

# FQSS 213-50

Diode pumped passively Q-switched solid state laser

- 213 nm
- single pulse
- $\leq 1.3$  ns
- 1 – 30 Hz
- $> 50 \mu\text{J}$  @ 20Hz



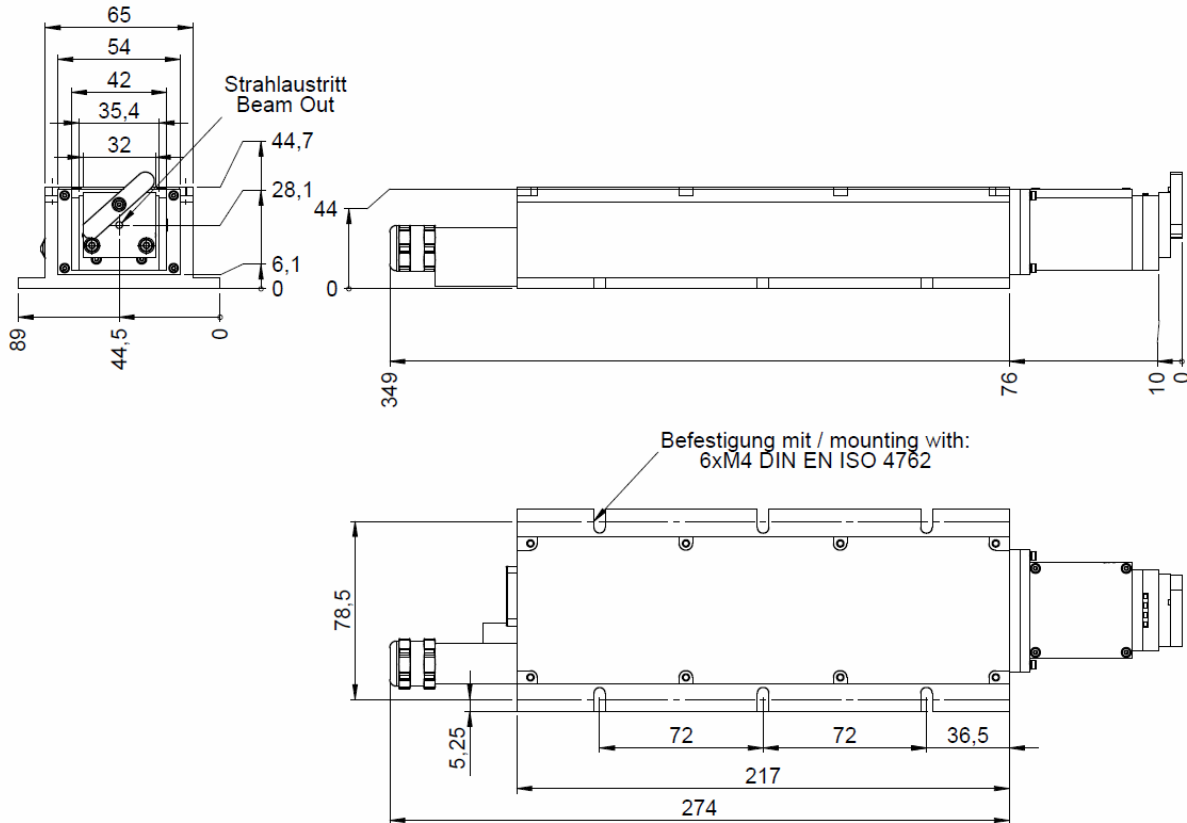
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<b>Optical Data</b>	Wavelength	213 nm
	Beam Divergence (full angle)	$< 1.5$ mrad
	Beam Ellipticity	$< 2:1$
	Beam Diameter	$450 \pm 150 \mu\text{m}$ (at laser exit)
	Peak Power	$> 40$ kW @ 20 Hz
	Pulse Energy	$> 50 \mu\text{J}$ @ 20 Hz
	Pulse Repetition Rate (with external trigger)	1 - 30 Hz
	Pulse Width (FWHM)	$\leq 1.3$ ns
	Polarization Ratio	$> 100:1$ , horizontal
	Long term pulse energy stability (6 hours) <sup>1)</sup>	$< \pm 5$ %
	Pulse-To-Pulse Stability <sup>2)</sup>	$< 3$ % rms
	Laser Classification	4 / IV
	Residual Emission (266nm, 532nm, 1064nm)	$< 0.2 \mu\text{J}$
<b>Optical Output</b>	Free Beam	
<b>Electrical Data</b>	Electrical Power Consumption	$< 90$ W
	Line Voltage	100 - 240 V AC (50-60 Hz) or 24 V DC
<b>Interface</b>	RS 232, USB	
<b>Miscellaneous</b>	Warm-up Time	$< 10$ min
	Operating Temperature	18 - 38 °C
	Laser Head Size	283 x 65 x 45 mm (core dimensions)
<b>Options</b>	Manual Shutter or Electrical Beam Blocker	
	External Telescope (e.g. M=5)	
	Stand Alone system (CDRH compliant; incl. key switch, heat sink, manual beam shutter)	

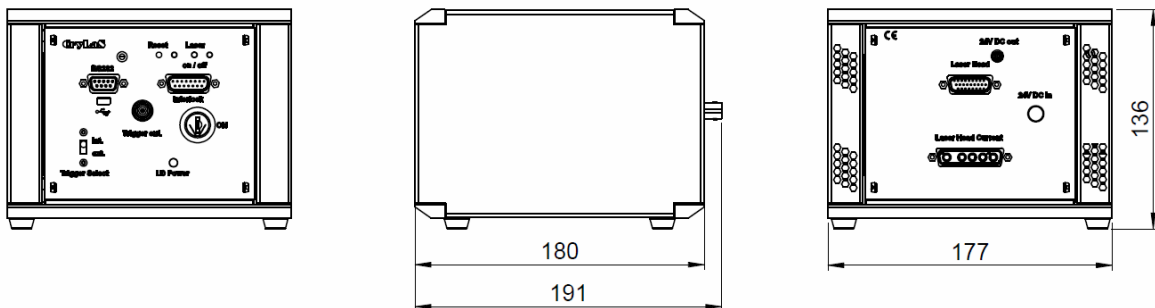
<sup>1)</sup> Drift over 6 hours, energy averaged over 10 sec after 5 min of continuous operation, temperature variation  $< 3$  °C/hour.

<sup>2)</sup> RMS over 1000 pulses after 5 min of continuous operation.

## Laser Head and Controller



Stand Alone Controller



## Laser Safety Labels

The FQSS213-50 lasers is class 4 according to IEC 60825-1:2014

<p>wavelength: 213 nm  max. output: 100 μJ  pulse duration: &lt;1.5 ns  max. repetition rate: 60 Hz</p> <p>Complies with IEC 60825-1:2014  Complies with 21CFR 1040.10 and 1040.11  except for deviations pursuant to  Laser Notice No. 50, dated July 26, 2001</p>	<p><b>DANGER - INVISIBLE  LASER RADIATION</b>  <b>AVOID EYE OR SKIN  EXPOSURE TO DIRECT OR  SCATTERED RADIATION</b></p> <p><b>CLASS 4 LASER PRODUCT</b></p>	<p>IS EMITTED FROM THIS  APERTURE</p> <p>LASER  RADIATION</p>
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