MediWorks

OPTITECH®
TARUN ENTERPRISES
An EN ISO 13485:2016 Company

# DEA 520

## 2 in 1
Ocular Diagnostic Master

## Corneal Topographer

DEA 520

# 1 Ring 3 Illuminations 9 Functions

DEA 520 is a multi-purpose corneal topographer that integrated dry eye and corneal topography analysis.

## Placido Ring

**Thousands of measure points** – ensure more data available and accurate analysis

**Smaller cone design** – bigger projection area

**3 Illuminations** – white illumination, infrared illumination, cobalt blue illumination

## 9 Functions

### Dry Eye Diagnosis

- ☐ Non-Invasive Tear Film Breakup Time
- ☐ Cornea Sodium Fluorescein Staining
- ☐ Non-Invasive Tear Meniscus Height
- ☐ Eyelid Margin
- ☐ Meibomian Glands Function Evaluation
- ☐ Conjunctival Redness Analysis
- ☐ Lipid Layer Thickness

### Topography

- ☐ Topography Analysis
- ☐ Pupil & Corneal Diameter Measurement

## Built-in computer

Integration design enables maximum treatment room utilization
Dry eye diagnosis and Topography analysis integrated
10.1″touchscreen, ease of operation

## Doctor-Patient Communication

Visualized diagnosis report, easy to understand
External display connection enables real-time observation

## Ergonomic Design

Switch illumination and magnification intelligently under various function modes
Compact cone, specially designed for various orbits
50°adjustable display
Auto OD/OS recognition

## Clinical Application

- Dry Eye Analysis
- Lens Fitting
- Cornea Morphology Diagnosis

# Dry Eye Diagnosis

## Make dry eye visualized

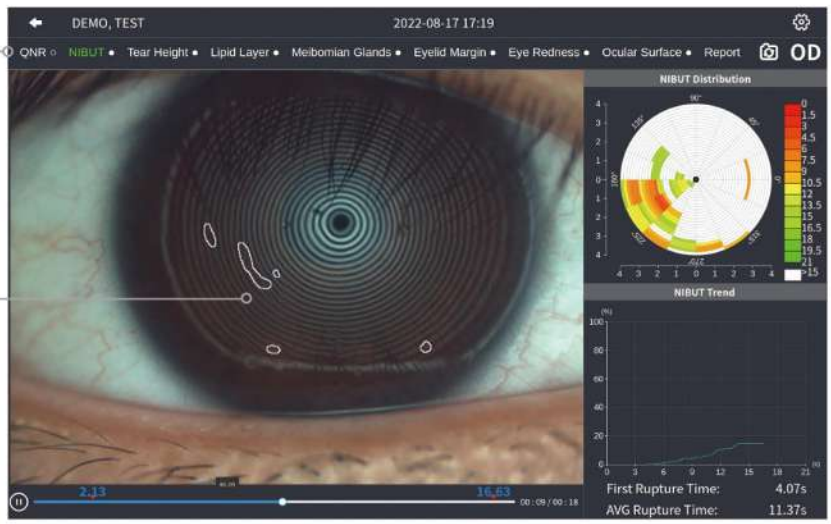
### Non-Invasive Breakup Time

**Interface**

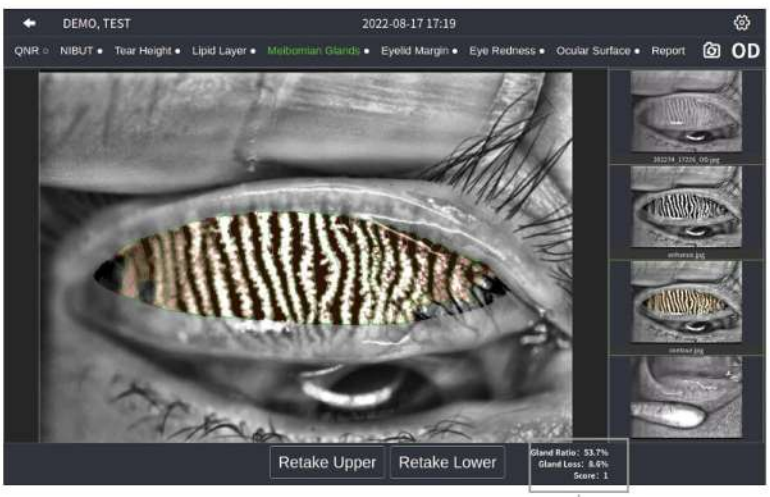
Comprehensive 7 dry eye examinations.

**NIBUT**

More than 9.6mm diameter Placido ring projection. Auto identify breakup area and analyze NIBUT intelligently.




### Meibomian Glands Function Evaluation




Automatically anlalyze meibomian glands loss caused by meibomian glands dysfunction with precise and quantified diagnosis results

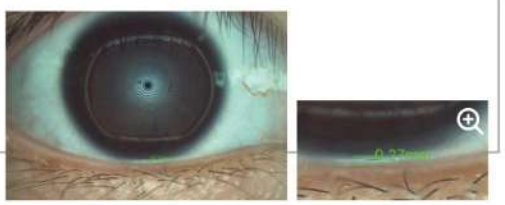
Original Image

Enhanced Image

Result Image

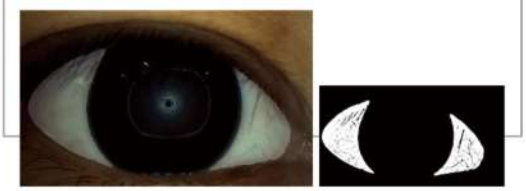
Auto identify and auto enhance of meibomian glands area

## Non-Invasive Tear Meniscus Height



Automatic identification system depicts tear meniscus area and measures the tear height intelligently.

## Conjuntival Redness Analysis



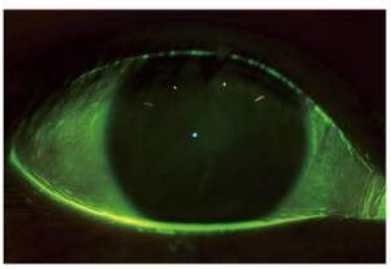
Identify and calculate percentages of conjunctival congestion and ciliary congestions and evaluate severity of eye congestion.


## Lipid Layer Thickness

Observe dynamic lipid layer and distribution by video recording compared with standard templates. It's helpful for judging MGD.

## Eyelid Margin

The high resolution image supports zoom in to meet examination requirements of overall shape of eyelid margin and its slight change.



## Cornea Sodium Fluorescein Staining

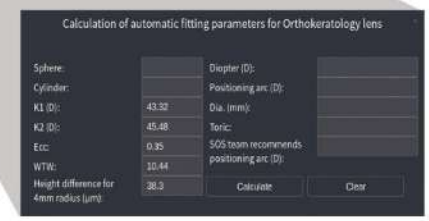
Specially designed built-in yellow filter, working with cobalt-blue illumination improves image contrast of cornea sodium fluorescein. Effectively increases positive rate of early corneal epithelial staining.

# Corneal Topography

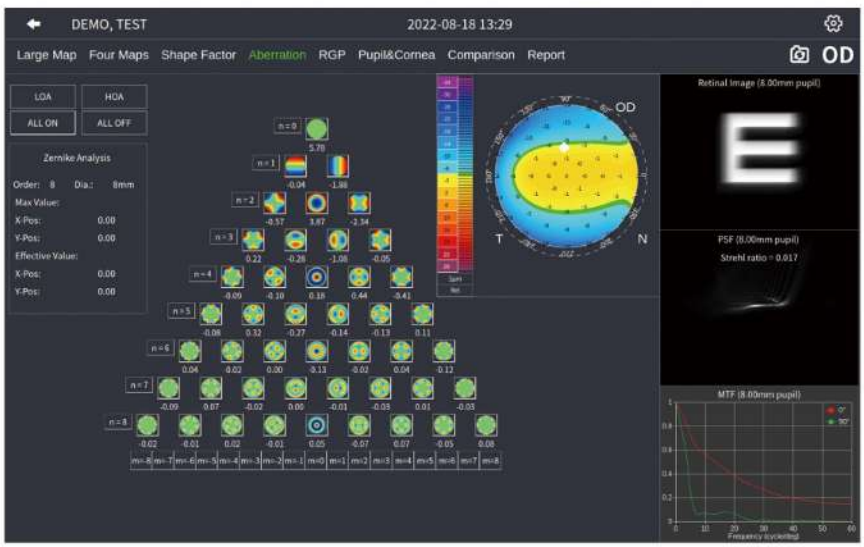
## Sketch the contours of corneal


### Lens Fitting

A simulated fluorescein image will be created based on patient's cornea. The system will recommend several suitable lens for choose, which accelerates work flow and excludes unfit lens to save the trouble for patient to do real several fluorescein staining.

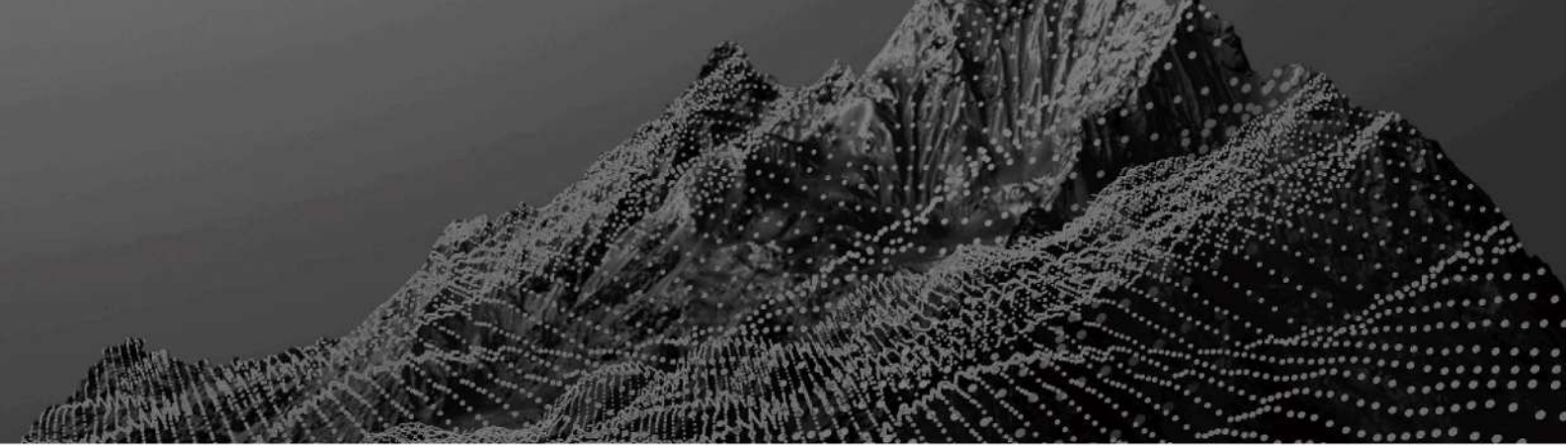



Research and develop with team SOS from EYE&ENT Hospital of Fudan University. Recommend the most precise lens based on the patient documentation.



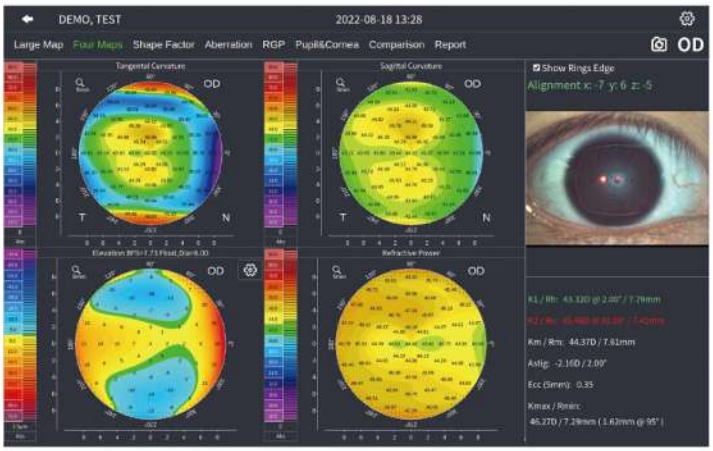

### Aberration & Simulation

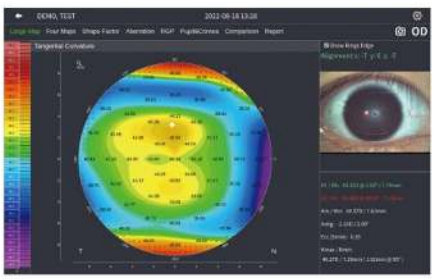
Zernike wavefront aberration analysis makes plan of cataract and refractive surgeries visualized and ensures patient's postoperative vision quality.



## 4 Maps

4 maps provide Sagittal Curvature,Tangential Curvature, Elevation Map, Refractive Power, and K1/K2/Km/Astig/Ecc value.

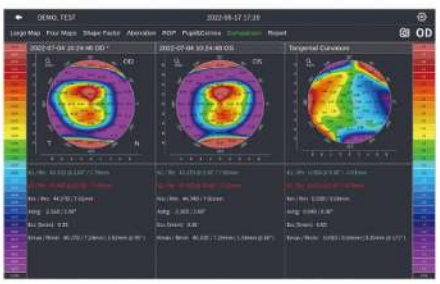


Topography

Shape Factor

Pupil & Corneal Diameter Measurement



Cases Comparison

# Specifications

## Hardware

| | |
|---|---|
| Dimension | 53cm×30cm×54cm |
| Weight | 12.7kg |
| Built-in CPU | intel |
| Hard Disk | 1TB |
| Image Resolution | 2048×1536 |
| Display | 10.1" touchscreen |
| Illumination | White, Infrared, Cobalt-blue |
| Internet Connection | WIFI |
| Printer Connection | WIFI, USB |
| Power Supply | 100~240VAC, 50/60HZ |
| Extension Display Interface | Display Port |
| OS/OD Recognition | Automatic |
| Chin Rest Control | Electrical |
| Left and Right | 0~94mm work range |
| Front and Back | 0~64mm work range |
| Up and Down | 0~30mm work range |
| Language | Chinese / English / Japanese |
| DICOM | Supported |

## Topography

| | |
|---|---|
| Numbers of Rings | 50 Rings |
| Diameter of Project Area | 8.8mm (43D)<br>11mm (43D) |
| Radius of Curvature | 32.14 dpt~ 61.36 dpt (5.5mm~10.5mm)<br>Accuracy: ±0.1 dpt (±0.02mm) |
| Astigmatism Axis | 0~180° |
| White To White | 6~17mm |
| Pupil Diameter | 1~13mm |
| Topography Function | Sagittal Curvature<br>Tangential Curvature<br>Elevation Map<br>Refractive Power |
| 4 Maps | Four Maps display |
| Shape Factor | E, ecc, P, Q |
| Zernike | Corneal wavefront aberration, PSF map, MTF curve and Simulated image in different pupil diameters |
| Examination Result Comparison | Support 2 results comparison and difference calculation |

## Dry Eye Analysis

| | |
|---|---|
| NIBUT | Automatic analysis, tear film rupture area and trend, first break-up time and average break-up time |
| Tear Meniscus Height | 0.01~2mm |
| Meibomian Glands | Meibomian glands loss rate and grade |
| Lipid Layer | Template match |
| Eye Redness | Conjuntival congestion percentage |
| Eyelid Margin | Support digital images zoom in |
| Ocular Surface | Built-in yellow filter |

CE NMPA FDA

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