

A close-up photograph of a woman's face, focusing on her eye and cheek. Overlaid on the image are white, glowing lines that trace the contours of her face, suggesting a laser treatment path. Small white arrows point in the direction of the treatment. The woman has light skin, blue eyes, and red lipstick. The background is a soft, out-of-focus white.

*crafting ideas into light*

# Lasers for Life-Science & Medical Applications

- Laser Hair Removal

# Hair Removal

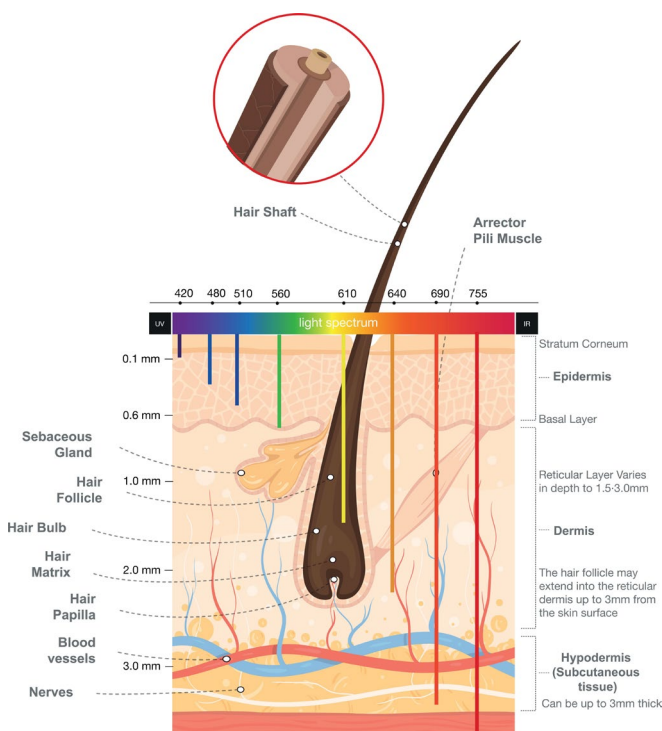
**High Pulse Diode Lasers** are widely used in Hair Removal.

Monocrom has a wide experience in supplying hair removal laser components and modules.

We offer a range of **wavelengths** and power, mechanical options and accessories, drivers and bank capacitors.

## Laser Hair Removal Benefits:

- Reduces hair growth by 90-95 %
- Less risk of damaging the skin around the hair follicles
- Safe treatment for patients with darker and tanned skin tones
- Pain-free treatment



## Diode Lasers:

### Today's Top Hair Removal Solution

High pulse diode lasers are the best trade-off between **versatility**, **effectiveness** and **cost**. Their emitting wavelength is in the range from 760 nm to 1064 nm (and beyond) for light-assisted hair removal applications.

High pulse diode laser technology could be applied to any skin phototype and replace any other existing light-assisted hair removal system.

# Laser Diode Modules

We supply Plug & Play Laser Diode modules with single or multiple laser stacks (single or combined wavelengths). Encapsulated laser stacks are easier to handle because the laser bar is kept into a sealed case isolated from exterior. No clean room conditions are necessary when manipulating these laser devices. A variety of tips and optics are available.

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Active cooling modules

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Passive cooling modules

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Starter kit

|                 | Actively cooled stack                      | Passively cooled stack                     |
|-----------------|--------------------------------------------|--------------------------------------------|
| Water channel   | 0.9 mm (4 times bigger than the market)    | 1.4 mm (13 times bigger the the market)    |
| Pulse width     | CW (with reduced current)                  | Up to 40% (with reduced current)           |
| Repetition rate | Up to CW (with reduced current)            | Up to 12 Hz                                |
| Cooling liquid  | 10% Ethyleneglycol and 90% distilled water | 10% Ethyleneglycol and 90% distilled water |
| Spot size       | Up to 10 cm <sup>2</sup>                   | Up to 5 cm <sup>2</sup>                    |
| Lifetime        | 10 <sup>9</sup> pulses                     | 10 <sup>9</sup> pulses                     |

# Actively Cooled Laser Diode

## Long Pulse Hair Removal Laser Technology

**Actively cooled stack** delivers **Long Pulses Laser Diode**. We call it CAST Technology, a smart combination of re-shaping & clamping our bars in a compact and light module, reaching longer pulses.

Ergonomic, light-weight

Non-soldered laser bars – CLAMPING™ Tech inside

Efficient cooling system

Extended useful life-time of the diode

High reliability

Low thermal resistances



### Technical parameters

|                                 |                                                   |
|---------------------------------|---------------------------------------------------|
| Peak wavelength                 | 760/808/940/1064 nm single or mixed               |
| Power                           | up to 3000 W                                      |
| Pulse Width                     | up to 400 ms                                      |
| Repetition rate                 | Up to 20 Hz                                       |
| Optical transmission efficiency | up to 90%                                         |
| Spot size                       | 1 – 2 – 6 – 8 -10 cm²                             |
| Weight                          | < 290 g                                           |
| Variants                        | Encapsulated stack, Stack + Prism,<br>Stack + TIP |

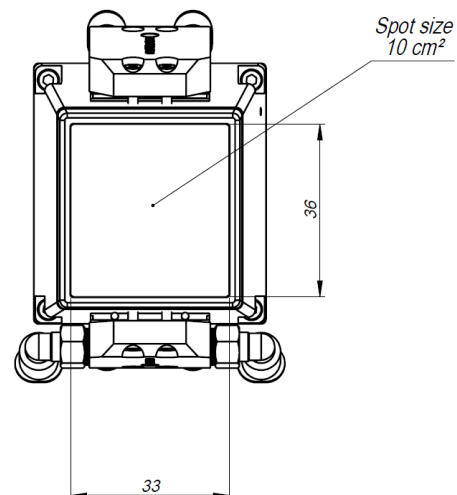
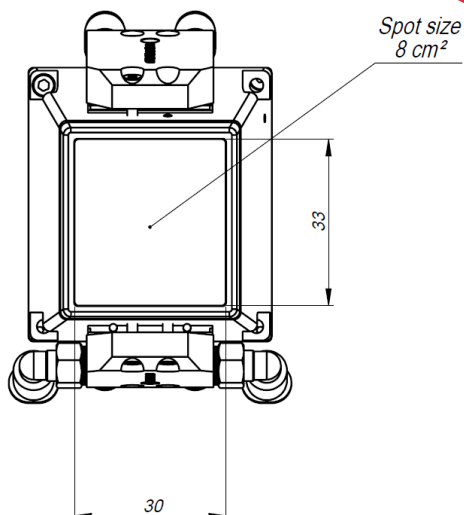
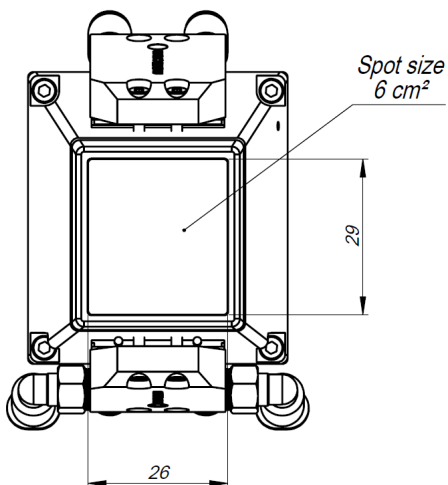
## #NewNow

### Double-Long Pulse Hair Removal Laser Technology

**Double Actively cooled stack delivers Long Pulses Laser Diode.** We call it CAST Technology, a smart combination of re-shaping & clamping our bars in a compact and light module, reaching longer pulses.



Spot Sizes Available:  
6cm<sup>2</sup> 8cm<sup>2</sup> 10cm<sup>2</sup>



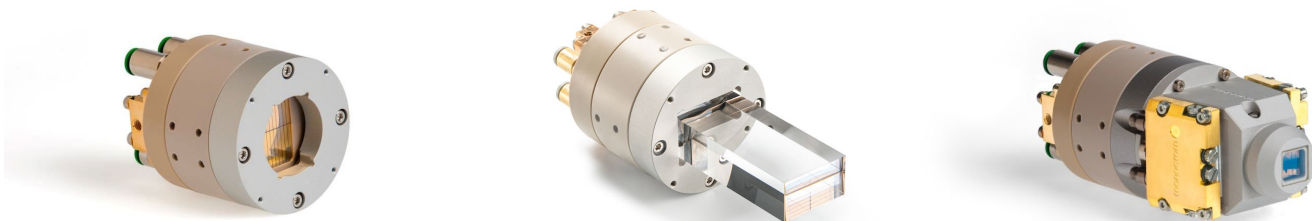
\*\*\*Customized optics available on request  
i.e. 760nm 20b 3600W 180A SOP 21x10

# Passively Cooled Laser Diode

## High Peak Power Hair Removal Laser Technology

Passively cooled stack delivers **Short Pulses Laser Diode**.

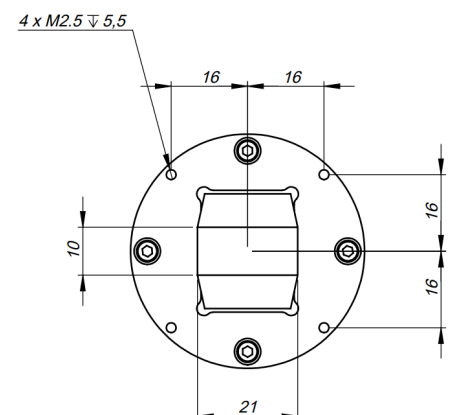
We call it SPST Technology, a smart combination of re-shaping & clamping our bars in a compact module, reaching higher peak power with short pulses.



### Technical parameters

|                                 |                                                                                |
|---------------------------------|--------------------------------------------------------------------------------|
| Peak wavelength                 | 760/808/940/1064 nm single or mixed                                            |
| Power                           | up to 6000 W                                                                   |
| Pulse Width                     | up to 200 ms                                                                   |
| Repetition rate                 | Up to 12 Hz                                                                    |
| Optical transmission efficiency | up to 90%                                                                      |
| Spot size <sup>***</sup>        | 7x7, 8x8, 9x11, 9x18, 10x21, 10x25, 10x9,<br>12x14, 12x30, 13x14, 15x25, 25x14 |
| Weight                          | < 500 g                                                                        |
| Variants                        | Encapsulated stack, Stack + prism,<br>Stack + TIP                              |

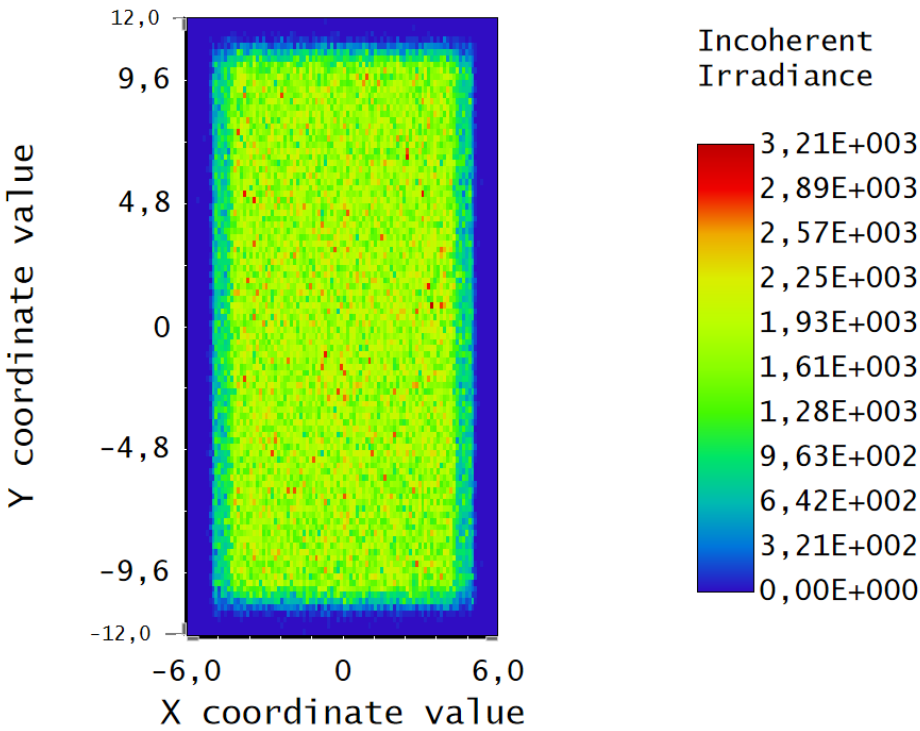
\*\*\*Customized optics available on request



i.e. 760nm 20b 3600W 180A SOP 21x10

# Homogeneity

## Spot Size. Exit Shot

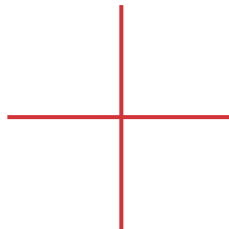


| Detector Image: Incoherent Irradiance                                                                                                                                                                                               |                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Lens has no title.<br>8/11/2022<br>Detector 6, NSCG Surface 1: PELL<br>Size 12,000 W X 24,000 H Millimeters, Pixels 100 W X 100 H, Total Hits = 200000<br>Peak Irradiance : 3,2113E+03 Watts/cm^2<br>Total Power : 3,4824E+03 Watts | Zemax<br>OpticStudio 14.2 SP1                 |
|                                                                                                                                                                                                                                     | LBS-8020-10x21-TC.zmx<br>Configuration 1 of 1 |

# Starter kit

## Drivers and Bank Capacitors

Monocrom provides the whole starter kit, including a complete laser diode module with TIP, personalised driver for its module and bank capacitor.



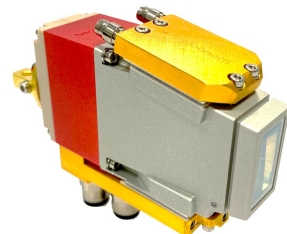
or



or



or



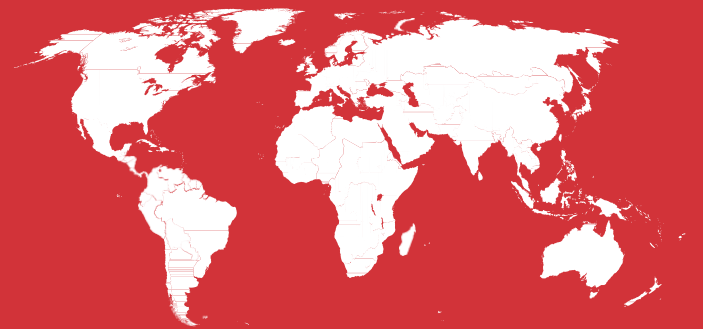
# OEM Laser Solutions for Dermatology and Aesthetics

Monocrom has more than 30 years of experience and expertise delivering laser solutions for the Dermatology and Aesthetics markets. We adapt to customers needs, offering a high degree of flexibility and versatility for their most demanding applications.



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**We are global**