)	60001
HTS tray of stainless steel with telescopic rails, pulls out up to 70%, max. load 40 kg	60031
HTS drawer of stainless steel with telescopic rails, pulls out up to 70%, max. load 40 kg, height 30 mm	60024
HTS drawer of stainless steel with telescopic rails, pulls out up to 70%, max. load 40 kg, height 65 mm	60025
HTS drawer of stainless steel with telescopic rails, pulls out up to 70%, max. load 40 kg, height 105 mm	60026
Separate interlocking of the control panel	60014
Glass door for HettCubes size 600	60013
Glass door for HettCubes size 400	60029
Glass door for HettCubes size 200	60030
Hettich-Rack _L for tubes of length 100-125 mm	60027
Hettich-Rack _{XL} for tubes of length 126-170 mm	60028
Hettich orbital shaker HSM 10 (set 1) incl. universal platform with 5 tension rollers	60905
Hettich orbital shaker HSM 10 (set 2) incl. antislip mat	60906
Hettich orbital shaker HSM 10 (set 3) incl. platform for Erlenmeyer flasks (incl. 18 clamps)	60907
Rolling cabinet for a HettCube 200 or 200 R model	60010
Rack for Petri dishes	60040
Rack for Petri dishes with standard rails	60039
Rack for Petri dishes with telescopic rails	60038

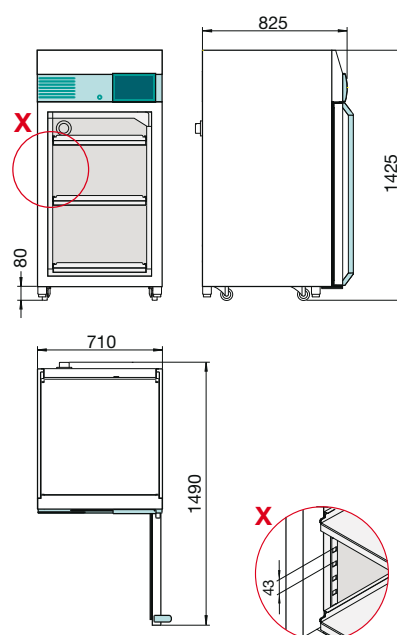


Other options on request.

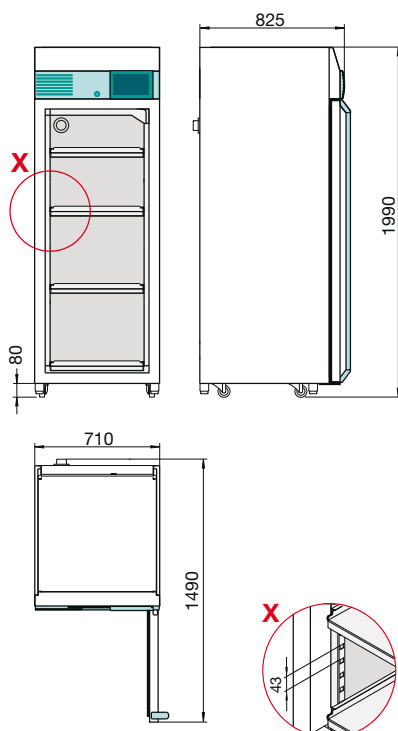
HettCube 200/200 R



HettCube 400/400 R












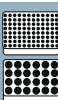












HettCube 600/600 R



All dimensions in mm

Symbols and Abbreviations

	reaction tubes up to 5.0 ml			
	cryo tubes			
	PCR strips			
	standard tubes			
			blood collection tubes urine tubes	
		tubes with screw cap		
		bottles		
		plates filter plates		
	racks			
	blood bags			
				special tubes
	hematocrit capillaries			
		cyto accessories For detailed information on the Hettich cyto system, please refer to the pages 138-143.		

	swing-out rotor
	angle rotor
	drum rotor
	hematocrit rotor, disk rotor

ABBREVIATIONS

CP	=	Culture Plate
DWP	=	Deep Well Platte
MS	=	Micronic System
MTP	=	Microtitre Plate
QP	=	Filter Plate
PA	=	polyamide
PC	=	polycarbonate
PE	=	polyethylene
PP	=	polypropylene
C	C after the model name stands for underbench centrifuge .	
F	F after the model name stands for floorstanding centrifuge .	
H	H after the model name stands for heated centrifuge .	
R	R after the model name stands for refrigerated centrifuge .	
S	S after the model name stands for S control panel (except EBA 200 S, EBA 280 S).	
✱	max. angle the rotor swings out to	

Available tubes

	Capacity in ml	Dimensions Ø x L in mm	Description	Cat. No.
	1.5	11x38	microlitre tube	2078
	2.0	11x38		0536
	5	12x75	tube, glass, cylindrical	0553
	6	12x82		0501
	7	12x100		0578
	9	14x100		0500
	12	17x100		0503
	15	17x100	tube, glass, conical, calibrated	0507
		17x103	tube, glass, cyl., calibrated	0518
	15	17x103	tube, glass, conical	0502
		16.5x112	tube, glass, conical	0515
			tube, glass, conical, calibrated	0516
	25	24x100	tube, glass, cylindrical	0519
	50	34x100		0521
	94	38x102	tube, PP, cylindrical	0549
	100	40x115	tube, glass, cylindrical	0523
	100	44x100		0526
	250	56x147		0525
	250	65x115		0530
	30	26x95	tube with screw cap, PC, cylindrical	0545
	50	29x107		0546
	85	38x106		0547
	94	38x102	tube, PC, with screw thread	0538
	15	17x120	screw cap for 0538	0539
				0509
	50	29x115	tube with screw cap, PP, conical	0513

	Capacity in ml	Dimensions Ø x L in mm	Description	Cat. No.
	200	56 x 112	bottle, PP, with screw cap	0555
	250	61 x 122		5127
	600	93 x 134		0551
	650	97 x 139		0554
	750	97 x 152		0512
	1,000	96 x 176		4239
	450	97 x 110	bucket, PP	4447
	750	96 x 135		4234-A
	1,000	98 x 138	bucket, stainless steel, with screw cap	4255
	2,000	180x150x100 HxWxD	bottle, PP, with screw cap	0550
	30	24 x 151	chrome bath tube with stopper	0508
				0529
	30	44 x 105	chrome bath tube	0534
		-	rubber stopper for 0534	0535
	25	24 x 146.5	Schlenk tube	0532
	50	38 x 148.5		0533
	100	37 x 200	ASTM tube (petroleum tester), glass, calibrated	0531 conical
	100	58 x 161		0528 pear-shaped
	3.3	-	disposable Pasteur pipette, PE	0552

Please make sure not to exceed the tubes' max. permissible RCF.

The capacity of the vessels is given as the nominal volume according to the manufacturer. The filling volume can be different.

The chrome bath tubes 0508, 0529 and 0534 may not be centrifuged with the stopper. The stopper only serves to close the tube for agitating or mixing.

BUSINESS PARTNERS

 **BENELUX**
Hettich Benelux B. V.
 De Aaldor 9
 NL-4191 PC Geldermalsen
 Tel. +31 (0)882 21 99 00
 Fax +31 (0)882 21 99 95
 info@hettichbenelux.com
 www.hettichbenelux.com

 **DENMARK**
Hettich Labinstrument ApS
 Frydenborgvej 27E
 DK- 3400 Hillerød
 Tel. +45 36775555
 info@hettich.dk
 www.hettich.dk

 **FRANCE**
Hettich SÀRL
 7, Place de la Gare
 F-57200 Sarreguemines
 Tel. +33 (0)4 72 49 01 62
 Fax +33 (0)4 72 24 66 08
 info-fr@hettichlab.com
 www.hettichlab.com

 **ITALY**
Hettich Italia S.R.L.
 Via Prestinari 2
 I - 20158 Milano
 Tel. +39 02 / 39 31 17 41
 Fax +39 02 / 39 31 58 75
 info@hettichitalia.it
 www.hettichitalia.it

 **SWEDEN**
Hettich Labinstrument AB
 Tegelluddsvägen 76 plan 3
 S - 11528 Stockholm
 Tel. +46 (0)8 7 52 00 30
 info@hettichlabinstrument.se
 www.hettichlabinstrument.se

 **SWITZERLAND**
Hettich AG
 Seestr. 204a
 CH - 8806 Bäch
 Tel. +41 (0)44 / 786 80 20
 Fax +41 (0)44 / 786 80 21
 info@hettich.ch
 www.hettich.ch

 **SINGAPORE**
Hettich
Asia Pacific Pte. Ltd.
 3 Ang Mo Kio Street 62,
 #01-47 LINK@AMK
 Singapore 569139
 Tel. +65 6358 3833
 Fax +65 6358 3558
 samuel@hettichlab.com.sg
 www.hettichlab.com.sg

 **USA**
Hettich Instruments LP
 100 Cummings Center, Ste 136L
 Beverly, MA 01915
 Tel. +1 (0)978 / 2 32 39 57
 Fax +1 (0)978 / 2 32 39 58
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 www.hettweb.com

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