

# ES-20/80, Orbital Shaker-Incubator

## DESCRIPTION

ES-20/80 shaker-incubator for biotechnological and pharmaceutical laboratories is a professional category equipment. The typical applications include - microbial and cell culture cultivation, protein expression, solubility studies, general mixing, as well as other various applications in the fields of biology and chemistry.

The unit is equipped with a newly developed triple eccentric mechanism for platform motion that provides supreme balancing characteristics, superior reliability and quiet operation. The achieved stability of the unit during vigorous mixing allows for stacking installation of up to 3 units which enables to save space. The new display and easy to use user interface provide a clear and intuitive control of parameters and also allow data logging, storage and display over time. Additional features like out of balance sensor and automatic thermostat failure detection make this shaker-incubator an advanced and safe product. Bluetooth connectivity to PC allows for data management, data logging, parameter control and profiling in the included software.

A built-in heat-resistant brushless fan provides precise temperature distribution inside the chamber (from 5 °C above ambient up to +80 °C). Additionally, excellent sample temperature uniformity of  $\pm 0.3$  °C at 37 °C is achieved. The inner chamber is made of stainless steel. State-of-the-art motor, thermal insulation materials and parameter PID control decrease the energy consumption and make the shaker-incubator highly energy efficient despite its relatively large size.



## SPECIFICATIONS

|                                  |   |
|----------------------------------|---|
| Temperature setting range        | +25°C... +80°C                            |
| Temperature control range        | 5°C above ambient... +80°C                |
| Speed control range              | 50–400 rpm (increment 10 rpm)             |
| Temperature setting resolution   | 0.1°C                                     |
| Temperature stability            | $\pm 0.1$ °C                              |
| Temperature accuracy at +37°C    | $\pm 0.1$ °C                              |
| Temperature uniformity at +37°C  | $\pm 0.3$ °C                              |
| Orbit                            | 20 mm                                     |
| Display                          | TFT, 5 inches                             |
| Digital time setting             | 1 min–96 hrs / non–stop (1 min increment) |
| Timer sound signal               | +   |
| Maximum load                     | 10.6 kg                                   |
| Dimensions of the inner chamber  | 460 × 400 × 310 mm                        |
| Overall dimensions (W×D×H)       | 620 × 530 × 510 mm                        |
| Weight                           | 48 kg                                     |
| Power consumption (230V / 120 V) | 500 W (2.2 A)                             |
| Nominal operating voltage        | 230 V, 50/60 Hz                           |

## CAT. NUMBER

| Software included, without platform | Software included, without platform |
|-------------------------------------|-------------------------------------|
| BS-010167-A05                       | 230VAC 50/60Hz Euro plug            |
| BS-010167-A06                       | 230VAC 50/60Hz UK plug              |
| BS-010167-A07                       | 230VAC 50/60Hz AU plug              |
| please, inquire                     | 100VAC 50/60Hz US plug              |
| BS-010167-AK                        | IQ OQ document                      |
| BS-010167-BK                        | PQ document                         |



**PP-400**  
BS-010135-JK  
platform

Flat platform with non-slip silicone mat can accommodate various low profile containers.



**HSP-6/1000**  
BS-010167-LK  
platform

Platform with tight fit clamps for flasks.



**HSP-9/500**  
BS-010167-NK  
platform

Platform with tight fit clamps for flasks.



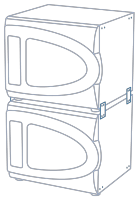
**HSP-16/250**  
BS-010167-MK  
platform

Platform with tight fit clamps for flasks.

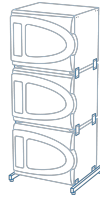


**HSP-30/100**  
BS-010167-KK  
platform

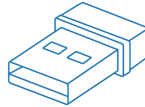
Platform with tight fit clamps for flasks.



**Stacking kit for 2 × ES-20/80**  
BS-010167-OK



**Stacking kit for 3 × ES-20/80**  
S-010167-PK



**Bluetooth adapter**  
BS-010425-FK

Bluetooth adapter



**UP-168**  
BS-010135-JK  
platform

Universal platform with clamps can accommodate flasks or bottles of different volume sizes. Clamps are not included with platform and need to be ordered separately.



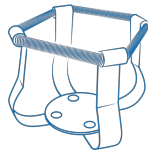
**TR-44/15**  
BS-010135-LK  
rack

Adjustable angle test tube rack for UP-168



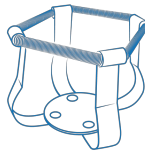
**TR-21/50**  
BS-010135-KK  
rack

Adjustable angle test tube rack for UP-168



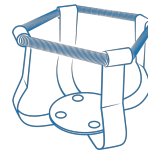
**HSC-50**  
BS-010167-DK  
clamp

Tight fit clamp 50 ml - Ø50 mm for UP-168



**HSC-100**  
BS-010167-EK  
clamp

Tight fit clamp 100 ml - Ø65 mm for UP-168



**HSC-250**  
BS-010167-FK  
clamp

Tight fit clamp 250 ml - Ø85 mm for UP-168



**HSC-500**  
BS-010167-JK  
clamp

Tight fit clamp 500 ml - Ø105 mm for UP-168



**HSC-1000**  
BS-010167-IK  
clamp

Tight fit clamp 1000 ml - Ø130 mm for UP-168

