

Фемтосекундные лазеры VisuMax, VisuMax 800, эксимерные лазеры MEL 90

Технические характеристики

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VisuMax from ZEISS

Defining the pulse rate in refractive surgery



Seeing beyond

Accelerating the pulse rate of your practice.

ZEISS VisuMax



// PRECISION
MADE BY ZEISS

Remarkable precision and detail

Defining new trends in modern corneal surgery

As a ground-breaking, high-performance femtosecond laser system, the VisuMax® from ZEISS is significantly shaping the world of refractive surgery. With its cutting precision, exceptional speed and gentle treatment approach, as demonstrated in multiple published studies it is the ideal platform for cutting-edge corneal surgery applications, including Flaps, Keratoplasty, Incisions for ICR and Lenticule Extraction with SMILE® from ZEISS.

SMILE is redefining refractive surgery as we know it. ZEISS is at the forefront of this minimally invasive Laser Vision Correction.

The combination of the VisuMax and the MEL® 90* excimer laser from ZEISS addresses wide-ranging needs of the modern refractive surgical practice. In fact, it is the first refractive platform to perform all options of laser vision correction: PRK/LASEK (surface ablation surgery), Femto-LASIK/LASIK (flap surgery) as well as Small Incision Lenticule Extraction (minimally invasive surgery).

The result is a refractive platform that merges proven corneal surgical techniques with remarkable details as the basis for excellent, highly individualized treatment processes.

ZEISS VisuMax

Precision in all its facets

The VisuMax® is a truly innovative femtosecond laser system. With its perfectly coordinated components, it has precise cutting capabilities as well as proven efficacy, predictability and comfort.

Lenticule Extraction

The VisuMax is the first femtosecond laser system to perform the minimally invasive, Lenticule Extraction procedure. With SMILE® from ZEISS, a refractive lenticule as well as the incision through which it is extracted are created in a single step – without ablation or flap. Despite its proven predictability, a retreatment may be necessary in rare cases. If so, the initial incision created with SMILE can be extended into a flap with the option CIRCLE* from ZEISS.

Flap

The VisuMax creates flaps of a highly predictable thickness and of adjustable geometries for Femto-LASIK and options based on it, such as PRESBYOND®, a binocular planning tool for patients with presbyopia.

Keratoplasty

With the Keratoplasty option, the VisuMax covers several corneal transplant procedures, including lamellar and penetrating keratoplasty. High-precision cutting quality and rapid incision speed enable the efficient preparation of precision corneal grafts and recipient corneas.

Incision for ICR

The femtosecond laser technology of the VisuMax is also ideally suited for creating incisions in preparation of intracorneal ring (ICR) implantations. When defining tunnel parameters, it even performs inclined cutting geometries and ring tunnel segments smaller than 360° with a high degree of flexibility.

ZEISS VisuMax highlights

The building blocks of state-of-the-art femtosecond technology



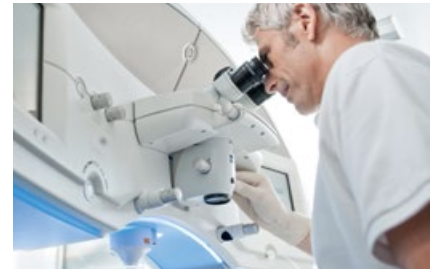
A contact glass designed for the cornea

Like the surface of the human cornea, VisuMax contact glasses are curved. Available in three different sizes (S, M, L), they are optimally designed to fit the anatomy of the eye. As a result, the cornea largely retains its natural physiological shape. Artifacts are avoided in the cutting result, as is unnecessarily high IOP for the patient.



Proven cutting precision

High-precision ZEISS optics provide an extremely focused laser beam. The result: the well aligned system of laser pulse energy and high pulse frequency leads to accurate incisions - at precisely the desired depth of the cornea, with three-dimensional, curved incisions.



Brilliant visual control

The integrated high-quality ZEISS surgical microscope ensures precise and complete visual control during every manual surgical manipulation. It includes a digital video camera for recording surgical procedures right on the spot.



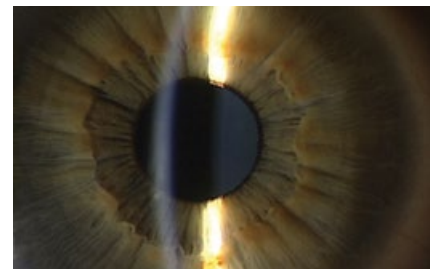
A smart unit

The sturdy, ergonomic pivoting patient supporting system is designed to provide maximum comfort during the treatment. It continuously monitors the patient's position, automatically making needed adjustments. ZEISS VisuMax also incorporates an easy-to-use, interactive touchscreen and intuitive software to assist the surgeon at every step throughout the procedure.



Efficiency that pays off

With a pulse frequency of 500 kHz, the ZEISS VisuMax enables short treatment times, making procedures more comfortable for both physicians and patients. The result is an efficient workflow and a higher throughput of satisfied patients.



Reassurance right on the spot

As a universal workstation for corneal surgery, the system features integrated slit illumination to monitor treatments and immediately control results - without the patient needing to be moved.

ZEISS SMILE

Minimally invasive surgery

SMILE® from ZEISS is turning the world of refractive surgery on its head. The latest application is described as “LASIK without a flap and PRK without pain.”¹ And ZEISS is leading the way – with SMILE for Lenticule Extraction.

Flapless

The ZEISS VisuMax® is the first femtosecond laser system to support this unique minimally invasive laser vision correction procedure. Thereby, a highly precise, precalculated lenticule is created inside the intact cornea and removed via a small incision.

Minimally invasive

Requiring no flap, SMILE offers the potential for fewer transected nerves, significantly reduced incidence of transient dry eye syndrome, and a lower risk of infection and epithelial ingrowth. Smaller incisions also improve epithelium healing.

Seamless

The lenticule creation and extraction are performed without interruption. Also, the patient doesn't need to be moved. That's why SMILE offers a fast, seamless treatment.

Excellent outcomes

Advanced laser vision correction with SMILE promotes more efficient workflows, short treatment times and little stress for patients – as well as excellent outcomes with high predictability, including for higher refraction values.

Highlights of SMILE and the corresponding method

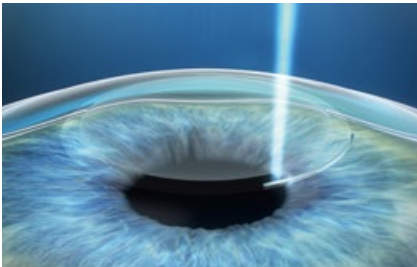
- Small incision of 2-4 mm
- Side-cut length up to 80 % shorter and cap incision area up to 30 % smaller than Femto-LASIK flap
- Potentially lower incidence of transient dry eye syndrome and less nerve transection thanks to smallest incisions without flaps
- Less risk of infections and epithelial ingrowth
- Good reproducibility of the lenticule, irrespective of individual corneal characteristics and ambient conditions
- Excellent predictability, particularly for higher refraction values
- Efficient treatment process without patient having to switch places

¹ Rupal Shah, MD, Institute of Laser Medicine, Mumbai, India



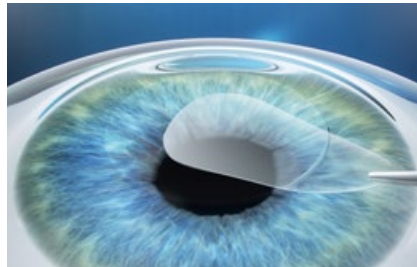
Refractive correction with ZEISS SMILE

Three treatment steps



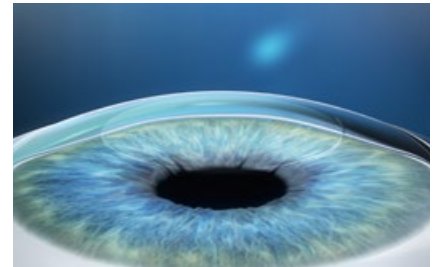
Lenticule creation

A small piece of corneal tissue (lenticule) and a small incision are created inside the intact cornea.



Lenticule removal

The lenticule is removed through the incision with minimal disruption to the corneal biomechanics.



Impairment is corrected

Removing the lenticule changes the shape of the cornea, thereby achieving a vision correction.

High-precision flaps, grafts and incisions

And a new level of Femto-LASIK workflow efficiency

For treatments such as conventional Femto-LASIK including PRESBYOND® Laser Blended Vision, the VisuMax® delivers highly precise flaps. Together with the MEL® 90 excimer laser and the CRS-Master®* treatment planning station, ZEISS provides an optimal combination for efficient workflows and excellent results.



Cut right with ZEISS VisuMax

- High-precision flaps
- High reproducibility and flap thickness consistency
- Easy flap repositioning
- Smooth stromal bed surfaces
- Proven workflow
- Prevents unnecessarily raised IOP

Pivoting patient supporting system

Move patients comfortably and quickly from the femtosecond to the excimer laser with the pivoting patient supporting system.

MEL 90 excimer excellence

Precise, efficient, safe and fast – the ZEISS MEL 90 excimer laser is a true workhorse for performing a broad range of corneal surgical procedures. The MEL 90 is combining your experience with modern advancements like the FLEXIQUENCE® switch function and outstanding intraoperative ablation speed of up to 1.3 seconds per diopter**.

CRS-Master for individual treatments

The ZEISS CRS-Master is an advanced treatment planning tool for the remote planning of regular and customized topography-guided treatments. PRESBYOND Laser Blended Vision, a treatment option for presbyopic patients, is another key application of the CRS-Master.

** LASIK, myopia, 500 Hz, OZ: 6 mm

Customized corneal grafts for keratoplasty

With the Keratoplasty option, the ZEISS VisuMax becomes a state-of-the-art workstation for customized corneal grafts, enabling smooth lamellar and circular incisions for Penetrating Keratoplasty (PKP), Deep Anterior Lamellar Keratoplasty (DALK) and Descemet's Stripping Endothelial Keratoplasty (DSEK).



The practical Keratoplasty adapter provides a robust and sterile work surface for preparing corneal grafts



Specially designed curved contact glass (type KP) prevents unnecessary compression of the corneal tissue

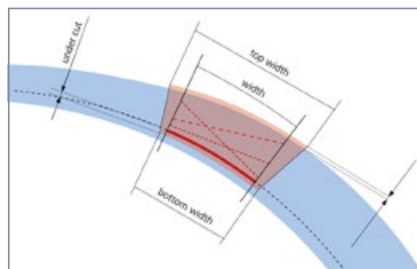


Separation of the cut lamellae from the recipient cornea as viewed through the VisuMax surgical microscope

Flexible access for ICR incisions

Equipped with the Incision for ICR option, the ZEISS VisuMax offers unique advantages for intracorneal ring (ICR) implantations. Even inclined cutting geometries and partial segments from 90° to 270° are possible. Corneal tunnels are prepared quickly, precisely and with a high degree of flexibility.

- Easy-to-understand ICR user interface
- Rapid, intuitive entry of treatment parameters
- Stored user-defined cutting geometries for improved workflow



Freely variable cutting parameters, even for incisions parallel to the posterior corneal surface

***MEL 90, CRS-Master, PRESBYOND and CIRCLE are not approved for sale in the United States.**



Technical data

VisuMax from ZEISS

System components	Patient supporting system, including platform	
	Integrated uninterruptible power supply (UPS)	
	Surgical microscope with additional slit illumination	
	Video camera with integrated digital recording	
Laser parameters	Wavelength	1043 nm
	Pulse duration	220-580 fs
	Laser pulse rate	500 kHz

Installation and set-up conditions

Weight	870 kg (including patient supporting system, platform, UPS)	
Footprint standalone	L x W: 3.80 m x 4.40 m	
Footprint MEL® 90 with VisuMax® 90°	L x W: 3.92 m x 3.94 m	
Footprint MEL 90 with VisuMax 180°	L x W: 4.50 m x 3.79 m	
Electrical connection	100-240 V, 50/60 Hz, max. 16 A Separately fused circuit	

Operating conditions

Room temperature	18 to 25 °C
Atmospheric humidity	30 to 70 %
Accessories	Single-use contact glasses Treatment Pack (sizes S/M/L and type KP) Keratoplasty adapter for patient supporting system



Take the lead.

Feel the speed.



ZEISS VISUMAX 800



Seeing beyond

Fast performance.

Gain confidence in your workflow.

VISUMAX® 800 from ZEISS offers reduced laser time in comparison to its predecessors, faster cut speeds, and intelligent assistant systems that help you enhancing control during your procedures.

Increased laser frequency for faster cut speeds.

The improved laser pulse repetition rate of 2 MHz, combined with a high-performance laser scanning system, makes it possible to create a lenticule in less than 10 seconds¹ with ZEISS SMILE pro and a flap in around 5 seconds².

Shorter suction time and reduced stress.

With a faster laser speed, a shorter suction time is expected, which can increase your peace of mind and reduce stress for you and your patients during the treatment.

“The biggest advantage, I think, is the laser time – 10 seconds¹. It’s unbelievable. For us, the surgeons, and also for the patients. By the time I start talking, it’s done. Brilliant.”

Rainer Wiltfang, MD, Smile Eyes Augenlinik,
Munich Airport, Munich, Germany

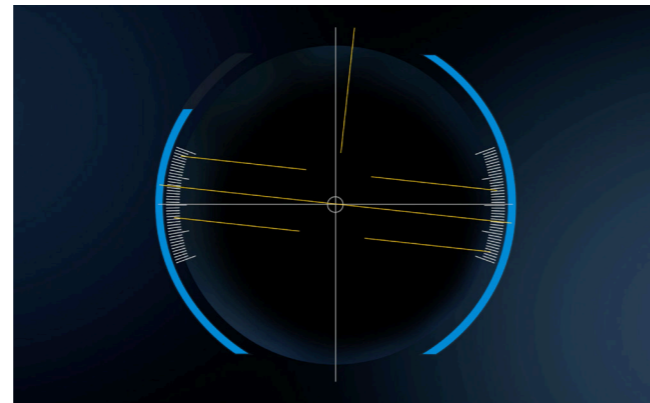
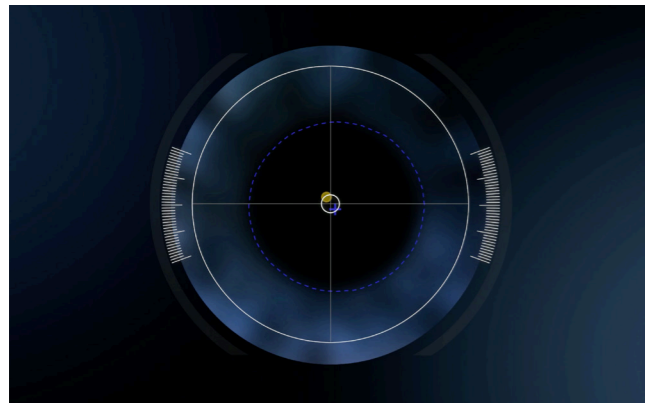
¹ Data on file, myopia with optical zone ≤ 6.5 mm, track spacing $4.5 \mu\text{m}$, spot spacing $2 \mu\text{m}$

² Data on file, flap diameter ≤ 8.0 mm, spot distance $4.5 \mu\text{m}$, track distance $2.0 \mu\text{m}$.

Intelligent assistant systems.

Enhance control during your procedures.

With ZEISS VISUMAX 800 you also benefit from a smart and computer-assisted cyclotorsion and centration aid, which can bring more precision and control to your procedures. In every way, the device has been designed to deliver state-of-the-art performance that adds efficiency and ergonomics.



CentraLign system

for easy centration with little effort.

The CentraLign® assistant system is a computer-controlled function for easy centration. It uses pupil center and vertex position, giving you full control of centration already during the docking phase. There is no need to shift the cutting pattern after docking.

OcuLign system

for easy cyclotorsion alignment.

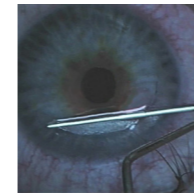
The intuitive OcuLign® pattern rotation system offers a new experience with cyclotorsion alignment. Based on a static iris image from a diagnostic device, OcuLign® automatically recalculates the treatment pattern and suggests a degree of cyclotorsion adjustment.

One laser. Many opportunities. Applications at a glance.



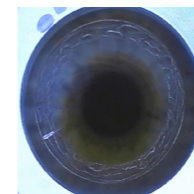
SMILE pro for Lenticule Extraction.

With SMILE® pro from ZEISS, you can offer lenticule extraction to eligible patients with myopia, hyperopia and astigmatism. In this procedure, a lenticule is created inside the cornea. Through a small incision, this lenticule is then removed to achieve the desired vision correction.



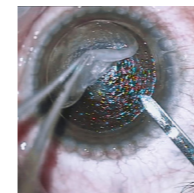
Flap cut for Femto-LASIK.

For treatments such as Femto-LASIK, the ZEISS VISUMAX 800 enables highly precise and fast flap creation. You can use your own flap configuration, with adjustable flap diameter, thickness, hinge position, and side cut angle. Thanks to the high cutting precision and optimized parameter settings, the flap lift is easy to perform.



Tunnel incisions for ICR.

The ZEISS VISUMAX 800 is also ideally suited to create precise and flexible corneal tunnels for Intracorneal Ring Implantation with different cutting geometries and tunnel segments of 90 to 270°, meeting the implantation requirements for various kinds of ring segments.



Keratoplasty option for corneal transplant.

With the Keratoplasty option, the ZEISS VISUMAX 800 covers several corneal transplant procedures. It enables smooth lamellar and circular incisions for Penetrating Keratoplasty (PKP) and Anterior Lamellar Keratoplasty (ALK). High-precision cutting quality and rapid incision speed allow corneal grafts and recipient corneas to be prepared efficiently.



The practical Keratoplasty adapter provides a robust and sterile work surface for preparing corneal grafts and the specially designed curved contact glass (type KP) prevents unnecessary compression of the corneal tissue.

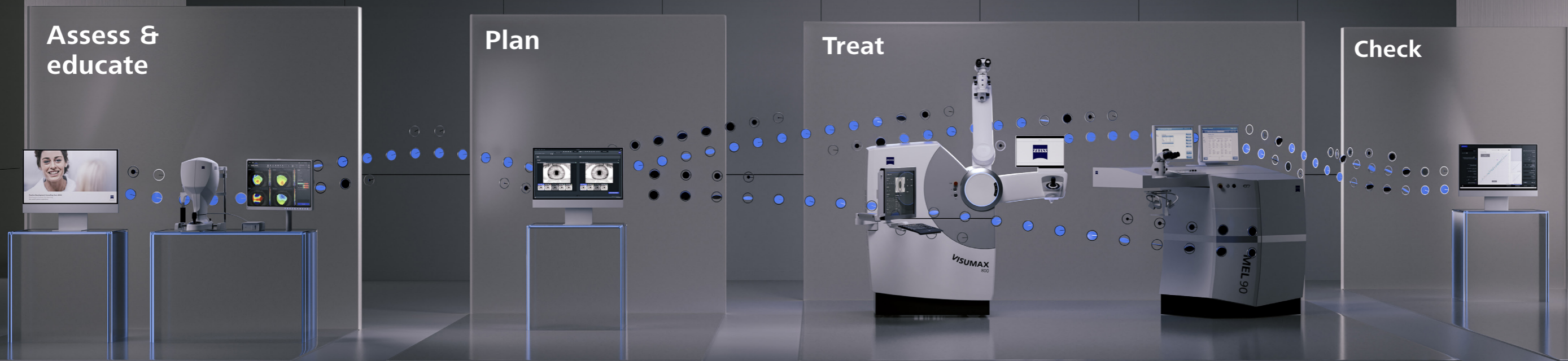
CIRCLE for retreatment.

In rare cases when a retreatment may be necessary, the software option CIRCLE® from ZEISS converts the initial cap created with SMILE or SMILE pro into a flap. The actual retreatment is then performed as a LASIK procedure, e.g. with the ZEISS MEL 90.

Digitally connected workflow.

Take advantage of streamlined data management.

The ZEISS VISUMAX 800 connects seamlessly with different products and solutions from ZEISS. Reliable integration can help you achieve faster procedures and more efficiency in a streamlined workflow while also offering support to reduce sources of error.



ZEISS Patient Communication Materials

Helping you to interact with patients at each step of the patient journey for better understanding of treatment options and expectation management.

ZEISS Practice Development

Our ZEISS Practice Development consultants will provide you with an unbiased evaluation of the patient experience in your clinic and collaborate with you to define improvements tailored to your specific needs.

ZEISS ATLAS 500

A state-of-the-art, multi-modality solution for the anterior eye segment, ATLAS® 500 from ZEISS offers corneal topography. Additionally, the system enables clinicians to carry out dry eye assessments in a single workstation, delivering increased efficiency in a compact design.

ZEISS Refractive Workplace

Refractive Workplace® with connectivity to FORUM® from ZEISS is the treatment planning software for our refractive lasers. It offers comprehensive remote planning outside the OR with the option to align integrated diagnostic data.

ZEISS VISUMAX 800 and MEL 90

The digital connection of the VISUMAX 800 femtosecond laser and MEL 90 excimer laser to FORUM gives you the freedom for easy remote treatment planning via ZEISS Refractive Workplace. The refractive lasers allow you to perform a broad range of laser vision corrections: Lenticule Extraction with ZEISS SMILE pro, Femto-LASIK, PRK/LASEK, and ZEISS PRESBYOND.

ZEISS VISULYZE

The software VISULYZE® from ZEISS provides a clear overview of your clinical results and generates nomograms customized to each user with a simple and intuitive interface. The software collects, stores and statistically analyzes your own clinical data in a standardized way – helping you to examine and verify refractive outcomes.

Comfortable surgical experience. For you and your patients.

Designed with an ergonomic concept optimized for surgeon-patient interaction, the ZEISS VISUMAX 800 helps create a seamless and comfortable experience. Its modern look contributes to an atmosphere of confidence and trust, while the award-winning user interface design makes interaction intuitive and efficient.



Integrated surgical microscope with ZEISS quality optics.

As part of the ZEISS VISUMAX 800, the OPMI surgical microscope contributes to precise visual control during manual surgical manipulation of the cornea.

It offers **five levels of magnification**, **integrated slit illumination** with two different slit widths for quick checks and includes a **digital video camera** for recording surgical procedures.



Easy patient access with comfort and control.

While the patient lies on the patient supporting system, you have full control over the position of the device.

Without the need to move the patient, either the laser arm or OPMI arm can be easily brought into the working position for surgery.



Tracking distances positioning made easy.

Ultrasound sensors assist in actuating the laser arms while **integrated top-view, side-view, and therapy cameras** allow you to ergonomically observe the surgical environment between the device and patient.

Additionally, **height tracking assists suction stability** by tracking the device head relative to the patient's eye during laser treatment.



Highlight your practice with customized laser arm illumination.

Whether you want to **match the device to your clinic's corporate identity** or give patients a choice that provides them a **better visual comfort**, you can choose from eight different illumination colors for the laser arm.



Interact with the device simply and efficiently.

ZEISS VISUMAX 800 features an award-winner user interface design which is intuitive, easy, and helps you and your assistant through every step of the procedure.

Additional accessories for your new evolution femtosecond laser

Operating table BRUMABA Genius Eye Z-STA.

The headrest of the operating table "BRUMABA Genius Eye Z-STA" can be adjusted in three dimensions to account for anatomic specifics of your patients. You can also re-adjust the patient position thanks to the automatic length adjustment of the head shell. Legroom and easy access for the surgeon provide comfortable working ergonomics. The optional Keratoplasty adapter perfectly fits to the operating table.



Surgeon's chair Balance Supreme.

The arm rests of the surgeon's chair "Balance Supreme" can be swivelled forward and backward in addition to the height adjustment and rotation adjustment. Also, back rest as well as height and inclination of the sitting surface can be adjusted for an ergonomic position during the surgery.





Technical Data

Laser type	Femtosecond laser
Available treatment options	Flap, SMILE® pro, CIRCLE®, ICR, Keratoplasty
Digital assistant systems	Centration aid Centralign® Cyclotorsion alignment OcuLign® Import of VISULYZE® user nomograms

Optical data

Maximum laser repetition frequency	2 MHz
Wavelength	1043 nm
Pulse duration	220–580 fs

Surgical microscope

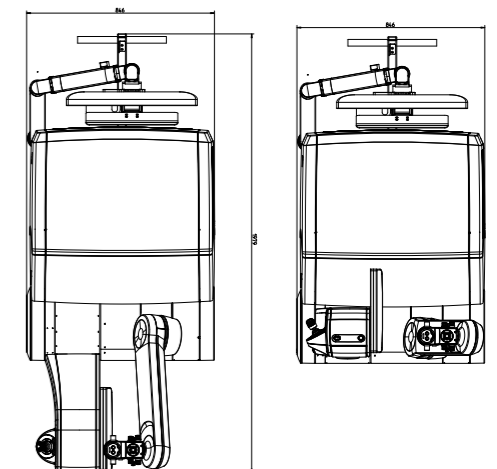
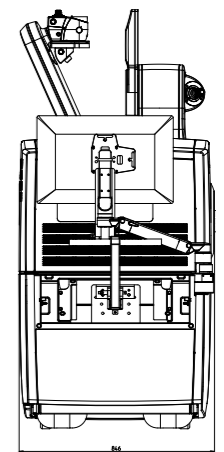
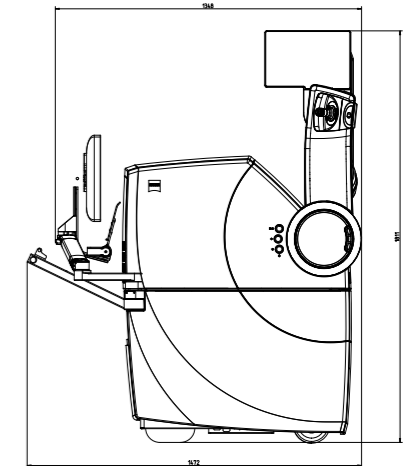
Magnification	0.7x
Factors for magnification change	0.4 / 0.6 / 1.0 / 1.6 / 2.5
Eyepiece magnification	12.5x (10x)
Filters	blue, barrier filter (yellow)
Slit illumination	slit width ≤ 0.3 mm / 0.7 mm slit height 11.0 mm

Ambient conditions for operation

Temperature	+18 °C to +25 °C
Humidity	30 % to 70 %

Measurements

Device mass	520 kg
Minimum floor load	2.5 kN/m ²
Footprint standalone	L × W: 1710 mm × 925 mm



Advanced excimer laser technology



Seeing beyond



ZEISS MEL 90 – the excimer laser combining proven experience and advanced technology to match your preferences, workflow and expectations.

My preferences precisely

The ZEISS MEL® 90 takes your needs and preferred system handling into account.

Applied flexibility – FLEXIQUENCE

The FLEXIQUENCE® switch function¹ lets you choose between 250 Hz and 500 Hz. You can have twice the speed with a simple touch of the finger – enabling you to leverage both proven reliability and new treatment opportunities.

Predictable and gentle – Triple-A

The Triple-A Advanced Ablation Algorithm is an ablation profile for a wide range of sphero-cylindrical (SCA) corrections that simplifies treatment planning. Triple-A is an aspherically optimized design, with a high degree of precision and predictability, and an intelligent energy correction that helps to preserve corneal tissue. All combined into one single ablation algorithm: Triple-A.

Treatment Speed

When performing LASIK for myopia at 500 Hz, MEL 90 ablates as fast as up to 1.3 seconds per 1 diopter². Intuitive system guidance and speedy treatment planning allow for additional time savings.



¹ Not available in the USA
² LASIK Myopia, OZ 6 mm

My workflow precisely

Designed to make your work more convenient, you can adapt the ZEISS MEL 90 to precisely fit your needs and that of your team – allowing you to focus on your overall workflow.

Advanced system guidance

The intuitive Graphical User Interface supports fast treatment procedures. You can flexibly adjust the touch screen and maintain a good ergonomic sitting posture throughout the operation.

Touch screen or keyboard control

You can make entries either per touch screen or keyboard.

Two workstations

Truly exceptional – a second, optional touch screen on the MEL 90 system. Depending on the OR setup, the assistant touch screen can also be placed on a separate table.

Easy calibration

With the proven fluence test, laser calibration is very quick and easy.

Service friendly

The MEL 90 is a highly reliable system requiring very little service maintenance. The unique beam path evacuation eliminates the need for flushing gas.

Seamless data integration

Patient data transfer is very easy thanks to the seamless interaction between the MEL 90 and other refractive platforms from ZEISS, VISUMAX 800® and ZEISS Refractive Workplace. An HD video port, network printer and PDF export capabilities offer additional workflow support.



MEL 90 teamwork

As a true team player, the MEL 90 simplifies the interaction between the surgeon, assistant staff and system technology. When equipped with a second workstation, it can be configured to optimally complement the treatment routine of the OR team.



MEL 90 flexibility

Flexible touch screen positioning and optional keyboard control let you design your workstation just the way you want it.

My expectations precisely

ZEISS MEL® 90 combines high-quality elements and performance to help you optimally fulfill your patients' requirements.

Excellent precision

ZEISS MEL 90 can be precisely tailored to the individual needs of the modern refractive surgical practice. Its preinstalled functions also offer surgeons optimal support for achieving excellent treatment results^{1,2,3}.

High patient comfort

Short treatment duration combined with seamless procedural flow helps to increase patient satisfaction. The comfortable patient supporting system ensures stress-free and stable positioning throughout the entire procedure.

Optimal atmospheric conditions

The unique, sensor controlled CCA+ plume removal system supports optimal atmospheric conditions at the patient's eye throughout the treatment.

Safe eye tracking

The MEL 90 is equipped with an active eye tracker with excellent response time to provide high-level treatment safety and very stable results.



MEL 90 atmosphere

The unique, sensor-controlled CCA+ plume removal system supports optimal atmospheric conditions around the patient's eye – thereby also significantly improving the predictability of the results.

ZEISS MEL 90



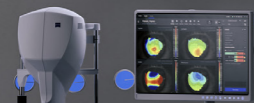
¹ LASIK Myopia, 500Hz, OZ 6mm
² not available in the USA

Digitally connected workflow.

Take advantage of streamlined data management.

The ZEISS MEL 90 connects with different products and solutions from ZEISS. Reliable integration can help you achieve faster procedures and more efficiency in a streamlined workflow while also offering support to reduce sources of error.

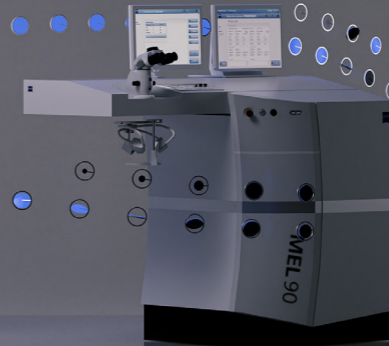
Assess & educate



Plan



Treat



Check



ZEISS Patient Communication Materials

Helping you to interact with patients at each step of the patient journey for better understanding of treatment options and expectation management.

ZEISS Practice Development

Our ZEISS Practice Development consultants will provide you with an unbiased evaluation of the patient experience in your clinic and collaborate with you to define improvements tailored to your specific needs.

ZEISS ATLAS 500

A state-of-the-art, multi-modality solution for the anterior eye segment, ATLAS® 500 from ZEISS offers corneal topography. Additionally, the system enables clinicians to carry out dry eye assessments in a single workstation, delivering increased efficiency in a compact design.

ZEISS Refractive Workplace

Refractive Workplace® with connectivity to FORUM® from ZEISS is the treatment planning software for our refractive lasers. It offers comprehensive remote planning outside the OR with the option to align integrated diagnostic data.

ZEISS VISUMAX 800 and MEL 90

The digital connection of the VISUMAX 800 femtosecond laser and MEL 90 excimer laser to FORUM gives you the freedom for easy remote treatment planning via ZEISS Refractive Workplace. The refractive lasers allow you to perform a broad range of laser vision corrections: Lenticule Extraction with ZEISS SMILE pro, Femto-LASIK, PRK/LASEK¹, and ZEISS PRESBYOND².

ZEISS VISULYZE

The software VISULYZE® from ZEISS provides a clear overview of your clinical results and generates nomograms customized to each user with a simple and intuitive interface. The software collects, stores and statistically analyzes your own clinical data in a standardized way – helping you to examine and verify refractive outcomes.

¹ Not available in the USA and in Japan
² Not available in the USA

ZEISS PRESBYOND

Laser Blended Vision

The ZEISS MEL 90 is a first-rate platform for treating presbyopic patients without cataract. With the optional PRESBYOND® Laser Blended Vision module¹, ZEISS offers an option specifically designed for presbyopic patients, a rapidly growing business segment.

The next level in presbyopia management

PRESBYOND Laser Blended Vision is an individualized treatment approach in which information about pre-operative spherical aberrations, tolerance of

1.5 D anisometropia, and functional age of the eyes is used to calculate the ablation profile. PRESBYOND Laser Blended Vision increases the depth of focus of each individual eye and creates customized fusion of the two images for near and distance vision as well as for intermediate vision – the so-called “Blend Zone.”

This method enables clear sight at all distances – near, far, and intermediate – for myopic, ametropic and hyperopic presbyopes, while maintaining contrast sensitivity and preserving stereoacuity^{2,3}.



PRESBYOND Laser Blended Vision
Customized. All distances. Immediate.

Technical Data

MEL 90 from ZEISS

Type	ArF excimer laser (laser class 4 according to IEC 60825-1:2014)
Wavelength	193 nm
Laser frequency	FLEXIQUENCE ^{®1} 250 Hz/500 Hz

Fixation laser

Type	Solid-state laser (laser class 1 according to IEC 60825-1:2014)
Wavelength	532 nm

System data

Weight	295 kg with gas cylinder
Weight of patient support system	232 kg
Dimensions (W x D x H)	1.63 m x 0.73 m x 1.48 m – 1.70 m
Power supply	100 V AC; 50/60 Hz; 17.5 A 120 V AC; 50/60 Hz; 14.6 A 208, 220, 230, 240 V AC; 50/60 Hz; 7.9 A

Approval	CE mark as per Medical Device Regulation (EU) 2017/745
Gas supply	Integrated ArF-Premix cylinder 10 l

Equipment

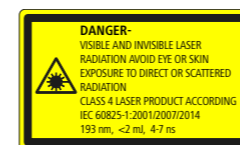
Surgical microscope	OPMI [®] pico with integrated HD video camera
Illumination	Ring illumination: stepless adjustment; sectional light; satellite illumination; optional slit lamp illumination
Active eye tracker	Infrared, pupil and limbus tracking, 1050 frames per second (fps), manual ablation center selection, automatic Pupil Center Shift Correction
CCA+ (plume removal system)	Integrated into the device, automatic adaptation for 250 Hz/500 Hz operation
Optional	Monitor with touch screen, keyboard, printer, ZEISS Refractive Workplace, PRESBYOND [®] Laser Blended Vision

Spot scanning parameters

Beam dimensions	0.7 mm FWHM (full width at half maximum), Gaussian beam profile
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Phototherapeutic keratectomy²

Area ablation	PTK shaping
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¹ Not available in the USA

² Not available in the USA and in Japan

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