

# SPECIFICATIONS

## EP-1000 PRO

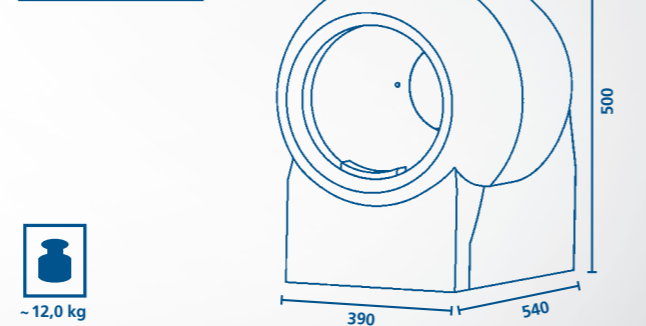
<b>Examinations</b>	ERG / PERG / ERG 30 HZ VEP / FLASH VEP / Sweep VEP / EoG / S-Cone / ML-Cone / VEP Children / VEP uncooperative patient / PERG ratio
<b>GANZFELD DOME</b>	
<b>Dome / light calibration</b>	Automated
<b>Flash / illumination</b>	RGB-LED + white LED
<b>Flash intensity</b>	0.1 to 30 cds/m <sup>2</sup>
<b>Flash frequency / time</b>	0.1 to 90 Hz / 11 ms to 60 sec.
<b>Light intensity</b>	0 to 600 cds / m <sup>2</sup> colour RGB
<b>INTERNAL PATTERN</b>	
<b>Monitor</b>	Colour TFT 1024 x 768
<b>Contrast Intensity</b>	1:500 / max. 300 cds / m <sup>2</sup>
<b>Connector</b>	External stimulator: CRT monitor flash goggle video external flash optional channel: 3/4 & 5/6
<b>DIMENSIONS &amp; ELECTRIC REQUIREMENTS</b>	
<b>Dimensions WDH</b>	390 x 540 x 500 mm
<b>Weight</b>	Approx. 12.0 kg
<b>Power supply</b>	AC 100 to 240 V
<b>Frequency</b>	50/60 Hz
<b>Power consumption</b>	Less than 100 VA
<b>BIO-SIGNAL CONVERTER BOX</b>	
<b>Channel / digitizing</b>	2 channel / 16 bit
<b>Electrode socket</b>	1.5 mm / DIN 42802-1
<b>Internal impedance</b>	≥ 120 MΩ @ 10 Hz
<b>Internal noise</b>	≤ 2.0 μV <sub>pp</sub> @ 1 ... 70 Hz
<b>Input DC voltage</b>	± 250 mV (max.)
<b>Patient auxiliary current</b>	< 1 μA
<b>DIMENSIONS &amp; ELECTRIC REQUIREMENTS</b>	
<b>Dimensions WDH</b>	158 x 95 x 33 mm
<b>Weight</b>	Approx. 0.35 kg
<b>ISOLATION TRANSFORMER</b>	
<b>Type</b>	REOMED-1000
<b>DIMENSIONS &amp; ELECTRIC REQUIREMENTS</b>	
<b>Dimensions WDH</b>	100 x 220 x 300 mm
<b>Weight</b>	Approx. 12.5 kg
<b>Power</b>	115 V / 230 V AC (± 10%), 50/60 Hz
<b>Frequency</b>	50/60 Hz
<b>Output</b>	1000 W at 115 V / 230 V on 9 plugs
<b>TE-1000 ELECTRODE</b>	
<b>Type</b>	DTL Silver Electrode
<b>Length</b>	80 mm
<b>Exams Each Eye</b>	Approx. 1,000 Exams

## EP-1000 MULTIFOCAL

<b>Additional Specifications for Multifocal Examinations</b>	
<b>Multifocal</b>	mfERG (FoK / SoK) / mfPERG / mfVEP
<b>STIMULATIONS</b>	
<b>M-Sequences</b>	Short (127 to 8191)
<b>Hexagon</b>	Screening (1 to 19) Standard (37 to 61) High Resolution (103 to 241)
<b>mfERG Screen</b>	Hexagon (1 to 241)
<b>mfVEP Screen</b>	Dartboard (seq. 60)
<b>Distortion</b>	1 to 80 (standard 4)
<b>Hex-Distance</b>	0 to 50 (standard 5)
<b>DIAGNOSTIC TOOLS</b>	
<b>Analysis Displays</b>	Curves (for each hexagon possible), values (for each hexagon possible), 2D, 3D, quadrants, table, rings (for each ring possible), groups (8 programmable groups)
<b>Values / hexagon</b>	
<b>P50</b>	(nV/deg), (ms)
<b>N95</b>	(μV), (nV/deg), (ms)
<b>Scalar product</b>	(μV), (μV nV/deg)
<b>Comp area</b>	(deg)
<b>MULTIFOCAL MONITOR</b>	
<b>LCD panel size</b>	19"
<b>Display area HV</b>	376.32 mm x 301.056 mm
<b>Synchronization</b>	Horizontal 30 ~ 81 kHz Vertical 56 ~ 75 kHz
<b>Display colour</b>	16.2 m colours
<b>Optimum resolution</b>	1280 x 1024 at 60 Hz
<b>Pixel pitch HV</b>	0.294 mm x 0.294 mm
<b>DIMENSIONS &amp; ELECTRIC REQUIREMENTS</b>	
<b>Dimensions WDH</b>	423 x 63 x 360 mm
<b>Weight</b>	Approx. 5.5 kg
<b>Power supply</b>	AC 100 to 240 V ~ (± 10%), 50/60 Hz

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

### DIMENSIONS



2013/04 - subject to change without notice

# ELECTROPHYSIOLOGY EP-1000

## EP-1000 PRO / EP-1000 MULTIFOCAL

# DELIGHT IN SIGHT

Standardised, compact and multifunctional.



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

**TOMEY**  
TECHNOLOGY AND VISION



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# 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.

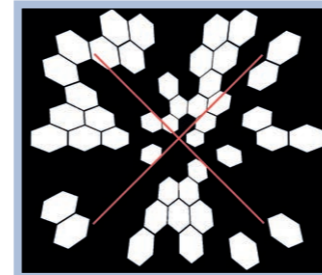
Up to 6 channels are possible for multi-channel VEP. With the **EP-1000 Pro** you are able to perform all standard tests as ERG, VEP and EoG, PERG and SWEEP-VEP. Due to the LED based flash technology you have unlimited number of flash stimulation colours on an also unlimited mix of background illumination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

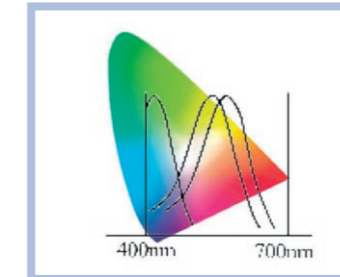
- mfERG flash (FOK)
- mfPERG (9 pattern for stimulation)\*for scientific work
- mfVEP (dartboard stimulation) for analysing local retina functions\*for scientific work

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.).



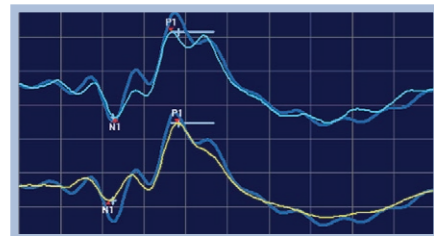
Different fixation targets are available

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



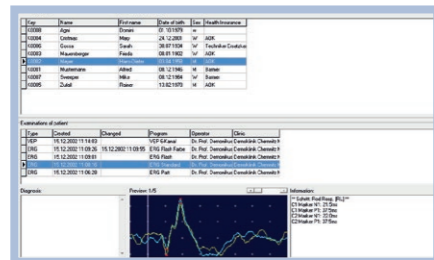
S-Cone examination

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.



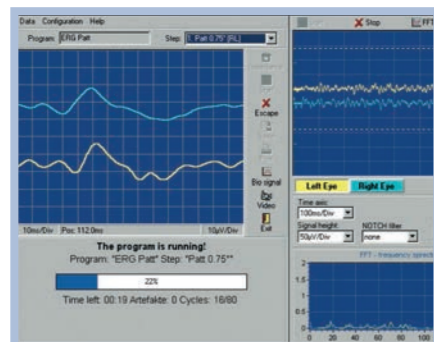
## NORMAL DATA OVERLAY

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.



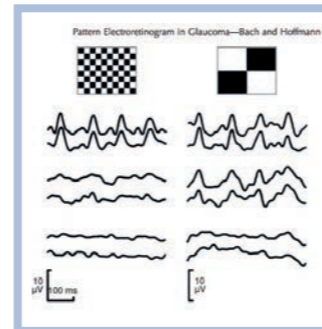
## MEASUREMENT DISPLAY

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.

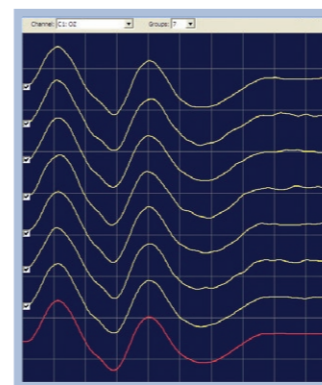
## ADDITIONAL EXAMINATIONS



PERG Ratio

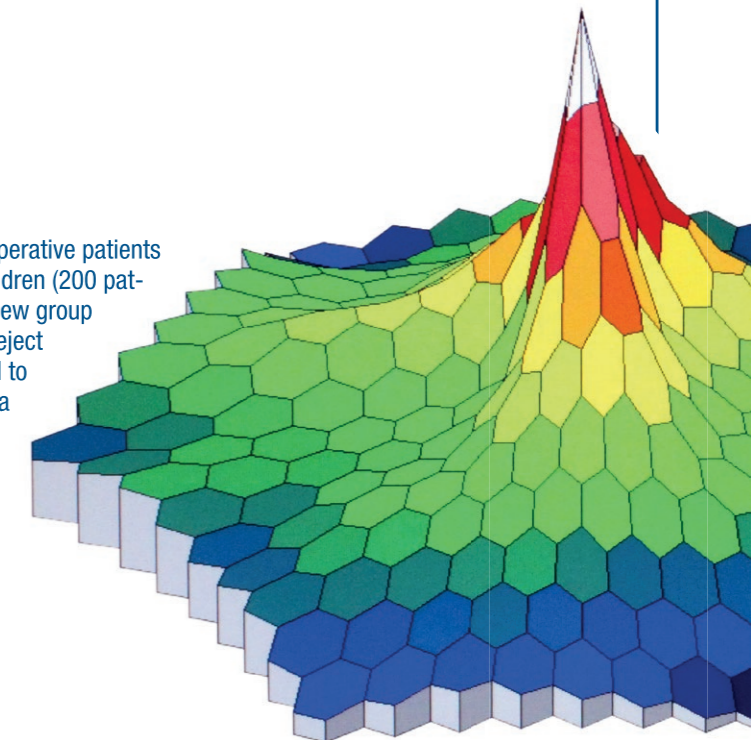
This is a PERG programme for early glaucoma detection.

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



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 hand-capped or elderly patients.



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