



Scansys Anterior Segment Analyzer

The Third Pole, From The East



Scansys

Anterior Segment Analyzer

Scansys provides a professional solution for anterior segment diagnosis. It applies Scheimpflug camera which can collect 107520 / 230400 data points and generates 28 / 60 cornea tomography images in high resolution. Scansys can provide a series of topography maps including cornea curvature maps, cornea thickness maps, cornea elevation maps, etc.

Clinical Application

Keratoconus Diagnosis 🥯

Scansys can provide the prevalence of Keratoconus by using the AI algorithm, Further checking the topographic maps to accurately analyze amd diagnose the keratoconus.

ICL Surgery Examination 📾

Scansys supports in different angles to collect a high-resolution picture. It also provides White to White, AC depth for ICL surgery.

AI intelligence recommends the diameter of the ICL and gives elevation of the arch.

IOL Optimization 🌚

Specially designed for cataract surgery. It supports clinicians to choose suitable Toric IOL, Aspheric IOL or Multifocal IOL for patients.

Refractive surgery

Total cornea aberration guides surgeons to evaluate preoperative and postoperative visual quality to ensure patients of best surgery effect.



Functions AI Keratoconus Analysis





Scansys introduces AI algorithms to more intelligently give the possibility of Keratoconus (KCP) (Reference value: KCP, range $0\% \sim 100\%$) The above figures contain the topographic maps of Refractive 4 Maps, and the axial curvature map of the back surface, and the trend distribution of the thickness map is also given. These are the key references for judging the keratoconus.

Selectable 4 Maps



Click on the "Selectable 4 Maps" to open a window contains 4 optional color maps. Corneal thickness and elevation, etc. can be loaded into one of any 4 fields.

With this option, the user can view and print out important topographic maps needed for daily work in one interface.

Functions IOL Optimization



Specially designed for the "IOL Optimization" of refractive cataract surgery. Given the K1, K2, Km, and Astig values of the three types of corneal refractive power (Simk, total corneal power, true net refractive power), and Kappa & Alpha angle, respectively. It also provides professional data of the total corneal astigmatism aberration, total corneal spherical aberration and the total corneal irregular astigmatism, and analysis support for solving spherical refractive errors, astigmatism, spherical aberration, and presbyopia in cataract surgery.

Shape Factor

Q 2020-12-07 13:06:52 Right •	Major Meridians (F)					Major Meridians (B)					Seen Quality: OK		
First Name: Demo	Ecc	E-val	p-val		 Q-val 	O Sag.Cur.	Ecc	E-val	• p-	val 🔍	Q-val	O Sag.Cur.	Min Dia.(F)=9.1 Min Dia.(B)=8.8
Last Name: PID: 000001	DIR Diameter	Nas	Temp		Sup	Mean	Diameter	Nas	Temp		Sup	Mean	Cornea (F)-SimK K1/Rh: 43.09D@5°/7.83mm
DOB: 1995-12-26 (27)	2mm												K2/Rv: 43.88D@95*/7.69mm
Gender: Male Eye: Right	3mm						3mm						Km/Rm: 43.48D/7.76mm Astig: -0.79D @ 5°
Time: 2020-12-07 13:06:52 Remarks:	4mm						4mm					6.48	Ecc(8mm): 0.47 Grade: 0 ▲ : : : : : : : : : : : : : : : : :
Overview	5mm						5mm					6.48	Cornea(B)
Large Selectable Map Scheimpflug Images	6mm						6mm						K1/Rh: -5.99D@7*/6.67mm 5 90* 5 K2/Rv: -6.30D@97*/6.35mm 5
3D Display	7mm						7mm						Km/Rm: -6.14D/6.51mm
Refractive 4 Maps	8mm						8mm						Astig: 0.31D @ 7°
Selectable 4 Maps													Ecc(8mm): U.6 1 Grade: 0 Ave 1 1 4
Lens Analysis	9mm	8.10					9mm		6.75				
Chamber Angle	10mm						10mm						Pacny R@ € Apex: ● 542µm 0.00mm@0*
Shape Factor			Conitto	ol Ouncel	hure (E)			Coniti	tol Cuminture				Thinnest: O 537µm 0.75mm@192°
Pachymetric	90 80		Sagitta		ure (r.)			Sagin				9.4	Pupil C.(Kappa): 🕂 542µm 0.12mm@104°
Refractive Power	70	4. 9mm	120 12	5 44.8	50.	OD	4. 9mr	n 120°	-5.6	- 10 C	DD	7.4	Cornea C.(Alpha): □ 540µm 0.20mm@186°
Aberration	50		42.5	42.9	43.5	<		-6.0	-6.2	-5.6		3.4	Grade: 0 🛆 : : : :
Keratoconus Analysis	46	2.	42.5 43.2	43.5	42.4 43	28 42	2. 4	6.0 -6.2	en -5.4 e	-6.0 -5.7	×2.	-0.6	Cornea Vol: 61.75mm ³
 Contact Lens 	42		2.5 43.1 43.1	43.9	43.5 42.7	42.1		6.0 -6.1 -6.2	-6.3	-6.0 -6.0 -	5.8	-2.6	Cornea Dia: 11.6mm
IOL Calculation	38	0 \$ 42	4 42.8 42.7 43	2.5 43.3	43.5 43.8 43.1	0 41.9 =	0 is -s	.9 -6.1 -6.1	-6.1 -6.1 -5.	9 -6.0 -6.1	-5.9 -	-4.0	Pupil Photopic Dia: 2.88mm
IOL Optimization	36		42.9	43.1	43.8 44.2 42.4			61 -6.2	-6.1 -6.2 -6.1	-6.1		-8.6	Chamber Vel: 156 86mm3
ICRS	32	2	2.4 -2.5 4	3.7 44.1	44.2	4222-	2	6.0 0.1	63 -6.3 -6	2		-12.6	Chamber Voi. 150.00mm ²
Fourier Analysis	30	32	42.6 43	43.8	43.7 45	20 - S	1 %	-6.0 -0.2	6.3 -6.3 -6	.3 -6.1	100	-14.6	A.C.Depth(Int.): 3.17mm
Compare 2 Exams	10	4	42.8	8 42.8	42.8	<u> </u>	4	-01-	s.2 -6.1 -6	11 105		-18.6	KCP: 1.1%
 Display 2 Exams 	D Abs		2	.0kz 0	- <u>2</u>	N 4			50.	ż	4 N	D Abs	△IOP: 0.21mmHg ■ IOP

The chart upper depicts the corneal form factor and the curvature of the anterior and posterior surface of the cornea at the intersection of the radial axis and the four radial directions. Corneal shape factors include Ecc, E, Q, and P, which can be changed in the "Map and Data Settings" -> "Form Factor Presentation" in the menu bar "Settings" options.

Functions ICL Surgery Examination

2020-12-07 13:06:52 Right •	$\langle \rho \rangle$	\sim		\sim			A		Scan Quality:	OK Min Dia.(F)=9.1 M	/in Dia.(B)=8.8
Last Name: PID: 000001 DOB: 1995-12-26 (27) Gender: Male Eye: Right Time: 2020-12-07 13:06:52 Remarks: Chomniew	-14.5° 09/78	.8.1" 10/28	-1.6* 11/28	4.9* 12/28	11.2" 13/28	17.7* 14/28	24.1* 15/28 30.5	5° 16/28 20 40 60 801 25%	Corr K1/Rh: 43.09D@ K2/Rv: 43.88D@ Km/Rm: 43.48D/7 Astig: -0.79D@ Ecc(8mm): 0.47 Kmax/Rmin: 44.22	nea (F)-SimK 55°/7.83mm 995°/7.69mm 7.76mm 9 5° Grade: 0 2D/7.63mm(1.92	**************************************
Large Selectable Man									(Cornea(B)	.= 90°
Scheimpflug Images		0			_				K1/Rn: -5.99D@ K2/Rv: -6.30D@	97°/6.35mm	-152 -25.
3D Display									Km/Rm: -6.14D/6	.51mm	ent le
Refractive 4 Maps									Astig: 0.31D @		-0LZ 23
Selectable 4 Maps									Ecc(8mm): 0.61	Grade: 0	
Lens Analysis										De eles	neo
Chamber Angle							Front Image		Apex:	 Pacny 542um 0. 	к@ө .00mm@0°
Shape Factor							 Flank Image 		Thinnest:	O 537µm 0.7	'5mm@192°
Pachymetric			Line G	sray			ICL		Pupil C.(Kappa):	+ 542µm 0.1	2mm@104°
Refractive Power						Avg:	Cornea Dia:	116 mm	Cornea C.(Alpha):	□ 540µm 0.2	20mm@186°
Aberration						Std. Dev.:	Km:	43.48 D	CT	Grade: 0	
Keratoconus Analysis						Max:	A C Depth(Int):	3.17 mm	Cornea Vol:	61.75mm ³	
 Contact Lens 						Min:	Cornea Thickness:	542 um	Cornea Dia:	11.6mm	
 IOL Calculation 			Area Gray	Analysis			Chambor Angle:	/2 *	Pupil Photopic Dia: Rupil Scotopic Dia:	2.88mm	
IOL Optimization							Chamber Angle.	42	Chamber Vol:	156.86mm ³	
ICRS	Avg:						Recommended lens	12.0	Chamber Angle:	42°	
Fourier Analysis	Std Dev:						size:	12.0mm	A.C.Depth(Int.):	3.17mm	
 Compare 2 Exams 	510. Dev.						Prediction of vault:	390~590µm	KCP:		
 Display 2 Exams 	Max:							Reset	△IOP:	0.21mmHg	IOP



- Preoperative diagnosis & Postoperative arch evaluation
- Postoperative arch measurement

Scansys supports in any Angle to collect a high-definition picture, to provide effective data support for ICL surgery.

AI intelligence recommends the diameter of the ICL and gives elevation of the arch.



Lens Analysis

Scansys calculates the lens density value for cross section and longitudinal section which is helpful in cataract diagnosis.

Functions Aberration & Simulation



This view is a Zernike analysis of the measured corneal front, back and all surface height data, which calculates a factor for each Zernike polynomial term that describes the contribution of this polynomial to the height data. To guide the visual quality analysis of refractive surgery.



Refractive Power

In the key parameter column on the right, we give K1, K2, Km, Astig. These values are obtained in the range of 3mm in diameter of the membrane. In order to describe in more detail the difference of these values in each diameter range, We give K1, K2, Km, Astig of the axial curvature of the anterior and posterior corneal, anterior surface refractive power, true net refractive power, full corneal refractive power topographic map, the distribution table of various areas from 2mm to 9mm in diameter, and the distribution curve .The changes of these values in different topographic maps and different diameter ranges are described more intuitively and in detail.

Functions Lens Fitting



A simulated fluorescein image will be created based on the patient' s topography maps generated by Scansys. This will accelerate the work flow of lens fitting and save the trouble for patient to accept multiple real fluorescein staining during lens fitting.

 VST CRT 	R0: 8.60	🖶 mm	W0: 5.00 🛓 mm	ко: <mark>0.00 🌻</mark>
• EyeSpace	R1: 7.65	🗧 mm	W1: 0.05 🔮 mm	K1: 0.00 🛓
	R2: 8.10	🕆 mm	W2: 0.00 📮 mm	K2: 0.00
	R3: 8.25	🗧 mm	W3: <mark>0.00 🕴</mark> mm	K3: 0.00 🛓
	R4: 0.00	🚊 mm	W4: 0.00 📮 mm	K4: 0.00
	R5: 0.00	🗧 mm	W5: 0.00 🔮 mm	K5: 0.00 📮
	R6: 0.00	🕆 mm	W6: 0.00 📮 mm	K6: 0.00 📮

VST-Four arcs and above design

Input R value, W value and K value of each arc of VST lens.



CRT-Three arcs design Input sphere

Intelligent and manufacturer recommendations are available.



Scansys can calculate a chamber angle value based on the tomography images and its exclusive AOD graph gives a trend analysis for the distance between cornea back surface to iris. It also provides cornea volume, anterior chamber volume and anterior chamber depth calculation. These analyses is helpful to glaucoma diagnosis.

Chamber Angle Analysis

Specifications

Camera	Digital infrared camera + Scheimpflug digital CCD camera	
Light Source	LED slit	
Scanning Speed	28 images within 1 second / 60 images within 2 second / single image	
Data Points	107520 / 230400	
Work distance	80 mm	
Corneal topography	9 mm / 12 mm	
Corneal thickness	300 ~ 900 μm	
Anterior chamber depth	0.8 ~ 6 mm	
Diopter	12 ~ 72 D	
White to white	6 ~ 14 mm	
Pupil diameter	1 ~ 10 mm	
Anterior chamber volume	15 ~ 300 mm³	
Chamber angle	16 ~ 60°	
Kappa/Alpha	R(0 ~ 3 mm) θ(0 ~ 360°)	

Work Range

115 mm	
100 mm	
30 mm	
	115 mm 100 mm 30 mm

Power Supply

Input voltage	~100 V ~ 240 V
Input frequency	50 Hz / 60 Hz

Weight and Size

505 mm x 345 mm x 460 mm (L/W/H)
12 kg
700 mm x 600 mm x 830 mm (L/W/H)
25 kg

System Specifications

PC configuration	i5 ~ 10500T 8G memory 256GB SSD + 1TB storage
Display	1920 × 1080 23.8 inch
PC system	Windows 10

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Shanghai MediWorks Precision Instruments Co.,Ltd.

Add: Building 7, Ming Pu Plaza, No. 3279, San Lu Rd, Min Hang District, Shanghai, 201100, China Tel: +86-21-54260421 54260423 Email: marketing@mediworks.biz

international@mediworks.biz



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Details Make the Difference