

# flexible.

Flexible Multi-Color Laser Combiner for Microscopy

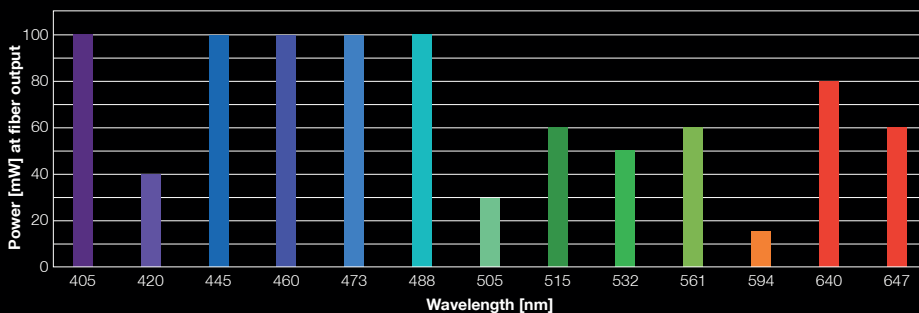
## iChrome FLE

Up to 7 Laser Lines

from 405 to 785 nm



- COOL<sup>AC</sup> automatic alignment, never again waste time for alignment
- Tailored to your light source requirements with one or two fiber outputs
- Best image contrast and lifetime by AOM/AOTF-free all diode design
- Two different applications with one laser engine – fiber switch / fiber splitter



Contact our experts  
and discuss your  
laser solution.



# iChrome FLE



DANGER – VISIBLE AND INVISIBLE LASER RADIATION. AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION, CLASS 4 LASER PRODUCT, EN60825-1:2014

| Optical Specification                   |  |       |        |        |       |        |       |       |       |         |       |          |          |
|---|--|-------|--------|--------|-------|--------|-------|-------|-------|---------|-------|----------|----------|
| Wavelengths (nm)                        | 405  | 420   | 445    | 460    | 473   | 488    | 505   | 515   | 532   | 561     | 594   | 640      | 647      |
| Max No. of wavelengths                  | 7, max. 2x FDDL  |       |        |        |       |        |       |       |       |         |       |          |          |
| Laser type                              | Diode  |       |        |        |       |        | FDDL  |       |       | Diode   |       |          |          |
| Center Wavelength Range (nm)            | ± 4  | ± 5   | ± 5    | ± 5    | ± 5   | ± 4    | ± 5   | ± 5   | ± 2   | ± 2     | ± 2   | +3<br>-5 | +4<br>-2 |
| Fiber Coupled cw Output Power (mW)      | 50/100   | 40    | 50/100 | 40/100 | 100   | 40/100 | 30    | 30/60 | 50    | 60      | 15    | 80       | 60       |
| Power Stability                         | ± 2 % (drift over 8h @ room temperature +/- 3 °C)                                |       |        |        |       |        |       |       |       |         |       |          |          |
| RMS Noise (10 Hz - 10 MHz)              | < 0.5 %  |       |        |        |       |        | < 1 % |       |       | < 0.5 % |       |          |          |
| M <sup>2</sup>                          | < 1.1  |       |        |        |       |        |       |       |       |         |       |          |          |
| Ellipticity                             | < 10 %   |       |        |        |       |        |       |       |       |         |       |          |          |
| Polarization                            | linear (> 60:1, typ.)  |       |        |        |       |        |       |       |       |         |       |          |          |
| Polarization Orientation Tolerance      | linear, ± 3° (slow axis aligned to index key)                                    |       |        |        |       |        |       |       |       |         |       |          |          |
| Fiber Specification                     |  |       |        |        |       |        |       |       |       |         |       |          |          |
| No. of Fiber Outputs                    | 1 or 2   |       |        |        |       |        |       |       |       |         |       |          |          |
| Fiber Output Switching Time             | 350 ms   |       |        |        |       |        |       |       |       |         |       |          |          |
| Fiber Output Power Ratio                | variable from 95:5 to 5:95   |       |        |        |       |        |       |       |       |         |       |          |          |
| Fiber Output Connector                  | FC/AFC (8° angled) as standard, others like FC/PC, FC/APC, FCP8 or SC on request |       |        |        |       |        |       |       |       |         |       |          |          |
| Fiber Cable Length                      | 2 m (max.)   |       |        |        |       |        |       |       |       |         |       |          |          |
| Fiber Type                              | Single-mode, Polarization Maintaining, 3 mm Stainless Steel Reinforced           |       |        |        |       |        |       |       |       |         |       |          |          |
| Fiber Numerical Aperture (5 %) (typ.)   | 0.080  | 0.080 | 0.078  | 0.077  | 0.077 | 0.076  | 0.075 | 0.074 | 0.073 | 0.071   | 0.069 | 0.066    | 0.066    |
| Digital/Analog Modulation               |  |       |        |        |       |        |       |       |       |         |       |          |          |
| Supported Signal Levels                 | TTL (digital), 0-5 V (analog)  |       |        |        |       |        |       |       |       |         |       |          |          |
| Max. Modulation Frequency               | 1000 kHz   |       |        |        |       |        |       |       |       |         |       |          |          |
| Rise/Fall Time                          | < 0.5 μs (10 % - 90 %, typ.)   |       |        |        |       |        |       |       |       |         |       |          |          |
| Digital Modulation Extinction Ratio     | ∞  |       |        |        |       |        |       |       |       |         |       |          |          |
| General and Environmental Specification |  |       |        |        |       |        |       |       |       |         |       |          |          |
| Laser class                             | 3b or 4 (depending on wavelength configuration)                                  |       |        |        |       |        |       |       |       |         |       |          |          |
| Digital Communication Interface         | RS 232 (≤ 115.200 baud), Ethernet  |       |        |        |       |        |       |       |       |         |       |          |          |
| Power Consumption                       | < 80 W   |       |        |        |       |        |       |       |       |         |       |          |          |
| Operating Ambient Temperature Range     | 15 .. 35 °C  |       |        |        |       |        |       |       |       |         |       |          |          |
| Dimensions Laser Head                   | 131 x 400 x 488 mm <sup>3</sup> (H x W x D)                                      |       |        |        |       |        |       |       |       |         |       |          |          |
| Weight                                  | 17 kg  |       |        |        |       |        |       |       |       |         |       |          |          |