

# TERA

Dry Eye Imager

Exceptional Images. Smart Automation.  
For Confident Ocular Surface Evaluation.



# CLEAR VISION FOR DRY EYE MANAGEMENT

## ENGINEERED FOR EXCELLENCE IN OCULAR SURFACE EVALUATION

The TERA Dry Eye Imager is a full Placido based corneal topographer designed for the comprehensive assessment of corneal properties and pupil metrics. It also provides advanced tools for the assessment, grading, and monitoring of dry eye disease, alongside detailed measurements of anterior corneal topography, simulated aberrations, and pupillography to support contact lens fitting and differential diagnosis. With advanced automation, high-resolution imaging, an intuitive interface, and external review software, TERA enhances clinical efficiency across a wide range of care settings – delivering both clinical insight and operational value.

TERA helps eye care professionals identify the underlying drivers of dry eye and ocular surface disease. Aligned with **TFOS DEWS III** recommendations, its non-invasive assessments – including tear meniscus height (TMH), non-invasive tear break-up time (NIBUT), blink analysis, lipid layer assessment, and meibography – support personalised care pathways and more targeted treatment decisions.

Choosing TERA means achieving both clinical excellence and operational efficiency – a smart decision for patients, clinicians, and the business of care.

For confident  
ocular surface  
evaluation



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## VERSATILE IMAGING FOR ANY PRACTICE SETTING

### FASTER EXAMS

One-touch auto-alignment, focus and capture reduces chair time and operator variability.

### STANDARDISED GRADING

Built-in, internationally recognised scales (Efron<sup>2</sup>, Jenvis<sup>5</sup>, Guillon<sup>4</sup>, Pult<sup>3</sup>) deliver consistent documentation.

### FLEXIBLE REVIEW & ANALYSIS ANYWHERE

Access, grade and generate reports on the device or from any networked PC using TERA Review software.

### SHARP, DETAILED IMAGING

High resolution colour camera with motorised diaphragm optimises depth of field for each capture.

### TRUE REFLECTION-FREE IMAGES

Clear, high-quality images without distracting light artefacts, preserving clinically relevant details.

### CONFIDENCE THROUGH COMPLIANCE

The Dry Eye Suite groups all key tests and reports them in line with the latest DEWS III<sup>1</sup> recommendations.

## FOR EVERY PRACTICE AND EVERY PATIENT

### OPHTHALMOLOGISTS

For comprehensive screening, evaluation, and management of dry eye and ocular surface disease – supported by high-resolution imaging, standardised grading, and structured follow-up over time.

### DRY EYE & SPECIALTY CLINICS

Comprehensive, reliable, and patient-friendly dry-eye screening and assessment of drivers, supporting personalised treatment planning, objective progress tracking, and stronger patient engagement.

### ADVANCED OCULAR PROCEDURES

Supports a wide range of clinical evaluations with pre-procedural ocular surface evaluation and post-procedural monitoring.

### OPTOMETRISTS & CONTACT LENS SPECIALISTS

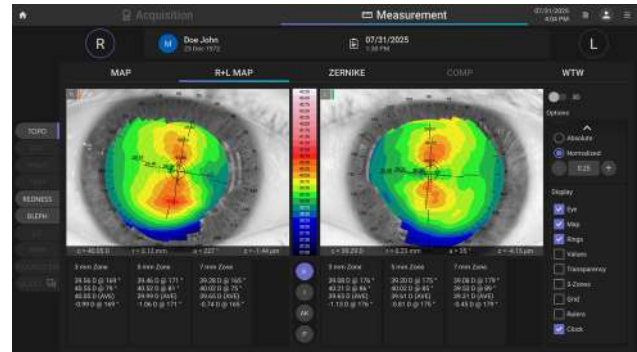
For contact lens fitting and surface evaluation – combining corneal topography, tear film analysis, meibomian gland imaging, and pupillometry to guide lens selection and to optimise contact lens wear.

# TERA FEATURES

EXCEPTIONAL IMAGES. SMART AUTOMATION. FOR CONFIDENT OCULAR SURFACE EVALUATION.

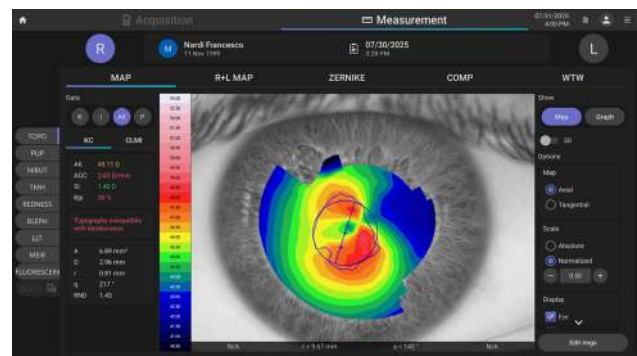
## CORNEAL TOPOGRAPHY

TERA captures detailed anterior corneal maps using Placido-based imaging, providing curvature, elevation, power and White-to-White data to support contact lens fitting and differential diagnosis. One-touch comparison and differential maps allow easy tracking of corneal changes over time, whether monitoring keratoconus progression or evaluating the effects of refractive procedures.



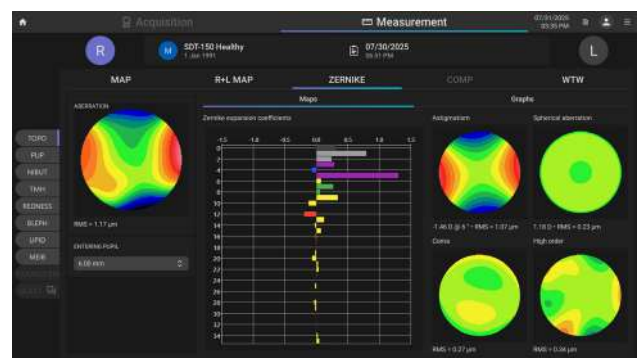
## KERATOCONUS SCREENING

TERA provides dedicated screening for keratoconus, using the Keratoconus Probability Index and CLMI<sup>6</sup> (Cone Location and Magnitude Index). These tools help identify early signs of keratoconus and support decision-making in refractive surgery planning, differential diagnosis, contact lens fitting, and ongoing monitoring.



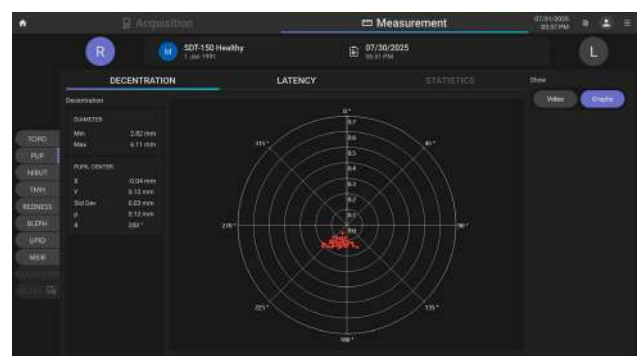
## CORNEAL ZERNIKE ANALYSIS

Zernike analysis provides a detailed view of anterior corneal optical aberrations, with visual simulations that support patient education. Combined with pupillometry data, it aids in contact lens selection, and post-operative evaluation in cases of visual disturbances.



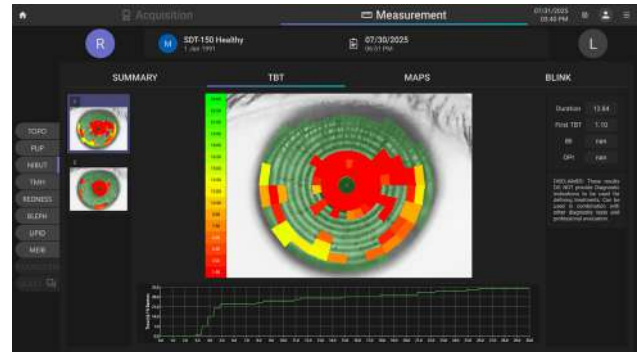
## PUPILLOMETRY

Supports static and dynamic measurements under lighting conditions from photopic to scotopic. Captures pupil size and centration to assist with candidacy for various contact lens types, including Ortho-K. Dynamic data also reveals pupil response and positional changes under varying light levels.



## NON-INVASIVE TEAR BREAK UP TIME AND BLINK ANALYSIS

TERA measures non-invasive tear break-up time (NIBUT) by tracking Placido ring distortions after a blink, delivering a dye-free assessment of tear film stability as recommended by DEWS III<sup>1</sup>. Blink analysis captures frequency and average IBI (Inter-Blink Interval), enabling calculation of the OPI (Ocular Protection Index) and offering further insight into tear film dynamics.



## TEAR MENISCUS HEIGHT

Non-invasive imaging under controlled lighting conditions of the lower tear meniscus, provides a quick indication of tear volume and the profile of the tear meniscus, to support identification of drivers of dry eye disease.



## LIPID LAYER ASSESSMENT

High-quality imaging under diffuse lighting, using an innovative, patented approach, enables non-invasive, qualitative evaluation of lipid layer flow across the corneal surface, supporting identification of abnormalities of the lipid layer as a driver of dry eye disease. Classification is supported by comparison with the internationally recognised Dr Guillon scale<sup>4</sup>.



## MEIBOMIAN GLAND IMAGING AND ANALYSIS

Enhanced visualisation of gland structure supported by an extended working distance, wider field of view, enhanced depth of field, enabling improved access to the patient's eyelids. The Meibomian glands loss can be classified using the validated, globally recognised Meiboscale by Dr Heiko Pult<sup>5</sup>.

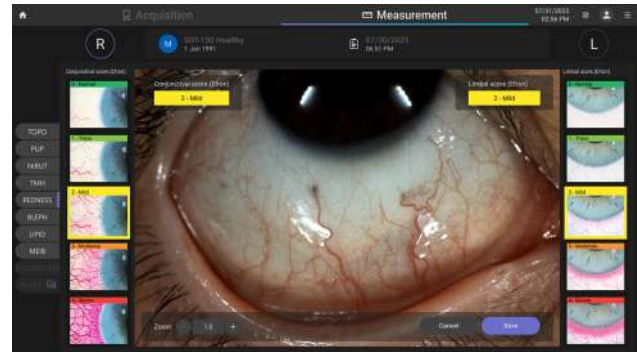


# TERA FEATURES

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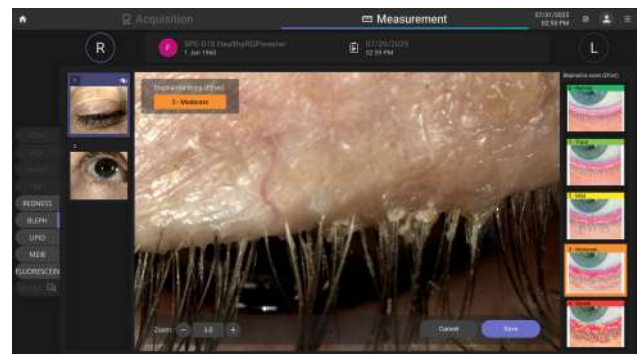
## OCULAR REDNESS ASSESSMENT

High-resolution colour imaging and motorised diaphragm enable high-quality and consistent assessment of conjunctival redness, exploiting internationally validated grading scales (Efron<sup>2</sup> and Jenvis<sup>5</sup>) to support clear visual documentation, comparison over time and investigation of inflammation as a possible driver of dry eye.



## BLEPHARITIS ASSESSMENT

High magnification colour imaging of the eyelid margins allows clear visualisation of desquamation, inflammation, and structural changes. The images can be graded using the Efron scale<sup>2</sup> to support consistent assessment and documentation of blepharitis inflammation severity, and investigation of lid margin abnormalities as a driver of dry eye disease.



## FLUORESCIN IMAGING AND VIDEO

Fluorescein imaging supports the examination of ocular surface integrity and tear film stability. Staining patterns can be assessed and compared using the international Jenvis grading scale. The same imaging and video mode can also be used to evaluate and document the fit of rigid contact lenses.



## DRY EYE QUESTIONNAIRES AND REPORTS

TERA includes integrated OSDI-6 (as recommended by DEWS III<sup>1</sup>), and DEQ-5 questionnaires to capture patient-reported symptoms. Combined with structured dry eye and follow-up reports, these tools support consistent assessment, reinforce treatment compliance, and help clinicians monitor changes over time.



# REPORTS & REVIEW TOOLS

## FLEXIBLE REPORTING AND REVIEW SOFTWARE

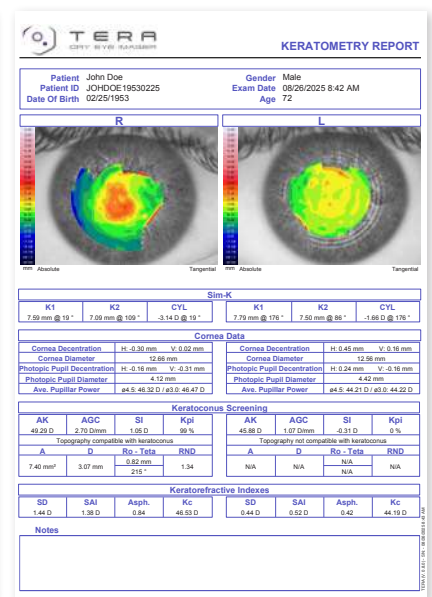
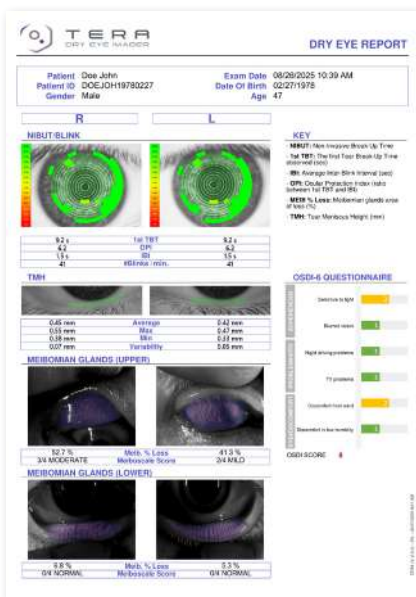
TERA offers a wide range of structured reports to support clinical workflows, patient education, and follow-up. Results can be reviewed directly on the device or from any connected PC using the TERA review software. This enables clinicians to access and analyse imaging data, tear film evaluations, and graded acquisitions conveniently from their own workstation.

### DRY EYE SUMMARY REPORT

Comprehensive overview of ocular surface analysis, including NIBUT, TMH, lipid layer, redness, Fluorescein, Blepharitis and Meibomian gland imaging with all corresponding grading scale references.

### KERATOMETRY REPORT

Axial, tangential, and elevation maps with keratometry, symmetry, and Zernike data for surgical planning or lens fitting.



#### References

1. Wolffsohn, J. S., Benitez-Del-Castillo, J., Loya-Garcia, D., Inomata, T., Iyar, G., Liang, L., Pult, H., Sabater, A. L., Starr, C. E., Vehof, J., Wang, M. T., Chen, W., Craig, J. P., Dogru, M., Quinones, V. L. P., Stapleton, F., Sullivan, D. A., Jones, L., & TFOS collaborator group (2025). TFOS DEWS III Diagnostic Methodology. *American journal of ophthalmology*, 50002-9394(25)00275-2. Advance online publication. <https://doi.org/10.1016/j.ajo.2025.05.033>
2. Efron, N., 1998. Grading scales for contact lens complications. *Ophthalmic and Physiological Optics*, 18(2), pp.182-186.
3. Pult, H. and Riede-Pult, B.H., 2012. Non-contact meibography: Keep it simple but effective. *Contact Lens and Anterior Eye*, 35(2), pp.77-80.
4. Guillon, M., 1998. Use of the Tearscope Plus in the routine contact lens fitting practice. *Contact Lens and Anterior Eye*, 21(Suppl 1), pp.S31-S40.
5. Jenvis, D.R., et al., 2007. The development and validation of the Jenvis Dry Eye Questionnaire. *Optician*, 233(6091), pp.16-21.
6. Maeda, N., Klyce, S. D., Smolek, M. K., & Thompson, H. W. (1995). Automated keratoconus screening with corneal topography analysis. *Investigative Ophthalmology & Visual Science*, 35(6), 2749-2757.

# TECHNICAL SPECIFICATIONS

## GENERAL INFORMATION

FUNCTION	FEATURES	
Corneal topography and Keratometry	Keratoscopic Cone	22+2 rings equally distributed on a 43D sphere
	Analysed points	Over 100,000
	Measured points	Over 6,000
	Corneal Coverage	Up to 9.5 mm on a sphere of radius 8mm (42.2 D with n=1.3375)
	Focus System	Manual and/or semiautomatic guided focus
Pupillometry	Integrated	
Fluorescence	Integrated	
IBI index (Inter-Blink Interval)	Integrated	
Non-invasive Break-Up Time (TBT)	Integrated	
Meibomian Glands	Integrated	
Tear meniscus	Integrated	
Redness	Integrated	
Lipid Layer Assessment	Integrated	
Blepharitis Assessment	Integrated	
Lissamine Green imaging	Integrated	

## INFORMATION ON MEASUREMENTS

MEASURE	MEASURING RANGE	DISPLAY RESOLUTION	IN VIVO REPEATABILITY
Keratometry	Curvature radius	5.00 - 12.00 mm	±0.02 mm
	Curve Radius in Diopter (D) (n=1.3375)	28.00 - 67.50 D	±0.12 D
Pupil dimensions	2.00 - 10.00 mm	0.01 mm	N/A
Limbus (White-To-White)	8.00 - 15.00 mm	0.01 mm	±0.05 mm
IBI Index	1.0 - 20.0 s	0.1 s	N/A
Break-Up Time (TBT)	0.5 - 30.0 s	0.1 s	N/A
Meibomian Glands area of loss	1 - 100 %	1 %	N/A
Tear Meniscus Height	0.10 - 1.00 mm	0.01 mm	N/A

## ENVIRONMENTAL CONDITIONS

	IN USE	STORAGE	TRANSPORT
Temperature	10°C (MIN) 40°C (MAX)	-20°C (MIN) 70°C (MAX)	-20°C (MIN) 70°C (MAX)
Relative humidity	8-75% (non-condensing)	8-75% (non-condensing)	8-75% (non-condensing)
Atmospheric pressure	800-1060 hPa	700-1060 hPa	700-1060 hPa

## ON-BOARD PC SPECIFICATIONS

Operating system	Windows 11 IoT Enterprise LTSC
Processor	Intel N97
RAM	8 GB
Hard disk	At least 500GB
External connections	1x USB 3.0, 1x USB 2.0, 1x 1GB Eth

## ELECTRICAL DATA

Power supply	100-120 / 200-240 VAC ; 50/60Hz	
Power consumption	100VA	
Fuse	Type	5 x 20 mm, ceramic, time-lag
	Value	T 3.15A H 250 V

## MECHANICAL SPECIFICATIONS

	DEVICE
Width	332 mm
Height	555 mm
Length	552 mm
Weight	19.0 kg

**IMPORTANT** In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.

Not all products, services or offers are approved or offered in every market, and products vary from one country to another. Contact your local distributor for country-specific information and availability.



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