

Orbital Shaker-Incubators

Compact shaker-incubator

ES-20 with 10mm orbit

Temperature control range: ambient +5°C to 42°C

Shaker-incubator

ES-80 with 20mm orbit

Temperature control range: ambient +5°C to 80°C

ES-20

Compact shaker-incubator

Versatile and programmable bench-top orbital shaker-incubator for mixing and incubating biological cultures and samples in a variety of flasks and vessels.

Temperature setting range: +25°C to 42°C (16 min heat up time)

Variable speed: 50 – 250rpm

Digital control of time, temperature and shaking speed for accuracy and repeatability

Interchangeable platforms for shaking/incubating different vessels*

Load up to 2.5kg



Temperature control by microprocessor plus forced heated air circulator ensures a constant and even temperature within the chamber.

Designed for easy assembly/disassembly - easy to move from one location to another comes flat packed - no special tools required.

Equipped with direct drive shaking system for reliable, long-term operation.



Simple to programme time, temperature and shaking speed using clear 2-line, 16 character LCD.

Robust, compact construction with clear 7mm thick Plexiglass panels.

Option of five easily interchangeable platforms for a wide range of applications*.

* Platforms sold separately

Applications

- Life-sciences - suitable for growing cell cultures in flasks, extracting tissue samples at physiological temperatures, sample preparation processes, mixing of biological liquids as well as the incubation and cultivation of biological liquids, growing e-coli, bioluminescence preparation.

ES-80

Compact shaker-incubator

Stable and reliable with programmable time, temperature and shaking speed. The ES-80 orbital shaker-incubator is ideal for vigorous or even mixing and incubation of samples in a variety of flasks and vessels.

Temperature setting range: +25°C to 80°C

Variable speed: 50 – 250rpm

Digital control of time, temperature and shaking speed for accuracy and repeatability

Interchangeable platforms for shaking/incubating different vessels*

Load up to 8kg



Temperature control by microprocessor plus forced heated air circulator ensures a constant and even temperature within the chamber.

'Soft start' and stop protects samples.

Robust, compact construction with clear 7mm thick Plexiglass panels.

Equipped with direct drive shaking system for reliable, long-term operation.



Simple to programme time, temperature and shaking speed using clear 2-line, 16 character LCD.

Option of six easily interchangeable platforms for a wide range of applications*.

State of the art motor, thermal insulation materials and temperature PID-controls with clear 7mm thick Plexiglass panels.

* Platforms sold separately

Applications

- Life-sciences - cultivation of micro-organisms, cells and eukaryotic cells including animal, plant and insect cells, long-term cell growth projects, more vigorous shaking possible allowing other sample preparation processes including tissue sample extraction at physiological temperatures and up to 80°C, solubility studies, cell culture, staining/destaining, extraction procedures, gel washing, plasmid purification, bacterial suspension, hybridisation, protein expression in bacteria.

Shaker-Incubators

Options and accessories

			ES-20	ES-80
P12-100		Platform with clamps for 12 x 100-150 ml flasks/beakers Dimensions: 250 x 190 mm	•	-
PP4		Flat platform with non-slip rubber mat for Petri dishes and culture flasks Dimensions: 220 x 220 mm	•	-
P6-250		Platform with clamps for 6 x 250-300 ml flasks/beakers Dimensions: 250 x 190 mm	•	-
PUP-12		Universal platform, with adjustable bars. Dimensions: 270 x 195 mm HB-200 extra holding bars	•	-
P16-88		Platform with spring holders for up to 88 tubes, 30mm diameter	•	-
PP-400		Flat platform with non-slip rubber mat (360 x 400mm)	-	•
P30-100		Platform with clamps for 30 x 100-150ml flasks	-	•
P16-250		Platform with clamps for 16 x 250-300ml flasks	-	•
P9-500		Platform with clamps for 9 x 500ml flasks	-	•
P6-1000		Platform with clamps for 6 x 1000ml flasks	-	•
UP-168		Universal platform for different flasks Dimensions: 360 x 400mm	-	•
		Tight fit clamp for: 1 HSC-50 50 ml - Ø50 mm, 2 HSC-100 100 ml - Ø65 mm, 3 HSC-250 250 ml - Ø85 mm, 4 HSC-500 500 ml - Ø105 mm, 5 HSC-1000 1000 ml - Ø130 mm	-	•
TR-21/50		Adjustable tilt test tube rack for 2x 50ml tubes	-	•
TR-44/15		Adjustable tilt test tube rack for 44x 15ml tubes	-	•

Shaker-Incubators

Flask clamps

			ES-20	ES-80
FC-100		For 100ml flask	•	•
FC-250		For 250ml flask	•	•
FC-500		For 500ml flask	•	•
FC-1000		For 1000ml flask	•	•
FC-2000		For 2000ml flask	•	•

Shaker-Incubators

Technical specifications



		ES-20	ES-80
		Compact Shaker-Incubator	Shaker-Incubator
Dimensions	h x d x w mm	435 x 340 x 340	510 x 525 x 590
Weight	kg	13.2	41.1
Temperature range	°C	+25 to 42	+25 to 80
Temperature control range	°C	0.1	
Stability	±°C	0.5	
Temperature accuracy at 37°C	±°C	0.5	
Mixing speed control range	rpm	50-250 rpm	
Load capacity	kg	2.5	8
Display		2-line, 16 character LCD	
Orbit diameter	mm	10	20
Internal working dimensions (with installed platform) (d x w x h)	mm	260 x 305 x 250	450 x 390 x 300
Timer		1 minute to 96 hours / non-stop	
Power consumption	230V W	170 (1.6A)	450 (2A)
	120V W	160(0.7A)	-
Nominal operating voltage	V	120 or 230 (50/60Hz)	230 (50-60Hz)
Data Transfer		-	
Stacking		-	

Contact us today

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Densitometers

Densitometers

DEN-1 for 0.00 – 15.00 McFarland units

DEN-1B for 0.00 – 15.00 McFarland units, powered by battery or mains

Densitometers

Compact and efficient benchtop densitometers for measuring turbidity of cell suspensions in a variety of life-science applications.

The densitometers are designed and factory calibrated to measure turbidity in the range of 0.00 to 15.00 McFarland units (DEN-1 and DEN-1B) with a small standard deviation. The densitometers can deliver a wider measurement range (up to 15.00 McFarland units) with a greater standard deviation.

Measurement range: 0.00 to 15.00 McFarland units (DEN-1 and DEN-1B)

Precision: $\pm 3\%$

Measurement time: 1 second

Standard deviation at 3.00 McFarland units: ± 0.1 McF

User calibration option

Designed for tubes with an outer diameter of 18mm. 16mm tubes can also be accommodated by using the optional tube adaptor D16 (included).

Extremely compact design with small footprint and low profile - fits easily into the smallest workspace

DEN-1 and DEN-1B units are calibrated for operation in range 0.00-15.00 McF. (note: the standard deviation of the values increases).



Factory calibrated - retains calibration without power supply. Can be user calibrated with commercial standards or cell suspensions prepared in the laboratory.

Bright LED display readings conveniently shown in McFarland units, are clearly visible.

Powered by 3 x AA batteries (DEN-1B only) or via external 12v power supply.





Applications

- Life-science - typical applications include determining concentration of cells (bacterial and yeast cells) in the fermentation process, detecting the susceptibility of micro-organisms to antibiotics, identifying micro-organisms with various test systems, and measuring optical density at fixed wavelength.


Densitometers

Technical specifications

			
		DEN-1	DEN-1B
		Densitometers	
Dimensions	h x d x w mm	75 x 115 x 165	
Operating temperature	°C	+4 to 40	
Light source		LED	
Wavelength	nm	565 ±15	
Range	(McFarland units)	0.00 to 15.00	
Precision		±3%	
Measurement time	sec	1	
Tube diameter	external diameter mm	18	
	with D16 adaptor mm	16	
Sample volume	ml	>2	
Display/display resolution		LED/0.1 McF	LCD/0.01 McF
Independent power supply		-	3 x AA batteries (included with unit)
External power supply		Input AC 120–230V, 50/60Hz Output DC 12V	
Power consumption	230V W	1 (0.08A)	0.1 (0.007A)
	120V W		
Weight	kg	0.7	

PCV series

Options and accessories

		DEN-1	DEN-1B
DEN MCF STDS	Set of liquid McFarland standards in 16mm ø glass tubes. 0.5/1.0/2.0/3.0/4.0 can be decanted into an alternative tube (shelf-life no longer valid). Requires D16 adaptor, supplied with DEN-1/DEN-1B		•
D16	 Spare tube adaptor for tubes with 16mm outer diameter – included as standard		•

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