

VIVIO | NANOSECOND LASERS

Enduring Excellence, pulse by pulse



Long-Term Reliability

Long laser lifetime due to unique metal sealed hyperclean UV technology.



Short Pulse Widths

Exceptional short laser pulse widths with high peak power.



All-In-One Design

Easy to integrate with fully integrated single-board power supply and laser control electronics

Compact. Powerful. Reliable.

All-in-One Q-switched Lasers

The all new CORE is the latest addition to our growing line-up of Q-switched lasers. The all-in-one concept comes with a fully integrated one-board power supply and control electronics. This design allows for easy and rapid integration into complex systems. Its latest hyperclean UV technology and the integrated closed-loop air purification system ensure exceptional UV lifetimes and hands-off operation.

Pulse control redefined – The core of the Vivio is a high-speed pulse control unit that allows you to achieve application results like never before and get unmatched processing results.

Benefits

Hands-off Operation for 24/7 Industrial Applications

The Vivio Q-switched laser comes with a fully integrated one-board power supply and control logic. Best pulse stability and advanced laser control features enable precise processing results.

The Vivio nanosecond Laser provides lowest total cost of ownership and can be integrated easily into various types of industrial laser equipment.

Applications

Superior Pulse-to-Pulse Stability for Your Applications

The Vivio Q-switched nanosecond laser offers not only off-hands operation for 24/7 industrial applications, but also superior pulse-to-pulse stability.

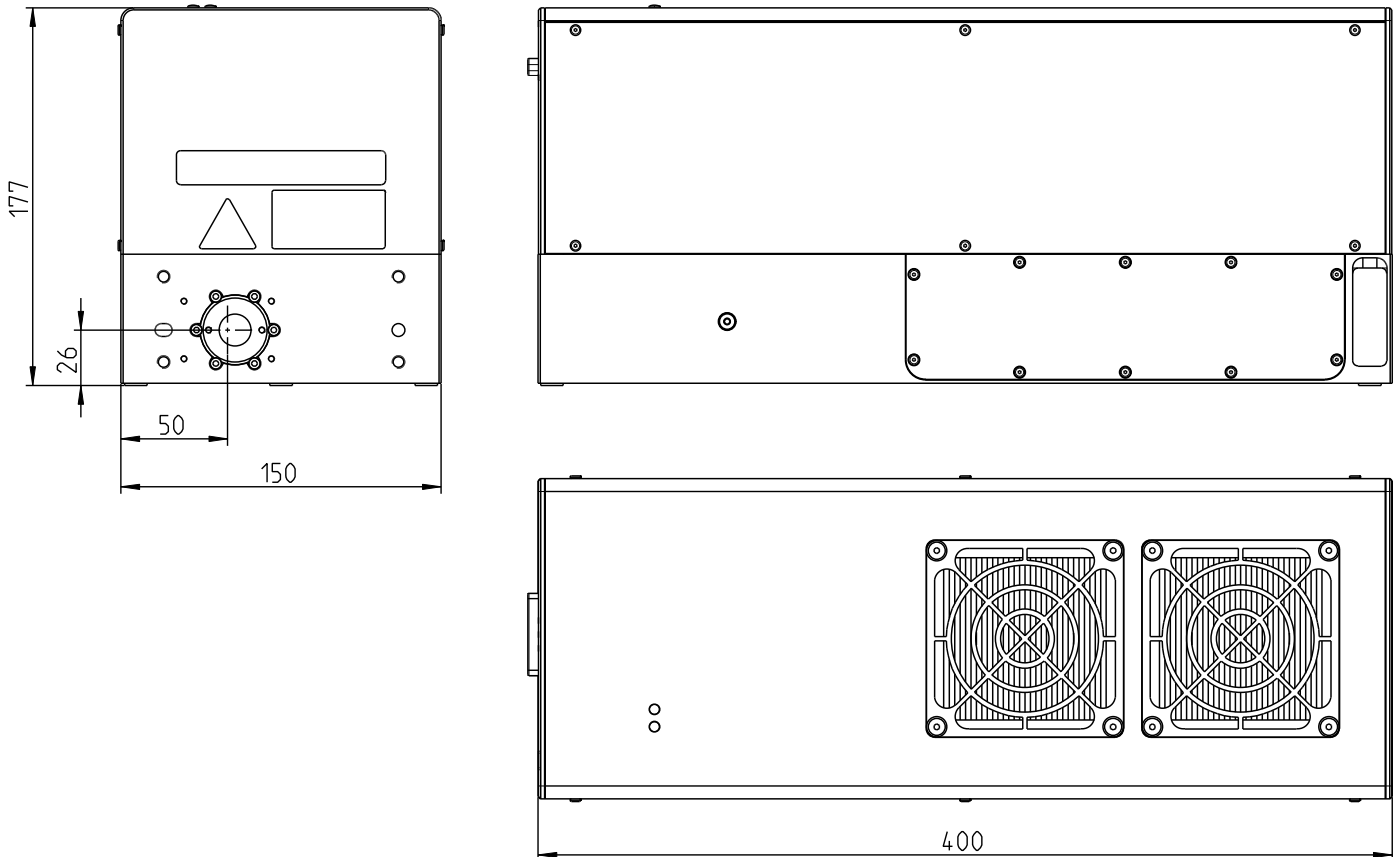
- Chip marking
- SD Card cutting
- PCB marking
- Plastics marking

Advantages

Engineered for Demanding Applications

- Compact all-in-one design
- Integrated closed-loop air purification system
- Superior pulse-to-pulse stability
- Short pulse widths
- Low cost of ownership
- Best laser life time

Technical Drawings



Customizations & Options

Easy to Customize and Integrate

The Vivio Q-switched laser provides various customization options. And, it is simple to integrate because there are no sensitive cable connections in the system.

Choose from the following customization options for Vivio Series Lasers:

- Air or water cooling
- Beam expander box
- Motorized variable attenuator
- Scan head adapter flanges
- Constant pulse energy mode CPEM+

Other available options:

- Customized Laser performance
- Customized Control and operation modes
- Customized Laser interfacing & software control
- Branded laser control software
- Special laser developments

Specifications

Vivio	355	532	1064
Model	355-6-V	532-14-V	1064-15-V
Laser Medium	Nd:YVO ₄	Nd:YVO ₄	Nd:YVO ₄
Wavelength	355 nm	532 nm	1064 nm
Nominal Power	6 W @ 40 kHz	14 W @ 60 kHz	15 W @ 40 kHz
Repetition Rate	1 to 150 kHz	1 to 200 kHz	1 to 100 kHz
Pulse Width	<20 ns	<25 ns	<30 ns
Pulse Energy	150 µJ @ 40 kHz	233 µJ @ 60 kHz	375 µJ @ 40 kHz
Peak Power	10 kW @ 40 kHz	9.3 kW @ 60 kHz	12.5 kW @ 40 kHz
Pulse-to-Pulse Stability	<2% @ 40 kHz	<1% @ 60 kHz	<1% @ 40 kHz
Power Stability (rms, 8h)	<2%	<2%	<2%
Spatial Mode	M ² ≤ 1.2, TEM ₀₀	M ² ≤ 1.2, TEM ₀₀	M ² ≤ 1.2, TEM ₀₀
Nominal Beam Diameter (at waist)	0.35 mm	0.4 mm	0.4 mm
Nominal Waist Location (from output)	-410 mm	-340 mm	-250 mm
Beam Divergence (full angle)	1.5 mrad	2.0 mrad	4.0 mrad
Nominal Beam Diameter (at output)	0.7 mm	0.8 mm	1.1 mm
Polarization	Vertical, >100:1	Horizontal, >100:1	Vertical, >100:1
Circularity	>90%	>90%	>90%
Warm-up Time	<15 min	<15 min	<15 min
Operating Voltage	24 VDC	24 VDC	24 VDC
Laser Power Consumption	<480 W	<480 W	<480 W
Cooling	Air	Air	Air
Ambient Temperature	15-35 °C, non-condensing	15-35 °C, non-condensing	15-35 °C, non-condensing
External Control	RS232, USB, TTL, Analog Q-Switch Control	RS232, USB, TTL, Analog Q-Switch Control	RS232, USB, TTL, Analog Q-Switch Control
Dimensions Laser Head (L x W x H)	400 x 150 x 177 mm	400 x 150 x 177 mm	400 x 150 x 177 mm
Weight Laser Head	13 kg	13 kg	12.5 kg

Iradion follows a policy of continuous product improvement. All specifications are subject to change without notice. Rev. 1.1, 06/2023.
Iradion Laser GmbH is DIN EN ISO 9001 certified.

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