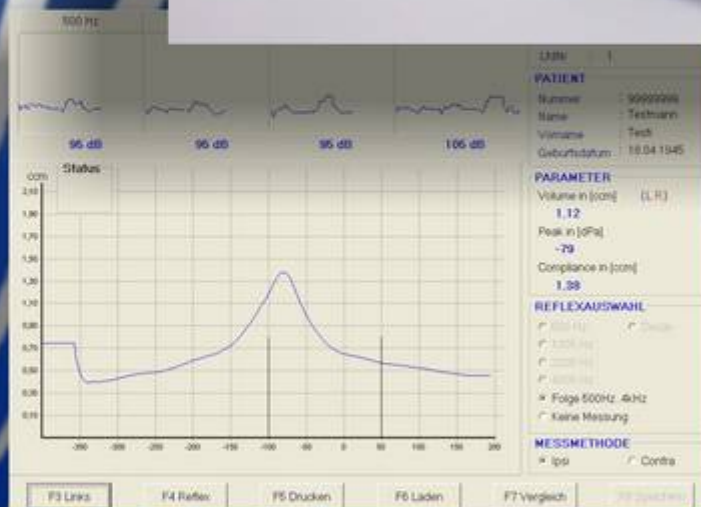




TYMP 4000

tympanografy



we are one of the
 leading companies
 in the field of ENT-diagnostics
 - worldwide -

TYMP 4000

With the HOMOTH Tymp 4000 it is possible to do a full automatic impedance measurement within a few seconds. All functions, as well as curves and data are presented at a LCD-display. Herewith the results can be verified before documentation to avoid misprintings.

The device can be used in the doctors practice as well as in the clinic. Because the measurement of the compliance only takes two seconds, it is very suitable for children and restless patients.

The test results are objective and independent from the assistance of the patient. Because of the extreme simple use, the examination can be done directly at the working place and fits in well in the general examination.

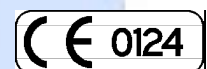
Because of the test automatic a one-hand-operation is possible, so the head of the patient can be fixed with the other hand. For the measurement the probe is held against the outer ear. A two coloured lamp at the top of the handle indicates the correct fitting of the probe and the measurement is started automatically. It is possible to measure the stapedius reflex ipsi- and contralateral. During this measurement, the middle ear pressure is held in the outer ear canal.

For printouts, an extreme fast digital printer, working very noiseless and economical is used. All data and diagrams can be stored on a hard disk if the device is connected to a PC-system.

Technical data

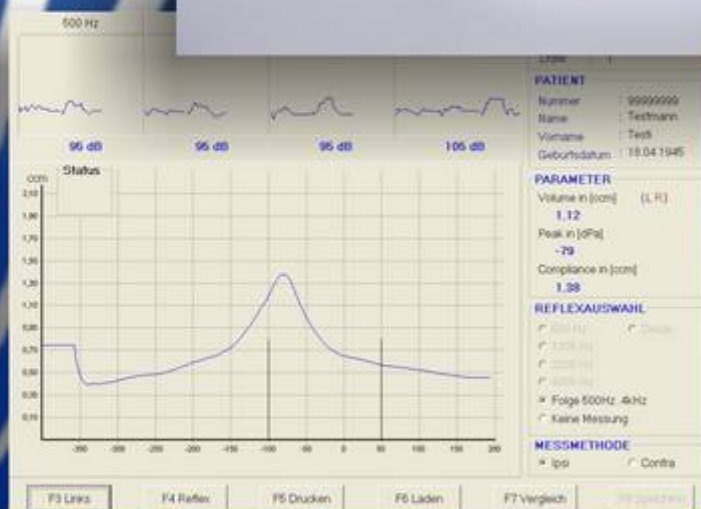
system:	impedance- and reflex-measurement
standards:	EN 60601 - 1 / 1-1 / 1-2 / MPG
probetone:	226 Hz, 85 dB SPL
pressure range:	+ 200 to -400 daPa
pressure delta:	300 daPa / sec
measure time:	2 sec. for compliance
reflex tones:	500, 1000, 2000 and 4000 Hz at 85, 95 und 105 dB HL
sequence of tones:	automatically
reflex recognition:	automatically
reflexes:	ipsi and contralateral
pressure calibration:	automatically at start
state indication:	1. LED 3-colors in probe 2. detailed display symbols
changeover right/left:	automatic or manual
air pump:	very quiet syringe pump
dimensions	w= 335 / d= 340 / h= 155 mm
accessories:	1 probe with cable 1 set ear plugs 1 headphone DT 48 A 1 probe holder 1 instruction manual

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TYMP 4000 M tympanografy



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- worldwide -

TYMP 4000 M

The HOMOTH Tymp4000M PC diagnostic module it is able to do a full-automatic impedance measurement within a few seconds. Every function, as well as curves and data is presented at the PC monitor. The results can be verified before documentation to avoid misprintings.

The device is used in the doctors practice as well as in the clinic. The measurement of the compliance lasts only two seconds and works excellent used on children and restless patients.

The test results are objective and independent from the assistance of the patient. Because of the extreme easy way to use, the examination can be made directly at the working place and fits in well into the general examination.

The test automatic enables to operate the Tymp4000 with only one hand, so the head of the patient can be held steady with the other hand. For measurement the probe is held against the outer ear. A two coloured lamp on top of the handle indicates the correct fitting of the probe and the measurement is starting automatically. It is possible to measure the stapedius reflex ipsi- and contralateral. During this measurement, the middle ear pressure is held in the outer ear canal.

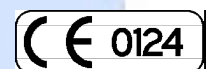
The data and measured curves can be stored on harddisc or transmitted to a practice software.

Technical data

system:	PC module via USB interface
system requirements:	Pentium PC min. 500 MHz, USB 2.0 port, Window 98, ME, 2000, XP
standards:	EN 60601 - 1 / 1-1 / 1-2 / MPG
probetone:	226 Hz, 85 dB SPL
pressure range:	+ 200 to -400 daPa
pressure delta:	300 daPa / sec
measure time:	2 sec. for compliance
reflex tones:	500, 1000, 2000 and 4000 Hz at 85, 95 und 105 dB HL
sequence of tones:	automatically
reflex recognition:	automatically
reflexes:	ipsi and contralateral
pressure calibration:	automatically at start
state indication:	1. LED 3-colours in probe 2. detailed display symbols
changeover right/left:	automatic or manual
air pump:	very quiet syringe pump
mains	230 V
pc interface	USB
dimensions	w= 290 / d= 270 / h= 125 mm
accessories:	1 probe with cable 1 set ear plugs 1 headphone DT 48 A 1 probe holder 1 instruction manual

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RHINO 4000 rhinomanometry



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RHINO 4000

With the HOMOTH Rhinomanometry a measuring method was evolved, which allows the adaptation via nose-plugs and alternatively via face-mask. The method is used in the doctors practice as well as in clinics. All functions, data and diagrams are shown at a LCD display. Herewith the results can be verified before documentation to avoid miss-printings.

The time-saving adaptation via nose-plugs allows a direct use at the doctors working-place, so the measurement fits into the normal examination. All calculation of flow, pressure, percentage and resistance-coefficient are done in realtime, so by the end of the measurement the complete results are present. Persons with bearts, long hair and children with fear of masks, can be measured without any problems. For clinical use a face-half-mask is available. During the measurement the intensity of breathing can be controlled via two measuring bars. The measurement is carried out anterior under the physiological conditions of self-breathing and allows a quantitatively objective statement about the resistance-status of the nose.

Because of microprocessor controlling the use is very easy, so the measurement can be carried out by the medical personnel. The mean of max. five flow curves is calculated and shown in the diagram as flow-pressure-curves. Also the flow-values for a difference-pressure of 75 Pa, 150 Pa and 300 Pa are calculated and shown in the screen, together with the percentage of right- and left-side flow. For clinical use the coefficient of the resistance is calculated.

All data and measured curves can be stored on harddisc, if the device is connectet to a PC. For printouts, an extremely fast digital-printer, working very noiseless and economical is used.

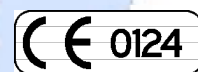
Application:

- Proof of allergies after provocation
- Diagnostics at handicapped nose-breathing
- Function control after nose operation
- Control after dispensation of medicines

Technical data

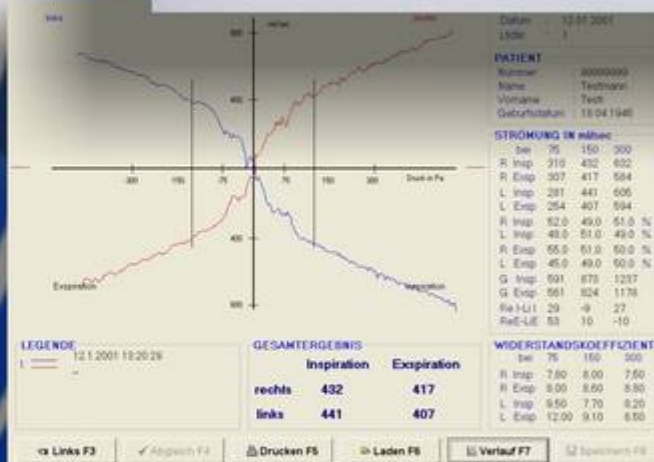
system:	stand alone device
measuring-methode:	anterior self-breathing
standards:	EN 60601 - 1 / 1-1 / 1-2 / MPG
airflow:	0 - 900 ml /s in- and exspiration
difference-pressure:	0 - 50 daPa
function-control:	via 2 measuring-bars in the display
averaging:	via max 5 flow-curves
pressure-calibration:	automatical before start
representation:	as diagram and numeric
aut. calculation of:	1. pressure in daPa 2. flow in ml /sec 3. total-flow 4. percentage 5. resistance-coefficients 6. Point 2-5 at 75, 150 and 300 daPa
accessories:	12 nose-plugs (olives) 2 flow-probes 2 sets of hoses 1 foot-switch 1 probe-holder 1 instruction manual
special accessories:	face-halfmask

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RHINO 4000 M rhinomanometry



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 - worldwide -

RHINO 4000 M

With the HOMOTH Rhino 4000 M rhinomanometry-module a measuring-method was evolved, allowing the adaptation via nose plugs and alternatively via a face mask. The method is used in the doctors practice as well as in clinics. All functions, data and diagrams are shown on the PC monitor. Herewith the results can be verified before documentation to avoid misprintings.

The time saving adaptation via nose plugs allows a direct use at the doctors working-place, so the measurement fits within the normal examination. All calculation of flow, pressure, percentage and resistance-coefficient is done in real time, so with completion of the measurement all results are present. Persons with beards, long hair and children with fear of masks, can be measured, too. For clinical use, a face-half-mask is available, too. During the measurement the intensity of breathing can be controlled via two measuring bars. The measurement is carried out anterior under physiological conditions of self-breathing and allows a quantitatively objective statement of the resistance behaviour of the nose.

Microprocessor controlling makes usage very easy and the measurement can be carried out by medical personnel. The mean of a maximum of five flow curves is calculated and shown in the diagram as flow pressure-curves. The flow values at different pressures (75 Pa, 150 Pa and 300 Pa), the percentage of right- and left-side flow, and for clinical use the coefficients of the resistance is calculated. Everything is shown on the screen.

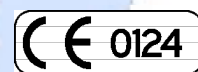
The data and measured curves can be stored on harddisk or transmitted to a practice software.

Application:

- -- Proof of allergies after provocation
- -- Diagnostics at handicapped nose-breathing
- -- Function control after nose operation
- -- Control after dispensation of medicines

Technical data

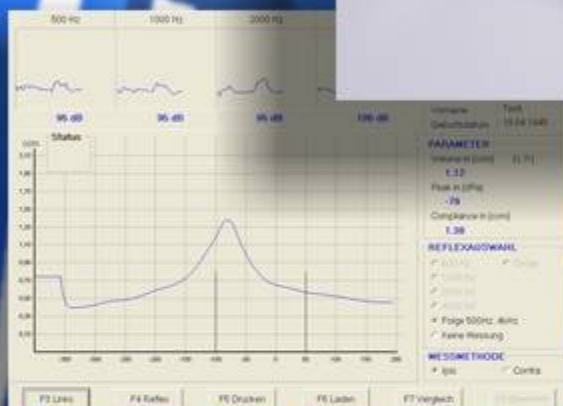
system:	PC module via USB interface
system requirements:	Pentium PC min. 500 MHz, USB 2.0 port, Window 98, ME, 2000, XP
measuring method:	anterior self-breathing
standards:	EN 60601 - 1 / 1-1 / 1-2 / MPG
airflow:	0 - 900 ml /s in- und expiration
difference pressure:	0 - 50 daPa
function control:	via 2 measuring bars in the display
averaging:	via max 5 flow-curves
pressure calibration:	automatical before start
representation:	as diagram and numeric
aut. calculation of:	1. pressure in daPa 2. flow in ml /sec 3. total-flow 4. percentage 5. resistance coefficients 6. Point 2-5 at 75, 150 and 300 daPa
mains	230 V
accessories:	12 nose plugs (olives) 2 flow probes 2 sets of hoses 1 foot switch 1 probe holder 1 instruction manual
special accessories:	face halfmask



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COMBI 4000

tympanografy & rhinomanometry



we are one of the
 leading companies
 in the field of ENT-diagnostics
 - worldwide -

COMBI 4000 / Tymp + Rhino

The new HOMOTH COMBI 4000 combines a perfect ENT-diagnostic and a modern design. Through the double function of tympanography and rhinomanometry you save costs and space.

With the HOMOTH Tymp 4000 it is possible to do a fully automatic impedance measurement in a few seconds. The instrument is used in the doctors practice as well as in the clinic. The measurement of the compliance lasts only two seconds and is suitable thus excellent for children and restless patients. The test-results are objective and independent from the assistance of the patient. Through the extreme simple use, the investigation can be made directly at the working place and fits in well in the general investigation. For the test the probe is held against the outer ear. A three coloured lamp at the handle indicates the correct seat of the probe and the measurement is started automatically. It is possible to measure the stapedius reflex ipsi- and contralateral. During this measurement, the middle ear pressure is held in the outer ear canal.

With the HOMOTH Rhinomanometry a measuring method was evolved that allows the adaptation via nose plugs and alternatively via a face mask. The method is used in the doctors practice as well as in clinics.

The time saving adaptation via nose plugs allows a direct use at the doctors working place, so that the measurement fits in the normal examination. For clinical use also a face-half-mask is available. The measurement is carried out anterior under the physiological conditions of self-breathing and allows a quantitatively objective statement about the resistance behaviour of the nose.

Applications:

- € Proof of allergies after provocation
- € Function control after nose operation
- € Diagnostics at handicapped nose breathing
- € Control after dispensation of medicines

All calculation of flow, pressure, percentage and resistance coefficient are done in real time, so that with the end of the measurement the complete results are present. All data and measured curves can be stored later at a PC. For printouts, an extreme fast digital printer, that works very noiseless and economical, is inbuilt.

Technical data rhinomanometry

measuring method: anterior self-breathing
standards: EN 60601 - 1 / 1-1 / 1-2 / MPG
airflow: 0 - 900 ml /s in- und expiration
difference-pressure: 0 - 50 daPa
function control: via 2 measuring bars in the display
averaging: via max 5 flow-curves
pressure calibration: automatical before start
representation: as diagram and numeric

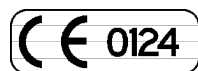
aut. calculation of:

1. pressure in daPa
2. flow in ml /sec
3. total-flow
4. percentage
5. resistance coefficients
6. Point 2-5 at 75,150 and 300daPa

accessories:

- 12 nose plugs (olives)
- 2 flow probes
- 2 sets of hoses
- 1 foot switch
- 1 probe holder
- 1 instruction manual

special accessories: face-halfmask



Technical data tympanography

system: impedance- and reflex-measurement
standards: EN 60601 - 1 / 1-1 / 1-2 / MPG
probe tone: 226 Hz, 85 dB SPL
pressure range: + 200 to -400 daPa
pressure delta: 300 daPa / sec
measure time: 2 sec. for compliance

reflex tones: 500, 1000, 2000 and 4000 Hz
at 85, 95 und 105 dB HL

sequence of tones: automatically
reflex recognition: automatically
reflexes: ipsi and contralateral
pressure calibration: automatically at start
state indication: 1. LED 3-colors in probe
2. detailed display symbols

changeover right/left: automatic or manual

air pump: very quiet syringe pump

accessories:

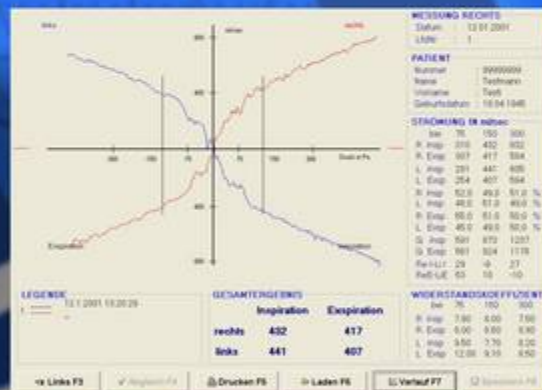
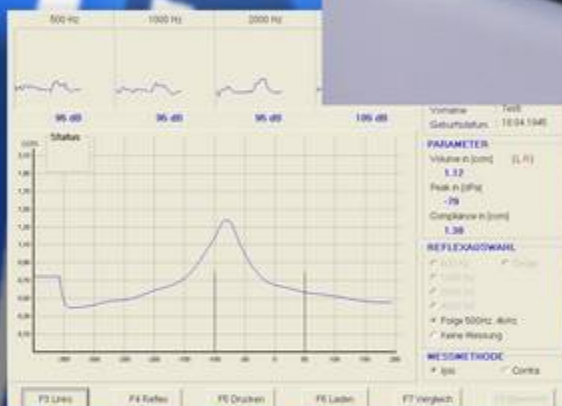
- 1 probe with cable
- 1 set ear plugs
- 1 headphone DT 48 A
- 1 probe- holder
- 1 instruction manual

dimensions
w= 335 / d= 340 / h= 155 mm

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COMBI 4000 M

tympanografy & rinomanometry



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 - worldwide -

COMBI 4000 M/Tymp + Rhino

The HOMOTH COMBI4000M PC module combines two ENT diagnostic and modern technology. Because of the double function of tympanography and rhinomanometry you save costs and space.

In the Tymp-Mode, the HOMOTH Combi4000M diagnostic module it is able to do a full-automatic impedance measurement within a few seconds. Every function, as well as curves and data is presented at the PC monitor. The results can be verified before documentation to avoid misprintings.

The test automatic enables to operate the Tymp4000 with only one hand, so the head of the patient can be held steady with the other hand. For measurement the probe is held against the outer ear. A two coloured lamp on top of the handle indicates the correct fitting of the probe and the measurement is starting automatically. It is possible to measure the stapedius reflex ipsi- and contralateral. During this measurement, the middle ear pressure is held in the outer ear canal.

In the Rhino-Mode, time saving adaptation via nose plugs allows a direct use at the doctors working-place, so the measurement fits within the normal examination. All calculation of flow, pressure, percentage and resistance-coefficient is done in real time, so with completion of the measurement all results are present. Persons with beards, long hair and children with fear of masks, can be measured, too. For clinical use, a face-half-mask is available, too.

During the measurement the intensity of breathing can be controlled via two measuring bars. The measurement is carried out anterior under physiological conditions of self-breathing and allows a quantitatively objective statement of the resistance behaviour of the nose.

Applications:

- € Proof of allergies after provocation
- € Function-control after nose operation
- € Diagnostics at handicapped nose breathing
- € Control after dispensation of medicines

All calculation of flow, pressure, percentage and resistance coefficient are done in real time, so that with the end of the measurement the complete results are present. All functions, as well as curves and data are presented at the PC monitor. The results can be verified before documentation to avoid miss-printings. The data and measured curves can be stored at the PC or transmitted to a practice software.

Technical data rhinomanometry

measuring-methode: anterior self-breathing
standards: EN 60601 - 1 / 1-1 / 1-2 / MPG
airflow: 0 - 900 ml /s in- und expiration
difference pressure: 0 - 50 daPa
function control: via 2 measuring bars in the display
averaging: via max 5 flow-curves
pressure calibration: automatical before start
representation: as diagram and numeric

aut. calculation of:

1. pressure in daPa
2. flow in ml /sec
3. total-flow
4. percentage
5. resistance-coefficients
6. Point 2-5 at 75, 150 and 300 daPa

accessories:

- 12 nose-plugs (olives)
- 2 flow-probes
- 2 sets of hoses
- 1 foot switch
- 1 probe holder
- 1 instruction manual

special accessories: face-halfmask

system requirements: Pentium PC min. 500 MHz,
USB 2.0 port, Window 98,
ME, 2000, XP

Technical data tympanography

system: impedance and reflex measurement
standards: EN 60601 - 1 / 1-1 / 1-2 / MPG
probetone: 226 Hz, 85 dB SPL
pressure range: + 200 to -400 daPa
pressure delta: 300 daPa / sec
measure time: 2 sec. for compliance

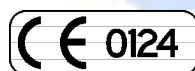
reflex tones: 500, 1000, 2000 and 4000 Hz
at 85, 95 und 105 dB HL

sequence of tones: automatically
reflex recognition: automatically
reflexes: ipsi and contralateral
pressure calibration: automatically at start
state indication: 1. LED 3-colors in probe
2. detailed display symbols

changeover right/left: automatic or manual
mains: 230 V
pc interface: USB
air pump: very quiet syringe pump

accessories: 1 probe with cable
1 set earplugs
1 headphone DT 48 A
1 probe holder
1 instruction manual
dimensions: w= 290 / d= 270 / h= 125 mm

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Center 4000 M

▶▶ Ultrasound - Tympanografy - Rhinomanometry ◀◀



- blue line edition -

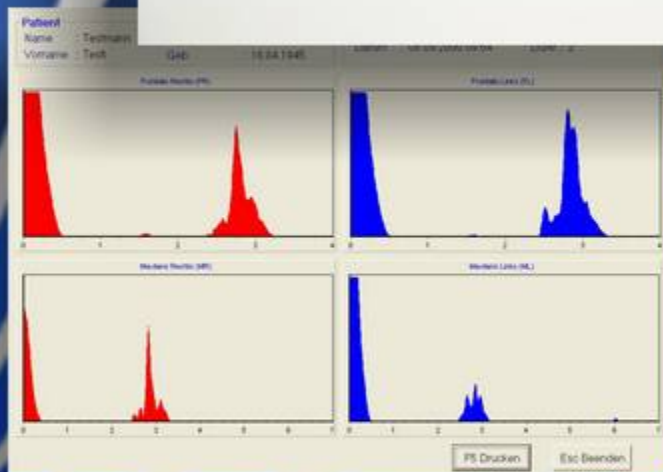


- classic edition -

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- worldwide -



US 4000 ultrasound A-scan



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- worldwide -

US 4000

Ultrasonic examinations have become more and more important in today's medicine. Ultrasonic impulses are sent through sinus-maxillaris and sinus-frontalis. The ultrasonic probe serves as transmitter for ultrasonic impulses, as well as receiver for the echos. The runtime of the echos is similar to the structures in the sinus. Echos are formed at a change of the acoustic impedance, between bone and tissue, bone and liquid as well as between all solid or liquid matter and air. The bigger the difference in impedance, the stronger the reflection.

A part of the energy is reflected at the transition from the front bone to the mucous. In a healthy sinus the rest of the energy is reflected at the end of the mucous membrane, no late echos appear. If the sinus is filled with liquid, nearly all energy crosses the sinus and is reflected at the backwall of the sinus.

Swelling of the mucous membrane or cysts produces a typical double echo. For examination of the sinus-frontalis, the depth scale and the amplification is automatically changed by the system.

The ultrasonic method is quick and easy to carry out, it is very user-friendly and completely without any dangerous side effects. It is specially used for progress reports of sinusitis patients. The measurement takes only a few seconds and is very reliable, no computer experience is required.

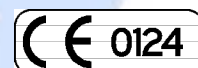
The method of ultrasonic serves as a supplement or replacement of the x-ray, especially by its considerable inexpensive costs. In Germany in every ENT practice ultrasonic is used.

For comparison, four sinus pictures can be stored. The depth amplification is stored in four curves that are able at the election. The linear amplification can be adjusted digital and linear.

All data and measured curves are stored automatically at the harddisc of the computer. For printouts all Windows printers are available.

Technical data

system:	PC module with USB 2.0 interface
system requirements:	Pentium PC min. 500 MHz, USB 2.0 port, Window 98, ME, 2000, XP
method:	A- mode
standards :	EN 60601 -1 / 1-1 / 1-2 / IEC 1157 / MPG
probe:	focussed, 14 mm diameter
probe frequency:	3,5 Mhz
impuls frequency:	120 Hz
probe power:	< 20 mW / cm ²
total amplification:	80 dB
depth amplification:	20 dB
depth range:	sinus frontalis - 3,5 cm sinus maxillaris - 7,5 cm
switchover:	automatical or manual by footswitch
depth amplification:	1. for maxillaris 2. for frontalis 3. for cysts 4. for small signals
comment line:	per sinus
patients data:	Paradox database
accessories:	1 ultrasound probe 1 bottle sonogel 1 footswitch 1 probe holder 1 program CD 1 instruction manual



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