OS1000

Corneal Topographer

Complete evaluation of the ocular surface
and dry eye management

We design
MADE IN ITALY
and manifacture

November 2023
ver. 2 - 2023

Embrace the power of TWO over ONE!

With OS1000 approaching Dry Eye analysis has never been easier.
More exams, one device.

1 TOPOGRAPHY

2 DRY EYE ANALYSIS

Lift the unique
AUTO INTERFEROMETRY PANEL
setting a new standard in
precision diagnostics.

SBM
Sistemi

Overview of OS1000

2-in-1 versatile system

Complete corneal topography

All-in-one Dry Eye assessment device

Extensive reports and follow-up

Easy in-clinic workflow with user-friendly software

White light

Interferometer

Blu light

Near IR light

Unique technology for automatic and objective analysis of patients with MGD

Tear film interferometry is increasingly being used in research to observe the tear film.

Interferometry is a technique that studies the surface refractive pattern and dynamics of the lipid layer of the tear film, thus allowing measurement of tear film stability and lipid layer thickness.

Interferometers are investigative tools used in many fields of science and engineering.

They are called interferometers because they work by combining two or more light sources to create an interference pattern, which can be measured and analysed.

The resulting patterns can be mesh and wave, wave only or a fringes of color.

SBM Sistemi interferometry studies the amount of lipid content of the tear.

The lipid layer is the outermost component of the tear film and allows protection from evaporation of the underlying aqueous layer.

The lipid layer is deficient in many MGD patients making this examination extremely important.

Upscaled resolution for analyzed image

Standard corneal topographers

An A.I. based algorithm upscales the acquired image to **23 Megapixels**.

The extreme quality image is then elaborated obtaining new levels of precision in Placido disk based corneal topography measurement.

OS1000 versions

	plus	Full
Topography	✓	✓
Keratoconus screening	✓	✓
Contact lens fitting simulation	✓	✓
Pupillometry	✓	✓
White to white measurement	✓	✓
Interferometry	✓ manual	✓ auto
NIBUT	✓	✓
Meibography	✓	✓
3D Meibography	✓	✓
Tear Meniscus	✓ manual	✓ auto
Blink Quality		✓ auto
Blepharitis		✓
Ocular redness classification	✓	✓
Wizard procedure	✓	✓
Treatment protocol section	✓	✓
Smartphone App "Dry Eye Follow-Up"	✓	✓
OSDI	✓	✓

Joystick One-click acquisition
Images and movies can be captured instantly and conveniently by pressing the joystick button.

Left/Right automatic detection
OS1000 automatically recognizes the right and left eye, allowing an even faster diagnosis of the ocular surface.

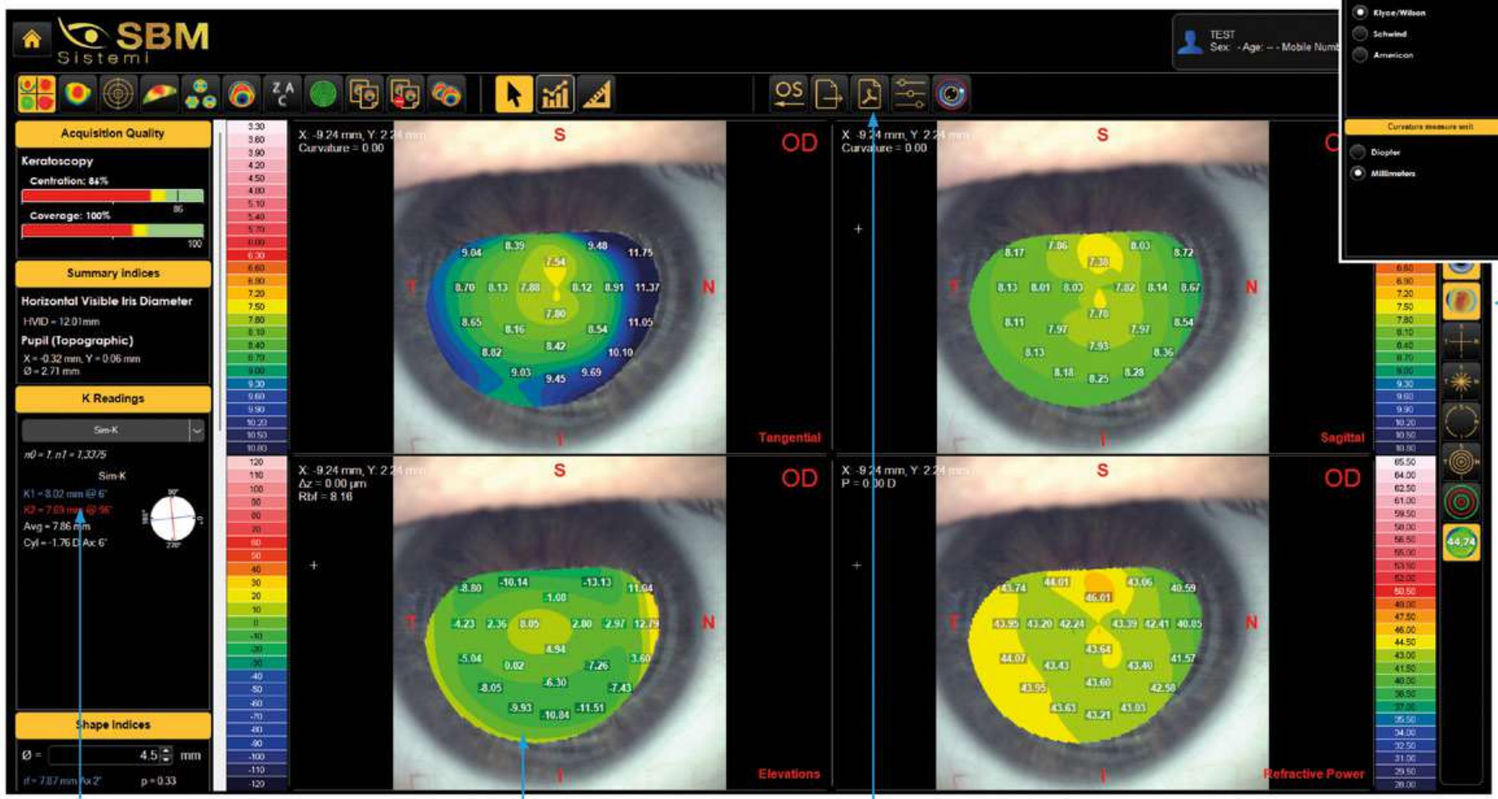
Package contents

OS1000
Base Plate and Chinrest
Calibration sphere
ICP Software
Power supply

Topography **plus · full**

Corneal topography is a non-invasive exam to obtain a map of the corneal curvature. It is a fundamental examination in the screening and follow-up of keratoconus, in refractive surgery and in contactology, to evaluate the effect of contact lenses on the cornea and for the construction of contact lenses.

Corneal topography allows you to measure the curvature of the corneal surface, building a colored map in which each color corresponds to a different curvature.

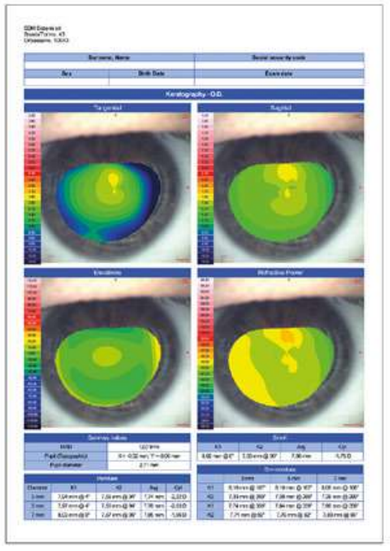


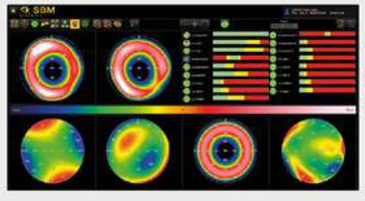
Extended maps visualization options, including iris and pupil toggles, map and eye toggles, rulers, meridians, goniometer, numeric values.

Keratometric data including K-readings and Sim-K, shapes and keratorefractive indexes.

Multiple visualization options, including single map, quadruplet, 3D.

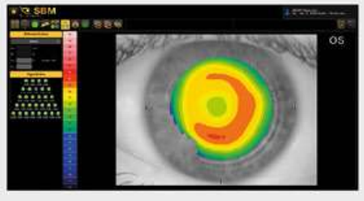
Extended and multi options reporting system that exports PDF to be printed, saved, or sent digitally.





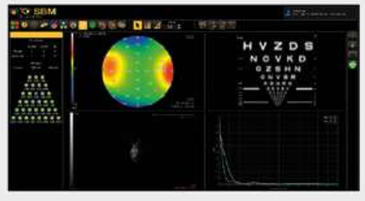
Aberrometry analysis (Zernike)

Zernike analysis of the topographic data provides the Optical Path Difference (OPD) and information on astigmatism, spherical aberrations, higher order aberrations and Coma for pupil sizes of 2.5 mm to 7.0 mm.



Advanced altimetry

A differential altimetry map between a reference surface and the patient's eye decomposed in Zernike polynomials up to 7th order.



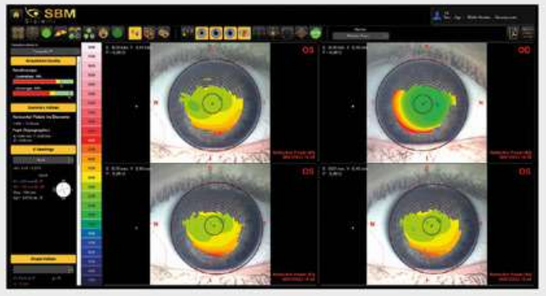
Visual acuity

Simulation of patient's visual acuity based on Zernike wavefront aberration, showing effect of cataract and refractive surgery.

Comparing Exams / Differential map

The "comparing examinations" display shows changes over a certain period of time, e.g. the progressive course of disease of keratoconus. helping you describe even complex situation to your patient.

Is possible to compare up to 4 exams. The "differential map" display shows the differences between two selected maps, is possible to use up to 3 exams.



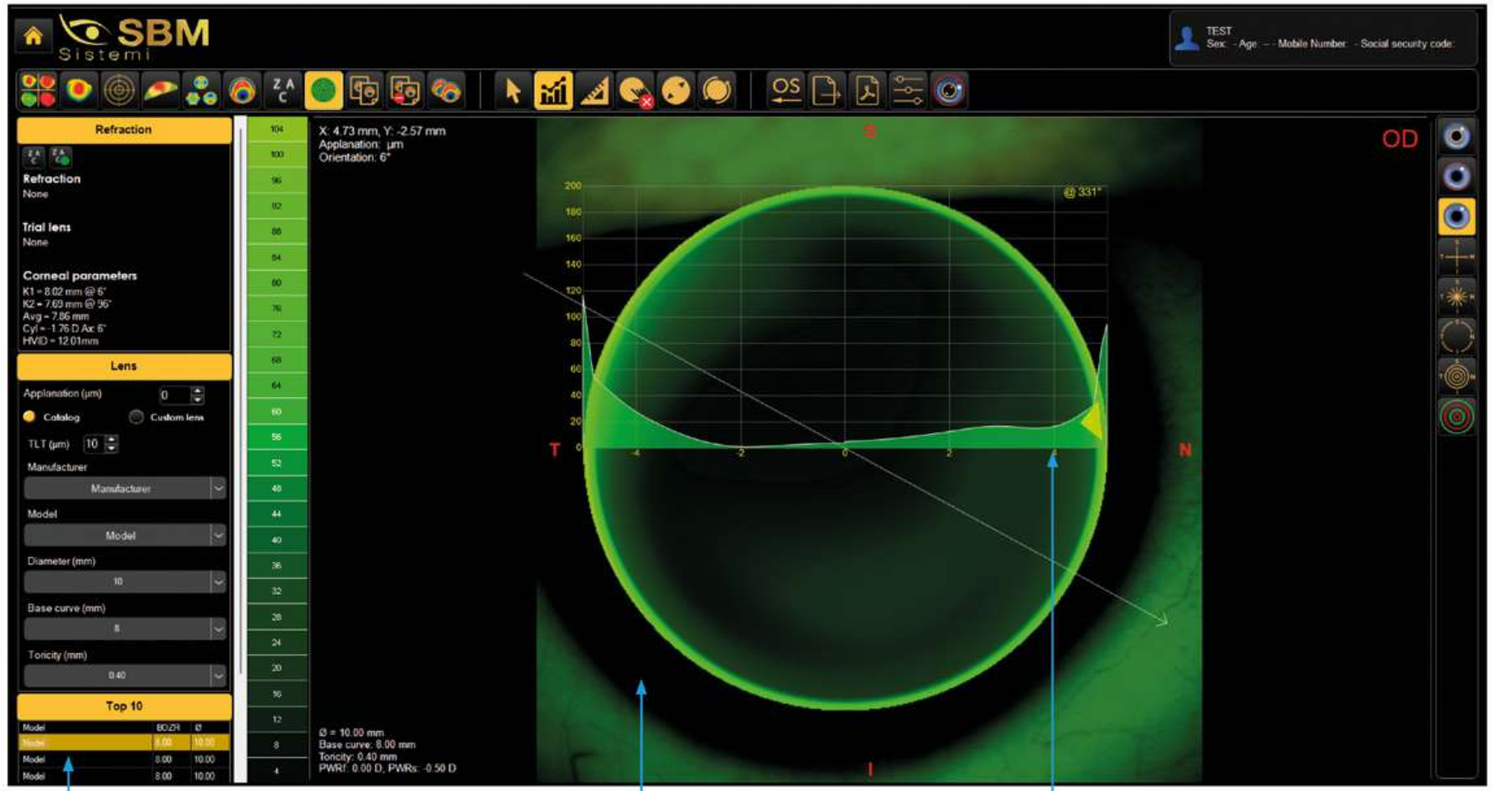
The auto fit module combine the topographic data and RGP lens data, to find and fit the best solution for the patient's eye, simulating the fitting with fluoresceine.

With OS1000 is possible to acquire in vivo fluoresceine image of the lens or testing the fitting with simulated fluorescein visualization.

The contact lens simulation produces an image of how a specific lens fits the eye. The simulation allows you to adjust the angle and position of the contact lens and includes automatic recalculation of the fluorescent image.

The system allows you to order fewer lenses and reduce chair time while increasing your first-fit success rate.

This simplifies the fitting process by providing true elevation data independent of the tear film.



The best lens is chosen by the integrated algorithm among the lenses present in the database.

Large database of contact lenses from which to choose the best lens based on the topography.

Simulated fluorescein image to verify the distance of the lens from the cornea.

Cutaway graph of the distance of the lens from the cornea on the selected meridian.

Pupillometry

With the OS1000 you can quickly and precisely measure all the data needed for multifocal, bifocal and toric contact lenses.

The pupillometry exam capture images or videos in white light and infrared spectrum and allows measurement of the size of the pupil and decentralization in various light conditions (scotopic vision, mesopic, photopic).

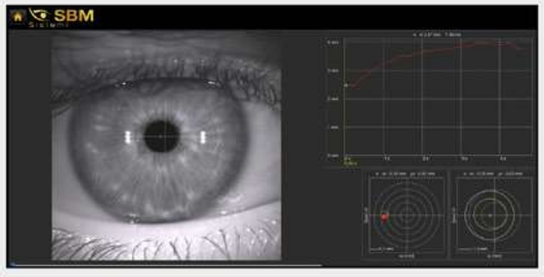
This is a quick and easy way to measure the pupil size of your patients under different illumination conditions.

This option not only supports you when fitting multifocal lenses, but also when measuring the optical zone before refractive or cataract surgery.

Dynamic Pupillometry

The measurement of the pupil diameter has become increasingly important also in the field of refractive surgery as well. Larger scotopic pupil sizes may be partially responsible for the occurrence of postoperative symptoms such as halos, glare, and monocular diplopia. Refractive surgeons also need an accurate scotopic pupil measurement to determine appropriate treatment zones for excimer laser, corneal, and intraocular surgery.

The dynamic pupillometry measures the transition from a bright photopic to scotopic condition. Dynamic pupillometry is a simple screening tool for quantifying pupillary light reflex (PLR), to indicate autonomic nervous system (ANS) activity. Pupillary light reflex is measured using infrared videography and categorized into different quantitative parameters that reflect ANS activity.

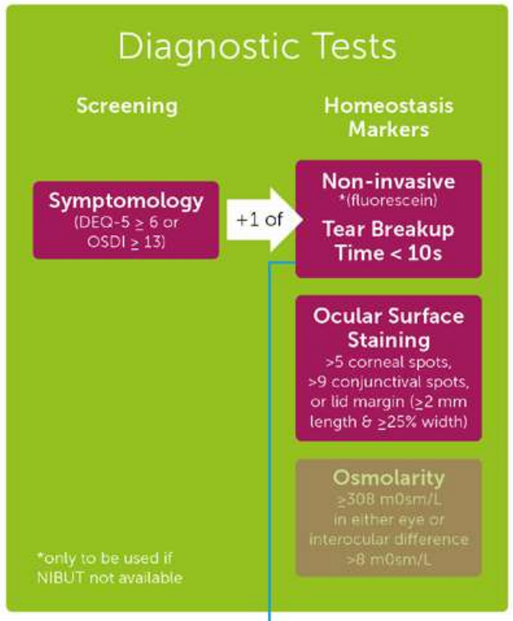


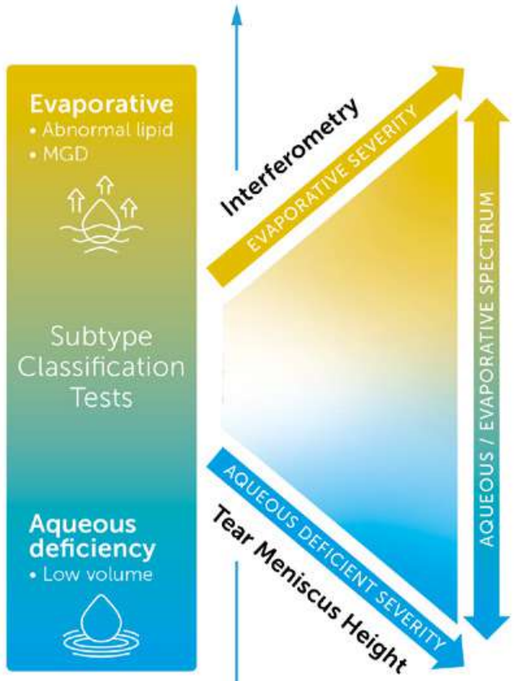
The fastest and most complete Dry Eye suite

The Tear film and Ocular Surface Society study outlined how the ocular surface should be analyzed to diagnose dry eye syndrome.

To an important first part of the screening it is necessary to add a classification of the subtype of pathology through the analysis of the lipid layer and the aqueous layer.

OS1000 Full allows the complete analysis using the guidelines in a completely automatic and objective way, providing the results automatically without operator intervention, thus making the analysis incredibly fast and easily delegated.



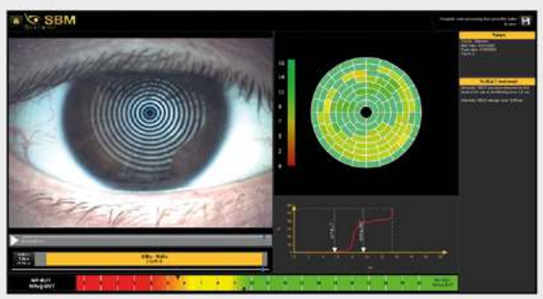


Automatic NIBUT

The stability of the mucin layer and the whole tear film is assessed through the study of non-invasive break up time (NIBUT), by using the Placido rings projected onto the cornea. Tear film stability automatically evaluated without fluorescein:

- First NIBUT
- Average NIBUT
- NIBUT Map
- TF dinamic graph

plus · full



Interferometry

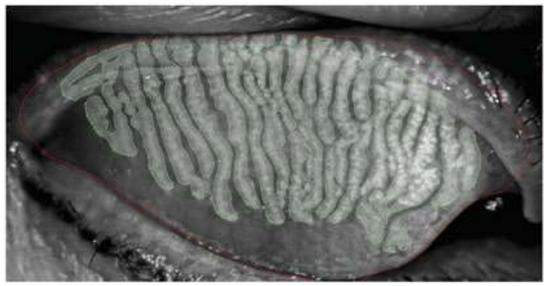
Thanks to the anterior illumination module, OS1000 can aquire the lipid layer secrection on the cornea.

The device highlights the lipid layer and the software evaluates the quantity and quality of the lipid component on the tear film.

plus subjective · full automatic

MGD means Meibomian Glands Disfunction

This condition happens when the meibomian glands are not working as needed. To verify this condition a simple Meibography is not enough to know the working condition of the patient's glands.



Automatic tear meniscus height

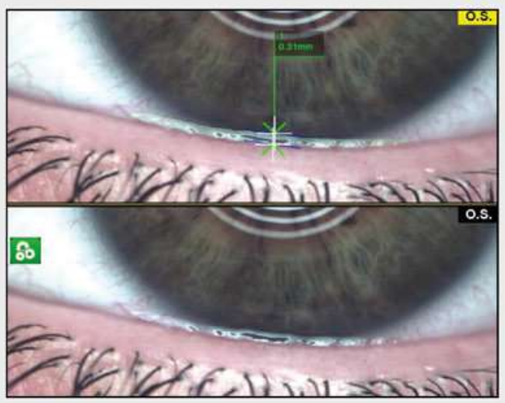
The thickness of the tear meniscus that is observed on the eyelid margins provides useful information on the tear volume. The tear meniscus can be examined considering its height, regularity and shape.

plus subjective

An artificial intelligence determinates automatically:

- Position of tear meniscus
- Highest value in TM

full automatic



Evaporative

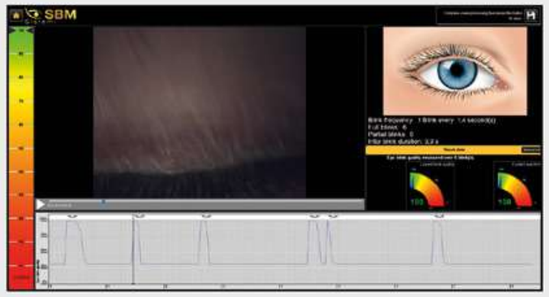
Automatic Eye blink quality

It has been established that efficient blinking plays an important role in ocular surface health including during contact lens wear and that it improves contact lens performance and comfort.

Eye blink analysis can be performed on a dedicated video or on interferometry video to know automatically:

- Blink frequency
- Partial blink (Fundamental for MG understanding)

Full



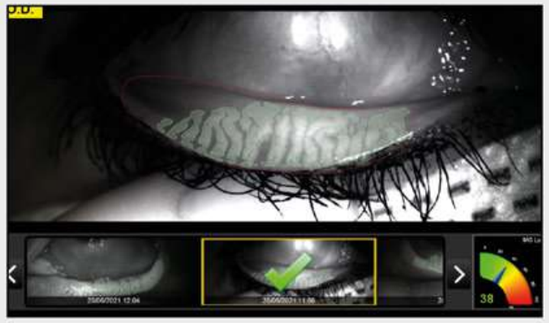
Automatic Meibography

Meibography is the visualization of the glands through illumination of the eyelid with infrared light. It images the morphology of the glands in order to diagnose any meibomian gland drop out which would lead to tear dysfunction.

Using IR illumination OS1000 can automatically detect:

- Lid area
- Meibomian glands
- Drop out

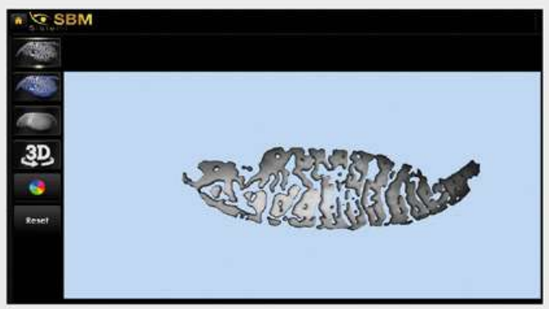
plus · full



3D Meibography

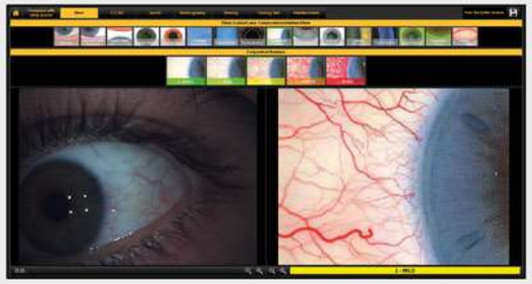
This new imaging system provides strong evidence to support the choice of a specific therapy (for example IPL treatment) and helps the patient to understand why a certain therapy is being recommended.

plus · full



Efron / CCLRU / Jenvis

Comparative tables



Bulbar redness

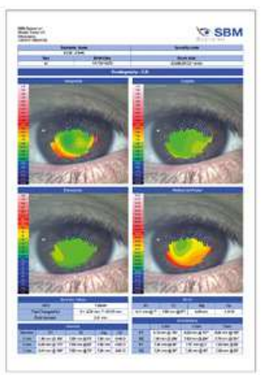
Acquiring an image of the conjunctiva, it will be possible to compare the patient's condition with different international grading scales.

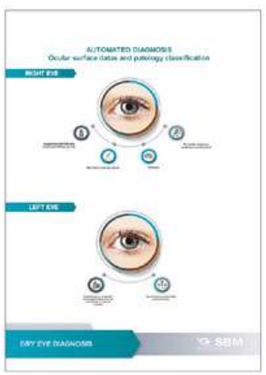
Once the image of the conjunctiva with its blood vessels is captured, it is possible to compare it with the classification sheets of bulbar and limbal redness degrees.

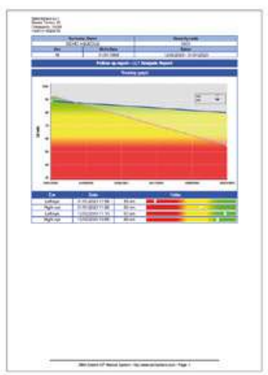
Full

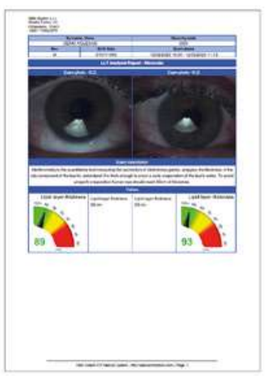
Multiple reports available

The software is a dedicated platform for dry eye and allows, in addition to helping in the diagnosis and classification of diseases, to print and save various medical reports, offering the most professional and clinical solutions to patients. For customer satisfaction, it is often advisable to provide technical documentation relating to the exams taken. Thanks to the various print reports of the SBM device, you will have the possibility to visually explain and simply demonstrate the pathology situation. Furthermore, it's possible to explain how the pathology has changed over time.

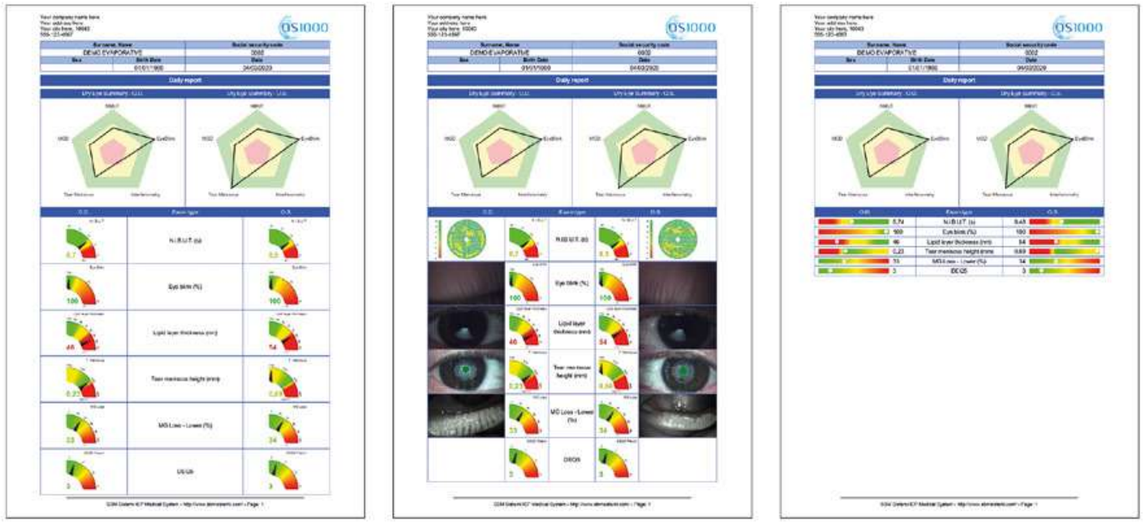








Dry Eye reports plus · full



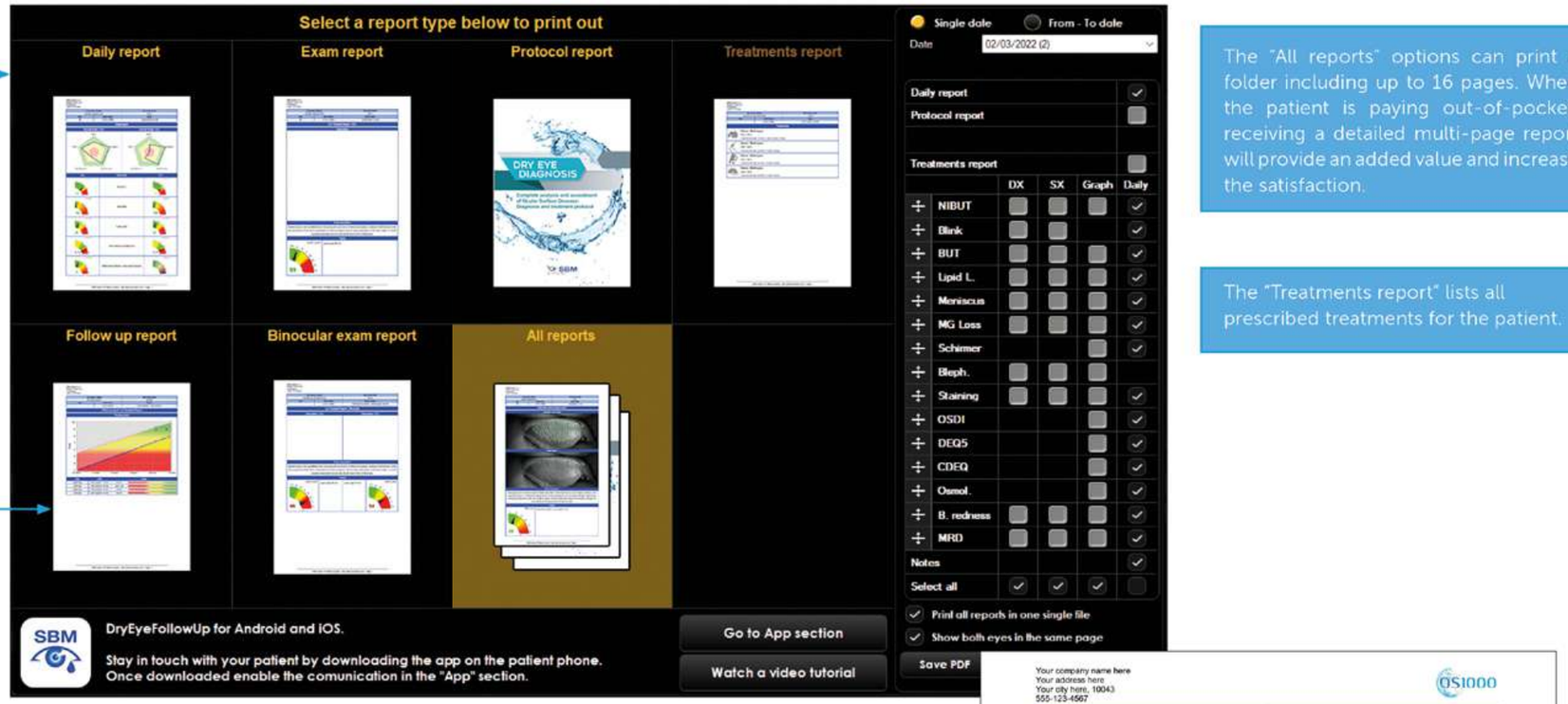
The software is a dedicated platform for dry eye and allows, in addition to helping in the diagnosis and classification of diseases, can print and save medical reports, offering the most professional and clinical solutions to patients.

For customer satisfaction, it is often advisable to provide technical documentation relating to the exams taken.

Thanks to the various print reports of the SBM device, you will have the possibility to visually explain and simply demonstrate the pathology situation. Furthermore, it's possible to explain how the pathology has changed over time.

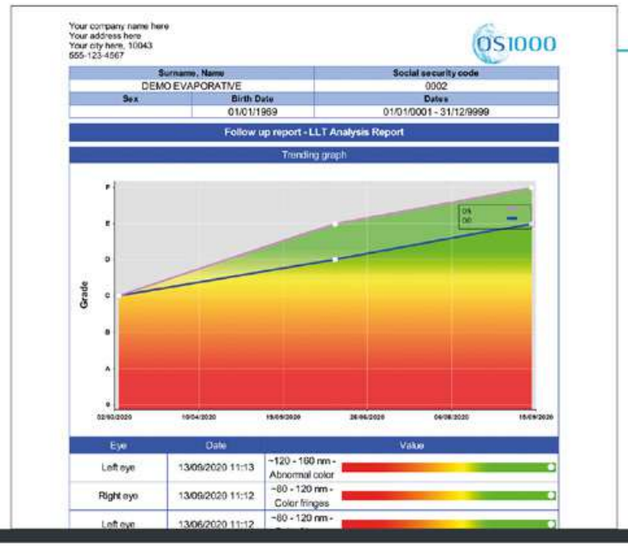
The "Daily report" groups all results of the patient's exams of one single day. Multiple visualization options are available, including with or without pictures of the exams.

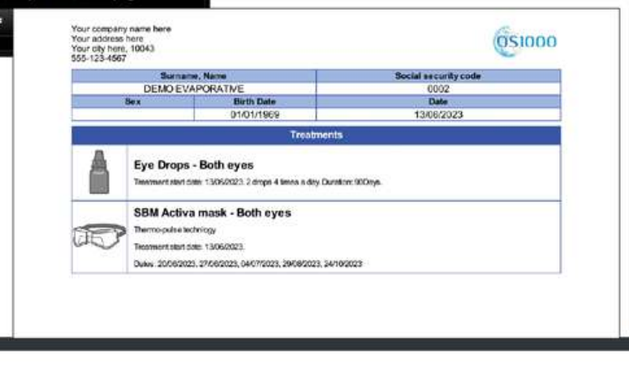
The "Follow-up report" can show to the patient the benefit of the therapy showing the improvement of the symptoms related to the dry eye pathology.



The "All reports" options can print a folder including up to 16 pages. When the patient is paying out-of-pocket, receiving a detailed multi-page report will provide an added value and increase the satisfaction.

The "Treatments report" lists all prescribed treatments for the patient.





Treatment protocol **plus · full**

The software stands as an advanced platform, presenting multiple versatile solutions meticulously designed to empower medical professionals (MD/OD) and users alike in the intricate task of assigning therapy:

MANUALLY

Treatment managing

Through TREATMENT MANAGING tab, the software allows the physician to fill in the database with all drugs, integrators and treatments available in his practice.

Food supplements, Omega-3, eye drops, hot packs, and Activa/IPL/QMR: every treatment brand and type can be loaded in the software to be prescribed to the patients in two clicks.

AUTOMATICALLY

Automatic treatment suggestion

The unique integrated algorithm, developed in collaboration with MD. Luca Vigo from Studio Medico Carones, can provide a dedicated treatment approach based on the results of the analysis.

In addition...

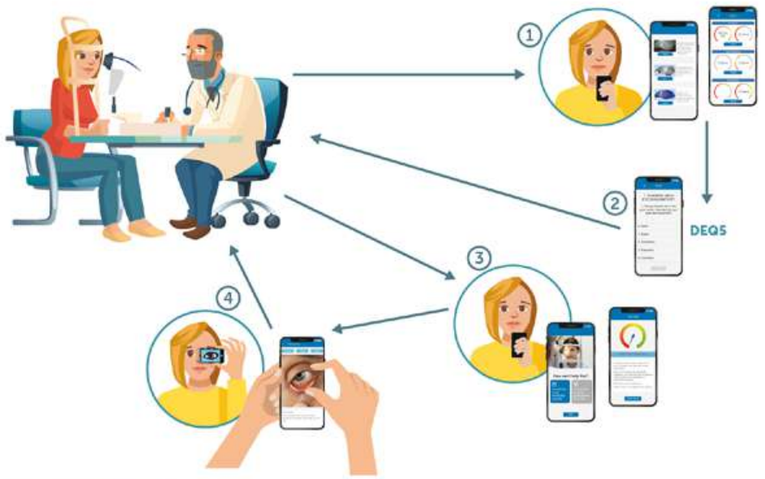
All users can customize their own protocol adding treatment procedure to be chosen automatically right after performing the exams (this makes it possible as well to delegate the diagnosis to an assistant).

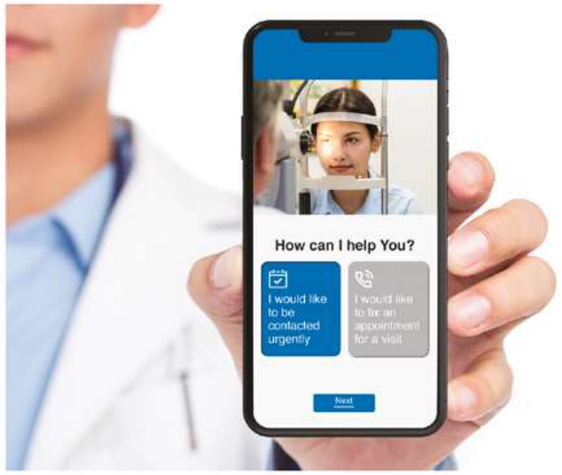
Each of the options provides comprehensive and dedicated printable reports.

Dry eye follow up **plus · full**

Dry eye follow up

This is an app for the smartphone of the patient to receive exams results, therapy, and a complete knowledge about the dry eye disease.





Benefits of Dry eye follow up

- Fast and easy doctor-patient interactive communication Platform creating a two-way communication;
- Accurate reports sharing and updates;
- Tracking of results and progress over time to show fluctuations in symptoms;
- Help in regularly scheduling appointments, interact with clinic/hospital;
- Sending automatic reminders to patients and notifications to doctors;
- Speeding up the process of providing information, booking appointments, and setting up the treatment procedures prescribed by the doctor.

Stop forgetting your drugs

Set automatically on your mobile phone all treatments.

The App will remind you when and how to use the specific suggested drug.

Download on

Specification

Rings	24
Measured points	8640
Camera resolution	5 Megapixel
Photo resolution	2592x1944 JPEG format
Upscaled analyzed image resolution	23 Megapixel
Acquisition mode	Single shot, multishot, video
Focus	Manual focus
ISO management	Variable
Image color	Colours - Infrared (IR)
Lighting source	Infrared led – White led – Blue led
Working distance	60 mm - 90 mm from the center of the placid
Output 1	USB 3.0
Electromagnetic compatibility (EMC)	IEC 60601-1-2 (2015)
Supply voltage	24 V
Device operating voltage	24 V – 5V
Dimensions	40 cm (L) x 60 cm (A) x 45 cm (P)
Weight	12 Kg
Accuracy	Class A according to UNI EN ISO 1980-2021

* Subject to change in design and/or specifications without advanced notice

SBM Sistemi

Strada Torino, 43
10043 Orbassano (Torino) Italy
Tel. +39.011.19923378
info@sbmsistemi.com

LEARN MORE
Scan our QR codes
to get product details

SBM Website

Youtube

uni en iso 9001:2015 Nr. 8631/0
uni cei en iso 13485:2016 Nr. 8632/0