

### Clinical Centrifuges

## *SeroSpin II*

- Recommended for cross matching test in blood banks
- Specifically designed, light polycarbonate rotor
- Optional rotor with tube tightening spring
- Easy to read graphic LCD display
- Smooth operation motorized lid opening and closure
- Compact, light-weighted, and ergonomic design
- Unique air cooling structure, perfect for heavily routine works
- Easy to clean specially coated glossy surface



## Specification

| * Registered as medical device at MFDS <sup>1)</sup> |                             | Fleta 5 / *Fleta50P                 | Fleta 4 / *Fleta 40P                     |
|------------------------------------------------------|-----------------------------|-------------------------------------|------------------------------------------|
| Speed<br>RCF (xg)                                    | Max. RPM / Fixed angle      | -                                   | 4,000 rpm                                |
|                                                      | Max. RCF / Fixed angle      | -                                   | 2,789 xg                                 |
|                                                      | Max. RPM / Swing-out        | 5,500 rpm                           | 4,000 rpm                                |
|                                                      | Max. RCF / Swing-out        | 6,230 xg                            | 3,088 xg                                 |
| Capacity                                             | Max. capacity / Fixed angle | -                                   | 24 x 15 mL                               |
|                                                      | Max. capacity / Swing-out   | 32 x 15 mL                          | 6 x 50 mL, 12 x 15 mL conical, 4 x 85 mL |
| ACC/DEC                                              | ACC/DEC ramps               | 9/10 steps                          | 9/10 steps                               |
|                                                      | Two step Deceleration       | -                                   | Yes                                      |
|                                                      | Acc. time to max. speed     | 20/80 sec                           | 43/139 sec                               |
|                                                      | Dec. time from max. speed   | 26/82 sec                           | 34/183 sec                               |
| Time control                                         |                             | < 10 hr, continuous                 | < 100 min, pulse, continuous             |
| Program memory                                       |                             | 100                                 | 10                                       |
| Noise level                                          |                             | ≤ 65 dB                             | < 60 dB                                  |
| Imbalance cutoff / tracking                          |                             | Yes                                 |                                          |
| Rotor identification                                 |                             | manual                              |                                          |
| Dimension (W x D x H, mm)                            |                             | 570 x 475 x 325                     | 448.5 x 531 x 286                        |
| Weight without rotor                                 |                             | 37 kg                               | 25 kg                                    |
| Power requirement (VA)                               |                             | 700 VA                              | 500 VA                                   |
| Power input (V, Hz)                                  |                             | 210~240 V, 50/60 Hz (110V optional) |                                          |
| Cat. No.                                             |                             | FL 5                                | FL 4                                     |

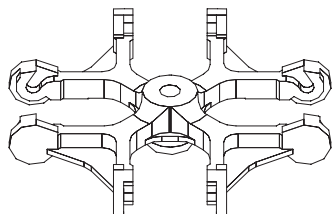
1) MFDS : Ministry of Food and Drug Safety (KOREA)

| * Registered as medical device at MFDS <sup>1)</sup> |                           | CellSpin*                          | SeroSpin II*                 | HematoSpin II                |
|------------------------------------------------------|---------------------------|------------------------------------|------------------------------|------------------------------|
| Speed<br>RCF (xg)                                    | Max. RPM / Fixed angle    | 3,000 rpm                          | 3,400 rpm                    | 12,000 rpm                   |
|                                                      | Max. RCF / Fixed angle    | 1,175 xg                           | 973 xg                       | 15,536 xg                    |
| Max. capacity / Fixed angle                          |                           | 12 slides x 0.5~0.6 mL             | 12 x 75 mm tube              | 24 x 0.07 mL capillary       |
| ACC/DEC                                              | ACC/DEC ramps             | DEC 3 steps                        | 6 / 6 steps                  | 6 / 6 steps                  |
|                                                      | Acc. time to max. speed   | 69 / 69 sec                        | 14 / 38 sec                  | 35 / 59 sec                  |
|                                                      | Dec. time from max. speed | 44 / 52 sec                        | 13 / 37 sec                  | 60 / 85 sec                  |
| Time control                                         |                           | < 100 min, continuous              | < 100 min, pulse, continuous | < 100 min, pulse, continuous |
| Program memory                                       |                           | 10                                 | 10                           | 10                           |
| Noise level                                          |                           | ≤ 60 dB                            | < 60 dB                      | < 60 dB                      |
| Imbalance cutoff / tracking                          |                           | Yes                                |                              |                              |
| Dimension (W x D x H, mm)                            |                           | 360 x 410 x 280                    | 293 x 380 x 242 mm           | 293 x 380 x 242              |
| Weight without rotor                                 |                           | 24 kg                              | 15 kg                        | 15 kg                        |
| Power requirement (VA)                               |                           | 200 VA                             | 200 VA                       | 400 VA                       |
| Power input (V, Hz)                                  |                           | 210~240V, 50/60 Hz (110V optional) |                              |                              |
| Cat. No.                                             |                           | CE                                 | SE II                        | HE II                        |

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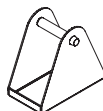
## Swing Rotors for Fleta 5

### HSR-4S

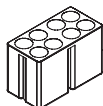


Type : Swing Rotor,  $\angle 90^\circ$   
 Max. RPM : 5,500 rpm  
 Dim. Ø/H : Ø235.8 x 42 mm

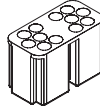
#### Bucket/Adaptor for HSR-4S



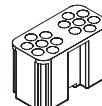
Rack Holder  
**HBTM**



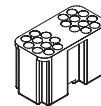
Adaptor  
**TR15-8**



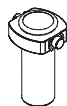
Adaptor  
**TR10-12**



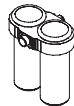
Adaptor  
**TR5-14**



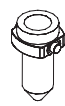
Adaptor  
**TR3-20**



Bucket  
**HBT50-1**



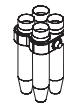
Bucket  
**HBT50-2**



Bucket  
**HBT50c-1**

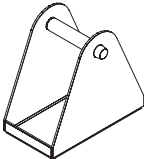


Bucket  
**HBT15-8**

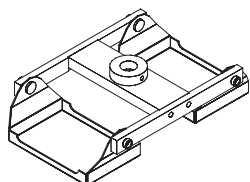


Bucket  
**HBT15c-4**

#### Table of HSR-4S, Bucket and Adaptors Combination

| Bucket                                                                                                                                                                                                                                                             | Required Adaptor                                                                                     | Tube Capacity<br>Bottom Type                                                                           | Tube per<br>Adaptor / Rotor | Bore<br>(Ø x L, mm) | Max. height<br>for tube fit (mm) | Max. RPM (rpm)<br>Max. RCF (xg) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------|---------------------|----------------------------------|---------------------------------|
| <b>HBTM</b><br><br>Max. RPM : 3,000 rpm<br>Max. RCF : 1,651 xg<br>Radius : 164.1 mm<br>Bucket bore (w x d x L, mm) :<br>90.3 x 47.2 x 57.2<br>Max. height for tube fit : 72.5 mm | <b>TR15-8</b><br>   |  15(16) mL<br>Round   | 8 / 32                      | 18 x 55             | 128.8                            | 3,000<br>1,651                  |
|                                                                                                                                                                                                                                                                    | <b>TR10-12</b><br> |  10 mL<br>Round      | 12 / 48                     | 13 x 55             | 129.2                            | 3,000<br>1,651                  |
|                                                                                                                                                                                                                                                                    | <b>TR5-14</b><br> |  5 mL<br>Round      | 14 / 56                     | 11 x 55             | 129.8                            | 3,000<br>1,651                  |
|                                                                                                                                                                                                                                                                    | <b>TR3-20</b><br> |  3 mL<br>Round      | 20 / 80                     | 10 x 55             | 130.4                            | 3,000<br>1,651                  |
| <b>HBT50-1</b><br>Max. RPM : 5,500 rpm / Max. RCF : 6,131 xg<br>Radius : 181.3 mm<br>Bucket bore (ø/H, mm) : 30 x 99<br>Max. height for tube fit : 153.2 mm                                                                                                        |                   |  50 mL<br>Round     | 1 / 4                       | 30 x 99             | 153.2                            | 5,500<br>6,131                  |
| <b>HBT50-2</b><br>Max. RPM : 5,500 rpm / Max. RCF : 6,131 xg<br>Radius : 181.3 mm<br>Bucket bore (ø/H, mm) : 30 x 99<br>Max. height for tube fit : 153.2 mm                                                                                                        |                   |  50 mL<br>Round     | 2 / 8                       | 30 x 99             | 153.2                            | 5,500<br>6,131                  |
| <b>HBT50c-1</b><br>Max. RPM : 5,500 rpm / Max. RCF : 6,230 xg<br>Radius : 184.2 mm<br>Bucket bore (ø/H, mm) : 31.5 x 116<br>Max. height for tube fit : 144 mm                                                                                                      |                   |  50 mL<br>Conical   | 1 / 4                       | 31.5 x 115.9        | 144                              | 5,500<br>6,230                  |
| <b>HBT15-8</b><br>Max. RPM : 4,000 rpm / Max. RCF : 2,910 xg<br>Radius : 162.7 mm<br>Bucket bore (ø/H, mm) : 18 x 89.5<br>Max. height for tube fit : 125.3 mm                                                                                                      |                   |  15(16) mL<br>Round | 8 / 32                      | 18 x 89.5           | 125.3                            | 4,000<br>2,910                  |
| <b>HBT15c-4</b><br>Max. RPM : 4,000 rpm / Max. RCF : 3,089 xg<br>Radius : 172.7 mm<br>Bucket bore (ø/H, mm) : 18 x 99.5<br>Max. height for tube fit : 143 mm                                                                                                       |                   |  15 mL<br>Conical   | 4 / 16                      | 18 x 99.5           | 143                              | 4,000<br>3,089                  |

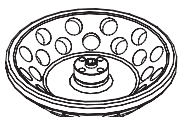
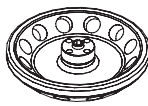
## HSM-2



Type : Swing Rotor,  $\angle 90^\circ$   
 Max. RPM : 2,000 rpm  
 Dim. W x D x H : 174 x 212 x 20 mm

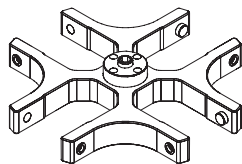
| Tube Capacity | Tube per Adaptor / Rotor | Max. RPM (rpm)<br>Max. RCF (xg) |
|---------------|--------------------------|---------------------------------|
| MTP           | 1 / 2                    | 2,000<br>622                    |
| Cell Culture  |                          |                                 |
| DWP           |                          |                                 |

## Fixed Angle Rotors for Fleta 4

| Rotor                                                                                                                                                                                                                                                                                                                                                                                                                                               | Adaptable Centrifuge | Tube Capacity Bottom Type                                                                           | Required Adaptor                                                                                         | Bore Ø x L (mm)<br>Radius (mm) | Max. RPM (rpm)<br>Max. RCF (xg) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------|
| <b>AL15-24</b><br> <p>Type : Fixed Angle Rotor, <math>\angle 45^\circ</math><br/>                     Max. RPM : 4,000 rpm<br/>                     Max. RCF : 2,789 xg<br/>                     Max. Capacity : 24 x 15 mL<br/>                     Dim. <math>\phi</math>/H : 164.6 x 42.8<br/>                     Max. height for tube fit : 143.3 mm</p>     | FL 4                 |  15(16) mL Round   | <b>TR15(24)</b><br>  | 18 x 104.5<br>155.8            | 4,000<br>2,789                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                      |  15 mL Conical   |                                                                                                          |                                |                                 |
| <b>AL15-12</b><br> <p>Type : Fixed Angle Rotor, <math>\angle 45^\circ</math><br/>                     Max. RPM : 4,000 rpm<br/>                     Max. RCF : 2,547 xg<br/>                     Max. Capacity : 12 x 15 mL<br/>                     Dim. <math>\phi</math> x H : 164.6 x 42.8 mm<br/>                     Max. height for tube fit : 134 mm</p> | FL 4                 |  15(16) mL Round | <b>TR15(12)</b><br> | 18 x 94.5<br>142.4             | 4,000<br>2,547                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                      |  15 mL Conical   |                                                                                                          |                                |                                 |

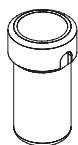
## Swing Rotors for Fleta 4

### S85-4



Type : Swing Rotor,  $\angle 90^\circ$   
Max. RPM : 4,000 rpm  
Dim. Ø/H : Ø230 x 36 mm

#### Bucket for S85-4

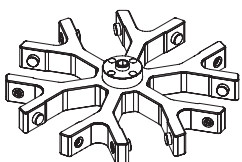


Bucket  
**B85**

**Table of S85-4, Buckets and Adaptor Combination**

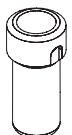
| Bucket                                                                                                                                                         | Required Adaptor | Tube Capacity<br>Bottom Type | Tube per<br>Adaptor / Rotor | Bore<br>(Ø x L, mm) | Max. height<br>for tube fit (mm) | Max. RPM (rpm)<br>Max. RCF (xg) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|-----------------------------|---------------------|----------------------------------|---------------------------------|
| <b>B85</b><br><br>Max. RPM: 4,000 rpm<br>Max. RCF: 3,087 xg<br>Radius(mm): 172.6<br>Bucket bore (ø x L,mm): 38.5 x 88.5<br>Max. height for tube fit(mm): 149.2 | -                | 85 mL Round                  | 1 / 4                       | 38.5 x 88.5         | 149.2                            | 4,000<br>3,088                  |
|                                                                                                                                                                | <b>TR50(85)</b>  | 50 mL Round                  | 1 / 4                       | 29 x 95             | 144.2                            | 4,000<br>3,001                  |
|                                                                                                                                                                | <b>TR50c(85)</b> | 50 mL Conical                | 1 / 4                       | 29.5 x 100          | 149.2                            | 4,000<br>3,088                  |
|                                                                                                                                                                | <b>TR15(85)</b>  | 15 mL Round                  | 1 / 4                       | 17 x 94             | 143.2                            | 4,000<br>2,984                  |
|                                                                                                                                                                | <b>TR15c(85)</b> | 15 mL Conical                | 1 / 4                       | 17 x 100            | 149.2                            | 4,000<br>3,088                  |

### S50-6



Type : Swing Rotor,  $\angle 90^\circ$   
Max. RPM : 4,000 rpm

#### Bucket for S50-6



Bucket  
**B50**

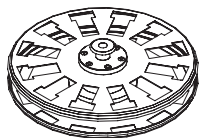


Bucket  
**B15c-2**

**Table of S50-6, Buckets and Adaptors Combination**

| Bucket                                                                                                                                                           | Required Adaptor | Tube Capacity<br>Bottom Type | Tube per<br>Adaptor / Rotor | Bore<br>(Ø x L, mm) | Max. height<br>for tube fit (mm) | Max. RPM (rpm)<br>Max. RCF (xg) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|-----------------------------|---------------------|----------------------------------|---------------------------------|
| <b>B50</b><br><br>Max. RPM : 4,000 rpm<br>Max. RCF : 3,243 xg<br>Radius : 181.3 mm<br>Bucket bore (ø x L,mm): 30.3 x 93.5<br>Max. height for tube fit(mm): 145.7 | -                | 50 mL Round                  | 1 / 6                       | 30 x 93.5           | 145.7                            | 4,000<br>3,243                  |
|                                                                                                                                                                  | -                | 50 mL Conical                | 1 / 6                       |                     |                                  |                                 |
|                                                                                                                                                                  | <b>TR25(50)</b>  | 25 mL Round                  | 1 / 6                       | 20 x 87             |                                  |                                 |
|                                                                                                                                                                  | <b>TR15(50)</b>  | 15(16) mL Round              | 1 / 6                       | 18 x 87             |                                  |                                 |
| <b>B15c-2</b><br><br>Max. RPM: 4,000 rpm<br>Max. RCF: 2,966 xg<br>Radius: 165.5 mm                                                                               |                  | 15 mL Conical                | 2 / 12                      | 17 x 86.5           | 138.7                            | 4,000<br>2,966                  |

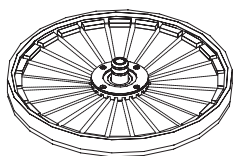
## Angle Rotors for CellSpin

| Rotor                                                                                                                                                                                                                                 | Tube Capacity                                                                                                                          | Bore Ø x L (mm)<br>Radius (mm) | Max. RPM (rpm)<br>Max. RCF (xg) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------|
| <b>Cyto</b><br> <p>Type : Angle Rotor<br/>Max RPM : 3,000 rpm<br/>Max RCF : 1,175 xg<br/>Max. Capacity : 12 x 6 mL<br/>Dim. ø/H : ø233.5 x 65 mm</p> |  <p>Cytocell Accessory<br/>12 slides x 0.5~0.6 mL</p> | <p>ø233.5 x 65<br/>116.8</p>   | <p>3,000<br/>1,175</p>          |

## Angle Rotors for SeroSpin II

| Rotor                                                                                                                                                                                                                                     | Tube Capacity          | Bore Ø x L (mm)<br>Radius (mm) | Max. RPM (rpm)<br>Max. RCF (xg) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------|---------------------------------|
| <b>SERO-75</b><br> <p>Type : Angle Rotor<br/>Max RPM : 3,400 rpm<br/>Max RCF : 1,118 xg<br/>Max. Capacity : 12 x 5 mL<br/>Dim. ø/H : ø173 x 87.5 mm</p> | <p>12 x 75 mm tube</p> | <p>ø173 x 87.5<br/>86.5</p>    | <p>3,400<br/>1,118</p>          |

## Angle Rotors for HematoSpin II

| Rotor                                                                                                                                                                              | Tube Capacity                     | Radius (mm) | Max. RPM (rpm)<br>Max. RCF (xg) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|---------------------------------|
| <b>Hemato-24</b><br> <p>Type : Angle Rotor<br/>Max RPM : 12,000 rpm<br/>Max RCF : 15,536 xg</p> | <p>24 x 0.07 mL<br/>capillary</p> | <p>96.5</p> | <p>12,000<br/>15,536</p>        |