



**ROTO SILENTA 630 RS**  
**Floorstanding Centrifuge**  
**cooled**

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<sup>-1</sup>.
- 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**



# CONTROL PANEL

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

Numerous functions  
with just a few user operations

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 tachometer system**  
for calibrating the speed measuring instrument as required by quality management systems.





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.

## 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

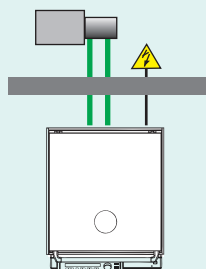
-  Entry of the temperature from -20 °C to +40 °C in increments of 1 °C.  
Entry of the centrifuging radius in mm.
-  Entry of the run-up time in ramps 1 – 9 or in min : sec.  
Entry of the run-down time in ramps R 1 – 9 and B 1 – 9 or in min : sec.  
Also unbraked run-down (setting 0), or a brake force 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.

## OPTIONS

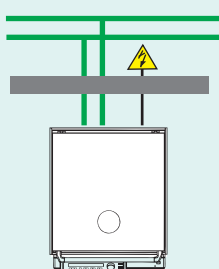
### Cool solutions under any conditions

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

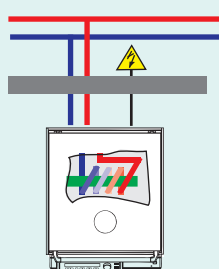
an external cooling unit



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.

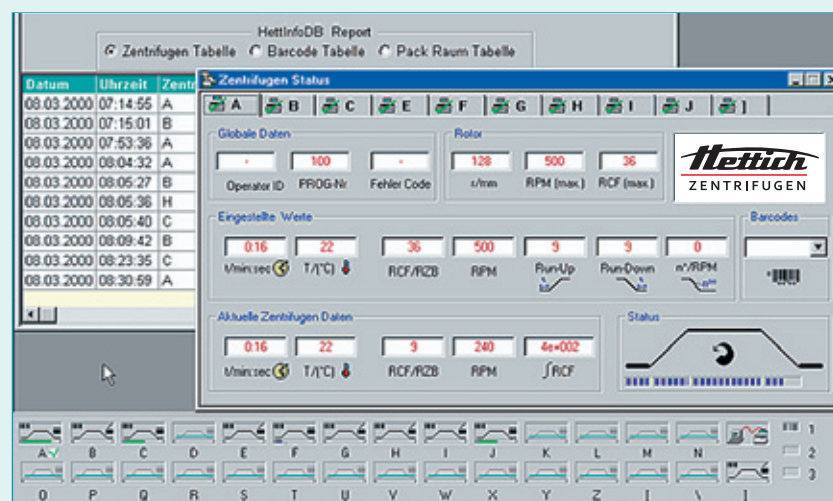
The housing of all versions can be insulated for use under clean-room conditions.

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 AND ROTORS

Model variants ROTO SILENTA 630 RS

| Variant   | Power supply <sup>*)</sup> | Frequency | Cat. No. |
|---|----------------------------|-----------|----------|
| With connection for nitrogen (N <sub>2</sub> ) 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°



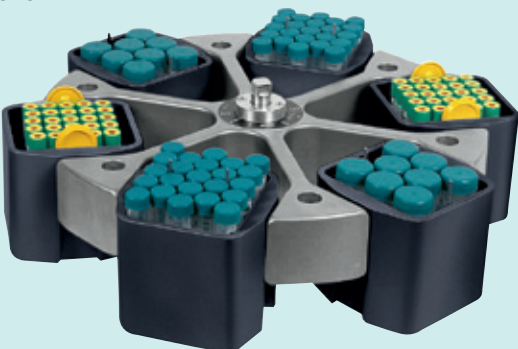
illustrated with carriers 4591-A and inserts 4592-B for max. 750 ml blood bag systems

n = 4,500 min<sup>-1</sup>,  
max. RCF 6,520



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

n = 3,500 min<sup>-1</sup>,  
max. RCF 3,848



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

n = 4,500 min<sup>-1</sup>,  
max. RCF 5,999

Cat. No. (without carriers) 4176

<sup>\*)</sup> Other voltages on request.

## ROTORS AND ACCESSORIES

### 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<sup>-1</sup>  
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           |
| <b>holding system for blood bags</b>  | <b>Baxter/Fenwal</b>  | <b>Fresenius</b>  | <b>Terumo<sup>3)</sup></b>  | -   | -   | -             |
| <b>blood bags</b>   | <b>quadruplicate</b>  | <b>quadruplicate</b>  | <b>quadruplicate</b>  | <b>quadruplicate</b>  | <b>quadruplicate</b>  | <b>single</b> |
| <b>Cat. No.</b>   | <b>4526<sup>4)</sup></b>  | <b>4527<sup>4)</sup></b>  | <b>4528<sup>4)</sup></b>  | -   | -   | -             |
| <br><b>carrier</b><br>Cat. No. <b>4524-A</b> |  |  |  |  |  |               |
| <b>Cat. No.</b>   | <b>4525-A</b>   |   |   | <b>4529<sup>5)</sup>-A0,-AM,-AU</b>   | <b>4592-B</b>   |               |
| boring Ø x L in mm  | -   |   |   |   |   |               |
| blood bag systems per rotor   | 12   8  |   |   |   |   |               |
| max. RCF  | 6,498   5,683   |   |   |   |   |               |
| max. RCF <sup>5)</sup>  | 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 <sup>1)</sup>   | +16   +10   |   |   |   |   |               |

|   |   |
|---|---|
| capacity in ml  | 450   |
| <b>blood bags, quadruplicate</b>  |   |
| <b>Cat. No.</b>   | -   |
| <br><b>carrier</b><br>Cat. No. <b>4546-A</b> |  |
| <b>Cat. No.</b>   | <b>4559-A</b>   |
| 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 <sup>1)</sup>   | +13   0   |

|   |   |   |   |               |
|---|---|---|---|---------------|
| capacity in ml  | 450   | 450   | 500   | 750           |
| <b>blood bags</b>   | <b>triplicate</b>   | <b>triplicate</b>   | <b>quadruplicate</b>  | <b>single</b> |
| <b>Cat. No.</b>   | -   | -   | -   | -             |
| <br><b>carrier</b><br>Cat. No. <b>4591-A</b> |  |  |  |               |
| <b>Cat. No.</b>   | <b>4598</b>   | <b>4598-P</b>   | <b>4592-B</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 <sup>1)</sup>   | +16   +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)

<sup>1)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be reached by reducing the speed.

<sup>3)</sup> As well as Macopharma and Kawasumi.

<sup>4)</sup> Please order by pairs.

## Swing-out rotor, 4-place











↻ 90°

$n = 4,500 \text{ min}^{-1}$   
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   |
| <b>Cat. No.</b>   | <b>4597</b>  | <b>0550</b>   |
| <br><b>carrier</b><br>Cat. No. <b>4595-A</b> <sup>5)</sup> |                   |  |
|   | <br>for 4 plates |   |
| <b>Cat. No.</b>   | <b>4596-A</b>  | -   |
| boring Ø x L in mm  | -  | -   |
| qty. per rotor  | 24   16  | 6   4   |
| max. RCF  | 6,316   5,501  | 3,848   3,369   |
| max. RCF <sup>7)</sup>  | 1,000   1,000  | -   -   |
| 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 <sup>1)</sup>   | +16   -8   | -17   -8  |

|  |  |   |               |
|--|--|---|---------------|
| capacity in ml   | 500  | 750   | 1,000         |
| <b>blood bags</b>  | <b>quadruplicate</b>   | <b>single</b>   | <b>single</b> |
| <b>Cat. No.</b>  | -  | -   | -             |
| <br><b>carrier</b><br>Cat. No. <b>4523-A</b> |   |  |               |
|  |  |   |               |
| <b>Cat. No.</b>  | <b>4516-A</b>  | -   |               |
| boring Ø x L in mm   | -  | -   |               |
| blood bag systems per rotor  | 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 <sup>1)</sup>  | +9   +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-A, insert 4596-A  
and 4 thrombocyte plates 4597



carrier 4523-A  
with insert 4516-A



carrier 4546-A  
with insert 4559-A

<sup>5)</sup> 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.

<sup>6)</sup> Adapter for accommodating sample tubes and blood collection tubes in carrier 4595-A on request.

<sup>7)</sup> The max. permissible RCF for centrifuging thromboplates 4597 is 1,000.

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

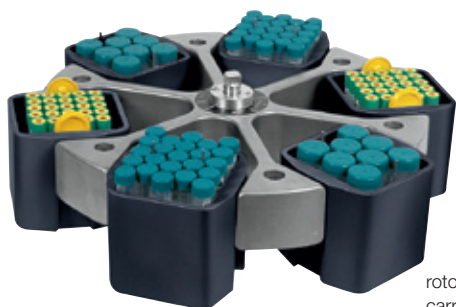
| capacity in ml                                      | 5                  | 7                  | 9                  | 10      | 15                 | 25                 | 50                 | 100                | 2.6–3.4                | 2.7–3     |
|---|--------------------|--------------------|--------------------|---------|--------------------|--------------------|--------------------|--------------------|------------------------|-----------|
| 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 <sup>2)</sup> | 0578 <sup>2)</sup> | 0500 <sup>2)</sup> | 2079    | 0518 <sup>2)</sup> | 0519 <sup>2)</sup> | 0521 <sup>2)</sup> | 0526 <sup>2)</sup> | blood collection tubes |           |
| bucket Cat. No. 4255<br><br>carrier Cat. No. 4579-A |                    |                    |                    |         |                    |                    |                    |                    |                        |           |
|   |                    |                    |                    |         |                    |                    |                    |                    |                        |           |
| 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 <sup>2)</sup>                              | 5,750              | 4,935              | 5,886              | 5,094   | 5,615              | 4,845              | 5,705              | 4,890              | 5,683                  | 4,867     |
| radius in mm  | 254                | 218                | 260                | 225     | 248                | 214                | 252                | 216                | 251                    | 215       |
| run-up in sec                                       | 118   106          |                    |                    |         |                    |                    |                    |                    |                        |           |
| run-down in sec, braked                             | 180   180          |                    |                    |         |                    |                    |                    |                    |                        |           |
| temperature in °C <sup>1)</sup>                     | +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<br><br>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 <sup>2)</sup>                              | 5,886                          | 5,094     | 5,750     | 4,935     | 5,886    | 5,094     | 5,750    | 4,935     | 5,886    | 5,094    | 6,022    |
| radius in mm  | 260                            | 225       | 254       | 218       | 260      | 225       | 254      | 218       | 260      | 225      | 266      |
| run-up in sec                                       | 118   106                      |           |           |           |          |           |          |           |          |          |          |
| run-down in sec, braked                             | 180   180                      |           |           |           |          |           |          |           |          |          |          |
| temperature in °C <sup>1)</sup>                     | +4   -11                       |           |           |           |          |           |          |           |          |          |          |

<sup>1)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be reached by reducing the speed.

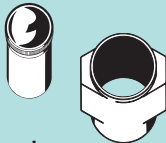

















<sup>2)</sup> Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote <sup>2)</sup> is 4,000.

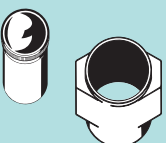





















rotor 4176, illustrated with  
carriers 4522-A

## Swing-out rotors 4176 / 4174

|   |  |   |  |  |   |   |   |   |  |  |  |
|---|--|---|--|--|---|---|---|---|--|--|--|
| capacity in ml  | 25   | 30  | 10   | 250  | 290   | 600   | 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  | 93 x 134  | 97 x 152  | 96 x 176  | 98 x 138   | 61 x 118   | 61 x 144   |
| Cat. No.  | -  | -   | -  | 5127 <sup>9)</sup>   | -   | 0551 <sup>9)</sup>  | 0512 <sup>9)</sup>  | 4239 <sup>9)</sup>  | 4255   | Falcon®  | Nalgene®   |
| bucket Cat. No. 4255<br> |   |  |   |   |  |    |  |  |     |   |   |
|   |  |   |  |  |   |  |   |   |  |  |  |
| Cat. No.  | 4438   |   | 4434   | 4443   |   | 4466  | -   | -   | 4440   | 4430   |  |
| boring Ø x L in mm  | 26 x 72  |   | 17.5 x 53  | 62 x 92  |   | 94 x 90   | 98 x 138  |   | -  | -  |  |
| tubes per rotor   | 42   28  |   | 114   76   | 6   4  |   | 6   4   |   |   |  |  |  |
| max. RCF <sup>2)</sup>  | 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   | 118   106  |   |  |  |   |   |   |   |  |  |  |
| run-down in sec, braked   | 180   180  |   |  |  |   |   |   |   |  |  |  |
| temperature in °C <sup>1)</sup>   | +4   -11   |   |  |  |   |   |   |   |  |  |  |

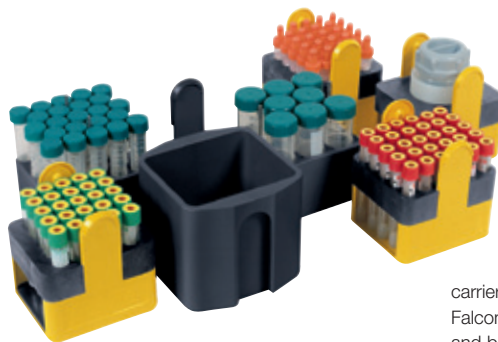
|                                 |   |   |   |   |
|---------------------------------|---|---|---|---|
| capacity in ml                  | 200   | 225   | 250   | 500   |
| Ø x L in mm                     | 60 x 130  | 61 x 137  | 60 x 162  | 96 x 147  |
| Cat. No.                        | Nunc®   | 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 <sup>2)</sup>          | 6,294   5,501   |   |   |   |
| radius in mm                    | 278   243   |   |   |   |
| run-up in sec                   | 118   106   |   |   |   |
| run-down in sec, braked         | 180   180   |   |   |   |
| temperature in °C <sup>1)</sup> | +4   -11  |   |   |   |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| capacity in ml  | 4   | 5   | 6   | 7   | 12  |
| Ø x L in mm   | 10x88   | 12 x 75   | 12x82   | 12x 100   | 16x 101   |
| Cat. No.  | -   | 0553 <sup>2)</sup>  | 0501 <sup>2)</sup>  | 0578 <sup>2)</sup>  | -   |
| <br><b>carrier</b><br>Cat. No. <b>4522-A</b> |  |  |  |  |  |
|   |  |  |  |   |  |
| Cat. No.  | 4224  | 4213-93   | 4213  |   | 4223  |
| boring Ø x L in mm  | 11 x 74   | 12.5x36   | 12.5x74   |   | 16x74   |
| tubes per rotor   | 378   252   | 288   192   |   |   | 150   100   |
| max. RCF <sup>2)</sup>  | 5,818   5,003   |   |   |   |   |
| radius in mm  | 257   221   |   |   |   |   |
| run-up in sec   | 118   107   |   |   |   |   |
| run-down in sec, braked   | 180   184   |   |   |   |   |
| temperature in °C <sup>1)</sup>   | + 14   - 1  |   |   |   |   |

<sup>8)</sup> When using these tubes, bucket 4255 cannot be closed with its lid.


























<sup>9)</sup> 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   | 17 x 100   | 24 x 100   | 34 x 100   | 40 x 115   | 13 x 65  | 11 x 66  | 15 x 75  | 11 x 92  | 15 x 92  | 16 x 92  | 15 x 102   | 13 x 75  |
| Cat. No.  | 0518 <sup>2)</sup>   | 0519 <sup>2)</sup>   | 0521 <sup>2)</sup>   | 0523 <sup>2)</sup>   | blood collection / urine tubes   |  |  |  |  |  |  |  |
| <br>carrier<br>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  | 17.5 x 74  | 26 x 74  | 35 x 74  | 41.5 x 74  | 13.2 x 36  | 12.5 x 36  | 17.5 x 36  | 12.5 x 74  | 17.5 x 74  |  | 17.5 x 74  | 13.2 x 36  |
| 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 <sup>2)</sup>  | 5,818   5,003  |  |  |  |  |  |  |  |  |  |  |  |
| radius in mm  | 257   221  |  |  |  |  |  |  |  |  |  |  |  |
| run-up in sec   | 118   107  |  |  |  |  |  |  |  |  |  |  |  |
| rrun-down in sec, braked  | 180   184  |  |  |  |  |  |  |  |  |  |  |  |
| temperature in °C <sup>1)</sup>   | + 14   - 1   |  |  |  |  |  |  |  |  |  |  |  |

|   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml  | 4 – 7   | 4 – 7   | 8   | 8.5 – 10  | 15  | 50  | 12  | 25  | 30  |   | 50  |
| Ø x L in mm   | 16 x 75   | 13 x 100  | 16 x 125  | 16 x 100  | 17 x 120  | 29 x 115  | 17 x 100  | 25 x 90   | 25 x 110  |   | 29 x 115  |
| Cat. No.  | blood collection / urine tubes  |   |   |   | 0509  | 0513  | -   | -   | -   | -   | -   |
| <br>carrier<br>Cat. No. 4522-A |  |  |  |  |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |  |   |  |
| Cat. No.  | 4214-93   | 4222  | 4223  | 4214  | 4232  | 4245-A  | 4220  | 4241  | 4215  |   | 4249  |
| boring Ø x L in mm  | 17.5 x 36   | 13.2 x 74   | 16 x 74   | 17.5 x 74   | 17 x 70   | 30 x 70   | 17.5 x 74   | 26 x 73   | 26 x 74   |   | 30 x 96   |
| tubes per rotor   | 180   120   |   | 150   100   | 180   120   | 138   92  | 48   32   | 96   64   | 48   32   | 66   44   |   | 36   24   |
| max. RCF <sup>2)</sup>  | 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   | 118   107   |   |   |   |   |   |   |   |   |   |   |
| rrun-down in sec, braked  | 180   184   |   |   |   |   |   |   |   |   |   |   |
| temperature in °C <sup>1)</sup>   | + 14   - 1  |   |   |   |   |   |   |   |   |   |   |

<sup>1)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be reached by reducing the speed.

<sup>2)</sup> 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 <sup>2)</sup> is 4,000.

## Swing-out rotors 4176 / 4174

|   |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|
| capacity in ml  | 250  | 290  | 600  | 750  | 750  | 250  | 500  |
| Ø x L in mm   | 61x122   | 62x137   | 93x134   | 97x152   | 93x137   | 60x162   | 96x147   |
| <b>Cat. No.</b>   | <b>5127<sup>9)</sup></b>   | <b>-<sup>9)</sup></b>  | <b>0551<sup>9)</sup></b>   | <b>0512<sup>9)</sup></b>   | <b>4234</b>  | <b>Corning</b>   | <b>Corning</b>   |
| <br><b>carrier</b><br>Cat. No. <b>4522-A</b> |   |   |   |   |   |     |   |
|   |  |  |  |  |  |  |  |
| <b>Cat. No.</b>   | <b>4238</b>  | <b>4233</b>  | <b>4258</b>  | <b>4233</b>  | <b>6322</b>  | <b>4258 + 4449</b>   |  |
| boring Ø x L in mm  | 62 x 90  | 94 x 105   | 97.5 x 105   | 94 x 105   | 61 x 125   | 97.5 x 105   |  |
| tubes per rotor   | 6   4  |  |  |  |  |  |  |
| max. RCF <sup>2)</sup>  | 5,818   5,003  | 5,999   5,184  | 5,999   5,184  | 5,999   5,184  | 5,818   5,003  | 5,999   5,184  |  |
| radius in mm  | 257   221  | 265   229  | 265   229  | 265   229  | 257   221  | 265   229  |  |
| run-up in sec   | 118   107  |  |  |  |  |  |  |
| run-down in sec, braked   | 180   184  |  |  |  |  |  |  |
| temperature in °C <sup>1)</sup>   | + 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 containment<sup>10)</sup> 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.

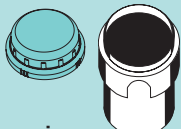













<sup>9)</sup> At temperatures of over + 40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

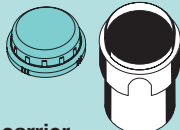






















<sup>10)</sup> Tested by the TÜV in conformity with DIN EN 61010, section 2-020.



rotor 4176, illustrated with  
carriers 4547-A 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 <sup>2)</sup>   | 0578 <sup>2)</sup>  | 0500 <sup>2)</sup>  | 2079   | 0518 <sup>2)</sup>   | 0519 <sup>2)</sup>  | 0521 <sup>2)</sup>   | 0526 <sup>2)</sup>   |
| <div>lid Cat. No. 5621</div> <div></div> <div>carrier<br/>Cat. No. 4547-A</div> |   |  |  |   |   |  |   |   |
|   |  |   |   |  |  |   |  |  |
| Cat. No.  | 4433   |   | 4434  |  | 4438   |   | 4439   | 4442   |
| boring Ø x L in mm  | 13x58  |   | 17.5x53   |  | 26 x 72  |   | 36 x 79  | 45x78  |
| tubes per rotor   | 180   120  |   | 114   76  |  | 42   28  |   | 24   16  | 12   8   |
| max. RCF <sup>2)</sup>  | 5,841  | 5,026   | 5,977   5,184   |  | 5,728  | 4,913   | 5,773   4,981  | 5,750   4,958  |
| radius in mm  | 258   222  |   | 264   229   |  | 253   217  |   | 255   220  | 254   219  |
| run-up in sec   | 112   107  |   |   |  |  |   |  |  |
| rrun-down in sec, braked  | 195   181  |   |   |  |  |   |  |  |
| temperature in °C <sup>1)</sup>   | +9   -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  |   |   |   |   |   |   |   |   |   |   |   |   |
| <br><b>carrier</b><br>Cat. No. <b>4547-A</b> |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |   |  |  |   |   |  |   |
| Cat. No.   | <b>4435</b>   | <b>4433</b>   | <b>4434</b>   | <b>4433</b>   | <b>4435</b>   | <b>4434</b>   |   | <b>4435</b>   |   |   |   | <b>4434</b>   |   |
| boring Ø x L in mm   | 13.5x58   | 13x58   | 17.5x53   | 13x58   | 13.5x58   | 17.5x53   |   | 13.5x58   |   |   |   | 17.5x53   |   |
| tubes per rotor  | 126   84  | 180   120   | 114   76  | 180   120   | 126   84  | 114   76  |   | 126   84  |   |   |   | 114   76  |   |
| max. RCF <sup>2)</sup>   | 5,841   5,026   | 5,977   5,184   | 5,841   5,026   | 5,977   5,184   | 5,841   5,026   | 5,977   5,184   |   | 5,841   5,026   |   |   |   | 5,977   5,184   |   |
| radius in mm   | 258   222   | 264   229   | 258   222   | 264   229   | 258   222   | 264   229   |   | 258   222   |   |   |   | 264   229   |   |
| run-up in sec  | 112   107   |   |   |   |   |   |   |   |   |   |   |   |   |
| run-down in sec, braked  | 195   181   |   |   |   |   |   |   |   |   |   |   |   |   |
| temperature in °C <sup>1)</sup>  | +9   -9   |   |   |   |   |   |   |   |   |   |   |   |   |



















<sup>1)</sup> Lowest attainable temperature in precooled refrigerated centrifuges at max. speed. Lower temperatures can be reached by reducing the speed.















<sup>2)</sup> 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 <sup>2)</sup> is 4,000.



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

## Swing-out rotors 4176 / 4174


|   |  |  |  |   |   |  |  |  |   |   |                    |
|---|--|--|--|---|---|--|--|--|---|---|--------------------|
| capacity in ml  | 15   | 50   | 25   | 30  |   | 10   | 250  | 290  | 600   | 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   | 93 x 134  | 97 x 152  | 96 x 176           |
| Cat. No.  | 0509   | 0513   | -  | -   | -   | -  | 5127 <sup>9)</sup>   | - <sup>9)</sup>  | 0551 <sup>9)</sup>  | 0512 <sup>9)</sup>  | 4239 <sup>9)</sup> |
| <div>lid Cat. No. 5621</div> <div></div> <div>carrier</div> <div>Cat. No. 4547-A</div> <div></div> |   |   |   |  |  |   |   |   |  |  |                    |
|   |  |  |  |   |   |  |  |  |   |   |                    |
| Cat. No.  | 4437   | 4441   | 4438   |   |   | 4434   | 4443   | 4466   | -   |   |                    |
| boring Ø x L in mm  | 17 x 88  | 30 x 87  | 26 x 72  |   |   | 17.5 x 53  | 62 x 92  | 94 x 90  | 98 x 141  |   |                    |
| tubes per rotor   | 72   48  | 30   20  | 42   28  |   |   | 114   76   | 6   4  |  |   |   |                    |
| max. RCF <sup>2)</sup>  | 6,090  | 5,298  | 5,909   5,117  |   |   | 5,977   5,184  | 6,203   5,411  | 6,384   5,592  |   |   |                    |
| radius in mm  | 269  | 234  | 261   226  |   |   | 264   229  | 274   239  | 282   247  |   |   |                    |
| run-up in sec   | 112   107  |  |  |   |   |  |  |  |   |   |                    |
| rrun-down in sec, braked  | 195   181  |  |  |   |   |  |  |  |   |   |                    |
| temperature in °C <sup>1)</sup>   | +9   -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  |
| <b>Cat. No.</b>   | <b>Falcon®</b>  | <b>Nalgene®</b>   | <b>Nunc®</b>  | <b>Falcon®</b>  | <b>Corning</b>  |   |
| lid Cat. No. <b>5621</b><br><br><b>carrier</b><br>Cat. No. <b>4547-A</b><br> |  |  |  |  |  |    |
|   |  |  |  |  |  |  |
| <b>Cat. No.</b>   | <b>4440</b>   | <b>4430</b>   | <b>4440</b>   | <b>4430</b>   | <b>4449</b>   |   |
| boring Ø x L in mm  | -   |   |   |   |   |   |
| tubes per rotor   | 6   4   |   |   |   |   |   |
| max. RCF <sup>2)</sup>  | 6,384   5,592   |   |   |   |   |   |
| radius in mm  | 282   247   |   |   |   |   |   |
| run-up in sec   | 112   107   |   |   |   |   |   |
| run-down in sec, braked   | 195   181   |   |   |   |   |   |
| temperature in °C <sup>1)</sup>   | +9   -9   |   |   |   |   |   |

<sup>9)</sup> 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 <sup>*)</sup>  | 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)  | 4,500 min <sup>-1</sup>                    |
| Max. RCF  | 6,520                                      |
| Running time  | 1 sec – 999 min : 59 sec, ∞ continuous run |
|   |  |
| Dimensions (HxWxD)  | 973 x 813 x 1,015 mm                       |
| Weight  | approx. 355 kg                             |
|   |  |
| <b>Refrigeration</b>  |  |
| Temperature control, infinitely variable  | from -20 to +40 °C                         |
|   |  |
| <b>Cat. No.</b>   | <b>5005</b>                                |

<sup>\*)</sup> Other voltages on request.



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.

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