

# GALILEI G4



## THE BEST OF BOTH WORLDS

Dual-Scheimpflug and Placido

Reaching a new level in refractive screening



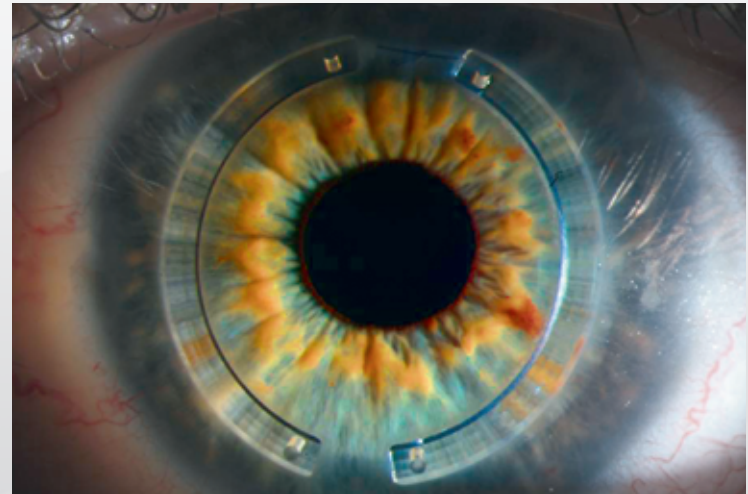
# GALILEI G4

## Clinical Applications

### Corneal Implant Planning

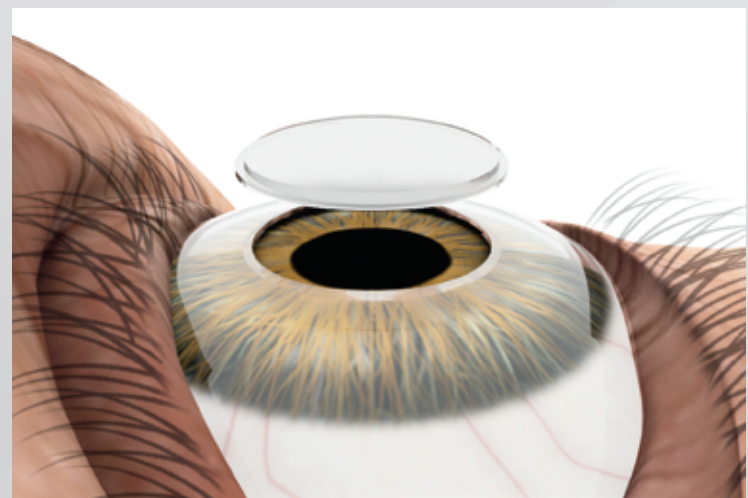
The GALILEI G4 comes with a licensable corneal inlay software module which is optimized to patients with implanted corneal inlays. This ensures an accurate and reliable post-op follow-up of those patients.

When planning an intracorneal ring surgery, corneal pachymetry, high order aberrations, curvature maps and total corneal astigmatism deliver the information needed to decide on the right ring and corneal position for the treatment.



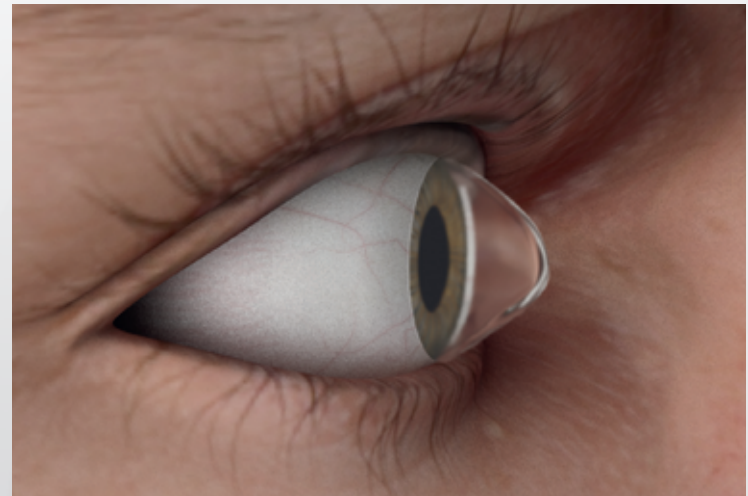
### Planning and follow-up of Keratoplasty

With the GALILEI anterior and posterior corneal astigmatism can be closely controlled. This can be particularly helpful when planning a selective suture removal or in order to follow-up on DSAEK surgery outcomes. High definition corneal pachymetry maps deliver important information about donor tissue cut quality and later visual acuity.



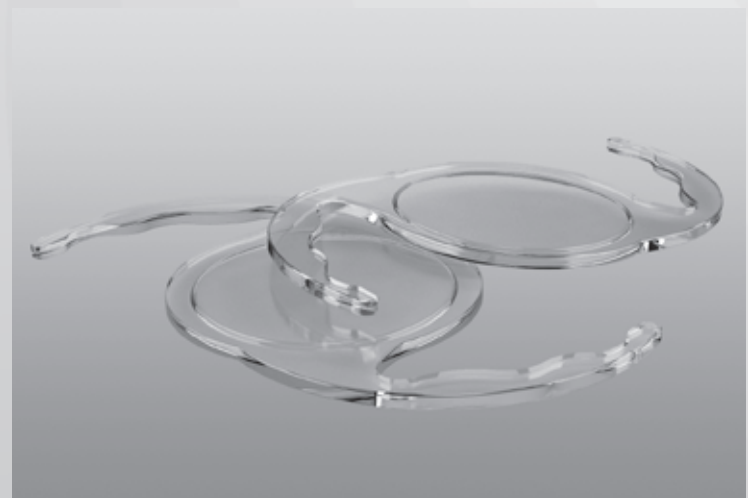
## Keratoconus Screening

The GALILEI G4 offers a complete dataset for Keratoconus screening. Precise posterior corneal curvature and elevation data make it easy to detect posterior corneal bulging and signs of corneal asymmetry even in very early stages.



## IOL Calculation

The GALILEI G4 is a comprehensive tool for IOL planning and calculation. In one measurement, both anterior and posterior corneal data is captured. Data displayed includes anterior and posterior astigmatism, higher order aberrations as well as total corneal power.<sup>1</sup> A licensable IOL calculator integrates the renowned Shammas no-history formula which allows for reliable IOL prediction in post-refractive cases where a patient's clinical history is no longer available.<sup>2</sup>



# GALILEI G4

Unique Technology



## Placido Topography

- Highly accurate anterior curvature data
- Precise detection of anterior surface irregularities and tearfilm quality



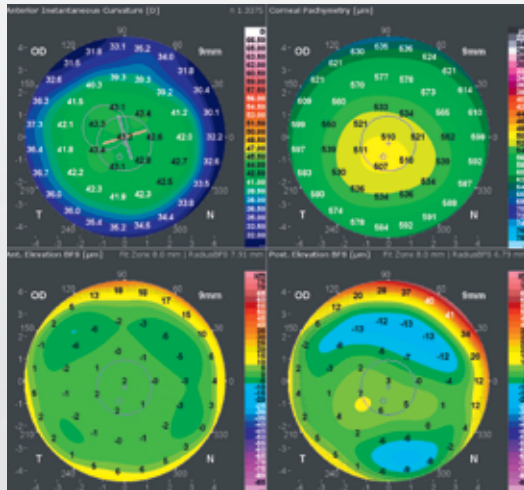
## Dual Scheimpflug Tomography

- Precise pachymetry and elevation data
- 3D anterior chamber analysis
- Ray-traced posterior corneal surface data to detect bulging and asymmetry in early stages



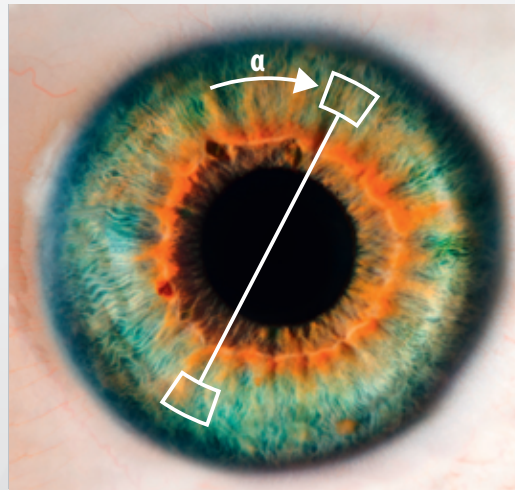
# GALILEI G4

## Unique Technology



### Reliable surface data for refractive and corneal surgery

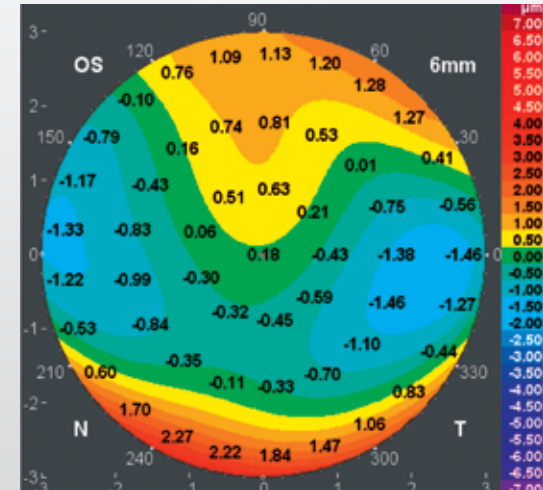
The GALILEI G4 integrates Placido disc topography and Dual-Scheimpflug tomography in one device. This combination of technologies allows for a complete analysis of both the anterior and the posterior corneal surface. The simultaneously recorded Dual-Scheimpflug images produce reliable pachymetry and posterior curvature data, whereas the Placido ring images provide highly accurate and central anterior corneal curvature data fitted to the anterior corneal surface.



### Patented iris-based eye motion compensation

Small to moderate eye motions which can lead to clinically relevant surface curvatures cannot be prevented especially in elderly patients or children. The GALILEI G4 comes with a patented iris tracker which compensates for eye motion.

Different than other topography and tomography devices that align data to the pupil or the apex of the cornea, the GALILEI G4 aligns all data to the visual axis using the 1st Purkinje image. This ensures consistent alignment when comparing a series of consecutive measurements over time.



### Ray-traced Total Corneal Wavefront solution

With its powerful ray-traced Total Corneal Wavefront solution, the GALILEI G4 precisely measures high order aberrations for highly predictable outcomes in cataract surgery. The high order aberration display helps identifying the most suitable IOL for every patient.



# GALILEI PRODUCT FAMILY

The modular solution for your needs

Refractive Software Package	GALILEI G4	GALILEI G4 Advanced	GALILEI G6
Refractive Report	•	•	•
Keratoconus Report	•	•	•
IOL Power Report	•	•	•
Total Corneal Wavefront Report	•	•	•
Curvature Topography	•	•	•
Elevation Topography	•	•	•
Densitometry	•	•	•
Eye Metrics Report	•	•	•
Map Comparison Report	•	•	•

- Standard software package
- To be purchased separately
- × Not available for this device

\*IOL Formulae: Shammas no-history (post-refractive), Haigis, Holladay I, Hoffer Q, SRK II, SRK/T

\*\*IOL Calculation Software: The GALILEI G6 connects to the third party ray-tracing software PhacoOptics (phacooptics.com) and Okulix (okulix.de).

Cataract Software Package	GALILEI G4	GALILEI G4 Advanced	GALILEI G6
Biometry Report (including CCT, ACD, LT, AL)	×	×	•
IOL Calculator*	◦	•	•
Advanced IOL Report	×	×	•
Images Report	×	×	•

## All in One: Optical Biometry, Dual Scheimpflug Tomography and Placido Topography

The GALILEI G6 Lens Professional comes with the capabilities of the G4 and adds an optical biometer to measure lens thickness, anterior chamber depth and axial length for IOL calculation. The new Cataract Software Package is optimized to your clinic workflow.

Disclaimer: The GALILEI G6 Lens Professional is pending FDA approval and is not available for sale in the U.S. For some other countries, availability may be restricted due to local regulatory requirements. Please contact Ziemer for details.

Optional Software Licenses	GALILEI G4	GALILEI G4 Advanced	GALILEI G6
IOL Calculator*	◦	•	•
Corneal inlay module	◦	•	•
DICOM/EMR connection	◦	•	•
Remote workstation	◦	•	•
CSV export for clinical studies	◦	•	•
Z-LASIK Report	◦	•	•
Santhiago PTA Report™	◦	◦	◦
Smadja Decision Tree	◦	◦	◦
CLMIX Keratoconus Probability Report	◦	◦	◦
PhacoOptics / Okulix Connector**	×	×	◦

Please note: The Santhiago PTA Report, the Z-LASIK Report, the Smadja Decision Tree and CLMIX Keratoconus Probability Report are not available for sale in the U.S.

# GALILEI G4

## System Information

### Measurement Ranges

Central Corneal Thickness	250–800 µm
Keratometry	25–75 D (4.5–13.5 mm)
White-to-White	6 – 14 mm
Pupillometry	0.5 – 10 mm
Anterior Chamber Depth	1.5 – 6.5 mm

### In-vivo Repeatability

Parameter	SD specified	SD measured
Central Corneal Thickness	≤ 3.00 µm	1.2 µm
Simulated Keratometry (SimK)	≤ 0.25 D	0.05 D
White-to-White	≤ 50 µm	16 µm
Pupillometry	≤ 50 µm	6 µm (in an artificial eye)
Anterior Chamber Depth	≤ 50 µm	15 µm
Angle of flattest meridian	≤ 10° *	2.9°

\* for astigmatism > 0.5 D

### Study Design

Internal study of 24 normal eyes in 12 subjects, age range 26–53 years (mean = 38 years).

Repeatability as estimated by the mean standard deviation of consecutive measurements averaged over all subjects and eyes.

### Abbreviations

SD specified	Specified repeatability as defined by the mean standard deviation
SD measured	Measured repeatability as estimated by the mean standard deviation
SimK	Keratometric corneal curvature over central area of radii 0.5–2.0 mm

### Technical Data

Placido disc:	20 rings
Measurement speed:	60 images in 1 second
Number of measurement points – Scheimpflug/Placido:	up to 100 000 measurement points
Displayed map coverage:	max. 10 mm

### Measurement unit characteristics

Measuring principle:	Rotational Scan of Dual Scheimpflug slit images combined with Placido and top view images
Observation illumination:	NIR (near-infrared) LED 810 nm
Scheimpflug illumination:	Blue LED (UV-free) 470 nm
Placido illumination:	NIR (near-infrared) LED 750 nm

### Electrical conditions

Power requirement:	100–240 VAC, 50/60 Hz, 400 W
Fuses (110/230 V):	2 × T6, 3 AH, 250 VAC

### Classification according to IEC 60601-1

Type of protection against electric shock:	Class 1
Degree of protection against electric shock:	Type B applied part
Degree of protection against damaging penetration of water:	IP20



# Ziemer

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Actual product characteristics, specifications,  
and prices are subject to change.

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