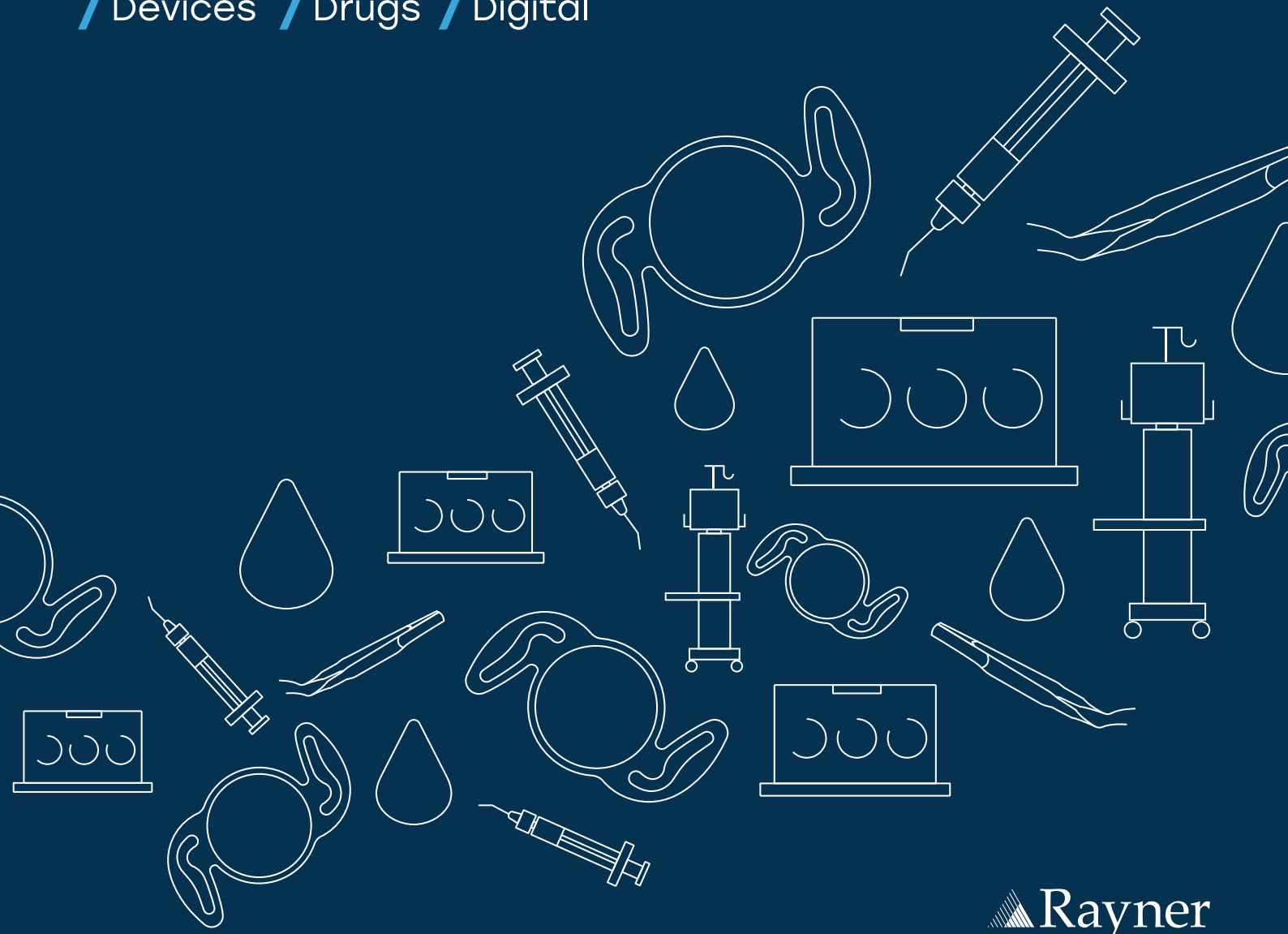
Ophthalmic Solutions

/ Devices / Drugs / Digital



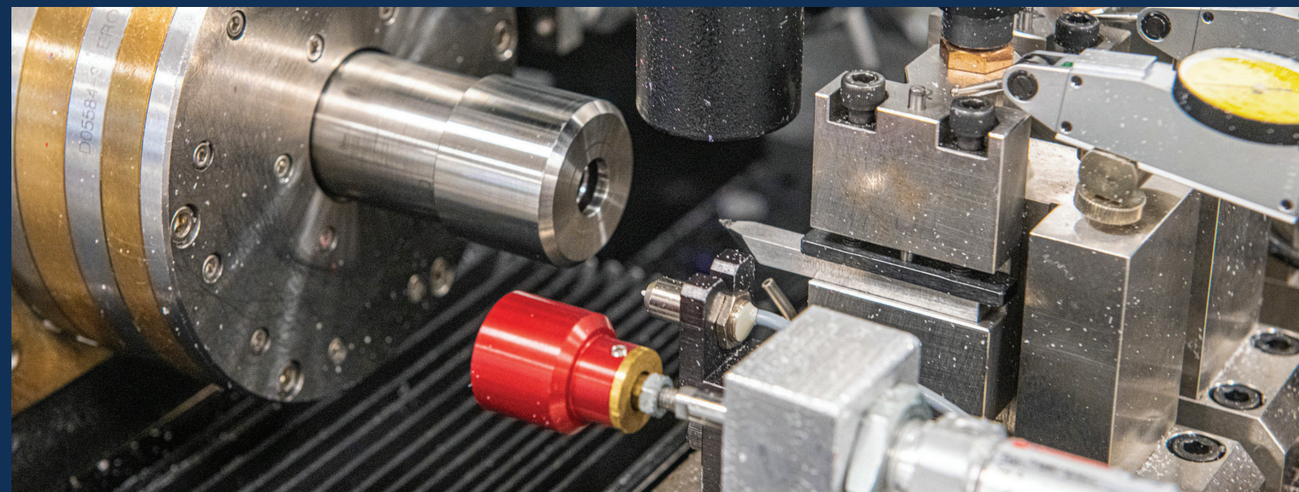
Rayner

Leading the way in ophthalmic innovation

Since the implantation of the first Rayner intraocular lens (IOL) by Sir Harold Ridley in 1949, Rayner has continuously pioneered ophthalmic design with a goal to improve vision and restore sight worldwide. Today, Rayner's mission remains to deliver innovative and clinically superior products that respond to the expectations of our global customers to improve the sight and quality of life of their patients.

Headquartered in Worthing, United Kingdom, Rayner markets its medical devices, pharmaceuticals and digital solutions worldwide through a network of distributors and direct sales teams.

Follow us on



1910 Rayner is founded in London, UK.

1949 Rayner makes the world's first IOL.

1979 Rayner has the first IOL approved by the US FDA.

2007 Rayner launches:

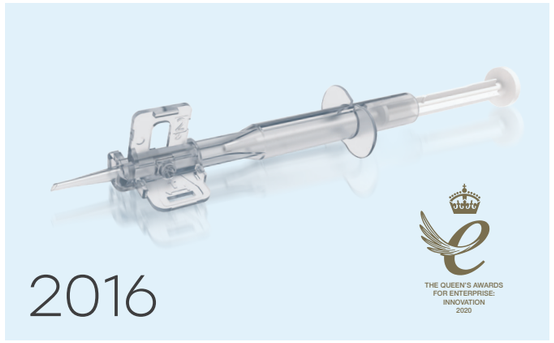
- The first multifocal toric IOL.
- The first pseudophakic supplementary IOL.
- The first FDA approved IOL from a non-American manufacturer in two decades (C-flex Spheric).

2011 C-flex Aspheric launches in the USA.

2016

- Brand new HQ and state-of-the-art manufacturing facility opens in Worthing, UK.
- RayOne fully preloaded IOL system is unveiled.

2017 RayOne Trifocal premium preloaded IOL is launched.



2018

- RayOne Hydrophobic and RayOne Toric preloaded IOLs are released.
- Sulcoflex Trifocal, the world's first supplementary trifocal IOL, launches.
- AEON eye drop family is introduced, designed specifically for use before and after surgery.
- RayOne Aspheric is FDA approved.

2019

- RayPRO digital platform for collecting patient reported outcomes data is released.
- RayOne Trifocal Toric completes Rayner's trifocal IOL family.

2020 RayOne EMV enhanced monofocal IOL is launched.

2021

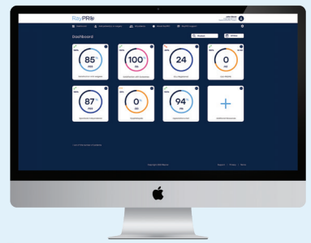
- RayOne EMV FDA approval is received.
- RayOne Hydrophobic BLF is released, Rayner's first blue light filtering IOL.
- Rayner acquires OMIDRIA©.

2022

- Rayner invests in premium surgical instrument manufacturer, HASA OPTIX.
- RayOne EMV Toric is launched.

2024

- Rayner acquires This AG, manufacturer of Sophi phaco machines.
- RayOne Galaxy spiral IOL platform is launched.



Designed to deliver without compromise

RayOne with patented Lock & Roll technology offers smoother, more consistent rolling and delivery of the lens via micro incision.

Our anti-vaulting haptic technology provides excellent fixation in the capsular bag:

- Superb centration – Average offset of only 0.08 mm 3 to 6 months after surgery.[1]
- Excellent rotational and torsional stability – 1.83° mean IOL rotation 3 to 6 months after surgery.[1]

Enhanced 6 mm optic:

- Zero glistenings.
- Amon-Apple enhanced square edge for minimal Nd:YAG 1.7% at 24 months.[2]

One solution for all your patients:

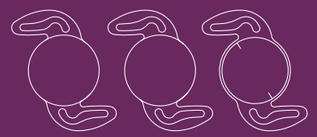
- Largest fully preloaded power range on the market.
- Easy to use and efficient IOL delivery time.[3]

1. Bhogal-Bhamra GK et al. Journal of Refractive Surgery. 2019;35(1):48-53. **2.** Mathew RG, Coombes AGA. Ophthalmic Surg Lasers Imaging. 2010 Nov-Dec; 41(6):651-5. **3.** Nanavaty MA and Kubrak-Kisza M. J Cataract Refract Surg. 2017 Apr;43(4):558-563.

RayOne ASPHERIC

RayOne SPHERIC

RayOne TORIC



Preloaded Monofocal IOLs

Model Name	RayOne Aspheric RAO600C	RayOne Spheric RAO100C	RayOne Toric RAO610T
Power Range	-10.0 to +7.0 D (1.0 D increments, inc. plano) +8.0 to +30.0 D (0.5 D increments) +31.0 to +34.0 D (1.0 D increments)		Standard SE +8.0 to +30.0 D (0.5 D increments) Cylinders +1.0 to +6.0 D (0.5 D increments) Made to order SE -9.5 to +34.5 D (0.5 D increments) Cylinders +1.0 to +11.0 D (0.5 D increments) Availability is subject to power combination

Monofocal

Monofocal IOLs	
Material	Single piece Rayacryl hydrophilic acrylic
Water Content	26% in equilibrium
UV Protection	Benzophenone UV absorbing agent
UV Light Transmission	UV 10% cut-off is 380 nm
Refractive Index	1.46
ABBE	56
Overall Diameter	12.5 mm
Optic Diameter	6 mm
Optic Shape	**RayOne Aspheric & RayOne Spheric:** Positive powers: bi-convex. Negative powers: bi-concave. -0.5, 0.0 and 0.5 Dioptres: convex / concave **RayOne Toric:** For Sphere < +3.5 Dioptres: convex / concave. For Sphere ≥ +3.5 Dioptres: bi-convex
Asphericity	**RayOne Aspheric:** Anterior aspheric surface with aberration-neutral technology **RayOne Toric:** Posterior aspheric surface with aberration-neutral technology
Optic Edge Design	Amon-Apple 360° enhanced square edge
Haptics	0° Angulation, uniplanar. Anti-Vaulting Haptic (AVH) technology

Delivery System	
Injector Type	Single use, fully preloaded IOL injection system
Incision Size	1.65 mm nozzle for 2.2 mm incision
Bevel Angle	45°
Lens Delivery	Single handed plunger

Estimated Constants for Optical Biometry									
	SRK/T	Haigis			HofferQ	Holladay	Holladay II	Barrett Universal II	
	A-constant	a0	a1	a2	pACD	SF	pACD	LF	DF
Aspheric & Spheric	118.6	1.17	0.40	0.10	5.32	1.56	5.32	1.67	0
Toric	118.6	1.17	0.40	0.10	5.32	1.56	5.32	1.67	4 (SE)

For Contact Ultrasound, the estimated A-constant for Aspheric, Spheric and Toric is 118.0.

Please note that the constants indicated for all Rayner lenses are estimates and are for guidance purposes only. Surgeons must always expect to personalise their own constants based on initial patient outcomes, with further personalisation as the number of eyes increases.

New design.
New standard

RayOne Hydrophobic and RayOne Hydrophobic BLF were born out of a desire to deliver a better operating room experience for surgeons and better visual outcomes for patients, by challenging the current hydrophobic IOL solutions available to them.

Ultra glistening-free

An independent in-vitro study against four leading hydrophobic IOLs found our lens to be glistening-free and equivalent or superior to the other lenses.[1]

Ultra smooth

Our patented Lock & Roll system rolls the lens inside the injector for a single smooth movement into the eye, with minimal force needed.

Ultra stable

Our patented Cornerstone lens design ensures the IOL is perfectly balanced as it travels down the injector nozzle. Once in the eye, Rayner's anti-vaulting haptics lock against the unique Cornerstone tabs for superb stability.

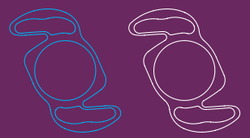
Fully preloaded power range

Only one IOL solution is needed for all your monofocal patients.

Available with blue light filtering properties

RayOne Hydrophobic BLF simulates the natural crystalline lens, and could help to protect patients' retinas from potentially harmful blue light.

1. Yildirim TM et al (2021) Quantitative evaluation of microvacuole formation in five intraocular lens models made of different hydrophobic materials. PLoS ONE 16(4): e0250860.



Preloaded Monofocal IOLs

Model Name	RayOne Hydrophobic Aspheric RAO800C	RayOne Hydrophobic Aspheric BLF RAO850B
Power Range	-10.0 D to +7.0 D (1.0 D increments, inc. Plano) +8.0 D to +30.0 D (0.5 D increments) +31.0 D to +32.0 D (1.0 D increments)	+0.0 D to +7.0 D (1.0 D increments) +8.0 D to +30.0 D (0.5 D increments) +31.0 D to +32.0 D (1.0 D increments)

Monofocal IOLs	
Material	**RayOne Hydrophobic Aspheric:** Single piece Rayner hydrophobic acrylic **RayOne Hydrophobic Aspheric BLF:** Single piece Rayner hydrophobic acrylic with blue light filtering chromophore
Water Content	<3%
UV Light Transmission	UV 10% cut-off is 385 nm
Refractive Index	1.51
ABBE	43
Overall Diameter	12.5 mm
Optic Diameter	6 mm
Optic Shape	Positive powers: bi-convex. Negative powers: approximately plano / concave. 0.0 Dioptres: convex / concave
Asphericity	Posterior aspheric surface with aberration-neutral technology
Optic Edge Design	Amon-Apple 360° enhanced square edge
Haptic Angulation	0°, uniplanar
Haptic Style	Cornerstone lens design with Anti-Vaulting Haptic (AVH) technology

Delivery System	
Injector Type	Single use, fully preloaded IOL injection system
Incision Size	1.65 mm nozzle for 2.2 mm incision
Bevel Angle	45°
Lens Delivery	Single handed plunger

Estimated Constants for Optical Biometry									
	SRK/T	Haigis			HofferQ	Holladay	Holladay II	Barrett Universal II	
	A-constant	a0	a1	a2	pACD	SF	pACD	LF	DF
Hydrophobic & Hydrophobic BLF	118.6	1.17	0.40	0.10	5.32	1.56	5.32	1.67	0

For Contact Ultrasound, the estimated A-constant is 118.0

Please note that the constants indicated for all Rayner lenses are estimates and are for guidance purposes only. Surgeons must always expect to personalise their own constants based on initial patient outcomes, with further personalisation as the number of eyes increases.

Extending range without compromise

Developed in collaboration with Professor Graham Barrett, RayOne EMV's truly non-diffractive optic utilises positive spherical aberration to uniquely extend vision whilst avoiding the problems that can arise with diffractive lenses.

RayOne EMV's range of focus can be extended further with a customisable offset for Enhanced Monovision outcomes.

RayOne EMV and RayOne EMV Toric offers:

- **Increased range of focus:** Up to 1.5 D[1,4,6] with an emmetropic target.
- **High quality vision:** Truly non-diffractive IOL with monofocal levels of contrast sensitivity[1], dysphotopsia[2,5] and high levels of patient satisfaction.[3]
- **Enhanced monovision:** Unique positive spherical aberration design provides a smoother transition between distance and near eyes.[2,4]
- **Available on the rotationally stable RayOne toric platform.[7]**

1. Ferreira TB. Comparison of visual outcomes of a monofocal, two enhanced monofocals and two extended depth of focus intraocular lenses. Presented at ESCRS 2022.
2. RayOne EMV: First Clinical Results, Rayner. Oct 2020.
3. Rayner RayPRO, data on file.
4. Rayner, data on file.
5. Rayner Peer2Peer webinar. May 2022.
6. Royo, M. RayOne EMV and TECNIS Eyhance: A Comparative Clinical Defocus Curve. Data on file. 2021.
7. Bhogal-Bhamra GK, Sheppard AL, Kolli S, Wolffsohn JS. J Refract Surg. 2019;35(1):48-53.

RayOne EMV

RayOne EMV TORIC

Monofocal

Model Name	RayOne EMV RAO200E	RayOne EMV Toric RAO210T
Power Range	+10.0 to +30.0 D (0.5 D increments)	SE: +10.0 D to +25.0 D (0.5 D increments) Cylinder: +0.75 D, +1.5 D, +2.25 D, +3.0 D, +3.75 D, +4.5 D

Enhanced monofocal IOLs	
Material	Single piece Rayacryl hydrophilic acrylic
Water Content	26% in equilibrium
UV Light Transmission	UV 10% cut-off is 380 nm
Refractive Index	1.46
ABBE	56
Overall Diameter	12.5 mm
Optic Diameter	6 mm
Optic Shape	Biconvex (positive powers)
Asphericity	Aspheric anterior surface
Optic Edge Design	Amon-Apple 360° enhanced square edge
Haptic Angulation	0°, uniplanar
Haptic Style	Closed loop with anti-vaulting haptic (AVH) technology

Delivery System	
Injector Type	Single use, fully preloaded IOL injection system
Incision Size	1.65 mm nozzle for 2.2 mm incision
Bevel Angle	45°
Lens Delivery	Single handed plunger

Estimated Constants for Optical Biometry

	SRK/T	Haigis			HofferQ	Holladay	Holladay II	Barrett	
	A-constant	a0	a1	a2	pACD	SF	pACD	LF	DF
EMV & EMV Toric	118.6	1.044	0.40	0.10	5.32	1.56	5.32	1.51	0
IOLcon.org Optimised Constants for EMV & EMV Toric	118.416	0.1481	0.237	0.1612	5.178	1.437	N/A	1.51	0

For Contact Ultrasound, the estimated A-constant is 118.0

Please note that the constants indicated for all Rayner lenses are estimates and are for guidance purposes only. Surgeons must always expect to personalise their own constants based on initial patient outcomes, with further personalisation as the number of eyes increases.

THE KING'S AWARDS FOR ENTERPRISE 2025 INNOVATION

Preloaded Enhanced Monofocal IOLs

An elegant solution for treating refractive surprise

SULCOflex ASPHERIC

SULCOflex TORIC

Sulcoflex pseudophakic supplementary IOLs are designed to be implanted in the ciliary sulcus to correct any residual post-operative refractive errors following the implantation of a conventional IOL in the capsular bag.

Sulcoflex Aspheric

- Sulcoflex Aspheric IOLs are indicated for the correction of any residual pseudophakic ametropia.
- With the Standard range from –5.0 D to +5.0 D and the Made To Order range extending from –10.0 D to +10.0 D, Sulcoflex Aspheric IOLs offer an effective option for the resolution of post-operative myopic or hypermetropic refractive surprises.

Sulcoflex Toric

- Sulcoflex Toric IOLs are indicated for the correction of any residual pseudophakic corneal astigmatism.
- The implantation of a Sulcoflex Toric IOL offers a precise and reliable alternative to corneal surgery and is available in a range of sphere/cylinder combinations. The unique undulating haptic design improves rotational stability leading to optimal toric corrections.

Supplementary Monofocal IOLs

Model Name	Sulcoflex Aspheric IOL700L	Sulcoflex Toric IOL710T
Power Range	Standard -5.0 D to -0.5 D (0.5 D increments) +0.5 D to +5.0 D (0.5 D increments) Made to order -10.0 D to -5.5 D (0.5 D increments) +5.5 D to +10.0 D (0.5 D increments)	Standard Spherical Equivalent: -3.0 D to +3.0 D (0.5 D sphere increments) Cylinders: +1.0 D, +2.0 D, +3.0 D Made to order Spherical Equivalent: -7.0 D to +7.0 D (0.5 D sphere increments) Cylinders: +1.0 D to +6.0 D (0.5 D increments)

Sulcoflex IOLs	
Material	Single piece Rayacryl hydrophilic acrylic
Water Content	26% in equilibrium
UV Protection	Benzophenone UV absorbing agent
UV Light Transmission	UV 10% cut-off is 380 nm
Refractive Index	1.46
ABBE	56
Overall Diameter	14 mm
Optic Diameter	6.5 mm
Optic Shape	Anterior convex, posterior concave
Asphericity	Aberration-neutral technology
Haptic Angulation	10°
Haptic Style	Undulating and rounded C-loop haptics
Estimated constant for power calc.	Expected lens position 4.5 mm

Delivery system	
Injector Type	Medicel ACCUJECT 1.8O-1 (LP604540)
Incision Size	1.8 mm nozzle for 2.2 mm incision
Bevel Angle	35°
Lens Delivery	Single handed plunger

For Sulcoflex lens calculations,
visit www.raytrace.rayner.com

Full range.
Less halo.

GALAXY

GALAXY TORIC

RayOne Galaxy, our next-generation spiral IOL platform, has been meticulously engineered to redefine the way your presbyopia patients experience the world. When patient satisfaction is non-negotiable, the RayOne Galaxy emerges as a new premium lens solution designed to eliminate dysphotopic compromise.

Meet the world's first IOL designed with AI

A proprietary AI engine created a unique optical spiral tuned for optimal patient outcomes. The resulting design provides optimised visual acuity, a smooth and continuous full range of vision, and minimised dysphotopsia.

- **Full range of vision** - The RayOne Galaxy boasts a revolutionary spiral optic that delivers a full range of vision with an exceptionally smooth transition from distance to near.*
- **Less halo** - The RayOne Galaxy's non-diffractive spiral design avoids abrupt transitions in the lens' surface, reducing dysphotopsia and light loss.*
- **0% loss of transmitted light** - With a truly non-diffractive optic, RayOne Galaxy ensures all of the available light is used, allowing your patients to see the world in all its brilliance.*
- Available in a wide range of toric powers, allowing you to further enhance your patients' outcomes.

RayOne Galaxy is fully preloaded across the entire power range in the same single use injector system as the rest of the popular RayOne IOL family.

*Rayner 2025, data on file.

Preloaded
Spiral IOLs

Model Name	RayOne Galaxy	RayOne Galaxy Toric
Material	RAO605G	RAO615X
Power Range	Sphere +5.0 to +30.0 D (0.5 D increments)	SE: +6.0 to +30.0 D (0.5 D increments) Cyl.: +0.75 D to +4.5 D (0.75 D increments)
Material	Single piece Rayacryl hydrophilic acrylic	
Water content	26% in equilibrium	
UV protection	Benzophenone UV absorbing agent	
UV light transmission	UV 10% cut-off is 380 nm	
Refractive index	1.46	
ABBE	56	
Overall diameter	12.5 mm	
Optic diameter	6.0 mm	
Optic shape	Biconvex	
Asphericity	Aberration-correcting technology	
Optic edge design	Amon-Apple 360° enhanced square edge (posterior)	
Haptic angulation	0°, uniplanar	
Haptic style	Closed loop with Anti-Vaulting Haptic (AVH) technology	

Delivery system	
Injector Type	Single use, fully preloaded IOL injection system
Incision Size	1.65 mm nozzle for 2.2 mm incision
Bevel Angle	45°
Lens Delivery	Single handed plunger

Estimated Constants for Optical Biometry

	SRK/T	Haigis			HofferQ	Holladay I	Holloday II	Barrett	
	A-constant	a0	a1	a2	pACD	SF	pACD	LF	DF
Galaxy & Galaxy Toric	118.6	1.044	0.40	0.10	5.32	1.56	5.32	1.51	3.5
IOLcon.org Optimised Constants for Galaxy and Galaxy Toric	118.42	-0.365	0.379	0.158	5.16	1.42	N/A	1.51	3.5

For Contact Ultrasound, the estimated A-constant is 118.0

Please note that the constants indicated for all Rayner lenses are estimates and are for guidance purposes only. Surgeons must always expect to personalise their own constants based on initial patient outcomes, with further personalisation as the number of eyes increases.

Not all Rayner products are approved for sale in every country.

The preloaded platform that performs again and again

RayOne Trifocal IOLs use a patented diffractive profile that has been designed in partnership with a leading European technology institute. The trifocal lenses feature 16 diffractive rings/steps and a 4.5 mm diffractive zone.

Our patented diffractive step trifocal technology reduces light loss to only 11%:

- 89% of light is transmitted to the retina with a pupil of 3 mm.
- Light Energy Split at 3 mm pupil;
  - 52% Distance
  - 22% Intermediate
  - 26% Near

Comfortable transition from near to distance activities:

+3.50 D near add (37.5 cm reading plane).

+1.75 D intermediate add (75.0 cm reading plane).

Patient benefits

- Reduces visual disturbances.
- Developed to be less dependent on pupil size or lighting conditions.
- Improves distance vision in mesopic condition.

Preloaded Trifocal IOLs

RayOne TRIFOCAL

RayOne TRIFOCAL TORIC

Model Name	RayOne Trifocal RAO603F	RayOne Trifocal Toric RAO613Z
Power Range	0.0 D to +30.0 D (0.5 D increments)	Spherical Equivalent: +6.0 D to +30.0 D (0.5 D increments) Cylinders: +0.75 D, +1.5 D, +2.25 D, +3.0 D, +3.75 D, +4.5 D Trifocal, diffractive, +3.5 D near add and +1.75 D intermediate add at the IOL plane NOTE: Toric marks are on the posterior side of the optic

Trifocal

Trifocal IOLs	
Material	Single piece Rayacryl hydrophilic acrylic
Water Content	26% in equilibrium
UV Protection	Benzophenone UV absorbing agent
UV Light Transmission	UV 10% cut-off is 380 nm
Refractive Index	1.46
ABBE	56
Overall Diameter	12.5 mm
Optic Diameter	6 mm
Optic Shape	Biconvex (positive powers)
Asphericity	Aberration-neutral technology
Optic Edge Design	Amon-Apple 360° enhanced square edge
Haptic Angulation	0°, uniplanar
Haptic Style	Anti-Vaulting Haptic (AVH) technology

Delivery system	
Injector Type	Single use, fully preloaded IOL injection system
Incision Size	1.65 mm nozzle for 2.2 mm incision
Bevel Angle	45°
Lens Delivery	Single handed plunger

Estimated Constants for Optical Biometry									
	SRK/T	Haigis			HofferQ	Holladay	Holladay II	Barrett Universal II	
	A-constant	a0	a1	a2	pACD	SF	pACD	LF	DF
Trifocal & Trifocal Toric	118.6	1.044	0.40	0.10	5.32	1.56	5.32	1.67	3.5

For Contact Ultrasound, the estimated A-constant is 118.0

Please note that the constants indicated for all Rayner lenses are estimates and are for guidance purposes only. Surgeons must always expect to personalise their own constants based on initial patient outcomes, with further personalisation as the number of eyes increases.

When expectations and outcomes align

SULCOflex TRIFOCAL

Sulcoflex Trifocal supplementary IOLs are an adjustable option which allow you to treat an even wider range of patients for presbyopia, to meet both their visual and lifestyle needs. Sulcoflex Trifocal is designed to be implanted in the ciliary sulcus following the implantation of a conventional IOL in the capsular bag, or at the same time during a DUET procedure.

Our patented diffractive step trifocal technology reduces light loss to only 11%:

- 89% of light is transmitted to the retina with a pupil of 3 mm.
- Light Energy Split at 3 mm pupil;
  - 52% Distance
  - 22% Intermediate
  - 26% Near

Comfortable transition from near to distance activities:

+3.50 D near add (37.5 cm reading plane).
+1.75 D intermediate add (75.0 cm reading plane).

Patient benefits

- Reduces visual disturbances.
- Developed to be less dependent on pupil size or lighting conditions.
- Improves distance vision in mesopic condition.
- Adjustable and reversible – more flexibility for you and your patient.

Supplementary Trifocal IOLs

Model Name	Sulcoflex Trifocal IOL703F
Power Range	-3.0 D to +3.0 D (0.5 D increments) -1.0 D to +1.0 D (0.25 D increments) Trifocal, diffractive, +3.5 D near add and +1.75 D intermediate add at the IOL plane

Trifocal IOL	
Material	Single piece Rayacryl hydrophilic acrylic
Water Content	26% in equilibrium
UV Protection	Benzophenone UV absorbing agent
UV Light Transmission	UV 10% cut-off is 380 nm
Refractive Index	1.46
ABBE	56
Overall Diameter	14 mm
Optic Diameter	6.5 mm
Optic Shape	Anterior convex, posterior concave
Asphericity	Aberration-neutral technology
Haptic Angulation	10° Posterior angulation
Haptic Style	Undulating and rounded C-loop haptics
Estimated constant for power calc.	Expected lens position 4.5 mm

Delivery system	
Injector Type	Medicel ACCUJECT 1.8O-1 (LP604540)
Incision Size	1.8 mm nozzle for 2.2 mm incision
Bevel Angle	35°
Lens Delivery	Single handed plunger

For Sulcoflex Trifocal lens calculations,
visit www.raytrace.rayner.com

Our complete eye drop family

Over 75% of cataract patients suffer from dry eye[1], a condition that can alter the thickness and quality of the tear film, shifting the refractive power of the cornea by up to 2 dioptres and seriously affecting visual quality.[2,3] Research has shown that treatment with artificial tears prior to surgery improves the accuracy of IOL lens power calculation.[4] That's why we created AEON, our surgery-specific eye drop family designed to support visual outcomes and patient satisfaction.

At Rayner, we understand the challenges that your patients can experience – the AEON range was created specifically to help with ocular surface disease, before and after surgery. As you'd expect, all AEON products are preservative and phosphate free.[5]

The AEON range includes:

- **AEON PROTECT PLUS** contains 0.3% cross-linked sodium hyaluronate, which provides longer lasting lubrication for moderate to severe dry eye.
- **AEON REPAIR** for moderate to severe dry eye, enhanced with vitamins A and E.
- **AEON PROTECT** contains 0.3% sodium hyaluronate for mild to moderate dry eye.
- **AEON NaCl 5%** provides relief for corneal oedema. Contains sodium hyaluronate and PEG 400 to create a soothing and lubricating eye drop.

1. EuroTimes Supplement February 2019: 'Diagnosing and Treating Ocular Surface Disease in Surgical Patients'. **2.** EuroTimes Supplement February 2018: 'Ocular Surface Disease'. **3.** Tu E. Cornea Day, ASCRS 2011. **4.** Kim, J., Kim, M.K., Ha, Y. et al. Improved accuracy of intraocular lens power calculation by preoperative management of dry eye disease. BMC Ophthalmol 21, 364 (2021). services. **5.** AEON PROTECT contains a second generation preservative - when exposed to light, dissipates into components naturally found in the human tears.

AEON
PROTECT PLUS

AEON
REPAIR

AEON
PROTECT

AEON
NaCl

Product	AEON PROTECT PLUS	AEON REPAIR
Ingredients	0.3% cross-linked sodium hyaluronate	0.15% sodium hyaluronate with vitamins A and E
Indication	Moderate to severe dry eye	Moderate to severe dry eye
Suitable to relieve general dry eye symptoms	Yes	Yes
Suitable for use before eye surgery	Yes	No
Suitable for use after eye surgery	Yes	Yes
Phosphate Free	Yes	Yes
Preservative Free	Yes	Yes
Expiry Date After Opening	60 days	90 days
Storage	5°C to 35°C	5°C to 35°C
Shelf Life	24 months	24 months
Compatible with contact lenses	Yes	Yes

Product	AEON PROTECT	AEON NaCl
Ingredients	0.3% sodium hyaluronate, PEG 400, electrolytes	5% sodium chloride, 0.3% sodium hyaluronate, PEG 400, electrolytes
Indication	Mild to moderate dry eye	Relief from corneal oedema
Suitable to relieve general dry eye symptoms	Yes	No
Suitable for use before eye surgery	No	No
Suitable for use after eye surgery	Yes	Yes
Phosphate Free	Yes	Yes
Preservative Free	On contact with eye[5]	Yes
Expiry Date After Opening	90 days	90 days
Storage	5°C to 35°C	5°C to 35°C
Shelf Life	30 months	24 months
Compatible with contact lenses	Yes	No

Adding sorbitol to OVDs, that's radical thinking

OPHTEIS
FR PRO

Ophteis FR Pro is a unique bio-engineered ophthalmic visco-surgical device (OVD) containing free radical scavenging sorbitol – designed to deliver a new level of corneal endothelial protection from phaco induced trauma.

Sorbitol acts as an outstanding free radical scavenger, neutralising reactive oxygen species during surgery that causes damage to the endothelium, while also reducing the risk of inflammation.

- Proven to reduce cell death by an average of 28.4% when compared to market leading OVDs.[1]
- Unique bio-engineered composition of NaHA and sorbitol transforms the 2% NaHA dispersive solution into a viscous cohesive.
- Endothelial cell protection and IOP changes comparable to dispersive Viscoat at 1 and 3 months post-surgery.[2]
- A larger 1.2 ml syringe gives you the confidence that Ophteis FR Pro will support all elements of your procedure.
- With its stable rheology at room temperature you will enjoy consistent performance for every procedure.
- Ophteis FR Pro is designed to protect the endothelium, provide excellent chamber maintenance and is fully validated with all Rayner IOLs.

1. In 2016 the University of Brighton, in collaboration with Dr Steve Arshinoff, carried out an in vitro laboratory study. Investigating cell viability, the study compared the cellular protection provided by FR Pro and other leading OVDs from free radical damage under phaco conditions. The results showed that during a three-second phaco exposure study, FR Pro showed greater overall average cell viability (28.4%) compared to the three tested market leading OVDs (Healon®, ProVisc® and OcuCoat®) **2.** Wood, Keren; Pessach, Yuval; Kovalyuk, Natalya; Lifshitz, Michal; Winter, Halit; Pikkel, Joseph (2024): Corneal endothelial cell loss and intraocular pressure following phacoemulsification using a new viscous-cohesive ophthalmic viscosurgical device. In International ophthalmology 44 (1), p. 10. DOI: 10.1007/s10792-024-02997-y.

OVDs

Product	Ophteis FR PRO (S-OPFR)
Polymer Origin	Biofermentation
Sodium Hyaluronate Concentration	2.0%
Sorbitol Concentration	4.0%
Molecular Weight (Dalton)	1.8 million
Zero Shear Viscosity (mPas)	avg. 500,000
Osmolality (mOsm/kg)	295 to 355
pH	6.8 to 7.4
Shelf Life (years)	2
Storage	2°C to 25°C
Syringe Volume (ml)	1.2 ml
Cannula Gauge (G)	27

OVD

Our complete OVD family

OPHTEISBIO 1.6

Cohesive • Designed for all types of surgery

• Optimal maintenance of volume in the anterior chamber or capsular bag.

• Good coating power.

• Easy injection and removal during surgical stages.

OPHTEISBIO 1.8

Cohesive • Designed for small incision

• Good cohesivity at low shear-rate for a stable anterior chamber.

• Strong coating of tissue thanks to improved dispersive property.

• Easy to aspirate with high molecular weight.

OPHTEISBIO 3.0

Dispersive • Designed for excellent endothelial protection

• Low molecular weight, high NaHA concentration.

• Assures maximum protection and viscosity.

• Good maintenance of anterior chamber.

All of our OphteisBio products:

• have optical clarity for maximum visibility.

• are made with a Biofermented Sodium Hyaluronate.

OPHTEISBIO 1.6

OPHTEISBIO 1.8

OPHTEISBIO 3.0

OVD

Product	OphteisBio 1.6 (S-OPB16)	OphteisBio 1.8 (S-OPB18)
Polymer Origin	Biofermentation	Biofermentation
Sodium Hyaluronate Concentration	1.6%	1.8%
Molecular Weight (Dalton)	approx. 3 million	approx. 3 million
Zero Shear Viscosity (mPas)	avg. 400,000	avg. 600,000
Osmolality (mOsm/kg)	300 to 350	300 to 350
pH	6.8 - 7.6	6.8 - 7.6
Shelf Life (years)	3	3
Storage	2°C to 25°C	2°C to 25°C
Syringe Volume (ml)	1.1	1.1
Cannula Gauge (G)	27	27

Product	OphteisBio 3.0 (S-OPB30)
Polymer Origin	Biofermentation
Sodium Hyaluronate Concentration	3.0%
Molecular Weight (Dalton)	approx. 0.75 million
Zero Shear Viscosity (mPas)	avg. 30,000
Osmolality (mOsm/kg)	300 to 350
pH	6.8 - 7.6
Shelf Life (years)	3
Storage	2°C to 25°C
Syringe Volume (ml)	1.1
Cannula Gauge (G)	25

OVDs

Online premium IOL calculator

RayTrace

Introducing RayTrace version 4.0:

A propiertary online IOL calculator for all Rayner IOLs. RayTrace was one of the first online calculation tools and is trusted by surgeons all over the world for the accuracy of its premium IOL (toric, trifocal and supplementary) calculations.

Version 4.0 is completely redeveloped and redesigned based on extensive surgeon feedback.

Key new features

1. **Bilateral calculations:** Surgeons are able to calculate both eyes at the same time.
2. **PEARL-DGS formula:** Additional formula option available on the platform.
3. **Easy-to-use design:** Clear user interface, allowing for quick calculations.
4. **Toric recommendation:** RayTrace automatically gives recommendations for toric lenses when appropriate.

Clear and accurate results

- IOL power recommendations with estimated post-operative outcomes.
- Print options including Theatre View.

Calculate IOL power recommendations for:

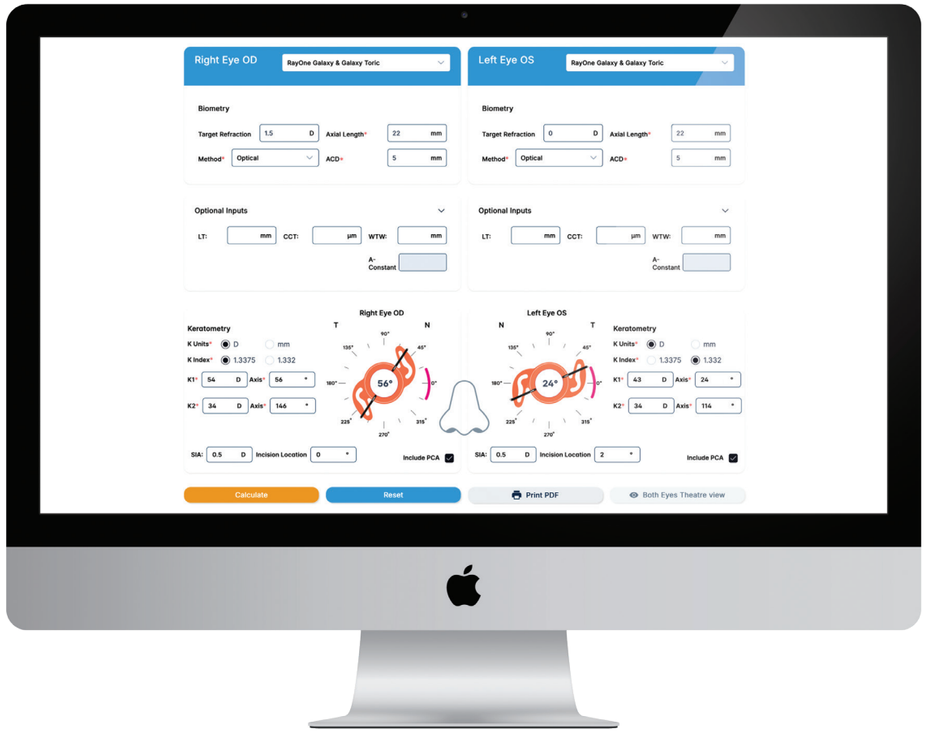
- RayOne Galaxy & Galaxy Toric
- RayOne EMV & EMV Toric
- RayOne Toric
- RayOne Trifocal & Trifocal Toric
- Sulcoflex Aspheric
- Sulcoflex Toric
- Sulcoflex Trifocal

RayTrace

RayTrace access

RayTrace

To create an account and access RayTrace,
visit www.rayner.com/raytrace



Long-term, real-time, patient reported insights

RayPRO

As a surgeon, the most important thing to you is the long-term outcome and satisfaction of your patients. RayPRO is a web-based digital platform that collects insightful Patient Reported Outcomes (PROs) over three years.

- **New insightful trends**
- Promote your services to new patients, with easy-to-understand metrics.
- Supports appraisals, recertification and auditing.

- **Fast and simple**
- Patients are registered in seconds.
- Only value-adding data is collected.

- **Automated collection of PROs**
- Patients provide their feedback in just a couple of minutes.
- Responses are anonymous to encourage patient honesty.
- Reports are always live, with no data analysis needed.
- Use product and patient trends to improve your service.

- **Secure cloud-based platform**
- Designed for data security and to be GDPR and HIPAA compliant.
- Only you can see your personal RayPRO reports and metrics.
- Questionnaire responses are non-identifiable to protect patients' data privacy.

RayPRO

RayPRO collects insightful patient outcomes:

1 Week
- Satisfaction with the surgeon.
- Satisfaction with the hospital.

1 Month
- Supports clinically validated Cat-PROM5 questionnaire.

3 Months
- Satisfaction with the surgery outcomes.
- Spectacle independence at multiple distances.
- Achievement of target refraction.

1 Year
- Satisfaction with the surgery outcomes.
- Any visual disturbances experienced.
- Additional procedures (last 12 months).

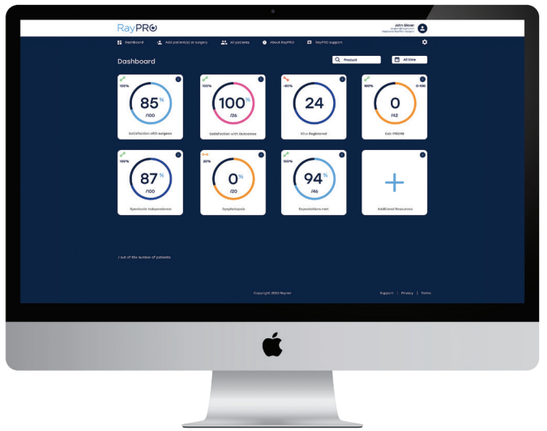
2 Years
- Additional procedures (last 12 months).

3 Years
- Additional procedures (last 12 months).

For FAQs, videos and support,
visit www.rayner.com/raypro/support

RayPRO is FREE for users of Rayner IOLs. Subscription available for non-Rayner IOL users. Learn more at rayner.com/raypro

Now supporting all IOLs



Premium single-use recyclable instruments

HASA OPTIX is a Belgian medical device company that designs and manufactures a wide range of premium recyclable single-use instruments. Through partnership with HASA OPTIX, Rayner is pleased to offer surgeons an extensive portfolio of pre-sterilised instruments and sets that adhere to the highest standards of quality materials.

B-Corp certified, HASA OPTIX showcases its strong dedication to the planet by creating an integrated re-use cycle for its fully recyclable stainless steel instruments, transforming them into non-medical items for a second life. This initiative is meant to mitigate the global environmental impact of ophthalmic surgery. HASA OPTIX ophthalmic solutions contribute to a more cost-controlled work environment, optimise OR organisation, and elevate the overall quality of care provided.

HASA OPTIX
Belgium

HASA OPTIX

HASA OPTIX:

- **Premium and constant quality:**
  Only producer of single use ophthalmic surgical instruments with quality standards as high as reusable.
- **Sustainable organisational solution:**
  Instrument sets are presented in a paper pouch avoiding heavy plastic inserts.
- **Cost controlling:**
  Integrated solutions allow the calculation of a fixed cost per surgery.
- **Circular economy:**
  Recyclable instruments allow you to integrate a “cradle to cradle” waste management program.

A phaco-system designed from a completely new perspective.

sophi swiss ophthalmology innovation

This is Sophi.

Sophi prioritises the surgeon and surgical team perspectives, employing three core pillars to boost operating room efficiency.

Mobility

Sophi is the first wireless Phaco system, providing flexibility, mobility, and ease of use.

Simplicity

Sophi's simple design enables easy handling, saving time and boosting productivity.

Safety

Sophi's Clean Venturi and automated Cassette Slot-In-System reduce contamination risks, while ensuring stable chamber pressure with its IOP Control Pump.

Efficiency

sophi

A revolution, not an evolution.

sophi

Infusion Level Guard
A warning appears when the level of infusion liquid is low

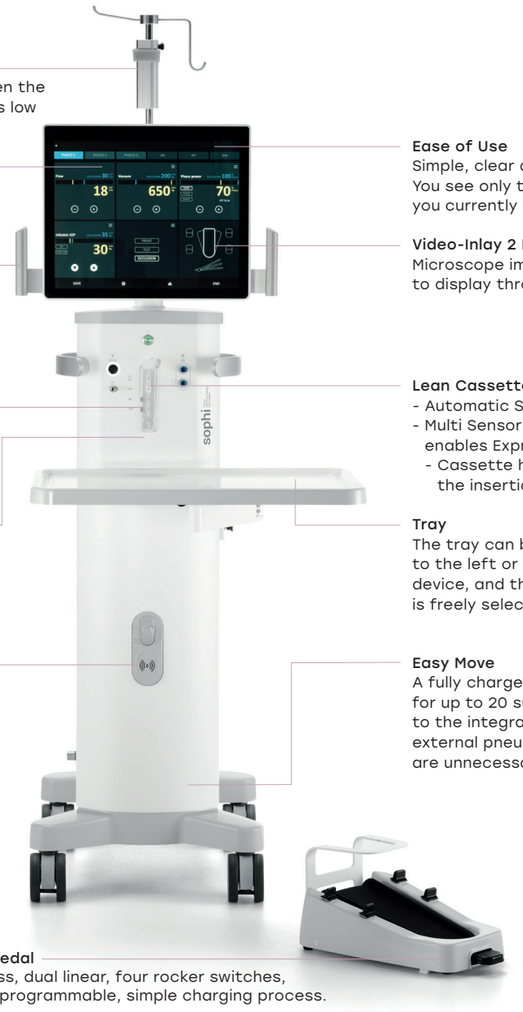
Sensory Information Assistance
- Voice Information Assistance Text2Speech
- LED Information Assistance

Usability
Fast set-up of the operating room, thanks to the rotatable display, central braking system and wireless power supply.

Triple Pump Fluidics
- IOP Control Pump infusion
- Peristaltic Pump aspiration
- Clean Venturi aspiration

Instruments
- Efficient Sinus Phaco
- Vitrectomy pneumatic
- Diathermy

Easy Connectivity
Bluetooth, Wi-Fi, NFC, Easy Charge



Ease of Use
Simple, clear and well laid out. You see only the information you currently require.

Video-Inlay 2 Display
Microscope images transmitted to display through Wi-Fi.

Lean Cassette System
- Automatic Slot-In-System
- Multi Sensor System, which enables Express-Priming
  - Cassette handle which simplifies the insertion of cassettes

Tray
The tray can be clipped on to the left or right side of the device, and the height position is freely selectable.

Easy Move
A fully charged battery lasts for up to 20 surgeries. Thanks to the integrated air compressor, external pneumatic tubes are unnecessary.

Foot pedal
Wireless, dual linear, four rocker switches, freely programmable, simple charging process.

Supporting surgeons for over 75 years

Rayner has been focused on providing the best visual outcomes for surgeons and patients for over 75 years. Our mission is to deliver innovative and clinically superior ophthalmic products that consistently respond to the expectations of our global customers and reward the profound trust placed in us to improve sight and quality of life.

Rayner is a British company and the only manufacturer of intraocular lenses in the UK.

GLOBAL HQ & UK OFFICE
10 Dominion Way
Worthing, West Sussex
BN14 8AQ. United Kingdom

Tel: +44 (0) 1903 258 900
Email: enquiries@rayner.com
Web: rayner.com

UNITED KINGDOM
Tel: +44 (0) 1903 854 560
Email: orders@rayner.com

GERMANY, AUSTRIA & SWITZERLAND
Tel: +49 30 629 0783-0
Email: info.de@rayner.com

ITALY
Tel: +39 029 475 2926
Email: ordini@rayner.com

SPAIN & PORTUGAL
Tel: +35 122 120 6400
Email: pedidos@rayner.com

POLAND
Tel: +48 787 03 85 41
Email: biuro@rayner.com

AUSTRALIA & NEW ZEALAND
Tel: +61 (2) 9044 1221
Email: OrdersAU@rayner.com

INDIA
Tel: 022-40026068
Email: admin@surgicon.in

FRANCE
Tel: +33 03 66 21 35 06
Email: serviceclients@rayner.com

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Please contact your local Rayner representative for details of which products are available in your area.

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