

Specifications

STANDARDS:

IEC 601-1 Medical Electrical Equipment Requirements for Safety
CSA C22.2 No. 601-1-M90 Electromedical Equipment,
Warnock Hersey Listed

ANSI S3.39-1987 Aural Acoustic Impedance Admittance (Type 3)

IEC 1027-1991 Aural Acoustic Impedance/Admittance (Type 3)

ANSI S3.6-1989 Audiometers (Type 4)

IEC 645-1 Pure Tone Audiometers (Type 4)

TYMPANOMETRY/REFLEX MODES:

Probe Tone: 226 Hz, $\pm 3\%$

Sound Pressure Level: 85.5 dB SPL, ± 2.0 dB,
measured in a 2.0 cm³ coupler

Harmonic Distortion: <5%

Admittance (Compliance) Range: 0 to 1.5 cm³
0 to 3.0 cm³

NOTE:

1. The range is automatically selected based upon the amplitude of the compensated (tympanogram only) tympanogram.
2. The maximum uncompensated (ECV + tympanogram peak) admittance (compliance) range is 0 to 5.0 cm³.
3. ECV/cavity limits for initiating pressurization is 0.2 to 6.0 cm³.

Compliance Accuracy: ± 0.1 cm³ or $\pm 5\%$, whichever is greater

PNEUMATIC SYSTEM

Pressure Range: +200 to -400 daPa

NOTE:

1. 1 daPa = 1.02 mm H₂O
2. Pressure sweeps to at least -100 daPa. To save test time, pressure sweep stops once tympanogram returns to baseline after -100 daPa.
3. Full pressure sweep for 6 cm³ from sea level to 7000 ft. altitude with no leak.

Pressure Accuracy: ± 10 daPa or $\pm 15\%$, whichever is greater

Rate of Sweep: 600 daPa/sec except near tympanogram peak where sweep rate slows to 200 daPa/sec to provide better definition of peak compliance.

Direction of Sweep: Positive to negative

Tympanometric Test Time: approximately one second

NOTE:

High compliance tympanograms will take somewhat longer

Gradient: Tympanogram pressure width at 50% of peak compliance.

ACOUSTIC REFLEX STIMULI:

Frequencies: 500, 1000, 2000, and 4000 Hz

Accuracy: ±3%

Total Harmonic Distortion: <5%

Rise/Fall Time: 5 to 10 msec

Output Levels:

IPSI: 500 and 4000 Hz: 80, 90, 100 dB HL

1000 and 2000 Hz: 85, 95, 105 dB HL

NOTE:

1. Ipsi stimuli are time multiplexed with probe tone (106 msec ON, 53 msec OFF).
2. Stimuli are presented at lowest level first. If there is no response, the intensity is increased by 10 dB until a response is detected or the maximum dB HL is reached.

Pressure: Automatically set to pressure at peak compliance with an offset of -20 daPa.

Reflex Determination: Compliance change of 0.05 cm³ or greater.

Reflex Test Time: 1 to 12 seconds depending upon the number of ipsi test frequencies selected (four maximum) and intensity required.

Probe LED Indicators:

Steady yellow: occlusion

Blinking green: ready to start testing

Steady green: test in progress

Steady orange: leak

AUDIOMETRY MODE (Model No. 26230, No. 26230-RS, No. 26235 and No. 26235-RS only— marked "Version 4")

Frequencies: 125, 250, 500, 750, 1000, 1500, 2000, 3000, 4000, 6000, 8000 Hz

Accuracy: $\pm 3\%$

Total Harmonic Distortion: $< 3\%$ (125 to 3000 Hz measured acoustically at maximum dB HL; 4000 & 6000 Hz measured electrically)

Intensity Levels: 125 Hz: -10 to 50 dB HL

500 to 6000 Hz: -10 to 90 dB HL

250 and 8000 Hz: -10 to 70 dB HL

NOTE:

An additional +10 dB is available per frequency via the +10 dB button.

Accuracy: 125 to 4000 Hz ± 3 dB

6000 and 8000 Hz ± 5 dB

Step Size: 5 dB

Signal-to-Noise Ratio: > 70 dB in 1/3 octave;

less than -10 dB HL for levels less than 60 dB HL

Rise/Fall Time: 20 to 50 msec

Tone Format (tone is normally off until present bar is depressed):

Continuous: steady when present bar is depressed

Pulsed: 2.5/sec (i.e., 200 msec ON, 200 msec OFF)

FM (frequency modulated): 5 Hz, $\pm 5\%$

TRANSDUCERS

IPSI: Welch Allyn design

Audiometric Headset: Pair TDH-39 earphones with MX41AR cushions (60 ohms impedance)—Models No. 26230, No. 26230-RS, No. 26235 and No. 26235-RS only (marked "Version 4")

PRINTER

Paper Roll Length: approximately 80 feet (960")

Tests/Roll: Tympanometry and Reflex = 420 tests or 210 people

Tympanometry and Reflex plus one audiogram =
230 tests or 115 people

Speed: approximately 1.5 minutes to print three screens (including audiogram).

POWER

Line Voltage: 120 V ($\pm 10\%$) or 220 V ($\pm 10\%$) or 240 V ($\pm 10\%$)

NOTE:

Wall mount power supply or internal power supply depending upon country.

Frequency Range: 50 to 60 Hz ($\pm 5\%$)

Line Voltage Current: 0.2 amps at 120 V or 0.1 amps at 240 V AC

Power Consumption: 15 watts maximum while printing.

Low voltage input for wall mount power supplies 10 to 11 VDC
970 mA.

ENVIRONMENTAL

Temperature:

Operating: 60° F to 105° F Storage: -40° F to 140° F
15° C to 40° C -40° C to 60° C

NOTE:

Warm-up time is required if storage temperature is different from room temperature.

Humidity: 5% to 90%

MECHANICAL

Dimensions: 13.15" W x 14.5" D x 4.3" H

33.66 cm W x 35.56 cm D x 9.53 cm H

Weight: 10 lbs (4.5 kg) net

14 lbs (6.4 kg) shipping

SUPPLIED ACCESSORIES

Instruction Manual

TDH-39 Headset

(Models #26230/#26235 Only)

Test Cavity

Eartips (6 sizes, 2 each)

Paper — 3 rolls thermal 4"
(10.16 cm wide)

CATALOG NUMBERS

#1738-0101

#23223

#26241

#26100

OPTIONAL ACCESSORIES

Carrying Case	#05260
Dust Cover	#26240
Earphone Sound Enclosures	#23222
Eartips	
8mm,1 box of 25	#26008
11mm,1 box of 25	#26011
13mm,1 box of 25	#26013
15mm,1 box of 25	#26015
17mm,1 box of 25	#26017
19mm,1 box of 25	#26019
Replacement Paper (5 rolls/box)	#52600
Patch Cord (1)	#23221
Response Handswitch	#23220
RS-232 Cable Adaptor (DB-25 M/ DB-09 F)	#26244
RS-232 Cable (10'-DB-25 M/F straight through)	#26243

CATALOG NUMBERS

CATALOG LISTING	WITHOUT RS-232 PORT	WITH RS-232 PORT
TM 262 Auto Tympanometer with Ipsi Reflex (North America)	#26200	#26200-RS
TM 262 Auto Tympanometer with Ipsi Reflex (export , specify country and voltage)	#26205	#26205-RS
TM 262 Auto Tympanometer with Ipsi Reflex and Manual Audiometer (North America)	#26230	#26230-RS
TM 262 Auto Tympanometer with Ipsi Reflex and Manual Audiometer (export , specify country and voltage)	#26235	#26235-RS