SPECIFICATIONS

EP-1000 PRO

Examinations	ERG / PERG / ERG 30 HZ VEP / FLASH VEP / Sweep VEP / EoG / S-Cone / ML-Cone / VEP Children / VEP uncooperative patient / PERG ratio

GANZFELD DOME

Dome / light calibration	Automated
Flash / illumination	RGB-LED + white LED
Flash intensity	0.1 to 30 cds/m²
Flash frequency / time	0.1 to 90 Hz / 11 ms to 60 sec.
Light intensity	0 to 600 cds/m² colour RGB

INTERNAL PATTERN

Monitor	Colour TFT 1024 x 768
Contrast Intensity	1:500 / max. 300 cds/m²
Connector	External stimulator: CRT monitor flash goggle video external flash optional channel: 3/4 & 5/6

DIMENSIONS & ELECTRIC REQUIREMENTS

Dimensions WDH	390 x 540 x 500 mm
Weight	Approx. 12.0 kg
Power supply	AC 100 to 240 V
Frequency	50/60 Hz
Power consumption	Less than 100 VA

BIO-SIGNAL CONVERTER BOX

Channel / digitizing	2 channel / 16 bit
Electrode socket	1.5 mm / DIN 42802-1
Internal impedance	≥ 120 MΩ @ 10 Hz
Internal noise	≤ 2.0 µV$_{PP}$ @ 1 … 70 Hz
Input DC voltage	± 250 mV (max.)
Patient auxiliary current	< 1 µA

DIMENSIONS & ELECTRIC REQUIREMENTS

Dimensions WDH	158 x 95 x 33 mm
Weight	Approx. 0.35 kg

ISOLATION TRANSFORMER

Type	REOMED-1000

DIMENSIONS & ELECTRIC REQUIREMENTS

Dimensions WDH	100 x 220 x 300 mm
Weight	Approx. 12.5 kg
Power	115 V / 230 V AC (± 10 %), 50/60 Hz
Frequency	50/60 Hz
Output	1000 W at 115 V/230 V on 9 plugs

TE-1000 ELECTRODE

Type	DTL Silver Electrode
Length	80 m
Exams Each Eye	Approx. 1,000 Exams

EP-1000 MULTIFOCAL

Additional Specifications for Multifocal Examinations	
Multifocal	mfERG (FoK / SoK) / mfPERG / mfVEP

STIMULATIONS

M-Sequences	Short (127 to 8191)
Hexagon	Screening (1 to 19) Standard (37 to 61) High Resolution (103 to 241)
mfERG Screen	Hexagon (1 to 241)
mfVEP Screen	Dartboard (seq. 60)
Distortion	1 to 80 (standard 4)
Hex-Distance	0 to 50 (standard 5)

DIAGNOSTIC TOOLS

Analysis Displays	Curves (for each hexagon possible), values (for each hexagon possible), 2D, 3D, quadrants, table, rings (for each ring possible), groups (8 programmable groups)

Values / hexagon	
P50	(nV/deg), (ms)
N95	(µV), (nV/deg), (ms)
Scalar product	(µV), (µV nV/deg)
Comp area	(deg)

MULTIFOCAL MONITOR

LCD panel size	19"
Display area HV	376.32 mm x 301.056 mm
Synchronization	Horizontal 30 ~ 81 kHz Vertical 56 ~ 75 kHz
Display colour	16.2 m colours
Optimum resolution	1280 x 1024 at 60 Hz
Pixel pitch HV	0.294 mm x 0.294 mm

DIMENSIONS & ELECTRIC REQUIREMENTS

Dimensions WDH	423 x 63 x 360 mm
Weight	Approx. 5.5 kg
Power supply	AC 100 to 240 V ~ (± 10 %), 50/60 Hz

OPTIONALS

Goggle stimulator mini dome, 2-channel-A/D converter box, TE-1000 electrode

DIMENSIONS

~ 12,0 kg

500

390   540
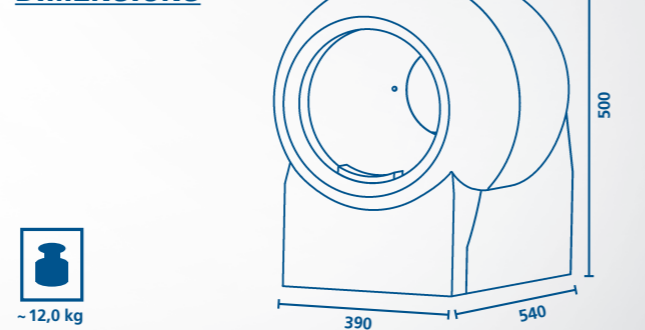
ELECTROPHYSIOLOGY EP-1000

EP-1000 PRO / EP-1000 MULTIFOCAL

DELIGHT IN SIGHT

Standardised, compact and multifunctional.

- LED colour flash and background illumination
- Programme editor for individual examinations
- Multifocal ERG
- ISCEV conform standard tests
- S-Cone analysis, PERG Ratio

TOMEY
TECHNOLOGY AND VISION

THE TOMEY EP-1000 PRO / EP-1000 MULTIFOCAL

QUALITY IN DETAIL

The EP-1000 system is the essence of more than 20 years experience of developing electrophysiology instruments.

You can choose between the computerised professional system and the high-end multifocal device. Both systems confirm to ISCEV and are multilingual.

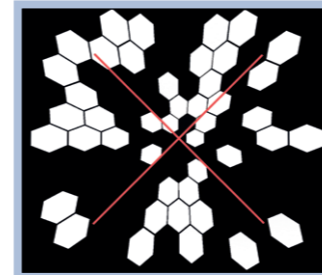Due to our analog-digital converter box you receive pure patient responses.

Up to 6 channels are possible for multi-channel VEP. With the **EP-1000 Pro** you are able to perform all standard tests as ERG, VEP and EoG, PERG and SWEEP-VEP. Due to the LED based flash technology you have unlimited number of flash stimulation colours on an also unlimited mix of background illumination colours. This allows you to separate S-Cones from ML-Cones and you are prepared for future test routines.

EP-1000 MULTIFOCAL

The EP-1000 Multifocal (mf) allows you to do all mf standard tests:
- mfERG flash (FOK)
- mfPERG (9 pattern for stimulation)[for scientific work]
- mfVEP (dartboard stimulation) for analysing local retina functions[for scientific work]

The EP-1000 Multifocal is based on short M-sequences. This allows you to recheck all conditions of the exam, such as proper fit of electrodes and target fixation or acceptable responses within a very short time (8 sec.).


The cross target covers the complete stimulation monitor to enable exams for macula dystrophy patients. The alternating animals are a special target for children.

Different fixation targets are available
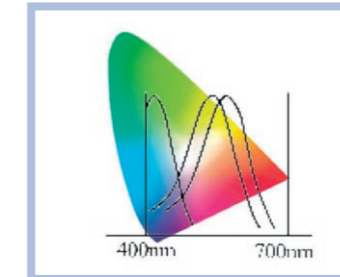
Like in the „blue on yellow" Perimetry we can show the function of the blue cones using a very intensive orange background illumination with blue flashes for stimulation. This is very helpful for early glaucoma detection.
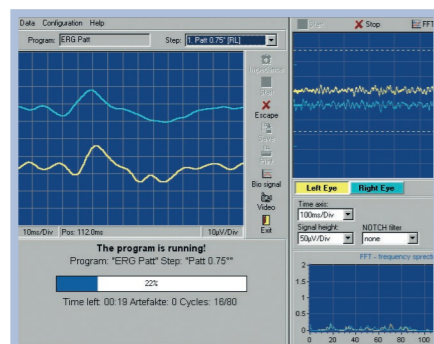
S-Cone examination
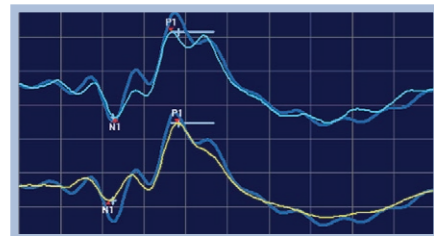
NORMAL DATA OVERLAY

The EP-1000 has an integrated „normal" database tool. Normal patients can be marked as „normal" and transferred to the database. There it will be automatically sorted in your predefined age groups. These normal values can be displayed in the examination screen to be compared with the actual measurement.
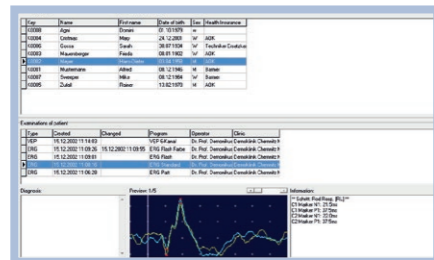
DATABASE DISPLAY

The initial screen simultaneously displays all information related to patients: personal data, stored exams, thumbnail pictures of curves with latency, amplitude and personal diagnostic information.
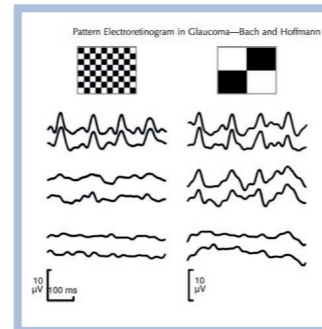
MEASUREMENT DISPLAY

Full computerised control of electrophysiology testing. During examination, different windows are shown:

- Biosignal
- Averaged trace
- Fourier analysis
- Live video of patient's fixation

In addition, the impedance can be monitored before the actual exam starts. The curves can be compared to each other.
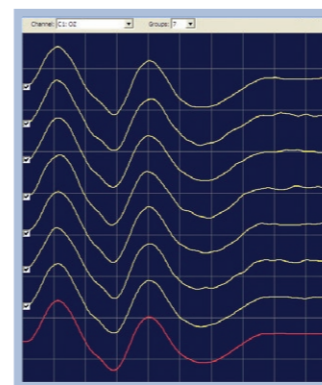
ADDITIONAL EXAMINATIONS

PERG Ratio

This is a PERG programme for early glaucoma detection.

$$PERG\ Ratio = \frac{PERG\ amplitude\ to\ 0.8°\ checks}{PERG\ amplitude\ to\ 0.16°\ checks}$$

VEP Children ext.

This is a „standard VEP" for uncooperative patients or with bigger pattern sizes for children (200 pattern reversals instead of 80). The new group selection function enables you to reject the VEP´s uncooperative phase and to average the good recording to get a reliable VEP. This can also be used for standard exams with handicapped or elderly patients.