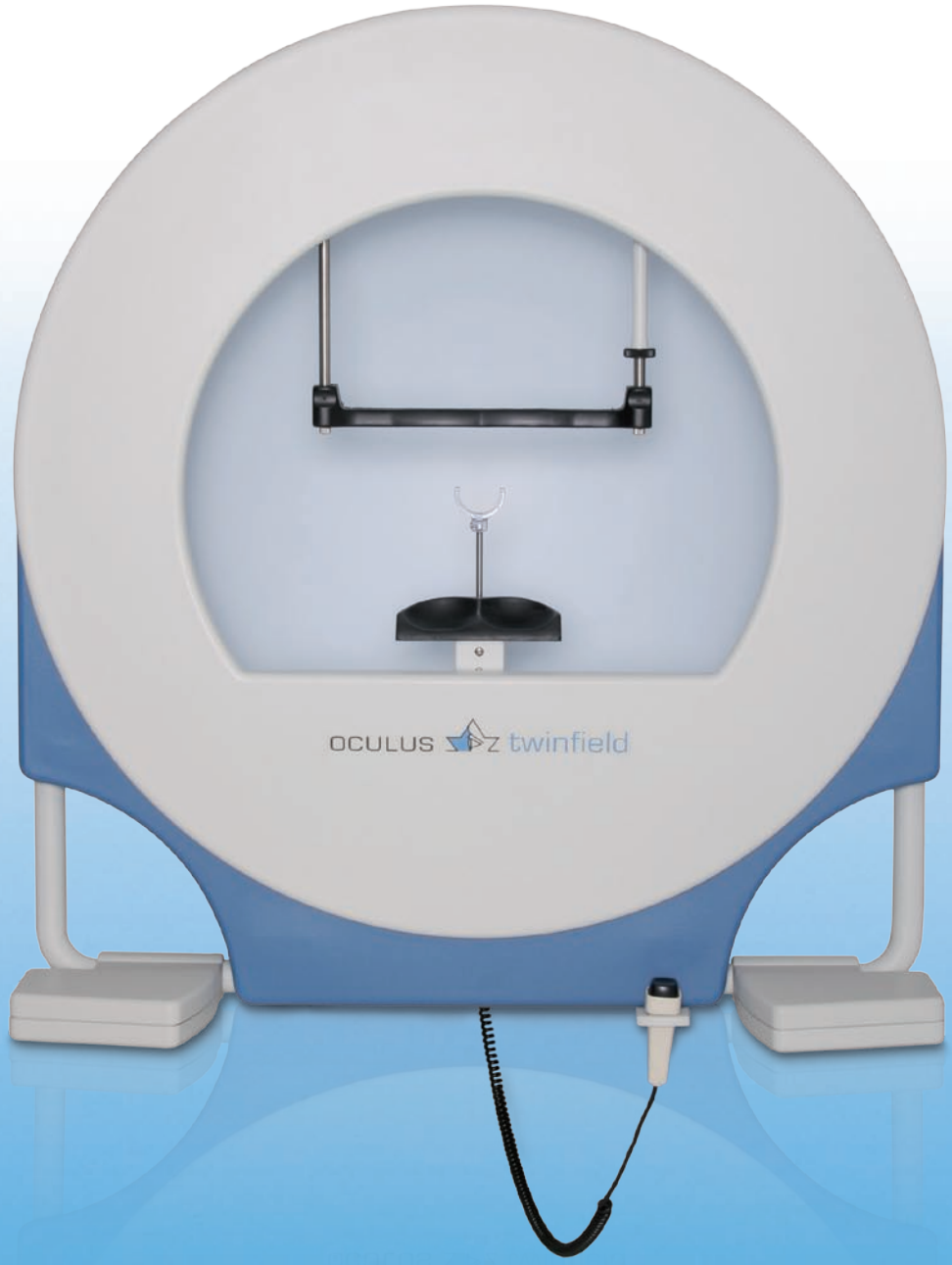
OCULUS | Twinfield® 2

Perimeter



OCULUS®

We focus on progress

Ophthalmologist

My definite all-round favorite!

In glaucoma care or visual field screening, whether being involved in neurological cases or in formulating expert opinions, OCULUS Twinfield® 2 offers me optimal examination methods, fully according to my specific needs. The high versatility of Twinfield®, together with its robustness and reliability, has brought a valuable addition to my practice.

OCULUS Twinfield® 2
Versatility without compromises

> Static Automated Perimetry

For a precise analysis of the central visual field

> Kinetic Perimetry

Automated and manual examinations made easy, while preserving the Goldmann standard

> Tradition on your side

More than 50 years of experience from the manufacturer of the first static perimeter (Tübinger Perimeter – TÜP) in your support

> Adaptability

The OCULUS Twinfield® 2 offers a wide choice of possible tests; it is well suited also for specially customized examinations.

The right tool for all

The clear, expressive and color-enhanced representations of examination results makes communication with your patients easy. A pictures tells more than a thousand words!
The picture looks like a conversation between the patient and the examiner but the text for examiner does not match what the patient just said. It is more like the examiner's opinion.

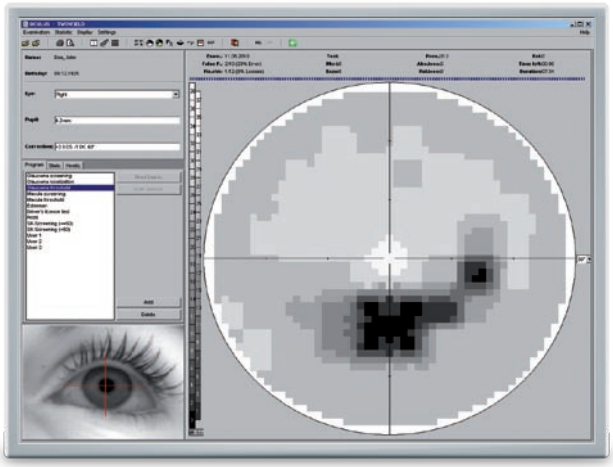
Patient:
I was pleasantly surprised at how fast I could finish the visual field test on the new Twinfield®. My mother who sits in a wheelchair could also be tested without difficulties.

Examiner:
The user interface is very clear and the individual Twinfield® programs can be run intuitively. Thanks to the remote surveillance module, I can even leave the examination room for a short time.

OCULUS Twinfield® 2
Up to every challenge

Static automated perimetry

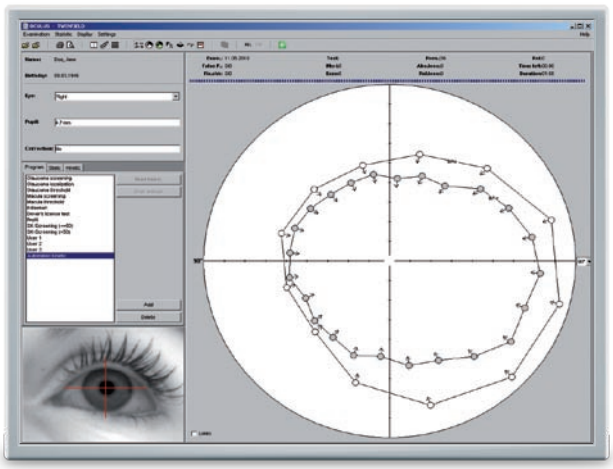
- The predefined programs ensure time saving and comfortable examinations during your daily routine in the clinic and praxis.
- A comprehensive set of orthogonal, physiological and freely customizable test grids in combination with various testing strategies offer high flexibility.
- The re-examination of conspicuous areas performed independently from the used test pattern optimizes the reliability of your findings.



> Grayscale representation of the findings

Kinetic perimetry

- The strict fulfillment of the Goldmann standard together with the free manual positioning and movement of the stimulus allow for real manual kinetic examinations, also in formulating legal expert opinions.
- For semi-automated kinetic tests the starting position and direction of the stimulus are set manually. The movement of the stimulus with a constant speed is computer controlled and independent from the examiner. This way the reproducibility of the findings is increased.
- The fully automated kinetic tests make time-saving and precise tests possible. These tests can be combined with static ones, for fast screening of the complete visual field.



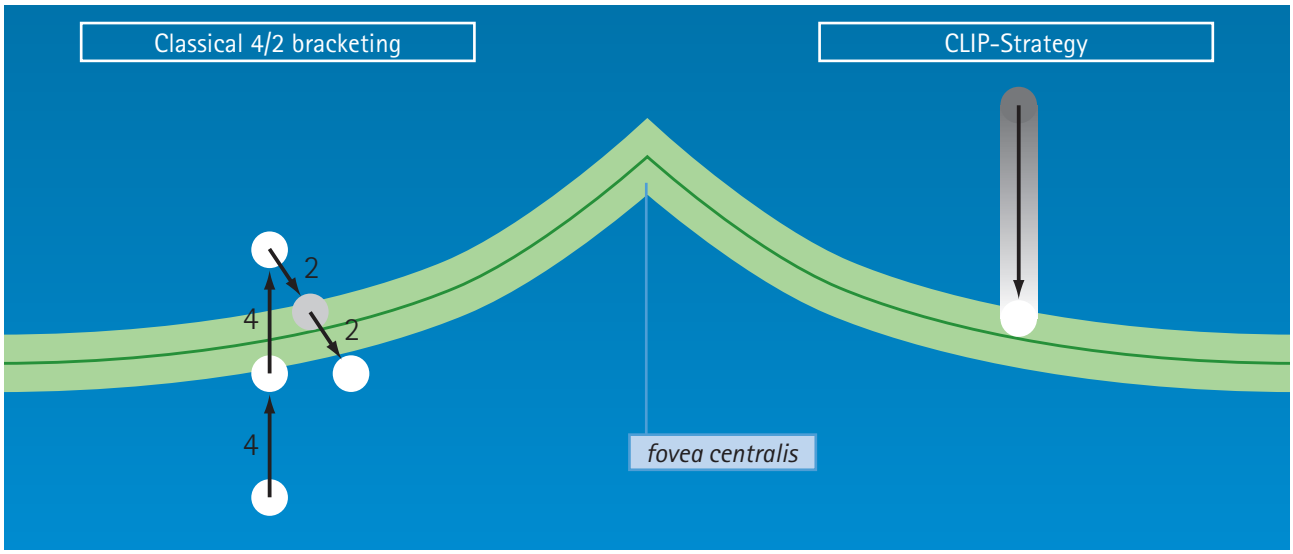
> Isopter representation of a kinetic examination

Flexibility above all

Versatile test patterns and programs

Take advantage of the highly customizable OCULUS Twinfield® 2, the flagship of OCULUS visual field testing devices! You receive a comprehensive set of predefined test patterns. Additionally you have the unrestricted freedom to set up any test pattern you might need for the most special purposes. All patterns can be combined, easily with any of the test strategies present in OCULUS Twinfield® 2. This way the standard set of programs from OCULUS can be easily extended at your will!

Comprehensive test strategies



From the classical 4/2 threshold to the CLIP strategy

CLIP (Continuous Light Increment Perimetry) is the new fast real threshold measurement strategy available in OCULUS Twinfield® 2. CLIP tests are independent of specific assumptions on pathology and of prior statistics, and do not rely on results obtained by interpolation. Additionally, the continuously increased luminance of the test stimulus will in the end lead to a positive response, measurably increasing patient satisfaction. With the examination speed adapted to the patient's reaction time a complete threshold measurement can be as short as 2 minutes.

Threshold estimates can be performed also with alternative strategies: either with the classical 4/2 bracketing or with the OCULUS Fast Threshold measurements. And if you aim only for a fast screening, a number of supra-threshold strategies (2-zone, 3-zone, quantify defects, OCULUS Class Strategy) may serve your purpose.

Unique combination of static and kinetic tests

Combining automated static and kinetic perimetry in a single test offers a novel method for fast and efficient screening of the entire visual field. This combination is based to a large extent on the physiology of the retina.

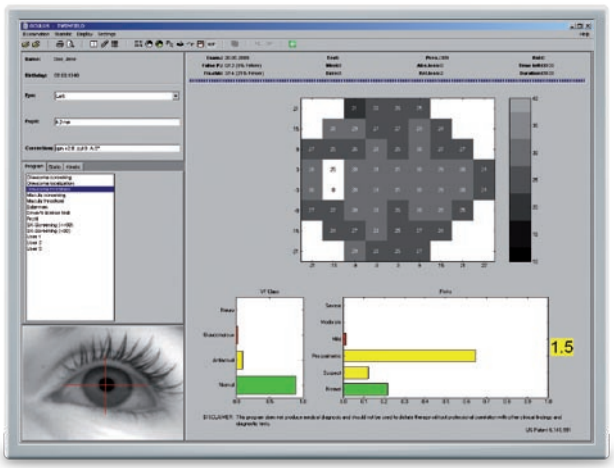
Extended analysis
Fast decisions

GSP – Glaucoma Staging Program

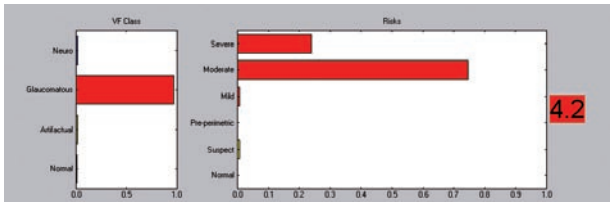
This innovative examination analysis enhancement provides valuable support in early recognition of glaucoma threat. Although the intuitive results are based solely on the measured visual field values, they reflect the ability of GSP to extract information beyond the statistical parameters commonly summarized in global indices. The GSP module is based on a clinical study conducted at the Doheny Eye Institute associated with the University of Southern California (Los Angeles, USA). It is the first time that such an expert system is seamlessly integrated in the user interface of a visual field testing device.

Beyond global indices

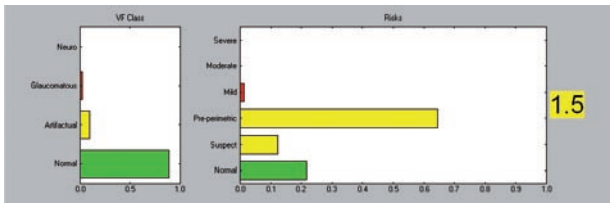
GSP evaluates the probabilities that a finding belongs to one of the possible visual field classes (normal, artifactual, glaucomatous, neuro) based on advanced pattern recognition algorithms. Normal and glaucomatous visual field classes are additionally associated with a certain probability to the glaucoma risk classes (normal, suspect, pre-perimetric, mild, moderate or severe).



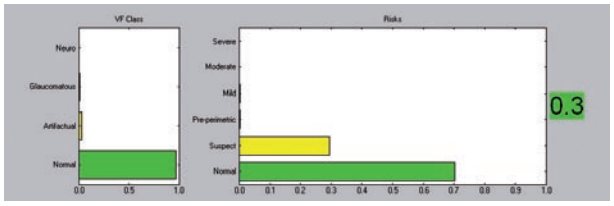
> Representation of the GSP analysis



> GSP Result: Moderate glaucoma



> GSP Result: Pre-perimetric glaucoma



> GSP Result: Normal

Clear result display

The results are displayed as probability bar chart diagrams with intuitive Green-Yellow-Red color coding for a fast and reliable interpretation of the findings. The striking novelty of GSP results from the implementation of advanced pattern recognition methods, and is given by its capability to identify glaucoma suspect patients or patients with possible pre-perimetric glaucoma using only the measured threshold values.

The results of GSP classification are conveniently summarized in the Glaucoma Likelihood Index (GLI), taking values from 0 (normal) to 5 (severe glaucoma). Changes in the GLI value help the rapid evaluation of changes in the visual field.

Result Printout

Everything at a glance

Patient data

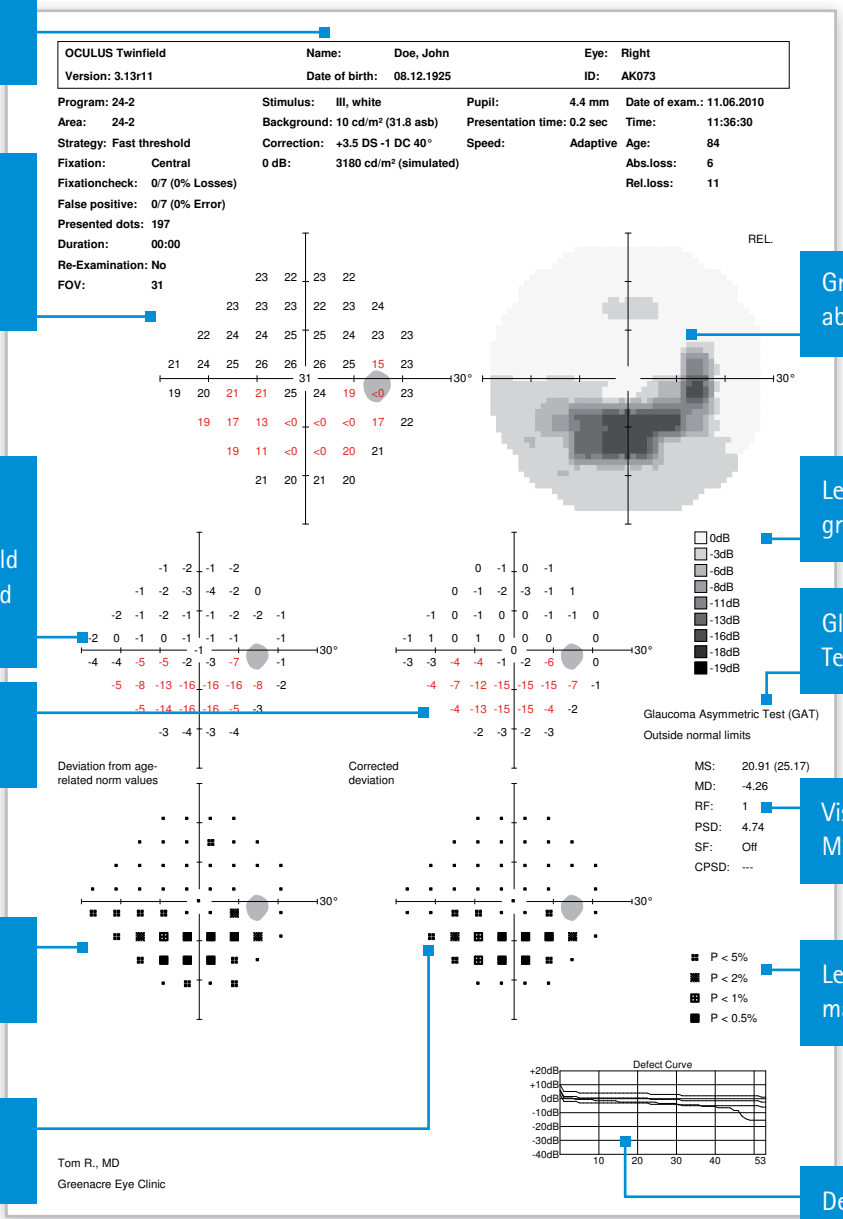
Measurements:
The threshold values measured for each location in dB

Deviation map:
Difference between the measured threshold values and age related normal values

Corrected deviation map

Deviation probability map

Corrected deviation probability map



Grayscale map:
absolute or relative

Legend for the grayscale map

Glaucoma Asymmetric Test (GAT)

Visual field indices:
MS, MD, PSD (LV), SF, RF

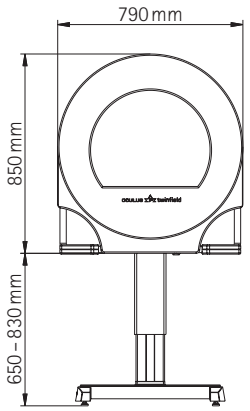
Legend for probability maps

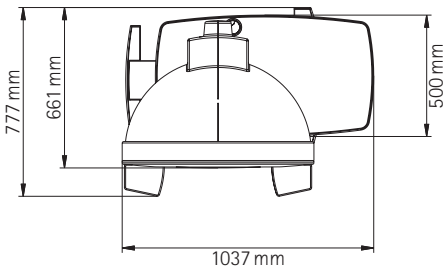
Defect curve

Technical data
OCULUS Twinfield® 2

Static perimetry	
Programs	Glaucoma (Screening, Localization, Threshold) Macula (Screening, Localization, Threshold) Static-Kinetic Screening, Profile User defined programs
Strategies	Threshold strategies: CLIP, Fast Threshold, Threshold (4/2) Supra-threshold strategies: 2-zones,3-zones, Quantify Defects, OCULUS Class strategy
Test point patterns	Rectangular patterns (30-2, 30-2bs, 24-2, 24-2bs, 10-2), Physiological patterns (Area 1-8), Quick Screening, Estermann, Quadrant, Hemisphere, Profile. Additional patterns freely definable
Kinetic perimetry	
Strategies	Automatic: Isopters determined on freely selectable meridians with angular distance at choice. Stimulus speed 2°/s (Goldmann) or user defined. Manual: Stimulus freely movable with the mouse Semi-automatic: Including scotoma boundary mapping
Specification	
Bowl radius	r = 30 cm (11.8")
Stimulus sizes	Goldmann I, III, V
Luminosity range / steps	0-318 cd / m² (1000 asb) / 0.1 log units
Background luminance	10 cd / m² (31.4 asb)
Speed	slow / normal / fast / adaptive / user defined
Stimulus color	white / blue / red
Background color	white / yellow
Maximum eccentricity	90° (full field)
Fixation control	blind spot (Heijl-Krakau), central threshold, CCD camera
Patient positioning	motorized chinrest, in height and in depth adjustable headrest, ergonomic armrest
Weight	24 kg (without table) /53 pounds
Operating voltage	100 V – 240 V
Minimal computer requirements	Windows 2000 or newer
Interface	USB

CE in accordance with Medical Device Directive 93/42/EEC





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OCULUS is certified by TÜV according to DIN EN ISO 13485/DIN EN ISO 9001

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