ROTO SILENTA 630 RS

Floorstanding Centrifuge

cooled

Hettich

ZENTRIFUGEN

ROTO SILENTA 630 RS

The ROTO SILENTA 630 RS offers outstanding performance in fast, efficient centrifuging of blood bags and large sample volumes. It accommodates a maximum capacity of 6 x 2,000 ml or 12 x 750 ml blood bag systems.

Excellent stability even at high speeds makes the ROTO SILENTA 630 RS a rugged and reliable centrifuging partner. When in use, the cooled large-volume centrifuge rests on high-quality vibration dampers.

To ensure mobility, it is supplied with castors onto which the ROTO SILENTA 630 RS can be lowered, as required.

Optimal running performance guarantees best separation results. The low noise level makes agreeable working conditions. The extensive range of carriers and adapters for blood collection tubes, standard tubes, bottles and various blood bag systems can be centrifuged in one rotor – changing rotors is not necessary.

The Hettich data report system HettInfo as well as customised solutions enable GMP performance and meet the high standards of user safety and product quality in blood banks and transfusion centres.

PERFORMANCE

- High RCF without windshield
  · up to 6,520 x g at 4,500 min^{-1}.
- High capacity
  · max. 6 x 2,000 ml or 12 x 750 ml blood bag systems
- Efficient cooling
  · controllable from – 20 °C to + 40 °C (with model 5005-50 from – 20 °C to + 90 °C).
  · Precooling is effected by programming one of the 89 programmable memories.

TECHNOLOGY

- Frequency-controlled drive, virtually maintenance-free
- Powered lid locking
- Ergonomic rail-grip for easy lid closing
- Large viewing port in the lid for optical speed control with a stroboscope

SAFETY

- Imbalance switch-off
- Rotor recognition
- Key-operated switch for locking and protecting programs
- Lid locking and holding
- Lid dropping protection
- Motor and chamber overheating protection
- Torsion-free steel chassis
- Smooth, easy to clean surfaces

ROTO SILENTA 630 RS with bar code unit (option), dimensions (H x W x D): 973 x 813 x 1,015 mm (without bar code unit), 973 x 888 x 1,015 mm (with bar code unit). On request, the scanner can also be mounted on the left panel.

Cat.-No. 5005

ROTO SILENTA 630 RS with S control panel to satisfy the highest standards

Numerous functions
with just a few user operations

ROTO SILENTA 630 RS control panel: Entry of the parameters is exact, fast and easy with selector keys on the foil keypad and the adjusting knob.

Whether entering single parameters or chaining complete running programs, the clearly arranged display with its selector keys and adjusting knob provides for extreme user-friendliness. The controls and displays of the ROTO SILENTA 630 RS are arranged according to ergonomic aspects. The large display is clearly arranged and well readable. During centrifugation the actual values of all parameters are indicated.

For special routine or scientific applications the ROTO SILENTA 630 RS can be fitted with the following optional equipment:

Centrifuging data report system HettInfo
details on next page

Visual indication when the rotor is stationary
for additional information on the completion of a centrifuging cycle.

Program interlocking
to combine several centrifugation runs.

Second independent tacho system
for calibrating the speed measuring instrument as required by quality management systems.

KEYPAD

START	Starts centrifugation run, short-time centrifugation. Pre-cooling can be assigned to one program location.
STOP	Stops centrifugation manually.
PROG	Selects the program. 89 programmable memories are available.
STO	Stores entries, changes and programmes.
RCL	Calls up the selected program.
∫ RCF	The integral over the RCF indicates the accumulated RCF acting on the centrifuged material up to that particular time.

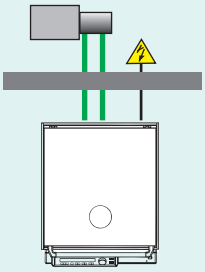
PARAMETER INPUT

▢	Entry of the temperature from –20 °C to +40 °C in increments of 1 °C. Entry of the centrifuging radius in mm.
⎍	Entry of the run-up time in ramps 1 – 9 or in min : sec. Entry of the run-down time in ramps R 1 – 9 and B 1 – 9 or in min : sec. Also unbraked run-down (setting 0), or a brake force cut-off speed can be selected.
RCF	Entry of the RCF in increments of 1.
n	Entry of the speed in increments of 10.
t	Entry of the centrifugation time (max. 999 min : 59 sec) or continuous operation.

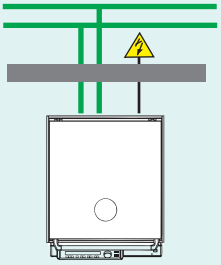
Cool solutions under any conditions

The ROTO SILENTA 630 RS adapts to the most diverse local conditions and requirements. Depending on fittings, it can be connected to

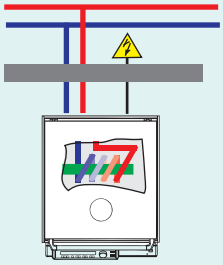
an external cooling unit



an external cooling medium circuit



an external coolant circuit, cooling unit integrated



green = cooling medium (R 404A), blue/red = coolant

Of course, a stand-alone model is also available: an air-cooled standard version supplied with an integrated cooling unit.

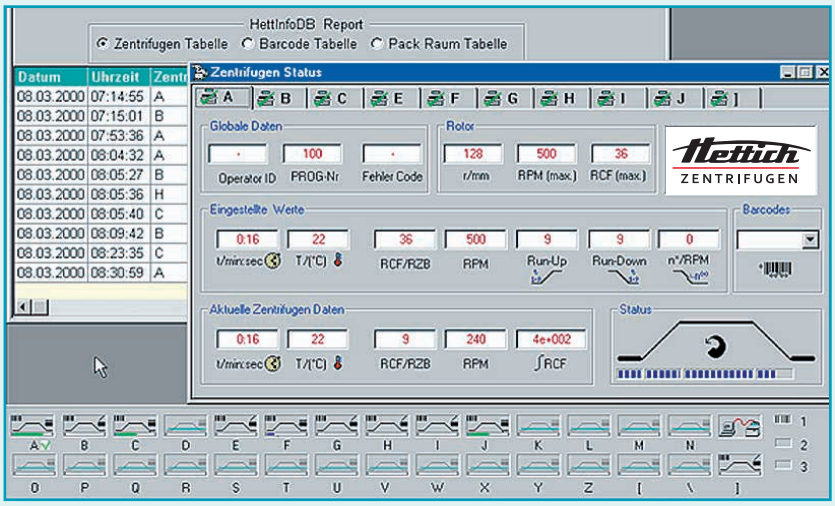
The housing of all versions can be insulated for use under clean-room conditions.

Additionally, the pedestal can be covered and sealed to the floor. External connections can also be mounted through the bottom of the centrifuge.

In addition to the above mentioned centrifuge models, we also manufacture special versions and accessories tailored to customer requirements.

Transparent and reliable processes thanks to HettInfo

With the data documentation system HettInfo, up to 29 centrifuges can be controlled by a single PC. A light conducting cable connects the centrifuge to a BUS system. A PC with a RS 232 interface records the selected data of the centrifuge.



HettInfo registers all centrifugation data. In addition to the date, the end of the centrifugation run, the program number and the temperature, further parameters can be selected or deselected by the user. Detailed information is available in our HettInfo brochure. Please ask for it.

Packing room with external bar code unit

Barcode-Kit ROTO SILENTA 630 RS

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

Data log

Model variants ROTO SILENTA 630 RS

Variant	Power supply*)	Frequency	Cat. No.
With connection for nitrogen (N_2) flushing	400 V 3~ +N	50–60 Hz	**5005-20**
Heating/cooling version up to + 90 °C	400 V 3~ +N	50–60 Hz	**5005-50**
Brine cooling	400 V 3~ +N	50–60 Hz	**5005-60**
GMP, internal cooling unit with water-cooled condenser	400 V 3~ +N	50–60 Hz	**5005-80**
GMP, external cooling unit	400 V 3~ +N	50–60 Hz	**5005-90**

Rotors

With the ROTO SILENTA 630 RS there is a choice between a 4-place and a 6-place swing-out rotor. Both rotors can hold blood bags, standard tubes, blood collection tubes and bottles with a capacity of up to 2,000 ml.

The ROTO SILENTA 630 RS generates a maximum RCF of 6,520 with the 6-place rotor 4176 and a maximum RCF of 5,705 with the 4-place rotor 4174 – in each case **without windshield**. This not only simplifies handling, it also enables optimal temperature distribution and precise temperature measurement.

Lower temperatures can be achieved with 4-place rotor 4174 than with rotor 4176 thanks to its lower air friction values.

The values for 6-place rotor 4176 have a light turquoise background, and those for 4-place rotor 4174 have a light orange background in the following tables of accessories.

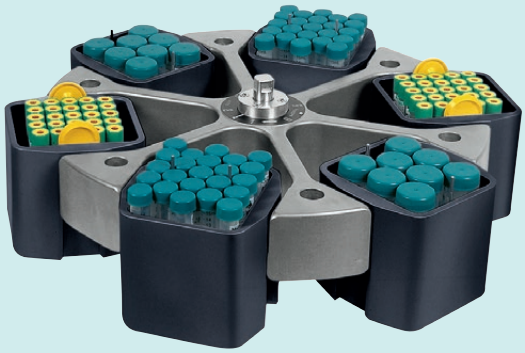
Swing-out rotor, 6-place, ∢ 90°

illustrated with carriers 4591-A and inserts 4592-B for max. 750 ml blood bag systems

n = 4,500 min^{-1}, max. RCF 6,520

illustrated with carriers 4595-B and bottles 0550 for 2,000 ml

n = 3,500 min^{-1}, max. RCF 3,848



illustrated with carriers 4522-A and two each inserts 4245-A, 4232 and 4223

n = 4,500 min^{-1}, max. RCF 5,999

Cat. No. (without carriers) **4176**

*) Other voltages on request.

Swing-out rotor, 6-place

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

⊀ 90°

n = 4,500 min^{-1}
max. RCF 6,520

illustrated with carriers 4591-A and inserts 4592-B

Cat. No. (without carriers) **4176**

capacity in ml	500	500	500	500	500	750
holding system for blood bags	**Baxter/ Fenwal**	**Fresenius**	**Terumo**[3]	**-**	**-**	**-**
blood bags	**quadruplicate**	**quadruplicate**	**quadruplicate**	**quadruplicate**	**quadruplicate**	**single**
Cat. No.	**4526**[4]	**4527**[4]	**4528**[4]	**-**	**-**	
carrier Cat. No. **4524-A**						
Cat. No.	**4525-A**			**4529**[5]**-A0,-AM,-AU**	**4592-B**	
boring Ø x L in mm	-					
blood bag systems per rotor	12 I 8					
max. RCF	6,498 I 5,683					
max. RCF[5]	1,000 I 1,000					
radius in mm	287 I 251					
run-up in sec	125 I 125					
run-down in sec, braked	197 I 197					
temperature in °C[1]	+16 I +10					

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

capacity in ml	450	450	500	750
blood bags	**triplicate**	**triplicate**	**quadruplicate**	**single**
Cat. No.	**-**	**-**	**-**	
carrier Cat. No. **4591-A**				
Cat. No.	**4598**	**4598-P**	**4592-B**	
boring Ø x L in mm	-			
blood bag systems per rotor	12 I 8			
max. RCF	6.498 I 5.705			
radius in mm	287 I 252			
run-up in sec	125 I 125			
run-down in sec, braked	197 I 197			
temperature in °C[1]	+16 I +10			

carrier 4524-A with insert 4525-A

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

[1] Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be reached by reducing the speed.
[3] As well as Macopharma and Kawasumi.
[4] Please order by pairs.

Swing-out rotor, 4-place

∢ 90°

n = 4,500 min^{-1}
max. RCF 5,705

illustrated with carriers 4591-A
and inserts 4592-B

Cat. No. (without carriers) **4174**

capacity in ml	100	2.000
	thrombocyte plate	180x150x100
Cat. No.	**4597**	**0550**
carrier Cat. No. **4595-B** [6]	for 4 plates	
Cat. No.	**4596-B**	**-**
boring Ø x L in mm	-	-
qty. per rotor	24 I 16	6 I 4
max. RCF	312 I 272	3,848 I 3,369
radius in mm	279 I 243	281 I 246
run-up in sec	125 I 125	29 I 95
run-down in sec, braked	197 I 197	41 I 131
temperature in °C [1]	+16 I -8	+16 I -8

capacity in ml	500	750	1,000
blood bags	**quadrupli-cate**	**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 I 4		6 I 4
max. RCF	6,452 I 5,637		6,520 I 5,705
radius in mm	285 I 249		288 I 252
run-up in sec	125 I 125		
run-down in sec, braked	197 I 197		
temperature in °C [1]	+9 I +3		

Balancing inserts
Cat. No.
4584-A (for insert 4559-A),
4587-A (for insert 4592-B) and
4589-A (for insert 4516-A)

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.

carrier 4591-A
with insert 4592-B

carrier 4595-B, insert 4596-A
and 4 thrombocyte plates 4597

carrier 4523-A
with insert 4516-A

carrier 4546-A
with insert 4559-A

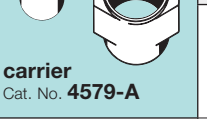
[5] When using inserts 4529-AO, 4529-AM, 4529-AU at lower speeds (e.g. for processing thrombocytes), the blood bags may be hung up to avoid accumulation of erythrocytes. Hooks at three different heights (4529-AO upper position, 4529-AM middle position, 4529-AU low position) allow to meet specific customer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

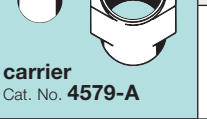
[6] Adapter for accommodating sample tubes and blood collection tubes in carrier 4595-B on request.

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

carrier 4579-A, illustrated with bucket 4255 with lid

Swing-out rotors 4176 / 4174

capacity in ml	5	7	9	10	15	25	50	100	2.6–3.4	2.7–3
Ø x L in mm	12 x 75	12 x 100	14 x 100	17 x 70	17 x 100	24 x 100	34 x 100	44 x 100	13 x 65	11 x 66
Cat. No.	**0553**[2]	**0578**[2]	**0500**[2]	**2079**	**0518**[2]	**0519**[2]	**0521**[2]	**0526**[2]	**blood collection tubes**	
bucket Cat. No. **4255**										
carrier Cat. No. **4579-A**						 + 0726				
Cat. No.	**4433**		**4434**			**4438**	**4439**	**4442**	**4435**	**4433**
boring Ø x L in mm	13 x 58		17.5 x 53			26 x 72	36 x 79	45 x 78	13.5 x 58	13 x 58
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	15 x 75	11 x 92	13 x 90	16 x 92	15 x 102	13 x 75	13 x 100	16 x 75	16 x 100	17 x 120	29 x 115
Cat. No.	**blood collection / urine tubes**									**0509**	**0513**
bucket Cat. No. **4255**					 3)						
carrier Cat. No. **4579-A**											
Cat. No.	**4434**	**4433**	**4435**	**4434**		**4435**		**4434**		**4437**	**4441**
boring Ø x L in mm	17.5 x 53	13 x 58	13.5 x 58	17.5 x 53		13.5 x 58		17.5 x 53		17 x 88	30 x 87
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 reached 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.

rotor 4176, illustrated with carriers 4522-A

Swing-out rotors 4176 / 4174

capacity in ml	25	30		10	250	290	650	750	1,000	1,000	175	175
Ø x L in mm	25 x 90	25 x 110		16 x 80	61 x 122	62 x 137	97 x 139	97 x 152	96 x 176	98 x 138	61 x 118	61 x 144
Cat. No.	**-**	**-**		**-**	**5127** [9]	**-** [9]	**0554** [9]	**0512** [9]	**4239** [9]	**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	26 x 72			17.5 x 53	62 x 92		98 x 138			-	-	
tubes per rotor	42	28		114	76	6	4	6	4			
max. RCF [2]	5,818	5,026		5,886	5,094	6,113	5,320	6,113	5,411	6,294	5,501	
radius in mm	257	222		260	225	270	235	270	239	278	243	
run-up in sec	125	125										
run-down in sec, braked	197	197										
temperature in °C [1]	+4	-11										

capacity in ml	200	225	250	500
Ø x L in mm	60 x 130	61 x 137	60 x 162	96 x 147
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		
max. RCF [2]	6,294	5,501		
radius in mm	278	243		
run-up in sec	125	125		
run-down in sec, braked	197	197		
temperature in °C [1]	+4	-11		

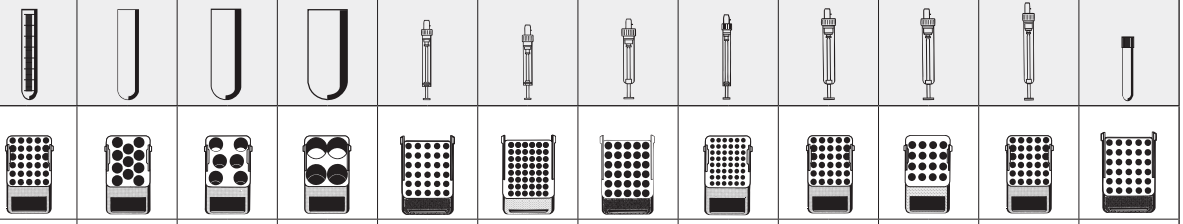
capacity in ml	4	5	6	7	12
Ø x L in mm	10 x 88	12 x 75	12 x 82	12 x 100	16 x 101
Cat. No.	**-**	**0553** [2]	**0501** [2]	**0578** [2]	**-**
carrier Cat. No. **4522-A**					
Cat. No.	**4224**	**4213-93**	**4213**		**4223**
boring Ø x L in mm	11 x 74	12.5 x 36	12.5 x 74		16 x 74
tubes per rotor	378	252	288	192	150	100
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			

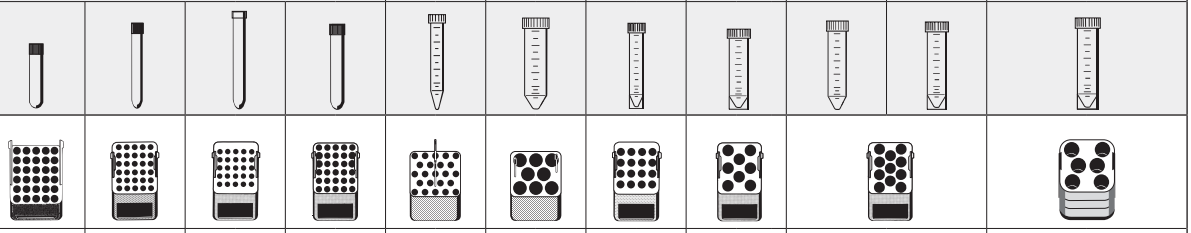
[8] When using these tubes, bucket 4255 cannot be closed with its lid.
[9] At temperatures of over + 40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

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

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

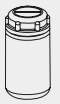
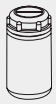
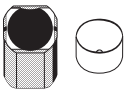
Swing-out rotors 4176 / 4174

capacity in ml	15	25	50	100	2.6–3.4	2.7–3	4–5.5	4.5–5	7.5–8.5	9–10	10	1.6–5
Ø x L in mm	17x100	24x100	34x100	40x115	13x65	11x66	15x75	11x92	15x92	16x92	15x102	13x75
Cat. No.	**0518**[2]	**0519**[2]	**0521**[2]	**0523**[2]	**blood collection / urine tubes**							
 **carrier** Cat. No. **4522-A**												
Cat. No.	**4214**	**4215**	**4216**	**4218**	**4222-93**	**4213-93**	**4214-93**	**4213**	**4214**	**4220**	**4214**	**4222-93**
boring Ø x L in mm	17.5x74	26x74	35x74	41.5x74	13.2x36	12.5x36	17.5x36	12.5x74	17.5x74		17.5x74	13.2x36
tubes per rotor	180 | 120	66 | 44	36 | 24	24 | 16	180 | 120	288 | 192	180 | 120	288 | 192	180 | 120	96 | 64	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	4–7	4–7	8	8.5–10	15	50	12	25	30		50
Ø x L in mm	16x75	13x100	16x125	16x100	17x120	29x115	17x100	25x90	25x110		29x115
Cat. No.	**blood collection/urine tubes**				**0509**	**0513**	**-**	**-**	**-**	**-**	**-**
 **carrier** Cat. No. **4522-A**											
Cat. No.	**4214-93**	**4222**	**4223**	**4214**	**4232**	**4245-A**	**4220**	**4241**	**4215**		**4249**
boring Ø x L in mm	17.5x36	13.2x74	16x74	17.5x74	17x70	30x70	17.5x74	26x73	26x74		30x96
tubes per rotor	180 | 120		150 | 100	180 | 120	138 | 92	48 | 32	96 | 64	48 | 32	66 | 44		36 | 24
max. RCF[2]	5,818 | 5,003				5,999 | 5,184		5,818 | 5,003				5,909 | 5,094
radius in mm	257 | 221				265 | 229		257 | 221				261 | 225
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 reached 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.

Swing-out rotors 4176 / 4174

capacity in ml	250	290	600	650	750	750	250	500
Ø x L in mm	61 x 122	62 x 137	93 x 134	97 x 139	97 x 152	96 x 135	60 x 162	96 x 147
Cat. No.	**5127** [28]	**-** [28]	**0551** [28]	**0554** [28]	**0512** [28]	**4234-A**	**Corning**	**Corning**
 **carrier** Cat. No. **4522-A**								
								
Cat. No.	**4238**	**4233**	**4258**				**6322**	**4258** + **4449**
boring Ø x L in mm	62 x 90	94 x 105	97.5 x 105				61 x 125	97.5 x 105
tubes per rotor	6 I 4							
max. RCF [2]	5,818 I 5,003		5,999 I 5,184				5,818 I 5,003	5,999 I 5,184
radius in mm	257 I 221		265 I 229				257 I 221	265 I 229
run-up in sec	125 I 125							
run-down in sec, braked	197 I 197							
temperature in °C [1]	+14 I -1							

Centrifugation of toxic or infectious samples:

Bucket 5052 with lid 5057 is available for use with hazardous samples. Lid 5057 provides aerosol-proof containment [10] and thus protects both the user and the environment against contamination.

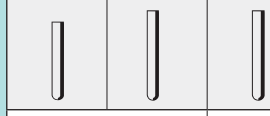
lid 5057

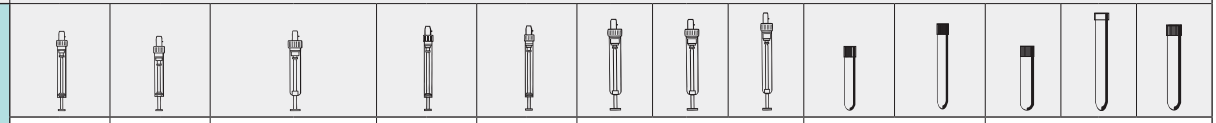
Buckets 5052 and 4522-A have the same internal dimensions. This allows centrifugation of the adapters and sample tubes from the 4522-A bucket in bucket 5052 under the same conditions without the development of aerosols. Only if adapter 6322 is used will it not be possible to close bucket 5052 with lid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

[9] At temperatures of over + 40 °C and / or when not filled to capacity, bottles may warp during centrifugation.
[10] Tested by the TÜV in conformity with DIN EN 61010, section 2-020.

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

Swing-out rotors 4176 / 4174

capacity in ml	5	7	9	10	15	25	50	100
Ø x L in mm	12 x 75	12 x 100	14 x 100	17 x 70	17 x 100	24 x 100	34 x 100	44 x 100
Cat. No.	**0553**[2]	**0578**[2]	**0500**[2]	**2079**	**0518**[2]	**0519**[2]	**0521**[2]	**0526**[2]
lid Cat. No. **5621**								
carrier Cat. No. **4547-B**						+ 0726		
Cat. No.	**4433**		**4434**			**4438**	**4439**	**4442**
boring Ø x L in mm	13 x 58		17.5 x 53			26 x 72	36 x 79	45 x 78
tubes per rotor	180 I 120		114 I 76			42 I 28	24 I 16	12 I 8
max. RCF[2]	5,841 I 5,026		5,977 I 5,184			5,728 I 4,913	5,773 I 4,981	5,750 I 4,958
radius in mm	258 I 222		264 I 229			253 I 217	255 I 220	254 I 219
run-up in sec	125 I 125							
run-down in sec, braked	197 I 197							
temperature in °C[1]	+9 I -9							

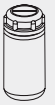
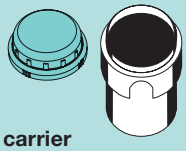
capacity in ml	2. 6 – 3.4	2.7 – 3	4 – 5.5	4.5 – 5	4.9	7.5 – 8.5	9 – 10	10	1.6 – 5	4 – 7	4 – 7	8	8.5 – 10
Ø x L in mm	13 x 65	11 x 66	15 x 75	11 x 92	13 x 90	15 x 92	16 x 92	15 x 102	13 x 75	13 x 100	16 x 75	16 x 125	16 x 100
Cat. No.	**blood collection / urine tubes**												
lid Cat. No. **5621**													
carrier Cat. No. **4547-B**													
Cat. No.	**4435**	**4433**	**4434**	**4433**	**4435**	**4434**			**4435**	**4434**			
boring Ø x L in mm	13.5 x 58	13 x 58	17.5 x 53	13 x 58	13.5 x 58	17.5 x 53			13.5 x 58	17.5 x 53			
tubes per rotor	126 I 84	180 I 120	114 I 76	180 I 120	126 I 84	114 I 76			126 I 84	114 I 76			
max. RCF[2]	5,841 I 5,026		5,977 I 5,184	5,841 I 5,026		5,977 I 5,184			5,841 I 5,026	5,977 I 5,184			
radius in mm	258 I 222		264 I 229	258 I 222		264 I 229			258 I 222	264 I 229			
run-up in sec	125 I 125												
run-down in sec, braked	197 I 197												
temperature in °C[1]	+9 I -9												

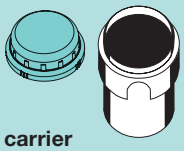
→

[1] Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be reached 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.

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

Swing-out rotors 4176 / 4174

capacity in ml	15	50	25	30		10	250	290	650	750	1,000
Ø x L in mm	17 x 120	29 x 115	25 x 90	25 x 110		16 x 80	61 x 122	62 x 137	97 x 139	97 x 152	96 x 176
Cat. No.	**0509**	**0513**	**-**	**-**	**-**	**-**	**5127**[9]	**-**[9]	**0554**[9]	**0512**[9]	**4239**[9]
lid Cat. No. **5621**											
 carrier Cat. No. **4547-B**											
Cat. No.	**4437**	**4441**	**4438**			**4434**	**4443**		**-**		
boring Ø x L in mm	17 x 88	30 x 87	26 x 72			17.5 x 53	62 x 92		98 x 141		
tubes per rotor	72 I 48	30 I 20	42 I 28			114 I 76	6 I 4				
max. RCF[2]	6,090 I 5,298		5,909 I 5,117			5,977 I 5,184	6,203 I 5,411		6,384 I 5,592		
radius in mm	269 I 234		261 I 226			264 I 229	274 I 239		282 I 247		
run-up in sec	125 I 125										
run-down in sec, braked	197 I 197										
temperature in °C[1]	+9 I -9										

capacity in ml	175	175	200	225	250	500
Ø x L in mm	61 x 118	61 x 144	60 x 130	61 x 137	60 x 162	96 x 147
Cat. No.	**Falcon®**	**Nalgene®**	**Nunc®**	**Falcon®**	**Corning**	
lid Cat. No. **5621**						
 carrier Cat. No. **4547-B**						
Cat. No.	**4440**	**4430**		**4440**	**4430**	**4449**
boring Ø x L in mm	-					
tubes per rotor	6 I 4					
max. RCF[2]	6,384 I 5,592					
radius in mm	282 I 247					
run-up in sec	125 I 125					
run-down in sec, braked	197 I 197					
temperature in °C[1]	+9 I -9					

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

ROTO SILENTA 630 RS

TECHNOLOGY	ROTO SILENTA 630 RS
Floorstanding centrifuge, without rotor	**cooled**
Power supply*)	400 V 3 ~ + N
Frequency	50 – 60 Hz
Consumption	9,700 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
Refrigeration	
Temperature control, infinitely variable	from -20 to +40 °C
Cat. No.	**5005**

*) Other voltages on request.
**) With angle rotor No. 4570, which is not shown in the brochure, the ROTO SILENTA 630 RS reaches a maximum speed of 6,000 min^{-1}.

Hettich centrifuges comply with all relevant EU standards in effect and conform to the European level of quality and safety for medical devices. Evidence is provided by national and international test marks such as IEC 61010 or the CE conformity. The ISO 9001, ISO 13485 and ISO 14001 certificates accredited to the company bear witness to the extreme care and responsibility Hettich puts into the manufacturing of centrifuges and their accessories.

Andreas Hettich GmbH & Co. KG
Föhrenstr. 12
D – 78532 Tuttlingen
Germany

www.hettichlab.com
info@hettichlab.com
service@hettichlab.com

Phone +49 (0)7461 / 705 -0
Fax +49 (0)7461 / 705 -1122

National Sales: -12 00
International Sales: -12 01
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