The Navigated Retina Laser
All-digital | More effective | More comfortable
Navilas® 577s

All-digital retinal laser therapy

Navilas® is the first all-digital system for navigated focal and peripheral laser treatments. The key elements of laser therapy are effectively integrated into one smart solution.
Retina Navigation

More effective and comfortable treatment

Designed for higher efficacy, Navilas® delivers precise treatment planning and comfortable performance for doctors and patients.

Comprehensive treatment
Plan your laser therapy based on color fundus and external diagnostic images to ensure comprehensive care.

Higher precision
Attain precision and safety through the pre-positioning and stabilization of the laser beam on the retina, even in challenging treatment situations.

Maximum patient comfort
Perform focal treatments optionally under infrared light and without a contact lens, making treatment much more comfortable for the patient.

Intuitive use
Navigate intuitively with the joystick and a high-resolution touchscreen that concisely displays live images, treatment plans, and parameters.

Greater speed
Treat the peripheral region faster and more effectively than with conventional pattern scan lasers via the large field of view and assisted pattern placement.
**Ultra-Wide-Field PRP**

**Fast and comfortable PRP treatment**

Navilas® simplifies and accelerates peripheral laser coagulation with flexible and automated pattern positioning via touchscreen and joystick.

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**Optimal overview**

The Navilas® PRP optics provide a large field of view for rapid targeting of treatment locations in both PRP and laser retinopexy treatments.

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**Fast pattern placement**

Patterns of up to 25 spots can be placed via touchscreen or joystick and rapidly delivered. Navilas® stabilizes the aiming beam and positions the pattern automatically on the next location.

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**Maximum patient comfort**

To reduce glare and increase patient comfort, the infrared illumination with digital documentation function can be activated at any time.
"I am very impressed with the new Navilas 577s PRP. To me as the physician it feels ergonomic and straightforward - the system literally lets me paint the peripheral retina with uniform spots in a very short amount of time. It was very well tolerated by the patients, with only topical anesthesia. Navilas now has an industry leading PRP tool to complement its incomparable focal laser capability."

David Brown, MD, Houston, Texas
Focal laser treatment

Structured treatment workflow

Navilas® uniquely provides retinal specialists with an all-digital treatment workflow, enabling precise, comprehensive care and bringing back confidence in laser therapy.
Digital fundus imaging
A high-resolution Navilas® color fundus image can be obtained at the touch of a button.

Target-assisted laser treatment
The pre-defined plan is automatically overlaid onto the infrared live image, while Navilas® pre-positions the aiming beam on treatment locations.

Digital treatment planning
Automated import of external diagnostic images and various plan elements provide for exact, indication-focused treatment planning.

Digital treatment report
Navilas® automatically generates a transparent, digital treatment report for storage in EMR systems and as a print document for referring doctors.
Navigated microsecond pulsing therapy

Tissue-friendly treatment

Navigated microsecond pulsing treatment allows photothermal stimulation of diseased retinal areas, while preserving function and avoiding scarring.

How it works

Laser energy is applied in a series of brief pulses in the range of 100–300 μs. In contrast to conventional laser coagulation, retinal tissue is repeatedly heated and stimulated without reaching the coagulation threshold.
The unique, all-digital approach enables a predictable subthreshold treatment.

Exact planning with automated image import and free-form grids
Imported diagnostic images enable exact, standardizable treatment planning using (confluent) free-form grids.

Reproducible application with target-assisted laser
With a pedal press, several effects can be applied quickly and precisely in an alternating pattern avoiding thermal crosstalk - even in the absence of a visual effect on the retina.

Complete documentation in real-time
For the first time, invisible effects are digitally visualized and treatment progress becomes transparent.

"Navilas is the first microsecond pulsed laser with the ability to reliably document the applied laser spots, which provides us with a valuable treatment alternative for our patients today and a reproducible method for continuing clinical advancement."

David Callanan, MD, Arlington, Texas
More comfort in laser treatment

The unique ergonomics of Navilas® 577s provide better treatment comfort for patient and doctor alike.
Clinical study results

Navilas® is more precise and effective

Higher precision
✓ Higher accuracy and precision through image-guided laser pre-positioning
Microaneurysm hit rates of navigated vs. conventional laser were evaluated.

Microaneurysm hit rates of navigated vs. conventional laser were evaluated.

Higher precision

Fewer retreatments
✓ Comprehensive treatment through digital planning and documentation
✓ Durable results and fewer retreatments
Retreatment rates of navigated and conventional laser treatments were comparatively evaluated in a matched-pairs analysis.

Fewer retreatments

Fewer injections
CAVNAV-Study: Navilas® significantly reduces the need for injections and can provide better outcomes in a real-life setting (retrospective 3-year data presented at Euretina 2016).

In a 12-month prospective comparison of 66 patients with center-involving DME, 34 patients with combination therapy were compared to 32 patients treated with ranibizumab monotherapy.

Ranibizumab-Monotherapy
Month 1–3
3 Injections Loading Phase
Ranibizumab + Navilas®
Month 4–12
As-Needed Injections

Two-thirds of patients have stable vision after Navilas® without further Anti-VEGF injections.

“In my clinical work, the precise and effective focal DME-treatment with Navilas has become the most relevant companion to Anti-VEGF injections in reaching durable treatment outcomes and reducing patient burden.”

Marcus Kernt, MD, Munich, Germany
## Navilas® Laser System 577s

### Technical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser wavelength</td>
<td>577 nm (yellow)</td>
</tr>
<tr>
<td>Laser type</td>
<td>Optically Pumped Semiconductor (OPSL), Class IV</td>
</tr>
<tr>
<td>Aiming beam: diode laser</td>
<td>635 nm, &lt; 1 mW, Class II</td>
</tr>
<tr>
<td>Laser power</td>
<td>50-2000 mW</td>
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<tr>
<td>Pulse duration</td>
<td>10-4000 ms</td>
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<tr>
<td>Microsecond pulsing</td>
<td>50-500 μs; 5, 10, 15 %, variable duty cycle</td>
</tr>
<tr>
<td>Digital fundus imaging</td>
<td>True-color and infrared (complemented by automated/manual image import)</td>
</tr>
<tr>
<td>Optics and field of view</td>
<td>Non-contact objective (focal): 50° static (+ dynamic extension)</td>
</tr>
<tr>
<td></td>
<td>Contact objective (focal/peripheral): up to 165°/180° dynamic, analogous to contact lens used</td>
</tr>
<tr>
<td>Spot size on retina</td>
<td>Non-contact objective (focal): 50-500 μm</td>
</tr>
<tr>
<td></td>
<td>Contact objective (focal/peripheral): 50-1000 μm (w/magnification)</td>
</tr>
<tr>
<td>Network access</td>
<td>RJ45 ethernet connector, sharing of images/data/treatment plans, network printing, remote service</td>
</tr>
<tr>
<td>Footprint (LxWxH)</td>
<td>110 cm x 70 cm x 127-230 cm / 44” x 28” x 50”-91”</td>
</tr>
<tr>
<td>Power supply</td>
<td>115-230 VAC, 50-60 Hz</td>
</tr>
<tr>
<td>Conformity</td>
<td>CE conformity in accordance with the Medical Device Directive 93/42/EEC</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>OD-OS GmbH, Teltow, Germany</td>
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