

Corneal Cross-Linking i-Volution

PXL VELVET 345



**Variable settings 3 mW – 9 mW – 18 mW – 30 mW – 45 mW
with simultaneous radiation time adjustment**

- Self-calibrating and self-adjusting
- 5" Color touch screen
- Portable system with adjustable table mount

Indications

- Ulcer with melting of the corneal tissue
- Keratitis caused by bacterial or fungal infection
- Bullous keratopathy



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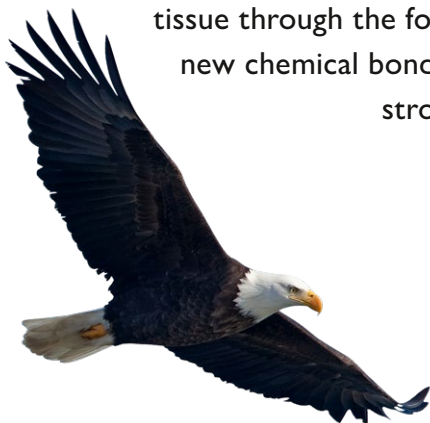
PXL VELVET 345



The PXL VELVET 345 is portable with a high quality table mount.

Corneal Cross-Linking

Corneal cross-linking (CXL) is a treatment with the aim of strengthening the corneal stromal tissue through the formation of new chemical bonds between stromal fibres.



- This CXL treatment was initially developed for treating Keratoconus in humans. Meanwhile CXL has an established place in the treatment of infectious keratitis. The UV light has long since been known for its ability to kill different microorganisms (such as bacterial and fungal ones). Keratitis in animals is an important cause of blindness, and antibiotic resistance is an increasing problem worldwide. The CXL technique proves to be an alternative treatment with a satisfactory outcome.
- CXL is an optional treatment to stop the corneal melting in small and large animals and can replace tectonic surgery.
- The second application is the treatment of bullous keratopathy for which CXL provides the symptomatic relief of a chronic corneal ulceration.
- CXL treatments are inexpensive, easy to perform, safe for the patient and can be combined with other medical therapies.

Unique – Fast – Excellent

Visionary MedTech for a better performance – Swiss Made

Clinical Experience

Initially developed for treating keratoconus in humans, the range of indications was expanded to various corneal diseases such as infectious corneal melting.

■ CXL has several mechanisms of actions that make it a highly attractive therapy for the treatment of corneal melting: The ability of CXL to increase the resistance of corneal tissue to enzymatic digestion, as well as killing microbes offers great potential for its role in the treatment of microbial keratitis.

■ Various studies show the feasibility of CXL to treat progressive corneal melting in veterinary patients, deleterious effects attributed to riboflavin solution or UVA irradiation are not reported.

■ Recent findings report corneal re-epithelization within a short time frame, and the treated eyes presented a quiescent corneal state without signs of active inflammation.

Background

Corneal cross-linking is a process of photo polymerization. During this process singlet oxygen is being created with the use of riboflavin as a photo mediator activated by UV light. Free radicals lead to physical intra- and inter-helical cross links of stromal collagen fibres. This process takes place mainly in the anterior 200 μ to 250 μ of the stroma.

The Device

■ The PXL VELVET 345 was designed with a special focus on effectiveness, safety and user friendliness.

■ The touch screen allows easy operation of the system and display of all relevant treatment information.

■ To offer flexibility, it allows to choose between five energy levels:
3 mW – 9 mW – 18 mW – 30 mW – 45 mW.

■ This enables the surgeon to select the ideal energy/time combination for the intended treatment:

3 mW x 1800 sec (30 min) = 5400 mJ
9 mW x 600 sec (10 min) = 5400 mJ
18 mW x 300 sec (5 min) = 5400 mJ
30 mW x 180 sec (3 min) = 5400 mJ
45 mW x 120 sec (2 min) = 5400 mJ

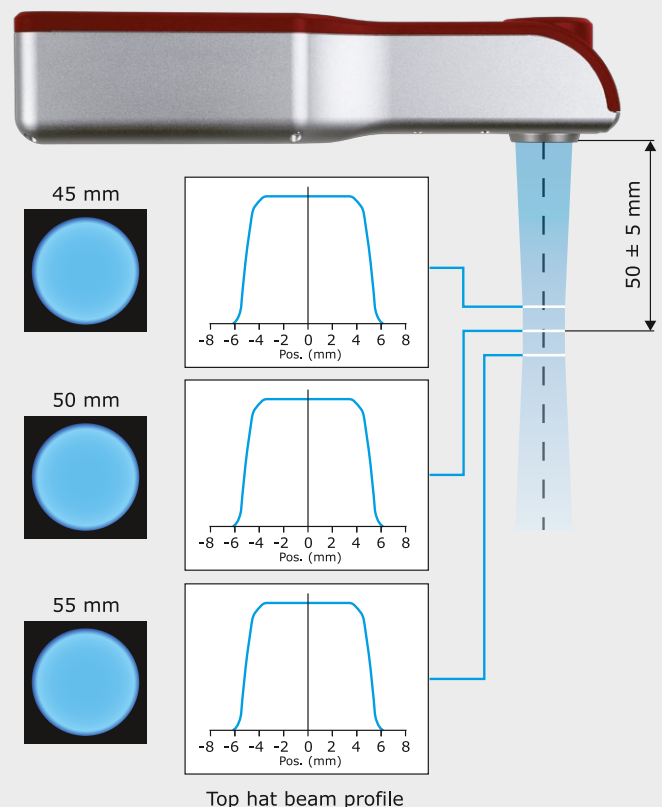
■ To guarantee the high level of safety, the beam of the PXL VELVET 345 has a waste line at a distance of 50 mm from the optics and a depth of focus of approx. +/- 5 mm.

■ To protect the limbal stem cells the PXL VELVET 345 has an adjustable aperture from 3 mm to 12 mm enabling a beam focus on the clear cornea.

■ The PXL VELVET 345 is a portable device with a high quality table mount which comes in a sturdy transport case.

■ The optional floor mount is recommended for flexibility in use.

Beam Characteristics



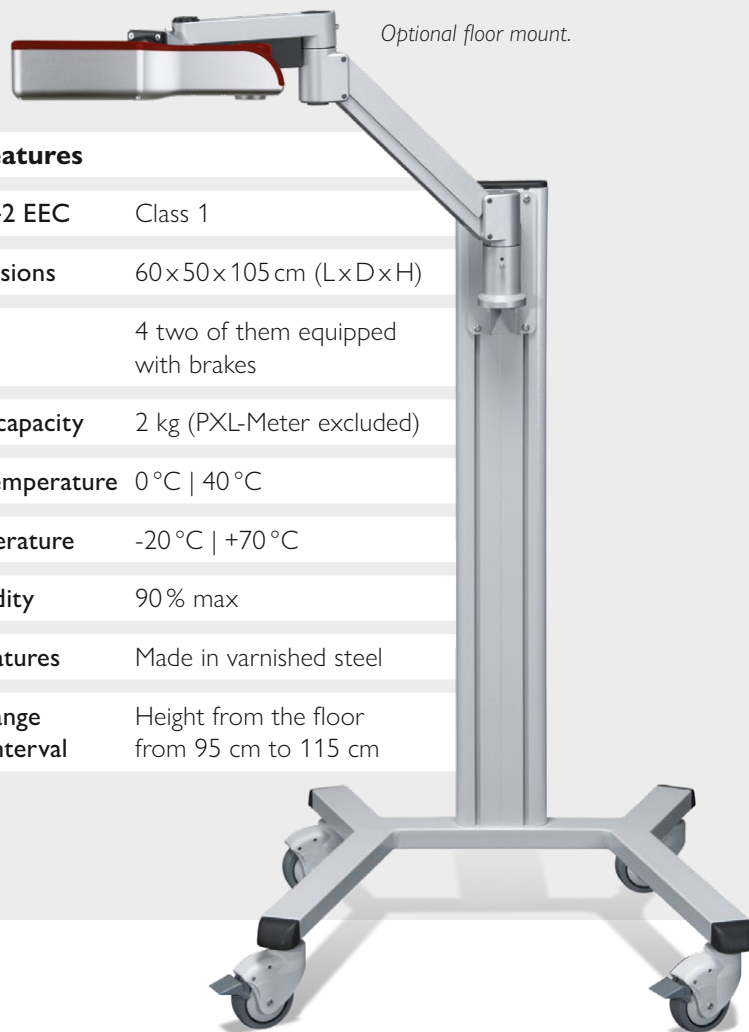
To guarantee the high level of safety the beam of the PXL VELVET 345 has a waste line at a distance of 50 mm from the optics and a depth of focus of approx. +/- 5 mm.

To protect the limbal stem cells and to focus the beam on the clear cornea only the PXL VELVET 345 has a continuously adjustable aperture from 3 mm to 12 mm.

Safe – Effective – Flexible

PXL VELVET 345

The PXL VELVET 345 comes in a sturdy transport case.



Technical Features

Directive 93/42 EEC	Class 1
Overall dimensions	60x50x105 cm (LxDxH)
Wheels	4 two of them equipped with brakes
Max carrying capacity	2 kg (PXL-Meter excluded)
Functioning temperature	0 °C 40 °C
Storage temperature	-20 °C +70 °C
Relative humidity	90 % max
Mechanical features	Made in varnished steel
Adjustment range and stability interval	Height from the floor from 95 cm to 115 cm

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