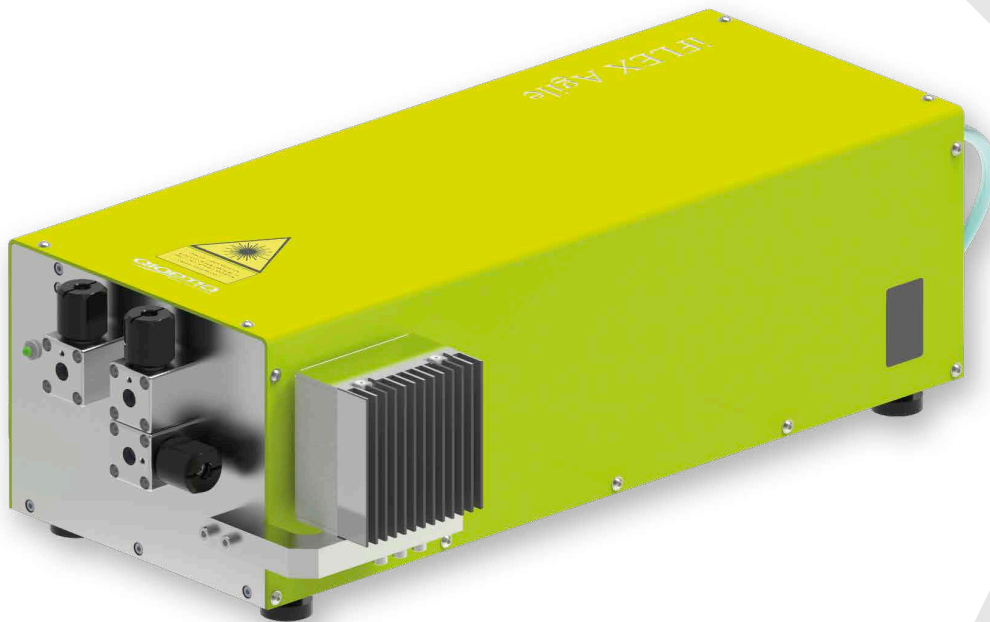


# iFLEX-Agile™ Series

CW Optical Parametric  
Oscillator

# iFLEX®



# 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.

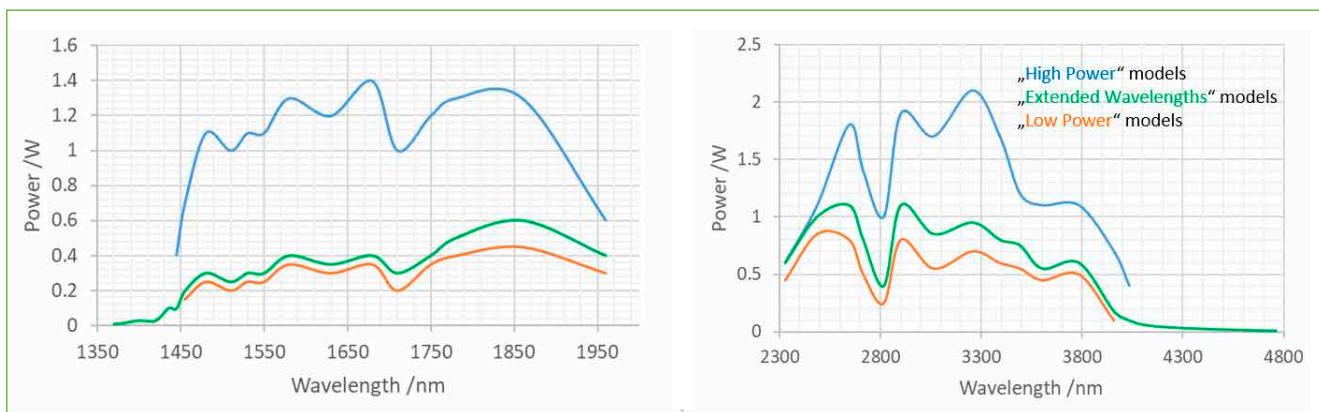
### FEATURES

- 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

### 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)

### Typical Power vs. Wavelength

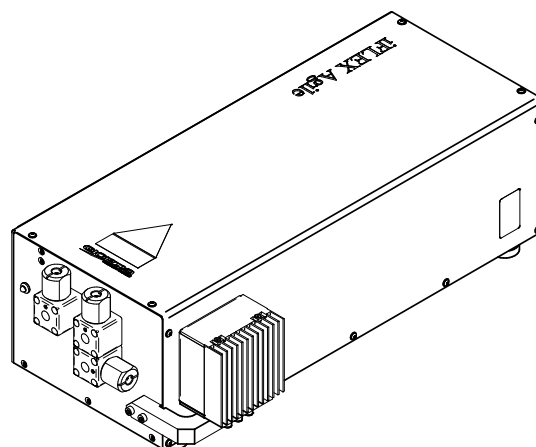
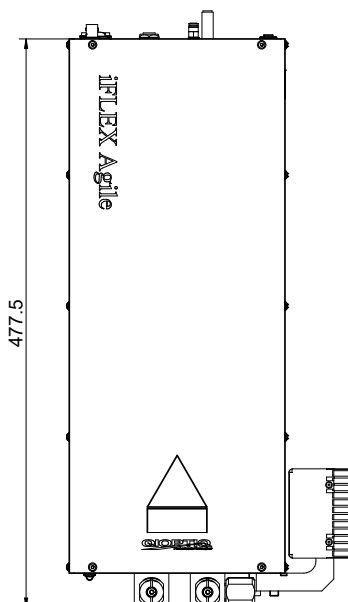
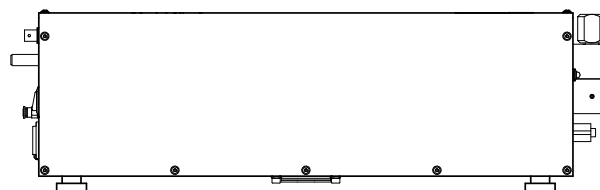
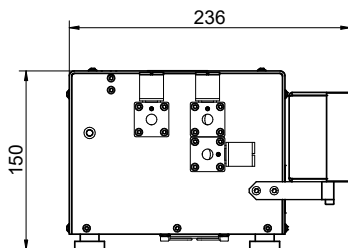


## Technical Specifications

| iFLEX-Agile series                      | High power<br>Broad linewidth                                                                 | High power<br>Narrow linewidth       | Extended<br>wavelengths<br>Broad linewidth                                                                                     | Extended<br>wavelengths<br>Narrow linewidth | Low power<br>Broad linewidth                               | Low power<br>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 μm <sup>1)</sup><br>>0.2 W at 3.8 - 4.0 μm                                  |                                      | >0.5 W at 2.4 - 3.7 μm <sup>1)</sup><br>>0.1 W at 3.8 - 4.0 μm<br>>0.02 W at 3.8 - 4.5 μm (emission up to 5 μm not guaranteed) |                                             | >0.4 W at 2.4 - 3.7 μm <sup>1)</sup><br>(typ. 0.5 - 0.9 W) |                                      |
| Output Beam 2                           | >1 W at 1.5 - 1.95 μm<br>>0.3 W at 1.45 - 1.5 μm                                              |                                      | >0.1 W at 1.5 - 1.95 μm<br>>0.03 W at 1.4 - 1.5 μm                                                                             |                                             | >0.1 W at 1.5 - 1.95 μm                                    |                                      |
| Wavelength tuning                       | The entire wavelength tuning works via USB                                                    |                                      |                                                                                                                                |                                             |                                                            |                                      |
| Polarization                            | Linear                                                                                        |                                      |                                                                                                                                |                                             |                                                            |                                      |
| Linewidth (1 ms)                        | < 200 GHz (for<br>Output Beam 1)                                                              | <1 MHz                               | < 200 GHz (for<br>Output Beam 1)                                                                                               | <1 MHz                                      | < 200 GHz (for<br>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<br>Module                                                                   | 19" Rack mount 3U<br>Module + Seeder | 19" Rack mount 3U<br>Module                                                                                                    | 19" Rack mount 3U<br>Module + Seeder        | 19" Rack mount 3U<br>Module                                | 19" Rack mount 3U<br>Module + Seeder |
| Dimensions Table-top OPO module (LxWxH) | approx. 48 x 24 x 15 cm³                                                                      |                                      |                                                                                                                                |                                             |                                                            |                                      |
| 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  $\mu\text{m}$

## Dimensions of the Table-Top Module



# About Excelitas

Excelitas is a leading provider of advanced, life-enriching technologies that make a difference, serving global market leaders in the life sciences, advanced industrial, next-generation semiconductor and avionics end markets. Headquartered in Pittsburgh, PA, USA, Excelitas is an essential partner in the design, development and manufacture of advanced technologies, offering leading-edge innovation in sensing, detection, imaging, optics and specialty illumination for customers worldwide.

Excelitas is at the forefront of addressing many of the relevant megatrends impacting the world today, including precision medicine, industrial automation, artificial intelligence, and connected devices (IoT).



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