



Ref: NCB/F-162060/2017-2018 (N)

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Refrigerated incubator shaker – benchtop model

1. Speed range: 25 to 400 rpm \pm 1 rpm
2. Plat form size should be 460 mm x 460 mm
3. Temperature Range : At least 20°C below ambient up to 80°C, must have minimum set point 4°C)
4. Temp Accuracy: \pm 0.1°C at 37°C, with a uniformity of \pm 0.25°C
5. 1.9 or 2.5 cm (0.75 or 1 in) orbit options is mandatory
6. Controller: programmable for speed up/down and temperature up or down on a timed basis
7. Multifunction single knob operation or key pad, no touch screen
8. At least provision of 12 or more multistep programming each with shaking time and temperature
9. Electrical motor: Brushless motor
10. Drive: Triple eccentric electromagnetic Drive.
11. Stackable : at least two machines should be stackable without any stand
12. Universal tray with clamps should have capacity to hold of variable sizes (50 mL to 6 L) and at least 18 flasks of 250 mL capacity.
13. Moisture proof internal electric socket installed in chamber for provision of run external equipment
14. Provision for shelf (with adjustable height) inside the incubator for incubating petri plates (to be provided by original equipment manufacturer)
15. Facility for future up-gradation for Gassing manifold for direct gassing into containers placed inside the shaker, Photosynthetic light for plant tissue culture, UV Light and culture drawer
16. Alarm system should have audio visual alarms if unit operates \pm 5 rpm and \pm 1°C of set parameters.
17. Should have Multi-function reservoir, with built-in pluggable drain, humidifies chamber to reduce sample evaporation as well as capture accidental spills
18. Should have Spill cover, above the drive, additionally protects electronics and mechanical components
19. Equipment should European CE/USFDA /UL certified
20. Equipment with least power consumption will be preferred



Specifications – floor model

1. Triple stackable refrigerated Incubator Shaker must with glide-up doors
2. Speed range: 25 to 400 rpm \pm 1 rpm
3. Temperature Range : At least 20°C below ambient up to 80°C (Minimum set point 4°C)
4. Temp control and stability must be \pm 0.1°C and \pm 0.1°C at 37°C respectively, with a uniformity of \pm 0.25°C
5. Alarms System should have audio visual alarms if units operate \pm 5 rpm and \pm 1°C deviation from the set parameters.
6. Multi-step programming, with at least 15 steps in order to automatically change temperature, speed and optionally photosynthetic and germicidal light at timed intervals
7. System should offer a choice of purchase options of orbit sizes between 1.9 or 2.5 cm (0.75 or 1 in)
8. Controller: programmable for speed up/down and temperature up or down on a timed basis
9. Programmable shaking time and temperature
10. Electrical motor : Brushless motor
11. Drive: Triple eccentric electromagnetic Drive.
12. Universal tray with clamps should have capacity to hold of variable sizes up to 5L flasks.
13. Dedicated platform capacities of \geq 23 numbers of 500 mL flasks is a must
14. Option to fix sticky pad is a must in the platform
15. Must have option for remote alarm contact to user supplied building monitoring system (BMS)
16. Most important and instrument must be designed to have pull-out service module to have access to all electronic and heating/cooling components, without having to un-stack the units
17. Moisture proof internal electric outlet installed in chamber
18. Facility for future up-gradation for 12-port Gassing manifold for direct gassing into containers placed inside the shaker, Photosynthetic light for plant tissue culture, UV Light.
19. Instrument must have slide-out platform mechanism for easy and effortless access to flasks located in back of the shaker incubator
20. Must have built-in water reservoir to humidify the camber to reduce sample evaporation
21. Should have Multi-function reservoir, with built-in pluggable drain, humidifies chamber to reduce sample evaporation as well as capture accidental spills
22. Should have Spill cover above the drive, additionally protects electronics and mechanical components
23. Equipment should European CE/USFDA certified

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