



NIDEK ConfoScan4 CS4

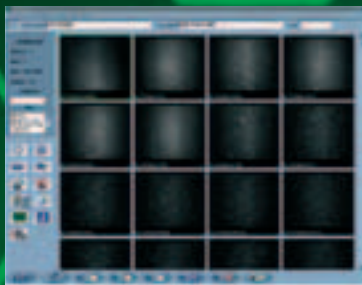
The NIDEK ConfoScan4 is the only instrument that combines confocal microscopy, endothelial microscopy and accurate pachymetry in one compact unit

Seeing is Believing



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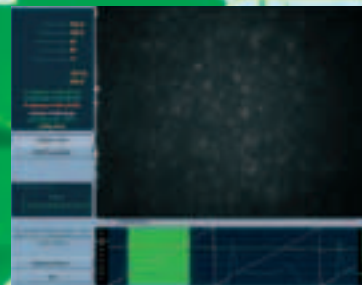
VISIONARY PERFORMANCE



40x Confocal Microscopy



20x Non-Contact Exam



Z-Ring Confocal Pachymetry

Confoscan4 is a unique and state-of-the-art diagnostic instrument that combines a Confocal Microscope, a Non-Contact Endothelial Microscope and a precision Pachymeter – all technologies in one innovative and compact unit. The CS4 is the first Confocal Microscopy Based Pachymeter able to do full thickness cornea measurements and to localize any intra-corneal structure, including haze. The CS4 is the first Fully Automated Non-Contact Confocal Endothelial Microscope that is not affected by corneal hazes. The unit provides for a fast and fully automatic endothelial analysis in any condition. Confocality is at its highest performance with a fourth generational NIDEK Confocal Microscope.

Automated functionalities like automatic alignment and scanning make testing, registration and evaluation of the data easier and faster than with other confocal instrumentation.

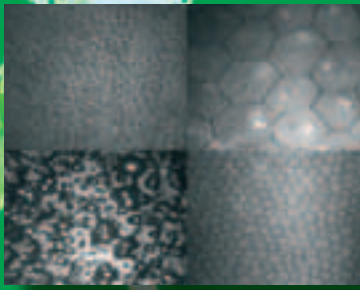
The new Z-Ring and high precision optics increase the stability and accuracy of the exam.

The new internal fixation targets lead to highly reproducible and accurate exams, a single button push allows automatic retesting of a patient in 9 different corneal locations.

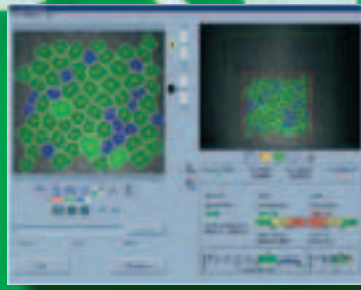
A quick exam time and Non-Contact characteristics and floating probe system, make the exam process comfortable and safe even for light sensitive patients or for those that have undergone ophthalmic surgery.

Automatic cell analysis software detects overall density, number of sides and area of each cell as well as overall pleomorphism and polimegathism indices. Fully-Automatic, Semi-Automatic, Manual Mode and Customisable exam parameters are available with the unit. This allows you to choose the corneal layers to be scanned - Endothelium, Epithelium or Full cornea scan in one unique patient exam.





In Vivo Histology



Automatic Cell Analysis



Statistical Indexes

3 in 1: Multiple Instruments in One Interface

Confocal Microscope with 40x Probe

- Gel immersion exam
- Fully Automated Alignment
- Imaging through corneal haze and opacities
- Examination time below 15 sec
- Full cornea, Endothelium or Epithelium scan
- Real-Time in-vivo histology
- Multiple Internal fixation mires

Non-Contact Endothelial Microscope with 20x Probe

- Fully Non-Contact (12 mm working distance in air)
- High quality imaging through corneal haze and opacities
- Wider measurement area (up to 1000 cells/exam)
- Fully automatic cell count and endothelial density measurement
- Increases reimbursable exams

Confocal Pachymeter with Z-Ring

- Innovative pachymetry technique
- Pachymetry through corneal haze and opacities
- High precision Confocal Pachymetry
- ± 5 microns instrumental accuracy
- Z-Ring increases image stability
- Precise location of corneal layers and structures

Clinical Applications

- Diagnoses of infectious keratitis
- Trauma induced corneal pathologies
- Non-Infectious corneal disorders
- Corneal dystrophies (basement membrane, Fuch's, etc)
- Corneal deposits
- Corneal edema
- Corneal signs of systemic disease
- Folds in Descemet's membrane
- Contact lens-induced corneal changes
- Refractive Surgery



VISIONARY PERFORMANCE

Technical Specifications

Feature	40x mode	20x mode
Image acquisition speed	25 fps	25 fps
Image size	768 x 576 pixel	384 x 576 pixel
Inspected field	460 x 345 µm	460 x 690 µm
Magnification (on 15" display @ 1024x768, 1:1 zoom)	500x	250x
Lateral resolution	0.6 µm/pix	1.2 µm/pix
Number of images	Up to 350	Up to 350
Programmable depth of scan	Yes	Yes
Minimum axial step	1 µm	1 µm
Working distance	1.98 mm	12 mm
Instrumental accuracy of pachymetry (with Z-ring)	± 5 µm	-
Refractive Index of gel (Visidic)	1.34	-
Internal fixation	9 targets	
Size	55 x 48 x 60 cm - Inch: 22" x 19" x 24"	
Weight	32 kg - 70 lbs	
Class and Type	I with a measuring function (according to MDD), 1B (according to IEC 601-1)	
Power Consumption	300 W	
External Conditions	Temperature: 10/40° C – 50/104° F Atmospheric Pressure: 700 hPa - 1060 hPa Relative Atmospheric Humidity: 30 % - 75 % (not condensing)	



The Z-Ring accurately measures the position of each frame along the Z-axis thus enabling pachymetry

Features & Benefits

- **High Precision:** Thanks to the fully automated alignment and scan time is optimised (350 images in ~15 sec/exam), minimum patient co-operation is required, no contact examinations can be performed, assuring high patient comfort; nine internal fixation targets help the patient keep the stability of fixation thus increasing the performance of the device, adding the possibility to store and analyse automatically different corneal areas.
- **Full Cornea Scan:** Fully-automatic, Semi-automatic, Manual Mode and customisable exams are available with the possibility to choose the corneal layers to be scanned - Endothelium, Epithelium or Full cornea - in one unique exam. CS4 gives the user the possibility to recognize the early findings of any corneal disease for pre surgery check/schedule and post surgery follow up; early signs of rejection or other abnormal corneal reactions are detectable to determine the best course of therapy.
- **Opacity Error Free:** Thanks to the confocal principle now the corneal opacities don't represent a problem for endothelial microscopy and pachymetry. High quality imaging through corneal haze and opacities even with the non-contact endothelial microscopy functionality. The new Z-Ring increases the stability of the exam and the reliability of the Z-Scan reference for accurate full thickness optical pachymetry; CS4 in this way has the unique ability to define with high precision the position of any corneal structure and opacity, in terms of corneal layers involved, with respect to the endothelium and epithelium.
- **Extra Large Measurement Areas:** With the new 20x probe it is possible to image a wide field of view counting up to 1000 cells per exam. The automatic endothelial analysis is reliable, thanks to the high number of cells counted, displaying the density plus polymegathism and pleomorphism indexes, giving more objective data for medical assessments.

Medical Device Directive 93/42/EEC - Manufactured by Nidek Technologies S.r.l. – Albignasego (PD) Italy
Design and specifications are subjected to change without notice for improvement



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VISIONARY PERFORMANCE

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