

Origami 03XP-3P

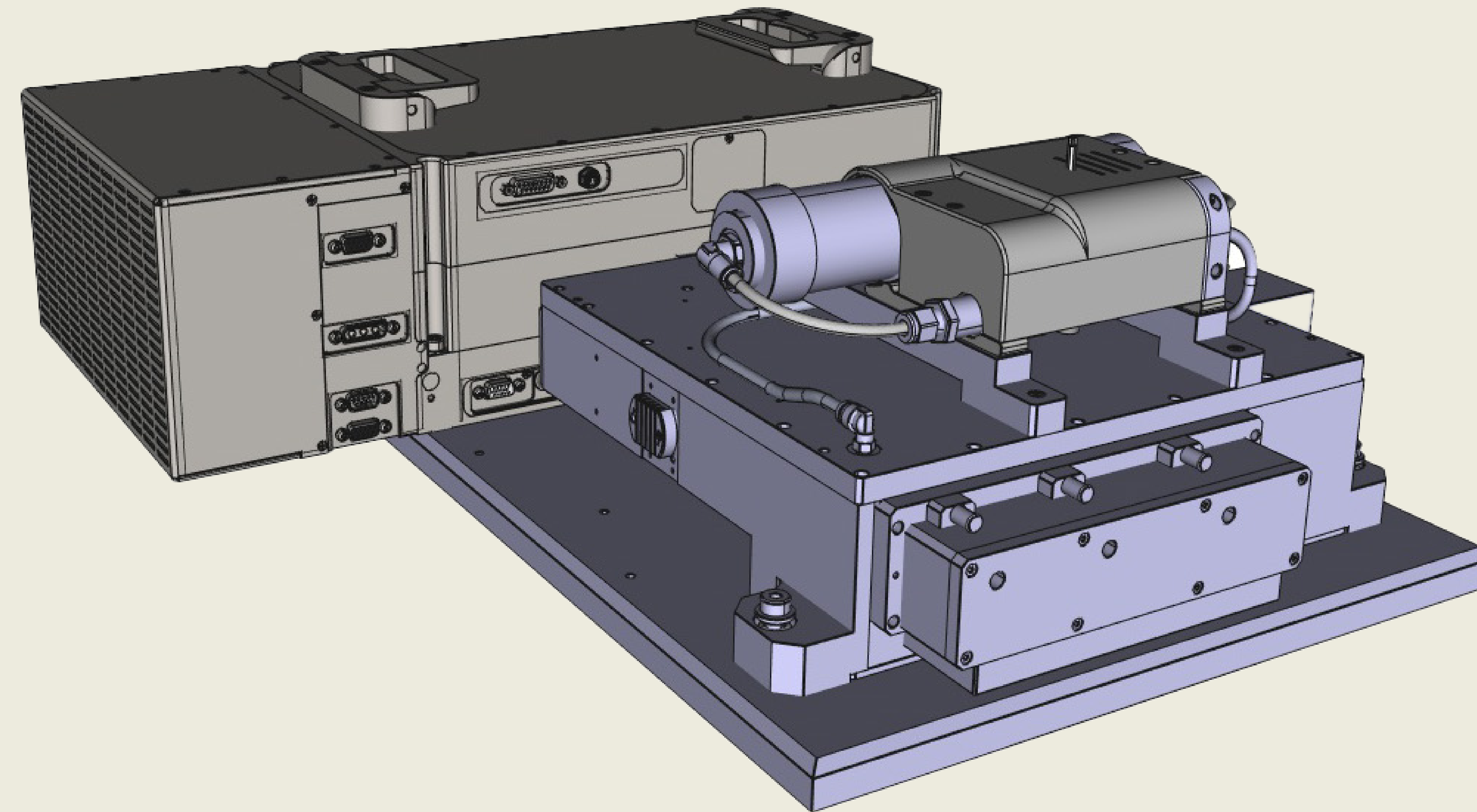
Triple wavelength UV femtosecond laser

Femtosecond IR, green and UV

Flexible femtosecond micromachining

The ORIGAMI 03XP-3P is a triple wavelength femtosecond laser, allowing computer-controlled, flexible switching between IR, green or UV wavelengths in one laser system.

Based on the highly successful ORIGAMI XP platform, the same advantages of clean, femtosecond pulse output, excellent beam quality together with unprecedented beam stability are obtained by virtue of the Optocage™ laser design.



Origami 03XP-3P

Applications

Foil cutting

LCD patterning

OLED display repair

Flex PCB processing

Medical device manufacturing

Reliable

High reliability for industrial and medical applications

The ORIGAMI 03XP-3P has been designed with a focus on high reliability and unprecedented UV lifetime.

Easy availability of IR, green, and UV wavelengths ensure the user can process a variety of materials with the Origami 03XP-03.

The combination of multiple wavelengths together with clean femtosecond pulse output allows efficient processing of materials where low HAZ is essential.

Origami 03XP-3P

Features

IR, green, and UV selectable output

> 10,000 hours reliability

< 300 fs UV pulse duration

Single-shot or Pulse-on-demand

Excellent pointing stability

Superior beam quality

In-field replaceable purge system

Air or water cooled

On-board diagnostics

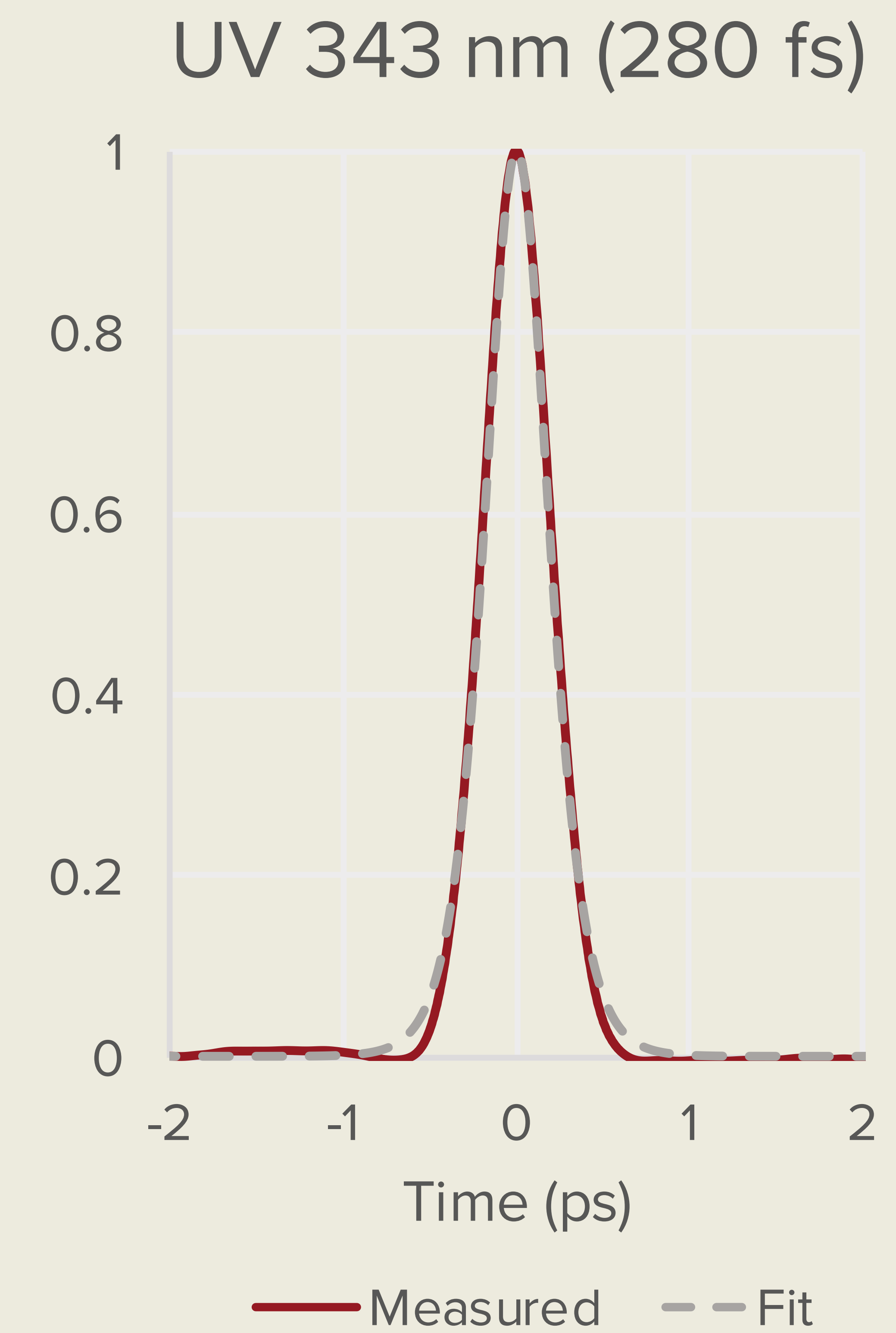
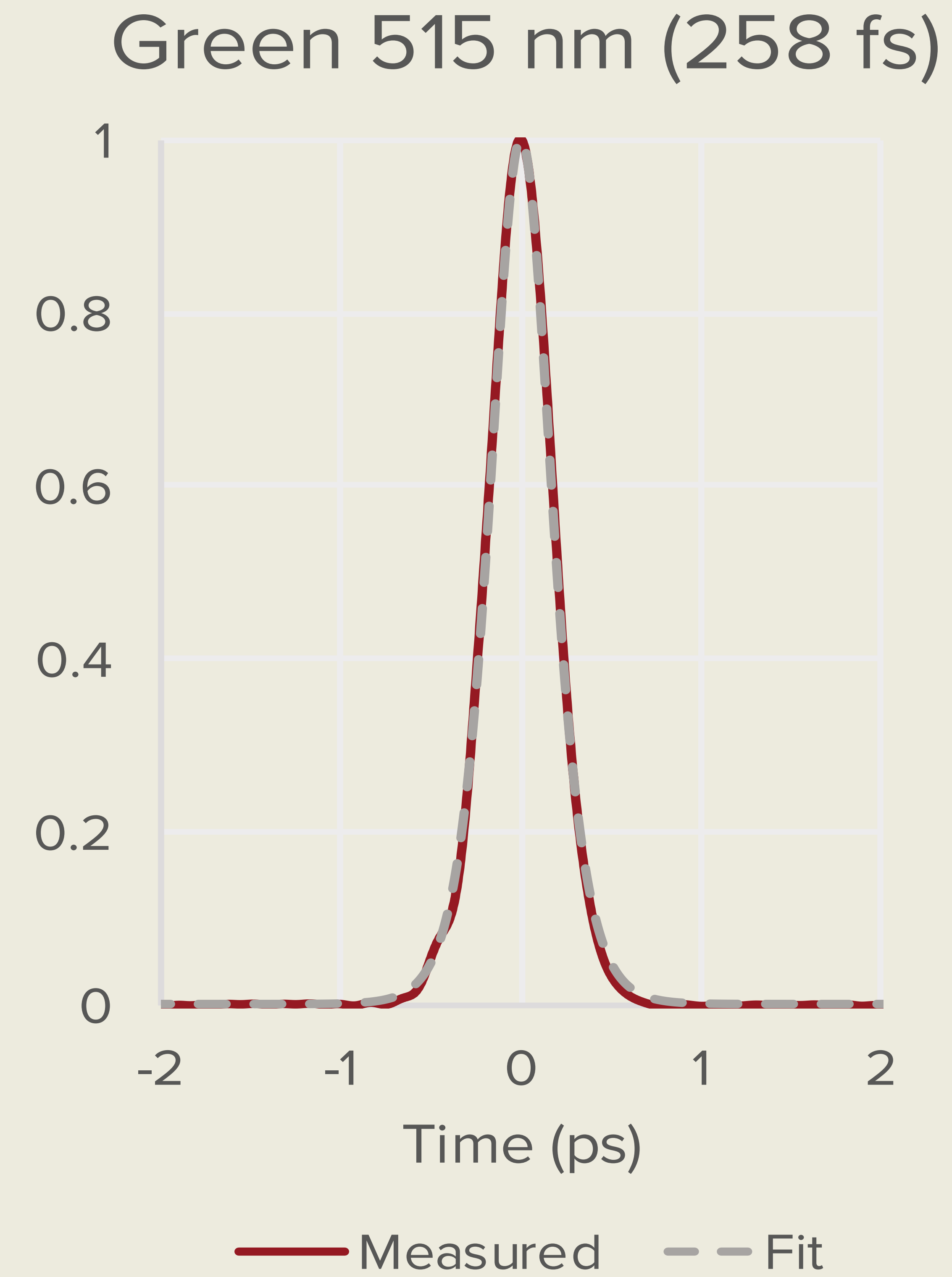
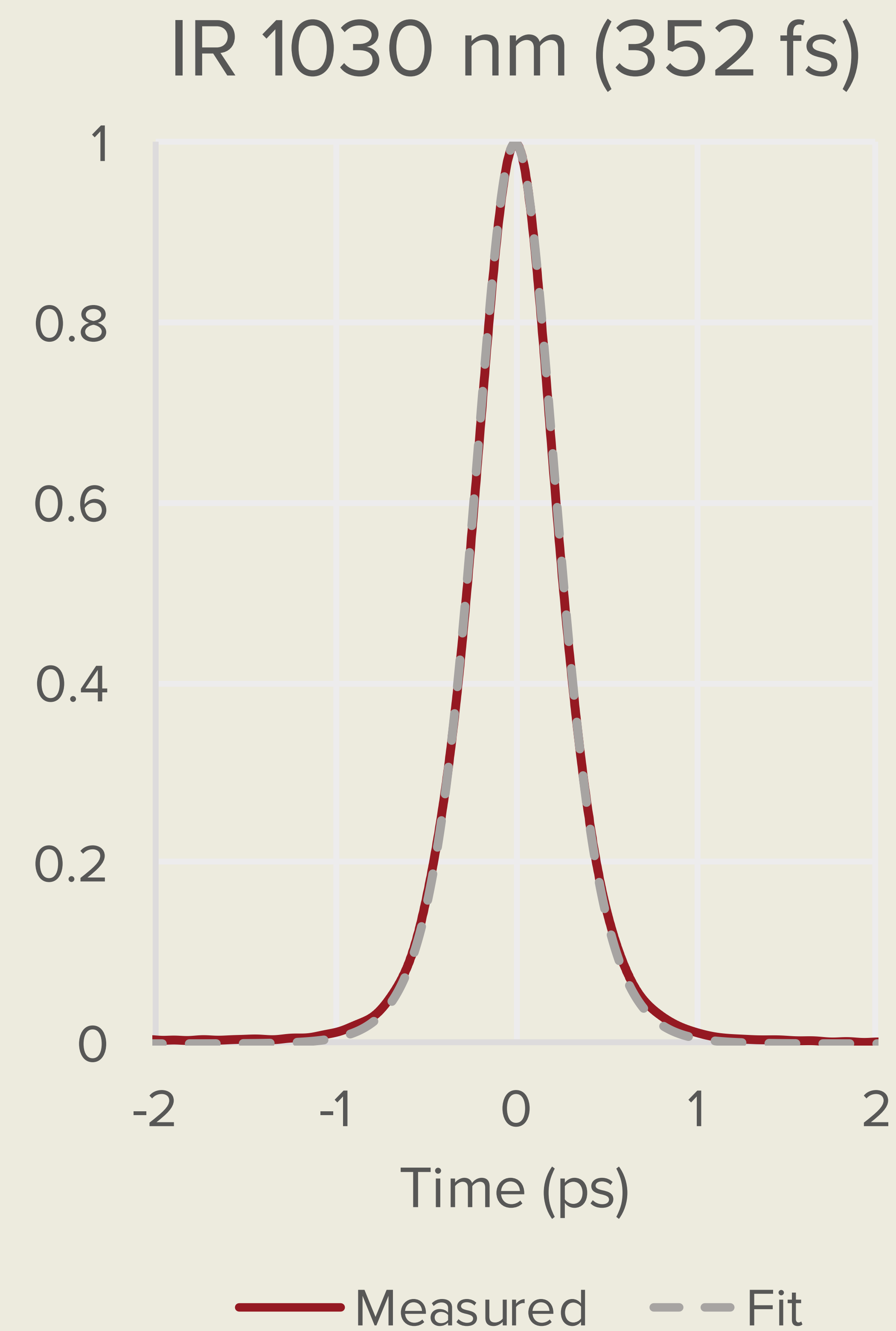
Ethernet communications

Performance

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Typical output pulse width

Typical clean output pulse traces from the 03XP-2P showing a close fit to ideal (Sech²).

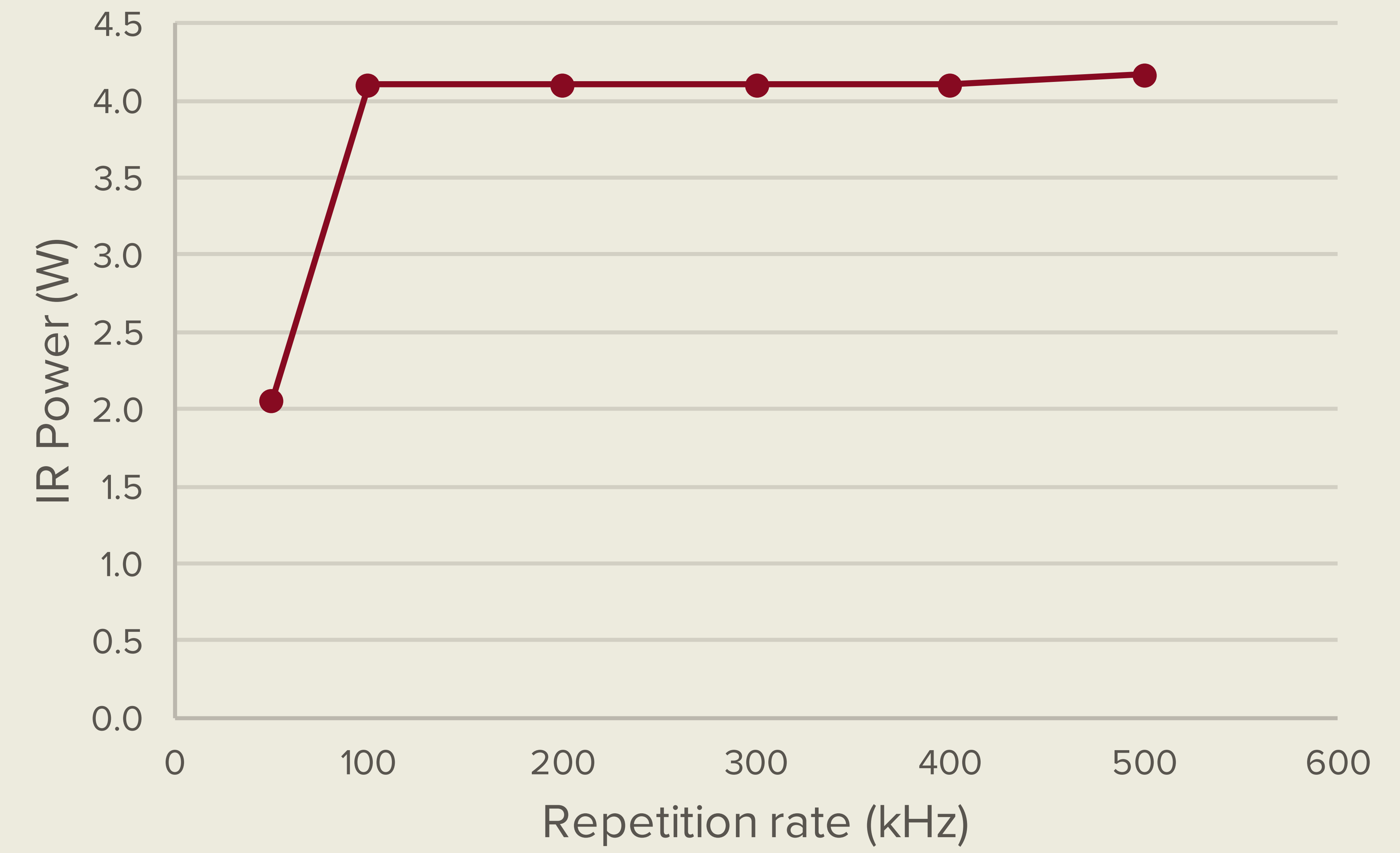
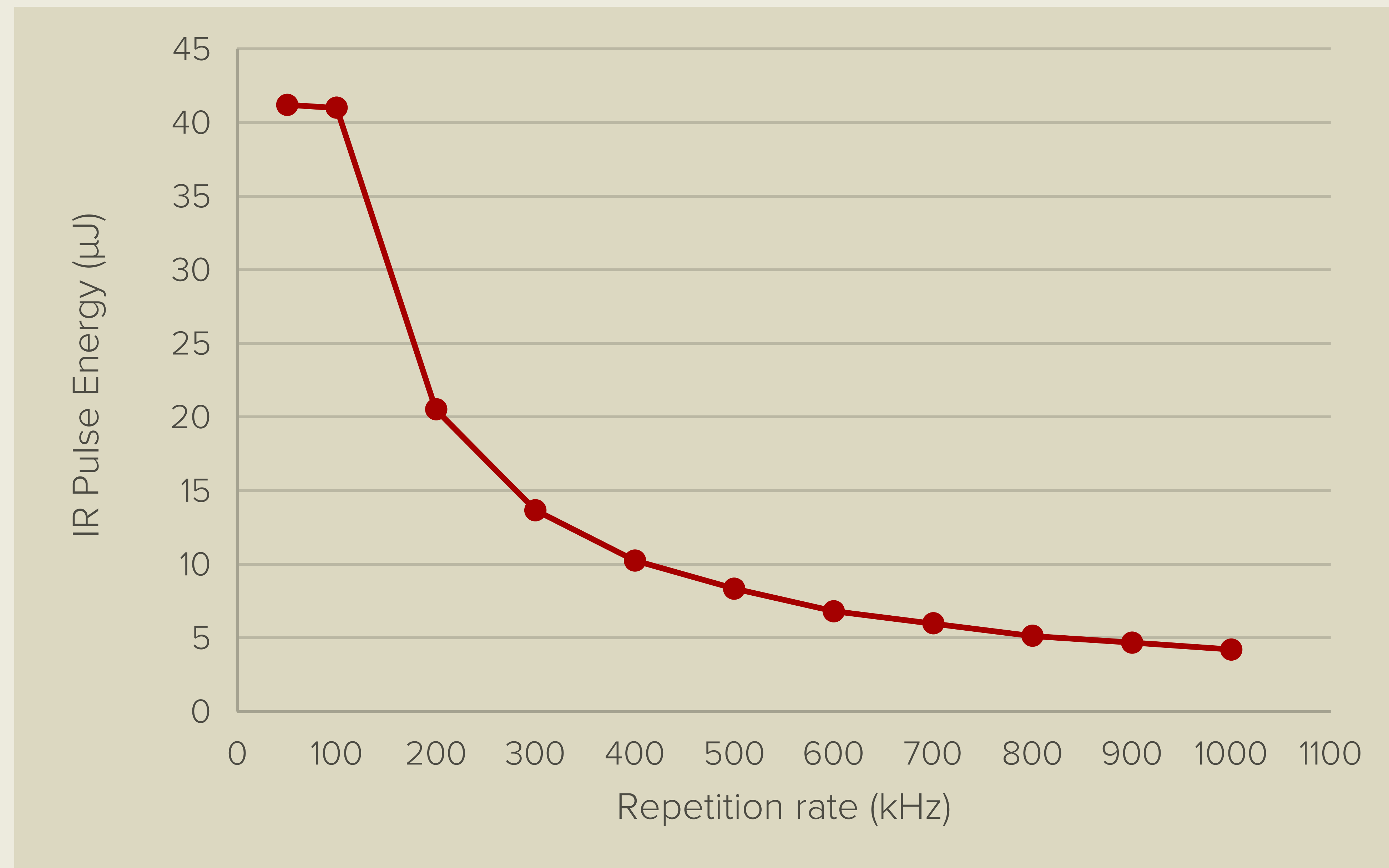


Performance

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Typical pulse energy and output power performance of 03XP-3P

Performance optimized at 100 kHz



Performance

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Typical pulse energy and output power performance of 03XP-3P

Performance optimized at 100 kHz

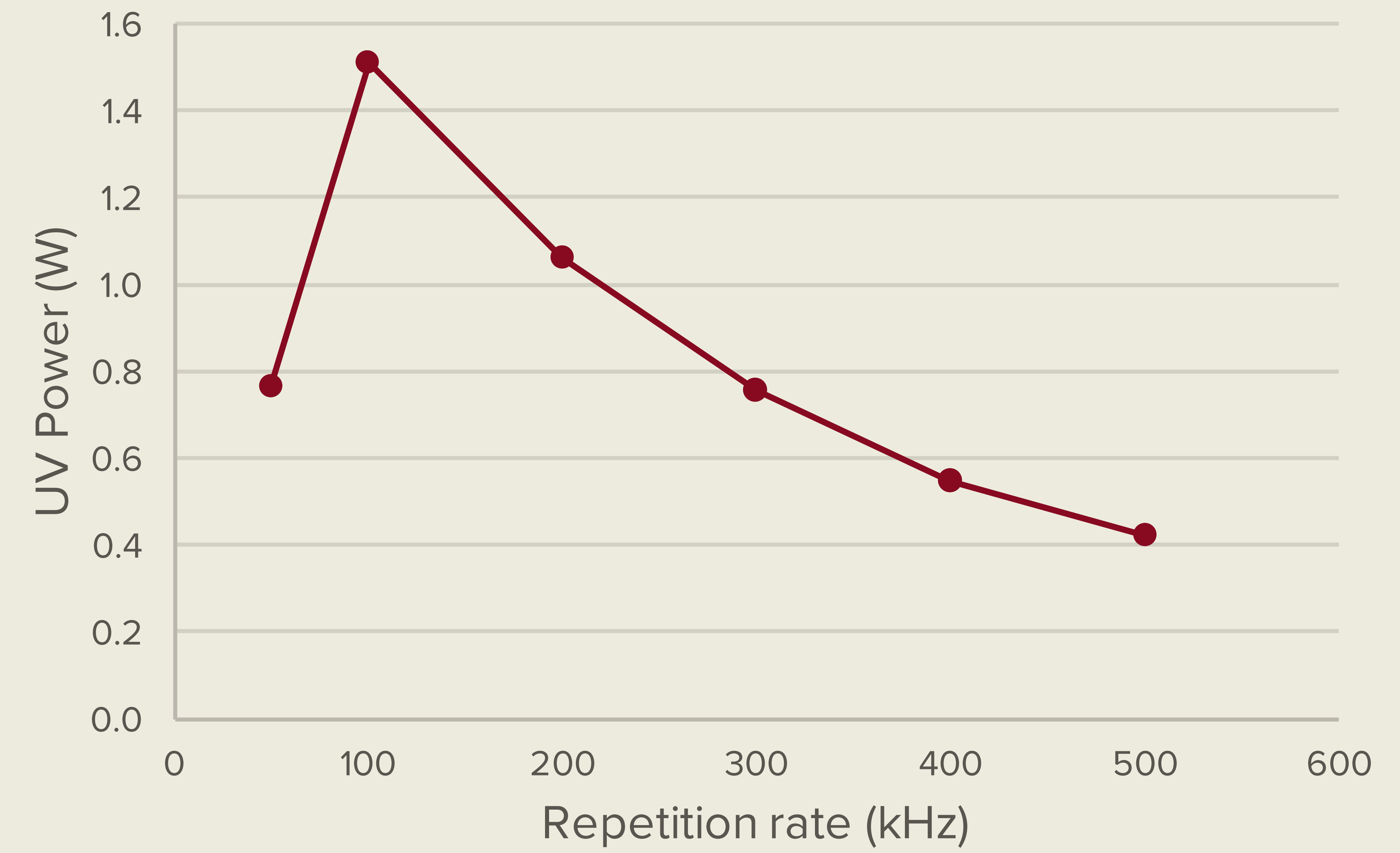
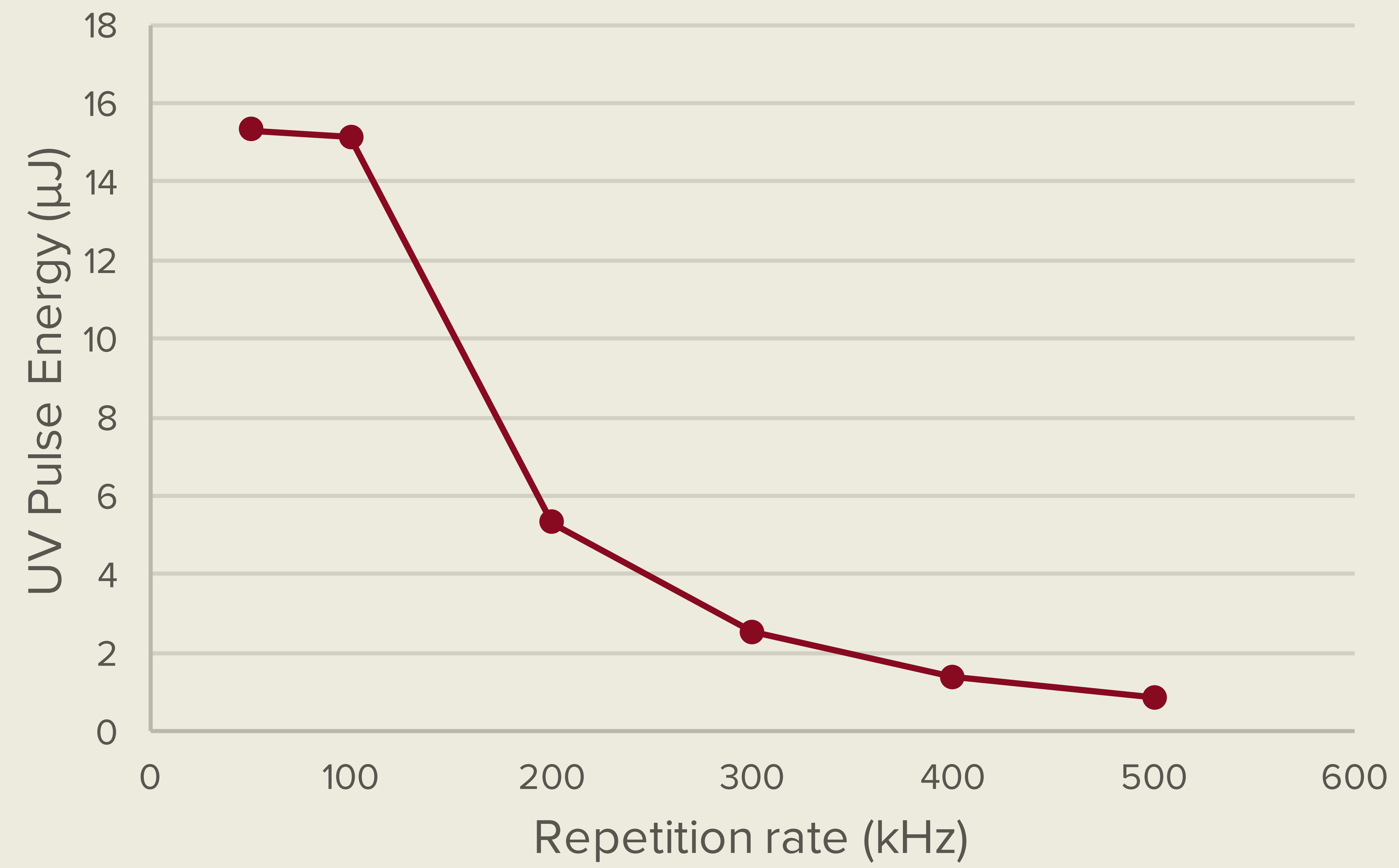


Performance

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Typical pulse energy and output power performance of 03XP-3P

Performance optimized at 100 kHz



Specifications

Optical

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Model			
Center wavelength [nm]	1030	515	343
Average Power [W]	> 4	> 1.5	> 1.2
Pulse duration [fs]	< 400	< 350	< 300
Pulse energy [μ J]	40	15	12
Spectral bandwidth [nm]	< 7.5	< 4	< 2
Pulse selection options	Single-shot to 1 MHz, Pulse-on-demand		
Laser output	Collimated free-space		
Beam quality (TEM ₀₀)	$M^2 \leq 1.2$	$M^2 \leq 1.3$	$M^2 \leq 1.3$
Polarization orientation	Horizontal	Horizontal	Vertical
Polarization / PER [dB]	> 20	> 20	> 20
Beam diameter \pm 10% [mm]	2.2	2.0	2.0
Beam divergence (2 σ) [mrad]	< 1.0	< 1.0	< 1.0
Power stability [%] ¹	< 1	< 1.5	< 2
Beam circularity ²	> 0.85	> 0.85	> 0.85
Pointing stability	< 30 μ rad rms (12h), constant temperature		
	< 15 μ rad / °C 18 – 28 °C		
Wavelength switching [s]	< 1	< 1	< 1

¹ RMS, 12 h, constant temperature.

² Measured at 300mm from aperture

Specifications

Electrical/Mechanical

Laser output	Collimated free-space
Warm-up time [min.]	< 10 (warm start) < 30 (cold start)
Operation temperature [°C]	18 – 28
Storage temperature [°C]	-20 – 55
Power supply requirements	24 VDC/20A or 90-264 VAC, 47-63 Hz
Power consumption [W]	< 500
Laser head dimensions (WxHxD) [mm]	675.2 x 222.6 x 585.4
Power supply dimensions (WxHxD) [mm]	165 x 85 x 314
Laser head weight [kg]	52
Cooling	Water or Air

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Support and warranty

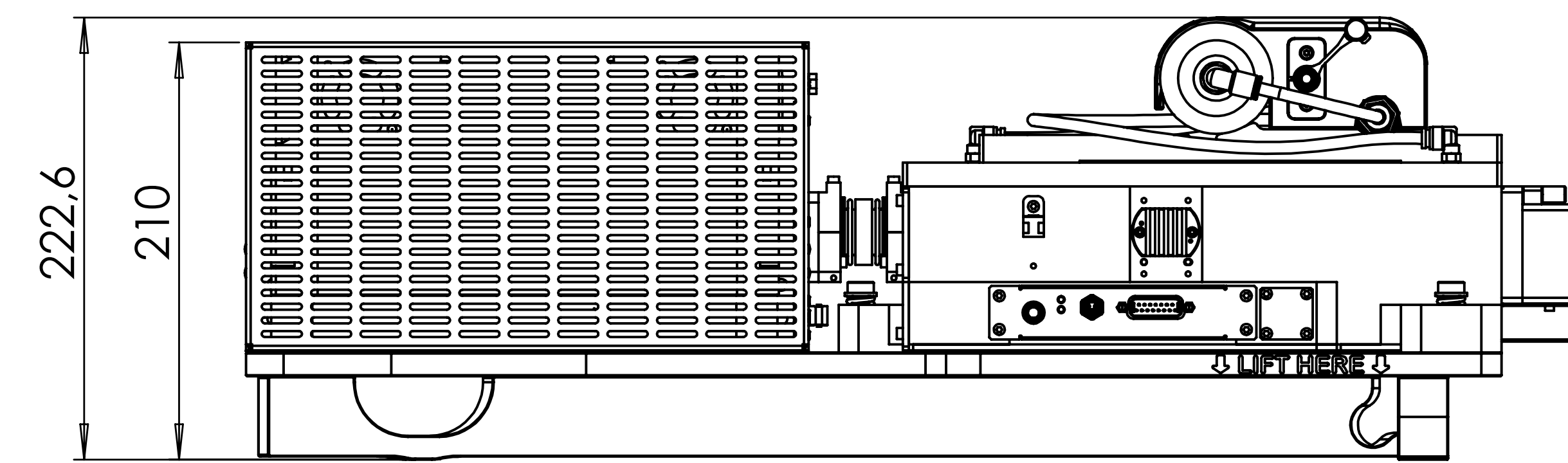
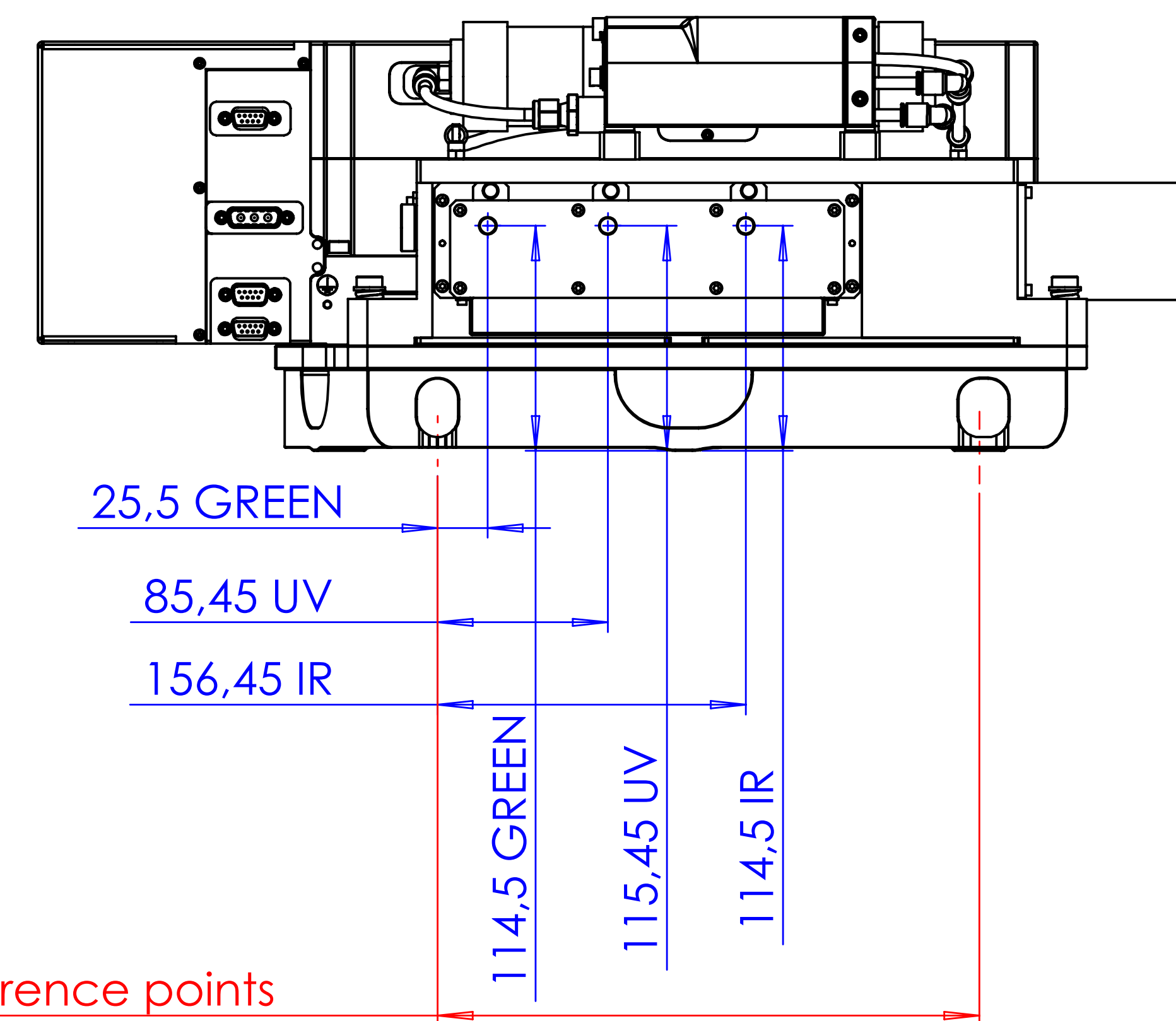
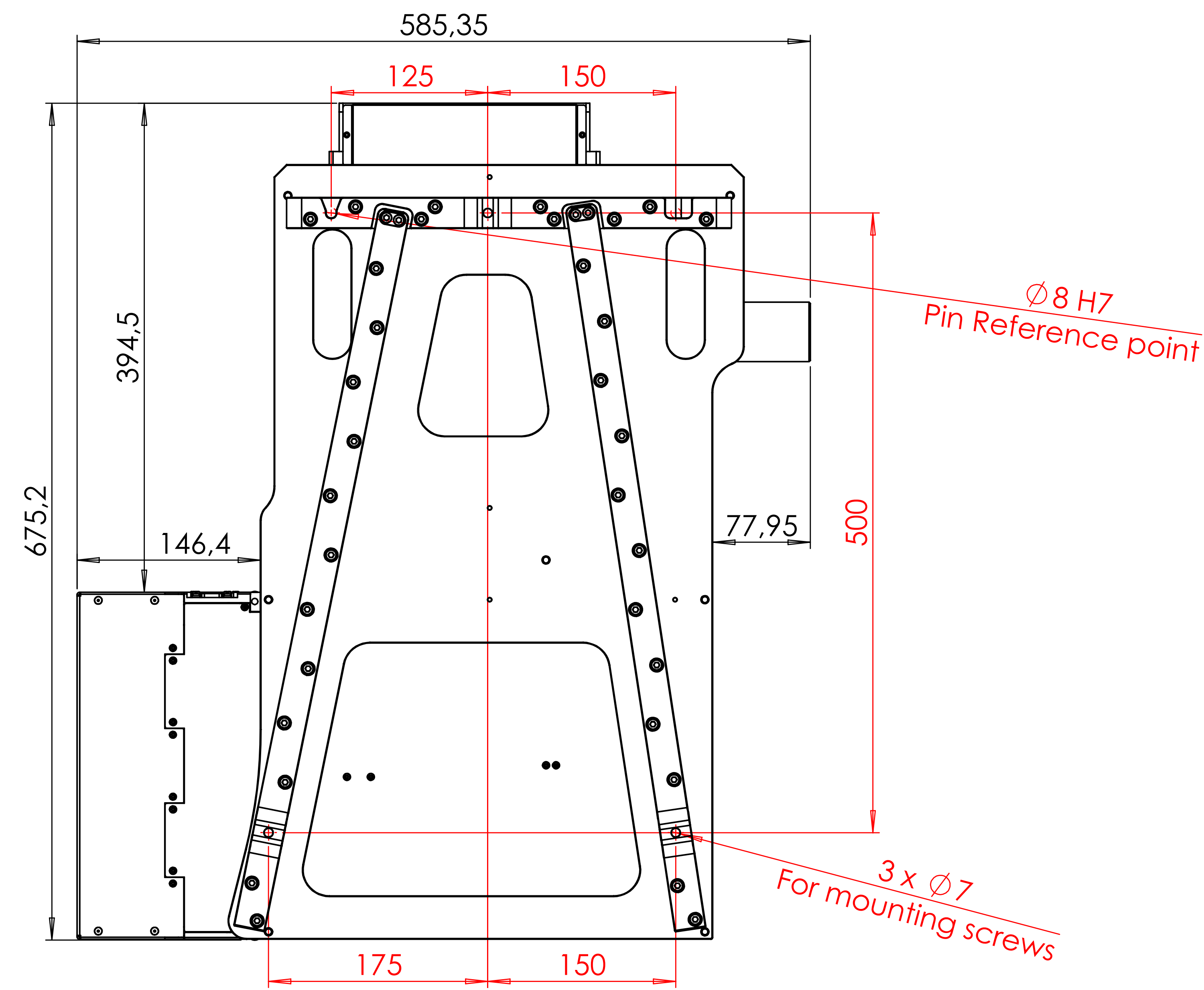
All ORIGAMI products come with an industry-leading reliability.

The product is covered by a comprehensive warranty. Service options are available. For details, please enquire.

Mechanical Drawings

Origami 03XP-3P

All ORIGAMI products are produced under our quality management system certified in accordance with the ISO 9001:2015 and ISO 13485:2016 standard.



Black: External dimensions
 Blue: Location of output beam
 Red: Mounting and reference points.

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