

TYMPSTAR PRO

TECHNICAL SPECIFICATIONS

DIMENSIONS AND WEIGHT

W x D x H: 16 in x 11 in x 14.5 in (41 cm x 28 cm x 37 cm)

Weight: 12 lb (5.5 kg)

Test Types: Tympanometry, Acoustic Reflex Threshold and Decay, Eustachian Tube Function (Intact, Perforated, and Patulous)

Optional Test Types: WideBand Tympanometry, Multi-Hz and ARLT

Protocols: Diagnostic, Screening, Multi-component Tympanometry, Auto Sequence, and User Defined

Display: Internal color touch screen and optional external HDMI monitor

Interface: USB (keyboard, mouse, Flash Drive, PC communications)

Printout: External printer

Probe Tone:

- 226 Hz (85 dB SPL \pm 1.5 dB)

- 678 Hz (72 dB SPL \pm 1.5 dB)

- 1000 Hz (69 dB SPL \pm 1.5 dB)

- Accuracy: \pm 1%

- Harmonic Distortion: Less than 1%

ADMITTANCE MEASUREMENTS

WideBand Click:

- 226 to 8000 Hz

- 21.5/s

- 96 dB peSPL (infant/ < 6 months)

- 100 dB peSPL (adult/ ≥ 6 months)

Range: 226 Hz (-10 to +10 mmho) 678 Hz (-21.0 to +21 mmho) 1000 Hz (-32.0 to +32 mmho)

Sensitivity Scale: Auto scales to appropriate range, manual selection also possible in Reflex Modes only

Accuracy (226 Hz):

- Tymp Mode:** \pm 5% of reading or \pm 0.1 mmho, whichever is greater

- Reflex Mode:** \pm 5% of reading or \pm 0.02 mmho, whichever is greater

PRESSURE MEASUREMENTS

Range: Normal = +200 to -400 daPa, Wide = +400 to -600 daPa

Accuracy: \pm 10% of reading or \pm 1 daPa, whichever is greater

Sweep Rate: 12.5, 50.0, 200, 600 and 600/200 daPa/sec and manual

Sweep Accuracy: 10% of nominal rate

Maximum Limits (in 0.5cc cavity): -800 daPa and +600 daPa

Volume Range Vea: 0.2 to 10 cm³

REFLEX MEASUREMENTS

Stimuli: 250, 500, 1k, 2k, 4k, BBN, LBN, HBN, click, external input, non-acoustic

Frequency Accuracy: \pm 3%

Harmonic Distortion (THD): Less than 5% (measured acoustically)

Noise Signals: (3 dB bandwidths)

Low Band: 400 -1600 Hz

High Band: 1,600 -4000 Hz

Broad Band: 400 -4000 Hz

Intensity Range: 35 to 120 dB HL

Step Size: 5 dB, 1 dB and 2 dB

Calibration Accuracy: \pm 3 dB

Step Accuracy: \pm 0.5 dB

ON/OFF Ratio: 70 dB minimum

STANDARD ACCESSORIES

- Probe assembly (including contralateral insert phone)
- Ear tip sample kit
- Calibration test cavity
- Cleaning kit
- Probe mount kit (shoulder, clip, wrist band)
- User Quick Guide
- Reference Instruction Manual

ENVIRONMENTAL

Storage: +32° F (0° C) to +122° F (50° C)

Operating: +59° F (+15° C) to +95° F (+35° C)

Transport: -4° F (-20° C) to +122° F (+50° C)

Humidity: 90% at 95° F (+40° C)
(non-condensing)

Atmospheric Pressure: 98 kPa to 104 kPa

POWER

Power Consumption: 60 Watts Maximum

Input Voltage: 100-240 VAC

Input Frequency: 50-60 Hz

Average Operating Current Idle: 220 mA

Average Operating Current Running Test: 290 mA

QUALITY SYSTEM

Manufactured, designed, developed, and marketed under an ISO 13485 certified quality system

COMPLIANCE

- Designed, tested, and manufactured to meet the following domestic (USA), Canadian, European, and International Standards:
- IEC 60601-1, EN 60601-1 International Standards for Medical Electrical Equipment
- CAN/CSA-C22.2 No. 60601-1
- ANSI S3.39, IEC 60645-5, ISO 389
- Medical Device Directive (MDD) 93/42/EEC

