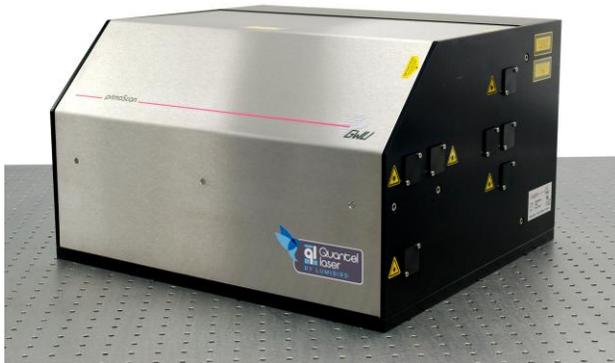


# primoScan 532

## High End Optical Parametric Oscillator



The primoScan 532 is GWU's modular high-end OPO, pumped at 532 nm. It is delivering market-leading, **tunable near-infrared (NIR)** output energy with exceptional ultra-low divergence (ULD) beam quality. The fast-switching capability allows for **changing the wavelength from shot-to-shot** across the entire range with <100 ms shifting time. The modular design of the primoScan ensures the **optimum versatility** for almost any application.

The OPO's tuning range is covering **655 nm to 2700 nm**. Paired with optional second harmonic generation (**SHG**), it can be extended to the **UV and visible**, providing tunable **330 nm to 520 nm** output.

Additional features, e. g. a common port for all wavelengths, are available. All options, including SHG, are **integrated in one single box**.

Following GWU's design philosophy, the OPOs of the primoScan series are using a **soft pumping scheme** with low fluence, ensuring **maximum reliability**. Moreover, the BBO crystals are coated with an advanced "p-coating" – a layer that protects the crystal surface from degradation due to environmental effects for **maximum lifetime**. Our advanced optical and mechanical design grants for optimum performance and is virtually maintenance-free.

### Features and Benefits

Mid band OPO with ultra-low divergence

Highest output energy

Wide NIR tuning range 655-2700 nm

Optional SHG integrated for 330-520 nm output

Single output port for entire tuning range

Fully automated control standard

Fast shot-to-shot wavelength switching

Soft pumping scheme for high reliability and long lifetime

#### Applications

Material Analysis

Laser ind. fluorescence

Combustion studies

Remote sensing

Photoacoustic Imaging

Medical & Biotechnology

### Notes

All specifications depend in the pump laser specifications and performance. Please contact the factory or our sales representatives for details. All specifications are subject to change without notice.

# primoScan 532 Specification

| primoScan 532                          | /ULD/230 |        | /ULD/440                | /ULD/850 |        |
|--|----------|--------|-------------------------|----------|--------|
| Repetition Rate                        | 10 Hz    | 20 Hz  | 10 Hz                   | 10 Hz    |        |
| Pump Energy at 532 nm                  | 220 mJ   | 200 mJ | 430 mJ                  | 750 mJ   | 850 mJ |
| Output Energy <sup>1</sup> at 680 nm   | 63 mJ    | 54 mJ  | 123 mJ                  | 214 mJ   | 242 mJ |
| Output Energy <sup>2,3</sup> at 345 nm | 8 mJ     | 7 mJ   | 16 mJ                   | 29 mJ    | 32 mJ  |
| Beam Diameter at Exit Aperture         | < 7 mm   | < 7 mm | < 9.5 mm                | < 13 mm  |        |
| Tuning Range OPO                       |          |        | 655 – 2700 nm           |          |        |
| Tuning Range UV                        |          |        | 330 – 520 nm            |          |        |
| Linewidth                              |          |        | 8 – 20 cm <sup>-1</sup> |          |        |
| OPO Pulse Width                        |          |        | 0 – 3 ns < Pump         |          |        |
| Beam Divergence (FWHM)                 |          |        | < 2 mrad                |          |        |
| Wavelength Shift Time                  |          |        | < 100 ms                |          |        |

## Footnotes:

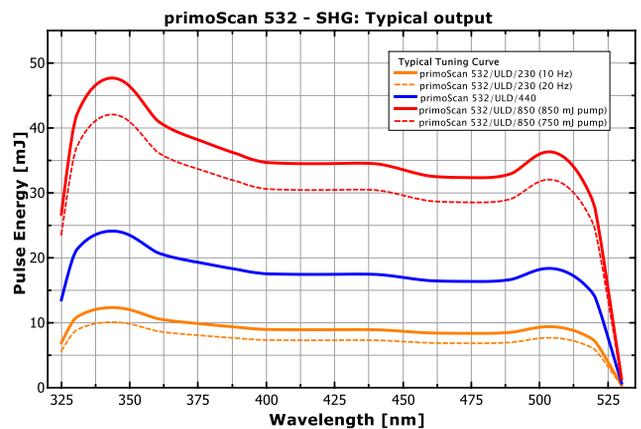
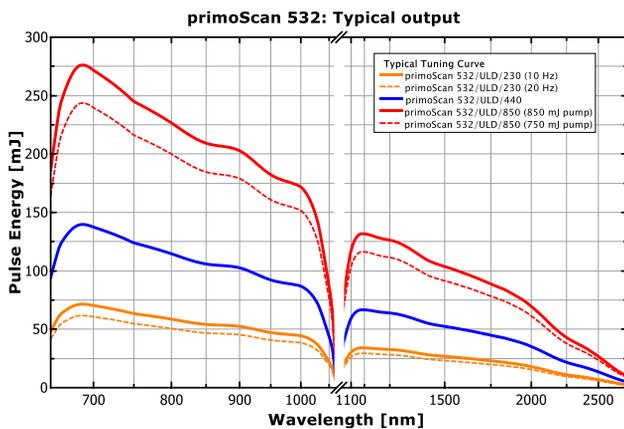
<sup>1</sup>: Output Peak ± 10 nm

<sup>2</sup>: Output Peak ± 5 nm

<sup>3</sup>: Losses are to be expected with additional add-ons, e. g. up to 10% losses on UV wavelengths (330 – 515 nm) when common port UV is added. Please contact sales for detailed specification.

# primoScan 532 Performance

Typical performance with Lumibird Q-Smart Lasers, not a guaranteed or warranted specification



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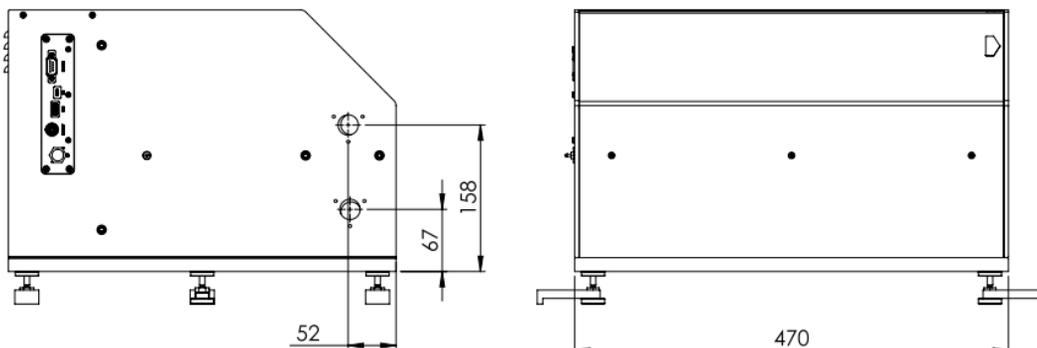
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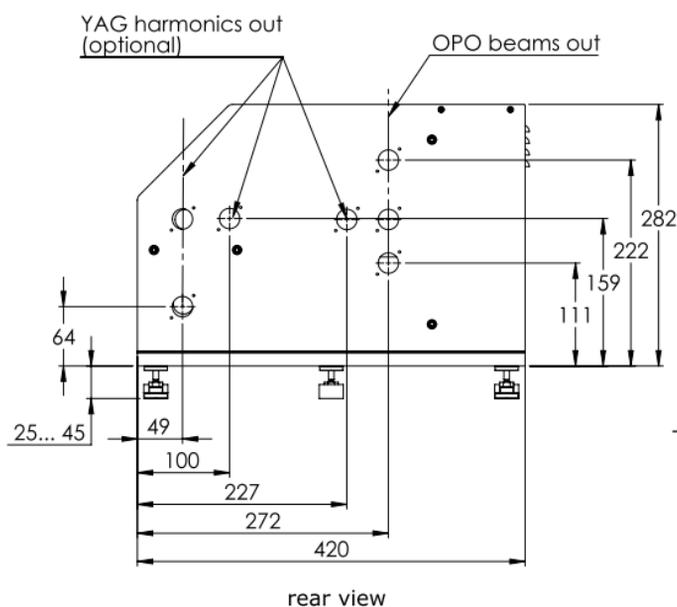


# primoScan Dimensions and Properties



front view

side view



rear view

## Pumplaser Requirements

|                      |             |
|----------------------|-------------|
| Wavelength           | 532 nm      |
| Energy               | 80 – 850 mJ |
| Pulse Width          | 3.5 – 10 ns |
| Repetition Rate      | 1 – 400 Hz  |
| Spatial Beam Profile | homogeneous |
| Divergence           | < 0.5 mrad  |

## Mechanical + Utilities

Size OPO body

(L x W x H):

470 x 420 x 317 mm<sup>3</sup>

Weight OPO body:

24 – 29 kg (depending on configuration)

Power requirements

Electronics & Motorizers:

100 – 240 V, 50 – 60 Hz

For dimensions with feet

please refer to the  
dimensional drawing