



# VICTUS® 3rd Generation Femtosecond Laser Platform

## Technical Specifications

 **VICTUS**  
Femtosecond Laser Platform

Laser Type	Diode-pumped solid state laser (DPSSL)
Wavelength	1040 +/- 25 nm
Pulse Frequency	80 or 160 kHz depending on procedure
Pulse Duration	290-550 fs
Power Supply	230 VAC ~ 50 Hz/60 Hz - 30 amp service
Power Consumption	Max. 3 kW
Weight	900 kg (with patient bed)
Dimensions*	L: 210.0 cm (with patient bed) W: 83 cm H: 168 cm
System Components	Main laser unit Patient bed included Sterile Patient Interface kit
Visualization	Real-time, high-contrast and high-speed Swept-Source OCT High-resolution video camera Optional external microscope
Patient Interface	Intelligent Pressure Sensors Curved Patient Interface with separate Suction Clip

## ENVIRONMENT

Room Conditions	Temperature 18° C to 24° C. Room temperature must be stable within +/-1° C. Humidity 30% to 50%, noncondensing Free of dust and particles; no carpet No solvent, chemical liquids or fumes
Room Dimensions	Floor loading, minimum 0.9 kg/cm <sup>2</sup> 3.7 m x 3.75 m (minimum)

## APPLICATIONS

Cataract	Capsulotomy Lens Fragmentation Arcuate Incisions Corneal Incisions
Corneal	LASIK flaps

## CONSUMABLES NEEDED PER EYE

Patient Interface Kit consisting of Patient Interface (PI) and Suction Clip  
Treatment License

## TECHNICAL FEATURES

Online High-speed Live OCT	For all treatments, online highspeed live OCT for docking, treatment planning and continuous monitoring during treatment. Live OCT enables auto-recognition of all pertinent ocular structures for automated treatment planning. HD camera (color image) for centration while docking, and for pupil detection.
Curved Patient Interface	<b>Soft docking for cataract</b> Engagement parameters designed to provide an unobstructed path of the laser beam through the cornea i.e. the parameters are chosen to avoid posterior corneal folds which may deflect the beam and result in "postage stamp-like" incisions. <b>Regular docking for corneal applications</b> Engagement parameters designed to provide a stable corneal reference interface intended to compensate for fine movements of the cornea for precise depth control during the procedure.



\* See detail drawing at the end of this document



**Intelligent Pressure Sensors**

Intelligent Pressure Sensors measures “shear forces” to detect alignment and centration and adapts docking pressure according to application.

**High Frequency Laser Source**

160 kHz for flaps  
80 kHz for cataract

**Suction Clip**

Multi-port suction  
Robust skirt material  
Ergonomic design  
Colored skirt to facilitate and optimize ring centration

**Capsulotomy Parameters**

Diameter: 3.0 - 7.0 mm  
Energy range between 5.0 - 9.0  $\mu$ J

**Lens Fragmentation Patterns and Parameters**  
Radial Cuts Only

Minimum number of cuts 2, maximum 8  
Radial outer diameter: 1.0 - 8.0 mm

Circular Cuts Only

Minimum number of cuts 2, maximum 8  
Circular outer diameter: 1.0 - 8.0 mm

Combination of Circular and Radial Cuts

Minimum number of cuts: 2 radial + 2 circular  
Maximum number of cuts: 4 radial + 8 circular  
Circular and radial outer diameter: 1.0 - 8.0 mm

Grid Cuts

Diameter: 1.0 - 7.0 mm  
Size: 300 - 1000  $\mu$ m

Energy Range

Between 5.0 - 9.0  $\mu$ J

**Arcuate Incision Parameters**

Diameter: 6.0 - 12.0 mm  
Depth: 200 - 900  $\mu$ m  
Size: 15 - 120°  
Position angle: 0 - 359°  
One or two AKs can be planned  
Energy: 0.65 - 2.0  $\mu$ J  
Symmetric or asymmetric, independently adjustable diameters and arc length  
Side cut angle 60 - 120°

**Corneal Incisions**  
1, 2 or 3 Planes

Diameter: 6.0 - 12.0 mm  
Width: 0.5 - 5.0 mm  
Energy: 0.7 - 2.0  $\mu$ J  
One primary surgical incision, up to two secondary surgical incisions

**Flap Parameters**

Bed energy: 0.65 - 2.0  $\mu$ J  
Rim cut angle: 60 - 120°  
Depth: 110 - 220  $\mu$ m  
Diameter: 6.0 - 9.5 mm  
Hinge position: 0 - 359° in steps of 5°  
Hinge Arc angle: 30-60°

## Installation Requirements

All corridors and doorways leading to the laser room must be at least 84 cm wide

Corridors with 90° corners must be at least 120 cm / 3.94 ft wide

Floors must not have gaps > 2.5 cm

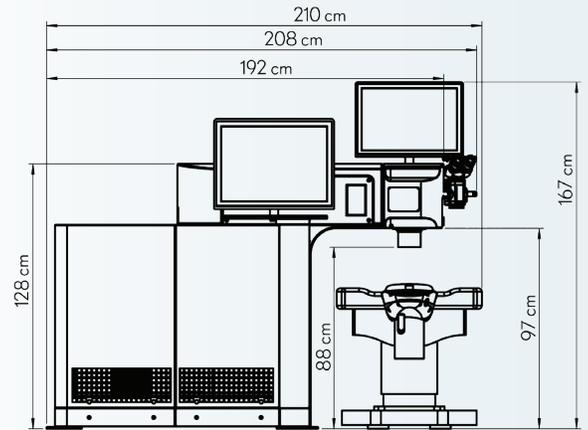
If an elevator must be used, it must have a minimum length of 2.0 m and a minimum width of 84 cm, and accept a load of 650 kg

If a ramp is necessary to overcome stairs, an angle of 20° should not be exceeded

The floor leading to and in the laser room must support the following:

- 650 kg / 1433 lbs for the laser
- 250 kg / 551 lbs for the bed
- Plus the weight of personnel and patient (e.g. 300 kg / 661 lbs)

The room must not have been painted within 3 weeks prior to installation



### Indications for Use

The VICTUS® femtosecond laser platform is indicated for use for:

- The creation of a corneal flap in patients undergoing LASIK surgery or other treatment requiring initial lamellar resection of the cornea
- For anterior capsulotomy during cataract surgery
- The creation of cuts / incisions in the cornea of patients undergoing cataract surgery or other ophthalmic treatment requiring cuts / incisions in the cornea
- Laser-assisted lens fragmentation of nuclear cataracts during cataract surgery, not for posterior subcapsular (PSC) and cortical cataracts

### Safety Information

The VICTUS® femtosecond laser platform emits an invisible class 3B laser beam that may injure the retina of the eyes or burn the skin. Never look directly into the laser source. Misuse of the laser system may lead to dangerous situations and severe injuries. See the Operator Manual for detailed directions, proper use, and full risk and safety information.

### Contraindications

General contraindications for using the VICTUS® femtosecond laser platform include, but are not limited to, the following: pediatric surgery, hypotony or glaucoma, retinal disorders, rheumatic diseases, occlusion of retinal vessels, pellucid marginal degeneration, existing corneal implant, heavy vascularization of the ocular tissue, epilepsy. Conditions that would cause inadequate clearance between the intended capsulotomy cut and the corneal endothelium. Valid exclusion criteria that complicate the docking procedure. Subjects with corneal disease or pathology that precludes application of the cornea or transmission of laser wavelength or distortion of laser light, who show signs of suspected or diagnosed keratoconus, who are pregnant or nursing, who are blind in the fellow eye, patients with any cornea disease in the eye that requires treatment (recurrent corneal erosion, severe basement membrane disease), difference of more than 5D between minimum or maximum K-values of the central 3mm zone on a keratometric map of the cornea, or maximum K-value of more than 60D, or minimum K-value of less than 37D

### Potential Complications

Potential general complications resulting from VICTUS procedures included, but are not limited to corneal abrasion or defect, pain, bleeding, inflammation, and elevated intraocular pressure. Please see the Operator Manual for detailed potential procedure-specific complications and contraindications for anterior capsulotomy, corneal cuts / incisions, flaps used in LASIK, and lens fragmentation. Potential complications are not limited to those included in the User Manual.

**CAUTION:** Federal (U.S.) Law restricts this device to sale, by or on the order of a physician.

**INVISIBLE LASER RADIATION  
AVOID EXPOSURE TO BEAM  
LASER CLASS 3B**

Wavelength:	1040±2.5nm
Pulse duration:	290-550 fs
Maximum pulse frequency:	160 kHz
Maximum output power:	0.86 W

**IEC 60825-1:2007**

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