**Carriazo-Pendular**

### At a glance

<table>
<thead>
<tr>
<th>Device type</th>
<th>Microkeratome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Pendular technology</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td></td>
</tr>
<tr>
<td>Control unit</td>
<td>Microprocessor-controlled unit with multiple functions for monitoring and documentation, as well as an interactive display</td>
</tr>
<tr>
<td>2 Sets</td>
<td>Each set includes: 1 cutting head, 4 suction rings (2 x 9 mm, 2 x 10 mm), 1 lid speculum, 1 tonometer, 1 motor, 1 motor cable, 1 drive shaft</td>
</tr>
<tr>
<td>Footswitch</td>
<td>Forward and return motion, vacuum</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td></td>
</tr>
<tr>
<td>Cutting head</td>
<td>90, 110, 130, 150, 170 micrometer</td>
</tr>
<tr>
<td>Suction ring</td>
<td>Outside diameter: 19 mm, Flap diameter: 9 mm and 10 mm right &amp; left (standard)</td>
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<tr>
<td>Hinge position</td>
<td>360° selectable</td>
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<tr>
<td>Drive</td>
<td>2 separate motors for oscillation and motion</td>
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<td>Lid speculum</td>
<td>Ergonomically designed for Carriazo-Pendular, suitable for aspiration</td>
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<tr>
<td>Blades</td>
<td>First-class quality – laser-proven, blade box for easy and safe application</td>
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<tr>
<td>Software for PC and Notebook (optional)</td>
<td>Documentation and print function for several phases of cutting and suction, parameter settings, serial and charge numbers</td>
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<td>Control unit</td>
<td>Dimensions (l x w x h): 28 x 23 x 21 cm</td>
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<tr>
<td></td>
<td>Weight: 8.8 kg</td>
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<td></td>
<td>Power: 115 VAC/60 Hz or 230 VAC/50 Hz, 160 VA, integrated UPS</td>
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<td></td>
<td>Languages: English, German, Italian, Spanish, French</td>
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<tr>
<td><strong>Settings</strong></td>
<td></td>
</tr>
<tr>
<td>Oscillation</td>
<td>9000 – 15000 rpm (Default: 15000 rpm)</td>
</tr>
<tr>
<td>Advance motion</td>
<td>2 – 5 mm/sec. (Default: 3 mm/sec.)</td>
</tr>
<tr>
<td>Compliance</td>
<td>CE conformity in accordance with Medical Device Directive (MDD) 93/42/EEC, FDA 510k-cleaned</td>
</tr>
</tbody>
</table>

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### Distribution of flap thickness for cutting head 130 µm

Maximal flap thickness values are well within a safe range.

![Distribution of flap thickness](image)

- **3xSD**
- **1xSD**
- **Safety**
- **Competitors**

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**SCHWIND Carriazo-Pendular**

Perfection down to the smallest detail...
SCHWIND Carriazo-Pendular – Perfection down to the smallest detail

Technologically sophisticated: the mechanical Carriazo-Pendular microkeratome offers unequalled precision. The result is a convincing and highly predictable treatment quality for the refractive surgeon and his patients.

Highly predictable flap thickness
Cutting head and blade are designed in a convex form similar to the cornea itself. Due to the unique pendulum motion of the Carriazo-Pendular, the cornea becomes more appplanated in the center than in the periphery. This is the only way to ensure a uniform as well as precise cut. Combined with the optimal settings for cutting speed and blade oscillation, this technology provides a homogeneous and highly predictable flap thickness and very smooth cutting edges. Even very thin cuts can be performed in an extraordinarily reliable way.

The Carriazo-Pendular not only impresses with a very low standard deviation between 10 and 12 µm. Considering the mostly neglected limit values like minimal and maximal flap thickness, the expected maximal flap thickness values are well within a safe range for the operator. These results are obtained by means of detailed monitoring and the specific interaction of blade and cutting head manufacturing tolerances.

A special vacuum chamber located in the suction ring minimizes stress on the eye and increases cutting safety.

The hinge position can be freely selected (360 degrees). Even narrow palpebral fissures and small corneas can be treated successfully.

Optimized and economical
The hand piece of the Carriazo-Pendular consists of just five components (suction ring, drive shaft, cutting head, motor and blade). Components of different hand pieces are compatible and are therefore individually interchangeable. Optimal performance of the treatment is ensured thanks to flexible application. Furthermore, consequential costs are reduced considerably due to completely interchangeable components and, thus, profitability is increased.

A microprocessor inside the control panel monitors the application of the Carriazo-Pendular continuously before and during treatment, ensuring safe, standardized and professional treatment performance for both doctor and patient.

Customized cutting
With the innovative Carriazo-Pendular software for PC and notebook, the user is able to illustrate different suction and cutting phases in an uniquely detailed way. Even beginners are able to accurately obtain the desired results for different indications. SCHWIND eye-tech-solutions offers cutting heads designed precisely to the micrometer, not only for the default versions 90, 110, 130, 150 and 170 µm, but for all requested flap thicknesses.

Quality that convinces
An innovative blade box provides increased safety during the performance of the treatment. The blade is always protected in the box, starting with assembly, during the cut itself and right up to disposal. Thereby, cutting complications and risk of injuries are avoided.

Each blade is marked with a barcode with a serial number. This way, the surgeon can prove to the patient that the blade is new and unused.

Interactive display
The functionality of the microkeratome is automatically checked prior to each application. The interactive display of the control panel, available in five languages, not only indicates possible errors, but also the respective solutions.

Interactive display

Detailed monitoring

Trust your eyes.
SCHWIND Carriazo-Pendular – Perfection down to the smallest detail

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With the innovative Carriazo-Pendular software for PC and notebook, the user is able to illustrate different suction and cutting phases in an uniquely detailed way. Even beginners are able to accurately obtain the desired results for different indications. SCHWIND eye-tech-solutions offers cutting heads designed precisely to the micrometer, not only for the default versions 90, 110, 130, 150 and 170 μm, but for all requested flap thicknesses.

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**Device type**

Microkeratome

**Method**

Pendular technology

**Equipment**

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- **Footswitch**: Forward and return motion, vacuum

**Details**

- **Cutting head**: 90, 110, 130, 150, 170 micrometer
- **Suction ring**: Outside diameter: 19 mm
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- **Drive**: 2 separate motors for oscillation and motion
- **Lid speculum**: Ergonomically designed for Carriazo-Pendular, suitable for aspiration
- **Blades**: First-class quality – laser-proven, blade box for easy and safe application
- **Software for PC and Notebook (optional)**: Documentation and print function for several phases of cutting and suction, parameter settings, serial and charge numbers
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  - Weight: 8.8 kg
  - Power: 115 VAC/60 Hz or 230 VAC/50 Hz, 160 VA, integrated UPS
  - Languages: English, German, Italian, Spanish, French

**Settings**

- **Oscillation**: 9000 – 15000 rpm [Default: 15000 rpm]
- **Advance motion**: 2 – 5 mm/sec. [Default: 3 mm/sec.]

**Compliance**

CE conformity in accordance with Medical Device Directive (MDD) 93/42/EEC, FDA 510K/cleared