

DEN-1, Densitometer (suspension turbidity detector)



DESCRIPTION

Densitometer is designed for measurement of cell suspension's turbidity in the range of 0.3-5.0 McFarland units (100×10^6 - 150×10^7 cells/ml).

Densitometer provides 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 0.5-5.0 McFarland unit range. Both commercial standards (e.g. produced by BioMerieux, Lachema, etc.) and the cell suspensions prepared in a laboratory can be used for calibration. Possibility to restore factory calibration settings*

Following calibration kits are available on request:

- **CKG16** for glass tubes with diameter 16 mm (latex particles);
- **CKG18** for glass tubes with diameter 18 mm (polymer particles).

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). Besides, **DEN-1B** operates with higher precision of measurements (up to 0,01 McF).

*NEW FUNCTION

SPECIFICATION

Light source	LED
Measurement wavelength (λ)	$\lambda = 565 \pm 15$ nm
Measurement range	0.3-15.0 McF
Display resolution	0.1 McF
Accuracy, of the full scale	$\pm 3\%$
Measurement time	1 s
Sample volume	not less than 2 ml
Tube external diameter	16 mm (using A-16 adapter) or 18 mm (without adapter)
Possibility to restore factory calibration settings	+
Display	LED



A-16



CAT. NR.

	DEN-1 incl. A-16 adapter, external power supply unit
BS-050102-AAF	230VAC 50/60Hz Euro plug
BS-050102-AAK	230VAC 50/60Hz UK plug
BS-050102-AAK	230VAC 50/60Hz AU plug
BS-050102-AAK	100VAC 50/60Hz US plug
BS-050102-AAK	120VAC 60Hz US plug
-----	Optional accessories
BS-050102-BK	CKG16
BS-050102-CK	CKG18

BS-050102-DK	IQ OQ document
BS-050102-EK	PQ document

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Overall dimensions (W×D×H)	165 × 115 × 75 mm
Weight	0.7 kg
Input current/power consumption	12 V, 80 mA / 1 W
External power supply	Input AC 100–240 V, 50/60 Hz; Output DC 12 V
Standard set	External power supply, A-16

-----	Replacement parts
BS-050102-AK	A-16, adapter for 16 mm tubes