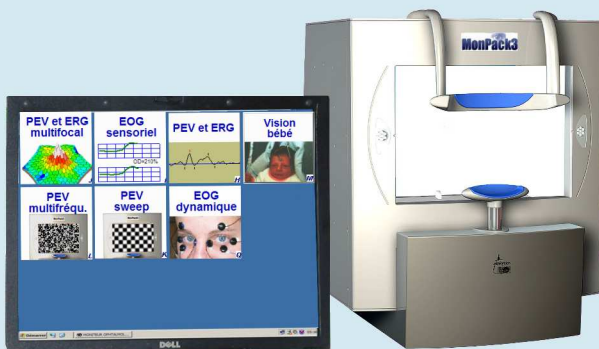




ELECTRODES CATALOGUE

VEP - ERG - EOG



KEVORK
INSTRUMENTS



Electrodes



Connectors



Shunts



Conductive paste



Accessories

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GENERAL INFORMATION

■ EC Certification

All our products are EC certified, except when mentioned explicitly. The certificates are available on request.

■ Price conditions

Our prices are listed in Euros.

For countries within the European Union, if the buyer does not have an intracommunity VAT number he should add the V.A.T. at a rate of 19.6 percent

- Order value lower than 400 € : Add 15 Euros for preparation and packing.
The cost of transportation is extra and depends on your requirements for delivery
- Order value higher than 400 € : Preparation and packing are free.
The cost of transportation is extra and depends on your requirements for delivery.

Discounts for large quantities. Please contact us.

■ Which electrode to choose?

Electroretinography (ERG)

(for simultaneous recording of the two eyes)

- 2 active electrodes (positive) of the following types: scleral lens or non scleral,
- 2 reference electrodes (negative) of the following types: cupula or disposable skin electrode,
- 1 neutral electrode: cupula or ear clip or disposable skin electrode.

Visual evoked potentials (VEP)

- 2 electrodes (active and reference): cupula or needle (for each recorded channel),
- 1 neutral electrode: cupula or ear clip or disposable skin electrode.

Multifocal electroretinography (MERG)

- due to the small amplitude of recorded signals, we recommend the use of shielded cables.

Sensory electro-oculography (study of pigment epithelium)

(for simultaneous recording of the two eyes)

- 4 electrodes (2 active and 2 reference) : « Beckmann » type, cupula type or disposable skin electrode,
- 1 neutral electrode: cupula or ear clip or disposable skin electrode.

Dynamic electro-oculography (study of eye movements)

(for simultaneous recording of horizontal and vertical eye movements from the two eyes)

- 8 electrodes (4 active and 4 reference) : « Beckmann » type,
- 1 neutral electrode: cupula or ear clip or disposable skin electrode.

■ Which connector to choose?

3 different types of plugs are available to connect the electrodes to the amplification module.



Safety plugs

Sole plugs compatible with actual safety regulations (DIN 42802).



Male plugs with a diameter of 2mm

These electrodes plugs are not authorized for clinical exams on humans. Use for research or veterinary applications.



Male plugs with a diameter of 4mm

These electrodes plugs are not authorized for clinical exams on humans. Use for research or veterinary applications.

■ Which electrode paste to use?

The purpose of these pastes is to improve the electrical contact between the electrode and the skin. The quality of this contact is characterized by the electric impedance expressed in Kohms (Kilo Ohms) and is measured by the Vision Monitor system at the time of patient's installation. A bad contact is characterized by a too high impedance and frequently involves results of bad quality. The ideal impedance depends on the type of electrode, but it is recommended not to exceed 3 to 4 Kohms.

3 types are proposed:

Abrasive paste « with purnice »

Intended to eliminate the dry skin layer (electrically insulating). It is recommended for all the electrodes in contact with the skin (electrodes cups or of type "Beckmann" or electrodes stuck of single use).

Apply this paste by a light massage of the zone of positioning of the electrode.

Thereafter, clean and degrease this same zone with an alcoholic solution.

Simple conducting paste intended to ensure the contact for the electrodes placed out of the scalp.

Adhesive conducting paste intended to ensure the contact for the electrodes cups placed in the scalp.

SCLERAL LENSES FOR ERG

■ « Dencott » - Disposable monopolar scleral lenses

With blepharostats – Packed per pair – Sterile packing – 3 models – Connectors not included.

Use exclusively "0.6 mm type "L" (lens) connectors (see on p. 11).



COQ25-P1	Child size 21 x 23 mm
COQ26-M1	Medium adult size 22 x 24 mm
COQ27-G1	Large adult size 24 x 26 mm

■ « Dencott – optical » - Disposable monopolar scleral lens

With blepharostats – Packed individually – Sterile packing – One model.

Flexible cable of 70 cm with safety plug (DIN42802) included.



COQ20-uni	Universal size Optical quality Ø 12 mm
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■ « ERG Jet » - Disposable monopolar scleral lens

With blepharostats – Packed individually – Sterile packing – One model (diameter: 10 mm).

Flexible cable of 70 cm with safety plug (DIN42802) included.



COQ23	ERG Jet Safety plug DIN42802
COQ21	ERG Jet 2 mm male plug

■ « Henkes » - Reusable monopolar scleral lens

Packed individually - 2 models – Reusable.

Flexible cable with safety plug (DIN42802) included.



COQ80	Henkes electrode Small size (∅ 17 mm)
COQ81	Henkes electrode Large size (∅ 20 mm)

■ « Burian Allen » - Reusable bipolar scleral lens

The US standard – Not EC marked (for non medical application).

Packed individually - 2 models – Reusable.

Connectors with safety plug (DIN42802) included.



COQ16	Pediatric size
COQ17	Adult size

■ « Gold Lens » - Reusable bipolar scleral lens

Packed individually - 2 models – Reusable.

Connectors with safety plug (DIN42802) included.

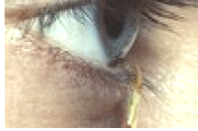


COQ18	Pediatric size
COQ19	Adult size

NON CORNEAL ELECTRODES FOR ERG

■ « Goldfoil »

Without contact with the cornea – Not sterile – Packed individually – 1 meter connector included.



COQ34	Goldfoil Safety plug DIN42802
COQ24	Goldfoil 2 mm male plug
COQ44	Goldfoil 4 mm male plug

■ « DTL-plus »

Without contact with the cornea – Sterile – Packed per pair of electrodes – Connectors not included.

Use exclusively 1.0 mm "N" (needle) type connectors (see p. 11).



COQ50	DTL-plus
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■ « HK Loop »

Without contact with the cornea – Reusable – Packed per pair of electrodes – Connectors not included.

Use exclusively "0.6 mm type "L" (lens) connectors (see p. 11).



COQ70	HK-Loop
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NEEDLE ELECTRODES

■ Disposable needle electrodes

Stainless steel – Sterile - \varnothing 0,35 mm – length 12 mm – Packed per 10 needles in a sterile package.

Use exclusively 1.0 mm “N” (needle) type connectors (see p. 11).



AIG05	\varnothing : 0.35 mm Length: 12 mm
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■ Reusable needle electrodes

Stainless steel – Not sterile – \varnothing 0.35 mm – length 12 mm – Packed individually – 1 m flexible connector included.



AIG11	Needle electrode Safety plug DIN42802
AIG01	Needle electrode 2 mm male plug
AIG03	Needle electrode 4 mm male plug

SKIN CONTACT ELECTRODES

■ Cupula electrode Ag/AgCl

Ag/AgCl disc – Not sterile – Ø 10 mm – Reusable – Packed individually - 1 meter long cable.



ELE12	Ag/AgCl cupula electrode Safety plug DIN42802
ELE02	Ag/AgCl cupula electrode 2 mm male plug
ELE04	Ag/AgCl cupula electrode 4 mm male plug

■ « Beckmann » type electrode

"Recessed" disk Ag/AgCl – Not sterile – Ø 8 mm – Reusable – Packed individually - 1 m long cable.
Very high stability and low noise – Suitable for electro-oculography exams.

Electrode fixed to the skin with an adhesive ring (see item below referenced COL01).



ELE22	"Beckmann" type electrode Safety plug DIN42802
ELE23	"Beckmann" type electrode 2 mm male plug
ELE24	"Beckmann" type electrode 4 mm male plug

■ Adhesive rings for « Beckmann » type electrodes

Roll of 500 units.



COL01	Adhesive ring
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■ Gold plated cupula electrodes

Gold plated disk - Ø 10 mm – Not sterile – Reusable – Packed per 10 - 1.2 meter long cable.



ELE32	Gold plated cupula electrode Safety plug DIN42802
ELE33	Gold plated cupula electrode 2 mm male plug
ELE34	Gold plated cupula electrode 4 mm male plug

■ Disposable skin electrodes without connector cable

Ag/AgCl electrodes - Packed per 100 - **Reusable connector cable not included.**
Use exclusively « alligator clip » connectors (see p. 11).



ECO10	Small size 21 x 34 mm
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■ Disposable skin electrodes with connector cable

Ag/AgCl electrodes - Not sterile – Single use – Pack of 12.
 1 meter cable - 1.5 mm connector with safety plug included.



ECO30	Ag/AgCl electrode Solid gel for easy repositioning.
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■ Ear clip electrode

Association of 2 cupulas articulated with a spring – Not sterile – Ø 10 mm – Packed individually.
 1 meter long cable.



ELE13	Electrode pince oreille Safety plug DIN42802
ELE03	Electrode pince oreille 2 mm male plug
ELE05	Electrode pince oreille 4 mm male plug

SIMPLE CONNECTORS

Reusable connectors

Length: 1 m

Important note:

Cables with 0.6 mm connectors are green and marked with letter "L" (lens).

Cables with 1.0 mm connectors are red or black and marked with letter "N" (needle).

These connectors are specific and must not be used in replacement of each other.



USE:

- "Dencott" scleral lenses
- HK-loop electrodes

RAC12	0.6 mm "L" type connector - Green Safety plug DIN42802
RAC10	0.6 mm "L" type connector - Green 2 mm male plug
RAC11	0.6 mm "L" type connector - Green 4 mm male plug



USE:

- Needles
- DTL electrodes

RAC05	1.0 mm "N" type connector – Red or Black Safety plug DIN42802
RAC02	1.0 mm "N" type connector – Red or Black 2 mm male plug
RAC04	1.0 mm "N" type connector – Red or Black 4 mm male plug



USE:

- disposable skin electrodes

RAC32	Connector with alligator clip Safety plug DIN42802
RAC30	Connector with alligator clip 2 mm male plug
RAC31	Connector with alligator clip 4 mm male plug

SHIELDED CONNECTORS

These shielded connectors are recommended for all applications with very low signals such as Multifocal ERG...

SHUNTS

	RACCC	Short circuit between + and - inputs
	RAC2V1	Connector allowing to share the same electrode on 2 inputs.
	RAC3V1	Connector allowing to share the same electrode on 3 inputs.
	RAC4V1	Connector allowing to share the same electrode on 4 inputs.

CONDUCTIVE PASTE



PAT01D

Conductive paste
142 g tube

PAT02B

Adhesive conductive paste
TEN20
110 g tube

PAT03

Conductive paste Elefix
Nihon Khoden
180 g tube

PAT04

Abrasive paste
200 g pot

LIGHT SOURCES

	<p>LAM01</p> <p>General Electric EKE light source 21V 150W</p>
	<p>LAM02</p> <p>BAB light source 12V 20W</p>
	<p>LAM03</p> <p>FHX light source 13.8V 25W</p>
	<p>LAM04</p> <p>Red light source 630 nm 230V 10W For ERG room ceiling</p>
	<p>LAM05</p> <p>Portable red illuminator</p>

OTHER ACCESSORIES



MEN01

Chinrest for cupola stimulator



POI01

Push button
2 m cable

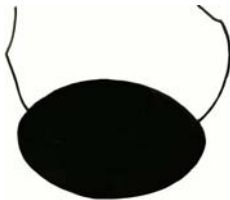
POI02

Push button
5 m cable

VER02

Frame for "large field" refractive
lenses

VER03

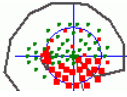

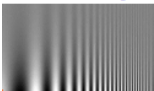
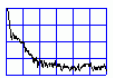

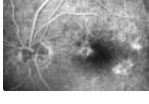
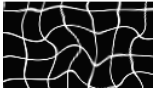
Nose support for the frame of
"large field" refractive lenses

VER06

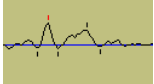
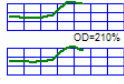
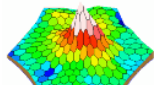



Eye patch
Black color

THE VISION MONITOR IN 2011

■ Psychophysical exams

 <p>Visual field</p>	<p>Visual field examinations can be performed on the MonCv1 perimeter (kinetic and static perimetry), MonCv3 (static and motion) and MonPack3 (in combination with electro-physiology).</p>	 <p>Attention field</p>	<p>Attention visual field is a test designed for screening patients for visual cognitive disabilities. Its main application is the evaluation of the aptitude for driving vehicles, particularly in old subjects or in handicapped subjects</p>
 <p>Contrast sensitivity</p>	<p>Measurement of the contrast sensitivity curve.</p>	 <p>Dark adaptation</p>	<p>Measurement of the dark adaptation curve.</p>
 <p>Visual aptitudes</p>	<p>Evaluation of visual performance.. Includes the measurement of visual acuity with ETDRS, the measurement of visual acuity under low contrast and under low luminance, the measurement of sensitivity to glare and more...</p>	 <p>Macular pigments</p>	<p>Evaluation of macular pigment density. Its purpose is an early detection of people at risk of developing age related macular degeneration.</p>
 <p>Metamorphopsia</p>	<p>Automated test for the detection and quantification of metamorphopsia.</p>		

■ Electrophysiological exams

 <p>VEP & ERG</p>	<p>Examination of flash and pattern VEP and ERG.</p>	 <p>Sensory EOG</p>	<p>Examination of sensory EOG</p>
 <p>Multifocal VEP & ERG</p>	<p>The multifocal ERG and VEP program realizes spatial maps of ERG and VEP responses</p>	 <p>Sweep VEP</p>	<p>The sweep VEP program offers a rapid estimation of visual acuity in babies by studying the VEP response during a rapid scan of spatial frequencies.</p>
 <p>Multifreq. VEP</p>	<p>The multi-frequency VEP program uses VEP for a fast and simultaneous evaluation of the responses from the two eyes (stereo VEP) or from two areas of the visual field.</p>	 <p>Baby vision</p>	<p>This program realizes the evaluation of infant's visual acuity by recording tracking eye movements of a structured visual stimulus.</p>

■ Oculomotricity exams

 <p>Pupillometry</p>	<p>This program allows the measurement of pupil size and its reactivity to visual stimuli</p>	 <p>Dynamic EOG</p>	<p>This program uses the electrographic signal to analyze eye movements (saccades, pursuits and optokinetic nystagmus).</p>
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