

## FLOORSTANDING CENTRIFUGES

# — ROTANTA 460 RC | 460 RF

## THE CAPABILITY OF A BENCHTOP WITHOUT THE FOOTPRINT

These modified versions of the standard ROTANTA 460 allow for space saving storage below the bench and free valuable working space normally taken by traditional bench top units.

Both units include refrigeration with a temperature range from -20 °C to +40 °C.



## — HIGHLIGHTS

- RPM: 50 - 15,000 min<sup>-1</sup>  
Adjustable in increments of 10
- RCF: 50 - 24,400  
Adjustable in increments of 1
- Available as Floorstanding - and under-bench version
- max. Capacity: 4 x 750 ml
- choice of 8 rotors
- Medical Device according to directive 93/42/EC
- 28 individual acceleration and deceleration stages
- easy operation with keypad and control knob
- 98 program memories for more individuality
- model 460 R coolable from -20 to +40 °C with pre-cooling function

## — FEATURES









- metal housing and lid
- viewing port in the lid
- powered one-hand lid lock
- lid dropping protection
- emergency lid lock release
- stainless steel chamber
- automatic rotor recognition
- brushless drive
- error display
- display in °C and °F possible
- imbalance monitoring and switch-off
- backlit panel with actual values of all parameters
- audio / visual indication after completion of the centrifugation run

## TECHNICAL DATA

	ROTANTA 460 RC cooled	ROTANTA 460 RF cooled
voltage *)	200 – 240 V 1 ~	200 – 240 V 1 ~
frequency	50 Hz	50 Hz
consumption	1,800 VA	1,800 VA
emission, immunity	EN/IEC 61326-1, class B	EN/IEC 61326-1, class B
max. capacity	4 x 750 ml	4 x 750 ml
max. RPM	15,000 min <sup>-1</sup>	15,000 min <sup>-1</sup>
max. RCF	24,400	24,400
running time	1 – 99 h: 59 min: 59 s, ∞ continuous run, short cycle mode	1 – 99 h: 59 min: 59 s, ∞ continuous run, short cycle mode
dimensions (WxDxH)	554x697x683 mm	554x697x961 mm
weight	approx. 140 kg	approx. 164 kg
noise level	60 dB (A) with rotor 4474	60 dB (A) with rotor 4474
temperature control, infinitely variable	from -20 to +40 °C	from -20 to +40 °C
<b>Cat. No.</b>	<b>5670</b>	<b>5675</b>
100 – 127 V 1 ~ / 60 Hz <sup>1)</sup>	-	5675-01
emission, immunity	-	FCC class B
weight	-	approx. 174 kg

\*) Other voltages on request.

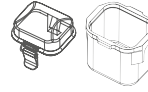
## AVAILABLE ROTORS

SWING-OUT ROTORS		angle	max. RPM	max. Capacity	Cat. No.	page
	swing-out rotor, 4-place	90°	4,600 min <sup>-1</sup>	4x750 ml	<b>5699-R</b>	3
	swing-out rotor, 4-place	90°	3,800 min <sup>-1</sup>	4x750 ml	<b>5654</b>	10
	swing-out rotor, 6-place	90°	4,000 min <sup>-1</sup>	6x290 ml	<b>4446</b>	12
	swing-out rotor, 4-place	90°	2,000 min <sup>-1</sup>	4x100 ml	<b>4474</b>	14
	swing-out rotor, 2-place	90°	5,900 min <sup>-1</sup> / 6,200 min <sup>-1</sup>	12 plates	<b>5622</b>	14
ANGLE ROTORS						
	angle rotor, 30-place	45°	15,000 min <sup>-1</sup>	30x2 ml	<b>4489-A</b>	15
	angle rotor, 6-place	25°	8,500 min <sup>-1</sup> / 9,500 min <sup>-1</sup>	6x250 ml	<b>5645</b>	15
	angle rotor, 6-place	35°	11,500 min <sup>-1</sup>	6x94 ml	<b>5615</b>	16

## SWING-OUT ROTOR, 4-PLACE | 5699-R



<b>Rotor</b>	
max. RPM   max. RCF <sup>2)</sup>	4,600 min <sup>-1</sup>   5,063
max. capacity	4 x 250 ml
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5699-R</b>



<b>Bucket</b>	
lid bioseal <sup>5)</sup>	5627
<b>Cat. No.</b>	<b>5625-A</b>



<b>Vessels</b>		
capacity in ml	1.5   2.0   3   4   4   5   6   7   15   25   50   94   100   100   250	
Ø x L in mm	11 x 38   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   44 x 100   40 x 115   65 x 100	
max. RCF <sup>2)</sup>	3,572   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,495   4,495   4,637   4,495   4,495	
radius in mm	151   196   196   196   196   196   196   196   196   196   190   190   196   190   190	
<b>Cat. No.</b>	<b>microliter tubes</b>	<b>tubes<sup>2)</sup></b>

<b>Adapter</b>	
boring Ø x L in mm	11 x 84   11 x 84   11 x 84   11 x 84   13.5 x 84   13.5 x 84   13.5 x 84   13.5 x 84   17.5 x 84   26.5 x 84   36 x 80   42 x 80   46 x 84   42 x 80   66 x 80
vessels per rotor	224   224   120   120   80   80   80   80   68   24   12   12   8   12   4
<b>Cat. No.</b>	<b>4730   4730   4730   4730   4732   4732   4732   4732   4733   4734   4735   4736   4737   4736   4738</b>

<b>Vessels</b>		
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   14   15	
Ø x L in mm	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   13 x 75   13 x 100   16 x 75   16 x 100   16.5 x 106   17 x 120	
max. RCF <sup>2)</sup>	4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637	
radius in mm	196   196   196   196   196   196   196   196   196   196   196   196   196   196   196	
<b>Cat. No.</b>	<b>blood collection / urine vessels</b>	<b>tubes with screw cap</b>

<b>Adapter</b>	
boring Ø x L in mm	11 x 84   13.5 x 84   13.5 x 84   17.5 x 84   13.5 x 84   13.5 x 84   17.5 x 84   17.5 x 84   17.5 x 84   13.5 x 84   13.5 x 84   17.5 x 84   17.5 x 84   17 x 80   17 x 80
vessels per rotor	120   80   80   68   80   80   68   68   68   80   80   68   68   48   48
<b>Cat. No.</b>	<b>4730   4732   4732   4733   4732   4732   4733   4733   4733   4732   4732   4733   4733   4739<sup>4)</sup>   4739</b>

<b>Vessels</b>	
capacity in ml	50   12   25   30   50   10   30   50   85   94
Ø x L in mm	29 x 115   17 x 100   25 x 90   25 x 110   29 x 115   16 x 80   26 x 95   29 x 107   38 x 106   38 x 102
max. RCF <sup>2)</sup>	4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,637   4,495
radius in mm	196   196   196   196   196   196   196   196   196   190
<b>Cat. No.</b>	<b>tubes with screw cap</b>

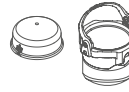
<b>Adapter</b>	
boring Ø x L in mm	30 x 80   17 x 80   26.5 x 84   26.5 x 84   30 x 80   17.5 x 84   26.5 x 84   30 x 80   42 x 80   42 x 80
vessels per rotor	20   48   24   24   20   68   24   20   12   12
<b>Cat. No.</b>	<b>4740   4739<sup>4)</sup>   4734   4734   4740   4733   4734   4740   4736   4736</b>

1) For cooled versions: Lowest temperature achievable with precooling and max. 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) Please remove the spacer.  
 4) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

## SWING-OUT ROTOR, 4-PLACE | 5699-R



<b>Rotor</b>	
max. RPM   max. RCF <sup>2)</sup>	4,600 min <sup>-1</sup>   4,779
max. capacity	4 x 750 ml
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+7
<b>Cat. No.</b>	<b>5699-R</b>



<b>Bucket</b>	
lid bioseal <sup>5)</sup>	4883
<b>Cat. No.</b>	<b>4880</b>



<b>Vessels</b>		
capacity in ml	1.5, 2.0, 3, 4, 4, 5, 6, 7, 15, 25, 45, 50, 94, 100, 100	
Ø x L in mm	11 x 38, 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, 31 x 100, 34 x 100, 38 x 102, 44 x 115, 44 x 100	
max. RCF <sup>2)</sup>	3,572, 4,637, 4,637, 4,637, 4,637, 4,637, 4,637, 4,637, 4,637, 4,637, 4,495, 4,495, 4,495, 4,495, 4,637	
radius in mm	151, 196, 196, 196, 196, 196, 196, 196, 196, 196, 190, 190, 190, 190, 196	
<b>Cat. No.</b>	<b>microliter tubes</b>	<b>tubes<sup>2)</sup></b>

<b>Adapter</b>	
boring Ø x L in mm	11 x 84, 11 x 84, 11 x 84, 11 x 84, 13,5 x 84, 13,5 x 84, 13,5 x 84, 13,5 x 84, 17,5 x 84, 26,5 x 84, 36 x 80, 36 x 80, 42 x 80, 42 x 80, 46 x 84
vessels per rotor	192, 192, 96, 96, 76, 76, 76, 76, 76, 76, 16, 16, 8, 8, 8
<b>Cat. No.</b>	<b>4830, 4830, 4830, 4830, 4832, 4832, 4832, 4832, 4833, 4834, 4835, 4835, 4836, 4836, 4837</b>

<b>Vessels</b>	
capacity in ml	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	65 x 100, 8 x 66, 13 x 65, 13 x 65, 11 x 66, 15 x 75, 11 x 92, 13 x 90, 13 x 90, 15 x 92, 16 x 92, 16 x 92, 13 x 90, 13 x 75, 13 x 75
max. RCF <sup>2)</sup>	4,495, 4,637, 4,116, 4,637, 4,637, 4,637, 4,637, 4,637, 4,684, 4,637, 4,684, 4,637, 4,637, 4,116, 4,637
radius in mm	190, 196, 174, 196, 196, 196, 196, 196, 198, 196, 198, 196, 196, 174, 196
<b>Cat. No.</b>	<b>- 2), blood collection / urine vessels</b>

<b>Adapter</b>	
boring Ø x L in mm	66 x 80, 11 x 84, 13,2 x 61, 13,5 x 84, 13,5 x 84, 17,5 x 84, 13,5 x 84, 13,5 x 84, 13,2 x 61, 17,5 x 84, 17,5 x 61, 17,5 x 84, 17,5 x 84, 13,2 x 61, 13,5 x 84
vessels per rotor	4, 96, 108, 76, 76, 76, 76, 76, 108, 76, 88, 76, 76, 108, 76
<b>Cat. No.</b>	<b>4838, 4830, 4847, 4832, 4832, 4833, 4832, 4832, 4847 4), 4833, 4848, 4833, 4833, 4847, 4832</b>

<b>Vessels</b>	
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, 16 x 125, 16x100, 16x100, 17 x 59, 16,5x106, 17x120, 29 x 115, 29 x 115, 17x100, 25x90, 25x110
max. RCF <sup>2)</sup>	4,684, 4,637, 4,637, 4,684, 4,637, 4,637, 4,684, 4,637, 4,637, 4,637, 4,708, 4,637, 4,637, 4,566, 4,566
radius in mm	198, 196, 196, 198, 196, 196, 198, 196, 196, 196, 199, 196, 196, 193, 193
<b>Cat. No.</b>	<b>blood collection / urine vessels, -, tubes with screw cap</b>

<b>Adapter</b>	
boring Ø x L in mm	13,2 x 61, 13,5 x 84, 17,5 x 84, 17,5 x 61, 17,5 x 84, 17,5 x 84, 17,5 x 61, 17 x 80, 17 x 80, 17 x 80, 30 x 96,5, 30 x 80, 17 x 80, 26,5 x 84, 26,5 x 84
vessels per rotor	108, 76, 76, 88, 76, 76, 88, 56, 56, 56, 28, 20, 56, 28, 28
<b>Cat. No.</b>	<b>4847 4), 4832, 4833, 4848, 4833, 4833, 4848, 4839, 4839 4), 4839, 5647, 4840, 4839 4), 4834, 4834</b>

1) For cooled versions: Lowest temperature achievable with precooling and max. 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 spacer.  
 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.

## SWING-OUT ROTOR, 4-PLACE | 5699-R



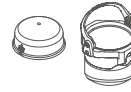
### Rotor

max. RPM   max. RCF	4,600 min <sup>-1</sup>   4,779
max. capacity	4 x 750 ml
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+7
<b>Cat. No.</b>	<b>5699-R</b>



### Bucket

lid bioseal <sup>5)</sup>	4883
<b>Cat. No.</b>	<b>4880</b>



### Vessels

capacity in ml	50	50	10	10	30	50	50	85	94	250	290	500	600	650	750	
Ø x L in mm	29 x 115	29 x 115	16 x 80	16 x 80	26 x 95	29 x 107	29 x 107	38 x 106	38 x 102	61 x 122	62 x 137	96 x 147	93 x 134	97 x 139	97 x 152	
max. RCF <sup>2)</sup>	4,708	4,637	4,637	4,684	4,637	4,637	4,708	4,495	4,495	4,779	4,779	4,779	4,779	4,779	4,779	
radius in mm	199	196	196	198	196	196	199	190	190	202	202	202	202	202	202	
<b>Cat. No.</b>	tubes with screw cap										<b>5127<sup>24)</sup></b>	<b>-<sup>24)</sup></b>	<b>Corning®</b>	<b>0551<sup>24)</sup></b>	<b>0554<sup>24)</sup></b>	<b>0512<sup>24)</sup></b>



### Adapter

boring Ø x L in mm	30 x 96.5	30 x 80	17.5 x 84	17.5 x 61	26.5 x 84	30 x 80	30 x 96.5	42 x 80	42 x 80	62 x 100	62 x 100	98 x 100	94 x 95	98 x 100	98 x 100
vessels per rotor	28	20	76	88	28	20	28	12	12	4	4	4	4	4	4
<b>Cat. No.</b>	<b>5647<sup>4)</sup></b>	<b>4840<sup>4)</sup></b>	<b>4833</b>	<b>4848</b>	<b>4834</b>	<b>4840<sup>4)</sup></b>	<b>5647<sup>4)</sup></b>	<b>4836</b>	<b>4836</b>	<b>4841</b>	<b>4841</b>	<b>4845</b>	<b>4846</b>	<b>4845</b>	<b>4845</b>

### Vessels

capacity in ml	450	750	30	50	40	160	200	200	200
Ø x L in mm	97 x 110	96 x 135	-	-	-	-	-	-	-
max. RCF <sup>2)</sup>	4,779	4,779	4,613 <sup>27)</sup>	4,613 <sup>27)</sup>	4,613 <sup>27)</sup>	4,613 <sup>27)</sup>	4,613 <sup>27)</sup>	4,613 <sup>27)</sup>	4,613 <sup>27)</sup>
radius in mm	202	202	195	195	195	195	195	195	195
<b>Cat. No.</b>	<b>4447</b>	<b>4234-A</b>	<b>Falcon®</b>	<b>Corning®</b>	<b>Nunc®</b>	<b>Nunc®</b>	<b>Falcon®</b>	<b>Greiner®</b>	<b>Nunc®</b>



### Adapter

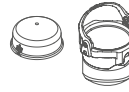
boring Ø x L in mm	98 x 100	98 x 100	-	-	-	-	-	-	-
vessels per rotor	4	4	8	8	4	8	4	4	4
<b>Cat. No.</b>	<b>4845</b>	<b>4845</b>	<b>4849</b>	<b>4849</b>	<b>4852</b>	<b>4851</b>	<b>4831</b>	<b>4831</b>	<b>4831</b>

1) For cooled versions: Lowest temperature achievable with precooling and max. 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.  
 3.8) When using these tubes, bucket 4880 cannot be closed with lid 4883.  
 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.  
 24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.  
 27) RCF values indicated refer only to rotor performance. The max. RCF for the accommodated cell culture flasks is 2,300.

## SWING-OUT ROTOR, 4-PLACE | 5699-R



<b>Rotor</b>	
max. RPM   max. RCF <sup>2)</sup>	4,600 min <sup>-1</sup>   5,063
max. capacity	4 x 750 ml
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+7
<b>Cat. No.</b>	<b>5699-R</b>



<b>Bucket</b>	
lid bioseal <sup>5)</sup>	4883
<b>Cat. No.</b>	<b>4890</b>



<b>Vessels</b>	
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    4.9
Ø x L in mm	11 x 38    11 x 38    12 x 75    12 x 100    16 x 81    14 x 100    17 x 100    24 x 100    34 x 100    44 x 100    13 x 65    11 x 66    15 x 75    11 x 92    13 x 90
max. RCF <sup>2)</sup>	top / bottom    3,407 / 4,542    3,407 / 4,542    4,471    4,471    4,637    4,637    4,637    4,353    4,424    4,400    4,471    4,471    4,637    4,471    4,471
radius in mm	top / bottom    144 / 192    144 / 192    189    189    196    196    196    184    187    186    189    189    196    189    189
<b>Cat. No.</b>	<b>microliter tubes</b> <b>tubes<sup>2)</sup></b> <b>blood collection / urine vessels</b>

<b>Adapter</b>	
boring Ø x L in mm	11.5 x 38    11.5 x 38    13 x 58    13 x 58    17.5 x 53    17.5 x 53    17.5 x 53    26 x 72    36 x 79    45 x 78    13.5 x 58    13 x 58    17.5 x 53    13 x 58    13.5 x 58
vessels per rotor	168    168    120    120    76    76    76    28    16    8    84    120    76    120    84
<b>Cat. No.</b>	<b>4432</b> <b>4432</b> <b>4433</b> <b>4433</b> <b>4434</b> <b>4434</b> <b>4434</b> <b>4438</b> <b>4439</b> <b>4442</b> <b>4435</b> <b>4433</b> <b>4434</b> <b>4433</b> <b>4435</b>

<b>Vessels</b>	
capacity in ml	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	15 x 92    16 x 92    15 x 102    13 x 75    13 x 100    16 x 75    16 x 125    16 x 100    16 x 80    17 x 120    29 x 115    25 x 90    25 x 110    29 x 115    29 x 107
max. RCF <sup>2)</sup>	4,637    4,637    4,637    4,471    4,471    4,637    4,637    4,637    4,637    4,755    4,613    4,566    4,566    4,613    4,613
radius in mm	196    196    196    189    189    196    196    196    196    201    195    193    193    195    195
<b>Cat. No.</b>	<b>blood collection / urine vessels</b> <b>tubes with screw cap</b>


<b>Adapter</b>	
boring Ø x L in mm	17.5 x 53    17.5 x 53    17.5 x 53    13.5 x 58    13.5 x 58    17.5 x 53    17.5 x 53    17.5 x 53    17.5 x 53    17 x 93.1    31 x 96    26 x 72    26 x 72    31 x 96    31 x 96
vessels per rotor	76    76    76    84    84    76    76    76    76    56    28    28    28    28    28
<b>Cat. No.</b>	<b>4434</b> <b>4434</b> <b>4434</b> <b>4435</b> <b>4435</b> <b>4434</b> <b>4434</b> <b>4434</b> <b>4434</b> <b>4469</b> <b>4468</b> <b>4438</b> <b>4438</b> <b>4468<sup>4)</sup></b> <b>4468</b>

<b>Vessels</b>	
capacity in ml	250    290 <sup>3,9)</sup> 650    750    175    175    200    225    250    500    450    750    450
Ø x L in mm	61 x 122    62 x 137    97 x 139    97 x 152    61 x 118    62 x 144    60 x 130    61 x 137    60 x 162    96 x 147    97 x 110    96 x 135    3-place-system without filter
max. RCF <sup>2)</sup>	4,873    4,873    4,873    4,873    5,063    5,063    5,063    5,063    5,063    5,063    5,063    5,063    5,063
radius in mm	206    206    206    206    214    214    214    214    214    214    214    214    214
<b>Cat. No.</b>	<b>5127<sup>24)</sup></b> <b>-<sup>24)</sup></b> <b>0554<sup>24)</sup></b> <b>0512<sup>24)</sup></b> <b>Falcom<sup>®</sup></b> <b>Nalgene<sup>®</sup></b> <b>Nunc<sup>®</sup></b> <b>Falcom<sup>®</sup></b> <b>Corning<sup>®</sup></b> <b>Corning<sup>®</sup></b> <b>4447</b> <b>4234-A</b> <b>blood bags<sup>28)</sup></b>

<b>Adapter</b>	
boring Ø x L in mm	62 x 92    62 x 92    98.4 x 116    98.4 x 116    -    -    -    -    -    -    98.4 x 116    98.4 x 116    -
vessels per rotor	8    6    4    4    8    8    8    8    4    4    4    4    4
<b>Cat. No.</b>	<b>4443</b> <b>4443</b> <b>4451</b> <b>4451</b> <b>4440</b> <b>4430</b> <b>4430</b> <b>4440</b> <b>4430</b> <b>4449</b> <b>4451</b> <b>4451</b> -

1) For cooled versions: Lowest temperature achievable with precooling and max. 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.  
 3,9) When using these tubes, bucket 4890 cannot be closed with lid 4883.  
 24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.  
 28) 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.



## — SWING-OUT ROTOR, 4-PLACE | 5699-R

	
<b>Rotor</b>	
max. RPM   max. RCF <sup>2)</sup>	4,600 min <sup>-1</sup>   4,637
max. capacity	4 x 450 ml
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5699-R</b>





	
<b>Bucket</b>	
<b>Cat. No.</b>	<b>5691-A</b>




	holder for systems without filter	holder for systems with and without filter
		
<b>Blood bags</b>		
capacity in ml	450	450
blood bag	3-place-System	4-place-System
max. RCF <sup>2)</sup>	4,637	4,637
radius in mm	196	196
<b>Cat. No.</b>	<b>5693</b>	<b>5695</b>



		
<b>Insert</b>		
boring Ø x L in mm	-	-
blood bags per rotor	4	4
<b>Cat. No.</b>	<b>5692</b>	<b>5692</b>

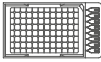
## — SWING-OUT ROTOR, 4-PLACE | 5699-R

	
<b>Rotor</b>	
max. RPM   max. RCF <sup>2)</sup>	4,600 min <sup>-1</sup>   4,921
max. capacity	12 Arrays
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5699-R</b>




	
<b>Bucket</b>	
<b>Cat. No.</b>	<b>5636</b>



	TagMan Array
	
<b>Array</b>	
capacity in ml	-
W x D x H in mm	152.5x85.5x12
max. RCF <sup>2)</sup>	4,921
radius in mm	208
<b>Cat. No.</b>	<b>-</b>



	
<b>Adapter</b>	
boring Ø x L in mm	-
arrays per rotor	12
<b>Cat. No.</b>	<b>5648</b>

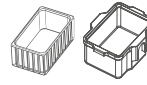
- 1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
- 2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.

## SWING-OUT ROTOR, 4-PLACE | 5699-R



<b>Rotor</b>	
max. RPM   max. RCF <sup>2)</sup>	3,800 min <sup>-1</sup>   4,258
max. capacity	4 x 250 ml
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5699-R</b>

**Bucket with adapting frame**  
Cat. No.



**5628<sup>9)</sup>**



<b>Vessels</b>																
capacity in ml		1.5	2.0	3	5	6	7	9	25	50	100	100	250	1.1-1.4	2.6-3.4	2.7-3
Ø x L in mm		11 x 38	11 x 38	10 x 60	12 x 75	12 x 82	12 x 100	14 x 100	24 x 100	34 x 100	44 x 100	44 x 115	65 x 115	8 x 66	13 x 65	11 x 66
max. RCF <sup>2)</sup>		4,164	4,164	4,069	4,164	4,164	4,164	4,116	4,093	4,093	4,069	4,069	4,045	4,069	4,164	4,116
radius in mm		176	176	172	176	176	176	174	173	173	172	172	171	172	176	174
<b>Cat. No.</b>		<b>microliter tubes</b>			<b>tubes<sup>2)</sup></b>								<b>blood collection / urine vessels</b>			
		+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A
<b>Adapter</b>																
boring Ø x L in mm		11.5 x 50	11.5 x 50	11 x 44	13.5 x 52	13.5 x 52	13.5 x 52	16 x 50	26 x 86	36 x 86	45.5 x 86	42 x 86	66 x 87	11 x 44	13.5 x 52	12.5 x 42
vessels per rotor		128	128	160	96	96	96	96	40	16	8	8	4	160	96	160
<b>Cat. No.<sup>19)</sup></b>		<b>5281</b>	<b>5281</b>	<b>5267</b>	<b>5268</b>	<b>5268</b>	<b>5268</b>	<b>5264</b>	<b>5242</b>	<b>5243</b>	<b>5262</b>	<b>5249</b>	<b>5263-A</b>	<b>5267</b>	<b>5268</b>	<b>5227</b>

<b>Vessels</b>																																
capacity in ml		4-5.5	4.5-5	4.9	7.5-8.5	9-10	1.6-5	4-7	4-7	8.5-10	15	30	50	50	250																	
Ø x L in mm		15 x 75	11 x 92	13 x 90	15 x 92	16 x 92	13 x 75	16 x 75	13 x 100	16 x 100	17 x 120	25 x 110	29 x 115	29 x 115	61 x 122																	
max. RCF <sup>2)</sup>		4,116	4,116	4,164	4,116	4,093	4,164	4,116	4,164	4,093	4,258	4,187	4,258	4,187	3,196																	
radius in mm		174	174	176	174	173	176	174	176	173	180	177	180	177	177																	
<b>Cat. No.</b>		<b>blood collection / urine vessels</b>								<b>tubes with screw cap</b>					<b>5127<sup>24)</sup></b>																	
		+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5220-A	+ 5677 + 6319																
<b>Adapter</b>														<table border="1"> <tr> <td colspan="2"><b>Vessels</b></td> <td></td> </tr> <tr> <td>capacity in ml</td> <td></td> <td>1-8</td> </tr> <tr> <td>Ø x L in mm</td> <td></td> <td>simple / multiple</td> </tr> <tr> <td>max. RCF<sup>2)</sup></td> <td></td> <td>2,744 / 4,069</td> </tr> <tr> <td>radius in mm</td> <td></td> <td>116 / 172</td> </tr> <tr> <td><b>Cat. No.</b></td> <td></td> <td><b>cyto chambers</b></td> </tr> </table>	<b>Vessels</b>			capacity in ml		1-8	Ø x L in mm		simple / multiple	max. RCF <sup>2)</sup>		2,744 / 4,069	radius in mm		116 / 172	<b>Cat. No.</b>		<b>cyto chambers</b>
<b>Vessels</b>																																
capacity in ml		1-8																														
Ø x L in mm		simple / multiple																														
max. RCF <sup>2)</sup>		2,744 / 4,069																														
radius in mm		116 / 172																														
<b>Cat. No.</b>		<b>cyto chambers</b>																														

<b>Adapter</b>		
boring Ø x L in mm		-
vessels per rotor		16
<b>Cat. No.<sup>19)</sup></b>		<b>5280</b>

- 1) For cooled versions: Lowest temperature achievable with precooling and max. 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 spacer.
- 9) Max. permissible loading weight of carrier 5628: 800 g. The loading weight is the sum of the weight of the respective adapters, frames, the tubes and their contents.
- 19) Two adapters can be placed on each bucket.
- 24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.



## — SWING-OUT ROTOR, 4-PLACE | 5699-R



<b>Rotor</b>	
max. RPM   max. RCF	4,600 min <sup>-1</sup>   3,785
max. capacity	4 x 200 ml
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5699-R</b>



<b>Bucket</b>	
<b>Cat. No.</b>	<b>5630-B</b>



<b>Vessels</b>						
capacity in ml		40	160	200	200	200
Ø x L in mm		-	-	-	-	-
max. RCF <sup>2)</sup>		3,785 <sup>2)</sup>	3,785 <sup>2)</sup>	3,785 <sup>2)</sup>	3,785 <sup>2)</sup>	3,785 <sup>2)</sup>
radius in mm		160	160	160	160	160
<b>Cat. No.</b>		<b>Nunc®</b>	<b>Nunc®</b>	<b>Falcon®</b>	<b>Greiner®</b>	<b>Nunc®</b>

<b>Adapter</b>						
boring Ø x L in mm		-	-	-	-	-
vessels per rotor		4	4	4	4	4
<b>Cat. No.</b>		<b>5672</b>	<b>5673</b>	<b>5671</b>	<b>5671</b>	<b>5671</b>

**Accommodated cell culture flask:**

**40 ml**  
Nunc®, No. 156340 or 156367

**160 ml**  
Nunc®, No. 156472 or 156499  
Sarstedt®, No. 83.3911.xxx

**200ml**  
Becton Dickinson®, No. 353024  
Greiner®, No. 658170  
Nunc®, No. 153732 or 147589

## — SWING-OUT ROTOR, 4-PLACE | 5699-R



<b>Rotor</b>	
max. RPM   max. RCF	4,600 min <sup>-1</sup>   3,832
max. capacity	20 plates
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5699-R</b>



<b>Bucket</b>	
<b>Cat. No.</b>	<b>5630-B</b>



<b>Plates</b>										
W x D x H in mm		128x86x15	128x86x17.5	128x86x22	128x86x44.5	128x86x46	128x86x83	84x59x11	124x82x20	-
capacity in ml		-	-	-	-	-	-	-	-	0.2
max. RCF <sup>2)</sup>		3,832	3,832	3,832	3,832	3,832	3,832	3,832	3,832	3,832
radius in mm		max. 162	max. 162	max. 162	max. 162	max. 162	max. 162	max. 162	max. 162	max. 162
<b>Cat. No.</b>		<b>MTP</b>	<b>MTP</b>	<b>CP</b>	<b>DWP</b>	<b>MS</b>	<b>QP</b>	<b>Microtest plate</b>	<b>PCR plate</b>	<b>PCR strips</b>

<b>Removal frame</b>										
boring Ø x L in mm		-	-	-	-	-	-	-	-	-
plates / strips per rotor		20	16	12	4	4	4	8	4	48 x 8
<b>Cat. No.</b>		<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626 + 1485</b>	<b>4626 + 1485</b>

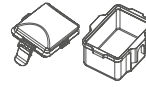
1) For cooled versions: Lowest temperature achievable with precooling and max. speed.  
 2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.

## SWING-OUT ROTOR, 4-PLACE | 5699-R



### Rotor

max. RPM   max. RCF	4,600 min <sup>-1</sup>   4,211
max. capacity	24 plates
run-up   run-down, braked in sec	90   95
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5699-R</b>



### Bucket

lid bioseal <sup>5)</sup>	5629
<b>Cat. No.</b>	<b>5628<sup>5)</sup></b>



### Plates

W x D x H in mm	128x86x15	128x86x17.5	128x86x22	128x86x44.5	128x86x46	128x86x83	84x59x11	124x82x20	-
capacity in ml	-	-	-	-	-	-	-	-	0.2
max. RCF <sup>2)</sup>	4,211	4,211	4,211	4,211	4,211	4,211	4,211	4,211	4,211
radius in mm	max. 178	max. 178	max. 178	max. 178	max. 178	max. 178	max. 178	max. 178	max. 178
<b>Cat. No.</b>	<b>MTP</b>	<b>MTP</b>	<b>CP</b>	<b>DWP</b>	<b>MS</b>	<b>QP</b>	<b>Microtest plate</b>	<b>PCR plate</b>	<b>PCR strips</b>



### Removal frame

boring Ø x L in mm	-	-	-	-	-	-	-	-	-
plates / strips per rotor	24	20	16	4	4	4	8	4	48 x 8
<b>Cat. No.</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626 + 1485</b>	<b>4626 + 1485</b>

## SWING-OUT ROTOR, 4-PLACE | 5654



### Rotor

max. RPM   max. RCF	3,800 min <sup>-1</sup>   2,890
max. capacity	24 plates
run-up   run-down, braked in sec	61   57
angle   max. noise level	90°   57 dB (A)
temperature in °C <sup>1)</sup>	-4
<b>Cat. No.</b>	<b>5654</b>



### Bucket

lid bioseal <sup>5)</sup>	5629
<b>Cat. No.</b>	<b>5653</b>



### Plates

W x D x H in mm	128x86x15	128x86x17.5	128x86x22	128x86x44.5	128x86x46	128x86x83	84x59x11	124x82x20	-
capacity in ml	-	-	-	-	-	-	-	-	0.2
max. RCF <sup>2)</sup>	2,890	2,890	2,890	2,890	2,890	2,890	2,890	2,890	2,890
radius in mm	max. 179	max. 179	max. 179	max. 179	max. 179	max. 179	max. 179	max. 179	max. 179
<b>Cat. No.</b>	<b>MTP</b>	<b>MTP</b>	<b>CP</b>	<b>DWP</b>	<b>MS</b>	<b>QP</b>	<b>Microtest plate</b>	<b>PCR plate</b>	<b>PCR strips</b>



### Removal frame

boring Ø x L in mm	-	-	-	-	-	-	-	-	-
plates / strips per rotor	24	20	16	4	4	4	8	4	48 x 8
<b>Cat. No.</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626 + 1485</b>	<b>4626 + 1485</b>

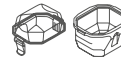
1) For cooled versions: Lowest temperature achievable with precooling and max. speed.

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.

## SWING-OUT ROTOR, 4-PLACE | 5654



<b>Rotor</b>	
max. RPM   max. RCF	3.800 min <sup>-1</sup>   3.196
max. capacity	6 x 750 ml
run-up   run-down, braked in sec	61   57
angle   max. noise level	90°   58 dB (A)
temperature in °C <sup>1)</sup>	+3
<b>Cat. No.</b>	<b>5654</b>



<b>Bucket</b>	
lid bioseal <sup>5)</sup>	5652
<b>Cat. No.</b>	<b>5651-A</b>



<b>Vessels</b>															
capacity in ml	3	4	4	5	6	7	10	10	15	1.1-1.4	2.6-3.4	2.7-3	4.5-5	4-5.5	4.9
Ø x L in mm	10 x 60	10 x 88	12 x 60	12 x 75	12 x 82	12 x 100	13 x 100	13 x 100	17 x 100	8 x 66	13 x 65	11 x 66	11 x 92	15 x 75	13 x 90
max. RCF <sup>2)</sup>	2,874	2,874	2,874	2,874	2,874	2,874	2,906	2,906	2,970	2,874	2,906	2,874	2,874	2,970	2,906
radius in mm	178	178	178	178	178	178	180	180	184	178	180	178	178	184	180
<b>Cat. No.</b>	<b>tubes<sup>2)</sup></b>								<b>blood collection / urine vessels</b>						

<b>Adapter</b>															
boring Ø x L in mm	12.5x40	12.5x40	12.5x40	12.5x40	12.5x40	12.5x40	13.2x42.4	13.2x42.4	17.2x46.5	12.5x40	13.2x42.4	12.5x40	12.5x40	17.2x46.5	13.2x42.4
vessels per rotor	292	292	292	292	292	292	196	188	148	292	196	292	292	148	196
<b>Cat. No.</b>	<b>5684</b>	<b>5684</b>	<b>5684</b>	<b>5684</b>	<b>5684</b>	<b>5684</b>	<b>5674</b>	<b>5685</b>	<b>5682</b>	<b>5684</b>	<b>5674</b>	<b>5684</b>	<b>5684</b>	<b>5682</b>	<b>5674</b>

<b>Vessels</b>																
capacity in ml	7.5-8.5	9-10	10	1.6-5	4-7	4-7	4-7	8.5-10	10	5	15	50	175	175	200	
Ø x L in mm	15x92	16x92	15x102	13x75	16x75	13x100	13x100	16x100	16x80	17x59	17x120	29x115	61x118	62x144	60x130	
max. RCF <sup>2)</sup>	2,970	2,970	2,970	2,906	2,970	2,906	2,906	2,970	2,970	3,196	3,196	3,196	3,196	3,196	3,196	
radius in mm	184	184	184	180	184	180	180	184	184	198	198	198	198	198	198	
<b>Cat. No.</b>	<b>blood collection / urine vessels</b>										<b>-</b>	<b>tubes with screw cap</b>		<b>Falcon<sup>®</sup></b>	<b>Nalgene<sup>®</sup></b>	<b>Nunc<sup>®</sup></b>

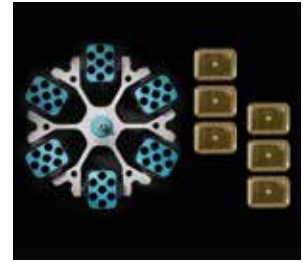
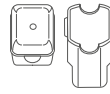
<b>Adapter</b>															
boring Ø x L in mm	17.2x46.5	17.2x46.5	17.2x46.5	13.2x42.4	17.2x46.5	13.2x42.4	13.2x42.4	17.2x46.5	17.2x46.5	17 x 42	17 x 60	30 x 60	62 x 100	62 x 100	62 x 100
vessels per rotor	148	148	148	196	148	196	188	148	148	80	96	40	8	8	8
<b>Cat. No.</b>	<b>5682</b>	<b>5682</b>	<b>5682</b>	<b>5674</b>	<b>5682</b>	<b>5674</b>	<b>5685</b>	<b>5682</b>	<b>5682</b>	<b>5688</b>	<b>5683</b>	<b>5686</b>	<b>5681</b>	<b>5681</b>	<b>5681</b>

<b>Vessels</b>								
capacity in ml	225	250	290	450	500	600	650	750
Ø x L in mm	61 x 137	61 x 122	62 x 137	97 x 110	96 x 147	93 x 134	97 x 139	97 x 152
max. RCF <sup>2)</sup>	3,196	3,196	3,196	3,196	3,196	3,196	3,196	3,196
radius in mm	198	198	198	198	198	198	198	198
<b>Cat. No.</b>	<b>Falcon<sup>®</sup></b>	<b>5127<sup>24)</sup></b>	<b>-<sup>24)</sup></b>	<b>4447</b>	<b>Corning<sup>®</sup></b>	<b>0551<sup>24)</sup></b>	<b>0554<sup>24)</sup></b>	<b>0512<sup>24)</sup></b>

<b>Adapter</b>								
boring Ø x L in mm	62 x 100	62 x 100	62 x 100	98 x 100	98 x 100	98 x 100	98 x 100	98 x 100
vessels per rotor	8	8	8	4	4	4	4	4
<b>Cat. No.</b>	<b>5681</b>	<b>5681</b>	<b>5681</b>	<b>5687</b>	<b>5687</b>	<b>5687</b>	<b>5687</b>	<b>5687</b>

- 1) For cooled versions: Lowest temperature achievable with precooling and max. 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.
- 3.10) When using this tubes, bucket 5651-A cannot be closed with lid 5652.
- 5) Tested by TÜV in conformity with DIN EN 61010, section 2 - 020.
- 24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

## SWING-OUT ROTOR, 6-PLACE | 4446



Rotor	
max. RPM   max. RCF	4,000 min <sup>-1</sup>   3,631
max. capacity	6 x 100 ml
run-up   run-down, braked in sec.	45   55
angle   max. noise level	90°   58 dB (A)
temperature in °C <sup>1)</sup>	-3
<b>Cat. No.</b>	<b>4446</b>

Bucket	
lid	5053
<b>Cat. No.</b>	<b>5051</b>

Vessels		1.5		2		3		5		6		7		9		15		25		50		100		100	
capacity in ml		1.5	2	1.5	2	3	5	6	7	9	15	25	50	100	100										
Ø x L in mm		11 x 38	11 x 38	11 x 38	11 x 38	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										
max. RCF <sup>2)</sup>	top / bottom	2,486 / 3,363	2,486 / 3,363	3,363	3,363	3,274	3,309	3,309	3,291	3,309	3,291	3,291	3,291	3,291	3,291										
radius in mm	top / bottom	139 / 188	139 / 188	188	188	183	185	185	184	185	184	184	184	184	184										

Adapter		microliter tubes						tubes <sup>2)</sup>							
boring Ø x L in mm		12.5 x 42	12.5 x 42	11.5 x 50	11.5 x 50	11 x 44	12.5 x 42	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
vessels per rotor		240	240	96	96	120	120	120	120	72	72	30	12	6	6
<b>Cat. No.</b>		<b>5257</b>	<b>5257</b>	<b>5281</b>	<b>5281</b>	<b>5267</b>	<b>5227</b>	<b>5227</b>	<b>5247<sup>15)</sup></b>	<b>5264</b>	<b>5248<sup>15)</sup></b>	<b>5242</b>	<b>5243</b>	<b>5262</b>	<b>5249</b>

Vessels		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	
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													
Ø x L in mm		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	13 x 75	13 x 100	16 x 75	16 x 100													
max. RCF <sup>2)</sup>		3,274	3,345	3,309	3,309	3,309	3,345	3,309	3,291	3,291	3,345	3,345	3,309	3,291													
radius in mm		183	187	185	185	185	187	185	184	184	187	187	185	184													
<b>Cat. No.</b>		<b>blood collection / urine vessels</b>																									

Adapter		11 x 44		13.5 x 52		12.5 x 42		16 x 50		12.5 x 42		13.5 x 52		16 x 50		17.6 x 86		17.6 x 86		13.5 x 52		13.5 x 52		16 x 50		17.5 x 86	
boring Ø x L in mm		11 x 44	13.5 x 52	12.5 x 42	16 x 50	12.5 x 42	13.5 x 52	16 x 50	17.6 x 86	17.6 x 86	13.5 x 52	13.5 x 52	16 x 50	17.5 x 86													
vessels per rotor		120	72	120	72	120	72	72	66	66	72	72	72	72													
<b>Cat. No.</b>		<b>5267</b>	<b>5268</b>	<b>5227</b>	<b>5264</b>	<b>5227</b>	<b>5268</b>	<b>5264</b>	<b>5258</b>	<b>5258</b>	<b>5268</b>	<b>5268</b>	<b>5264</b>	<b>5248</b>													

Vessels		15		30		50		12		30		50		1-8	
capacity in ml		15	30	50	12	30	50	1-8							
Ø x L in mm		17 x 120	25 x 110	29 x 115	17 x 100	25 x 110	29 x 115	simple / multiple							
max. RCF <sup>2)</sup>	top / bottom	3,434	3,291	3,291	3,434	3,291	3,291	2,290 / 3,291							
radius in mm	top / bottom	192	184	184	192	184	184	128 / 184							
<b>Cat. No.</b>		<b>tubes with screw cap</b>						<b>cyto chambers</b>							

Adapter		17 x 90		26 x 86		30 x 86		17 x 90		26 x 86		36 x 86		-	
boring Ø x L in mm		17 x 90	26 x 86	30 x 86	17 x 90	26 x 86	36 x 86	-							
vessels per rotor		42	30	12	42	30	12	12							
<b>Cat. No.</b>		<b>6306</b>	<b>5266</b>	<b>5259</b>	<b>6306</b>	<b>5266</b>	<b>5243</b>	<b>5280</b>							

1) For cooled versions: Lowest temperature achievable with precooling and max. 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.  
 3.11) When using these tubes, bucket 5051 cannot be closed with lid 5053.  
 15) With Cat. No. 5247-91 or 5248-91 these adapters can also be ordered with a decanting aid.

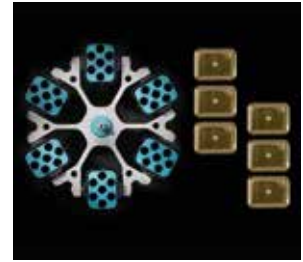
## SWING-OUT ROTOR, 6-PLACE | 4446



<b>Rotor</b>	
max. RPM   max. RCF	4,000 min <sup>-1</sup>   3,631
max. capacity	6 x 290 ml
run-up   run-down, braked in sec.	45   55
angle	90°
temperature in °C <sup>1)</sup>	-3
<b>Cat. No.</b>	<b>4446</b>



<b>Bucket</b>	
lid bioseal <sup>5)</sup>	5053
<b>Cat. No.</b>	<b>5092</b>



<b>Vessels</b>															
capacity in ml	5	6	7	15	25	50	100	100	250	1.1-1.4	1.1-1.4	2.6-3.4	2.6-3.4	2.7-3	2.7-3
Ø x L in mm	12x75	12x82	12x100	17x100	24x100	34x100	44x100	40x115	65x115	8 x 66	8 x 66	13 x 65	13 x 65	11 x 66	11 x 66
max. RCF <sup>2)</sup>	3,542	3,542	3,542	3,488	3,434	3,488	3,488	3,488	3,631	3,488	3,077	3,488	3,077	3,488	3,077
radius in mm	198	198	198	195	192	195	195	195	203	195	172	195	172	195	172
<b>Cat. No.</b>	<b>tubes<sup>2)</sup></b>								<b>blood collection tubes / urine tubes</b>						

<b>Adapter</b>															
boring Ø x L in mm	12.8x45	12.8x45	12.8x82	17.5x60.7	25.5x82	35.5x82.5	45.5x85	42x85	66x103	13.5x60.7	12.8x54.5	13.5x60.7	12.8x54.5	13.5x60.7	12.8x54.5
vessels per rotor	72	72	72	48	24	6	6	6	6	48	72	48	72	48	72
<b>Cat. No.</b>	<b>5128</b>	<b>5128</b>	<b>5120</b>	<b>5136</b>	<b>5122</b>	<b>5124</b>	<b>5125</b>	<b>5126</b>	<b>1791</b>	<b>5137</b>	<b>5138</b>	<b>5137</b>	<b>5138</b>	<b>5137</b>	<b>5138</b>

<b>Vessels</b>															
capacity in ml	4.9	4-5.5	4.5-5	7.5-8.5	9-10	10	1.6-5	1.6-5	4-7	4-7	8	8.5-10	10	15	30
Ø x L in mm	13x90	15x75	11x92	15x92	16x92	15x102	13x75	13x75	16x75	13x100	16x125	16x100	16 x 80	17x120	25 x 110
max. RCF <sup>2)</sup>	3,488	3,488	3,542	3,488	3,488	3,488	3,488	3,077	3,542	3,488	3,542	3,488	3,488	3,631	3,434
radius in mm	195	195	198	195	195	195	195	172	198	195	198	195	195	203	192
<b>Cat. No.</b>	<b>blood collection tubes / urine tubes</b>											<b>tubes with screw cap</b>			

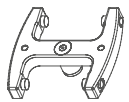
<b>Adapter</b>															
boring Ø x L in mm	13.5x60.7	17.5x60.7	12.8x82	17.5x60.7	17.5x60.7	17.5x60.7	13.5x60.7	12.8x54.5	12.8x82	12.8x60.7	17.5x82	17.5x60.7	17.5x60.7	17x85	25.5x82
vessels per rotor	48	48	72	48	48	48	48	72	72	48	42	48	48	42	24
<b>Cat. No.</b>	<b>5137</b>	<b>5136</b>	<b>5120</b>	<b>5136</b>	<b>5136</b>	<b>5136</b>	<b>5137</b>	<b>5138</b>	<b>5120</b>	<b>5136</b>	<b>5121</b>	<b>5136</b>	<b>5136</b>	<b>5129</b>	<b>5122</b>

<b>Vessels</b>							
capacity in ml	50	50	12	25	30	250	290
Ø x L in mm	29x115	29x115	17x100	25x90	25x110	61 x 122	62 x 137
max. RCF <sup>2)</sup>	3,631	3,560	3,542	3,363	3,434	3,631	3,631
radius in mm	203	199	198	188	192	203	203
<b>Cat. No.</b>	<b>tubes with screw cap</b>					<b>5127<sup>24)</sup></b>	<b>-<sup>24)</sup></b>

<b>Adapter</b>							
boring Ø x L in mm	30x85	30x99	17.5x82	26x73	25.5x82	66x103	66x103
vessels per rotor	12	12	42	18	24	6	6
<b>Cat. No.</b>	<b>5123</b>	<b>5135</b>	<b>5121</b>	<b>5134</b>	<b>5122</b>	<b>6319</b>	<b>6319</b>

- 1) For cooled versions: Lowest temperature achievable with precooling and max. 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.
- 3.5) When using these tubes, bucket 5092 cannot be closed with lid 5053.
- 24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

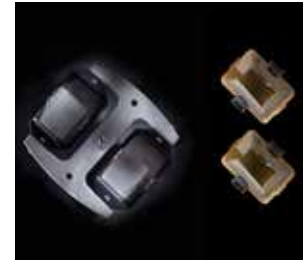
## SWING-OUT ROTOR, 2-PLACE | 5622



<b>Rotor</b>	
max. RPM ROTANTA 460   460 R	5,900 min <sup>-1</sup>   6,200 min <sup>-1</sup>
max. RCF	5,838   6,446
max. capacity	12 plates
run-up   run-down, braked in sec	50 / 52   32   39
angle	90°
temperature in °C <sup>1)</sup>	+10
<b>Cat. No.</b>	<b>5622</b>




<b>Bucket</b>	
lid bioseal <sup>5)</sup>	4627
<b>Cat. No.</b>	<b>5631</b>



<b>Plates</b>									
W x D x H in mm	128x86x15	128x86x17.5	128x86x22	128x86x44.5	128x86x46	128x86x83	84x59x11	124x82x20	-
capacity in ml	-	-	-	-	-	-	-	-	0,2
max. RCF <sup>2)</sup> ROTANTA 460   460 R	5,838   6,446	5,838   6,446	5,838   6,446	5,838   6,446	5,838   6,446	5,838   6,446	5,838   6,446	5,838   6,446	5,838   6,446
radius in mm	150	150	150	150	150	150	150	150	150
<b>Cat. No.</b>	<b>MTP</b>	<b>MTP</b>	<b>CP</b>	<b>DWP</b>	<b>MS</b>	<b>QP</b>	<b>Microtest plate</b>	<b>PCR plate 96 wells</b>	<b>PCR strips</b>
<b>+</b>									
<b>Removal frame</b>									
boring Ø x L in mm	-	-	-	-	-	-	-	-	-
vessels per rotor	12	10	8	2	2	2	4	2	24 x 8
<b>Cat. No.</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626</b>	<b>4626 + 1485</b>	<b>4626 + 1485</b>

## SWING-OUT ROTOR, 4-PLACE | 4474



<b>Rotor</b>	
max. RPM   max. RCF	2,000 min <sup>-1</sup>   984
max. capacity	4 x 100 ml
run-up   run-down, braked in sec	17   20
angle   max. noise level	90°   46 dB (A)
temperature in °C <sup>1)</sup>	-8
<b>Cat. No.</b>	<b>4474</b>



<b>Bucket</b>	
<b>Cat. No.</b>	<b>4275</b>



<b>Vessels</b>					
capacity in ml	50	100	100	100	50
Ø x L in mm	45x130	58x161	44x168	37x200	36.5x185
max. RCF <sup>2)</sup>	984	984	961	961	912
radius in mm	220	220	215	215	204
<b>Cat. No.</b>	<b>ASTM<sup>2.1)</sup></b>	<b>ASTM 0528<sup>2.1)</sup></b>	<b>ASTM<sup>2.1)</sup></b>	<b>ASTM 0531<sup>2.1)</sup></b>	<b>Babcock</b>
<b>+</b>					
<b>Adapter</b>					
boring Ø x L in mm	-	-	-	-	-
vessels per rotor	4	4	4	4	4
<b>Cat. No.</b>	<b>4278-A</b>	<b>0771</b>	<b>4277</b>	<b>4276-B</b>	<b>0703-A</b>

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.  
 2.1) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of vessels used should be verified with the individual manufacturers. The max. RCF for ASTM Tubes annotated with footnote 2) is 700.  
 3.5) When using these tubes, bucket 5092 cannot be closed with lid 5053.  
 4) Please remove the spacer.  
 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.  
 24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

## — ANGLE ROTOR, 30-PLACE | 4489-A



### Rotor

max. RPM   max. RCF	15,000 min <sup>-1</sup>   24,400
max. capacity	30 x 2 ml
run-up   run-down, braked in sec	73   77
angle   max. noise level	45°
temperature in °C <sup>1)</sup>	+4

<b>Cat. No.</b>	<b>4489-A</b>
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Lid bioseal<sup>®</sup>  
and phenol-resistant

Cat. No.



**INCLUSIVE**



### Vessels

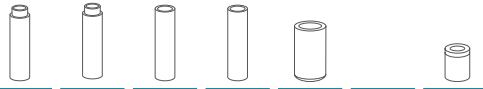


capacity in ml	0.2	0.4	0.5	0.8	1.5	2	0.5
Ø x L in mm	6x18	6x45	8x30	8x45	11x38	11x38	10.7x36
max. RCF <sup>2)</sup>	24,400	24,400	24,400	24,400	24,400	24,400	23,394
radius in mm	97	97	97	97	97	97	93

<b>Cat. No.</b>	<b>microliter tubes</b>						<b>Pediatric</b>
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### Adapter



boring Ø x L in mm	6x40	6x40	8x40	8x40	-	11.2x40.1	11.2x40.1
vessels per rotor	30	30	30	30	30	30	15

<b>Cat. No.</b>	<b>2024</b>	<b>2024</b>	<b>2023</b>	<b>2023</b>	<b>2031<sup>7)</sup></b>	<b>-</b>	<b>0788</b>
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## — ANGLE ROTOR, 6-PLACE | 5645



### Rotor

max. RPM	ROTANTA 460   460 R	8,500 min <sup>-1</sup>   9,500 min <sup>-1</sup>
max. RCF		11,228   14,025
max. capacity		6 x 250 ml
run-up   run-down, braked in sec		98 / 115   105 / 120
angle   max. noise level		25°
temperature in °C <sup>1)</sup>		+7

<b>Cat. No.</b>	<b>5645</b>
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Lid bioseal<sup>®</sup>

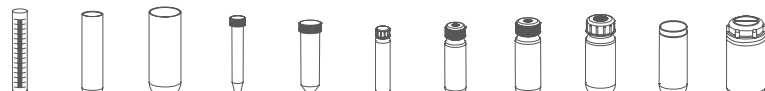
Cat. No.



**INCLUSIVE**



### Vessels

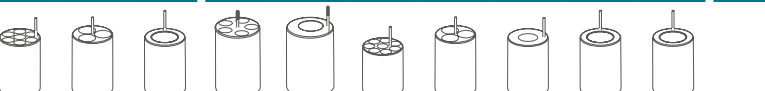


capacity in ml	15	25	94	15	50	10	30	50	85	94	250	
Ø x L in mm	17x100	24x100	38x102	17x120	29x115	16x80	26x95	29x107	38 x 106	38 x 102	61 x 122	
max. RCF <sup>2)</sup>	ROTANTA 460	10,662	10,339	9,855	10,339	9,693	10,743	10,339	9,693	9,855	11,228	
max. RCF <sup>2)</sup>	ROTANTA 460 R	13,319	12,915	12,310	12,915	12,108	13,420	12,915	12,108	12,310	14,025	
radius in mm		132	128	122	128	120	133	128	120	122	122	139

<b>Cat. No.</b>	<b>tubes<sup>2)</sup></b>			<b>tubes with screw cap</b>							<b>5127<sup>24)</sup></b>
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### Adapter



boring Ø x L in mm	17.6 x 83	26x80	38.6x88	17x106	30x100	16.6x70	26x80	29x90	38.6 x 88	38.6 x 88	61.5x109
vessels per rotor	42	18	6	30	6	48	18	6	6	6	6


<b>Cat. No.</b>	<b>5646</b>	<b>5642</b>	<b>5644</b>	<b>5637</b>	<b>5638</b>	<b>5641</b>	<b>5642</b>	<b>5643</b>	<b>5644</b>	<b>5644</b>	<b>-</b>
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1) For cooled versions: Lowest temperature achievable with precooling and max. 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.
















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
















## — ANGLE ROTOR, 6-PLACE | 5615






<b>Rotor</b>	
max. RPM   max. RCF	11,500 min <sup>-1</sup>   18,038
max. capacity	6x94 ml
run-up   run-down, braked in sec	66   68
angle	45°
temperature in °C <sup>1)</sup>	+6
<b>Cat. No.</b>	<b>5615</b>






<b>Lid bioseal<sup>5)</sup></b>	
<b>Cat. No.</b>	<b>INCLUSIVE</b>



<b>Vessels</b>															
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	11x38	10x60	17x100	24x100	34x100	38x102	15x92	16x92	15x102	16x100	17x59	17x120	29x115
max. RCF <sup>2)</sup>	17,299	17,299	17,299	17,299	17,003	16,560	17,743	18,038	17,003	17,003	17,003	17,003	16,856	17,299	17,595
radius in mm	117	117	117	117	115	112	120	122	115	115	115	115	114	117	119
<b>Cat. No.</b>	<b>Pediatric</b>	<b>microliter tubes</b>			<b>tubes<sup>2)</sup></b>				<b>blood collection / urine tubes</b>			<b>-</b>	<b>tubes with screw cap</b>		

<b>Adapter</b>															
boring Ø x L in mm	11.4x39	11.4x39	11.4x39	11.4x39	17.5x92	26x85	35x89	38.2x89.6	17.5x92	17.5x92	17.5x92	17.5x92	17x51	17x106	29.8x97
vessels per rotor	24	24	24	24	6	6	6	6	6	6	6	6	6	6	6
<b>Cat. No.</b>	<b>1449</b>	<b>1449</b>	<b>1449</b>	<b>1449</b>	<b>1451</b>	<b>1447</b>	<b>1463</b>	<b>-</b>	<b>1451</b>	<b>1451</b>	<b>1451</b>	<b>1451</b>	<b>1476</b>	<b>1466</b>	<b>1454</b>

<b>Vessels</b>					
capacity in ml	10	30	50	85	94
Ø x L in mm	16x80	26x95	29x107	38 x 106	38 x 102
max. RCF <sup>2)</sup>	17,003	16,560	17,299	18,038	18,038
radius in mm	115	112	117	122	122
<b>Cat. No.</b>	<b>tubes with screw cap</b>				

<b>Adapter</b>					
boring Ø x L in mm	16.5x74	26x85	29x92	38.2x 89.6	38.2x 89.6
vessels per rotor	12	6	6	6	6
<b>Cat. No.</b>	<b>1448</b>	<b>1447</b>	<b>1446</b>	<b>-</b>	<b>-</b>

- 1) For cooled versions: Lowest temperature achievable with precooling and max. 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 TÜV in conformity with DIN EN 61010, section 2 - 020.

## — CERTIFICATES / REGISTRATIONS



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ISO 14001



**MADE IN GERMANY**

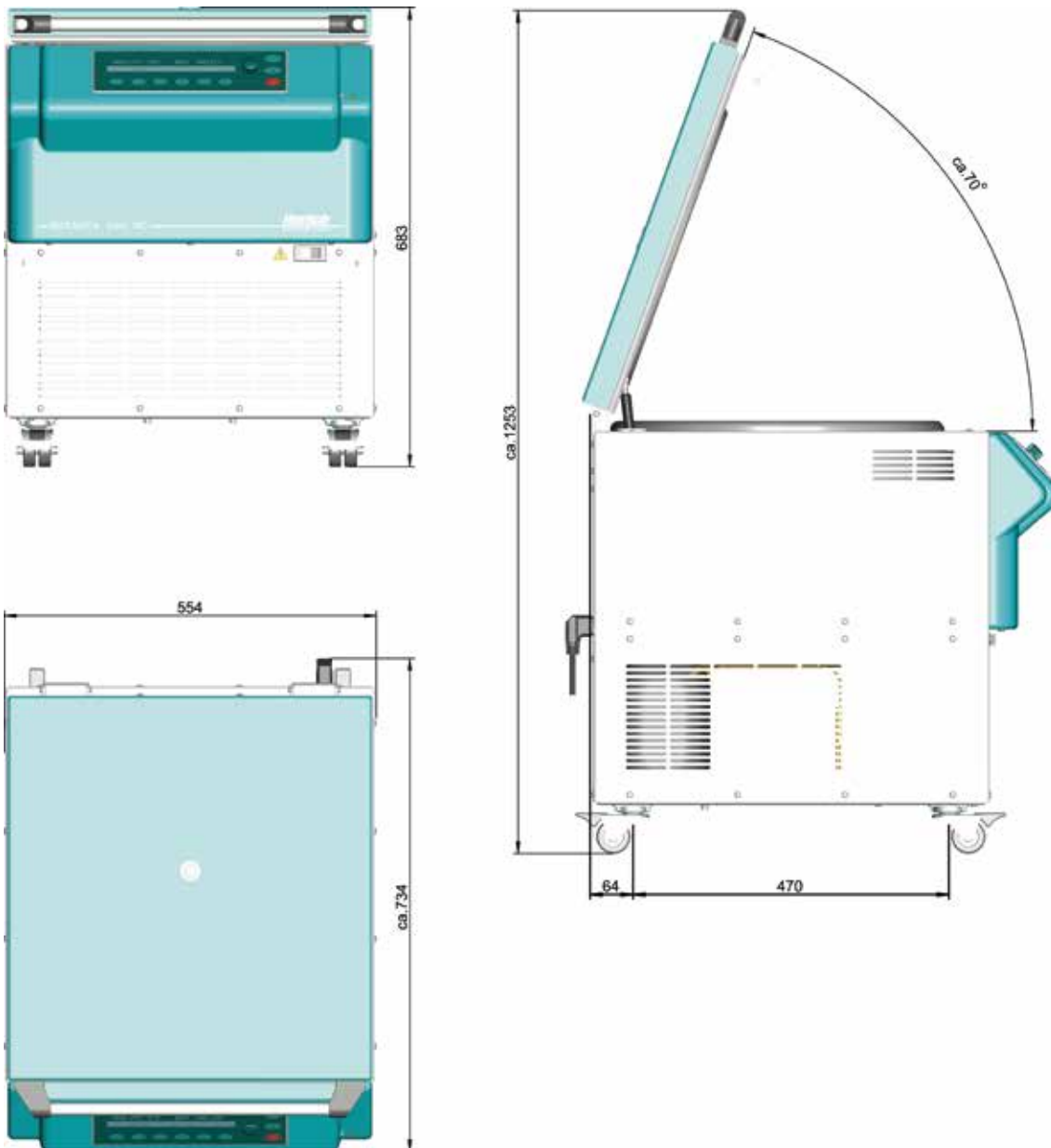
## — DOWNLOADS

[↓ Operating Manual – ROTANTA 460 | 460 R](#)

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