Technical specifications

Laser type	Diode Pumped Solid State Laser (DPSSL)
Pulse duration	~ 500fs typically
Wavelength	~ 1 µm
Pulse frequency	40 or 80 kHz depending on the procedure
Supply	230 VAC ~ 50Hz/60Hz
Power consumption	Max. 16A (max. 3kVA)
Size	Width: 850 mm (33.46 inches) Length: 1270 mm (50 inches) Height: 1300 mm (51.2 inches)
Weight	Approx. 700 kg
System Components	Main unit Patient bed included Sterile Patient Interface Kit
Microscope	Integrated microscope with motorized magnification selection for full visual control in all procedural steps.
Safety	Computer controlled suction for Patient Interface and suction ring as well as many other safety features.
Room conditions	Temperature maintained between 19°-23°C / 66.2° -73.4°F Humidity controlled and maintained between 30% and 60%, not condensing
Room dimensions	TECHNOLAS 520F: Length 3400 mm Width 3700 mm TECHNOLAS LASER SUITE 737R: Length 3500 mm Width 4000 mm (3000 mm + 1000 mm walkway)
CUSTOMFLAP™	LASIK Flap
CUSTOMSHAPE®	Penetrating Keratoplasty (**PKP**) Lamellar Keratoplasty (**LKP**) Femtosecond Laser assisted Endothelial Keratoplasty (**FLEK**) Tunnels for Intrastromal Ring Segments **(ICRS**) Arcuate cuts for Astigmatic Keratotomy (**AK**)
INTRACOR®	Presbyopia intrastromal treatment

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TECHNOLAS™ PERFECT VISION

TECHNOLAS® Femtosecond Workstation 520F

Versatility at its best

TECHNOLAS™ PERFECT VISION

TECHNOLAS Femtosecond Workstation 520F

Versatility at its best

All femto indications

The TECHNOLAS 520F is a highly versatile system used for treating a broad variety of indications. All the procedures are performed in a personalized way through the software modules CUSTOMFLAP™, CUSTOMSHAPE® and INTRACOR®.

> Versatile tool – all femto applications available

> INTRACOR, CUSTOMFLAP and CUSTOMSHAPE software modules

> Natural eye fixation with the Curved Patient Interface

> Maximum performance

> Purely intrastromal, flapless, presbyopia treatment

> Altogether, femtosecond technology at its best

Unique features

INTRACOR is the most advanced procedure to efficiently treat presbyopia. It is unique to the TECHNOLAS 520F. The 520F represents the femtosecond technology at its best thanks to its Curved Patient Interface approach and the personalized treatment modules.

> 80 kHz laser head for improved Lasik flap

> Single-use, sterile, anatomically Curved Patient Interface

> Easy selection of preferred settings

> New ergonomic design

Versatile, safe, predictable

The TECHNOLAS 520F equals control, safety and predictability. The main components of the TECHNOLAS 520F are:

> High frequency femtosecond laser source

> LCD monitor and keyboard for data input

> Integrated video camera to provide live-image and recording option

> Uninterruptible Power Supply (UPS) integrated into laser device

> New Patient bed

The smart combination

Combining TECHNOLAS's femtosecond and excimer workstations is the most efficient, ergonomic, effective and smartest way to increase your refractive business:

> Ergonomic platform

> Efficient surgery

> Widest range of refractive patients

> All-laser innovative approaches for treating presbyopia

> The ultimate technology for increasing the refractive business of your practice

TECHNOLAS Femtosecond Workstation 520F

TECHNOLAS LASER SUITE 737R
TECHNOLAS 520F and TECHNOLAS 217P

The TECHNOLAS 520F Curved Patient Interface

The key difference

Improving surgery

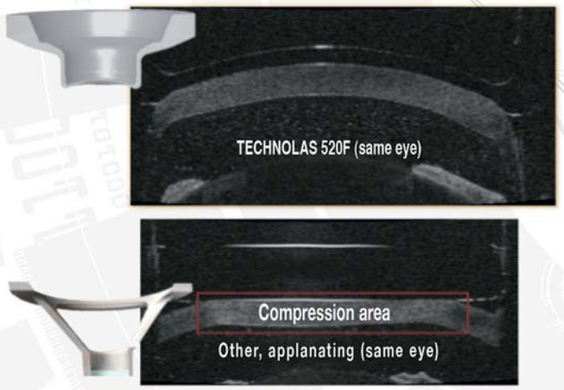
The TECHNOLAS 520F's Curved Patient Interface approach does not applanate the cornea.

During preparation of the flap bed, the laser beam's trajectory is also curved, which means that it is aligned with the stromal lamellae.
The TECHNOLAS 520F's Patient Interface is attached to the system via vacuum, which is under permanent computer control.

The TECHNOLAS 520F Curved Patient Interface approach makes all the difference.

Precise 3D cutting

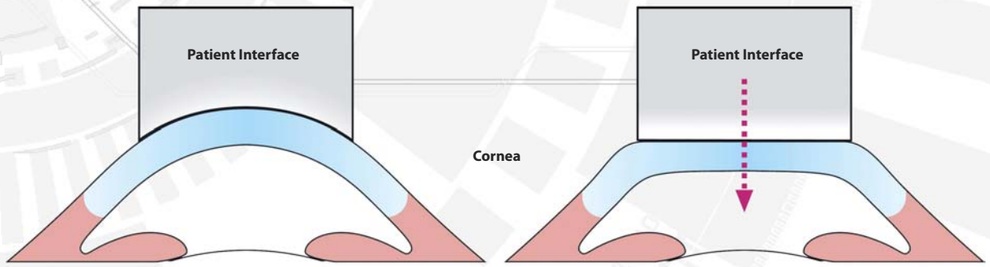
- Patient Interface Kit consisting of the Patient Interface and a suction ring clip
- The Curved Patient Interface allows for high surface quality
- The clip has a flexible and soft silicone lip which adapts comfortably to the eye
- No flattening of the cornea
- Truly curved cuts, full control-suction is permanently computer controlled
- Improved patient comfort by reducing suction applied on the eye



The unique curved interface keeps corneal deformation to a minimum which allows for precise 3D cutting

Less suction, less stress

The TECHNOLAS 520F's Curved Patient Interface does not applanate the cornea, thus adapting to its natural curvature.
This ergonomic approach requires less suction, which produces less stress on the cornea.
This gentle approach allows for a precise and accurate cut and a fast recovery.
The Curved Patient Interface makes all the difference.



TECHNOLAS® femtosecond laser with Curved Patient Interface

Other femtosecond laser with ordinary patient interface

INTRACOR®

True intrastromal treatment for Presbyopia

The aging baby boomer generation is resulting in an increase in the number of presbyopic patients. Technolas Perfect Vision has the perfect solution to meet this growing challenge by pioneering a revolutionary approach to treat presbyopia: the INTRACOR treatment.

INTRACOR will be one of the most important contributors in the expansion of the refractive surgery business.

INTRACOR is the only flapless, purely intrastromal procedure to treat presbyopia by reshaping the cornea. This is achieved while maintaining the integrity of the corneal surface. The INTRACOR procedure can also provide a minimally invasive technique for hyperopia. Vision correction is now possible in the least invasive way imaginable.

INTRACOR is unique to the TECHNOLAS® Femtosecond Workstation 520F.

a unique treatment

for unique doctors

Increase your Patient Volume

"25% of slightly ametropic patients could be treated now"
D. A. Lebuisson MD, Clinique de la Vision, Paris, **France**

- **Fast**
- **Effective**
- **Safe**
- **Minimally invasive**
- **Short treatment times**
- **Fast corneal recovery**

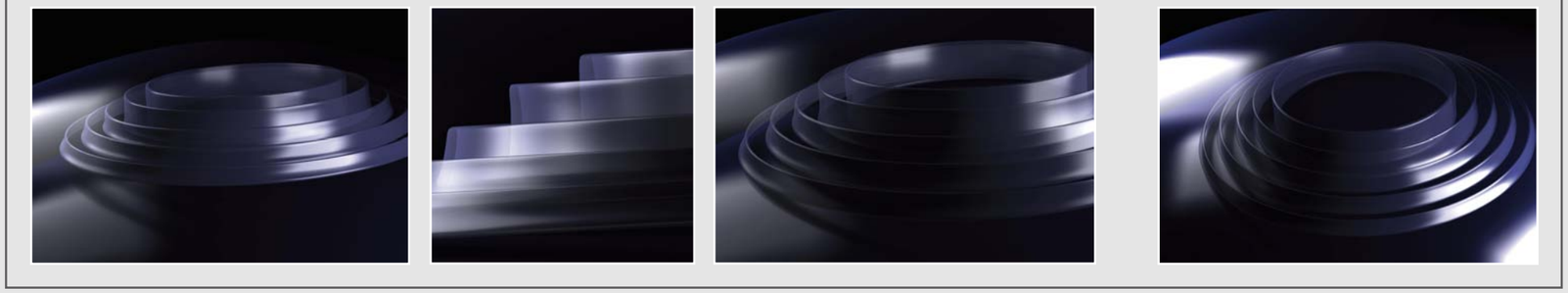
"In patients with the requisite pre-operative refractive status and ocular health, INTRACOR appears to be a more promising and superior presbyopic treatment option compared to other presbyopic methodologies. The post-operative regime was more straightforward and far simpler than any procedure that requires creation of a corneal flap"
Vincent Lee, MD
Hong Kong Laser Eye Centre,
Hong Kong

"After many years of treating presbyopic patients in my practice, I find that INTRACOR is by far the safest and most effective option available."
Luis Ruiz, MD
Centro Oftalmológico Colombiano, Bogotá, **Colombia**

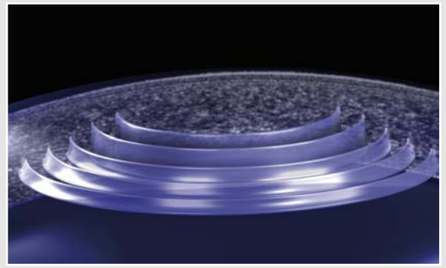
"I am extremely impressed by the INTRACOR technique, the latest technique for correcting presbyopia in the cornea."
Stephen Slade, MD, Houston, Texas, **USA**

"INTRACOR is fast, effective, and maintains the integrity of the corneal surface."
Mike Holzer, MD,
University of Heidelberg,
Germany

"INTRACOR is the latest advance in medical technology that will significantly help us to reach a definitive solution for presbyopia"
Federico Alonso, MD
Clínica Tecnoláser Santa Justa, Sevilla, **Spain**



3D schematic of INTRACOR microscopic concentric ring patterns (Courtesy of T. Guedj, A. Danan, D.A. Lebuisson)



INTRACOR

The quality of life presbyopes are looking for

Technolas Perfect Vision's INTRACOR procedure is a unique treatment for the growing presbyopic patient group that can help you expand your refractive business. With INTRACOR you can provide your patients with the quality of life they are looking for.

Proven results

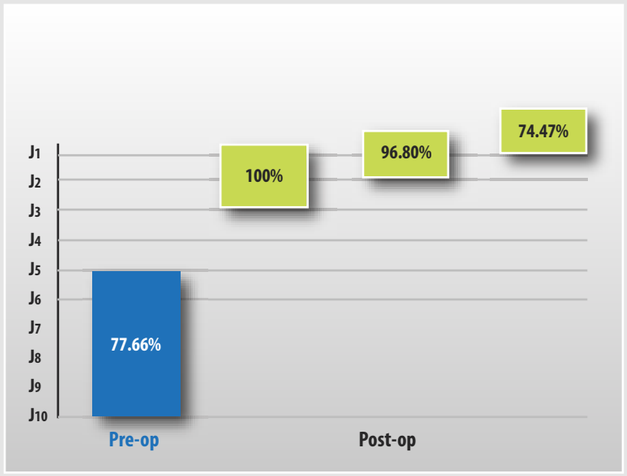
The global results obtained so far show high patient satisfaction. Visual recovery normally occurs after the first day. Most patients are able to see within 4 hours post-op and many of them get rid of spectacles for all 'daily life activities'

Patients typically have a significant improvement of uncorrected near visual acuity (UCNVA) and studies show 92.60% having a simultaneous UCVA distance/near of 20/25 or better and J3 or better.
Dr Luis Ruiz reported the following 24 month follow-up results at the ASCRS 2010:
Pre-op: 77.66% UCNVA J5 or worse
Post-op (24m): 100% UCNVA J3 or better

a unique treatment

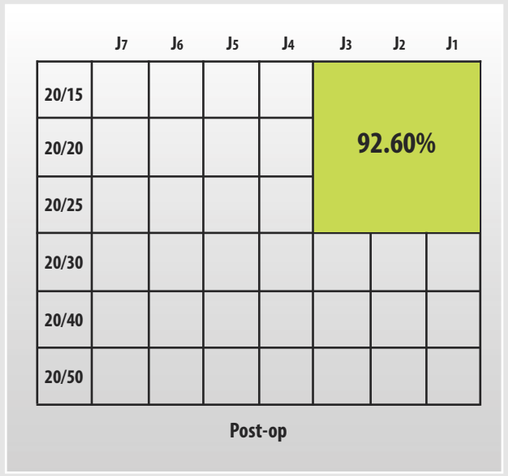
for unique people

INTRACOR for Presbyopia
UCNVA



94 eyes, 2 years post-op (Ruiz, ASCRS 2010)

INTRACOR for Presbyopia
Simultaneous UCVA Distance/Near



94 eyes, 2 years post-op (Ruiz, ASCRS 2010)

INTRACOR

Communication and marketing support

Like all new treatments, INTRACOR needs to be properly explained to patients so they can understand what to expect. This will result in maximum levels of patient satisfaction. Good communication and adequate marketing materials will reinforce INTRACOR positioning in your practice and and will help you to increase your business.

Technolas Perfect Vision has developed a comprehensive INTRACOR communication and marketing kit that is available for all of our TECHNOLAS 520F customers.

In addition, a user friendly, patient website has been developed to educate patients about INTRACOR and direct them to the nearest certified clinic providing the INTRACOR treatment - **www.INTRACOR.net**

INTRACOR communication and marketing material

TECHNOLAS 520F Features

Versatile advanced femtosecond laser technology

Software modules

INTRACOR™ MODULE

Minimally invasive technique for the treatment of:

> Presbyopia
> Hyperopic presbyopes

CUSTOMSHAPE® MODULES

Femtosecond Laser assisted Endothelial Keratoplasty (**FLEK**)
Endothelial tissue can easily be removed and replaced by the donor button, which is itself also created with the TECHNOLAS Femtosecond Workstation 520F. This leads to precise shapes, predictable outcomes and reduces manipulation of the cornea.

Tunnels for Intrastromal Ring Segments **(ICRS)**
The Patient Interface acts like a hard contact lens, allowing the tunnel to be prepared at a consistent depth using the pre-programmed diameter.

> Suitable for all types of Intracorneal Rings
> Selectable number of incisions
> Provides full visualization of the entire procedure
> Saves significant procedural time

Arcuate cuts for Astigmatic Keratotomy (**AK**)
For the treatment of natural cylinder or the reduction of residual astigmatism after keratoplasty.

> Full control over cutting depth, diameter, and arc length
> Incisions are performed with previously unavailable accuracy exactly as you specify them
> Both arcs are separately programmable

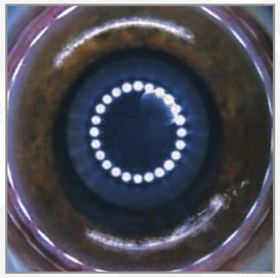
To treat corneal astigmatism, generates arcuate cuts.
Cutting technique single or double cut.

INTRACOR

FLEK

ICRS

AK



"The TECHNOLAS 520F has the dual function of presbyopia treatment and flap making, which is definitely a superior capability over other systems. In my experience with flap making, the overall results using the TECHNOLAS 520F are comparable with INTRALASE"
Daewoo Cha, M.D.,Ph.D, Hanbit Eye Clinic, Korea.

CUSTOMSHAPE® MODULES

Penetrating and Lamellar Keratoplasty (**PKP/LKP**)
With our CUSTOMSHAPE penetrating and lamellar keratoplasty software modules, we set standards for keratoplastic surgery.
PKP - Allows surgeons to perform a Penetrating Keratoplasty for both donor and host cornea.
LKP - To perform anterior Lamellar Keratoplasty.

> Variable depths can be selected
> Variable diameters can be selected
> Choice of rim geometries, which allows for an even better wound closure, e.g. Top-Hat, etc.

> FLAM (Femto Laser Assisted Marking) for precise orientation and improved fixation of the graft
> NEW - We also provide the option to add orientation notches, or to select a polygonal shape for better fit and fixation

Crosslinking (**CXL**) is a surgical technique which creates a bed cut and incisions for inserting riboflavin.

> Treatment time, pain and corneal scar occurrences are reduced compared to conventional method of removing epithelium
> Parameters can be customized e.g. depth, position and no. of incisions

PKP/LKP

CXL

CUSTOMFLAP™ MODULE

Provides **LASIK Flap** cuts. Easy, predictable and customizable LASIK Flap thanks to the new 80kHz laser head.

> Shorter treatment times
> Variable diameter
> Smoother stromal bed
> Selectable flap thickness
> Geometry of angle of incision option

LASIK Flap