

ES-20/60, Orbital Shaker-Incubator

Orbital Shaker-Incubator **ES-20/60** for biotechnological and pharmaceutical laboratories is a professional category equipment designed for cultivation of microorganisms and eukaryotic cells including animal, plant and insect cells. It is also possible to cultivate thermophilic bacteria in **ES-20/60** shaker-incubator.

Shaker is equipped with a direct-drive mechanism for platform motion. It provides reliable and stable operation for the long term experiments needed for cell growth.

Shaker-Incubator **ES-20/60** provides smooth or intensive mixing in flasks installed on the platform.

Built-in noiseless thermoresistant brushless fan provides precise temperature distribution inside the chamber (adjustable for up to +80 °C). The inner chamber is made of stainless steel. State-of-the-art motor, newest thermal insulation materials, soft-start of the platform motion and temperature **PID-control** decrease the energy consumption and make the Shaker-Incubator highly energy efficient despite its relatively large size.



Heat up time for **ES-20/60**

from 25 °C + 90 min. to 80 °C

ES-20/80, Orbital Shaker-Incubator **NEW**

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 a dedicated software that can be requested separately.

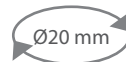
A built-in heat-resistant brushless fan provides precise temperature distribution inside the chamber (from 10 °C above ambient up to +80 °C). Additionally, excellent sample temperature uniformity of ± 0.3 °C at 37 °C is achieved. The inner chamber is made of stainless steel. State-of-the-art motor, thermal insulation materials and parameter PID-control decrease the energy consumption and make the shaker-incubator highly energy efficient despite its relatively large size.



Bluetooth
connection



50-400 rpm



Orbit

Heat up time for **ES-20/80**

from 25 °C + 75 min. to 80 °C

ES-20/60 and ES-20/80, Orbital Shakers-Incubators

	ES-20/60	ES-20/80
Temperature setting range	+25°C... +80°C	
Speed control range	50–250 rpm	50 - 400 rpm
Temperature control range	10°C above ambient ... +80°C	
Setting resolution	0.1°C; 10 rpm	0.1°C; 10 rpm
Temperature stability	±0.5 °C	±0.1 °C at 37 °C
Temperature accuracy	±0.5 °C	±0.1 °C at 37 °C
Temperature uniformity	±0.5 °C	±0.3 °C at 37 °C
Orbit	20 mm	
Display	LCD, 2 × 16 signs	TFT, 5 inches
Digital time setting	1 min. – 96 hrs. / non-stop (1 min increment)	
Maximum load	8 kg	10.6 kg
Data transfer	—	Bluetooth
Stacking	—	up to 3*
Overall dimensions (W×D×H)	590 × 525 × 510 mm	620 × 530 × 510 mm
Dimensions of the inner chamber	460 × 350 × 400 mm	460 × 350 × 400 mm
Weight	41.1 kg	48 kg
Nominal operating voltage	230 V, 50/60 Hz or 120 V, 50/60 Hz	230 V, 50/60 Hz
Power consumption	450 W (2 A)/ 450 W (4.5 A)	500 W (2.2 A)

* — Additional stacking kit required

ORDERING INFORMATION

Cat. number



ES-20/60 without platform

BS-010135-AAA

ES-20/80 without platform

BS-010167-A05

Optional accessories:

PC software and Bluetooth adapter for **ES-20/80**

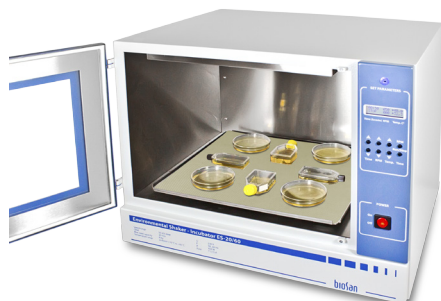
BS-010167-CK

Stacking kit for 2× **ES-20/80**

BS-010167-OK

Stacking kit for 3× **ES-20/80**

BS-010167-PK



Platforms for ES-20/60

Platform	Description	Dimensions	Working Area	Cat. number
1 P-30/100 	Platform with 30 clamps for 100-150 ml flasks	360 × 400 mm	360 × 400 mm	BS-010135-BK
2 P-16/250 	Platform with 16 clamps for 250-300 ml flasks	360 × 400 mm	360 × 400 mm	BS-010135-CK
3 P-9/500 	Platform with 9 clamps for 500 ml flasks	360 × 400 mm	360 × 400 mm	BS-010135-AK
4 P-6/1000 	Platform with 6 clamps for 1000 ml flasks	360 × 400 mm	360 × 400 mm	BS-010135-DK
5 PP-400 	Flat platform with non-slip silicone mat	360 × 400 mm	360 × 400 mm	BS-010135-FK
6 UP-168 	Universal platform for different flasks (Clamps ordered separately)	360 × 400 mm	360 × 400 mm	BS-010135-JK
6.1 FC-50 6.2 FC-100 6.3 FC-250 6.4 FC-500 6.5 FC-1000	Clamp for 50, 100, 250, 500 and 1000 (for UP-168)	Ø 50 mm Ø 65 mm Ø 85 mm Ø 105 mm Ø 130 mm		BS-010126-MK BS-010126-HK BS-010126-JK BS-010126-LK BS-010126-IK
6.6 TR-21/50 	Test tube rack for 50 ml with 21 drillings	340 × 124 mm	2 per platform	BS-010135-KK
6.7 TR-44/15 	Test tube rack for 15 ml with 44 drillings	340 × 124 mm	2 per platform	BS-010135-LK

Platforms for ES-20/80

Platform	Description	Dimensions	Working Area	Cat. number
1 HSP-30/100 	Platform with 30 tight fit clamps for 100-150 ml flasks	360 × 400 mm	360 × 400 mm	BS-010167-KK
2 HSP-16/250 	Platform with 16 tight fit clamps for 250-300 ml flasks	360 × 400 mm	360 × 400 mm	BS-010167-MK
3 HSP-9/500 	Platform with 9 tight fit clamps for 500 ml flasks	360 × 400 mm	360 × 400 mm	BS-010167-NK
4 HSP-6/1000 	Platform with 6 tight fit clamps for 1000 ml flasks	360 × 400 mm	360 × 400 mm	BS-010167-LK
5 PP-400 	Flat platform with non-slip silicone mat	360 × 400 mm	360 × 400 mm	BS-010135-FK
6 UP-168 	Universal platform for different flasks	360 × 400 mm	360 × 400 mm	BS-010135-JK
6.1 HSC-50 6.2 HSC-100 6.3 HSC-250 6.4 HSC-500 6.5 HSC-1000	Tight fit clamp for 50, 100, 250, 500, 1000 ml flask (for UP-168)	Ø 50 mm Ø 65 mm Ø 85 mm Ø 105 mm Ø 130 mm		BS-010167-DK BS-010167-EK BS-010167-FK BS-010167-JK BS-010167-IK
6.6 TR-21/50 	Test tube rack for 50 ml with 21 drillings	340 × 124 mm	2 per platform	BS-010135-KK
6.7 TR-44/15 	Test tube rack for 15 ml with 44 drillings	340 × 124 mm	2 per platform	BS-010135-LK