

DIGITAL DENSITOMETER MD 10



1. Charakteristics

MD 10 is a portable battery-powered densitometer, designed for the measuring of the optical density of technical radiograms using an external source of light - negatoscopes with a bulb source of light (without adaptations it cannot be used on negatoscopes with fluorescent tubes and with LED light). The densitometer is equipped with semiautomatic zero setting and the automatic switch-off of the device when not used for measuring. The measuring probe is connected to the device by means of a short cable and it is removable.

2. Technical Description

The densitometer consists of the measuring unit, the measuring probe and the shielded interconnection cable. The top side of the device bears an LCD display for displaying of the measured values and two control buttons. On the left side there is a hole under which the setting element for possible recalibration of the device is located. The connector for connection of the probe by means of the shielded cable is located on the front side of the device below the display. The measuring probe is a penciltype with black housing. The incident light on the sensing element is collimated, which enables point measuring of the optical density of the radiogram.

3. Technical Parameters

Measuring range	0 – 4.0 D
Resolution	0.01 D
Accuracy	±0.05 D (within the range 0 – 4.0 D)
Data on the display	Optical density , +/- , LOBAT
Zero setting range	> D
Zero holding time	Approx. 5 min., (+/- 0,01D)
Zero setting time	Max. 2 sec.
Value setting time	Max. 1.5 sec.
Diameter of the probe's hole	2 mm
Power supply – battery	9 V type IEC 6F22
Input: measuring / off	3.0 mA / 0,001 mA
Operating time (measuring)	Approx. 50 hours (normal battery)
Control 2 buttons	– [ZAP] – device switching ON/OFF – [0] – zero setting
Automatic switch-off	Approx. 5 minutes after the switch-on or after the last zero setting
Ambient temperature	5 – 35 °C
Air humidity	40 – 70%
Dimensions	85 x 145 x 40 mm
Weight	180 g (without the battery)

4. Recalibration of the Equipment

The densitometer enables recalibration in accordance with ASME SE-1079 or ASTM E 1079-85 ("Standard practice for calibration of Transmission densitometers") by means of the setting element located on the left side of the device (set up is possible by using of screwdriver of diameter 2,4 mm or less). The recommended interval for repeated checking of linearity or for recalibration of the device is 90 days.