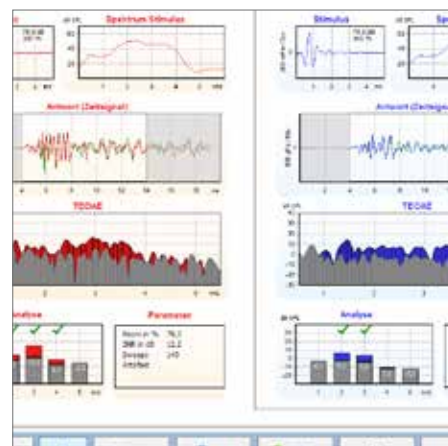
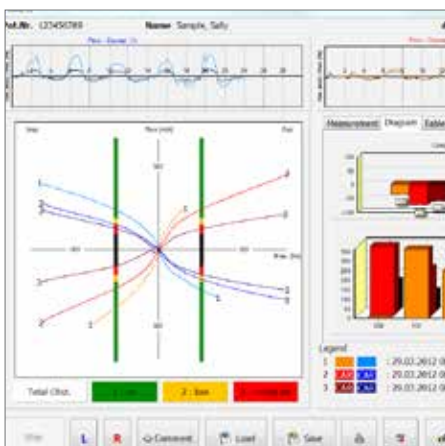
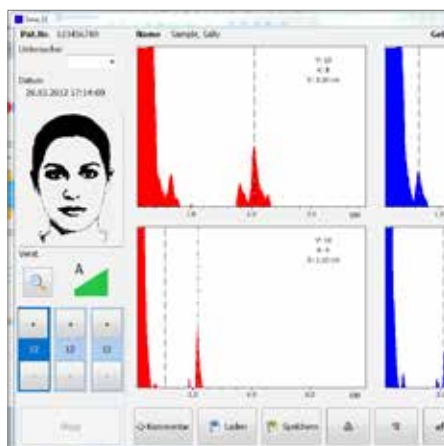


ATMOS® ENT-DIAGNOSTIC WORLD

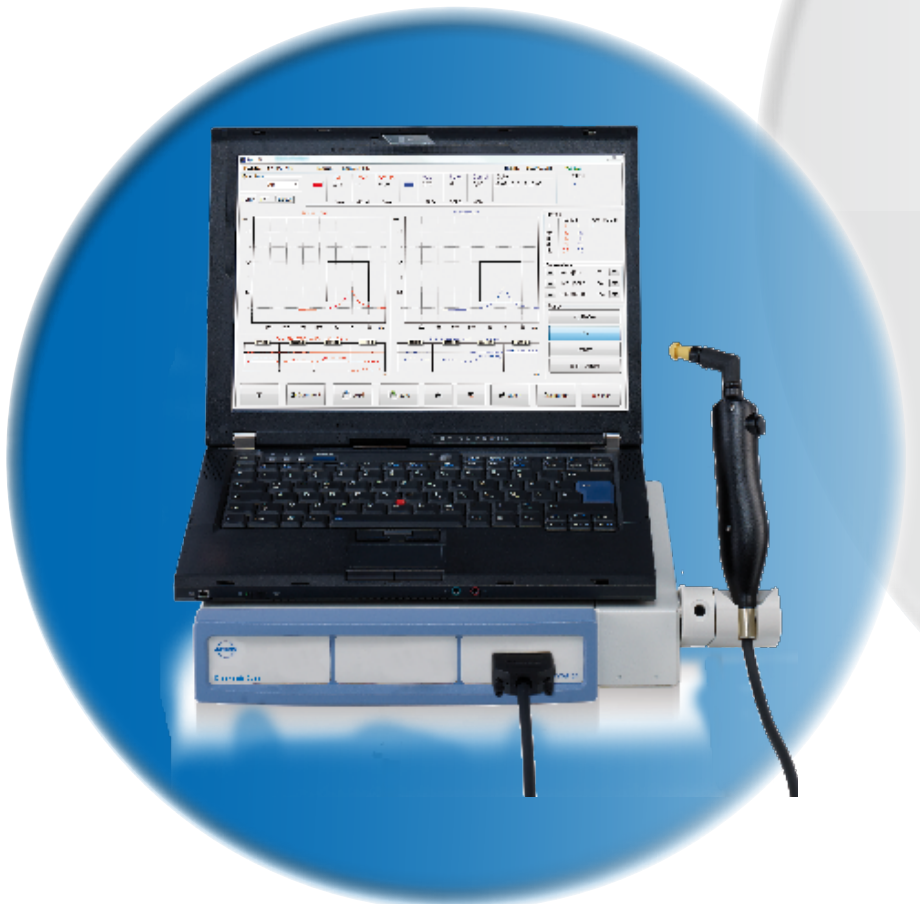
Faster and safer
diagnostic findings.
That is our promise!



ATMOS

ENT

Diagnostic - World





DIAGNOSTICS
AND
VISUALISATION

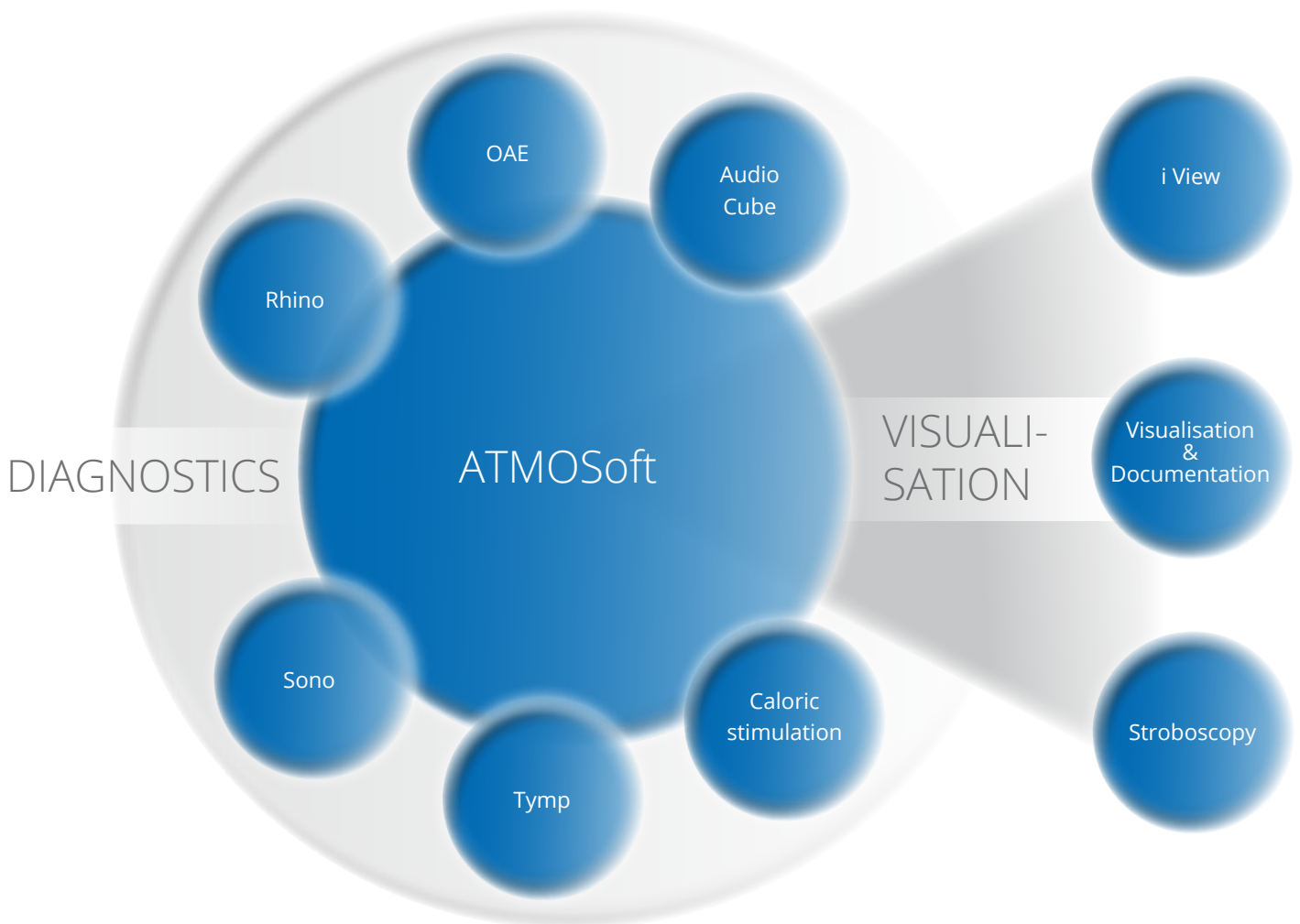


ATMOS DIAGNOSTIC WORLD

One concept – One provider – One point of contact

The central element of the ATMOS Diagnostic World is the ATMOSOFT.

This software, which was designed by ATMOS, combines all diagnostic equipment. An intelligent control enables the retrieval of any application that is needed at a particular moment.



Page 6/7	<p>Audiometry is a process that measures the characteristics and parameters of hearing. It is used to diagnose diseases of the hearing organs and to conduct research in these organs. Audiometry is a branch of audiology and thereby a branch of ear, nose, and throat medicine.</p>
Page 8/9	<p>Otoacoustic emissions (abbreviation: OAE, from Greek word Ous, the genitive otos = ear) are active, acoustic emissions of the ear that can be recorded retrogradely (i.e. when sound is perceived, they travel in the opposite direction and reach the ear canal via the ossicles and tympanic membrane) with the help of highly sensitive measuring microphones.</p>
Page 10/11	<p>Tympanometry is an objective method to measure audiology. It is a form of impedance audiometry. In this case, impedance is understood as the degree of resistance which the acoustic system as a whole (e.g. the middle ear) opposes the absorption of sound waves with.</p>
Page 12/13	<p>Rhinomanometry is the manometry (from the Greek root manos meaning "thin and permeable" and the Greek suffix -metry meaning "dimension") of the nose (Greek root rhīs). In other words, rhinomanometry is method for measuring air resistance when breathing through the nose.</p>
Page 14/15	<p>The term ultrasound (often abbreviated as US) refers to sound with frequencies above the audio frequency range of humans. It covers frequencies starting from approx. 16 kHz. Depending on the material from which an obstacle is made, ultrasound is reflected, absorbed, scattered, or passes through (transmission).</p>
Page 16/17	<p>Thermal examination of the vestibular organ The sense of balance is used to determine body position and spatial orientation. The paired vestibular organ (vestibular system and vestibular apparatus) of vertebrate animals and humans is located in the inner ear.</p>
Page 18-23	<p>The term documentation refers to the harnessing of information for further use. Documentation enables the retrieval of specific written or otherwise permanently stored information (documents). Visualization or illustration (making visual) involves presenting abstract data (e.g. text) and relationships in a graphical or visual form.</p>
Page 24/25	<p>Stroboscopy is used to assess vocal cord function. The mobility of the vocal folds can be assessed by means of stroboscopy. This enables the investigation of fine motor skills, the regularity of the oscillations, their amplitude, and the symmetry of motion during the opening and closing phases of the glottis.</p>
Page 26/27	<p>A microscope (Greek μικρός mikrós "small"; σκοπεῖν skopeín "look") is a device that enables one to view or depict magnified objects. These are usually objects that are smaller than the resolution capability of the human eye. Techniques that employ a microscope are referred to as microscopy</p>

Audiometry

OAE

Tymp Impedance

Rhino

Sono

Caloric Stimulation

Visualisation & Documentation

Stroboscopy

Microscopy

The sense of hearing

“People only hear what they understand” Johann Wolfgang von Goethe

The audiometer is the central instrument used in ENT diagnostics. The ATMOS audiometer is a high-quality, 2-channel sound and speech audiometer for:

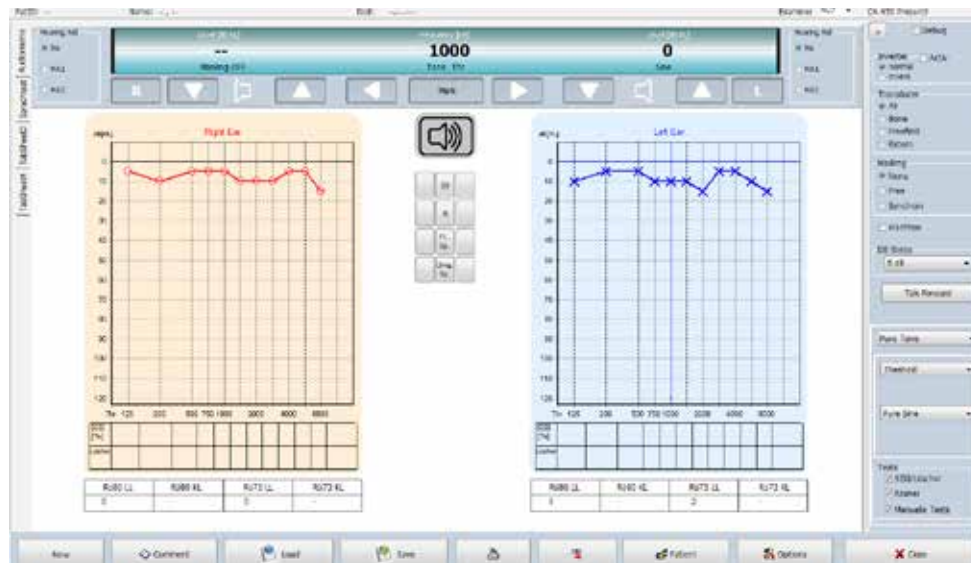
- Air/bone conduction
- Treble/high frequency
- Suprathreshold tests (SISI and Fowler)
- Noise induced hearing loss
- Free-field measurement
- Language tests of hard drives



Treble/high frequency up to 16 KHz

Context-sensitive control

Extensive standard equipment



The SISI and Fowler suprathreshold tests are integrated into the device by default. The widespread Freiburg speech test can be played directly from a memory card inserted in the device with single-word selection, so that a pause is made after each word until the examiner has evaluated the repetition by the patient.

The display automatically adjusts to the respective test situation so that all relevant device settings are always clearly presented.

The device adapts to the operator's individual mode of operation. Alongside Windows-typical mouse operations, the full keyboard or touch screen can also be used.

Audiometry

Audio

Otoacoustic emission

OAE

Tympanometry

Tymp

Rhinomanometry

Rhino

Sonography

Sono

Balance test

VarioAir
Varioterm

Camera documentation

ATMOSoft

Visualisation

Cam

Visualisation
"Chip-on-tip"

ATMOS Scope

Stroboscopy

Stroboscope

Microscopy

i View

Inner ear measurement

Without the use of a handset

Hearing diagnostics involves primarily transiently evoked otoacoustic emissions (TEOAE) and distortion product otoacoustic emissions (DPOAE).

These enable the selective examination of the inner ear, particularly of the outer hair cells, and thus allow conclusions to be drawn regarding the patient's sense of hearing. The test is objective (i.e. it is not dependent on the cooperation of the patient) and therefore particularly well suited to diagnosing paediatric hearing loss, especially in newborns.



Quicker measurement saves time

Minimal noise/measurement errors

Probe test/Best-FIT probes



The probe
Handy, easy to use, reliable, high quality, and featuring BEST-FIT – the intelligent ATMOS solution for safe and quick measurement.

- Audiometry Audio
- Otoacoustic emission **OAE**
- Tympanometry Tymp
- Rhinomanometry Rhino
- Sonography Sono
- Balance test Vändler Varioterm
- Camera documentation ATMOSoft
- Visualisation Cam
- Visualisation "Chip-on-tip" ATMOScope
- Stroboscopy Stroboscope
- Microscopy i View

Typm

Measurement of middle ear function

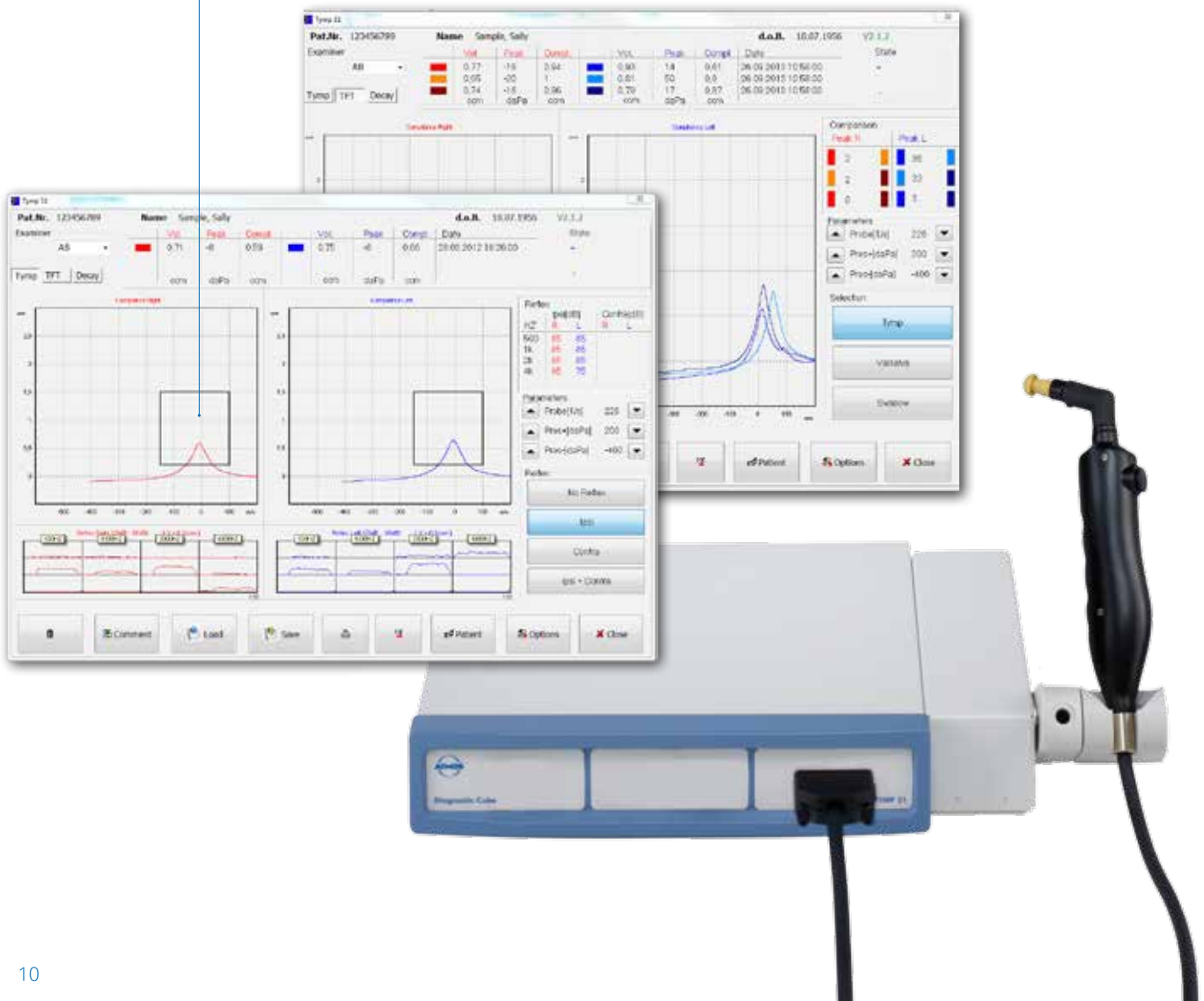
With high pressure

The portion of the sound reflected at the tympanic membrane is measured under various conditions. The pressure generated by the tympanometer can range from +300 to -300 Pa. The sound reflection is lowest when the pressure in the ear canal is the same as in the middle ear. The result is presented in the form of a tympanogram, on the graphic display of the device and/or as a printout.

The tympanometry module with integrated high-frequency tympanometry and age-related parameter adjustment has an ergonomically designed probe handle with an LED status indicator and lateral shift key.

Further guidance during diagnosis

Setpoint/tolerance/measurement should be within the measuring window



Test cavity in the probe holder for simple calibration.

Automatic age-dependent probe selection

Ergonomic probe handle with LED status display

... Measurements

- Automatic age-dependent probe selection – Age control
- Treble tympanometry (678 and 1,000 Hz)
- High-frequency tympanometry
- Stapedius reflex (ipsilateral, optionally contra-lateral)
- Tube function test
- Reflex decay test (optional)
- Test cavity in the probe holder for simple calibration.



Audiometry	Audio
Otoacoustic emission	OAE
Tympanometry	Tymp
Rhinomanometry	Rhino
Sonography	Sono
Balance test	VibroAir Variotherm
Camera documentation	ATMOSoft
Visualisation	Cam
Visualisation "Chip-on-tip"	ATMOScope
Stroboscopy	Stroboscope
Microscopy	i View

Determination of nasal air resistance

Switch to passage

Due to a lack of familiarity with the physiological and pathological contexts, the patient's own estimation of nasal resistance is often false or misleading. Estimation by means of inspection, endoscopy, or acoustic rhinometry is also only reliable in extreme cases. Because of the complicated flow physics, the size of the observed cross-section cannot provide accurate quantitative information regarding the measurable patency.

As such, quantification by means of rhinomanometry is essential!

The data is displayed in real time on an LCD display – either as Rhinograms (pincer-like structures breathing) or in Y/t notation. The internal data processing method of the device, CAR (Computer Aided Rhinomanometry), supports the elimination of measurement artefacts and provides reliable diagnostic follow-up and high reproducibility based on the high accuracy of the measured values.



Measurement via mask or nose plug

Well-thought-out hygiene concept

Graphical, numerical, and traffic light analysis

The rhinomanometry module enables anterior measurement using either the nasal breathing mask or nose plugs.

- Determination of pressure, volume flow, and nasal resistance
- CAR algorithm
- Comparative display of the measurement for provocation test

Hygiene benefits:

The components that come into contact with the patient can be removed and reprocessed by machine. The integrated filter pad clearly separates the patient and instrument areas.



Rhinomanometry

Audiometry

Audio

Otoacoustic emission

OAE

Tympanometry

Tymp

Rhino

Sonography

Sono

Balance test

VarioAir
Variotherm

Camera documentation

ATMOSoft

Visualisation

Cam

Visualisation
"Chip-on-tip"

ATMOS Scope

Stroboscopy

Stroboscope

Microscopy

i View

Maxillary and frontal sinus diagnostics

Ultra quick

Ultrasonography is now one of the safest methods for imaging and is used in almost all medical disciplines. Reasons for this include the low-risk, non-invasive, painless, and radiation-exposure-free application as well as high availability and quick implementation.

The ultrasonic A-scan from ATMOS is an innovative device for the investigation of the maxillary and frontal sinuses. This unit includes an ultrasound transducer, a foot switch, and a holder for the transducer. This facilitates comfortable handling.

In addition, the easy-to-use software has an automatic mode which includes four image memories for side-by-side comparison.

Manual operation with variable gain curves for individual depth compensation is also possible.

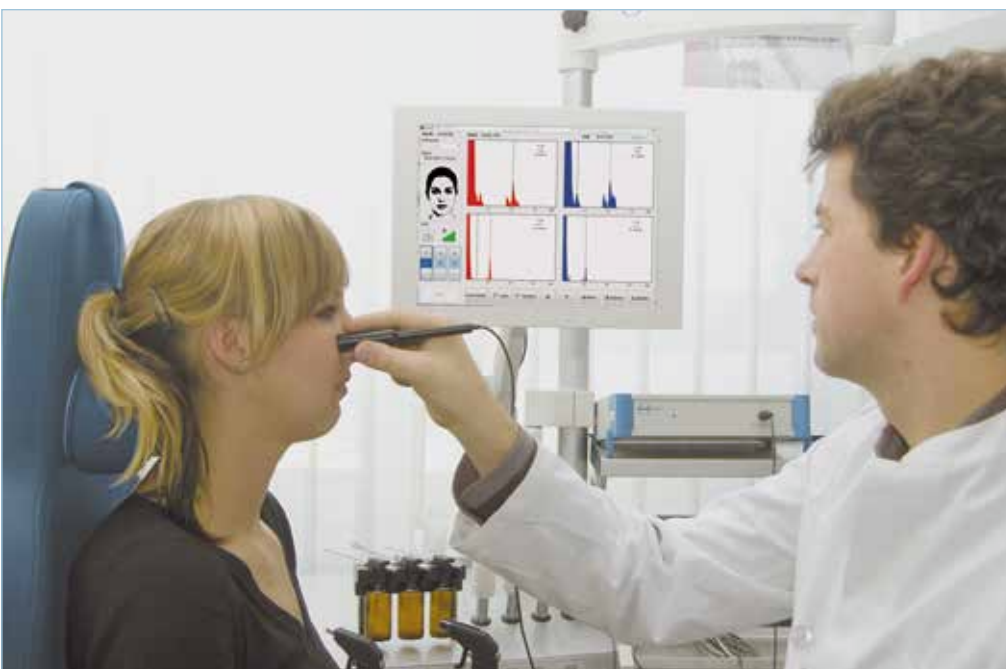
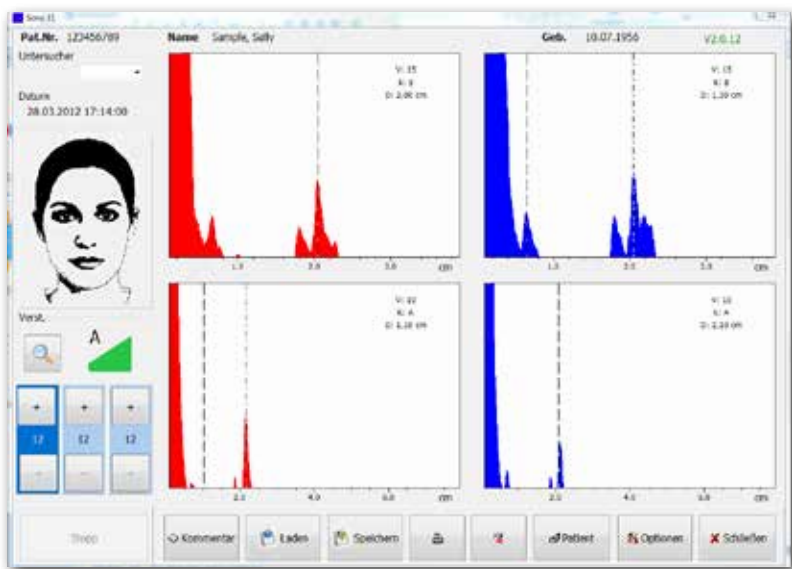
The ATMOS® Diagnostic Cube Sono 31 can be connected to an ordinary Windows®-compatible PC via a USB port. The software includes a patient database.














Echo distance measurement

Gain parameters

Can be quickly implemented and repeated



- Audiometry 
- Otoacoustic emission 
- Tympanometry 
- Rhinomanometry 
- Sonography **
- Balance test 
- Camera documentation 
- Visualisation 
- Visualisation "Chip-on-tip" 
- Stroboscopy 
- Microscopy 

Examination of vestibular function

Everything in balance

The ATMOS® Varioair is used for the “dry” thermal examination of the vestibular organ by means of air.

Its extremely precise temperature control and the precise metering of the air stream ensure that the heat energy transferred remains constant for equal stimulus durations. Because of the reproducibility of the results, the ATMOS® Varioair can be used when water cannot be used for stimulation (for medical reasons) or when there is no water supply. The duration of the stimulus can be adjusted from 1 to 99 seconds, and the air temperature can be adjusted from 20°C to 47°C.

The intuitive controls and easy handling of the ATMOS® Varioair facilitate vestibular examination.



The highest temperature accuracy

Easy to use

Energy-saving mode

ATMOS® Hygrotherm plus ear irrigation

Flushing device for the ENT area with electronically controlled continuous flow heater (37°C, up to 450 ml/min), energy-saving mode to reduce water and energy used and the highest temperature accuracy.

ATMOS® Variotherm plus ear irrigation

Compact device for thermal nystagmus with electronically controlled instantaneous water heater, purge mode (37°C, up to 450 ml/min), cold and hot stimulus mode (20–47°C selectable) with timer (1–99 s) and automatic flow limitation (150 ml/min)

Audiometry

Audio

Otoacoustic emission

OAE

tympanometry

Tymp

Rhinomanometry

Rhino

Sonography

Sono

Balance test

VarioAir
Variotherm

Camera documentation

ATMOSoft

Visualisation

Cam

Visualisation
"Chip-on-tip"

ATMOScope

Stroboscopy

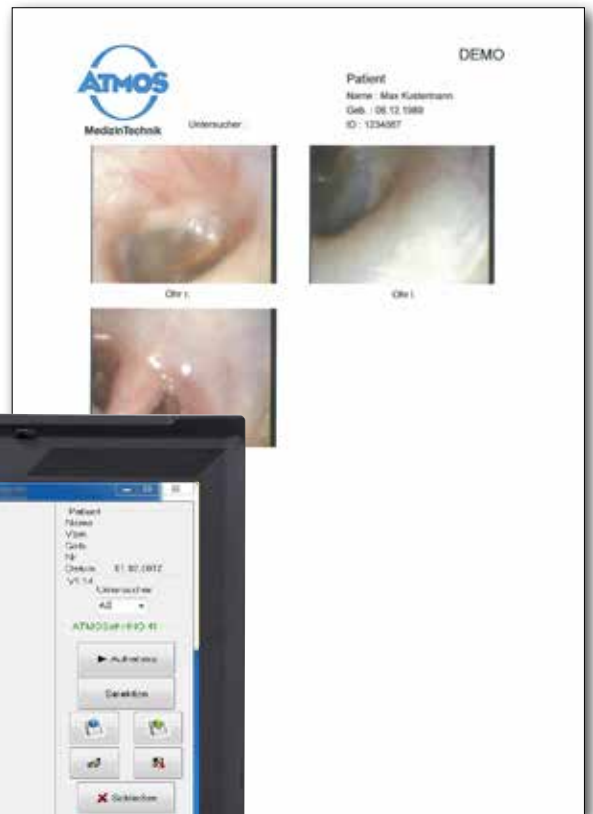
Stroboscope

Microscopy

i View

ATMOSoft Storage of diagnostic results

Made simple



Intuitive operation

Remote control

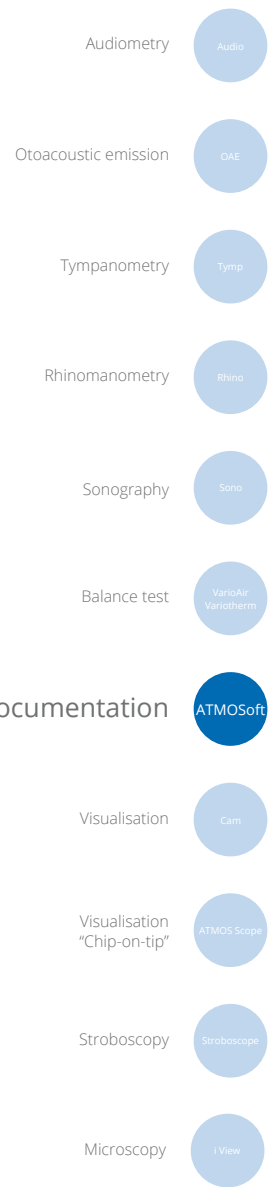
Image and video editing

Would you like to...

- ...quickly and easily save and archive diagnostic results?
- ...obtain the best image quality possible?
- ...issue your patients a medical report for follow-up treatment?
- ...view video signals in real time?

We have the complete package for you!

	ATMOSoft 31	ATMOSoft 41
Display video signals on your PC	■	■
Save and edit single-frame images	■	■
Freeze up to eight frames	■	■
Save and cut videos		■
Save and amplify audio signals		■
Selection of camera via hot key combination is possible	■	■
HD recording is possible		■
ATMOS patient database for managing diagnostic results (compatible with ATMOS® Diagnostic Cube)	■	■
GDT connection	■	■
Optimisation of video signals (brightness, sharpness and contrast)		■
Creation of a medical report in Word and/or as a PDF	■	■
Full-screen display	■	■



Camera documentation

ATMOSoft



Visualisation
Cam

Visualisation
"Chip-on-tip"
ATMOS Scope

Stroboscopy
Stroboscope

Microscopy
i View

Workflow optimisation and archiving

Easy going

The ATMOS® Cam is a flexible tool with a lot of connectivity and integration options.

As the centre of the visualisation environment, this compact unit can be integrated into modules or can be used as a stand-alone solution. Connectivity possibilities such as integration into the practice environment and software for the visualisation and archiving of your investigation ensure the optimisation of your workflow.

The functions of the ATMOS® Cam can be used to their fullest through combination of not with a variety of peripherals. These include devices for stroboscopy, flexible or rigid scopes or ENT microscopes such as the ATMOS® i View for visualisation.



Video – multiplexer

System integration

Auto-calibration

Integration into your system

HD HDMI output

For easy connection to modern monitors and notebooks.

GDT interface

Serves as a link between your practice software and the application software used by diagnostic equipment.

Auto function

Eliminates the need to manually set the white balance by automatically setting the light source parameters.

ATMOSoft ENT

Specially developed software solution for the recording and archiving of patient data

Microphone/audio in/line in

Provides the ability to connect two recording devices in order to simultaneously perform vocal fold and voice analysis.

Auto-calibration

The automatic adjustment of the settings eliminates the need for calibration when changing the optics or microscope.

Foot switch

For the simple storage of images.

USB USB port

For connecting the camera to a PC or notebook.

Audiometry

Audio

Otoacoustic emission

OAE

Tympanometry

Tymp

Rhinomanometry

Rhino

Sonography

Sono

Balance test

VarioAir
Variotherm

Camera documentation

ATMOSoft

Visualisation

Cam

Visualisation
"Chip-on-tip"

ATMOS Scope

Stroboscopy

Stroboscope

Microscopy

i View

Full screen

Relaxed

The ATMOS® Scope fits seamlessly into ATMOS treatment units. Connectivity between the ATMOS® Cam, the ATMOS® Strobo 21 LED and a video monitor is guaranteed at all times. The ATMOSoft ENT Software enables the archiving of images and videos.

All-in-one handle

The handle incorporates:

- LED light source
- Microphone preamp and detachable microphone
- Camera electronics
- Mechanism for controlling the angle of deflection

Advanced handle

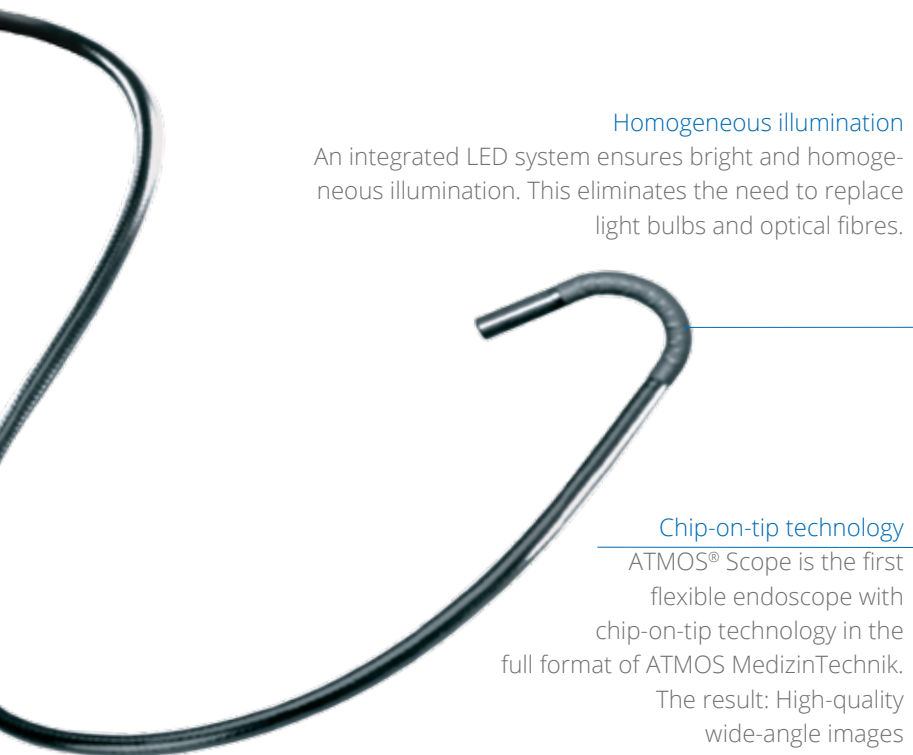
The innovatively shaped handle of the ATMOS® Scope provides a completely new way of working when performing endoscopy/stroboscopy. The probe can be inserted easily and allows a fatigue-free examination of the ear, nose, throat and larynx.



Ergonomic handle

Stroboscopy capability

Full-sized chip-on-the-tip



Homogeneous illumination

An integrated LED system ensures bright and homogeneous illumination. This eliminates the need to replace light bulbs and optical fibres.

Chip-on-tip technology

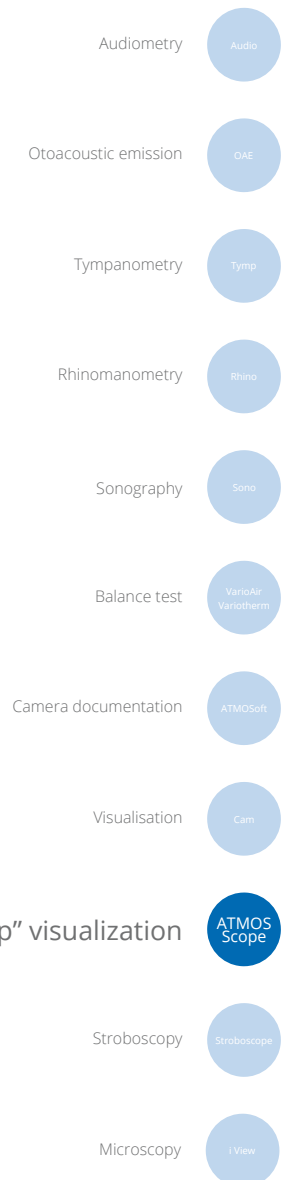
ATMOS® Scope is the first flexible endoscope with chip-on-tip technology in the full format of ATMOS MedizinTechnik. The result: High-quality wide-angle images

Simple controls

The optimised video pre-sets eliminate the need for unnecessary camera settings and white balancing. The desired stroboscopy mode is adjusted automatically.

Buttons for:

- Starting/stopping the video recording
- Single-frame image storage in conjunction with the ATMOSoft ENT Software



Vocal fold diagnosis

Good vibrations

The LED technology enables silent stroboscopy without reduction as well as vocal cord diagnostics with a flicker-free pilot light, still frame and slow motion mode. Most laryngoscopes currently available can be used. An audio output is integrated for archiving the audio signal. The still image with variable phasing and slow motion mode with adjustable frequency are adjustable via a foot controller.



LED beats halogen

Continual improvements have been made in energy-saving LED technology. For the first time, it is now ahead of halogen technology in terms of light output. It is therefore no wonder that ATMOS uses LED technology in its endoscopy and stroboscopy systems – ATMOS has pioneered the use of this technology in ENT medicine!



Silent stroboscopy

No heating of optics

Long life cycle due to LED technology

Integration

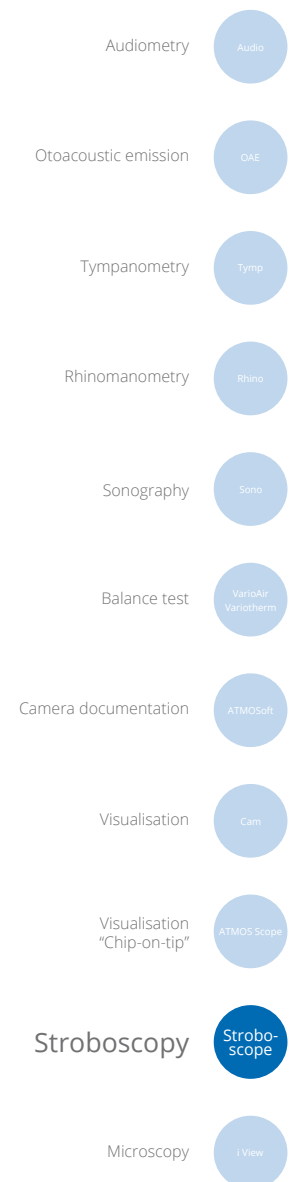
Possibility of integration into the treatment unit. The choice is yours: Use as a standalone system or integration within an ATMOS treatment unit.

By pre-selecting the application component and the light source, the control module works in the background to optimise 128 parameters for perfect image quality. For reliable voice and larynx diagnostics, data is displayed directly in the video image. This facilitates the investigation or assessment and optimised diagnostics for the ENT physician.



ATMOS LED technology

- More light than conventional halogen technology
- No fan noise
- No expensive fibre optics
- Vibration resistant (lifetime of 50,000 h)
- No warm-up phase
- No temperature loading of the examined tissue
- Minimal power consumption (2 W)



A small device with a big impact

Full transparency

ATMOS knows what a cutting-edge microscope should be capable of: **Perfection in the treatment of patients!**

The development of a high-tech microscope system from high-quality optics and LED lighting, as well as numerous OT features, results in a unit that is second to none...

The ATMOS® i view can be precisely adapted to individual needs. Numerous features make it a flexible and versatile product. The exceptionally comprehensive and high-quality technology is ground-breaking in the field of diagnosis and ear surgery.

In addition to labour-saving features and plug-ins, a great deal of focus is placed on data processing. There are many features that facilitate day-to-day operations within the practice.

LED

The integrated LED lighting is the core of the microscope ATMOS® i View.

Auto-light

When positioning the microscope, the light turns on automatically – this saves time and ensures smooth operation. The need for additional switching before an investigation is eliminated.

Ergonomic handles

There are several ergonomically designed handle variants available.



3D HD optics

Superior lighting quality

Optimal data processing

Large exit pupil

The deciding factor in ensuring quick three-dimensional perception and comfortable, fatigue-free operation is how easily the pupil of the human eye can be aligned with the exit pupil of the eyepiece. The large exit pupil of the ATMOS® i View therefore considerably facilitates operations. In addition, with the raised 24 mm stereo base, an optimal stereo effect is ensured.



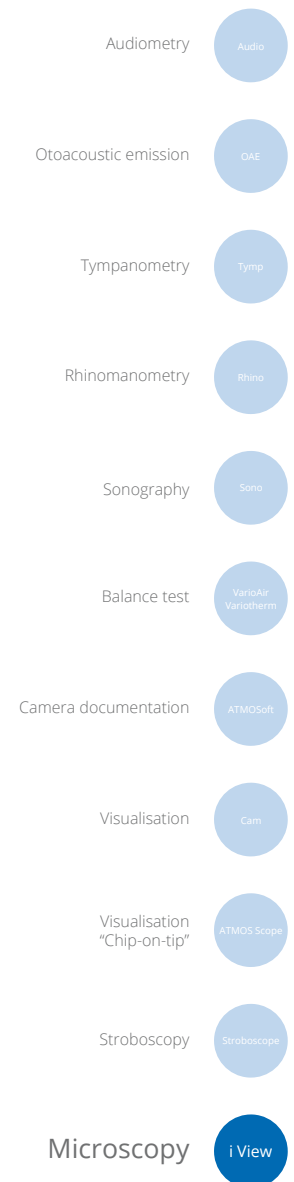
Recording of the eardrum

No fan noise or vibration

The latest LED technology eliminates the need for fans while still providing excellent brightness.

Stroboscope mode

In conjunction with an LED stroboscope from ATMOS, the ATMOS® i View can be used to investigate the vocal folds via stroboscopy, using mirrors – for a stereoscopic examination of the peripheral edge shift. This saves you the time-consuming preparation and use of laryngoscopes.





MedizinTechnik

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