

# r36m

CLINICAL MIDDLE EAR ANALYZER

## PRODUCT SPECIFICATIONS



Please contact Resonance should you have any questions:  
support@resonance-audiology.com

### GENERAL SPECIFICATIONS

#### DIMENSIONS AND WEIGHT

- L x W x H: 370 x 290 x 180 mm
- Net weight: 3.5 kg

#### TEST TYPES

Tympanometry, Acoustic Reflex, Reflex Decay, nr. 3 Quick Test, Acoustic Reflex Latency Test (ARLT), ETF (Intact, Perforated and Patulous), Special tests (Growth-DLI and Non-acoustic)

#### DISPLAY

- 7" TFT Color display

#### USER INTERFACE

- Multilingual

#### PRINTER

- Built-in fast thermal printer with paper width: 112 mm supplied as standard part

#### REPORTS

- Printed on thermal printer
- .pdf report created directly from the device and stored on USB Pen drive with possibility to add patient data and tests comments via the USB Keyboard (optional)
- Data transfer to PC using Resonance Management Data Suite

#### "CHILDREN" FEATURE

- To help keep the child involved while running screening "Quick Check" a series of animated images appears on the color display

#### DATA TRANSFER TO PC

- Via cable through USB port

#### COMMUNICATION PORT

- Nr.1 USB host type A
- Nr.1 USB slave type B

#### WINDOWS® COMPATIBLE SOFTWARE

- Resonance MDS Management Data Suite

### POWER

#### POWER SUPPLY

- 110 - 240 V AC 50/60 Hz 40 VA
- Fuses: 2 x T 1 A L 250 V

#### CONSUMPTION

- Max current: 0.15A
- Power consumption: 40VA

### ENVIRONMENTAL

#### OPERATING ENVIRONMENT

- Storage: -20° C up to +50° C
- Operating: +15° C up to +35° C
- Humidity: up to 90%, (non-condensing)
- Ambient pressure: from 700hPa up to 1060hPa

### TYMPANOMETRY OPERATING SPECIFICATIONS

#### PROBE TONE

- 226 Hz for tympanometry

#### INTENSITY

- 226 Hz: 85 dB SPL  $\pm$  2 dB
- Frequency Accuracy:  $\pm$  0.5%
- Harmonic distortion: Less than 1%

#### ADMITTANCE MEASUREMENTS

- Compliance range at 226 Hz: 0.05 up to 7 ml
- Sensitivity scale: Autoscale to appropriate range; available scale at 226 Hz: 1.5, 2, 5 or 7 ml

#### AIR PRESSURE

- Control: Automatic and Manual
- Range: from +400 up to -600 daPa adjustable in 50 daPa steps
- Pressure accuracy:  $\pm$ 10 daPa or  $\pm$ 10%
- Sweep rate: 50, 100, 200, 300 daPa/sec and automatic
- Indicator: Measured value is displayed
- Safety limitations: -800 up to +600 daPa

#### EUSTACHIAN TUBE FUNCTION

- ETF test for use with both intact and perforated eardrums
- Available also test for patulous tympanic membrane

#### ACOUSTIC REFLEX TESTS

- Reflex test method: Threshold, Automatic, Manual
- Stimulus duration: 0.5, 1 or 2 sec.
- User selectable protocols for all test methods
- Ipsi or Contralateral stimulation for all reflex test
- Automated peak search functions available for all test methods
- Manual Reflex: Pump manual control of all stimuli
- Reflex Decay: Threshold, Automatic, Manual
- Stimulus duration: 10 or 20 sec.
- ARLT: Threshold, Automatic, Manual
- Stimulus duration: 1 sec. fixed
- Non-Acoustic: 10/20 sec.

#### FREQUENCIES AND INTENSITY RANGES

Ipsilateral:

- Pure tone level range (dB HL) from 50 to 110
- Noise level range (dB SPL) from 50 to 100
- Frequency: 500, 1000, 2000, 3000, 4000 Hz
- Noise: BBN, HP or LP
- Frequency accuracy:  $\pm$ 1%
- Harmonic distortion (THD): less than 3%

Contralateral:

- Pure tone level range (dB HL) from 50 to 120
- Noise level range (dB SPL) from 50 to 115
- Frequency: 250, 500, 1000, 2000, 3000, 4000, 6000, 8000 Hz
- Noise: BBN, HP or LP
- Frequency accuracy:  $\pm$ 1%
- Calibration accuracy  $\pm$ 3 dB

- Level steps: 1, 2, 5 or 10 dB
- On/Off ratio: 70 dB minimum

### QUALITY SYSTEM

Manufactured, designed, developed and marketed under an ISO 13485, ISO 9001 certified quality system. Medical CE mark and FDA approval.

### COMPLIANCE/REGULATORY STANDARDS

Designed, tested and manufactured to meet the European and International Standards:

- MDD 93/42/EEC and its revised versions: Class IIa (as referred to in Annex IX, rule 10 of said MDD 93/42 EEC)
- Safety: IEC 60601-1, 3rd edition, Class 1 Type B
- EMC: IEC 60601-1-2
- Impedance: IEC 60645-5/ANSI S.3.39 Type 1

### STANDARD ACCESSORIES

- Probe 226 Hz
- Headband and probe handle
- Probe cleaning tool kit
- DD45 for Contra
- Insert for Contra
- Kit of assorted ear tips; size from 6 mm up to 15 mm
- Calibration cavity with probe holder
- Built-in fast thermal printer
- Thermal paper roll
- Device dust cover
- Multilingual Quick user's handbook
- Pen Drive
- Resonance® MDS software with NOAH® module included (demo version)
- Power supply cable (110 – 220V)
- Spare fuse

### OPTIONALS

- Kit of assorted silicone ear tips "MS" shape size from 8 mm up to 16 mm
- External USB Keyboard
- Carrying bag
- TDH39 for Contra
- MDS software license

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