



Clarinet Basic - Plus

CLINICAL MIDDLE EAR ANALYZER



DESCRIPTION

Clarinet is a clinical middle ear analyzer, capable of performing automatic and manual tympanometry as well as acoustic reflex threshold.

CLASSIFICATION

IEC 60645-5 / ANSI S3.39: Type 1

PROBE TONES

Frequency: 226 Hz
 678, 800, 1000 Hz (Clarinet Plus only)
 Level: 85 dB SPL (@ 226 Hz)
 80 dB SPL (@ 678 Hz)
 75 dB SPL (@ 800, 1000 Hz)

ADMITTANCE MEASUREMENT SYSTEM

Measurement range: $-2 \div 8.0$ mmho (@ 226 Hz)
 $-4 \div 16.0$ mmho (@ 678, 800 and 1000 Hz)

PRESSURE SYSTEM

Rotary type pump with endless flow

AVAILABLE TESTS

- Tympanometry (automatic and manual)
- Multi-component tympanometry (Plus only)
- Acoustic Reflex Threshold (automatic and manual)
- Acoustic Reflex Decay
- Acoustic Reflex Latency
- Eustachian Tube Function (intact and perforated TM)

TYMPANOMETRY

Viewing mode: absolute or compensated
 Measured components: Admittance [Y]
 Susceptance [B] (Clarinet Plus only)
 Conductance [G] (Clarinet Plus only)
 Single or multiple scan (up to 3)
 Selectable sweep direction
 User selectable pressure range
 Maximum range: -600 to $+400$ daPa
 Safety limits: -800 daPa and $+600$ daPa
 Available rates: 15, 50, 100, 200, 300, 400, 600 daPa/sec and AUTO (200-600 daPa/sec)
 Manual pressure adjustment
 Auto start feature

ACOUSTIC REFLEX TEST

Ipsilateral and contralateral stimulation
 Non-acoustic stimulation
 Stimulus ON-Time: selectable from 0.5s to 2.5s
 Stimulus OFF-Time: selectable from 0.5s to 2.5s
 Four different tests available:

- Automatic threshold
- Fixed intensity
- Growing intensity
- Manual mode

ACOUSTIC REFLEX DECAY TEST

Ipsilateral and contralateral stimulation
 Non-acoustic stimulation
 Test duration: 10 sec or 20 sec (selectable)

ACOUSTIC REFLEX LATENCY TEST

Ipsilateral and contralateral stimulation
 Stimulus ON-Time: selectable from 0.3s to 1.7s
 Stimulus OFF-Time: selectable from 0.3s to 1.7s
 ON-Rate and OFF-Rate measurement: rate of the acoustic reflex slopes

EUSTACHIAN TUBE FUNCTION TEST

ETF with TM intact: Williams test
 ETF with perforated TM: Toynbee test, with customizable duration and pressure range

QUICK TESTS

Two user programmable Quick tests available
 Each test consists of a sequence of

- Tympanometry
- Reflex test (Fixed intensity or Automatic threshold, with user defined parameters)

AVAILABLE STIMULI AND MAXIMUM LEVELS

Attenuator step: 1, 2 and 5 dB

Stimulus	IPSI (dB HL)	CONTRA TDH39 / DD45 headphone (dB HL)	CONTRA IME-100 earphone (dB HL)
250 Hz	-	100	100
500 Hz	100	120	110
1,000 Hz	110	120	115
2,000 Hz	105	120	110
3,000 Hz	105	120	110
4,000 Hz	100	120	110
6,000 Hz	100	105	100
8,000 Hz	-	100	-
BBN	95	115	105
LPN	95	115	105
HPN	95	115	105

PRINTER

Optional integrated thermal printer
 Paper size: 112 mm

CALIBRATION

Validity: 12 months
 All the parameters set through the device software

COMPUTER INTERFACE

Connection: USB (driverless)
Compatible software: Inventis Maestro

DISPLAY

Type: Graphical color TFT LCD
Size: diagonal 7", 150 mm x 90 mm
Resolution: 800 x 480
Resistive touch screen

POWER SUPPLY

Without integrated printer:

Main Unit: 6V, 1.67A dc.
External Adapter: Medical grade 100-240 Vac 50/60 Hz 0.9-0.34A

With integrated printer:

Main Unit: 6V, 3.6A dc.
External Adapter: Medical grade 100-240 Vac 50/60 Hz 0.9-0.34A

MECHANICS

Without integrated printer:

Size (WxDxH): 32 x 32 x 15 cm / 12.6 x 12.6 x 5.9 in
Weight: 2.0 kg / 4.4 lbs

With integrated printer:

Size (WxDxH): 32 x 39 x 15 cm / 12.6 x 15.4 x 5.9 in
Weight: 2.5 Kg / 5.5lbs

FREIGHT PACKING

Size (WxDxH): 47 x 42 x 35 cm / 18.5 x 15.8 x 13.8 in
Gross weight (without printer): 4.4 Kg / 9.7lbs
Gross weight (with printer): 4.9 Kg / 10.8lbs

APPLICABLE STANDARDS

Impedance: IEC 60645-5 / ANSI S3.39
Calibration: ISO 389-2 (IPSI), ISO 389-1 (CONTRA TDH-39 / DD45),
ISO 389-2 (CONTRA IME-100)
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

10517: Clarinet model Basic
10518: Clarinet model Basic – With integrated thermal printer
10542: Clarinet model Plus
10543: Clarinet model Plus – With integrated thermal printer

INCLUDED PARTS

- Main Unit
- Control unit with probe
- Shoulder strap for probe control box
- Wrist strap for probe control box

- Single TDH-39 or DD45 contralateral headset or contralateral insert earphone
- Calibration cavities
- Assorted ear tips box
- 3pcs heat-sensitive paper rolls (only for models with printer)
- Plastic cover sheet
- Medical grade power supply
- USB connection cable
- User manual

OPTIONAL PARTS (with order code)

- 10342: Insert earphone for contra reflex testing
- 10182: Soft carrying case
- 11672: Handheld support for Inventis tympanometers probe

DISPOSABLES (with order code)

- 10293: Thermal paper for printer (box of 5)
- 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
- 10554: Cleaning brushes for the tympanometers probe

Clarinet is developed by:

INVENTIS S.r.l.

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