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DEN-1B, Densitometer (suspension turbidity detector)

Premium Product Class

DESCRIPTION

Densitometer is designed for measurement of cell suspension's turbidity in the range of 0.0–6.0 McFarland units (0 – 180×10^7 cells/ml).

Densitometers provide the opportunity to measure solution turbidity in a wider range (up to 15.0 McFarland units) however, it is necessary to remember that in this case the standard deviation values increase.

A densitometer is used for measurement of cell concentration (bacterial, yeast cells) during fermentation process, determination of microorganism sensitivity to antibiotics, microorganism identification using various test-systems, for measurement of absorption at the definite wavelength, as well as for quantitative estimation of concentration of colour solution, absorbing green light.

The operation principle is based on measurement of optical density with digital presentation of results in McFarland units. The unit is calibrated at the factory (for operation with 16 mm diameter glass tubes) and keeps calibration without power supply. However, if necessary it is possible to calibrate the unit by 2–6 points in 0.0–6.0 McFarland unit range. We recommend to use Biosan standards to ensure full reliability, but it is acceptable to use other commercial as well as self prepared standards (e.g. BaSO4). Possibility to restore factory calibration settings.



Following calibration kits are available on request:

- **CKG16** for glass tubes with diameter 16 mm, set of 0.5; 1.0; 2.0; 3.0; 4.0 McFarland Turbidity Standards (latex particles).
  Cat.Nr.: BS-050102-BK
- Calibration kit for glass tubes with diameter 18 mm, set of 0.5; 1.0; 2.0; 3.0; 4.0; 5.0 McFarland Turbidity Standards ($BaSO_4$).
  Cat.Nr.: 70900
- Calibration kit for glass tubes with diameter 12 mm, set of 0.0 (blank); 0.5; 2.0; 3.0 McFarland Turbidity Standards (latex particles).
  Cat.Nr.: 21255

Two versions of the product are available:

1. **DEN-1** powered from external energy supply;
2. **DEN-1B** powered both from external energy supply and from batteries (AA).

CAT. NUMBER

BS-050104-AAF	230VAC 50/60Hz Euro plug
BS-050104-AAK	100-240VAC 50/60Hz Multi plug (EU, UK, AU, US)
BS-050104-AK	IQ OQ document
BS-050104-BK	PQ document

SPECIFICATIONS

Measurement range	0.00–15.00 McF
Display resolution	0.01 McF
Light source	LED
Measurement wavelength (λ)	λ = 565 ±15 nm
Accuracy (0.0–6.0 McF)	±3%
Measurement time	1 s
Sample volume	not less than 2 ml
Tube external diameter	12 mm, 16 mm (using A-12, A-16 adapter) or 18 mm (without adapter)
Possibility to restore factory calibration settings	+
Display	LCD
Independent power supply	3 × AA batteries
Overall dimensions (W×D×H)	165 × 115 × 75 mm
Weight	0.7 kg
Input current/power consumption	12 V, 7 mA / 0.1 W
External power supply	Input AC 100–240 V, 50/60 Hz; Output DC 12 V
Standard set	External power supply, A-16 and 3 × AA batteries

ACCESSORIES



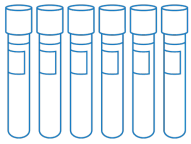
Glass test tubes 16mm
BS-050102-MK

Glass Test Tubes 16x100mm, high borosilicate, PP Cap with silicone pad.
Packing - 100 pcs/box



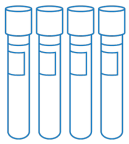
CKG16
BS-050102-BK
Calibration kit

CKG16 for glass tubes with diameter 16 mm, set of 0.5; 1.0; 2.0; 3.0; 4.0 McFarland Turbidity Standards (latex particles).



Calibration kit
70900
d18mm

McFarland Turbidity Standards, Ø18mm



Calibration kit
21255
d12mm

McFarland Turbidity Standards, Ø12mm



Glass test tubes 18mm
BS-050102-NK

Glass Test Tubes 18x100mm, high borosilicate, PP Cap with silicone pad.
Packing - 100 pcs/box



A-12
BS-050102-IK
adapter

A-12, adapter for work with tubes which are 12 mm in external diameter.