Stellaris Elite™
Vision Enhancement System

CONFORMITY IS THE ANTAGONIST OF INNOVATION

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BAUSCH + LOMB
See better. Live better.

Stellaris Elite
Vision Enhancement System™

A true combined phacoemulsification and vitrectomy system, fully able to support both anterior and posterior surgeries in one platform.

ANTERIOR SYSTEM

COMBINED ANTERIOR/ POSTERIOR SYSTEM

DUAL LINEAR FOOT PEDAL

SMALL,
COMPACT FOOTPRINT
OPTIMISED FOR YOUR OR

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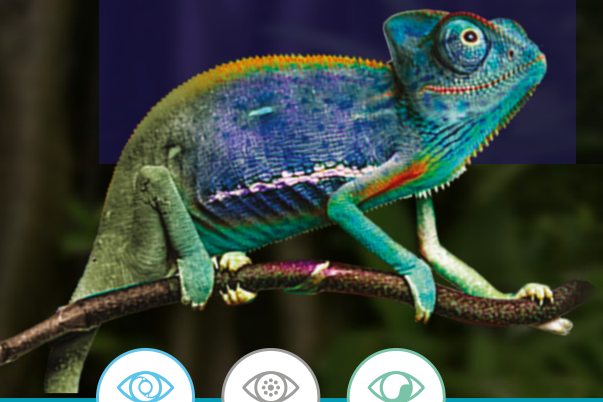
Stellaris Elite
Vision Enhancement System™

OVERVIEW

CHOOSE YOUR OWN PATH

Stellaris Elite™

BE VERSATILE
A True Vacuum-Based, Combined System with Dual Linear Foot Pedal



Anterior

BE AMAZED
Adaptive Fluidics™

BE POWERFUL
Attune® Energy

BE CONFIDENT
CapsuleGuard® IA

Posterior

BE EFFICIENT
Bi-Blade®

BE ENLIGHTENED
Advanced Illumination

BE CURIOUS
Unique VR Accessories

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BE VERSATILE

A TRUE COMBINED SYSTEM
WHY COMPROMISE WHEN YOU DON'T NEED TO?

Stellaris Elite™ is a true combined phacoemulsification and vitrectomy system, fully able to support both anterior and posterior surgeries in one platform.

Bausch + Lomb offers added value with a single capital purchase for both cataract and retina surgery capabilities.

CATARACT LASER RETINA

TABLE OF CONTENTS

Procedural Choice

Vacuum Technology

Wireless Dual Linear Foot Pedal

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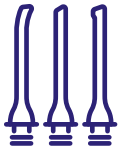
PROCEDURAL CHOICE

At Bausch + Lomb we know surgeon needs dictate innovation. That's why we work alongside surgeons to understand their needs and ensure we're delivering targeted and effective solutions.

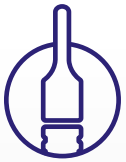
Stellaris Elite™ offers you the freedom to choose what works best for your surgery needs with one system that is compatible with our full range of phaco, retina and combined pack options to meet the evolving needs of surgeons today and in the future. It also offers you the seamless ability to incorporate future innovations and enhancements to your system.

Adaptive Fluidics™

Multiple incision sizes and phaco sleeves



Multiple needle designs

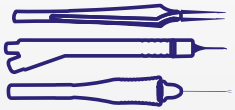


CapsuleGuard® IA

Single-port and Bi-Blade® cutters

Multiple vitrectomy gauge sizes

Customisable dual linear foot pedal



Full instruments and accessories portfolio

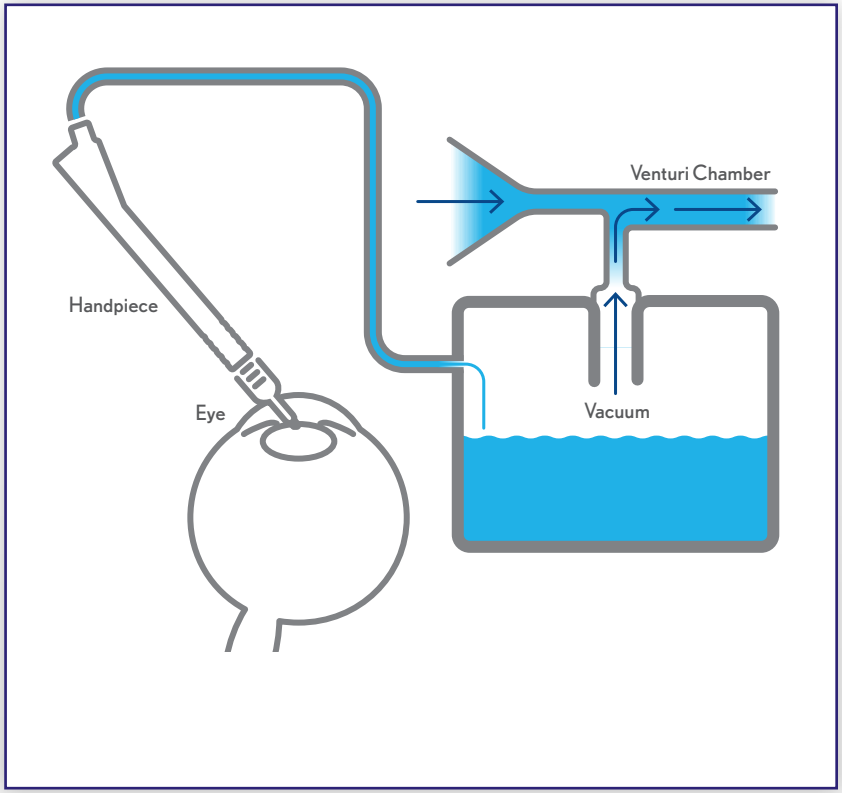
Portfolio of single use solutions

VACUUM TECHNOLOGY

DISCOVER A LEVEL OF PERFORMANCE THAT DELIVERS THE CONTROL YOU DEMAND

Stellaris Elite™:

- **Offers direct vacuum:** vacuum is generated when air flow passes over the opening of a rigid drainage cassette[1]
- **Does not require occlusion:** the needle tip does not have to be occluded to generate vacuum[1]
- **Offers immediate control:** the surgeon has direct control of the vacuum pressure[1]

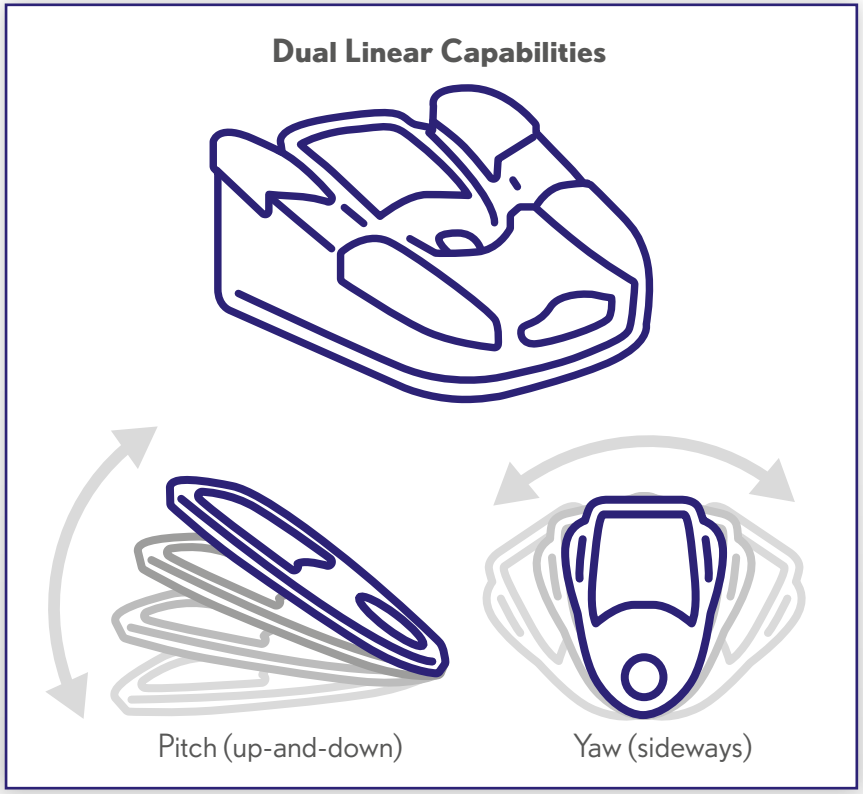


WIRELESS DUAL LINEAR FOOT PEDAL

OFFERS INDEPENDENT MANAGEMENT OF VACUUM AND ULTRASOUND

Use only the amount of vacuum and ultrasound needed for your surgery with:

- Control of both pitch and yaw planes
- Integrated movements simultaneously control irrigation, ultrasound, and aspiration
- Customisable vacuum response rate (back loaded, front loaded or linear)
- Irrigation on/ off activated on the yaw plane option available
- Integrated laser firing button eliminating the need for a second foot pedal in posterior surgeries



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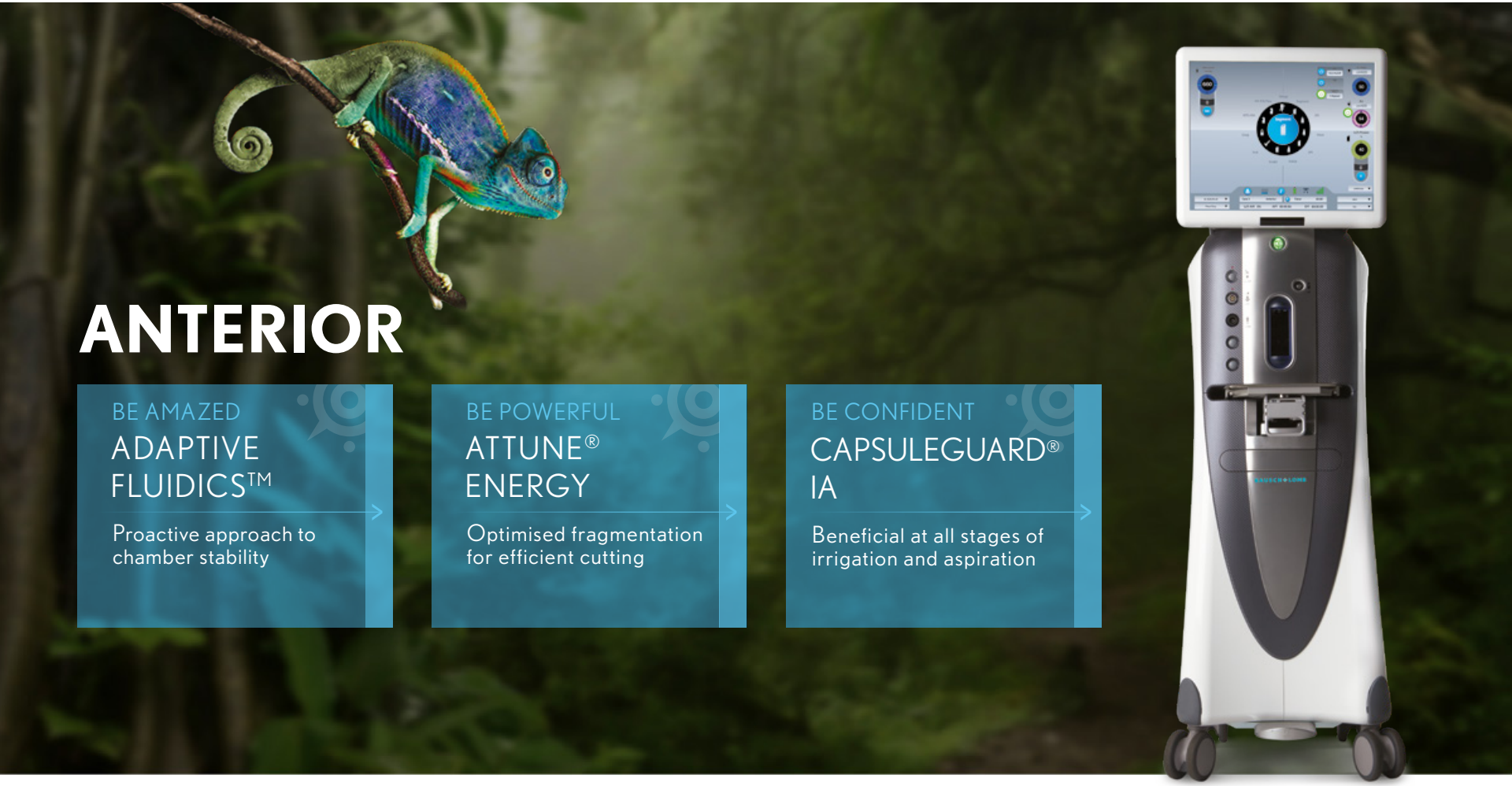
CHOOSE YOUR OWN PATH



ANTERIOR

BE AMAZED
ADAPTIVE FLUIDICS™
Proactive approach to chamber stability

BE POWERFUL
ATTUNE® ENERGY
Optimised fragmentation for efficient cutting

BE CONFIDENT
CAPSULEGUARD® IA
Beneficial at all stages of irrigation and aspiration

BE AMAZED

A PROACTIVE APPROACH TO CHAMBER STABILITY WITH **ADAPTIVE FLUIDICS™**

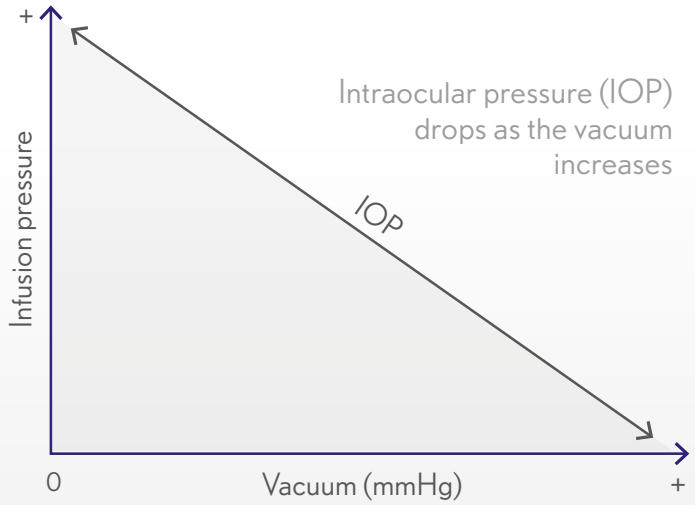
Chamber stability is a critical factor for successful lens extraction. The proactive approach of Adaptive Fluidics™ monitors and responds to the vacuum you command to let you focus on the surgery—not the system.

TABLE OF CONTENTS

Traditional Infusion Pressure Systems
Approaches to Chamber Stability Today
Reactive Approach
How **Adaptive Fluidics™** Works

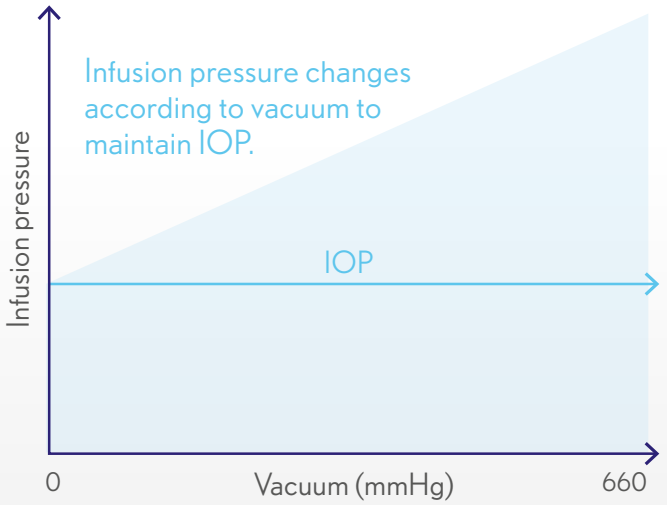
ADAPTIVE FLUIDICS™ AND DYNAMIC INFUSION COMPENSATION

Traditional Gravity Infusion-Pressure System



Infusion pressure is fixed and drops as vacuum increases, which may create unstable conditions in the chamber.

Stellaris Elite™ with **Adaptive Fluidics™**



Proactively increases infusion pressure when more vacuum pressure is used to maintain consistent chamber stability.

**Graphs designed for illustrative purposes*

TODAY DIFFERENT APPROACHES TO MANAGE CHAMBER STABILITY EXIST

REACTIVE

PROACTIVE

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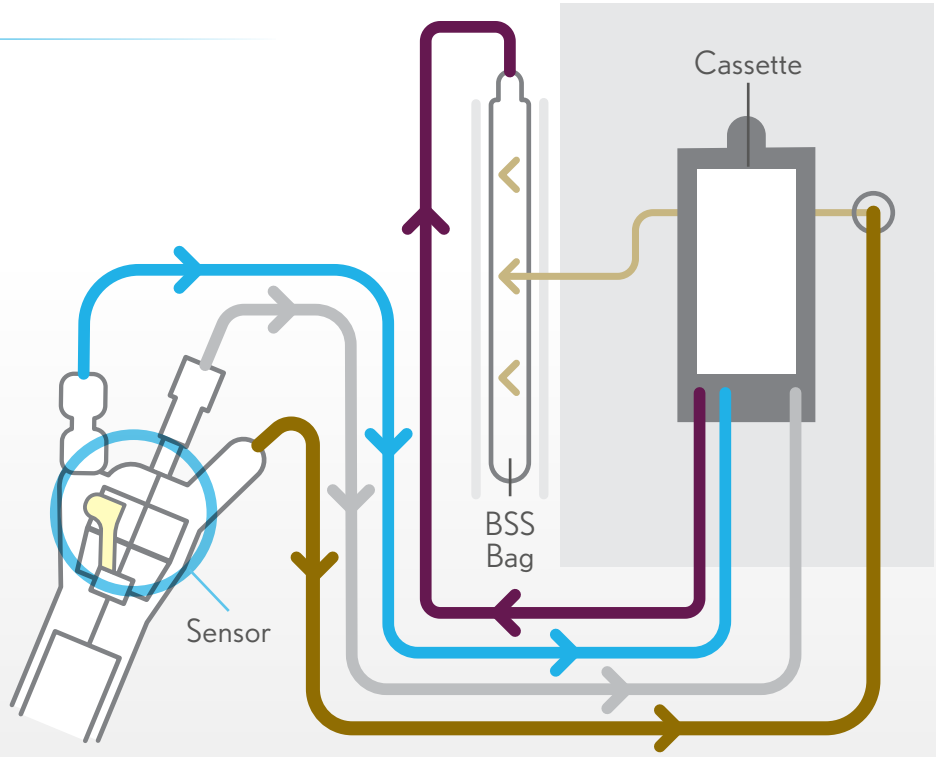
REACTIVE APPROACH: CENTURION

1. IOP drop is detected by the sensor in the handpiece[2]
2. The handpiece signals to system that adjustments are needed[2]
3. The BSS bag is squeezed[2]
4. IOP drop is compensated [2]



ADAPTIVE FLUIDICS™ PROACTIVELY MANAGES CHAMBER STABILITY

Dynamic Infusion Compensation technology constantly MONITORS commanded vacuum and COMPENSATES with infusion pressure to maintain a stable chamber

Once desired infusion pressure is set:

MONITORS

Adaptive Fluidics™ continuously tracks vacuum flow rate

&

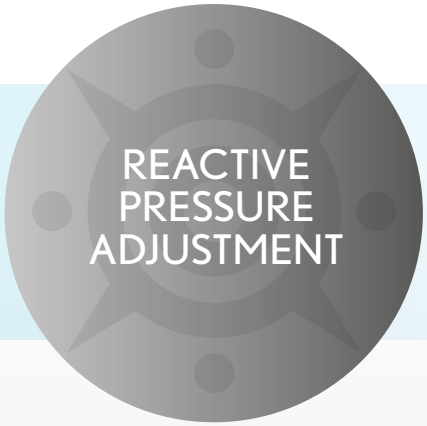
COMPENSATES

The system automatically adjusts infusion pressure

ADAPTIVE FLUIDICS™

TWO DIFFERENT APPROACHES TO CHAMBER STABILITY

Stellaris Elite™ PROACTIVELY monitors vacuum and automatically adjusts infusion pressure to compensate for changes using **Adaptive Fluidics™ technology**, to facilitate optimised chamber stability.



Other phaco systems, like Alcon, use technology that REACTS to conditions in the eye by adjusting the pressure to the BSS bag[2]

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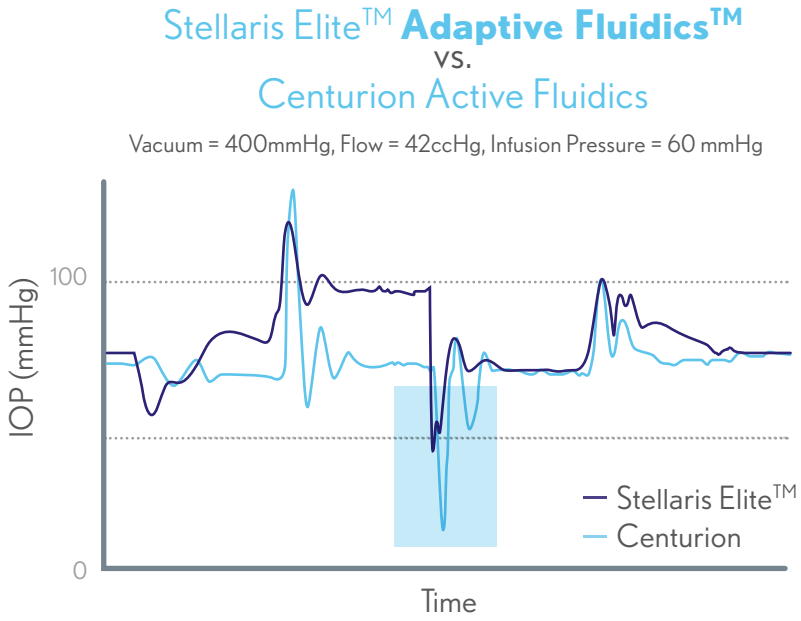
ADAPTIVE FLUIDICS™

ADVANTAGES: SEPARATING STELLARIS ELITE™ FROM THE REST

Adaptive Fluidics™ technology has been engineered to proactively:

- Dynamically adjust to support chamber stability[3]
- Facilitate reduced post-occlusion surge[3]
- Better control variation of pre- and post-occlusion surge to facilitate less stress on the capsule[3]



Stellaris Elite™ demonstrated higher IOP compensation during occlusion compared to Centurion*

** Bench study*

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BE POWERFUL

EFFICIENT EMULSIFICATION WITH **ATTUNE® ENERGY**

Stellaris Elite™ offers an extensive range of phaco needle and sleeve sizes in both straight and angled configurations. In combination with Attune® Energy phacoemulsification management, surgeons can expect optimised cutting for all cataract grades.

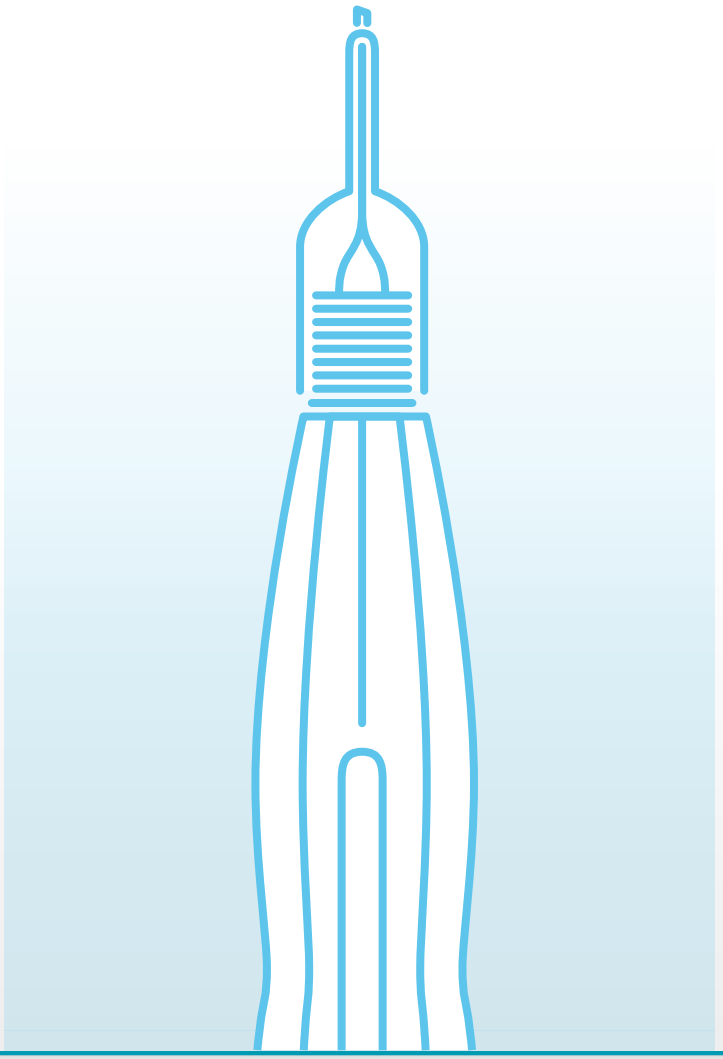
TABLE OF CONTENTS

Cutting Efficiency
Cavitation
Frequency
Attune® Energy
Phaco Needles
Waveform™ Modulation

EFFICIENT CUTTING

Attune® Energy phacoemulsification management has been designed with:

- A six-crystal 28.5 kHz frequency phaco handpiece
- A 142* micron stroke length and longitudinal cutting action
- A unique handpiece design that balances mechanical cutting with acoustic cavitation for focused energy at the needle tip
- Continuous, pulsed, fixed pulse, multiburst and Waveform™ ultrasound setting options



*Dependent on amount of ultrasound power being used.

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CAVITATION

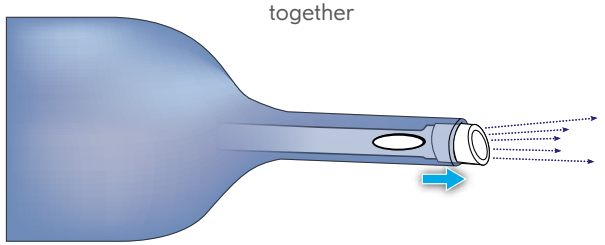
142 micron stroke length

- Acoustic cavitation is the result of the high-speed expansion, contraction, and subsequent implosion of microcavitation bubbles at the phaco tip[1]
- As the microcavitation bubbles implode, they release tremendous energy and shock waves directed towards the cataract[1]

The longitudinal 142 micron stroke length of **Attune® Energy** is designed for optimised cavitation generation

HOW CAVITATION WORKS

Compression Cycle: During the compression cycle, the phaco needle accelerates forward, exerting a positive pressure that pushes the molecules together



Expansion Cycle: During the expansion cycle, the phaco needle reverses direction and a microcavitation bubble is created by vacuum from the phaco needle backstroke[1]

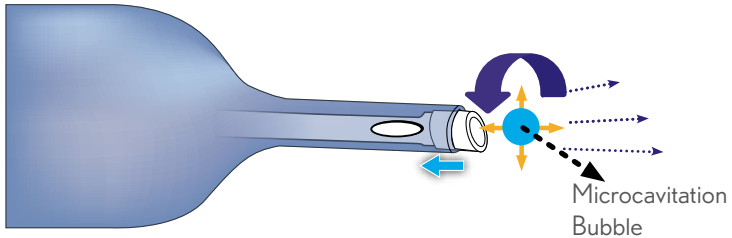


**Diagram designed for illustration purposes*

FREQUENCY

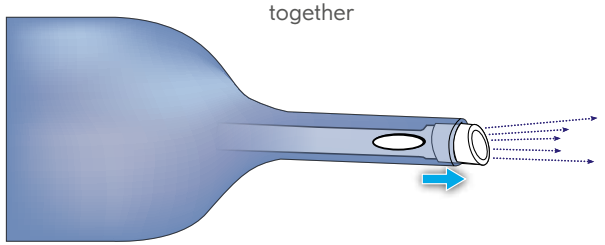
28.5 kHz frequency

- A lower frequency handpiece of 28.5 kHz is thought to better facilitate larger microcavitation bubble formation and is less likely to generate heat[1]
- The larger the microcavitation bubble, the greater the energy released when it implodes for more effective cutting power[1]

The **Attune® Energy** low frequency handpiece of 28.5 kHz is designed to better facilitate microcavitation bubble formation and be less likely to generate frictional heat compared with higher frequency handpieces[1] for efficient cataract emulsification

HOW CAVITATION WORKS

Compression Cycle: During the compression cycle, the phaco needle accelerates forward, exerting a positive pressure that pushes the molecules together



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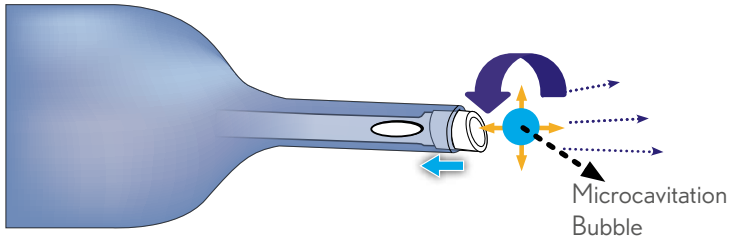

**Diagram designed for illustration purposes*

STELLARIS ELITE™ WITH ATTUNE® ENERGY

OFFERS AN EXTENSIVE RANGE OF PHACO NEEDLE OPTIONS FOR PROCEDURAL CHOICE

30°
MICS™ 2.0
Straight Needle

30°
MICS™ 2.0
Angled Needle

30°
MICS™
Straight Needle

30°
MICS™
Angled Needle

30°
MicroFlow™ Plus
Straight Needle

30°
Straight Thin Tip
20G Needle

30°
Angled Thin Tip
20G Needle

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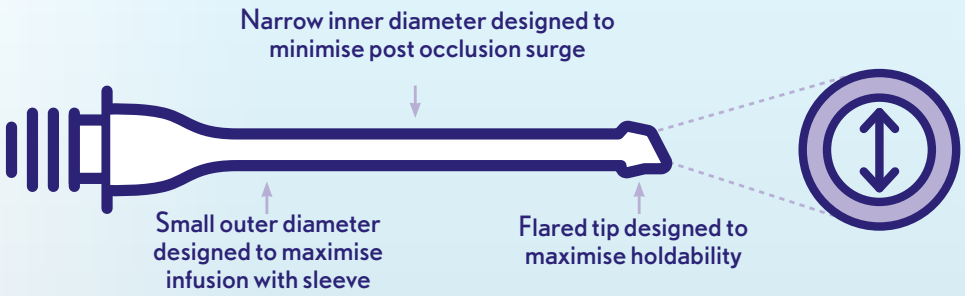
MICS™ PHACO NEEDLES

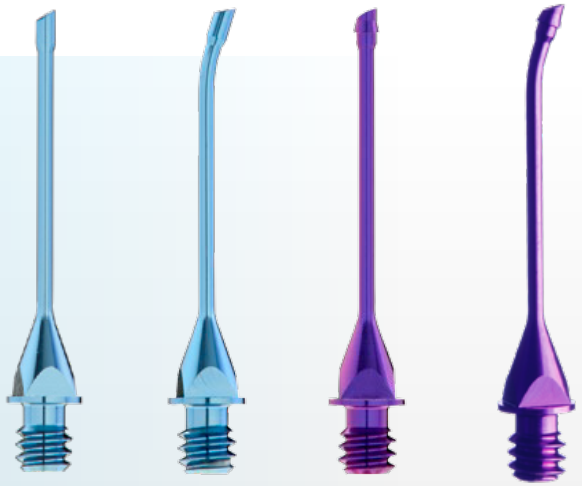
OPTIMISED FOR CUTTING EFFICIENCY

MICS™ phaco needles are designed to offer unique advantages:



Shaft ID = 0.5mm

Tip OD = 0.79mm



WAVEFORM™

ULTRASOUND MODULATION CAPABILITY

Unique to Stellaris Elite™, Waveform™ delivers ultrasound modulation while allowing surgeons to maintain maximum vacuum power

Ultrasound begins at 25-100% of peak power programmed and then ramps up to the full power requested in a wave pattern

Waveform™ is designed to:

- Help lens fragments slowly spin on the tip making them easier to emulsify
- Eliminate chatter
- Reduce the amount of energy used and temperature

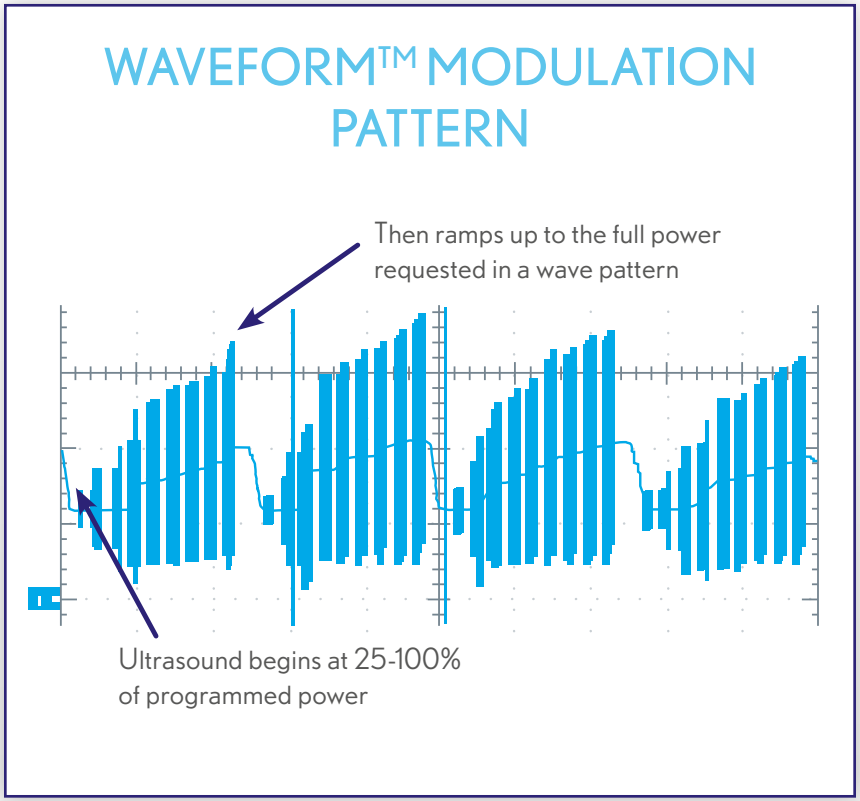


*Diagram designed for illustration purposes

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BE CONFIDENT

CapsuleGuard® IA SILICONE IRRIGATION/ ASPIRATION HANDPIECES

The CapsuleGuard® IA handpiece is an all silicone IA tip handpiece designed to reduce the risk of posterior capsule rupture (PCR)[4]. The unique design is beneficial in all stages of IA, both before and after IOL implantation.

TABLE OF CONTENTS

For All Phases of IA

Full Silicone Sleeve Tip Design

CapsuleGuard® IA

Silicone Irrigation/Aspiration Handpieces

DESIGNED FOR USE IN **ALL** PHASES OF IA

Designed for improved visualisation

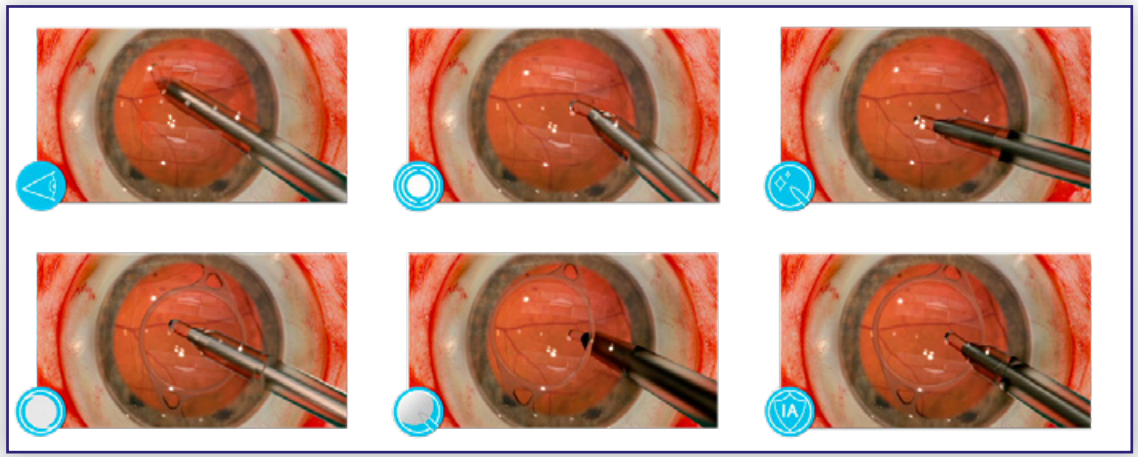
Cortex removal

Capsule polishing

IOL manipulation

Viscoelastic removal

Data suggests it may reduce the risk of PCR compared with metal handpieces[4]



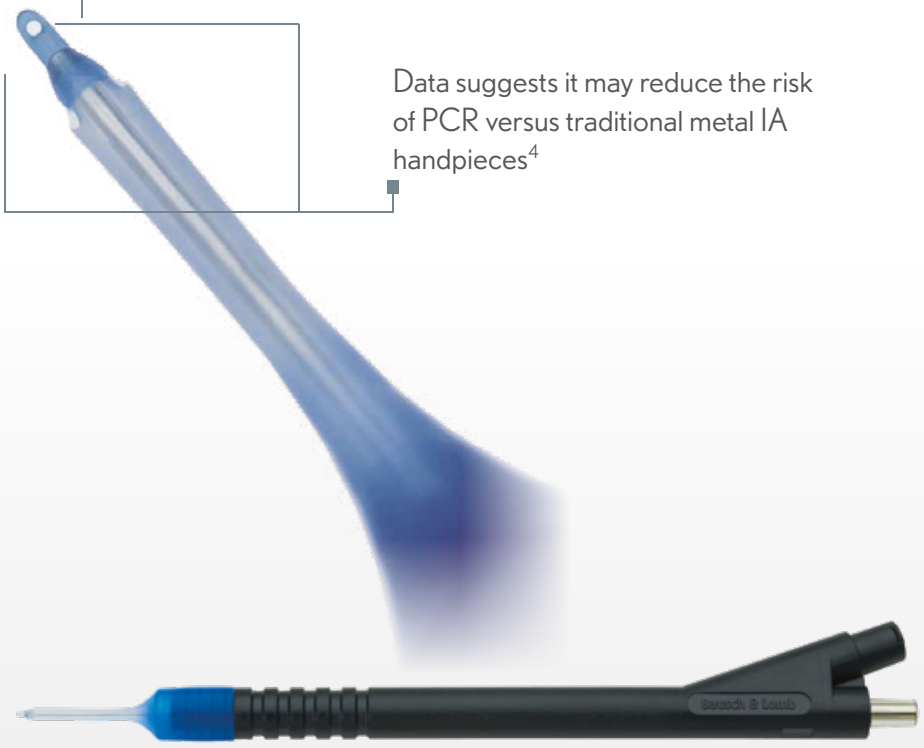
CAPSULEGUARD® IA

Soft, flexible tip design allows for ease of insertion and access to hard to reach areas including sub-incisional cortex

Flexible sleeve conforms to the incision to reduce fluid leakage and help with chamber stability

Enhanced visualisation of anterior chamber from semi-transparent sleeve design and reduction in gauge of the aspiration tube compared with traditional metal IA handpieces

One piece, single use, silicone tip design for consistency and convenience



Data suggests it may reduce the risk of PCR versus traditional metal IA handpieces[4]

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POSTERIOR

BE EFFICIENT

BI-BLADE®

Dual-port, high-speed cutting with consistent flow for stability and control

BE ENLIGHTENED

ADVANCED ILLUMINATION

A broad range of tools with innovative light fibre technology deliver advanced illumination

BE CURIOUS

UNIQUE VR ACCESSORIES

A wide range of surgical accessories and instruments

BE EFFICIENT

BI-BLADE®
DUAL-PORT CUTTERS

The innovative dual-port Bi-Blade® design not only cuts at twice the rate of single-port vitrectomy cutters, it also maintains consistent flow without port closure.

Complex maneuvers requiring meticulous control and predictable stability are always at your fingertips.

TABLE OF CONTENTS

Bi-Blade® Dual-Port Cutter
How Bi-Blade® Works
Efficiency & Stability
Standard to Complex Cases

BI-BLADE® DUAL-PORT EXPERIENCE

THE CUTTING EDGE OF SURGICAL INNOVATION

Bi-Blade® vitrectomy cutters deliver open-port stability with **15,000 cpm*** efficiency

- **Stability:** high cut speeds facilitate reduced retinal traction[5], allowing surgeons to confidently shave near mobile retina, perform dissections, and remove intraocular tissues with control and confidence
- **Efficiency:** the unique dual-port design optimises efficiency by enabling cutting without port closure. As the port remains open, **Bi-Blade®** provides continuous aspiration while cutting, to provide a consistent flow rate

BI-BLADE® VITRECTOMY CUTTERS
Available in 23, 25, and 27 gauges

*Effective cut rate

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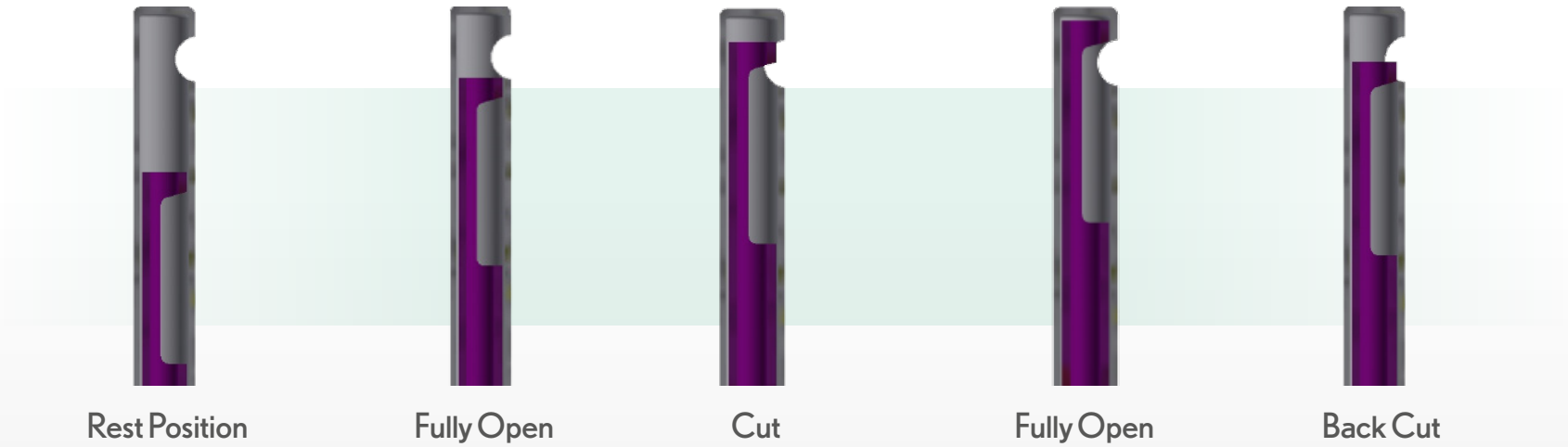
BI-BLADE®

DUAL-PORT DESIGN: HOW IT WORKS



- **Duty cycle** is the percentage of open port time for each complete cut cycle
- **Dual-port design** enables 100% duty cycle, for a stable environment that enables high flow rates and high cut rates

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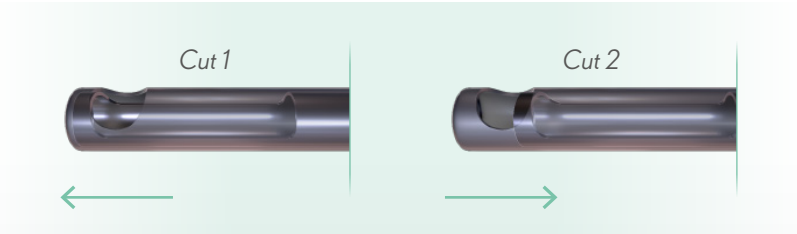
BI-BLADE® vs SINGLE-PORT CUTTERS

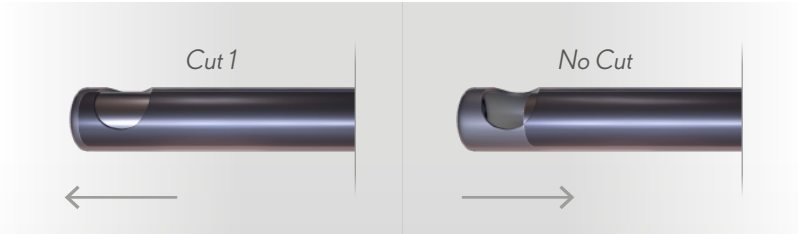
The two-to-one advantage of Stellaris Elite™

Bi-Blade®



- Port openings in both outer and inner needle creating two cutting edges
- Bi-Blade®'s dual-edge blade cuts both forward and backwards, for two cuts per operating cycle

Single-Port



- Single-port cutters cut only once per cycle, in the forward position, with complete port closure

BI-BLADE®

DESIGNED FOR EFFICIENCY AND STABILITY

Increased cut speed and dual-port design improves the efficiency of small-gauge cutters, facilitating faster procedures

2x
the cut rate of single-port cutters

100%
duty cycle
for continuous aspiration

2.7x
higher vitreous
flow rate in 23g*

2.0x
higher vitreous
flow rate in 25g*

Vitreous flow[6]
increases with higher cut rate

** Engineering study at 600 mmHg, and 7500 cpm, versus conventional cutters.*

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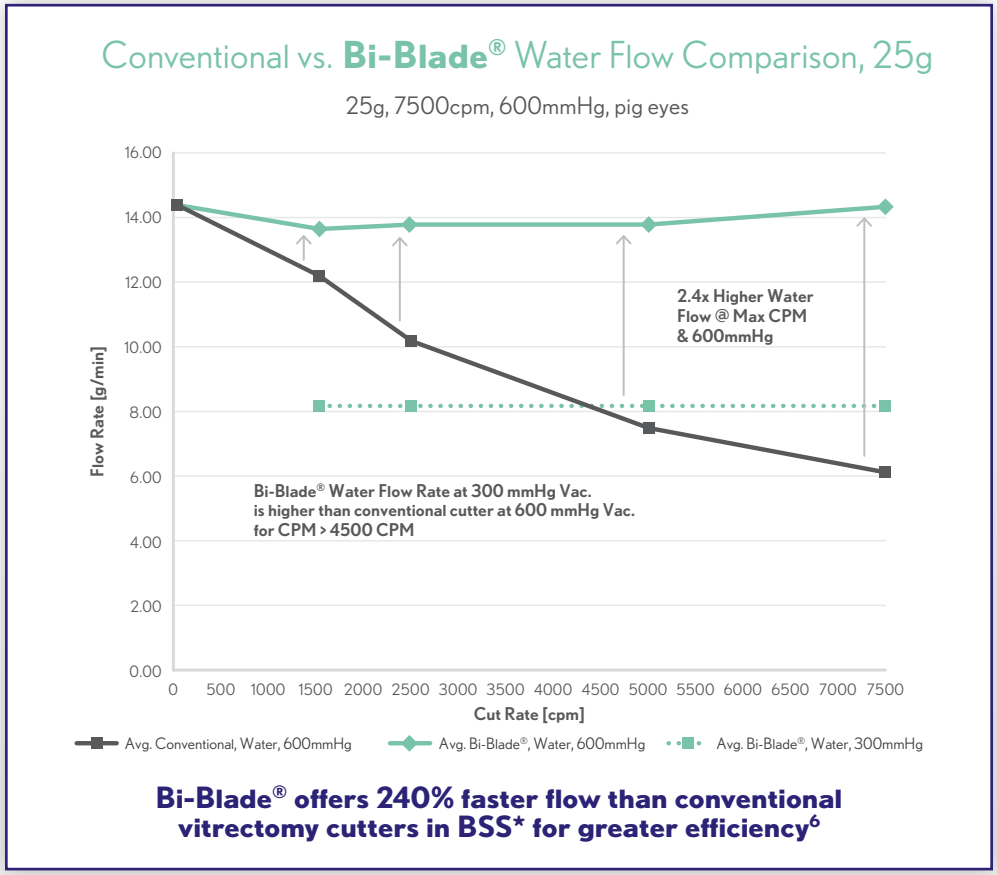
BI-BLADE® IN LAB STUDIES

WATER FLOW RATE COMPARISON: BI-BLADE® VS. CONVENTIONAL CUTTER



Bi-Blade® offers 240% faster flow than conventional vitrectomy cutters in BSS* for greater efficiency[6]

Engineering study: compared to traditional single-port cutters in BSS on systems in 7500 CPM mode.

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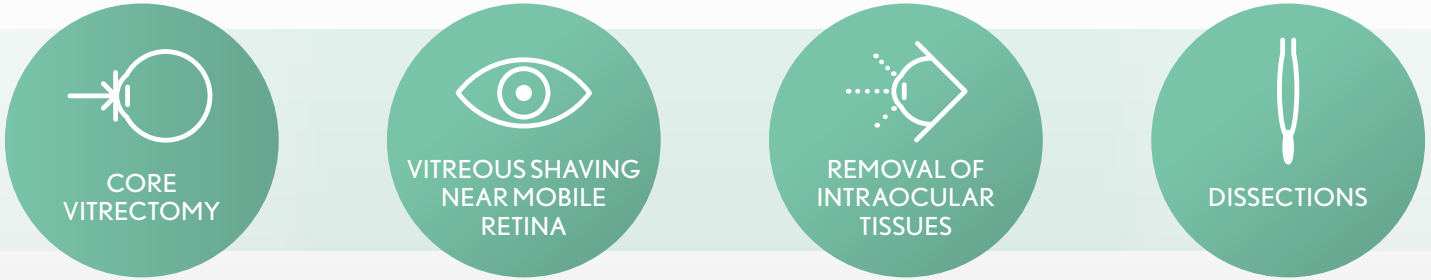
FROM STANDARD TO COMPLEX CASES

BI-BLADE® DELIVERS CONFIDENCE FOR VITRECTOMIES

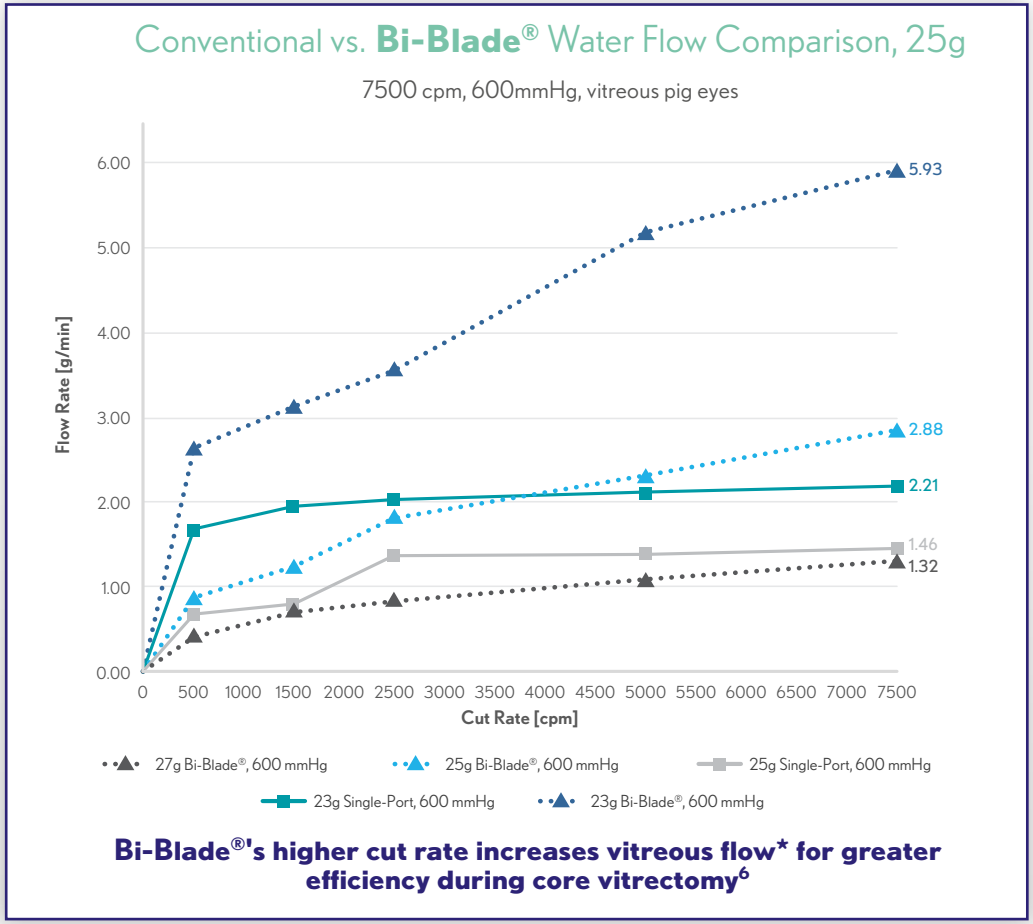
High-speed cutting with stable flow gives surgeons precise control

The confident choice for complex cases and challenging surgical maneuvers



CORE VITRECTOMY

VITREOUS FLOW COMPARISON



Bi-Blade®'s higher cut rate increases vitreous flow* for greater efficiency during core vitrectomy[6]

*Engineering study: compared to conventional single-port cutters.

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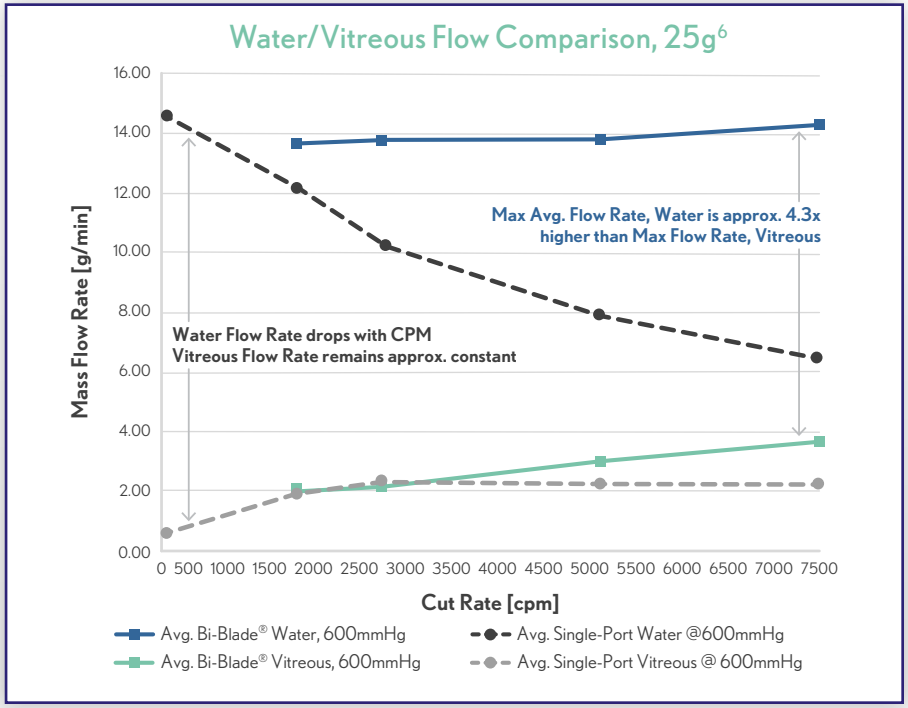
CORE VITRECTOMY

BI-BLADE® CUTTER COMPARISON OF WATER TO VITREOUS FLOW

	Bi-Blade®	Single-Port
When cut rate increases (vitreous)	Vitreous flow increases	Vitreous flow plateaus
When cut rate increases (water)	Water flow is stable	Water flow decreases
Flow of vitreous/ water combo	Expected to increase with increasing cut rate	Expected to decrease with increasing cut rate



*Engineering study: compared to conventional single-port cutters.

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See better. Live better.

VITREOUS SHAVING NEAR MOBILE RETINA

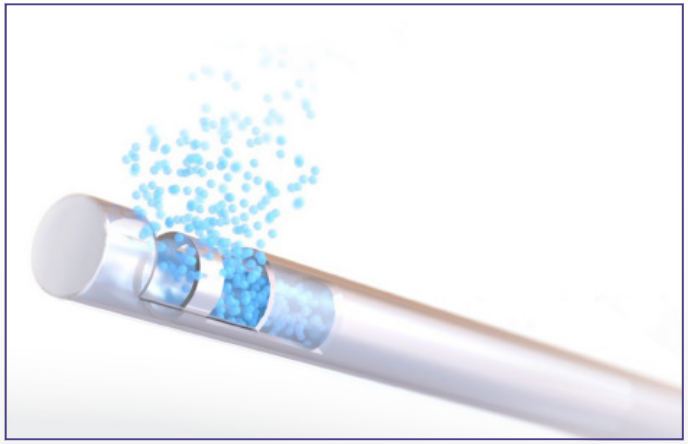
DESIGNED FOR STABILITY AND MADE FOR CONFIDENCE

Bi-Blade® Technology:

- Enhances flow stability and control due to the constant flow created by a 100% open duty cycle[6]
- High cut rate and consistent flow for reduced retinal traction while cutting[5]

Conventional Guillotine Vitrectors:

- Complete port closure can result in flow instability and retinal traction[7]



REMOVAL OF INTRAOCULAR TISSUES & DISSECTIONS

27G BI-BLADE® VITRECTOMY CUTTER FOR EFFECTIVE AND EFFICIENT DISSECTIONS

- **Precision and control:** navigate tight surgical planes with 27g Bi-Blade®
- **Multi-purpose:** reduces the need for additional tools, such as scissors, for dissection
- **Advanced design:** sufficient stiffness to facilitate complex intraocular maneuvers

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BE ENLIGHTENED

ADVANCED ILLUMINATION

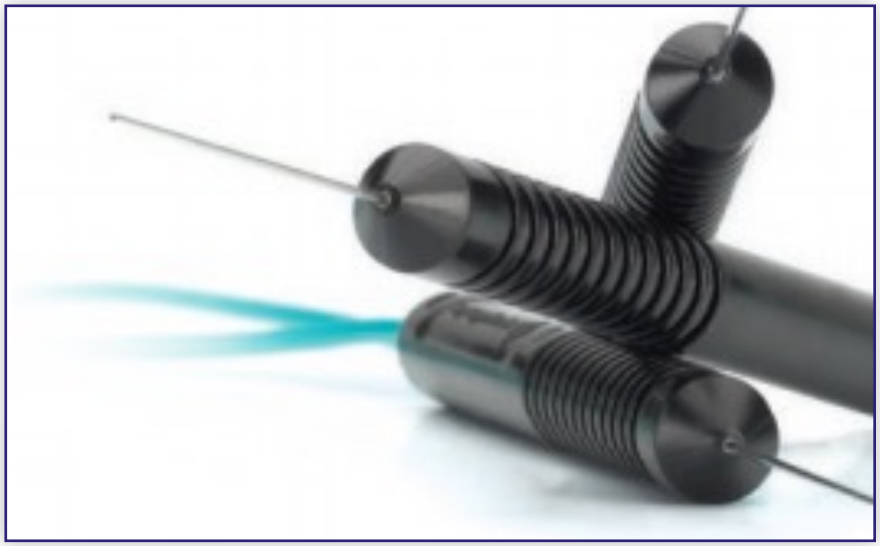
Stellaris Elite™ offers a dedicated combination of light source, fibre optics, and light filtering technologies. Collectively, they enable advanced visualisation, differentiated viewing options, and exacting surgical control.

TABLE OF CONTENTS

Advanced Illumination
Chandeliers
Differentiated Viewing

ADVANCED ILLUMINATION

- Bright xenon light was designed specifically for small-gauge vitrectomy
- Supports fibre optic add-ons as small as 29g
- Numerous specialised illumination options:
  - Chandeliers and illuminated infusion chandeliers
  - Illuminated laser probes
  - Illuminated bipolar cautery
- Supports both mid-field and widefield light pipe illumination options in Stellaris Elite™ packs.



ILLUMINATION PATTERNS

MID-FIELD ILLUMINATION PATTERN

WIDEFIELD ILLUMINATION PATTERN

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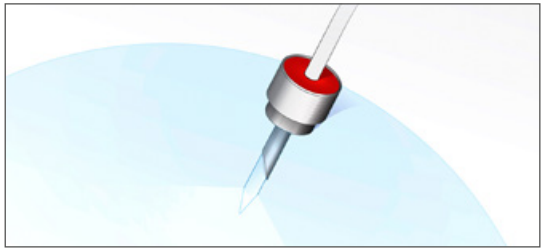
CHANDELIERS

Stellaris Elite™ is compatible with a portfolio of chandeliers that deliver optimised illumination and precise control based on procedure type, patient anatomy, and surgeon technique

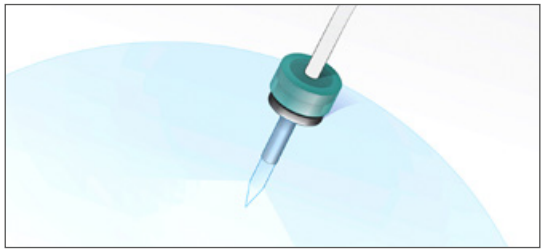
Adjustable Depth Options

Precise control of the fibre depth enables ideal illumination based on procedure type



Oshima Vivid

Low profile 27g design and precise control of the fibre enables customised illumination based on procedure type

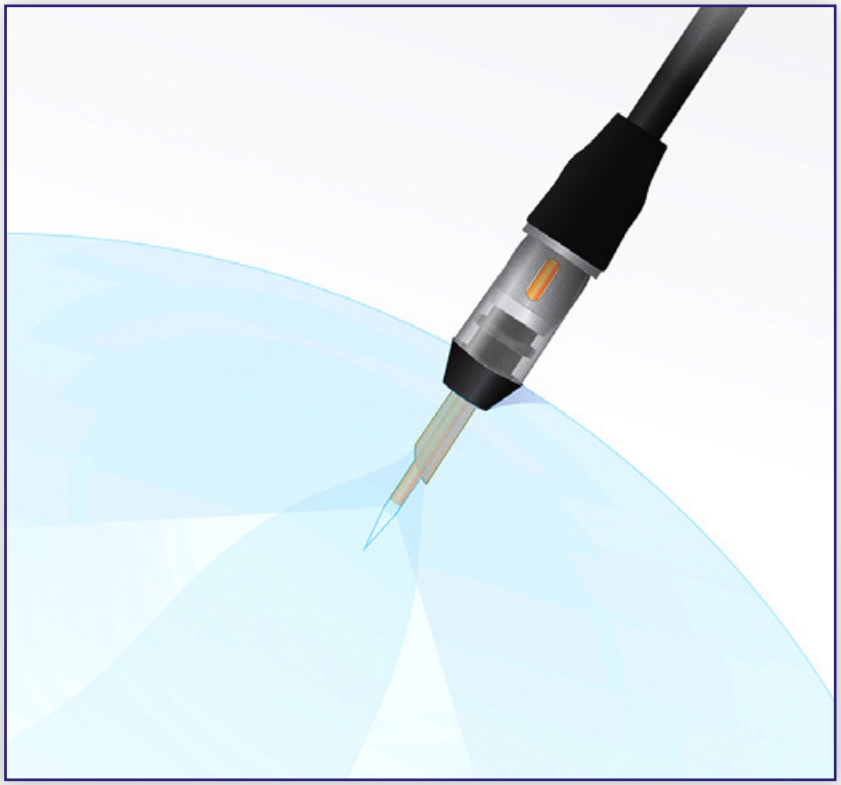


Oshima Dual

Greatly reduces shadowing with two ultra low profile fibres

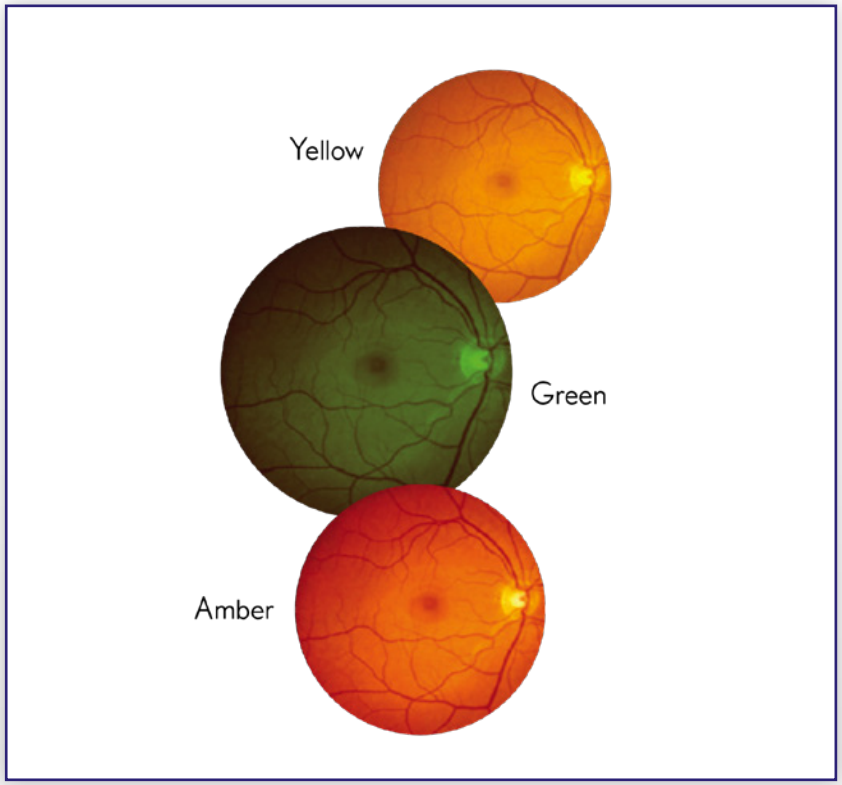
ILLUMINATED INFUSION CHANDELIERS

- Designed to provide optimal chandelier illumination without creating a fourth sclerotomy in the eye during surgery
- Can be beneficial for all cases where chandelier illumination may be needed



DIFFERENTIATED VIEWING

- Proprietary colour filters deliver distinct advantages over systems without filters:
  - Yellow
  - Green
  - Amber
- Filters may be used as an augmentation or an alternative to intraoperative dyes



BE CURIOUS

UNIQUE SURGICAL ACCESSORY SOLUTIONS

Stellaris Elite™ offers a wide range of vitreoretinal accessories and instruments to meet unique surgical needs.

TABLE OF CONTENTS

Directional Laser Probes
Universal Viscous Fluid Control Pack
Instruments & Accessories
Direct Contact VR Lenses
Perfluorocarbon Liquids & Silicone Oils

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DIRECTIONAL AND ILLUMINATED DIRECTIONAL LASER PROBES

EXPANDED ACCESS

- A comprehensive portfolio of directional laser probes enables advanced access and surgical efficiency:
  - Enters the eye in the straight position for ease of insertion
  - Laser shaft retracts so the laser fibre does not move towards the retina
  - Laser can fire when fibre is straight up to a 90 degrees curve
- Illuminated directional laser probes can fire the laser when the fibre is straight up to a 45 degrees curve and offers a mid-field illumination pattern:
  - Provides access to the far periphery
  - Combining illumination and laser in a single probe enables unassisted scleral depression

UNIVERSAL VISCOUS FLUID CONTROL PACK

UNIQUE SOLUTIONS

High Flow Silicone Oil Injection and Removal:

- High flow injection cannulas increase flow up to 209% for 23g and 359% for 25g*[8]
- High flow extraction cannula seats over the hub of the instrument cannula

*Engineering study: compared to standard injection cannulas

INSTRUMENTS AND ACCESSORIES

UNIQUE SOLUTIONS

Diamond Dusted
Membrane Scrapers (Tanos)
for initiating membrane peeling

Pinnacle 360™
Instruments with
unique tip designs

Hubbard Visco Dissector
for delaminating large
membranes from the retina

0.75mm Soft
Tip Cannulas
(overall 34.5mm)

De Juan
Subretinal Injection
Cannula

DIRECT CONTACT VR LENSES

UNIQUE SOLUTIONS

Flat

VFD10
- Field of view: 36°
- Image magnification: 1.00x

Bi-Concave

VBCD10
- Field of view: 25°
- Image magnification: 0.80x

Magnifying

VMD10
- Field of view: 30°
- Image magnification: 1.50x

Widefield

VWFD10
- Field of view: 48°
- Image magnification: 0.50x

30° Prism

V30PD10
- Field of view: 33° (offset 30°)
- Image magnification: 1.00x

Flat, SSV

VFLATSSVD10
- Field of view: 30°
- Image magnification: 0.92x

Bio Lenses

V20LCD
V28LCD

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PERFLUORCARBON LIQUIDS AND SILICONE OILS

UNIQUE SOLUTIONS

DK-Line® 5ml
DK-Line® 7ml

Okta-Line® 5ml

Oxane® 1300, 10ml Syringe
Oxane® 5700, 10ml Syringe

Oxane® HD, 10ml Syringe

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Stellaris Elite™
Vision Enhancement System

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