

# iFLEX-Agile™ Series

## CW Optical Parametric Oscillator

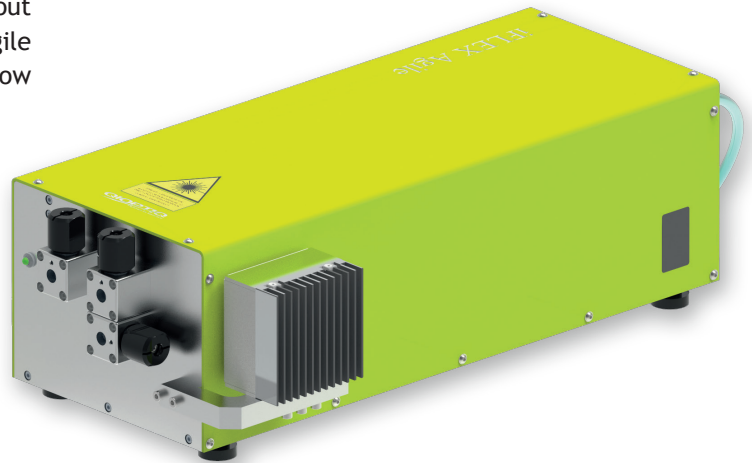
Our updated iFLEX-Agile is a high-power, continuous-wave OPO featuring exceptionally broad wavelength tunability.

Ideal for a variety of applications in mass spectrometry, material testing, spectroscopy, and metrology, this new compact instrument allows fine-tuning of specific wavelengths from NIR to MIR, for high-quality output beams of high intensity. Fully controlled via USB computer interface, iFLEX-Agile enables rapid and reproducible settings of any desired wavelength from 1.48 up to 1.95 $\mu\text{m}$  and 2.4 up to 3.8 $\mu\text{m}$  with output powers >1W in its basic configuration, and without any need to change optics or modules. iFLEX-Agile emission linewidths can vary from 200 GHz to below 1 MHz depending on the configuration.

The modular concept allows modification of wavelength tuning range, emission linewidths and output power levels to cost-efficiently meet the custom requirements for specific applications including trace-gas analysis, material inspection, chemical reactions and IR-detector calibration. The iFLEX-Agile can also be customized for extended wavelength range (e.g. additional 740-950nm), narrow linewidth at 2400-4000nm, higher power levels, and extended mode-hop free tuning ranges.

### Features

- Broad-wavelength tunability at high-power continuous-wave outputs
- Rapid tunability across 1.48 - 1.95 and 2.4 - 4.0  $\mu\text{m}$  from a single OPO module without any optics change-out
- Output powers >1W
- Configurable with a variety of pump sources to yield a range of output powers and linewidths
- Full software control via USB interface



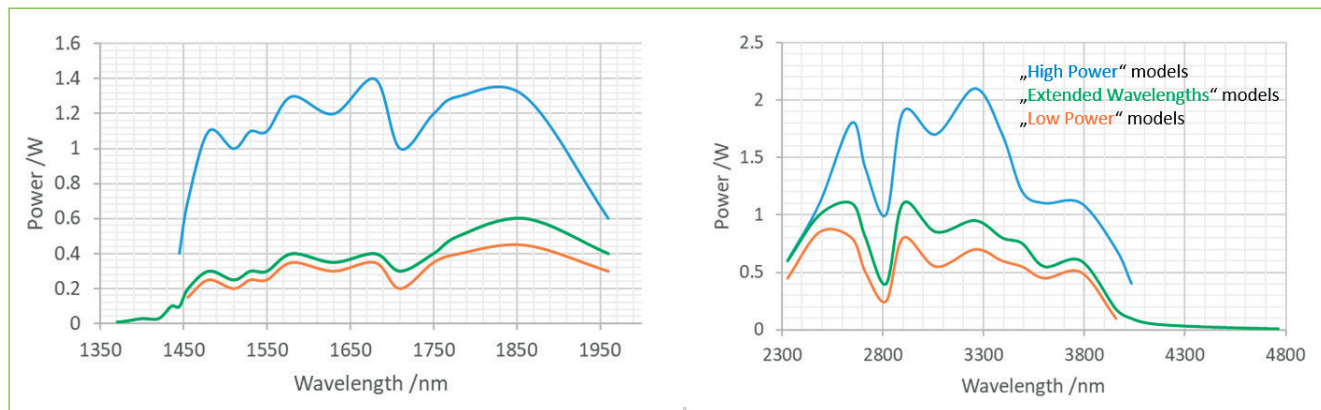
# iFLEX-Agile Series cw-OPO

## Technical Specifications

| iFLEX-Agile series                      | High power Broad linewidth  | High power Narrow linewidth       | Extended wavelengths Broad linewidth   | Extended wavelengths Narrow linewidth | Low power Broad linewidth   | Low power Narrow linewidth        |
|---|---|-----------------------------------|--|---------------------------------------|---|-----------------------------------|
| Part Number                             | 8451-900-100-11   | 8451-900-100-12                   | 8451-900-103-11  | 8451-900-103-12                       | 8451-900-110-11   | 8451-900-110-12                   |
| Output Beam 1                           | >1 W at 2.4 - 3.7 $\mu\text{m}$ <sup>1)</sup><br>>0.2 W at 3.8 - 4.0 $\mu\text{m}$            |                                   | >0.5 W at 2.4 - 3.7 $\mu\text{m}$ <sup>1)</sup><br>>0.1 W at 3.8 - 4.0 $\mu\text{m}$<br>>0.02 W at 3.8 - 4.5 $\mu\text{m}$ (emission up to 5 $\mu\text{m}$ not guaranteed) |                                       | >0.4 W at 2.4 - 3.7 $\mu\text{m}$ <sup>1)</sup><br>(typ. 0.5 - 0.9 W) |                                   |
| Output Beam 2                           | >1 W at 1.5 - 1.95 $\mu\text{m}$<br>>0.3 W at 1.45 - 1.5 $\mu\text{m}$                        |                                   | >0.1 W at 1.5 - 1.95 $\mu\text{m}$<br>>0.03 W at 1.4 - 1.5 $\mu\text{m}$   |                                       | >0.1 W at 1.5 - 1.95 $\mu\text{m}$                                    |                                   |
| Wavelength tuning                       | The entire wavelength tuning works via USB  |                                   |  |                                       |   |                                   |
| Polarization                            | Linear  |                                   |  |                                       |   |                                   |
| Linewidth (1 ms)                        | < 200 GHz (for Output Beam 1)   | <1 MHz                            | < 200 GHz (for Output Beam 1)  | <1 MHz                                | < 200 GHz (for Output Beam 1)   | <1 MHz                            |
| Intensity noise, RMS                    | < 5%  |                                   |  |                                       |   |                                   |
| Cooling method                          | Air   |                                   |  |                                       |   |                                   |
| Power requirements                      | 220-230 V, approximately 500 W (100-120 V on request)   |                                   |  |                                       |   |                                   |
| Dimensions Pump source                  | 19" Rack mount 3U Module  | 19" Rack mount 3U Module + Seeder | 19" Rack mount 3U Module   | 19" Rack mount 3U Module + Seeder     | 19" Rack mount 3U Module  | 19" Rack mount 3U Module + Seeder |
| Dimensions Table-top OPO module (LxWxH) | approx. 48 x 24 x 15 cm <sup>3</sup>  |                                   |  |                                       |   |                                   |
| Connection for Pump Laser to OPO        | Optical fiber (approx. 2m long) is used to connect the Pump Laser to the Table-Top OPO Module |                                   |  |                                       |   |                                   |
| Control interface                       | USB interface and control software are included   |                                   |  |                                       |   |                                   |

<sup>1)</sup> Excluded: OH-absorption around 2.8 $\mu\text{m}$

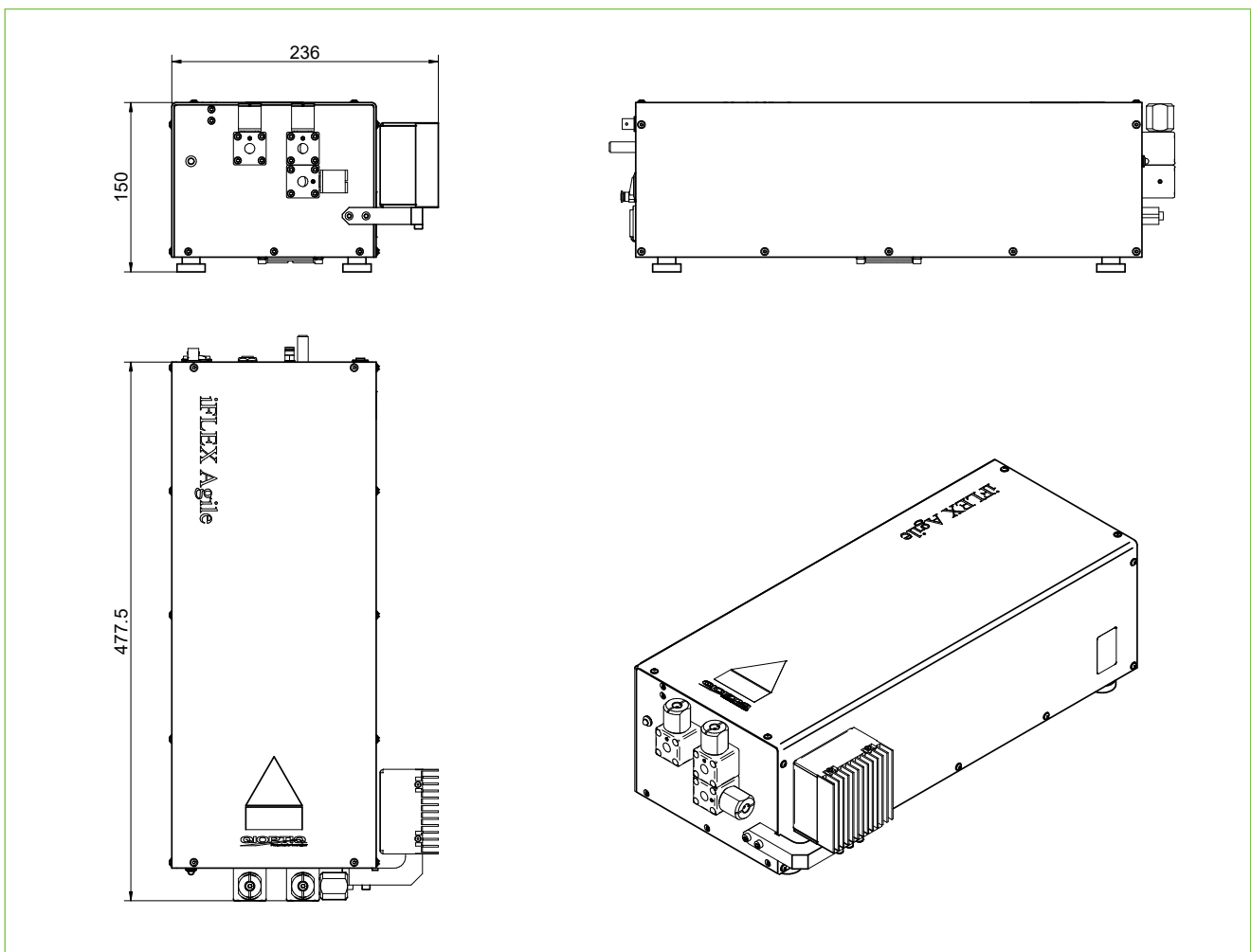
## Typical Power vs. Wavelength



## Custom Performance Available

- Extended wavelength range (e.g. 740-950nm)
- Higher power levels
- Mode-hop-free tuning over ranges of >10GHz up to >100GHz (depending on the wavelength)

## Dimensions of the Table-Top Module



## About Excelitas Technologies

Excelitas Technologies Corp. is a photonics technology leader focused on delivering innovative, high-performance, market-driven solutions to meet the lighting, optronics, detection and optical technology needs of our OEM customers. Serving a vast array of applications across biomedical, scientific, safety, security, consumer products, semiconductor, industrial manufacturing, defense and aerospace sectors, Excelitas stands committed to enabling our customers' success in their end-markets. Our photonics team consists of 7,500 professionals working across North America, Europe and Asia, to serve customers worldwide. Connect with Excelitas on Facebook, LinkedIn and Twitter.

## Excelitas Detection Solutions

Various detection methods can be used to detect harmful smokes and gaseous emissions, from classic optoelectronic reflection methods to gas sensing using the infrared (IR) absorption method. Excelitas has the IR absorption technology expertise and range of optoelectronics components to detect smoke and deleterious gas levels. Our detectors and sensors are playing a vital role in making our environment safer, more secure, and healthier. Our advanced OPO (optical parametric oscillator) tunable cw laser technology is also utilized in a wide range of trace-gas analysis, spectroscopy and materials testing.



[www.excelitas.com](http://www.excelitas.com)

[photonics@excelitas.com](mailto:photonics@excelitas.com)  
Europe +49 (0)551 6935-0  
North America (+1) 800 429 0257  
Asia/Pacific +65 64 99 7777