StarWalker® MaQX

Ultra Performance Q-Switched Laser System
Third-generation ASP technology for ultimate precision, efficacy and safety of treatments

Widest range of procedure modes, including unique MaQX, VERDE, FRAC3 and VERSA3 modes for pigment, vascular and collagen treatments

Impressive line of advanced smart control handpieces

Intuitive, easy-to-use parameter selection

Minimally invasive, safe treatments with little downtime

Great patient comfort and satisfaction

Key benefits

- Beast within a Beauty: Top Performance & Award Winning Design

reddot design award
StarWalker® MaQX

**Functionality**
StarWalker’s third-generation technology provides highest power and treatment capability in the most advanced and the most compact design.

- **OPTOflex® arm with patented vacuum cell technology** for distortion-free beam delivery to the treatment site
- **14 laser modalities and 4 laser wavelengths** for the widest range of treatments
- **Pulse modalities from nanoseconds to microseconds, milliseconds and seconds** for optimal effect on the tissue site
- **Intuitive and intelligent graphical user interface**
- **Instant access to preprogrammed procedures via a large display**
- **Wireless footswitch** for freedom and convenience in system control
- **Top-hat beam profile** for uniform treatments with predictable results
- **Quick-release mechanism** for fast exchange of handpieces
- **Compact handpieces** with automatic real-time handpiece type and spotsize detection
- **Fotona proprietary ASP (Adaptive Structured Pulse) technology** enabling laser pulse shapes to be adapted to the bio-photonic dynamics of a particular treatment
- **Dual monitor EFC energy control** to ensure the precision of laser output
- **Ultra performance laser system** with an exceptionally small footprint
Performance at your fingertips with an interactive touch screen

Widest Range of Clinical Applications

<table>
<thead>
<tr>
<th></th>
<th>1064 nm Nd:YAG</th>
<th>532 nm KTP</th>
<th>585 nm dye</th>
<th>650 nm dye</th>
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<tbody>
<tr>
<td>Pigments, Tattoo FractAT</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10</td>
<td>MaQX-1, MaQX-10</td>
<td>QX</td>
<td>QX</td>
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<tr>
<td>Melasma, Pigmented Lesions</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10</td>
<td>-</td>
<td>QX</td>
<td>QX</td>
</tr>
<tr>
<td>Acne scars, Active acne</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10, VERSA3</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Skin toning, Skin Whitening</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10, VERSA3</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10</td>
<td>QX</td>
<td>-</td>
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<tr>
<td>Photodamaged skin</td>
<td>VERSA3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wrinkles, Pores, Skin rejuvenation</td>
<td>VERSA3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Vascular lesions, Veins, Haemangiomas</td>
<td>VERSA3, VERDE</td>
<td>-</td>
<td>QX</td>
<td>-</td>
</tr>
<tr>
<td>Hair removal</td>
<td>VERSA3, MaQX-10, FRAC3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Warts</td>
<td>VERSA3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Onychomycosis</td>
<td>VERSA3, MaQX-10</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The Interactive Touch Screen Guides Users Through All Treatments

Key benefits

- Easy to use, intuitive interface puts an entire range of applications at your finger tips
- Responsive parameter control
- User-friendly application wizards for recommended parameters
- Fully customizable memory storage for pre-set treatments
- Procedure log keeps track of all procedures for quick recall of past treatment parameters by calendar date
- Control Panel tracks all procedure statistics during treatments

Two Models

- StarWalker® MaQX is the most advanced and highest performance StarWalker model.
- StarWalker® QX is Fotona’s standard high performance Q-Switched StarWalker model.

<table>
<thead>
<tr>
<th></th>
<th>StarWalker® MaQX</th>
<th>StarWalker® QX</th>
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</thead>
<tbody>
<tr>
<td>1064 nm</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10, Turbo FRAC3 VERSA3</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10, Turbo FRAC3 VERSA3</td>
</tr>
<tr>
<td>532 nm</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10, Turbo VERDE</td>
<td>MaQX-1</td>
</tr>
<tr>
<td>585 nm</td>
<td>QX</td>
<td>QX</td>
</tr>
<tr>
<td>650 nm</td>
<td>QX</td>
<td>QX</td>
</tr>
</tbody>
</table>
Ease of use
StarWalker’s new advanced touch screen user interface features intuitive navigation and exceptional flexibility.
Innovation at Work

Patented solutions for a homogenous beam profile

Homogeneity of a laser beam profile ensures safety during treatment since laser energy is evenly distributed across the treated area. Epidermal damage is minimized and the risks of bleeding, tissue splatter and transient textural changes in the skin are decreased. Achieving homogeneous beam profiles has been a great challenge for the laser industry due to the nonlinearity of Q-switched lasers. Fotona’s StarWalker advanced Q-switched laser technology relies on groundbreaking solutions such as patented OPTOflex® and Vacuum Cell Technologies to produce almost perfectly homogeneous beam profiles.

The OPTOflex® articulated arm is specifically designed to efficiently transmit the laser beam without losing energy or changing the beam’s original properties. The shape and magnitude of the aiming beam enhances visibility, allowing for easier, faster treatments and greater precision. OPTOflex® is light, compact and folds back to decrease system height.

With laser quality benefits unlike any other beam delivery system, OPTOflex® is definitive of the next generation in laser delivery systems for high-power lasers.
Most standard Q-switched laser systems can only achieve stable output during laser beam operation by ensuring that their flashlamps are pulsed internally at a constantly high repetition rate, even when the operator selects a single-pulse or low repetition rate mode. As a result, the laser system and especially the flashlamp, one of the most important components, can burn out prematurely due to overuse. This is not the case with the StarWalker’s patented Vacuum Cell & OPTOflex technology, where the laser flashlamp is activated only when actual laser output is required. A much lower burden on the laser system is imposed, resulting in a longer flashlamp lifetime and lower costs of laser system maintenance.

**Full-beam and fractional handpieces**

The StarWalker’s full beam and fractional handpiece technology enables physicians to provide advanced solutions for a broad range of treatments. Fractional handpieces harness the powerful photomechanical effect of the StarWalker into tightly focused arrays. These arrays contain concentrations of energy while the surrounding area remains unaffected by the laser light.

**Longer System Lifetime: Almost 100% flashlamp pulse utilization**

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Taking Your Practice into the Future
StarWalker® and its groundbreaking ASP (Adaptive Structured Pulse) technology represent a cosmic shift forward for the medical and aesthetic laser industry. This third-generation technology combines the unsurpassed range of pulse duration modes of Fotona’s VSP (Variable Square Pulse) technology with the revolutionary capability of ASP technology to adapt the temporal structure of laser pulses to the bio-photonic dynamics of laser-tissue interaction.

Modulated Acoustics Q-Switched (MaQX) Laser System

Fotona’s StarWalker laser system features the entire range of super-short pulse technologies in a single, high-performance solution. StarWalker’s patented MaQX pulse modalities produce powerful bursts of laser energy that photo-acoustically break apart skin pigmentations into smaller, more easily eliminated particles.
Fotona Q-Switched Pulse Power

StarWalker’s unique TMD (Transverse Mode Discrimination) laser oscillator technology combined with the ASP pulse control delivers very short (5 nsec) Q-switched pulses consisting of a high energy train of ultra-short bursts of energy in trillions of a second, enabling photomechanical impact to shatter tiny skin targets without injury to the surrounding skin. StarWalker’s technology thus combines the high energy capabilities of nanosecond lasers with the ultrashort pulse peak powers of traditional picosecond lasers.
Fotona MaQX – Unmatched Q-Switched Pulse Energy

Based on revolutionary ASP technology, StarWalker is capable of delivering up to an unprecedented 10 J of Q-switched energy in one giant structured MaQX pulse. The unique MaQX high energy capability of StarWalker enables the generation of a higher energy photoacoustic effect at the treatment site, leading to more effective and faster treatments. Additionally, with high MaQX energies, larger spotsizes can be used resulting in more homogeneous treatments of even deeper lying skin pigments, and therefore with reduced risk of unwanted side effects.

Ultimate safety with Q-Switched treatments

Patient safety and comfort with ultra-performance MaQX mode treatments are further enhanced by the StarWalker’s unique capability that allows the user to select the softness level (MaQX-1, MaQX-2, MaQX-5 or MaQX-10) of the treatment. When a higher softness level is selected, the StarWalker’s ASP technology ensures that the generated acoustic energy is released at an acceptable acoustic power, resulting in a “softer” and less invasive effect on the tissue.
Empowered by ASP Technology

Fourteen Laser Modalities

StarWalker features an extraordinary 14 laser modalities operating at 4 complementary laser wavelengths. Based on the ASP technology, StarWalker modes are tailored to the requirements of specific treatments, a feature that has not been possible with earlier technologies.

<table>
<thead>
<tr>
<th>Wavelength</th>
<th>Pulse width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1064 nm</td>
<td>MaQX-1, MaQX-2, MaQX-5, MaQX-10, Turbo</td>
</tr>
<tr>
<td>532 nm</td>
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<tr>
<td>585 nm</td>
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</tr>
<tr>
<td>650 nm</td>
<td>QX</td>
</tr>
</tbody>
</table>

Four Laser Wavelengths

StarWalker delivers four laser wavelengths to cover the complete absorption spectrum of melanin, oxyhemoglobin and water.

StarWalker’s wavelengths are located at appropriate skin absorption peaks and minimums.

Four wavelengths to treat structures at different skin depths.
StarWalker features a FRAC3 pulse mode which utilizes the short submillisecond pulse duration and high peak power density at 1064 nm to produce a self-induced three-dimensional fractional pattern in the epidermis and dermis, with damage islands that are predominantly located at the sites of targeted skin imperfections. Key applications of the FRAC3 mode include skin rejuvenation and removal of thin hair.

StarWalker also delivers 1064 nm VERSA3 mode pulses with a duration of 15 msec, which is a clinically well proven Nd:YAG laser pulse duration for a broad range of treatments, such as hair removal, wrinkle reduction, treatment of warts or treatment of onychomycosis. In addition, the StarWalker’s ASP technology modulates the pulse to create a “FRAC3 type” microsecond structure superimposed on the milliseconds long VERSA pulse, thus combining the beneficial effects of the “long” 1064 nm pulse with the self-induced fractional capability of the FRAC3 modality.

VERDE 532 nm mode for Treating Vascular Lesions

The 532 nm wavelength is located at one of the oxyhemoglobin absorption peaks, which makes it an ideal candidate for treating vascular lesions.

Based on the revolutionary ASP technology, StarWalker features a unique green long-pulse VERDE pulse mode that has been designed specifically to treat vascular lesions. The StarWalker’s VERDE mode operates at a long pulse duration of 20 ms, adapted to correspond to the TRT of superficial red vessels.

FRAC3 and VERSA3 1064 nm modes

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VERSatility

StarWalker’s range of laser sources and wavelengths enables a wide range of treatments, from tattoo removal and pigmented and vascular lesion removal to skin rejuvenation, acne treatments, hair removal and more.
Expanded Treatment Range

Epidermal and dermal pigmented lesions

StarWalker’s MaQX and QX modes are ideal tools for effectively treating a wide variety of epidermal and dermal pigmented lesions on all skin types. Melanin absorption is highest at 532 nm, and then decreases towards longer StarWalker wavelengths. On the other hand, the dermal penetration depth is greatest at 1064 nm. Therefore, the 532 nm is useful for removing epidermal pigmentation such as freckles, and the 1064 nm is suitable for removing pigments deeper in the dermis.

TwinToning: combined 1064 nm and 532 nm MaQX skin toning

AngelWhite: 1064 nm MaQX skin whitening

Melasma with MaQX 1064 nm

Age spots with MaQX 1064 nm

Nevus of Ota with MaQX 1064 nm

Removal of freckles with MaQX 1064 nm mode

Versatility

StarWalker’s twelve laser modes provide the user with treatment options otherwise not available with Q-switched laser systems.
Enhanced Vascular Treatments

The 532 nm wavelength is located at one of the oxyhemoglobin peaks, which makes the Star-Walker VERDE mode an ideal candidate for superficial vascular treatments, while 1064 nm is used for treating deeper and larger vessels.

Vascular treatments

Spider vein before and after

Acne treatments

Facial redness

Fractional 1064 nm MaQX treatment of active acne

Fractional 1064 nm MaQX treatment of facial redness

Hair removal

Facial pores

Hair removal with VERSA3 1064 nm mode

Treatment of pores with MaQX 1064 nm
Advanced Tattoo Removal

Multi-color laser for multicolor tattoos

The Fotona StarWalker ASP ultra-short pulse technology combines 4 different wavelengths in an advanced, high-powered solution for tattoo removal.

<table>
<thead>
<tr>
<th>Pigment Color</th>
<th>Laser Wavelength</th>
</tr>
</thead>
<tbody>
<tr>
<td>blue, brown, gray, black (dark)</td>
<td>1064 nm</td>
</tr>
<tr>
<td>green</td>
<td>650 nm</td>
</tr>
<tr>
<td>sky blue (light)</td>
<td>585 nm</td>
</tr>
<tr>
<td>red, tan, orange, purple</td>
<td>532 nm</td>
</tr>
</tbody>
</table>

Generally, the greater the absorption of laser light in the tattoo pigment granules at a certain wavelength, the greater the energy available to break up these tattoo pigment granules.

Color tattoo before and after

Color tattoo removed after five treatments

Cosmetic tattoo (permanent make-up) removal
When a Q-switched laser pulse strikes the tattoo pigment it generates gas and steam within the skin. This causes an optical shielding or “frosting” effect that prevents any subsequent laser pulse from effectively reaching the deeper-lying pigments. Furthermore, gas bubbles which are formed around the pigment particles can damage the surrounding tissue.

**Standard Treatment**

1. Before the treatment
2. First treatment with a Q-switched pulse
3. Gas bubbles following the Q-switched treatment
4. Subsequent Q-switched pulses are blocked from reaching deeper lying pigments

When the Fotona patented FracTat™ procedure is performed, micro holes are first drilled into the skin using a fractional ablative laser handpiece. The fractional micro holes act as pressure relief ducts through which the gases can escape without building up excessive pressure.

**FracTat™ treatment**

1. Micro holes are drilled with an ablative fractional laser
2. First treatment with a MaQX pulse
3. Reduced frosting effect
4. Subsequent MaQX pulses are not blocked from reaching deeper lying pigments

**Advantages of FracTat:**

- Enhanced generation of photoacoustic shockwaves
- Reduced frosting and pressure on surrounding tissue
- Multiple MaQX irradiations can be made during a single session
- Direct pigment removal via ablation and healing of fractionated skin
- Enhanced generation of photoacoustic shockwaves

**Reliability**

StarWalker’s MaQX peak energy, four colors and proprietary FracTat™ procedure make StarWalker an industry leading tattoo removal laser system.
Excellence in Your Hands

A focus on applications with an impressive line of advanced easy-to-use handpieces

<table>
<thead>
<tr>
<th>handpiece</th>
<th>wavelength</th>
<th>spot size</th>
<th>spot shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>R28</td>
<td>1064 / 532 nm</td>
<td>2 - 8 mm</td>
<td>circle</td>
</tr>
<tr>
<td>R29</td>
<td>1064 / 532 nm</td>
<td>10, 12.5, 20 mm</td>
<td>circle</td>
</tr>
<tr>
<td>R58</td>
<td>532 nm</td>
<td>1.5 - 6 mm</td>
<td>circle</td>
</tr>
<tr>
<td>R58S</td>
<td>585 nm</td>
<td>2, 3, 4 mm</td>
<td>circle</td>
</tr>
<tr>
<td>R650</td>
<td>650 nm</td>
<td>2, 3, 4 mm</td>
<td>circle</td>
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<tr>
<td>FS20</td>
<td>1064 nm</td>
<td>9x9 mm</td>
<td>fractional, 25 pixels</td>
</tr>
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<td>FS20A</td>
<td>1064 nm</td>
<td>9x9 mm</td>
<td>fractional, 81 pixels</td>
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<tr>
<td>FS20B</td>
<td>1064 nm</td>
<td>5x5 mm</td>
<td>fractional, 25 pixels</td>
</tr>
<tr>
<td>FS50</td>
<td>532 nm</td>
<td>9x9 mm</td>
<td>fractional, 25 pixels</td>
</tr>
</tbody>
</table>

Key benefits

- Quick-release mechanism for attaching handpieces to the OPTOflex articulated arm
- FracTat technology offers a wide range of ablative and nonablative fractional treatments with different wavelengths and matrix patterns
- Automatic Detection: on-the-fly detection of type of HP, spot-size and spacer. HPs retain their compact size even with the automatic detection feature
- Unified handpiece design with built-in CPU for optimal safety and performance
- Titanium construction
Perfection
When you choose Fotona, you choose a company committed to designing, manufacturing and delivering the highest performance, best made laser systems in the world.
Committed to Engineering
The Highest Performance, Best Made Laser Systems in the World
since 1964

Founded in 1964, only four years after the invention of the very first laser, Fotona is one of the most experienced developers of high-technology laser systems. Fotona today is a world-leading medical laser company recognized for its innovative, award-winning laser systems for applications in aesthetics & dermatology, dentistry, surgery and gynecology. Based in the US and EU, with corporate headquarters in Dallas, Texas, and Ljubljana, Slovenia, Fotona’s business philosophy is to continuously choose perfection to ensure the maximum performance and efficacy of its medical devices.

www.fotona.com