IRADION
CORE LASER TECHNOLOGY

BLIZZ | NANOSECOND LASERS

Superior Longevity and Cost-Performance Ratio

High peak power and short pulse width
The high peak power combined with short pulse widths enable fast processing speeds especially on hard materials.

Superior pulse-to-pulse stability
The Blizz is the perfect tool for today's demanding applications that require high output power, excellent beam quality and superior pulse-to-pulse stability even at high repetition rates.

Compact & rugged industrial design
The rugged laser head comes with an exceptionally small 48 VDC OEM power supply or optionally in a 1 RU version.

High Power and Short Pulse Widths for Better Process Results

Blizz High Power Green Lasers

The Blizz is the most powerful Q-switched DPSS laser in our line-up, engineered for superior longevity and performance. Coming with a breakthrough price-performance ratio the Blizz is made for demanding 24/7 industrial applications that require excellent performance but lowest cost-of-ownership. Based on the field-proven Nanio series the Blizz's new design cuts down system costs significantly without any trade-offs in quality or laser lifetime.

Applications

High Peak Power for Hard Materials

The Blizz green laser provides outstanding performance in the following applications:

- Diamond cutting
- Silicon Carbide and Tungsten Carbide tooling
- High-speed marking
- Printed Circuit Board cutting, flex or rigid
- Photovoltaics
- PIV (Particle Image Velocimenty)

Benefits

Blizz Green Laser – The Perfect Tool for Demanding Applications

Due to the highest peak power among our lasers, the Blizz series delivers higher cut quality. Achieve precise results and reduce cutting loss to a minimum especially when working with brittle and hard materials.

Increase processing speed and quality. The Blizz green laser is highly efficient even on difficult materials like diamonds. No post-processing is required due to the excellent edge roughness after laser processing.

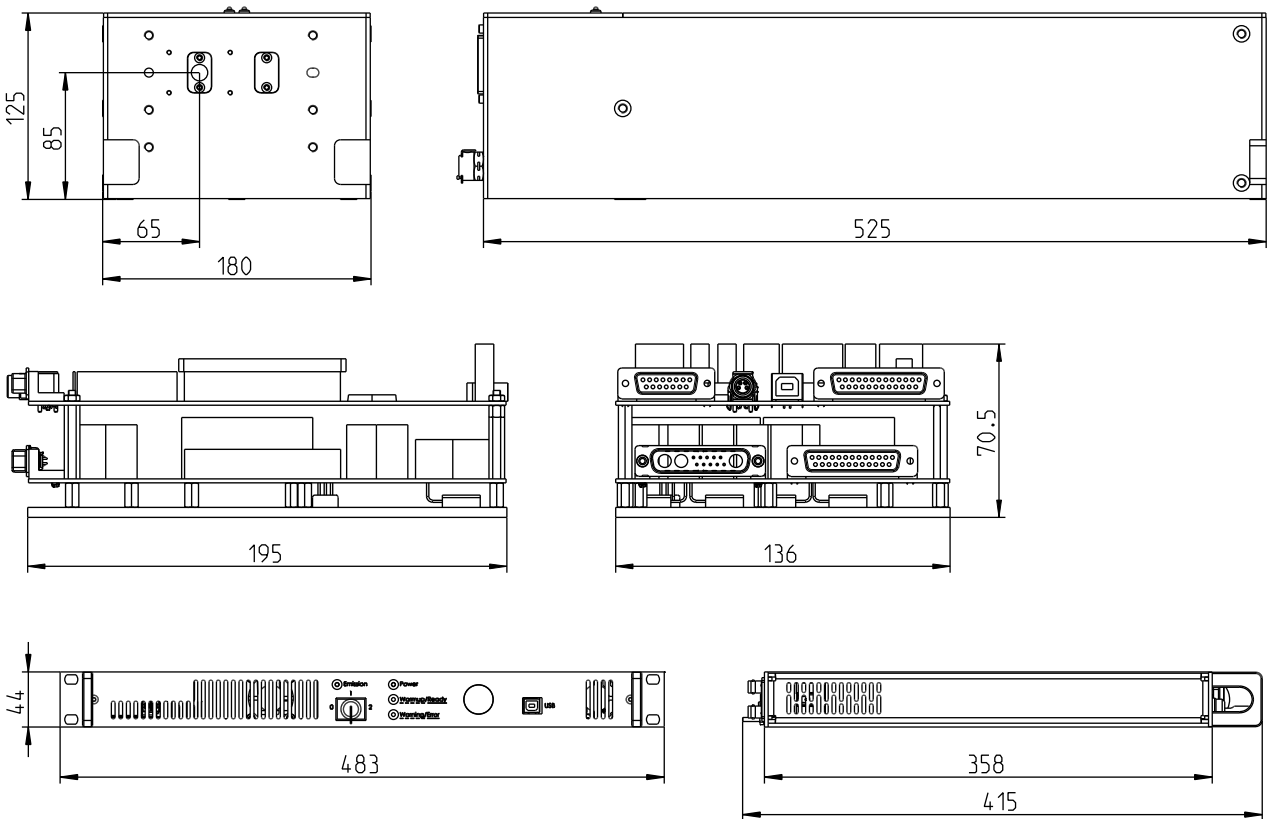
Advantages

Cut Down System Costs Without any Trade-Offs in Quality

Next to the disruptive cost-performance ratio, the Blizz series green lasers offer:

- Highest peak power and short pulse width
- Superior pulse-to-pulse stability
- Precise pulse control
- Compact and rugged industrial design
- Rapid application integration
- Compact 24 VDC OEM power supply

Technical Drawings



Customizations & Options

Green Lasers With Superior Longevity

Customize the Blizz series for your individual application:

- Customer specific laser performance
- Customized Laser interfacing
- Special laser developments

Discover the available options:

- Umbilical length 1-10 m
- Beam expander box
- Variable attenuator box
- Scan head adapter flanges
- Water-to-water or water-to-air chiller

Specifications

Blizz	532		
Model	532-40-V	532-30-V	532-25-V-300
Laser Medium	Nd:YVO_4	Nd:YVO_4	Nd:YVO_4
Wavelength	532 nm	532 nm	532 nm
Nominal Power	40 W @ 40 kHz	30 W @ 40 kHz	25 W @ 300 kHz
Repetition Rate	Single Shot to 400 kHz	Single Shot to 400 kHz	Single Shot to 400 kHz
Pulse Width	<15 ns @ 40 kHz	<20 ns @ 40 kHz	<100 ns @ 300 kHz
Pulse Energy	1,000 µJ @ 40 kHz	750 µJ @ 40 kHz	83 µJ @ 300 kHz
Peak Power	66.6 kW @ 40 kHz	37.5 kW @ 40 kHz	0.83 kW @ 300 kHz
Pulse-to-Pulse Stability	<1 % @ 40 kHz	<1 % @ 40 kHz	<3 % @ 300 kHz
Power Stability (rms, 8h)	<2 %	<2 %	<2 %
Spatial Mode	M^2 <1.4, TEM_{00}	M^2 <1.4, TEM_{00}	M^2 <1.4, TEM_{00}
Nominal Beam Diameter (at waist)	0.35 mm	0.6 mm	0.35 mm
Nominal Waist Location (from output)	-440 mm	-350 mm	-440 mm
Beam Divergence (full angle)	2.5 mrad	1.6 mrad	2.5 mrad
Nominal Beam Diameter (at output)	1.5 mm	0.8 mm	1.5 mm
Polarization	Horizontal, >100:1	Horizontal, >100:1	Horizontal, >100:1
Circularity	>90 %	>90 %	>90 %
Warm-up Time	<20 min	<20 min	<20 min
Operating Voltage OEM P/S (standard)	48 VDC	48 VDC	48 VDC
Operating Voltage 19“ P/S (optional)	115-230 VAC ± 10 %, 50-60 Hz	115-230 VAC ± 10 %, 50-60 Hz	115-230 VAC ± 10 %, 50-60 Hz
Laser Power Consumption	<500 W	<500 W	<500 W
Cooling	Water	Water	Water
Ambient Temperature	15-40 °C, non-condensing	15-40 °C, non-condensing	15-40 °C, non-condensing
External Control	RS232, USB, TTL and Analog Q-Switch Control	RS232, USB, TTL and Analog Q-Switch Control	RS232, USB, TTL and Analog Q-Switch Control
Dimensions Laser Head (L x W x H)	525 x 180 x 125 mm	525 x 180 x 125 mm	525 x 180 x 125 mm
Dimensions OEM P/S (standard) (L x W x H)	195 x 136 x 71 mm	195 x 136 x 71 mm	195 x 136 x 71 mm
Dimensions 19“ P/S (optional) (L x W x H)	358 x 447 x 44 mm, 1 RU high	358 x 447 x 44 mm, 1 RU high	358 x 447 x 44 mm, 1 RU high
Weight Laser Head	20 kg	20 kg	20 kg
Weight Power Supply (standard/optional)	2 kg/6 kg	2 kg/6 kg	2 kg/6 kg

Specifications

Blizz	1064	1342
Model	1064-30-V	1342-8-V
Laser Medium	Nd:YVO_4	Nd:YVO_4
Wavelength	1064 nm	1342 nm
Nominal Power	30 W @ 80 kHz	8 W @ 80 kHz
Repetition Rate	Single Shot to 150 kHz	Single Shot to 100 kHz
Pulse Width	<30 ns @ 80 kHz	<90 ns @ 80 kHz
Pulse Energy	375 µJ @ 80 kHz	100 µJ @ 80 kHz
Peak Power	12.5 kW @ 80 kHz	1.1 kW @ 80 kHz
Pulse-to-Pulse Stability	<1 % @ 80 kHz	<5 % @ 80 kHz
Power Stability (rms, 8h)	<2 %	<2 %
Spatial Mode	M^2 <1.2, TEM_{00}	M^2 <1.4, TEM_{00}
Nominal Beam Diameter (at waist)	0.7 mm	0.7 mm
Nominal Waist Location (from output)	-160 mm	-90 mm
Beam Divergence (full angle)	2.3 mrad	3.4 mrad
Nominal Beam Diameter (at output)	0.8 mm	0.8 mm
Polarization	Vertical, >100:1	Vertical, >100:1
Circularity	>90 %	>90 %
Warm-up Time	<20 min	<20 min
Operating Voltage OEM P/S (standard)	48 VDC	48 VDC
Operating Voltage 19“ P/S (optional)	115-230 VAC ± 10 %, 50-60 Hz	115-230 VAC ± 10 %, 50-60 Hz
Laser Power Consumption	<500 W	<500 W
Cooling	Water	Water
Ambient Temperature	15-40 °C, non-condensing	15-40 °C, non-condensing
External Control	RS232, USB, TTL and Analog Q-Switch Control	RS232, USB, TTL and Analog Q-Switch Control
Dimensions Laser Head (L x W x H)	525 x 180 x 125 mm	525 x 180 x 125 mm
Dimensions OEM P/S (standard) (L x W x H)	195 x 136 x 71 mm	195 x 136 x 71 mm
Dimensions 19“ P/S (optional) (L x W x H)	358 x 447 x 44 mm, 1 RU high	358 x 447 x 44 mm, 1 RU high
Weight Laser Head	20 kg	20 kg
Weight Power Supply (standard/optional)	2 kg/6 kg	2 kg/6 kg

Iradion follows a policy of continuous product improvement. All specifications are subject to change without notice. Rev. 1.4, 04/2022.
Iradion Laser GmbH is DIN EN ISO 9001 certified.

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