OCTOPUS 300
Perimetry you can trust

Tradition and innovation – Since 1858, visionary thinking and a fascination with technology have guided us to develop innovative products of outstanding reliability: Anticipating trends to improve the quality of life.

HAAG-STREIT DIAGNOSTICS

OCTOPUS 300
Central 30 degree perimeter

In 1972 Franz Fankhauser and others developed the principles and concepts of automated perimetry which resulted in the design of the first automated static perimeter, the Octopus 201, in 1974. Since then, Octopus has pioneered many significant innovations like the G-pattern, the direct projection system, fast strategies and outstanding software for visual field analysis.

Detecting visual field loss, defining the optimum treatment and following up the patient to decide on the necessity of treatment changes or surgery are the main tasks of every glaucoma specialist. Addressing the basic needs of a glaucoma specialist, the Octopus 300 is a central 30 degree perimeter for anyone who wants diagnostic flexibility for analyzing, assessing and tracking patients' visual fields.

With this device, you can run standard central fields with minimum test duration which are seamlessly integrated into your practice environment. This supports high patient throughput and effective practice management. With its built-in reliability features, the Octopus 300 is easy-to-use and delivers results you can trust.

A wide range of commonly used static test patterns, including G, 32, 30-2, 24-2, M, and 10-2 are incorporated into the Octopus 300.

Additionally, low vision programs for patients with advanced disease present stimuli at maximum stimulus brightness from the start and use an increased stimulus size. This not only saves valuable testing time, but also increases patient comfort. Furthermore, the Octopus 300 incorporates both Short-Wavelength Automated Perimetry (SWAP) and Flicker Perimetry for early glaucoma detection.

Automated Eye Tracking (AET)* recognizes the position of the pupil and automatically adjusts the fixation target in case the pupil is not properly aligned.

Central field standard white-on-white perimetry

The Octopus 300 performs standard white-on-white threshold testing in just 2–4 minutes in the central visual field. A wide range of commonly used static test patterns, including G, 32, 30-2, 24-2, M, and 10-2 are also incorporated into the Octopus 300.

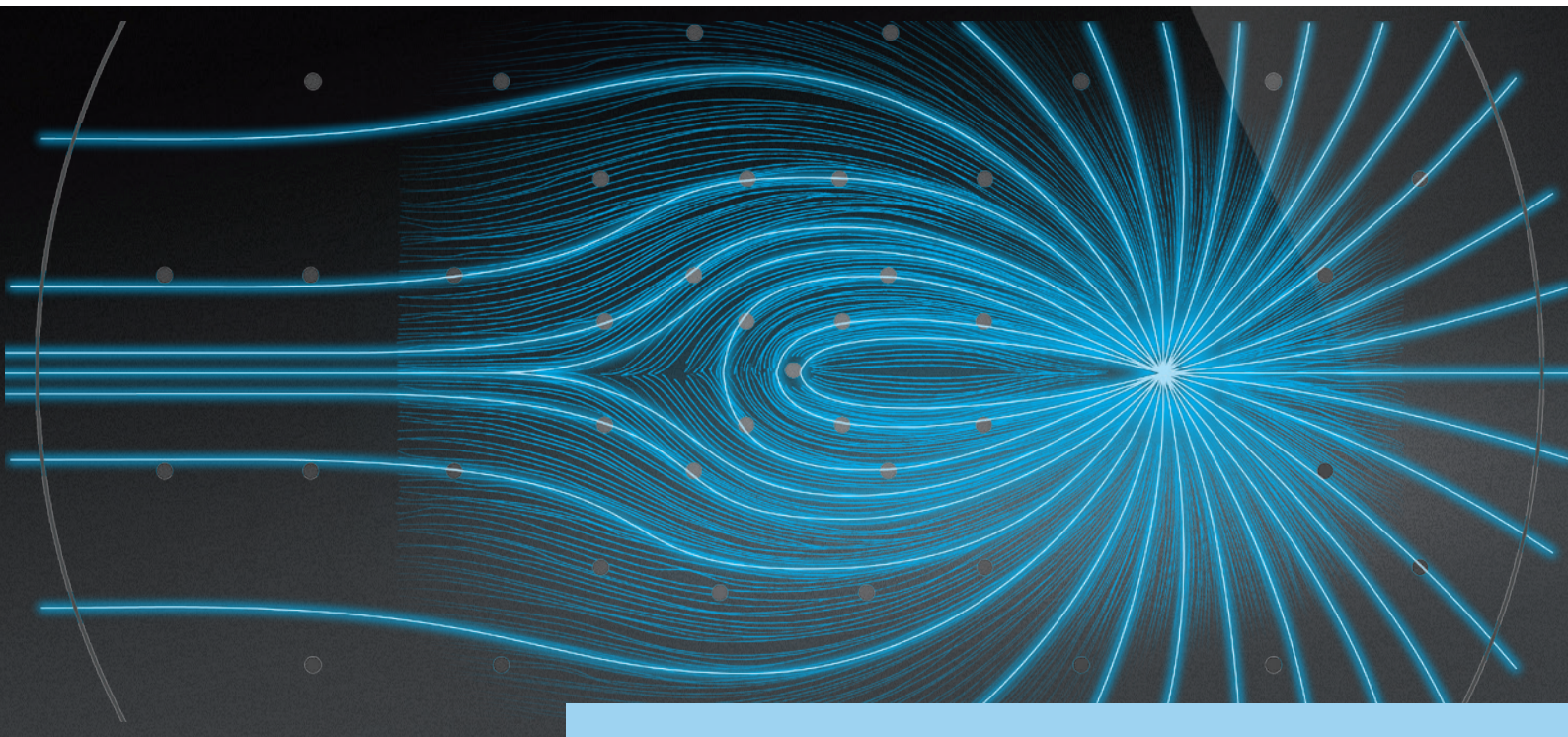
Reliable results made easy

Worry less about patient compliance. The Octopus 300 automatically recognises fixation losses and adjusts patients accordingly until optimal test conditions are achieved. Thus, the Octopus 300 produces results you can trust.

OCTOPUS 300
Central field standard white-on-white perimetry

The Octopus 300 offers a wide range of static test patterns, including 32, 30-2, 24-2, and 10-2. In addition, there are two unique physiology-based patterns: the G-Program (a 30-degree field for glaucoma assessment) and the M-Program (a 10-degree field for analysing the macula). They are both correlated with a nerve fibre bundle map and thus make it possible to test the points which are most important for a structure-function correlation. These examination patterns offer a higher density of stimuli in the centre, which supports the discovery of paracentral scotomas that are often missed by the common 32 pattern.

Additionally, low vision programs for patients with advanced disease present stimuli first at maximum stimulus brightness and use an increased stimulus size. This not only saves valuable testing time, but also increases patient comfort. Furthermore, the Octopus 300 incorporates both Short-Wavelength Automated Perimetry (SWAP) and Flicker Perimetry for early glaucoma detection.

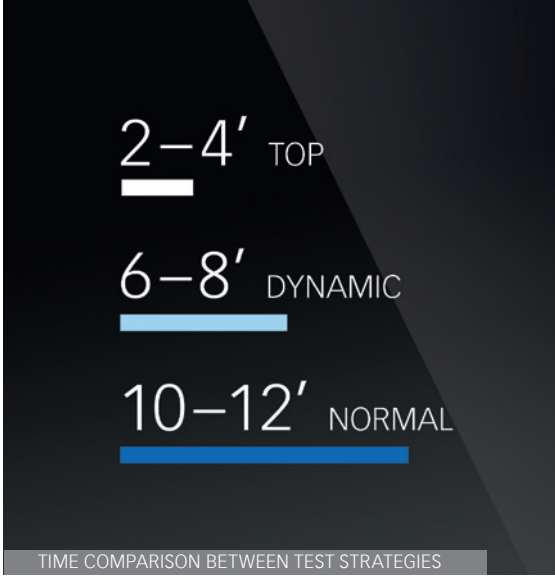


TOP FAST-THRESHOLDING STRATEGY

Increased efficiency

Tendency Oriented Perimetry (TOP) presents a further optimisation in fast-threshold testing by reducing the examination time by nearly 80% to just 2–4 minutes[1,2] compared to 6–8 minutes (Dynamic strategy) or 10–12 minutes (Normal strategy). The TOP algorithm is a systematic method which takes the correlation of the threshold values in neighbouring locations into account.

Since the first test points are presented at a supra-threshold level, even inexperienced patients quickly understand the nature of the test.

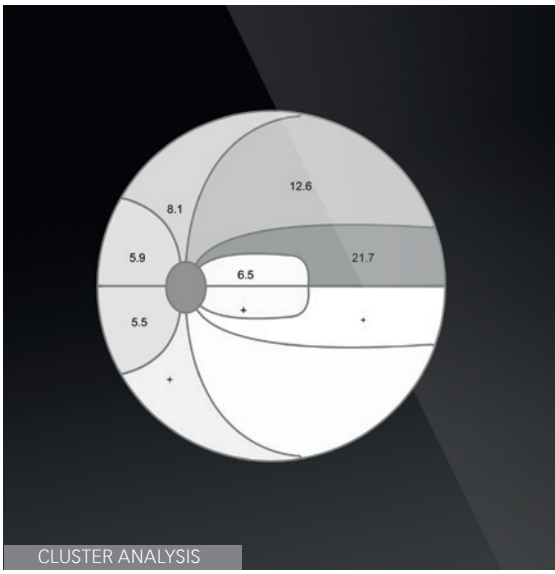


TIME COMPARISON BETWEEN TEST STRATEGIES

CLUSTER ANALYSIS

Providing meaningful results

Cluster analysis combines high sensitivity with good specificity[3]. Test locations are grouped (clustered) along nerve fibre bundles, to better analyse changes in crucial areas such as the nasal step or the macula. This eliminates the time-consuming method of counting isolated points. A combined probability/deviation graph highlights pathological regions.

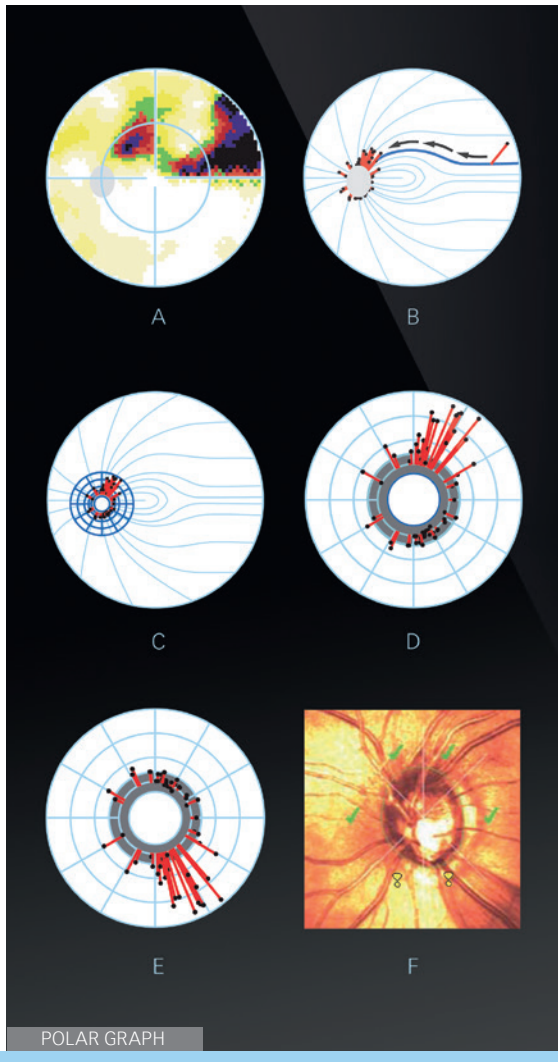


CLUSTER ANALYSIS

POLAR GRAPH

Combining structure and function

Combining the results of both structure and function (see picture: A) is key to obtaining a comprehensive assessment of the onset and progression of Glaucoma. With the Octopus Polar Graph, the nerve fibre bundles that are in danger or defective are easily identified. Local defects are projected along the nerve fibres to the optic disk and are represented as red lines (B). The projected defects (C, D) are vertically mirrored and scaled with rings for 10, 20 and 30 dB deviation (E). The Octopus Polar Graph allows for direct comparison with structural (F) findings.[4]



POLAR GRAPH

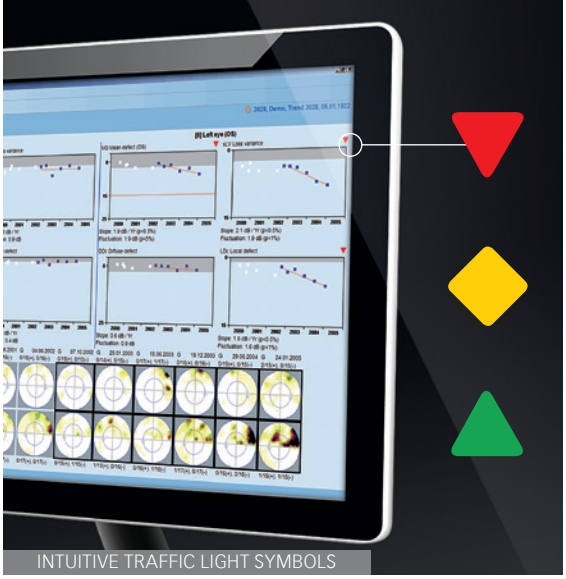
PROGRESSION ANALYSIS

Immediately identify levels of change

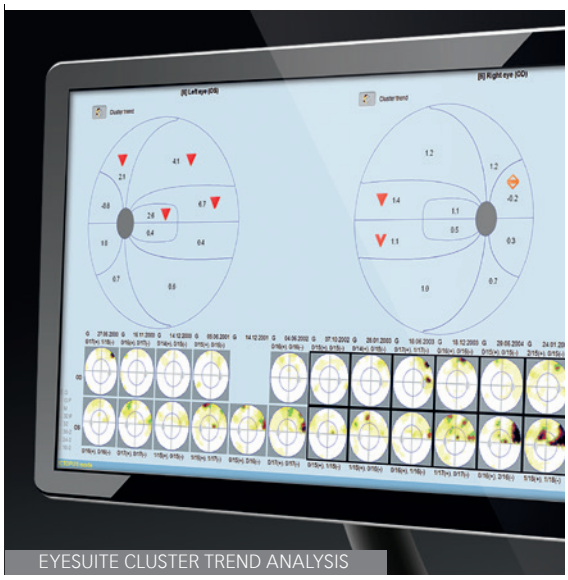
EyeSuite Perimetry software is included as standard, featuring the most advanced EyeSuite Progression Analysis for following up visual fields. As recommended by the International Glaucoma Society, the global progression rate is calculated in dB per year, including the probability level. Areas for normal range (grey band), impaired vision (15 dB) and legal blindness (25 dB) provide a starting point for further investigation.

Often, progression is local and not noticeable on global progression analysis. No more counting of single points and looking for clusters. EyeSuite does the work for you! The EyeSuite Cluster Trend Analysis is based on specific "clusters" of test points that are matched to the nerve fibre bundles, while the Polar Trend Analysis allows direct comparison with structural findings. With these two local progression analyses, even small local changes that are not visible at a global level can be easily detected and followed up[4,5].

Intuitive colour codes save time by immediately identifying levels of change. A red triangle will always indicate significant worsening, a yellow diamond increased fluctuation and a green triangle significant improvement.



INTUITIVE TRAFFIC LIGHT SYMBOLS



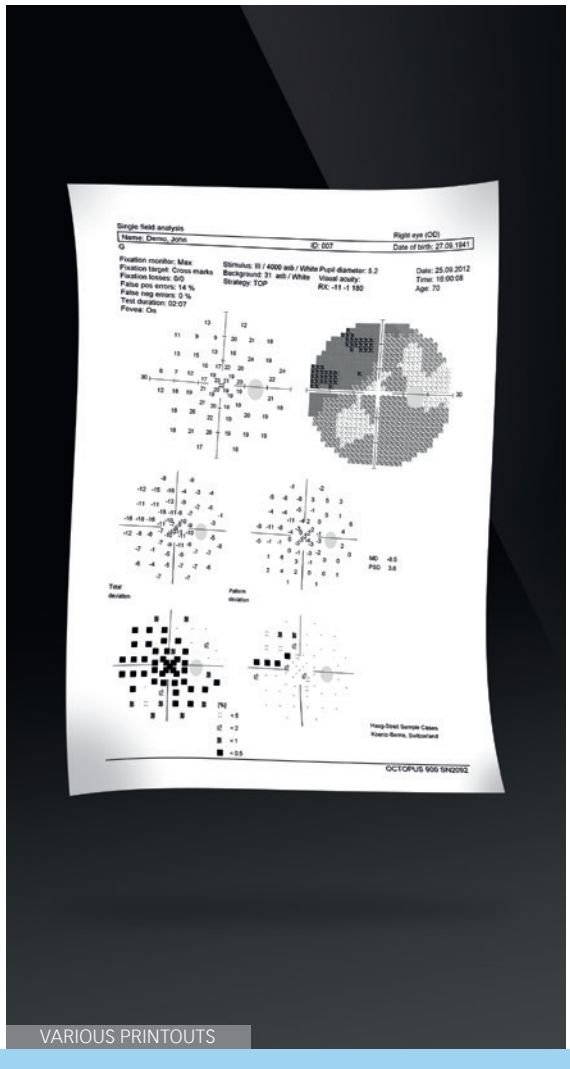
EYESUITE CLUSTER TREND ANALYSIS

VARIOUS PRINTOUTS

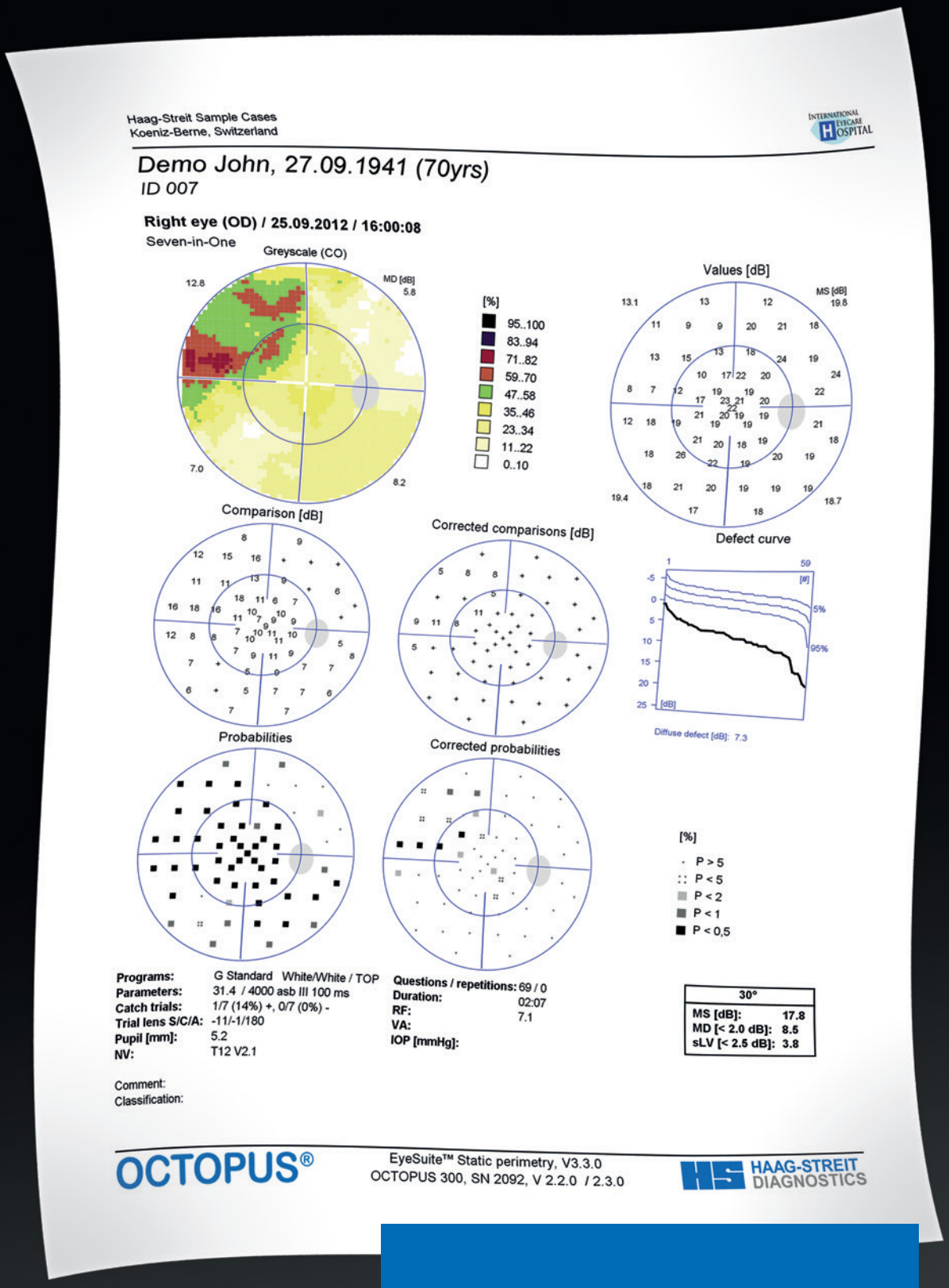
Intuitive interpretation of visual field results

Configure your favorite printout and graphics representation, in order to reduce the time necessary to interpret the results. Choose either the proven Octopus 7-in-1 printout containing the cumulative defect curve (Bebie curve) or the HFA-style printout. Furthermore, the 4-in-1 printout or the series report can also be customised.

Don't want a paper copy? Save the report as an image or PDF and view it on your screen or export it to your electronic medical record (EMR) system.



VARIOUS PRINTOUTS



Visual field evaluation is made simple with the widely-used Octopus 7-in-1 printout.

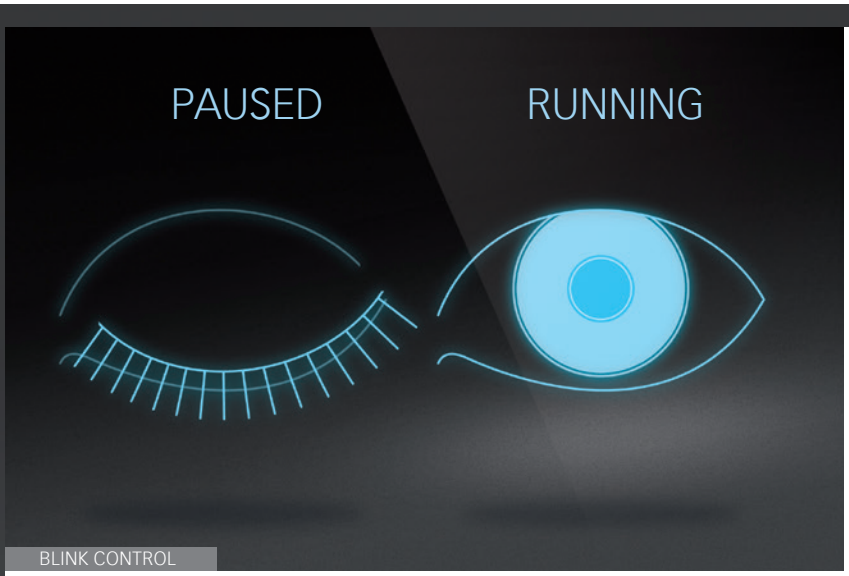
Fixation control
Reliable results made easy

Fixation losses due to low patient compliance are a major reason for unreliable visual fields. The Octopus 300 gives you less reason to worry about these. Blink Control, Pupil Position Control, Automated Eye Tracking (AET) and Contact Control continously support the correct patient and eye position for a reliable result you can trust.

BLINK CONTROL

Never miss a point

Normal blinking prevents dry eyes and helps the patient to relax and concentrate during examination. With Octopus Blink Control, you need never worry again about missing a stimulus presented in static perimetry. Stimuli interrupted by the patient's blinking are automatically repeated later during the test. This means that every test location is tested reliably.

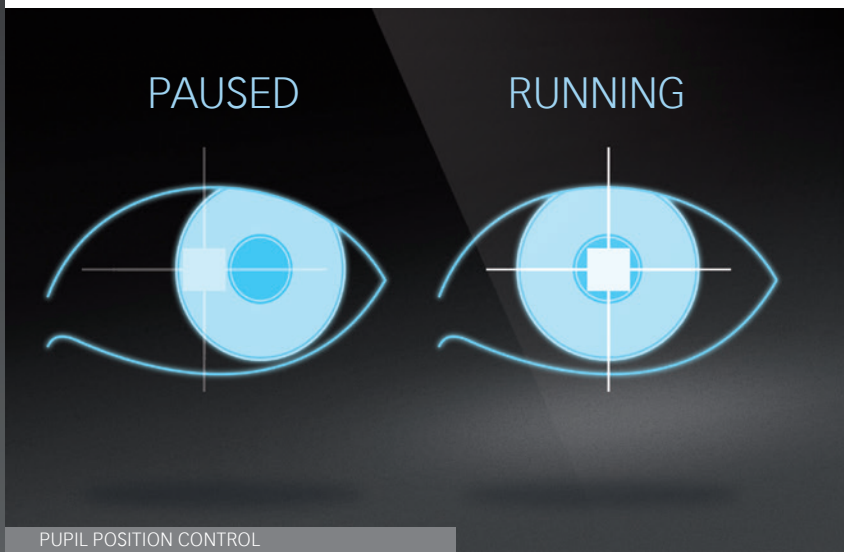


BLINK CONTROL

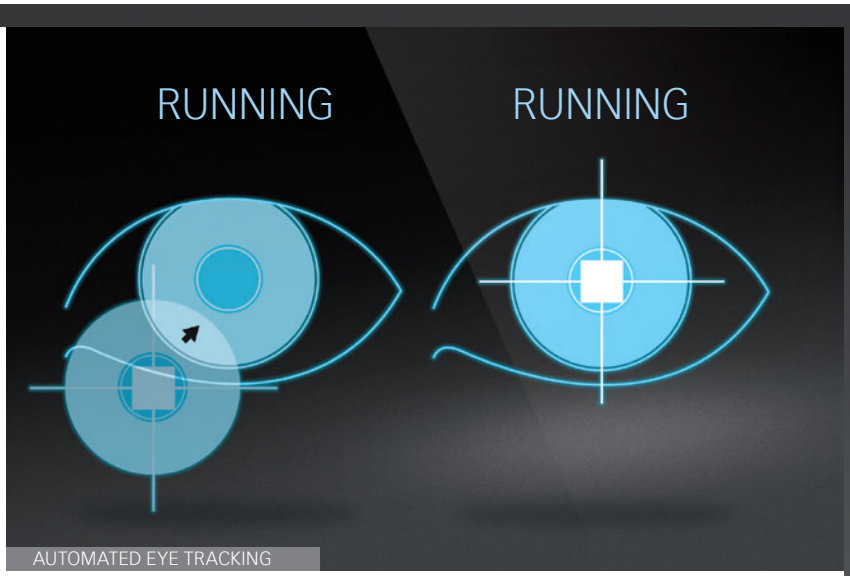
PUPIL POSITION CONTROL

Controlled position

Maintaining the correct pupil position during examination is essential for correct identification of the location of a defect. If the pupil position changes during stimulus presentation, due either to shifiting of the head or eye movement, the Pupil Position Control pauses the examination automatically until the pupil is recentred. This stimulus is automatically repeated later during the test. The result is a visual field that you can trust.



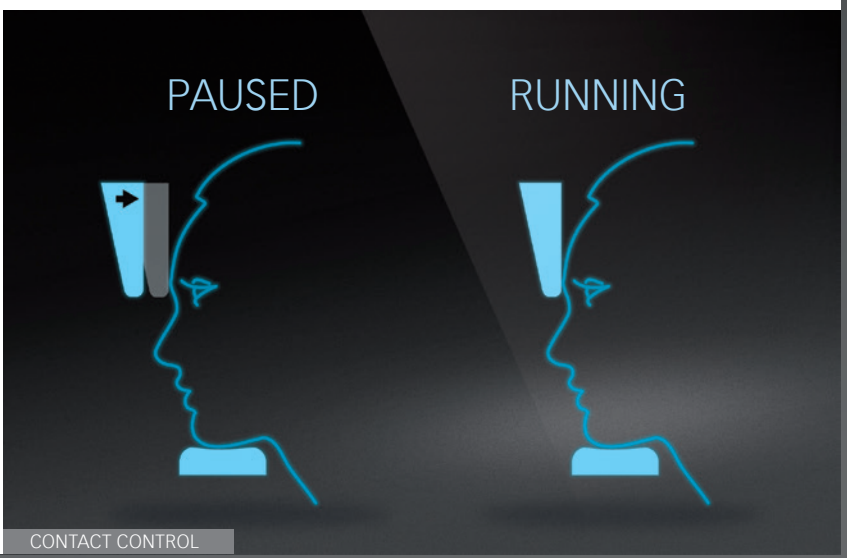
PUPIL POSITION CONTROL



AUTOMATED EYE TRACKING

Minimise artefacts

Positioning the pupil in the centre of the trial lens is essential to preventing lens rim and anatomical artefacts. Automated Eye Tracking (AET)* recognises the position of the pupil and automatically adjusts the fixation target in case the pupil is not properly aligned. Thus, the Octopus 300 provides optimum conditions for reliable and undelayed results.



CONTACT CONTROL

Optimal patient position

Head sensors offer even further control and reliability by constantly assessing the correct patient position. If the patient pulls away from the instrument, it immediately notifies the operator and pauses the test to allow for repositioning.

*Automated Eye Tracking checks the location of the pupil, but not the gaze direction.

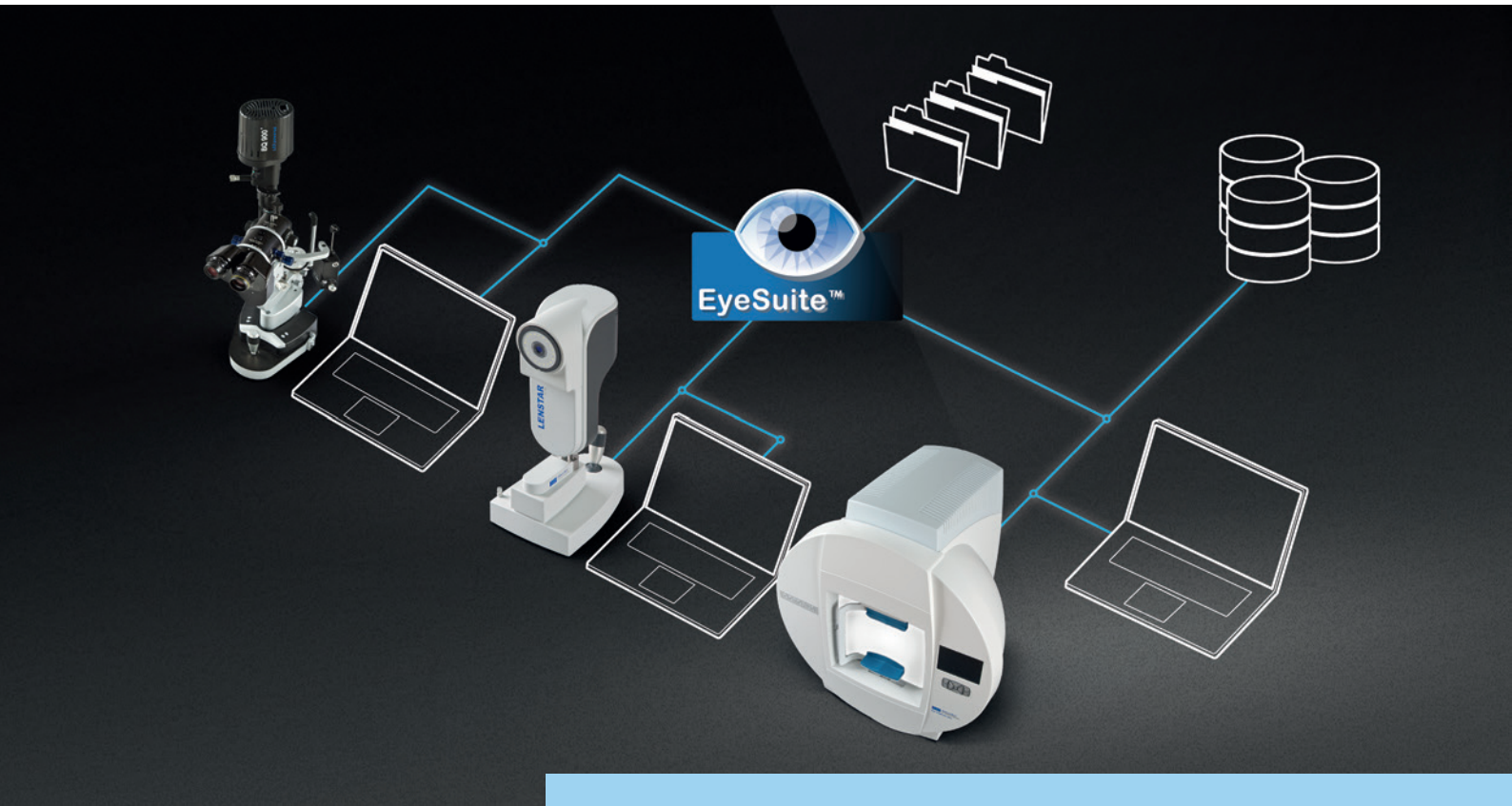
EyeSuite Platform
Flexible interfaces for easy integration into your network

The EyeSuite software is designed for optimum patient flows in busy practices. It is very easy to use, making the Octopus 300 fully networkable both with other Haag-Streit devices and your practice network. EyeSuite does not require any proprietary third-party software to provide connectivity.

If the Octopus 300 is connected to an EyeSuite Server, all of its data can be accessed remotely from any number of viewing stations connected to the same database. This truly means going beyond a pre-defined printout and provides you with real-time access to your data from anywhere in your network.

Furthermore, the EyeSuite Script Language or standardised interfaces, such as GDT or DICOM, connect easily to almost any electronic medical record (EMR) system. Patient orders can be received from the EMR system and the measured results are then automatically sent back to the EMR system.

With all these features availabe, you can save valuable staff time and eliminate the risk of transcription errors.



Technical specifications
Octopus 300

		Octopus 300 Basic	Octopus 300 Pro
Stimulus generation	Direct projection system	■	■
Peripheral range (distance)	30° (infinite)	■	■
Background illumination (asb)		31	31/314
Stimulus size (Goldmann)	III, V	■	■
Stimulus duration (ms)	100, 200, 500	■	■
Stimulus intensity (asb, dynamic range)	0.48 – 4800 (40 dB)	■	■
Fixation control	Blink Control, Pupil Position Control, AET (Automated Eye Tracking), Contact Control	■	■
Networking	DICOM, EMR, Ethernet	■	■
Data Import	Octopus 101, 123, 600 and 900; HFA	■	■
Measures (W x L x H)	450 mm x 530 mm x 560 mm; 17.7'' x 20.9'' x 22.0''	■	■
Weight	22 kg; 49 lbs	■	■
Test methods	Standard white-on-white perimetry SAP	■	■
	Blue/yellow perimetry SWAP	○ (Package Blue/Yellow Perimetry)	■
	Flicker perimetry for early diagnosis	○ (Package Flicker Perimetry)	■
Test strategies	TOP (Tendency Oriented Perimetry, 2–4 min)	○ (Package TOP fast strategy)	■
	Dynamic (adaptive step size, 6–8 min)	■	■
	Normal (4-2-1 bracketing, 10–12 min)	■	■
	Other (LV: Low Vision with Goldmann V; 2-LT: 2-Level Test, 1-LT: 1-Level Test)	■	■
Test patterns	General/Glaucoma 30° (G1-Program, 32)	■	■
	Macula (M-Program (10°/30°))	■	■
	Screening (ST)	■	■
	Custom Tests (including 30-2, 10-2)	○ (Package Custom Tests)	■
Progression analysis	Global progression (MD, sLV)	■	■
	Cluster Trend/Polar Trend	○ (Package Cluster/ Polar Trend)	■
		■ Included	○ Optionally available

Sources

1 King AJ, Taguri A, Wadood AC, Azuara-Blanco A. Comparison of two fast strategies, SITA Fast and TOP, for the assessment of visual fields in glaucoma patients. Graefes Arch Clin Exp Ophthalmol. 2002 Jun;240(6):481-7. **2** Wadood AC, Azuara-Blanco A, Aspinall P, Taguri A, King A. Sensitivity and specificity of frequency-doubling technology, tendency-oriented perimetry, and Humphrey Swedish interactive threshold algorithm-fast perimetry in a glaucoma practice.Am J Ophthalmol. 2002 Mar;133(3):327-32. **3** Kovalska MP, Bürki E, Schoetzau A, Orguel SF, Orguel S, Grieshaber MC. Clinical evaluation of a novel population-based regression analysis for detecting glaucomatous visual field progression. Klin Monbl Augenheilkd. 2011 Apr;228(4):311-7. **4** Holló G, Naghizadeh F. Evaluation of Octopus Polar Trend Analysis for detection of glaucomatous progression. Eur J Ophthalmol. 2014 Jun. DOI: 10.5301/ejo.5000504. **5** Naghizadeh F, Holló G. Detection of early glaucomatous progression with Octopus Cluster Trend analysis. J Glaucoma. 2014 Jun-Jul;23(5):269-75.

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