

# DIGITAL DENSITOMETER HD-03

## Characteristics

HD-03 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). The densitometer is equipped with semi-automatic zero setting, the possibility of orientation check of the minimum brightness of the negatoscope 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.

## 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 three control buttons. Between the display and the buttons 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 and it is protected against spontaneous falling out. The measuring probe is a pencil-type with metallic black housing. The incident light on the sensing element is collimated, which enables point measuring of the optical density of the radiogram.

## 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 below the front panel (accessible through the hole above the buttons). The recommended interval for repeated checking of linearity or for recalibration of the device is 90 days.

## Subject of Delivery

- Evaluation unit of the densitometer HD-03U
- Measuring probe HD-03S
- Interconnection cable with connectors
- Battery 9V (type 6F22)
- User's Manual
- Certificate 2.2 of calibration
- Warranty Card



## 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 D–3 numbers 0.00 Sign - (setting of brightness) Indication of low battery
Zero setting range	> 1 D
Zero holding time	Approx. 5 min.
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	3.5 mA / 1.0 µA
Operating time (measuring)	Approx. 50 hours (normal battery)
Control	3 buttons – [ON] – device switching ON/OFF – [Lx] – negatoscope min. brightness – [0] – zero setting
Automatic switch-off	Approx. 8 minutes after the switch-on or after the last zero setting
Ambient temperature	5 – 35 °C
Air humidity	40 – 70%
Dimensions	80 x 145 x 38 mm
Weight	180 g (without the battery)