



# TIMPANI

Handheld tympanometer / Screening audiometer



## DESCRIPTION

Timpani is a handheld screening tympanometer capable of performing automatic tympanometry exam as well as, optionally licensed, acoustic reflexes test and screening pure tone audiometry.

The device features a wide color display with touchscreen interface.

## AVAILABLE TESTS

- Automatic Tympanometry @ 226 Hz (1000 Hz optional)
- Acoustic Ipsi-Reflex Test (optional)
- Automatic Test Sequence (tympanometry + reflex test, optional)
- Screening Pure Tone Audiometry (optional)

## MIDDLE EAR ANALYZER SPECIFICATIONS

### PROBE TONE

Frequency: 226 Hz  
 1000 Hz (optional)  
 Level: 85 dB SPL (@ 226 Hz)  
 75 dB SPL (@ 1000 Hz)

### COMPLIANCE MEASUREMENT SYSTEM

Measurement range: 0.2 ÷ 8.0 ml (@ 226 Hz)  
 0.9 ÷ 16.0 mmho (@ 1000 Hz)

### TYMPANOMETRY

Meatus compensated viewing mode  
 Single scan  
 Scan interval (choice): standard, from +200 to -400 a daPa  
 reduced, from +100 to -300 daPa  
 Safety limits: -750 daPa and +550 daPa  
 Scan rate: 400 daPa/sec  
 Auto start feature

### ACOUSTIC REFLEX TEST

Ipsilateral stimulation, probe tone @ 226Hz  
 Pulsed stimulus for reduced artifacts

Exam modes available:

- Automatic threshold
- Fixed intensity

Exam pressure:

- Automatic, between tympanogram peak pressure and peak pressure minus tympanogram width (or ambient pressure, when no peak found)

### AVAILABLE STIMULI AND LEVELS

Pure tones: 500Hz, 1000Hz, 2000Hz, 4000Hz  
 Attenuator step (selectable): 5 or 10 dB (automatic threshold)  
 5 dB (fixed intensity)  
 Minimum Intensity: 70 dB HL  
 Maximum intensity: 100 dB HL

## AUDIOMETER SPECIFICATIONS

### AVAILABLE OUTPUTS AND TRANSDUCERS

AC: supra-aural DD45, insert earphones ER-3C

### AVAILABLE STIMULI AND LEVELS

Stimulus: pure tone (see table)  
 Attenuator step: 5 dB  
 Minimum Intensity: -10 dB HL  
 Maximum Intensity and available frequencies:

| Frequency (Hz) | AC DD45 (dB HL) | AC ER-3C (dB HL) |
|----------------|-----------------|------------------|
| 125            | 60              | 70               |
| 250            | 80              | 90               |
| 500            | 90              | 95               |
| 750            | 100             | 100              |
| 1.000          | 100             | 100              |
| 1.500          | 100             | 100              |
| 2.000          | 100             | 100              |
| 3.000          | 100             | 100              |
| 4.000          | 100             | 100              |
| 6.000          | 90              | 80               |
| 8.000          | 85              | 70               |

## DEVICE SPECIFICATIONS

### PRINTER

Optional integrated Bluetooth thermal printer.  
 Paper dimensions: 58mm

### CALIBRATION

Validity: 12 months  
 All the parameters set through a dedicated software.

### COMPUTER INTERFACE

Connection: USB (driverless)  
 Compatible software: Inventis Maestro

### DISPLAY

Type: Graphical color TFT LCD, capacitive touchscreen  
 Size: diagonal 2.8", 43.2 x 57.6 mm  
 Resolution: 240 x 320 x RGB

### POWER SUPPLY

Internal battery: Lithium-Ion rechargeable battery  
 Battery life: more than 4 hours of continuous use  
 Main Unit: 5Vdc, 1.4A  
 External adapter USB dedicated: 100-240 Vac, 50/60 Hz, 0.3-0.15A, responding to IEC 60601-1 standard

### MECHANICS

Size (WxDxH): 65 x 44 x 240 mm / 2.6 x 1.8 x 9.5 in  
Weight: 340 g / 12 oz

### APPLICABLE STANDARDS

Impedance: IEC 60645-5 Type 2, ANSI S3.39 Type 3  
Pure tone audiometry: IEC 60645-1 Type 4, ANSI S3.6 Type 4  
Calibration: ISO 389-1, ISO 389-2  
Electrical safety: IEC 60601-1  
EMC: IEC 60601-1-2

### CE CERTIFICATE

MDR 2017/745/EU Classification: Class IIa  
Classification rule (Annex VIII, 2017/745): 10  
Notified body: TÜV SÜD Product Service GmbH (0123)

### PRODUCT CODES

11440: Timpani – Handheld tympanometer

### INCLUDED PARTS

- Main unit
- Assorted ear tips with cleaning brush
- USB cable
- Medical grade USB power supply
- Carrying case
- User manual

### OPTIONAL EXTENSION PACKAGES

- 11504: 1 kHz probe tone license (for tympanometry exam)
- 11505: Reflex license – Basic (Stimuli @ 1 kHz)
- 11506: Reflex license – Plus (Stimuli @ 0.5, 1, 2, 4 kHz)
- 11507: Screening Pure Tone Audiometry (only AC) – without transducers

### ACCESSORIES

- 11508: Docking station for Timpani

### OPTIONAL PARTS

- 11510: Headset for PTA with Timpani (DD45)
- 11511: Insert earphones for PTA with Timpani (ER-3C)
- 10506: Calibration cavities
- 11509: Bluetooth thermal printer for Timpani
- 11512: Patient response button for PTA with Timpani

### DISPOSABLES (with order code)

- 10488: White tips (diam. 6 mm) – Set of 30
- 10489: Pink tips (diam. 7 mm) – Set of 30
- 10490: Violet tips (diam. 8 mm) – Set of 30
- 10491: Green tips (diam. 10 mm) – Set of 30
- 10492: Red tips (diam. 12 mm) – Set of 30
- 10493: Blue tips (diam. 14 mm) – Set of 30
- 10494: Orange tips (diam. 16 mm) – Set of 30
- 10495: Light blue tips (diam. 18 mm) – Set of 30
- 10496: Yellow tips (diam. 21 mm) – Set of 30
- 10511: Box with assorted tips – Set of 160
- 11517: Thermal paper for Bluetooth printer (box of 5 rolls)
- 10554: Cleaning brushes for the tympanometer probe

Timpani is designed by:

#### INVENTIS S.r.l.

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