영 문 규 격 서

COMMODITY DESCRIPTION

Ⅰ. End-user's Use

A high-capacity, high-performance, multipurpose centrifuge capable of using a wide range of labware in volumes ranging from 0.2mL to 1,000mL. Up to 4 x 1,000mL capacity makes it ideal for high throughput experiments. You can apply centrifugal force by rotating the sample at a maximum speed of 14,000 rpm. It is essential for cell culture and extraction of nucleic acids and other nucleic acid-related experimental processes, as well as for protein extraction/separation.

Ⅲ. Performance and Specification

1. Features

   1) The device must have 7 in touch screen for intuitive operation (touch screen interface)
   2) The device should guarantee the set temperature at maximum speed (dynamic compressor control)
   3) The device must have a dedicated precooling key to start a temperature control run without samples with a rotor at temperature-specific speed to quickly adjust the rotor chamber, rotor, bucket and adapter to the set temperature (FastTemp)
   4) The setting temperature should be maintained after centrifugation during the lid is closed, for preventing damage to samples (standby cooling function).
   5) The rotor of the device should be made of anodised aluminium to ensure chemical resistance and high temperature conductivity
   6) The frequently used speed, temperature, and time conditions should be registered as favorites, and the parameter setting time should be within one minute using this function (favorite storage function)
   7) Frequently used conditions should be stored as a program and up to 99 equivalents/more (program function)
   8) The program must be stored rotor radius, and able to pop out the alarm if the rotor radius was changed (program – rotor radius alarm function)
   9) The device must be able to restrict user management level, and protect the device setting change (user management)
   10) The device must alarm when the maximum number of rotors is exceeded (rotor log function).
   11) The device must be able to store all events during operating the device and export the data by USB for documentation (event log and export the data)
   12) The device should be able to store 1,000 run records (including user, parameter setting

value, results) and export by USB for documentation (run record log and export)
13) Maximum capacity
    (1) 50mL conical tube : 36 (with S-4xUniversal rotor)
    (2) 15mL conical tube : 68 (with S-4xUniversal rotor)
    (3) Microtubes : 200 x 2.0mL (with S-4x750 rotor)
    (4) Multi-well plate : 20 x MTP/PCR plates (with S-4xUniversal rotor)
    (5) 1,000 mL eppendorf bottle : 4 (with S-4xUniversal rotor)
    (6) 250mL flat bottom bottle : 6 (with FA-6x250 mL rotor)
14) The device must be able to comes with one universal rotor and universal adapter that can spin 4 mL to 750 mL bottle and plates, without the need to change rotor or buckets (universal rotor and adapter)
15) The device must have a motorized lid latch, so easy to open/close the lid
16) The device should be able to set the 10-different degree of ramping, in accelerate and decelerate respectively, to prevent the sample remixing, especially when handling clinical sample and bacterial suspensions
17) The device must be designed to be extremely quiet runs with noise levels (53~58 dB(A) - depending on rotor types)
18) The device must have brushless maintenance free drive
19) The device must have compressor off function which engages after 8 hr of non-use to reduce energy consumption and extend compressor life (eco-shut off)
20) The device must be able to recognize rotor types automatically, and prevent over speed of the rotor (automatic rotor recognition)
21) The device must be able to sense imbalance of the samples
22) The device must come with aerosol tightness rotor lid and cap certified by external body such as the Health Protection Agency, United Kingdom
23) The device must have quick lock mechanism of rotor lid and bucket cap for convenient using (Quick lock rotor lid/cap)
24) The device should be able to switch display between rcf and rpm speed setting
25) The device must have separated adjustable speed short spin key
26) The device should be able to start timer countdown only when selectable speed is achieved .This will ensure consistent centrifugation time, regardless level of accelerate/decelerate was set (at set rpm)

2. Specification
    1) Max. RCF   : 22,132 × g (5,263 x g : swing bucket rotor)
    2) Max. Speed   : 10 ~ 14,000 rpm
    3) Max. Capacity   : 4 X 1,000 mL
    4) Timer   : 10s ~ 99h : 59min, continuous
    5) Short spin   : yes
    6) Temperature range : -11 °C ~ 40 °C
    7) Fast temp function   : yes

8) Program storage   : 99
9) Accel./Dec. ramp rate   : 10/10
10) Centrifuge lid open   : 2 (full open, half-open)
11) standby mode   : yes (<2W)
12) Noise level   : 53~59 dB(A) (depending on the rotor types)
13) Rotor recognition   : yes
14) Voltage   : 220~230 V, 50 ~ 60 Hz
15) Power consumption   : 1,650 W
16) Dimension (W x D x H cm)   : 72 x 66 x 37
17) Weight   : 109 Kg

IV. Remarks

1. Installation & operation should be performed by maker's certified/trained engineer
2. Fully 3years guarantee service should be provided by contractor.
3. Any equipment same or above this Commodity Description is acceptable for bid participation.