

touchTymp MI 24

The first in our ALL-TOUCH impedance line

A new generation of intuitive impedance testing.

Simply intuitive

5.1.p. The touchTymp combines a full 10.4" touchscreen interface and an innovative icon structure for amazingly intuitive *5.3.p.* handling. The large colour display allows the user to easily change parameters with a maximum of 3 clicks. touchTymp simply improves every professional's daily workflow.

Patient-focused testing

Designed to help the user remain focused on the patient rather than on the measurement - the unique light bar on the ergonomic and responsive probe provides a real-time progression of the test. Plus, advanced light indicators show which ear is tested and the test result.

Comprehensive test protocols

The touchTymp MI 24 provides comprehensive standard protocols for immediate operation of all screening test processes: *5.2.p.* tympanometry with 226 Hz, tympanometry with *5.3.p.* automatic acoustic reflexes, or tympanometry with acoustic reflexes at a fixed level. The optional high-frequency probe tone of 1 kHz is ideal for providing reliable results when testing newborns.

Printing made easy

5.4.p. Test results and reports can be printed quickly using the built-in printer. When placing the probe into the probe holder, the test results will print automatically - touchTymp really is that easy and intuitive.

Features at a glance

- Provides test results within seconds
- Allows testing from infants to adults
- Customisable to suit individual needs
- Full touch-based interface for intuitive handling
- Innovative probe lights allow for patient-focused operation
- Probe tone 226 Hz, optional high-frequency probe tone 1 kHz
- Acoustic reflex frequencies 500 Hz, 1 kHz, 2 kHz, 4 kHz (ipsi- and optional contralateral)
- High resolution and quick screen transitions
- Built-in printer



Technical Data touchTymp MI 24

TYMPANOMETRY

Probe Frequency	226 Hz ± 1 %, 85 dB SPL (69 dBHL) ± 1.5 dB <i>5.2.1.p.</i>
Optional High Frequency	1 kHz ± 1%, 69 dB SPL (69 dBHL) ± 1.5 dB
Pressure Range	-400 to +200 daPa <i>5.2.2.p.</i>
Accuracy of Pressure	± 5 % or ± 10 daPa
Volume Range	0.1 to 8.0 ml at 226 Hz <i>5.2.3.p.</i>
Compliance Range	0.1 to 8.0 ml at 226 Hz
Accuracy of Volume	± 5 % or 0.1 ml
Test Time	3 - 5 seconds <i>5.2.4.p.</i>

REFLEX MODE

Test Frequencies	0.5, 1, 2, 4 kHz ± 1 %
Test Method	Ipsilateral; optional contralateral <i>5.3.4.p.</i>
Level Ipsilateral	70 to 105 dBHL <i>5.3.5.p.</i>
Level Contralateral	70 to 120 dBHL with contra phone receiver
Level Setting	Automatic or fixed <i>5.3.2.p.</i>
Ipsilateral Reflex Test	With AGC <i>5.6.p.</i>

DEVICE GENERAL

Display	<i>5.4.2.p.</i> 10.4" Graphic LED Display with resistive touchscreen
PC Interface	USB
Probe	Lightweight hand-held probe with built-in control light and switch
Printer	Fast, virtually silent 4-inch thermal printer
Power Supply	Mains 100 to 240 V~ ± 10 %, 50 - 60 Hz ± 10 %
Dimensions	W 30 x D 34.5 x H 14.8 cm
Weight	3.2 kg

STANDARD

IEC 60601-1, class I, type B, IEC 60645-5, type 2, according to medical device directive 93/42/EEC

STANDARD COMPONENTS

5.7.p. Pen Probe, built-in calibration cavity, Sanibel ear tip kit, built-in printer and *5.6.p.* roll of thermal paper, mains cable, probe floss kit, MAICO USB flash drive kit, Impedance Module software, USB cable, cleaning cloth, touch pen

OPTIONAL ACCESSORIES

Contralateral phones: DD45 C, CIR22, IP30

SANIBEL

We highly recommend to use Sanibel disposables in order to guarantee optimal test results.



Specifications are subject to change without notice.

Standard Components <i>5.6.1.p.</i>			
	touchTymp device with printer	Pen Probe	Ear tip kit
	Optional Accessories		
DD45 C		CIR22	IP30



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Storage:	0 °C to + 50 °C / 32 °F to +122 °F Humidity 10 to 95 % (non-condensing)
Transport:	-20 °C to + 50 °C / -4 °F to +122 °F Humidity 10 % to 95 % (non-condensing)
Weight touchTymp:	3,2 kg / 7.1 lbs
Dimensions touchTymp:	300 mm x 345 mm x 148 mm 11.81 in x 13.58 in x 5.83 in
Dimensions Pen Probe:	204 mm x 25 mm x 26 mm 8.03 in x 0.98 in x 1.02 in
Dimensions Diagnostic Probe:	104 mm x 36 mm x 24 mm 4.09 in x 1.42 in x 0.94 in
Display:	10.4 in full color display with high bright white LED back-light
User Interface:	Touch screen (resistive)
User Feedback:	Integrated speaker
Language Settings:	English, German, Spanish, French
Memory:	8 GB Internal Storage
Connectors:	External / USB out, USB in, USB out, power socket, Contraheadphone channel, probe connector
Data interfaces:	USB 1.1 / Ethernet (not implemented)
PC Connection:	USB; the system can not be operated from a PC. Using the MAICO Database or Noah, data can be transferred and saved on the PC.
Thermal printer (configuration dependent):	Paper: 5.4.1.p. → 110 mm width, 20 m length To be printed on paper roll: 200 Tympanograms 87 Tympanograms with Acoustic Reflexes for both ears
Time:	4 s (one Tympanogram) to 12 s (Tympanogram with Acoustic Reflexes for both ears)

TYMPANOMETRY

Test signals:	Pure tone: 226 Hz, 1000 Hz each with ± 1 %
Test level:	85 dB SPL ± 1.5 dB SPL measured in an IEC 60318-5 acoustic coupler according to IEC 60645-5:2004 / ANSI S3.39:1987. The level is constant for all volumes in the measurement range.
Distortion:	Max 1 % THD ⁴
Control Tympanometry:	Automatic
Air pressure:	Control: Automatic Indicator: Measured value is shown in the display.

⁴ THD = Total Harmonic Distorsion

When the stimulus presentation and measurement are made in the same ear by means of the probe, this acoustical reflex is referred to as an Ipsilateral Acoustic Reflex. When the stimulus presentation is made in the opposite ear of where the measurement is made, this acoustical reflex is referred to as a Contralateral Acoustic Reflex.

5.3.1.p. => For best results, this reflex measurement is automatically conducted at the air pressure value where the compliance peak occurred during the Tympanometric test. Stimulus tones of varying intensities at 500 Hz, 1000 Hz, 2000 Hz or 4000 Hz are presented as short bursts. If a change in compliance greater than the selected value is detected, a reflex is considered present. Because this is an extremely small compliance change, any movement of the probe during the test may produce an artifact (false response). The test result is recorded as Pass/No Response, and in graphical form.

If the Tympanometric results display any abnormal findings, the results of the Acoustic Reflex testing may be inconclusive and should be interpreted with care. Theoretically, a compliance peak is necessary to observe a reflex at peak pressure.



Timpanometras Touch Tymp MI24, Maico, Vokietija

- 5.1 Stacionarus timpanometras su integruotu liečiamu ekranu;
- 5.2 Timpanometriniis tyrimas;
 - 5.2.1 Signalo dažnis: 226 Hz;
 - 5.2.2 Slėgio ribos: intervale kaip nuo -350 iki +200 dPa;
 - 5.2.3 Tūrio ribos: intervale nuo 0.1 ml iki 7,5 ml;
 - 5.2.4 Tyrimo laikas: 3-5 sekundės;
- 5.3 Reflekso tyrimas:
 - 5.3.1 Tyrimų dažniai: 500, 1000, 2000, 4000 Hz;
 - 5.3.2 Testų tipai: Automatiniai ir fiksuoti;
 - 5.3.3 Momentinis grafinis atvaizdavimas ekrane tyrimo metu;
 - 5.3.4 Tyrimo metodai: Ipsi;
 - 5.3.5 IPSI intensyvumas: intervale nuo 70 iki 100 dB;
 - 5.3.6 Timpanometrinių tyrimų valdymas liečiamu ekranu;
- 5.4 Į prietaisą įmontuotas terminis spausdintuvas;
 - 5.4.1 Terminio popieriaus plotis 110 mm;
 - 5.4.2 Integruotas LED liečiamas ekranas: 10,4" colių;
- 5.5 Periferinės jungtys:
 - 5.5.1. USB 2 vnt.
 - 5.5.2 LAN 1 vnt.
- 5.6 Komplektacija:
 - 1) Timpanometras su integruotu spausdintuvu;
 - 2) Laidas prijungimui prie maitinimo šaltinio;
 - 3) Popierius spausdintuvui (10 vnt);
 - 4) Antgaliukai timpanometrijai;
 - 5) USB kabelis
 - 6) USB atmintinė
 - 7) Valymo servetėlė
 - 8) Liečiamo ekrano pieštukas;
- 5.7 Patikra ir kalibravimas.