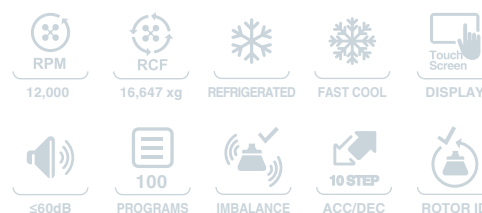




## VELOSPIN 12R

### HIGH SPEED CENTRIFUGE

Multi-purpose refrigerated centrifuge with strong power and excellent refrigeration ability



#### STANDARD SPECIFICATION

|                          |                                    |                       |
|--------------------------|------------------------------------|-----------------------|
| Max. RPM                 | 12,000RPM(Angle Rotor)             | 4,000RPM(Swing Rotor) |
| Max. RCF                 | 16,647 xg                          | 3,265 xg              |
| Max. Capacity            | 250ml x 6                          | 750ml x 4             |
| Accel / Decel phase      | 0 ~ 9 ( 10set)                     |                       |
| Set Temp.                | -10°C ~ +40°C ( 1°Cincrements)     |                       |
| Ref. System              | Non-CFC                            |                       |
| Noise Level              | ≤60dB                              |                       |
| Set Time                 | 99 hour 59 min 59sec or continuous |                       |
| Time Count               | At set Speed or from starting      |                       |
| Program                  | 100 memory                         |                       |
| Rotor ID                 | Automatic Recognition              |                       |
| Display                  | 4.3" LCD Touch Screen              |                       |
| RPM Range                | 400 to 12,000 rpm                  |                       |
| Available Rotor Quantity | 12                                 |                       |
| Power Supply             | 230V ± 10%, 50-60Hz, 1Phase        |                       |
| Power Consumption        | 2.8 KW                             |                       |
| Dimension(W x D x H)     | 564 x 673 x 866 mm                 |                       |
| Weight (without rotor)   | 164kg                              |                       |

## ● ● ● MAIN FEATURE

### ● Wide Range of Application

Various rotor options for multiple purpose in different users

### ● CRYSTE FLIP Touch Controller

- User-friendly 4.3" full color touch LCD controller helps to set the parameter at modern way. All set points are visible at a glance and setting is easy.
- Touch pad lock doesn't allow misuse during operation

### ● A variety of Tubes Applicable

- Various sizes of tube are available from 0.2ml to 250ml
- Proper tube adaptors are selectable

### ● Refrigeration and Fast Cool Function

- Pre-cooling before use is available so that users can minimize to waste their time for preparation
- Refrigeration performance suitable for separation efficiency even at high RPM

### ● Higher Safety in Operation

- Motor shaft safety hub system to prevent rotor slippage during high-speed operation
- Safe locking system of door through interlock function

### ● Silent Operation

Well-balanced motor minimized vibration, which leads to the most silent operation

### ● Ideal Security

Unauthorized access is prohibited through password

### ● Biocontainment Bucket Option

- Option for handling biohazardous materials
- Biocontainment sealing buckets are certified by TUV NORD in compliance with IEC61010-2-020:2016 Annex AA

### ● Energy Saving

- Pre-set energy saving mode can help to reduce the electrical operating cost. Unnecessary operation without the real-use can be controlled by Standby
- Mode and Eco Shut-off setting

### ● Drainage

Excessive condensation can be treated by drainage at the bottom of chamber.

## ● ● ● ORDER INFORMATION

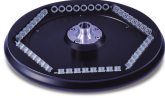
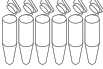
|             | ITEM         | DESCRIPTIONS                                                            | ORDER CODE |
|-------------|--------------|-------------------------------------------------------------------------|------------|
| Main Body   | VELOSPIN 12R | VELOSPIN 12R, without rotor, 230V / 50~60Hz                             | VL12R-MB   |
| Angle Rotor | A480.2H      | 0.2ml x 48 fixed angle rotor for PCR tubes (Max 12,000RPM)              | VL-AR1     |
|             | A301.5H      | 1.5/2.0ml x 30 fixed angle rotor (Max 12,000RPM)                        | VL-AR2     |
|             | A481.5H      | 1.5/2.0ml x 48 fixed angle rotor (Max 12,000RPM)                        | VL-AR3     |
|             | A1215H       | 15ml x 12 fixed angle rotor (Max 12,000RPM)                             | VL-AR4     |
|             | A1215HC      | 15ml x 12 fixed angle rotor for conical tubes (Max 12,000RPM)           | VL-AR5     |
|             | A2415HC      | 15ml x 24 fixed angle rotor for conical tubes (Max 8,000RPM)            | VL-AR6     |
|             | A650H        | 50ml x 6 fixed angle rotor (Max 12,000RPM)                              | VL-AR7     |
|             | A650HC       | 50ml x 6 fixed angle rotor for conical tubes (Max 10,000RPM)            | VL-AR8     |
|             | A850H        | 50ml x 8 fixed angle rotor (Max 12,000RPM)                              | VL-AR9     |
|             | A685H        | 85ml x 6 fixed angle rotor (Max 10,000RPM)                              | VL-AR10    |
|             | A6250H       | 250ml x 6 fixed angle rotor (Max 10,000RPM)                             | VL-AR11    |
| Swing Rotor | S4250HE      | 250ml x 4-wing rotor for rectangular/micro plate buckets (Max 4,000RPM) | VL-SR1     |

## ●●● AVAILABLE ANGLE ROTORS

LAB.SAFETY

CENTRIFUGES

LAB.BASIC

|                          |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Rotor                    |  |                                                                                   |  |                                                                                   |                                                                                     |  |                                                                                     |                                                                                     |
|                          | Fixed Angle Rotor 45°<br>48 x 0.2ml<br>Radius(mm) : 83.5                          |                                                                                   | Fixed Angle Rotor 45°<br>30 x 1.5ml<br>Radius(mm) : 94.8                           |                                                                                   |                                                                                     | Fixed Angle Rotor 45°<br>48 x 1.5ml<br>Radius(mm) : 94.8                            |                                                                                     |                                                                                     |
| Item                     | A480.2H                                                                           |                                                                                   | A301.5H                                                                            |                                                                                   |                                                                                     | A481.5H                                                                             |                                                                                     |                                                                                     |
| Tube                     |  |  |   |  |  |  |  |  |
| Volume (ml)              | 0.2                                                                               | 0.2ml Strips                                                                      | 0.2                                                                                | 0.5                                                                               | 1.5/2.0                                                                             | 0.2                                                                                 | 0.5                                                                                 | 1.5/2.0                                                                             |
| Adaptor / tube rack      |                                                                                   |                                                                                   |   |  |                                                                                     |  |  |                                                                                     |
| Item                     | -                                                                                 | -                                                                                 | F1.5A-0.2                                                                          | F1.5A-0.5                                                                         | -                                                                                   | F1.5A-0.2                                                                           | F1.5A-0.5                                                                           | -                                                                                   |
| Number per rack / rotor  | 48                                                                                | 6                                                                                 | 30                                                                                 | 30                                                                                | 30                                                                                  | 48                                                                                  | 48                                                                                  | 48                                                                                  |
| Adaptor bore (mm)        | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                | 8                                                                                 | 11.1                                                                                | 6.5                                                                                 | 8                                                                                   | 11.1                                                                                |
| Max. height for use (mm) | -                                                                                 | -                                                                                 | 44                                                                                 | 50                                                                                | 61                                                                                  | In 51<br>Out 44                                                                     | In 62<br>Out 54                                                                     | In 70<br>Out 61                                                                     |
| RPM                      | 12,000                                                                            | 12,000                                                                            | 12,000                                                                             | 12,000                                                                            | 12,000                                                                              | 12,000                                                                              | 12,000                                                                              | 12,000                                                                              |
| Radius (mm)              | 83.5                                                                              | 83.5                                                                              | 80.3                                                                               | 86.7                                                                              | 94.8                                                                                | In 70.3<br>Out 80.3                                                                 | In 76.7<br>Out 86.7                                                                 | In 84.8<br>Out 94.8                                                                 |
| RCF                      | 13,443                                                                            | 13,443                                                                            | 12,928                                                                             | 13,958                                                                            | 15,262                                                                              | In 11,318<br>Out 12,928                                                             | In 12,348<br>Out 13,958                                                             | In 13,652<br>Out 15,262                                                             |

|                          |                                                                                     |  |                                                                                     |  |                                                                                       |  |                                                                                       |                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Rotor                    |  |  |  |  |  |  |  |                                                                                       |
|                          | Fixed Angle Rotor 28°<br>12 x 15ml<br>Radius(mm) : 97.1                             |  | Fixed Angle Rotor 25°<br>12 x 15ml Conical<br>Radius(mm) : 100.9                    |  | Fixed Angle Rotor 30°<br>24 x 15ml Conical<br>Radius(mm) : in 106.5 / out 124         |  | Fixed Angle Rotor 30°<br>6 x 50ml<br>Radius(mm) : 99.9                                |                                                                                       |
| Item                     | A1215H                                                                              |  | A1215HC                                                                             |  | A2415HC                                                                               |  | A650H                                                                                 |                                                                                       |
| Tube                     |  |  |  |  |  |  |  |  |
| Volume (ml)              | 15(16)                                                                              |  | 15 Conical                                                                          |  | 15 Conical                                                                            |  | 15 Conical                                                                            | 50                                                                                    |
| Adaptor / tube rack      |                                                                                     |  |                                                                                     |  |                                                                                       |  |  |                                                                                       |
| Item                     | -                                                                                   |  | -                                                                                   |  | -                                                                                     |  | F50A-15C                                                                              | -                                                                                     |
| Number per rack / rotor  | 12                                                                                  |  | 12                                                                                  |  | 24                                                                                    |  | 6                                                                                     | 6                                                                                     |
| Adaptor bore (mm)        | 18.0                                                                                |  | 17.0                                                                                |  | 17.0                                                                                  |  | 17.0                                                                                  | 29.0                                                                                  |
| Max. height for use (mm) | 117                                                                                 |  | 129                                                                                 |  | 126                                                                                   |  | 122                                                                                   | 120                                                                                   |
| RPM                      | 12,000                                                                              |  | 12,000                                                                              |  | 8,000                                                                                 |  | 12,000                                                                                | 12,000                                                                                |
| Radius (mm)              | 97.1                                                                                |  | 100.9                                                                               |  | In 106.5<br>Out 124                                                                   |  | 94.3                                                                                  | 99.9                                                                                  |
| RCF                      | 15,632                                                                              |  | 16,244                                                                              |  | In 7,620<br>Out 8,872                                                                 |  | 15,182                                                                                | 16,083                                                                                |

●●● AVAILABLE ANGLE ROTORS

|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Rotor                    |  |                                                                                   |  |                                                                                   |  |                                                                                     |                                                                                     |                                                                                     |
|                          | Fixed Angle Rotor $\angle 25^\circ$<br>6 x 50ml Conical<br>Radius(mm) : 95.7      |                                                                                   | Fixed Angle Rotor $\angle 25^\circ$<br>8 x 50ml<br>Radius(mm) : 103.4             |                                                                                   | Fixed Angle Rotor $\angle 25^\circ$<br>6 x 85ml<br>Radius(mm) : 99.8                |                                                                                     |                                                                                     |                                                                                     |
| Item                     | A650HC                                                                            |                                                                                   | A850H                                                                             |                                                                                   | A685H                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Tube                     |  |  |  |  |    |  |  |  |
| Volume (ml)              | 15 Conical                                                                        | 50 Conical                                                                        | 15 Conical                                                                        | 50                                                                                | 15 Conical                                                                          | 50 Conical                                                                          | 50                                                                                  | 85                                                                                  |
| Adaptor / tube rack      |  |                                                                                   |  |                                                                                   |    |  |  |                                                                                     |
| Item                     | F50A-15C                                                                          | -                                                                                 | F50A-15C                                                                          | -                                                                                 | F85A-15C                                                                            | F85A-50C                                                                            | F85A-50                                                                             | -                                                                                   |
| Number per rack / rotor  | 6                                                                                 | 6                                                                                 | 8                                                                                 | 8                                                                                 | 6                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Adaptor bore (mm)        | 17.0                                                                              | 30.0                                                                              | 17.0                                                                              | 29.0                                                                              | 17.0                                                                                | 30.0                                                                                | 29.0                                                                                | 39                                                                                  |
| Max. height for use (mm) | 124                                                                               | 121                                                                               | 123                                                                               | 120                                                                               | 123                                                                                 | 122                                                                                 | 118                                                                                 | 118                                                                                 |
| RPM                      | 10,000                                                                            | 10,000                                                                            | 12,000                                                                            | 12,000                                                                            | 10,000                                                                              | 10,000                                                                              | 10,000                                                                              | 10,000                                                                              |
| Radius (mm)              | 91.3                                                                              | 95.7                                                                              | 97.8                                                                              | 103.4                                                                             | 90.7                                                                                | 94.8                                                                                | 95.3                                                                                | 99.8                                                                                |
| RCF                      | 10,207                                                                            | 10,699                                                                            | 15,745                                                                            | 16,647                                                                            | 10,140                                                                              | 10,599                                                                              | 10,766                                                                              | 11,158                                                                              |

|                          |                                                                                     |  |  |  |  |  |  |  |
|--------------------------|-------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| Rotor                    |  |  |  |  |  |  |  |  |
|                          | Fixed Angle Rotor $\angle 25^\circ$<br>6 x 250ml<br>Radius(mm) : 138.4              |  |  |  |  |  |  |  |
| Item                     | A6250H                                                                              |  |  |  |  |  |  |  |
| Tube                     |  |  |  |  |  |  |  |  |
| Volume (ml)              | 250                                                                                 |  |  |  |  |  |  |  |
| Adaptor / tube rack      |                                                                                     |  |  |  |  |  |  |  |
| Item                     | -                                                                                   |  |  |  |  |  |  |  |
| Number per rack / rotor  | 6                                                                                   |  |  |  |  |  |  |  |
| Adaptor bore (mm)        | 62.0                                                                                |  |  |  |  |  |  |  |
| Max. height for use (mm) | 126                                                                                 |  |  |  |  |  |  |  |
| RPM                      | 10,000                                                                              |  |  |  |  |  |  |  |
| Radius (mm)              | 138.4                                                                               |  |  |  |  |  |  |  |
| RCF                      | 15,473                                                                              |  |  |  |  |  |  |  |

## ●●● AVAILABLE SWING ROTORS

| S4250HE                                                                           | EB250                                                                             | EBS250                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | BW250                                                                               |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
|                                                                                   | S250ET-3-12                                                                       | S250ET-5-12                                                                       | S250ET-10-12                                                                      | S250ET-15-12                                                                      | S250ET-15C-9                                                                      | S250ET-50-4                                                                       | S250ET-50C-3                                                                        | S250ET-85-2                                                                         | S250EA-250                                                                          |                                                                                     |                                                                                     |
|                                                                                   |  |  |  |  |  |  |  |  |  |                                                                                     |                                                                                     |
| Swing Out Rotor<br>Max. RPM : 4,000<br>Radius(mm) : 182.5<br>Max. RCF : 3,265     |  |  |  |  |  |  |  |  |  |  |  |
| Volume (ml)                                                                       | 3                                                                                 | 5                                                                                 | 10                                                                                | 15                                                                                | 15 Conical                                                                        | 50                                                                                | 50 Conical                                                                          | 85                                                                                  | 250                                                                                 | MTP                                                                                 | DWP                                                                                 |
| Number per rack / rotor                                                           | 12/48                                                                             | 12/48                                                                             | 12/48                                                                             | 12/48                                                                             | 9/36                                                                              | 4/16                                                                              | 3/12                                                                                | 2/8                                                                                 | 1/4                                                                                 | 4/16                                                                                | 1/4                                                                                 |
| Adaptor bore (mm)                                                                 | 13.2                                                                              | 13.2                                                                              | 16                                                                                | 17.2                                                                              | 17                                                                                | 29.5                                                                              | 29.5                                                                                | 38.5                                                                                | 62.5                                                                                | -                                                                                   | -                                                                                   |
| Max. height for use (mm)                                                          | 124                                                                               | 124                                                                               | 124                                                                               | 124                                                                               | 127                                                                               | 124                                                                               | 127                                                                                 | 124                                                                                 | 138                                                                                 | -                                                                                   | -                                                                                   |
| RPM                                                                               | 4,000                                                                             | 4,000                                                                             | 4,000                                                                             | 4,000                                                                             | 4,000                                                                             | 4,000                                                                             | 4,000                                                                               | 4,000                                                                               | 4,000                                                                               | 4,000                                                                               | 4,000                                                                               |
| Radius (mm)                                                                       | 177.5                                                                             | 177.5                                                                             | 177.5                                                                             | 177.5                                                                             | 180.7                                                                             | 177.5                                                                             | 180.5                                                                               | 177.5                                                                               | 180.5                                                                               | 153.5                                                                               | 153.5                                                                               |
| RCF                                                                               | 3,175                                                                             | 3,175                                                                             | 3,175                                                                             | 3,175                                                                             | 3,232                                                                             | 3,175                                                                             | 3,229                                                                               | 3,175                                                                               | 3,229                                                                               | 2,746                                                                               | 2,746                                                                               |

CRYSTE high speed / large capacity model gives the **convenience** of operating a laboratory centrifuge through intuitive **CRYSTE FLIP**



- Easy control from **Finger-tip use**
- Fast '**SAVE & LOAD**' for a variety of programs
- Rotor information in display & **Automatic** identification