MEL 80
High performance meets versatility
MEL 80
MADE BY CARL ZEISS
Just what your clinic is looking for

Invest in the latest refractive excimer technology
The MEL® 80 is a top quality Carl Zeiss Meditec product designed to make the correction of vision defects safer, more patient-friendly and individual. All of the parameters of this modern work platform are oriented towards increasing efficiency, achieving optimum treatment results and rapid recovery of vision. Key features include a high ablation rate, high-performance eye tracker system and the possibility for individual treatment planning with the CRS-Master®. With its optional module PRESBYOND® Laser Blended Vision, you can now also treat presbyopic patients with a true binocular approach. The corresponding ablation profile aims to increase the depth of field in combination with well-selected micro-monovision to create a unique Blend Zone, an area of overlap enabling true binocular vision.

The best outlook for you and your patients
Added to this are tangible benefits for your daily work such as the overall ergonomic design concept and the economical operation of the system. Reap the advantages of an investment which is forward-looking, practical and profitable.

Excimer excellence starts with ZEISS
Since 1846, the name Carl Zeiss has stood for quality and precision in optics. In 1986, Carl Zeiss unveiled the first excimer laser for refractive correction of the eye. Over the last 25 years the company has been at the forefront of advances in laser vision correction.
Streamlined procedures
And enhanced patient comfort

It couldn’t be simpler to operate
At Carl Zeiss, we strive to make advanced technology applications as simple and ergonomic as possible for our customers. When using the MEL® 80, take advantage of an extensive list of standardized treatment procedures for optimum results. The MEL 80 software has been specially developed for this robust and flexible workstation. The graphic user interface is clearly structured and takes you step by step through the treatment. Enter data or import CRS-Master® files with one simple mouse click. A large number of other helpful features facilitate and support your work with the MEL 80: the ergonomically designed workstation, the individually positionable monitor and the integrated video camera.

Everything’s under control!
An active 1 kHz eye tracker with excellent feedback times and an ultrarapid IR camera provide exact positioning during the laser treatment. Thanks to automatic pupil recognition, you can adjust the desired centering point within seconds. This also includes the limbus. If the center of the pupil shifts with relation to the limbus during ablation – through asymmetrical contraction, for instance – the eye tracker compensates for this. By the way – no pupil-dilating medication and related waiting times are necessary prior to this treatment.

The faster the treatment, the lower the stress
The MEL 80 can significantly reduce the treatment duration for patients. This has the following benefits:
- The stromal bed is only open for a short period, thereby minimizing dehydration and shortening the regeneration process
- The thermally optimized distribution of the laser firing pattern optimum balance between ablation speed, tissue heating and energy per pulse
- Patients only need to concentrate on the fixation light for a few seconds
- Practices benefit from increased efficiency and patient throughput
- Cone of controlled atmosphere (CCA+) plume removal system ensures consistent atmospheric conditions during treatment
Perfect workflow
With a smart swing

Efficient and individual at the same time! With the CRS-Master®, MEL® 80 excimer laser and VisuMax® femtosecond system, Carl Zeiss has assembled a seamlessly coordinated systems solution for refractive laser surgery. For everything from preoperative examinations, individualized treatment planning and precise flap creation to highly accurate refractive corrections and follow-up examinations, these three top-of-the-line products are designed to ensure convenient workflow, streamlined patient management and best treatment results.

Equipped to outperform
Through the combined use of the pivoting patient supporting system between the VisuMax femtosecond system and the MEL 80 excimer laser the patient experiences the surgery as an integrated process. Unnecessary waiting periods are eliminated and treatment efficiency increased.

Systems that communicate with each other
For efficient practice management you benefit from optimally coordinated product portfolio: diagnostics and planning station CRS-Master, MEL 80 excimer laser and VisuMax femtosecond system. We thus offer an integrated solution from a single source – a solution with the potential to subsequently expand your networking capabilities with continuously enhanced data flow efficiency and individualized patient treatments.
CRS-Master
For a truly individual treatment
A top-notch treatment planning tool, the CRS-Master delivers topography data for the MEL 80 that enable truly customized corrections of refractive errors. The inclusion of additional patient-relevant data enables completely individualized ablation profiles of patients for tailored laser applications. In combination with the MEL 80, users can also perform PRESBYOND® Laser Blended Vision, the treatment of choice for presbyopic patients.

VisuMax
Precision in all facets
The VisuMax femtosecond system allows creation of very accurate and smooth flaps in preparation of Femto-LASIK procedures as well as minimally invasive all-femto treatment with ReLEx. With its highly advanced laser technology and innovative optical design, the VisuMax supports maximum cutting precision, efficiency, predictability and patient comfort. Together with the MEL 80, it forms a well-matched duo for a whole range of customized laser treatments.
PRESBYOND Laser Blended Vision
Customized. All distances. Immediate.

The next stage in eye care excellence
The number of people entering the presbyopic age is steadily increasing. An advanced product portfolio like the CRS-Master®, the MEL® 80 and the PRESBYOND® Laser Blended Vision module offers refractive surgeons an excellent basis to effectively serve this growing demographic group. As the next stage of eye care excellence, PRESBYOND Laser Blended Vision enables customized treatments optimized for the functional age of the patient’s eye and preoperative spherical aberrations.

Improved quality of vision
With PRESBYOND Laser Blended Vision, the preoperative wavefront data and the functional age of the eye may be used to optimize the depth of field for each eye individually. The unique customized area of overlap known as the Blend Zone provides patients with very good visual acuity and contrast sensitivity at all distances – near, intermediate and far – immediately. In fact, most patients can read without glasses the very same day. PRESBYOND Laser Blended Vision is also tolerated by far more patients than conventional monovision methods. A recent study, 93.2 % of the emmetropic, 94.9 % of the myopic and 77.3 % of the hyperopic presbyopes showed the combination 20/20 far vision and J2 near (binocular) vision.*

The unique Blend Zone
With PRESBYOND Laser Blended Vision, each eye is corrected individually to create a unique Blend Zone. It enables patients to enjoy clear sight at all distances, including intermediate range, immediately following the procedure.
Reinstein DZ, Laser Blended Vision: Using the most “natural” optical language of the visual system for treating presbyopia (Presentation), ESCRS Vienna 2011.
MEL 80
The excimer laser with a broad performance scope

**The benefits**

... **for patients**
- Flying spot laser where the eye tracker’s response time is shorter than the time between two consecutive laser pulses
- Comfortable treatment, rapid vision recovery

... **for eye care specialists**
- Broad portfolio of application
- Can be combined with VisuMax® femtosecond system

... **for workflow**
- Seamless data transfer to VisuMax
- Short start-up time
- Swivel-type patient supporting system

... **for ease-of-use**
- Simple fluence test
- Intuitive software
- Ergonomically designed workstation
- No need for flushing gas systems and extra helium gas cylinders
Technical data

Laser data

<table>
<thead>
<tr>
<th>Type</th>
<th>ArF excimer laser</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>193 nm</td>
</tr>
<tr>
<td>Frequency</td>
<td>250 Hz</td>
</tr>
<tr>
<td>Aiming beam diode</td>
<td>650 nm (laser class 1 according IEC 60825-1)</td>
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</tbody>
</table>

Device data

<table>
<thead>
<tr>
<th>Weight of MEL 80</th>
<th>290 kg incl. gas cylinder</th>
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<tbody>
<tr>
<td>Weight of patient supporting system</td>
<td>232 kg</td>
</tr>
<tr>
<td>Dimensions (Laser, W x D x H)</td>
<td>800 x 1550 x 1490 mm</td>
</tr>
<tr>
<td>Dimensions including patient supporting system (W x D x H)</td>
<td>1800 x 3140 x 1490 mm</td>
</tr>
<tr>
<td>Power supply</td>
<td>100 V AC; 50/60 Hz; 17.5 A</td>
</tr>
<tr>
<td></td>
<td>120 V AC; 50/60 Hz; 14.6 A</td>
</tr>
<tr>
<td></td>
<td>208, 220, 230, 240 V AC; 50/60 Hz; 7.9 A</td>
</tr>
<tr>
<td>Approval</td>
<td>CE mark as per Medical Device Directive 93/42/EEC</td>
</tr>
<tr>
<td>Gas supply</td>
<td>Integrated ArF-Premix cylinder 10 l</td>
</tr>
</tbody>
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Equipment

<table>
<thead>
<tr>
<th>Surgical microscope</th>
<th>OPMI® pico with integrated video camera</th>
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<tbody>
<tr>
<td>Active eye tracker</td>
<td>Infrared, pupil and limbus tracking, 1050 frames per second (fps)</td>
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<tr>
<td>CCA+ (plume removal system)</td>
<td>Integrated in device</td>
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Spot scanning parameters

| Beam dimensions      | 0.7 mm FWHM (Full width at half maximum), Gaussian beam profile |

Phototherapeutic keratectomy

| Area ablation        | Programmed PTK shaping |