



SUOER

OFFICIAL CATALOGUE 2020

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Europe & Middle East Representation

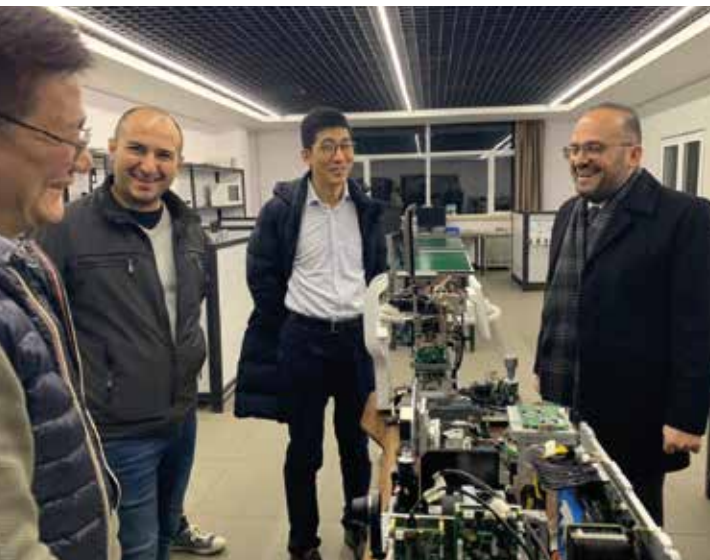


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SUOER OPHTHALMOLOGY

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Tianjin Suowei Electronic Technology Co Ltd. was founded in 2001 with headquarter in Tianjin, China and is one of the world's leading ophthalmic manufacturers specializing in research, development and production of ophthalmic ultrasound and ophthalmic diagnostic equipments. Suowei offers under the brand SUOER a wide range of innovative diagnostic instruments in all ophthalmic categories: Cataract, Glaucoma, Retina and in Optometry.

Products primarily include: Ophthalmic Ultrasound A-Scan Biometer, A/B Scan, Pachymeter Non Contact Tonometer, Corneal Topographer, Specular Microscope, ROP Fundus Camera, Optical Biometer, Fundus Camera, Vision Screener.

SUOER products portfolio is represented in more than 75 countries all over the world.

The advertisement features a large, dark grey SUOER Rebound Tonometer SW-500 on the left side. In the center, a woman with brown hair tied back is shown in profile, looking towards the right. A hand in a white lab coat is holding a smaller, handheld version of the tonometer, positioning it to measure her eye. The background is white with abstract, flowing blue and purple lines. The SUOER logo is prominently displayed in the top right corner.

SUOER

Rebound Tonometer SW-500

SUOER rebound Tonometer SW-500 is used to measure intraocular pressure, there are two working modes: vertical and horizontal. Wireless data output the principle: when the probe contact the surface of different hardness at a certain speed, it has different reaction of the probe rebounding.

Advantage: high accuracy, portable, without anesthesia, without the cross-infection etc.

Technical data

Measure Range	3mmHg~70mmHg
Precision	$\pm 1.5\text{mmHg}$ ($3\text{mmHg} \leq \text{IOP} \leq 25\text{mmHg}$); $\pm 2.5\text{mmHg}$ ($25\text{mmHg} < \text{IOP} \leq 70\text{mmHg}$);
Measurment Mode	Both vertical and horizontal measurment
Output	Wireless Infrared Thermal Printer
Easy to use	
Small size, Easy to carry	
No need Anesthesia, No Discomfortableness	

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Vision Screener SW-800



SUOER Opto-Cam (SW-800), Simple and fast visual parameter screening instrument. SW-800 Opto-Cam measures both eyes simultaneously just like taking a photo. This device is designed to detect vision issues for patients ages 3 months through adults. A total of 8 different binocular measurement can be attained within two seconds.

Technical data

Operation Mode Bino/Mono
Optometry Automatic

DS	
Range	-8.50D to +8.50D
Resolution	0.25D/0.01D
Accuracy	±0.50D

DC	
Range	0.00D to 4.50D
Resolution	0.25D/0.01D
Accuracy	±0.50D

Axis	
Range	1° to 180°
Resolution	1°
Accuracy	±5°

Pupil size	
Range	3.5mm to 9.0mm
Resolution	0.1mm
Accuracy	±0.1mm

Pupil distance	
Range	35mm to 80mm
Resolution	1mm
Accuracy	±1mm
Gaze	0° to 20°
Measuring distance	1m±5cm
Time per measurement	~1s
Fixation target	Light flash, attractive sound
Date interface	Wi-Fi, USB
Printer Interface	USB
Battery	Rechargeable lithium batteries, 6 hours of duration, Replaceable
Size	180mm x 130mm x 110mm
Display	5 inch touch screen
Weight	0.8KG
Optional accessories	Camera tripods, printer, etc



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Ophthalmic A Scan SW-1000

SUOER A/P Scan SW-1000 is an A and P scan combine in one instrument with high accuracy, fast measuring speed and easy to operate.

Technical data

A scan probe	10MHz import small size probe, built-in luminotron
Measuring range	15mm-40mm
Measurement precision	±0. 05mm; with macula lutea trace function
Measurement	Anterior chamber depth, lens thickness, vitreous body length, total length and average
Method of measurement	immersion and contact
Eye mode	Phakic / Aphakic / Dense / various IOL
IOL formula	SRK-II, SRK-T, BINKHORST- II, HOLLADAY, HOFFER-Q, HAIGIS
Enter the name & ID	easy to check archive
Storage	10 cases, 5 readings each case
Output	A scan waveform and IOL calculation sheet
Pachymeter	20MHZ, angle of 45 degrees makes easier operation
Resolution	5um
Measuring range	150um~1500um
Display	SINGLE mode and MAP mode
Can display ultrasound waveform when measuring	
Each group is the average of 20 measurements	
Switch between IOP measured value and actual value	
Can input name, ID and operator's name	
Others	
Large color liquid-crystal screen	
Touch screen input, easy operation	
Curve freezing: Manual/Auto mode, controlled by pedal	
Built-in speed thermal printer	

- SW-1000A A/Scan**
- SW-1000P Pachymetry**
- SW-1000AP A/Scan + Pachymetry**

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A/B Scan SW-2100



SUOER A/B Scan SW-2100 is an A and P scan combine in one instrument with high accuracy, fast measuring speed and easy to operate.

B Scan

Frequency	10MHz/20MHz (optional) Magnetic driven, noiseless
Scanning Mode	Sector Scanning
Magnify	Multi continuous magnification, Real-Time magnification
Resolution	Lateral $\leq 0.3\text{mm}$; Vertical $\leq 0.2\text{mm}$
Geometry position precision	Lateral $\leq 10\%$; Vertical $\leq 5\%$
Depth	60mm
Enhance the part of vitreous body and retina	
Gain of probe	30dB-105dB
Scanning Angle	53°
Gray Scale	256
False Color	Multi colors. OCT
Measurement type	Multigroup distances, perimeters and areas
Image postprocessing	multiple curves processing, Pseudo-color processing curve
Movies	100 images movie review, AVI JPG format image output

A Scan

Frequency	10MHz, with LED
Depth	40mm
Precision	$\pm 0.05\text{ mm}$
Measurement	Anterior chamber depth, lens thickness, vitreous body length, total length and average
Eye mode	Phakic/Aphakic/Dense/Various IOL
IOL Formula	SRK-II, SRK-T, HOFFER-Q, HOLLADAY, BINKHORST-II, HAIGIS
Stat. Calculation	Average and standard deviation
Store	10 Scanning results for each eye

Others

Display Mode	B, B+B, B+A, A
Hint	Preset keyword
Case Search	Multi-keywords
Working Platform	Windows XP, VISTA, WINDOWS7
User-defined report template	

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Full Scale UBM SW-3200L



SUOER UBM (SW-3200L) is an ophthalmic Ultrasound Bio-Microscope with the characteristics of wide scanning range, high resolution, high accuracy of geometric position, clear image and with many post-processing functions.

Technical data

Frequency	50MHz
Scanning Mode	Wide range linear scanning mode, undistorted, Sulcus-to-Sulcus
Scanning Range	16mm*9mm; 10mm*6.5mm
Vertical Precision	$\leq 40\mu\text{m}$
Lateral Precision	$\leq 40\mu\text{m}$
Scanning Lines	1024 lines, 15 μm between each lines

Geometry Distortion Precision

Vertical	$\leq 3\%$
Lateral	$\leq 3\%$
No data interpolation	
None distortion Imaging	

Display Mode	UBM, UBM+A.
System Performance	it have a special independent 50 μm ultrasonic amplification system make the anterior segment image clearer
Working Platform	Windows System



SUOER

Full Scale UBM SW-3200S (Portable Mode)

SUOER UBM Portable (SW-3200S) is an ophthalmic Ultrasound Bio-Microscope with the characteristics of high portability, wide scanning range, high resolution, high accuracy of geometric position, clear image and with many post-processing functions. Suitable for various screening scenarios.

Technical data

Frequency	50MHz
Scanning Mode	Wide Range Sector Scanning Mode, Undistorted, Sulcus-to-Sulcus
Scanning Range	16mm*9mm; 10mm*6.5mm
Vertical Precision	≤40μm
Lateral Precision	≤40μm
Scanning Lines	1024 lines, 15 μm between each lines

Geometry Distortion Precision

Vertical	≤3%
Lateral	≤3%
No data interpolation	
None distortion Imaging	

Display Mode	UBM, UBM+A.
System Performance	it have a special independent 50μm ultrasonic amplification system make the anterior segment image clearer
Working Platform	Windows System

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Delta Ultrasound Scanner



B Scan

Frequency	10MHz, Magnetic driven, noiseless
Scanning Mode	Sector Scanning
Magnify	Multi continuous magnification, Real-Time magnification
Resolution	Lateral $\leq$ 0.3mm Vertical $\leq$ 0.2mm
Geometry position precision	Lateral $\leq$ 5% Vertical $\leq$ 3%
Depth	60mm
Enhance the part of vitreous body and retina	
Gain of Probe	30dB-105dB
Scanning Angle	53°
Gray Scale	256
False Color	Multi colors
Measurement Type	multigroup distances, perimeters and areas
Image Postprocessing	multiple curves processing, Pseudo-color processing curve
Movies	100 images movie, AVI JPG format image output

A Scan

Frequency	10MHz, with LED
Depth	40mm
Precision	$\pm$ 0.05mm
Measurement	Anterior chamber depth, lens thickness, vitreous body length, total length and average
Eye Mode	Phakic/Aphakic/Dense/Various IOL
IOL Formula	SRK-II, SRK-T, HOFFER-Q, HOLLADAY, BINKHORST-II, HAIGIS
Stat. Calculation	Average and standard deviation
Store	10 Scanning results for each eye

Others

Display Mode	B, B+B, B+A, A
Hint	Preset keyword
Case Search	Multi-keywords
Working Platform	Windows System
Userdefined report template	

Full Scale UBM

Frequency	50MHz
Scanning Mode	Wide Range Sector, Scanning Mode, Undistorted, Sulcus-to-sulcus
Scanning Range	16mm*9mm; 10*6.5mm
Vertical Precision	$\leq$ 40 μ m
Lateral Precision	$\leq$ 40 μ m
Scanning Lines	1024Lines, 15 μ m between each lines
Geometry	Vertical $\leq$ 3%
Location	Lateral $\leq$ 3%
Precision	Non data interpolation, None distortion Imaging
Display Mode	UBM, UBM+A
System Performance	it have a special independent 50 μ m ultrasonic amplification system make the anterior segment image clearer
Working Platform	Windows System

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Non-contact Tonometer SW-5000

SUOER IOPro (SW-5000) using an air puff, an optical non-contact method, to measure intraocular pressure. The advantage includes auto-focusing, fast measurement speed, comfortable measurement process, and no cross-infection.

Technical data

Measuring Range	1mmHg~60mmHg
Measuring Scale	30mmHg, 60mmHg
Measuring Accuracy	1mmHg;
Measuring Distance	11mm
Focus Method	focus points + focus notification
Focus Mode	three-dimensional auto-focus/manual focus/touch screen focus
Interior Light Fixation	Green LED
Stroke of Moving Track	Left-Right: 80mm Forward-Backward: 40mm Up-Down: 20mm
Display	large colored LCD screen
Output	high speed thermal printer

Unique Features

- ❶ Integrated ORA (Ocular Response Analyzer)
- ❷ Unique collection of waveform confidence interval data by weight average of three readings, and indicate low confidence interval results
- ❸ Manually focus by touching screen
- ❹ Non-contact measurements to avoid cross infection
- ❺ Integrated 24 hours IOP trend analysis system

The image shows the SUOER Corneal Topographer SW-6000, a medical device used for measuring the cornea. It features a Placido ring system and a camera. The device is shown in a studio setting with a blue and white background. The SUOER logo is prominently displayed in the top right corner.

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Corneal Topographer SW-6000

SUOER Corneal Topographer (SW-6000): using PLACIDO cone, 31 rings and a total of 7936 points, to measure and obtain analysis of corneal shape and corneal refraction data. The SW-6000 has included readings such as: axial curvature, tangential curvature, altitude map, simulated keratometry and corneal 3D map.

Technical data

Measuring Mode	Placido Cone
Coverage range of measurement	10.91mm (Diameter)
Measuring range of Curvature radius	5.5mm-10.0mm(33.75D-61.36D)
Precision	±0.02mm
Placido Rings	31 Rings
Measurement Points	7936 Points
Display	Axial Curvature map,Tangential Curvature Map,Elevation Map, Imitated Keratoscope Map and 3D cornea Map
Image output	High-Quality color inkjet printer

Adjust moving range

Left-Right	0 to 86mm
Forward-Backward	0 to 40mm
Up-Down	0 to 30mm
Chinrest	0 to 50mm
Cornea Contact Lenses Fitting Function	
Keratoconus Detectiong Function	

SW-6000D incl. Dry Eye Analyzer

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The image shows the SUOER Dry Eye Analyzer SW-6000D. On the left is a full view of the device, which has a white base and a circular head with a black and white concentric ring pattern. On the right is a close-up of the head, showing a white probe or tube entering the center of the ring pattern. The background is a light blue and white abstract design with flowing lines.

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Dry Eye Analyzer SW-6000D

SUOER Dry Eye Screening System (SW-6000D) a non-invasive comprehensive ocular surface analyzer, functions include NIKBUT Measurement, NIKTMH Measurement, Meibo-Scan and Imaging, Lipid Layer Filming, R-Scan and Analysis, Etc. Simple and fast to operate to shorten the measuring time with simplified operation process.

Technical data

Measuring Mode	Placido Cone
Coverage range of measurement	10.91mm (Diameter)
Measuring range of Curvature radius	5.5mm-10.0mm(33.75D-61.36D)
Precision	±0.02mm
Placido Rings	31 Rings
Measurement Points	7936 Points
Display	Axial Curvature map,Tangential Curvature Map,Elevation Map, Imitated Keratoscope Map and 3D cornea Map
Image output	High-Quality color inkjet printer

Adjust moving range

Left-Right	0 to 86mm
Forward-Backward	0 to 40mm
Up-Down	0 to 30mm
Chinrest	0 to 50mm
Cornea Contact Lenses Fitting Function	
Keratoconus Detectiong Function	

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Specular Microscope SW-7000

SUOER Specular Microscope is a precision optical instrument that integrates autofocus shooting system, illumination imaging system, image processing system, and auxiliary system. Non-contact, fully automatic focusing during measurement, and automatically capture corneal endothelial cells and measures the thickness of the cornea. At the same time, the instrument possesses a highly efficient and rapid corneal endothelial cell image analysis software, which analyzes the captured images for detailed examination of the corneal condition.

Technical data

Optical Magnification	165X±10%
Photography Slit Width	0.25mm±0.025mm
Cornea Thickness	±0.025mm(>0.6mm),
Measurement Accuracy	±0.015mm(≤0.6mm)
Capture Mode	Auto/Semi-Auto/Manual
Capturing Positions	The center and 6 peripheral points
Working Voltage	AC220V
Power	100VA
Dimension	360mm*380mm*450mm
Weight	25Kg

Features

Focus by Double CCD, it can observe the eyeball and endothelial at the same time.	
Non-contact, Fast measuring system, More security and convenient.	
The corneal thickness value display	
Integrated multiple analysis and measurement tools	
Capture Mode	Auto/Semi-Auto/Manual
3D auto focus	
Color LCD Touch Screen	
7 Capturing positions	The center and 6 peripheral points (2, 4, 6, 8, 10, 12-o'clock positions).
Video printer is optional	
Workstation is optional	
USB Data Output	

The function of software

Analysis values	Number of cells, CD, SD, CV, AVG/Max/Min
Auto/Manual Repair the Cell Edge, Coloring, Magnifying, Automatic Analysis functions, etc	
Classification statistic	According to the cell area and cell edges number

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Ophthalmic Wide Field Imaging System SW-8000/SW-8000P



SUOER ROP Screener and ROP Screener Portable (SW-8000/SW-8000P) are world's first Wide Field Color Retinal Camera with Built-in Fluorescein Angiography for Retinopathy of Prematurity. Portable compact device capturing high-resolution images and the benefit of video recording. Simple to operate and a USB 3.0 compatible device can easily work with any laptop. Suitable for various screening scenarios.

Technical data

SW-8000 ROP is a Wide Field camera, very light with easy handling. Is integrating Light Source, Refractive compensation and High resolution Imaging system

Probe Diameter	8.1mm (smallest probe in the market)
Probe Weight	527.3gr (the lightest in the market)
Probe connectivity	USB3.0 Plug & Play
Wide Field of View	135° to 144°
Light Source	Color Light Source; Fluorescence Angiography
Center field of view	≥ 30 lp/mm
Middle field of view	$(\pm 22.5^\circ) \geq 20$ lp/mm
Edge field of view	$(\pm 45^\circ) \geq 15$ lp/mm
Illumination Source	white LED

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Fundus Camera SW-8800



SUOER Fundus Camera (SW-8800): A compact device, high quality image, stereoscopic depth perception viewing, and the ability to capture a 65-degree angle of a single fundus photograph without eye dilation.

Technical data

General

Type of Photography	Color / Red-Free(Digital) IR(Digital) / Cobalt(Digital)
Angle of View	46.5°
Minimal Pupil Size	3.5 mm
Focus Adjustment Range	-25 to +25D (Without Compensation Lens)

Light Source

Observation Light Source	Infrared LED
Flash Light Source	White LED

Eye Fixation Lamp

Internal	LED Point, Orange
External	LED Point, Red
Working Distance	15 mm
Camera Resolution	10 Megapixels
Built-in Monitor	7.0 inch Color LCD Monitor

Mount Movement

Front and Back	85 mm
Side to Side	110 mm
Up and Down	30 mm
Chin Rest Movement	60 mm

Electrical and Environmental

Power Supply	100V to 240V AC, 50/60Hz, 1.3 to 0.6A
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Operating Environment

Temperature	5 to 40°C
Humidity	≤80%
Atmospheric Pressure	700 hPa to 1060hPa

Physical Characteristics

Dimensions (W x D x H):	430 x 450 x 570 mm
Weight	Approximately 10Kg

Optional : FA , Mosaic , AF (coming soon)

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Optical Biometer SW-9000



SUOER μ -Meter (SW-9000) This optical biometric instrument is used for the measurement of the optic axis and the calculation for correct IOL readings with full accuracy. The fast measurement speed and non-contact are intended for patient comfortability. Capturing 8 different measurements in less than 5 seconds which are Corneal thickness, Anterior chamber depth, Lens thickness, Axial length, Corneal curvature, Axial angle, White to White distance measurement (corneal diameter), and Pupil diameter.

Technical data

Measurement range

Axial length	12 - 34 mm
Central corneal thickness	300 - 800 μ m
Corneal radii	4.8 - 11.1 mm
Axis angle	0° - 180°
Anterior chamber depth	1.5 - 6.0 mm
Lens thickness	0.5 - 7.0 mm
White-to-white	6.5 - 16.6 mm
Pupil diameter	1.9 - 13.5 mm

Resolution

Axial length	0.01 mm
Central corneal thickness	1 μ m
Corneal radii	0.01 mm
Axis angle	1°
Anterior chamber depth	0.01 mm
Lens thickness	0.01 mm
White-to-white	0.01 mm
Pupil diameter	0.01 mm

SD of repeatability

Axial length	$\pm 25 \mu$ m
Central corneal thickness	$\pm 2 \mu$ m
Corneal radii	$\pm 10 \mu$ m
Axis angle	$\pm 9^\circ$
Anterior chamber depth	$\pm 20 \mu$ m
Lens thickness	$\pm 50 \mu$ m
White-to-white	± 0.3 mm
Pupil diameter	± 0.3 mm

IOL calculation formulas

BinkHorst-II, Holladay, Hoffer-Q, Haigis, SRK-T, SRK-II

Calculation for eyes following refractive surgery

Shammas-PL, Masket, Modified Masket

Interfaces	USB2.0
Voltage/Frequency	AC 220V/50Hz
Power consumption	50VA
Laser class	1

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