

Densitometers

DEN-1 and DEN-1B

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 0.3 to 15.0 McFarland units (DEN-1) 0.00 to >15.00 McFarland units (DEN-1B) with a small standard deviation. If required, they can deliver a wider measurement range (up to 15.00 McFarland units), but with a greater standard deviation.

- **Measurement range: 0.3 to 15.0 McFarland units (DEN-1), 0.00 to >15.00 McFarland units (DEN-1B)**
- **Measurement time: 1 second**
- **Precision: $\pm 3\%$**
- **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).

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

DEN-1 and DEN-1B units are calibrated for operation in range 0.3-15.0 McF and 0->15.00 McF, but it is possible to measure turbidity from 0McF to 15McF (note: the standard deviation of the values increases).



DEN-1B densitometer shown

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

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

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



Note: 1 McF unit is approximately equal to 3×10^8 CFU/ml

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 specification

• = optional

		Densitometers	
		DEN-1	DEN-1B
		 <p>h: 75mm d: 115mm w: 165mm weight: 0.7kg</p>	 <p>h: 75mm d: 115mm w: 165mm weight: 0.7kg</p>
Light source		LED	
Wavelength	nm	565 ±15	
Range	(McFarland units)	0.3 to 15.0	0.00 to 15.00
Precision		±3%	
Measurement time	sec	1	
Tube diameter,	external diameter	18	
	with D16 adaptor	16	
Sample volume	ml	>2	
Display/display resolution		LED/0.1 McF	LCD/0.01 McF
Operating temperature range	°C	+4 to 40	
Independent power supply		-	3 x AA batteries
External power supply		Input AC 120-230V, 50/60Hz Output DC 12V	
Input voltage	V dc	12	
Power consumption	W	1 (0.08A)	0.1 (0.007A)

Accessories

<p>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.</p>	•
<p>D16 spare tube adaptor for tubes with 16mm outer diameter. (included as standard)</p>	•