GSI 39

AUDIOMETRY
TYMPANOMETRY
COMBINED
THE PERFECT FIT FOR
HEARING SCREENING

GSI 39
AUDIOMETRY AND TYMPANOMETRY
The GSI 39™ is a flexible screening product for tympanometry, acoustic reflex measurements, and audiometry to meet your testing needs today and in the future. The GSI 39 is available in five different versions. Choose your needed features today and upgrade your device with additional features as your needs change in the future.

GSI SUITE OFFERS
REPORTING AND COUNSELING
With one button press, test results are transferred from the GSI 39 to GSI Suite software where audiometric, tympanometric, and OAE test results may be combined into a single comprehensive report. Counseling overlays such as the speech banana or hearing loss levels assist the clinician with explaining the results to the patient and family members.
KEY FEATURES

MULTIPLE PROBE TONES
Probe tones of 226 Hz and 1000 Hz are available. Normative ranges for middle ear pressure and admittance are included.

SCREENING AUDIOMETRY
Air conduction screening from 125 to 8000 Hz. Steady, Pulsed, and FM provide a variety of interesting test stimuli to accommodate all screening environments.

5 AVAILABLE VERSIONS
Flexible options that include tympanometry at 226 Hz, 1000 Hz, ipsilateral and contralateral reflex screening, and audiometry in any combination.

IPSI AND CONTRA REFLEX SCREENING
Quickly screen for the presence of ipsilateral or contralateral acoustic reflexes at up to four frequencies.

STAND-ALONE PC ENABLED
Have the reliability of a stand-alone device with the ability to be EMR/EHR compatible. A single button press transfers tympanometric and audiologic data for advanced reporting options.

PRINTING OPTIONS
Use the on-board printer or connect to GSI Suite to print results.
BENEFITS

MULTIPLE CONFIGURATIONS
Accommodate a variety of testing needs with five versions. Combine tympanometry, ipsi and contra reflex screening, and screening audiometry to quickly assess middle ear function, neural integrity, and hearing level in patients of all ages.

RELIABILITY YOU CAN TRUST
GSI has a history of manufacturing products that are designed for durability. Enjoy the flexibility of a portable, stand-alone device with an internal printer or connect to a PC for seamless EMR/EHR transfer.

TESTING TAKES SECONDS
As soon as the probe tip obtains a seal in the ear canal, the tympanogram will automatically begin. Pressure sweep is 600/200 daPa per second, which provides a fast and accurate picture of the middle ear function.
TECHNICAL SPECIFICATIONS

DIMENSIONS AND WEIGHT

W x D x H: 12.5 in x 14.5 in x 4.7 in
(31.75 cm x 36.83 cm x 11.94 cm)

Weight: 5 lb - unit and probe (2.27 kg)
Shipping W x D x H: 19.5 in x 22.5 in x 8.25 in
(49.53 cm x 8.86 cm x 20.96 cm)
Shipping Weight: 13.1 lb (5.94 kg)

GSI 39 PROBE – 226 HZ PROBE TONE

TYMPANOMETRY AND REFLEX MODES

TYMPANOMETRY AND REFLEX MODES

PROBE TONE

Frequency: 226 Hz +/- 2%
Intensity: 85.5 dB SPL +/- 2.0 dB
Harmonic Distortion: < 3%

COMPLIANCE

Range: 0.0 to 1.5 cm3 and 0.0 to 3.0 cm3
Accuracy: +/- 5% or +/- 0.1 cm3, whichever is greater

PRESSURE

Range: +200 to -400 daPa
Accuracy: +/- 10 daPa or 15%, whichever is greater,
measured in 0.5 to 2.0 cc cavities
Sweep Rate: 600 daPa/sec slowing to 200 daPa/sec
near tympanogram peak - 226 Hz only, 200 daPa/sec
- 1 kHz only
Sweep Direction: Positive to negative
Gradient: Tymp pressure width at 50% of peak compliance
Test Time: 1 to 3 seconds
REFLEX (226 HZ PROBE TONE)

Frequencies: 500, 1000, 2000, and 4000 Hz
Accuracy: +/- 3%

Total Harmonic Distortion: < 5% (+/- 10% at 110 dB HL)
Rise/Fall Times: 5 to 10 msec
Output Levels: 80-110 dB HL
Step Size: 10 dB
Pressure: Automatically set to ambient pressure
(0 daPa) to provide better definition
of the peak compliance
TEST TIME: 2 to 12 seconds

COMBO PROBE – 226 HZ AND 1 KHZ PROBE TONES

TYMPANOMETRY AND REFLEX MODES

226 HZ PROBE TONE

Frequency: 226 Hz, 1000 Hz +/- 2%
Intensity: 85.5 dB SPL +/- 2.0 dB
Harmonic Distortion: < 3%

1 KHZ PROBE TONE

Frequency: 1 kHz Hz +/- 2%
Intensity: 75 dB SPL +/- 2.0 dB
Harmonic Distortion: < 3%

COMPLIANCE (226 HZ)

Range: 0.0 to 1.5 cm3 and 0.0 to 3.0 cm3
Accuracy: +/- 5% or +/- 0.1 cm3, whichever is greater

ADMITTANCE (1 KHZ ONLY)

Range: 0.0 to 5.0 mmHg and 0.0 to 10.0 mmHg
Accuracy: +/- 5% or +/- 0.3 mmHg, whichever is greater

PRESSURE

Range: +200 to -400 daPa
Accuracy: +/- 10 daPa or 15%, whichever is greater,
measured in 0.5 to 2.0 cc cavities
Sweep Rate: 600 daPa/sec slowing to 200 daPa/sec
near tympanogram peak - 226 Hz only, 200 daPa/sec
- 1 kHz only
Sweep Direction: Positive to negative
Gradient: Tymp pressure width at 50% of peak compliance
Test Time: 1 to 3 seconds
REFLEX (1 KHZ PROBE TONE)

Frequencies: 500, 1000, 2000, and 4000 Hz
Accuracy: +/- 3%

Total Harmonic Distortion: < 5% (+/- 10% at 110 dB HL)
Rise/Fall Times: 5 to 10 msec
Output Levels: 80-100 dB HL
Step Size: 10 dB
Pressure: Automatically set to ambient pressure
(0 daPa) to provide better definition
of the peak compliance

AUDIOMETRY MODE

FREQUENCIES

125, 250, 500, 750, 1000, 1500, 2000, 3000, 4000,
6000, and 8000 Hz
Accuracy: +/- 2%

Total Harmonic Distortion: < 2.5%
Rise/Fall Times: 20 to 50 msec
LEARNING LEVEL RANGE

Air Conduction: -10 to 100 dB HL
Step size: 5 dB
Accuracy:
- 125 to 4000 Hz +/- 3 dB
- 6000 to 8000 Hz +/- 5 dB
Signal to noise: > 70 dB

TONE PRESENTATION:
Continuous: Steady on when Present bar is depressed
Pulsed: 2.5/ sec (200 msec ON, 200 msec OFF)
FM (frequency modulated or warble tone):
- +/- 5%, 5 Hz

PRINTER

4 inch thermal printer
Speed: 2 audiograms + 2 tympan/reflex (4 frequencies),
< 1 minute

DISPLAY

240 x 64 graphical, monochrome LCD

STANDARD ACCESSORIES

Probe assembly (Standard - 226 Hz only or
Combo - 226 Hz and 1 kHz)
Power module + power cord
Test cavity
Eartips (probe) 6 sizes, 2 each
Paper – 3 rolls thermal, 4"
User manual
Quick reference guide
Wall chart – 226 Hz
Eartips (contra), 8 sizes, 4 ea.; versions 2 and 3
Contra phone; versions 2 and 3
DD 45 headset; versions 3 and 4
Eartips (8mm, 25 ea.); combo probe only
Probe shoulder mount; combo probe only
Probe cleaning kit; combo probe only
GSI Suite

ENVIRONMENTAL

Operating Temperature: +59° F (15° C) to +104° F
(40° C)
Storage Temperature: -93° F (-90° C) to +149° F
(65° C)
Operating Humidity: 15% to 95%
Operating Ambient Pressure: 98 kPa to 104 kPa

POWER

Universal, auto-ranging power supply: 100 to 240V +/- 10%; 50 to 60 Hz +/- 5%; 16 W maximum
while printing

QUALITY SYSTEM

Manufactured, designed, developed and marketed under ISO 13485 certified quality systems.

COMPLIANCE

TYMPANOMETRY AND REFLEX MODES

PROBE TONE

• IEC/EN 60601-1 Medical Electrical Equipment
  Requirements for Safety
• CSA C22.2 No.601-1-M90
• ANSI S3.39 Aural Acoustic Impedance
  Admittance (Type 3)
• IEC 60645-5 Aural Acoustic Impedance/
  Admittance (Type 3)
• ANSI S3.6 Audiometers (Type 4)
• IEC 60645-1 Pure Tone Audiometers (Type 4)
• Specifications for Audiometers (Type 4)
• PTB Certificate No. 15.11-94/53 Pure Tone
  Audiometers (Type 4)
• GL2005-00014 Guidelines for Manual Pure-Tone
  Threshold Audiometry