

CE
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Product Catalogue



Bio-Tech Group of Companies

Web: biotechvisioncare.com

Eyecryl Clear Hydrophobic Series IOLs

Advanced IOLs with excellent visual outcomes

Eyecryl clear hydrophobic Series IOLs are made from material with 1- 2 % water content having unique posterior edge design without compromising the inherent optical properties of Intra Ocular Lens. The UV absorbing properties are similar to Eyecryl hydrophilic lenses.

High index of refraction impacts :

- Excellent folding prior to insertion and better & controlled unfolding & positioning of lens in the eye.
- Minimal internally reflected glare
- Less surface scattering compared to other hydrophobic IOLs .
- Thinner lens which requires smaller incision i.e. sub 2.6 mm.

High Tensile strength :

- Increase in resistance against damage during folding and insertion.
- Minimum chances of force marks and folding marks

Excellent cytological and biocompatible properties :

- Effect on the blood aqueous barrier : Eyecryl hydrophobic lenses are recommended in patients with pathologies predisposing to blood aqueous barrier damage.
- The cellular reaction on the lens surface : Fish tail design reduces potential for lens epithelial cell migration on to posterior capsule. Eyecryl hydrophobic lenses have minimal affinity towards lens epithelial cell outgrowth and slow maturation rate reaction of macrophages providing excellent biological compatibility thus leads to a little or nil inflammatory reaction.
- Effect on the lens capsule : Eyecryl Hydrophobic has excellent capsular biocompatibility (because of tacky nature of lens material the lens has increased adhesion of the IOL to the capsule) than hydrophilic material and decreased incidents of PCO and IOL decentration.

Biocompatibility Tests :

The raw material complies for following tests as per ISO 10993

- Cytotoxicity tests
- Primary ocular irritation test
- Systemic Injection Test

Eyecryl Yellow Hydrophobic Series IOLs

With Blue Light Filter-An optimal solution for Retina protection.

In addition to all the features of clear hydrophobic series, Eyecryl yellow hydrophobic series IOLs have following additional features:

- Eyecryl Yellow Hydrophobic Intra Ocular lenses filters both Ultra Violet (UV) and high-energy blue light both of which are present in natural and artificially produced light.
- UV rays have long been suspected to cause cataracts and other vision problems, and all conventional UV absorbing IOLs filter them out just as our natural crystalline lens does before its removal in cataract surgery.
- Blue light, which ranges from 400 nm to 500 nm in the visible light spectrum, may cause retinal damage and play a role in the onset of Age-related Macular Degeneration (AMD). AMD is one of the most common cause of blindness and vision impairment in order individuals.
- **The concept behind the yellow hydrophobic is to re-add the protection against harmful blue light to the retina.**
- Eyecryl Yellow hydrophobic Series IOLs have a cross linked blue light filter in addition to UV absorber. Protective properties of these lenses resemble those afforded by natural human lens.
- **These lenses demonstrate excellent visual outcomes without altering the colour perception and contrast sensitivity of a patient, even at night.**

Model : HF 600



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Model : HF600ROH



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Model : HFY 600



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Model : HFY 600ROH



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Eyecryl Plus

Acrylic foldable IOL with disposable delivery system

Eyecryl Plus contains Eyecryl brand acrylic foldable IOLs and disposable lens delivery system in a combo, double blister pack.



EyeCryl TP 600



EyeCryl 600



EyeCryl 4X4

Model : 600 HS 600



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Model : 600 ROH HS600 ROH



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Model : 4X4 HS 4X4



Optic: 6 mm
Overall: 11.0 mm
A Const : 118.0
ACD: 4.96

Model : TP 600 HSTP 600



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Advantages of Eyecryl Plus:

- Allows implantation through sub 2.6 mm incision size
- Packed in medical grade, biocompatible double blister packaging
- Endotoxin level below 0.25 EU/IOL

Eyecryl Plus Hydrophobic Surface

Hydrophilic IOL with Hydrophobic Surface & disposable delivery system

Surface modification offers a hydrophilic lens with surface properties similar to hydrophobic lens without changing the bulk properties of the IOL material.

The idea behind surface modification of Hydrophilic IOL is to make it more hydrophobic & render it less attractive to cell attachment and cell growth.

Hydrophilic acrylic material has a proven clinical history and acceptability within Ophthalmic segment. We are providing a major advantage to this material by providing a permanent hydrophobic outer surface without changing the physiochemical and other typical properties of hydrophilic acrylic polymer.

Surface modification is done using low pressure Plasma Technology. The treatment depth is limited to typically 0.3 - 1.5 mm & hence does not change the inherent properties of Hydrophilic intraocular lenses.

Advantages of Surface modified IOLs

- Surface which is permanent in nature & technology that has proven its effectiveness in many implantable medical devices
- Higher contact angle increases hydrophobicity
- Smooth lens surface prevents bacterial adhesion
- Lower surface energy inhibits cell growth & cell adherence thus postponing the secondary cataract
- Resistance to silicon oil adherence
- Reduced inflammatory cell response
- Optical Purity-no vacuoles
- High Biocompatibility
- Facilitates placement of the lens and reduces trauma to the patient by allowing for a smaller incision during surgery
- Implantation without substantial risk of corneal endothelial cell damage
- Insensitive to atmospheric temperature changes as compared to hydrophobic IOLs
- Less attractive to airborne particles in operational field
- Cost effective
- **All our surface modified hydrophilic acrylic IOLs comply to biocompatibility & toxicity requirements of ISO 10993.**

Contact Angle

Hydrophobicity can be monitored by water contact angle measurement a sessile drop method (contact angle increases in case of surface modified IOLs). Contact angle prevails about 35 - 45° in case of conventional hydrophilic IOL, which increases up to 75 - 85° in case of surface modified hydrophilic IOL. Pictures of measuring contact angle are:



Contact Angle in case of Surface Modified IOL



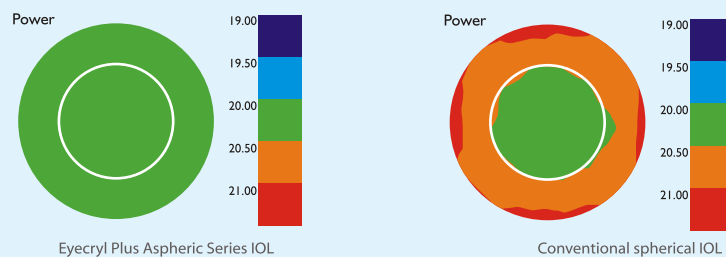
Contact Angle in case of Conventional Hydrophilic IOL

Eyecryl Plus Aspheric Series

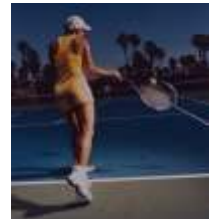
Hydrophilic Aberration free IOL with Hydrophobic Surface & disposable delivery system

- Conventional spherical IOLs have positive spherical aberrations resulting in decreased contrast sensitivity.
- First generation aspherical IOLs have negative spherical aberrations. These IOLs are not universally acceptable because of higher order aberrations (HOAs) in case of decentration or tilting of lens.
- Eyecryl Plus Aspheric Series IOLs are aberration free IOLs with aspheric anterior surface. The aberration free design provides good performance and vision even in case of zonular weakness, decentered pupils and tilting of lens. (Eyecryl Plus Aspheric Series IOLs have been tested for +0.5 mm of decentration and 5 Degree of tilting). The visual function in mesopic/low light conditions improves drastically.

Power Map



As shown in the diagram above, in case of Eyecryl Plus Aspheric Series IOL, the diopter remains uniform from central optical zone to the optical edge, whereas in case of conventional spherical IOL diopter shift is evident outside the central optical zone of 3.0 mm.



Contrast Sensitivity with Conventional spherical IOL



Contrast Sensitivity with Eyecryl Plus aspheric series IOL

Eyecryl Plus Accomodative Series

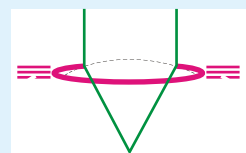
Hydrophilic Accomodative IOL with Hydrophobic Surface & disposable delivery system

Eyecryl Plus HSATF575 is an accommodative lens plus CTR with a revolutionary design which is based on Hemholtz's theory of accommodation and addresses the problem of pseudophakic presbyopia fully and satisfactorily. This IOL allows implantation through a standard phaco incision of sub 2.6 mm.

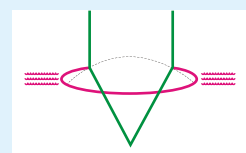
The six haptics design with anterior vaulting allows the lens to move or accommodate, to focus on objects near, far and at all distances in between without any hysteresis. The posteriorly vaulted haptics ensure minimum adhesion to anterior subcapsular cells for a longer period to maintain accommodation effect. As a unique feature, the gap between six haptics diminishes during capsular bag contraction process to form a continuous CTR to postpone PCO.

As shown in the diagram below (fig: 1.1), during normal conditions (far focus), the curvature (angle) of the lens is reduced by the flattened capsular bag membrane and enlarges the overall focal distance of the lens.

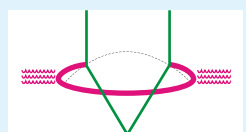
Accommodation is accomplished by contraction of the ciliary body and subsequent release in the resting tension of the zonular fibres by which the crystalline lens is suspended, resulting in anterior movement of the optic creating a change in focus. The curvature of the optic also increases during this process, providing further change in focus as shown in fig: 1.2 and fig: 1.3. Estimated axial displacement will be 0.25 - 1.0 mm resulting in accommodation over 1.5 D.



Position of IOL for Far Vision



Accommodation of IOL for Intermediate vision



Accommodation of IOL for near vision

Model : HSAS 600



Optic: 6 mm
Overall: 12.5 mm
A Const : 118.0
ACD: 4.96

Model : HSAS 4X4



Optic: 6 mm
Overall: 11 mm
A Const : 118.0
ACD: 4.96

Model : HSATF 575



Optic: 5.75 mm
Overall: 10.2 mm
A Const : 117.1
ACD: 4.43

Model : HSATF 575 MF



Optic: 5.75 mm
Overall: 10.2 mm
A Const : 117.1
ACD: 4.43

0 - 1.5mm: Far vision
1.5 - 2.3mm: Near vision
2.3 - 5.75mm: Far vision

Nucleus

Model : SQ 525



Optic: 5.25 mm
Overall: 12.5 mm
A Const : 118.9
ACD: 5.49

Model : SQ 605



Optic: 6.0 mm
Overall: 12.5 mm
A Const : 118.2
ACD: 5.14

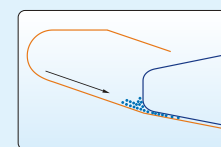
360° square edge PMMA IOLs

Posterior Capsular Opacification (PCO) in IOLs is a major concern among ophthalmologists at global level. Conventional round edge design allows migration of epithelial cells beneath the posterior surface of the lens resulting in PCO.

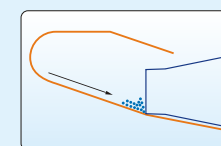
Nucleus 360° square edge intra ocular lenses are designed with square edge all around the posterior optic surface, including at haptic-optic junction. As shown in the figure (Page 2), the 360° square edge acts as a complete barrier to epithelial cells and reduces incidence of PCO. The anterior surface of the lens is round to avoid glare effect.

Nucleus IOLs are designed with capsular "C" shape haptics and provide following advantages :

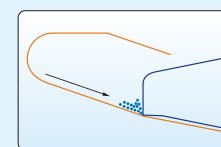
- Preserve natural anatomical shape of the capsular bag.
- Ensure better contact with the capsular bag resulting in distribution of haptic force and
- Better centration post operatively.
- Easy implantation and placement .
- Minimal stress on zonules.
- Easy dialing.



Conventional
Round edge lens design



Conventional square edge
design with square posterior
& anterior edges



Nucleus square edge
design with square posterior
and round anterior edge

Nucleus FSM

360° square edge PMMA IOLs with fluorine surface modification

Biotech Vision Care brings revolutionary product " Nucleus FSM IOL" to surmount cell adhesion cell to PMMA IOLs which is one of the major postoperative complication.

By Fluorine surface modification of PMMA IOL, hydrophobicity of lens surface increases & renders it less attractive to cell attachment and cell growth. This reduces inflammatory cell response & enhances optical performance.

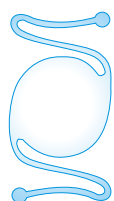
Nucleus FSM IOLs significantly addresses the patient problems in following areas :

- Glaucoma • Uveitis • Diabetes • Pseudo exfoliation • Pediatric

Biovision

PMMA IOLs

All our Intraocular Lenses are manufactured from medical grade FDA Approved UV absorbing polymethylmethacrylate (PMMA). Our Single piece IOLs have highly flexible haptics. All our IOLs are manufactured by CAD & CAM technology on high precision CNC Lathe & CNC milling machines and checked under Laser Interferometer for better optical quality. Dioptric powers are available within the ranges indicated at each model, in increments of 0.5 diopter



Anterior Chamber IOLs
Optic : 6.0 mm
Overall : 12.5 mm
Loop : Kelman



Phaco IOLs
Optic : 5.0 - 5.5 mm
Overall : 12.0 - 12.5 mm
Loop : Mod "C"



Posterior Chamber IOLs
Optic : 6.0 - 6.5 mm
Overall : 12.5 - 13.5 mm
Loop : Mod "C"

Model : FSQ 525



Optic: 5.25 mm
Overall: 12.5 mm
A Const : 118.9
ACD: 5.49

Model : FSQ 605



Optic: 6.0 mm
Overall: 12.5 mm
A Const : 118.2
ACD: 5.14

Special Product Range

BIO SPEARS / BIO CEL (Sterile Surgical Spears)

BIO SPEARS (Sterile PVA Eye Spears)

- Designed to manipulate tissue during LASIK and refractive procedures.
- Offers doctors with superior fibre free products for unparalleled fluid management and control
- Lint free, high density PVA formulation and virtually particulate free
- Highly absorbent, single use, fast wicking and packaged sterile
- Maintains rigidity during wicking process
- Problems relating to cotton fibres - left - overs are completely avoided

BIO CEL (Sterile Cellulose Surgical Spears)

- Constructed of the finest compressed cellulose sponge material securely molded to a polypropylene handle
- High volume fast wicking action for absorption of blood and fluids within the operational field
- Cost effective
- All natural material

Iris Retractors

The Iris retractor consists of a flexible hook made of bright blue polypropylene monofilament which reduces iris trauma and adjustable silicone stopper which provides superior grip and allows adjustment of pupil size.

Each storage case contains 5 disposable iris retractors. Typically, four(4) iris retractors are required to obtain adequate iris dilataion. It is supplied sterile(ethylene oxide sterilized).

The flexible Iris Retractor enables the mechanical dilation of the pupil where dilation can not be achieved pharmacologically. It is a simple, safe & fast alternative to reduce the surgical time. The flexible Iris Retractor stretches and retains the iris for maximum visibility during surgical procedures like phacoemulsification, retina & vitreous surgery. It can be safely used in aphakic, pseudophakic and phakic eyes.

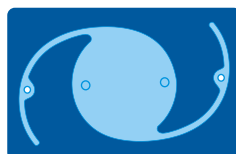
Diagnostic strips

- Rose Bengal Ophthalmic Strips: It stains dead or degenerated epithelial cells of the cornea & conjunctiva.
- Lissamine Green Ophthalic Strips: It stains dead or degenerated epithelial cells of the cornea & conjunctiva.
- Schirmer Strips : These strips are used during dry eye testing.
- Fluorescein Sodium & High Molecular Fluorescein Sodium Ophthalmic strips : For applanation tonometry / For evaluating Soft contact lens fitting

Also Available :



Capsular Tension Ring
Overall Dia : 11.0 mm,
12.0 mm, 13.0 mm



Scleral fixation IOL
Optic size : 6.5 mm
Overall : 13.0 mm

Pharmaceutical Product Range

Bio Hyalur/ Bio Hyalur Plus (sodium Hyalunerate 1.0 % & 1.4 %)

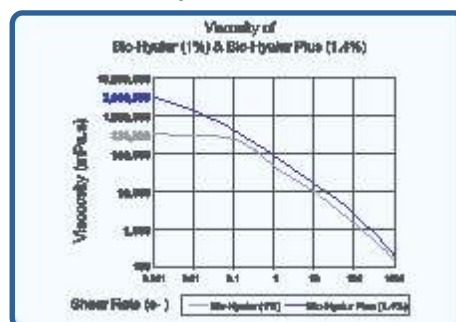


Bio Hyalur Plus
1.4% (Cohesive)
Viscosity more than
2,00,000 mPas



Bio Hyalur
1.0% (Dispersive)
Viscosity more than
1,00,000 mPas

- Manufactured from bacterial fermentation origin
- CE certified product
- Finished product is available in PFS in medical grade blister packing to ensure safety
- International standard sterile glass syringe from (B-D) Becton Dickinson (USA), which provides excellent luer-lock facility to ensure proper attachment of cannula and thus avoid leakage or spillage
- CE marked 27g cannula in a medical grade blister to ensure safety of product
- Available in 0.55 & 0.85 ml



BIOSIL (Silicone oil 10ml vial)

A reliable & proven treatment for complex retinal detachments

- BIOSIL is ultra purified silicone oil which leads a maximum interfacial tension and minimizes interactions between tissues, cells and endo-tamponades media. The physical properties include a combination of specific gravity, refractive index and surface tension.
- The choice of viscosity offers an optimum balance between easy injection and a stable temporary tamponade
- Less tissue impregnation
- Highly purified & low level of reactive-OH end groups results in reduced incident of emulsification.
- Non-pyrogenic, clear & colorless
- Relatively inert & preservative free
- Minimal volatile content

PRIMARY INDICATIONS OF BIOSIL:

- Proliferative Vitreoretinopathy (PVR)
- Retinal Detachment caused by trauma
- Giant tears
- Diabetic Traction Detachment
- Cytomegalovirus (CMV) retinitis
- Silicone oil for sale outside the United States only.

Also Available :



Bio-Blue
Trypan Blue ophthalmic
solution 0.06% w/v
Packaging : 1 ml vial



Bio-Chol
Carbachol intraocular
solution 0.01% w/v
Packaging : 1 ml vial



EyeVisc
Hydroxypropyl
methylcellulose ophthalmic
solution 2.0% w/v
Packaging : 5 ml vial



EyeVisc PFS / EyeVisc Plus PFS
Hydroxypropyl
methylcellulose ophthalmic
solution 2.0% w/v
Packaging : 2 ml PFS

Our Quality System is:

- ISO 13485 - 2003 & ISO 9001 : 2000 certified.
- Complies to essential requirements of Directive MDD 93/42/EEC.
- Complies to Biocompatibility requirements of ISO 10993.

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