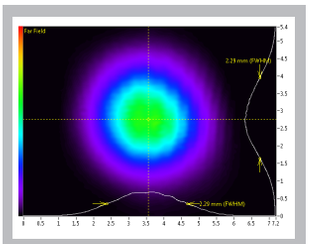
# MatchBox 2 series


## ADVANTAGES:

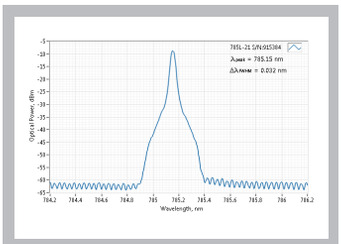
One size
Self-contained design
Compact and efficient
Variety of wavelengths
Dedicated for OEM integration

## APPLICATIONS:

Raman spectroscopy
Fluorescence imaging
Flow cytometry
Holography
Metrology
Optical guiding



Beam profile of 1064L-11



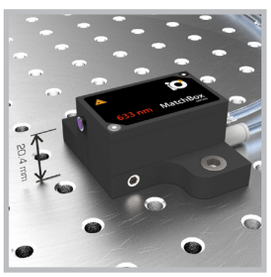
Spectrum of 785L-21 SLM laser

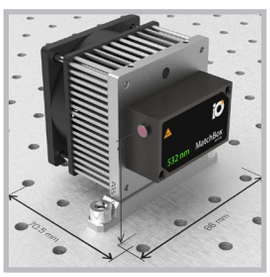
Part numbers:

**488L-XXX**

| Wave-length | Bandwidth: | Output type: | Type: |
|---|---|---|---|
| | 1 – non-SLM<br>2 – SLM<br>3 – non-SLM higher power<br>4 – SLM higher power | 1 – free space<br>2 – circularized beam<br>3 – single-mode fiber<br>4 – multi-mode fiber<br>5 – PM fiber | A – Direct diode<br>B – DPSS |

Standard accessories:




1342 nm
1319 nm
1122 nm
1064 nm
1030 nm
980 nm
975 nm
946 nm
914 nm
850 nm
830 nm
808 nm
785 nm
671 nm
660 nm
635 nm
633 nm
593 nm
589 nm
561 nm
532 nm
515 nm
500 nm
491 nm
488 nm
473 nm
457 nm
445 nm
405 nm

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| Wave-length (nm) | Narrow linewidth | Type | Optical power (free space) | Wave-length tolerance | Spectral linewidth (typical) | Power stability (RMS, 8 hrs) | Noise 1 min. (20 Hz – 100 kHz) | Output power (SM PM fiber) | Output power (MM fiber) |
|---|---|---|---|---|---|---|---|---|---|
| 405 | Yes | VBG Diode | 30 mW | + 0.3 nm | <3 pm | 1% | 0.2% | 10 mW | 20 mW |
| | No | Diode | 130 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 40 mW | 90 mW |
| 445 | No | Diode | 50 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 15 mW | 35 mW |
| 488 | Yes | VBG Diode | 30 mW | + 0.2 nm | <3 pm | 1% | 0.2% | 10 mW | 15 mW |
| | No | Diode | 45 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 20 mW | 30 mW |
| 515 | No | Diode | 40 mW | +/- 5 nm | 1 nm | 1% | 0.2% | 20 mW | 30 mW |
| 532 | Yes | DPSS | 50 mW | + 0.3 nm | 0.2 pm | 1% | 0.2% | 25 mW | 40 mW |
| | No | DPSS | 200 mW | +/- 0.1 nm | 0.3 nm | 1% | N/A | 100 mW | 160 mW |
| | No | DPSS | 500 mW | +/- 0.1 nm | 0.3 nm | 1% | N/A | N/A | 350 mW |
| 632.8 | Yes | VBG Diode | 60 mW | +/- 0.1 nm | <2 pm | 1% | 0.2% | 30 mW | 40 mW |
| 635 | Yes | VBG Diode | 90 mW | +/- 0.1 nm | <2 pm | 1% | 0.2% | 45 mW | 65 mW |
| | No | Diode | 150 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 75 mW | 120 mW |
| 660 | No | Diode | 110 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 45 mW | 90 mW |
| 783 | Yes | VBG Diode | 90 mW | + 0.1 nm | <2 pm | 1% | 0.2% | 45 mW | 60 mW |
| 785 | Yes | VBG Diode | 100 mW | + 0.1 nm | <2 pm | 1% | 0.2% | 50 mW | 70 mW |
| | Yes | VBG Diode | 500 mW | + 0.5 nm | 75 pm | 1% | 0.2% | N/A | 350 mW |
| | No | Diode | 150 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 60 mW | 120 mW |
| 808 | Yes | VBG Diode | 100 mW | + 0.2 nm | <2 pm | 1% | 0.2% | 40 mW | 80 mW |
| | No | Diode | 120 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 50 mW | 85 mW |
| 830 | No | Diode | 130 mW | +/- 10 nm | 1 nm | 1% | 0.2% | 50 mW | 90 mW |
| 915 | No | Diode | 200 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 80 mW | 140 mW |
| 975 | No | Diode | 200 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 80 mW | 120 mW |
| 980 | No | Diode | 200 mW | +/- 3 nm | 1 nm | 1% | 0.2% | 80 mW | 120 mW |
| 1029 | Yes | DPSS | 400 mW | +/- 0.25 nm | <75 pm | 1% | 0.2% | 200 mW | 280 mW |
| 1030 | No | DPSS | 500 mW | +/- 3 nm | 2 nm | 1% | N/A | 300 mW | 400 mW |
| 1064 | Yes | DPSS | 400 mW | + 0.3 nm | <0.2 pm | 1% | 0.2% | 200 mW | 280 mW |
| | No | DPSS | 500 mW | +/- 0.1 nm | 0.5 nm | 1% | N/A | 300 mW | 400 mW |

Other wavelengths on request: 457 nm, 473 nm, 491 nm, 500 nm, 561 nm, 589 nm, 593 nm, 671 nm, 850 nm, 946 nm, 1123 nm, 1319 nm, 1342 nm.

## OTHER PARAMETERS:

- Transversal mode: TEM00, except 500 mW 532 nm and 785 nm
- Beam diameter at aperture (1/e2): <2 mm
- Beam divergence (full angle): <2 mrad
- Beam quality, M2: <1.3, except 500 mW 532 nm and 785 nm
- Power stability of fiber-coupled lasers is <2 % RMS over 8 hrs
- SLM fiber coupled lasers are made with FC/APC connectors
- Non-SLM lasers are made with FC/PC connectors
- Standard length of a fiber is 1 m
- Control interface type: UART, USB
- Operation mode: continuous wave (CW)
- External power supply requirement: +5 VDC, 5 A for DPSS, 1.5 A for diode
- Dimensions (L-W-H): 50 x 30 x 16 mm (excluding pins)
- Beam height from the base: 8.4 mm (+/- 0.3 mm)
- Beam pointing angle tolerance: +/-2 mrad (vertical), +/-3 mrad (horizontal)
- Heatsink requirement: diode <1 °C/W, DPSS <0.5 °C/W
- Optimum heatsink temperature (non-condensing): Diode lasers - +15…+30 °C
- Max. heatsink temperature 35 °C
- Internal temperature stabilization : TEC
- Overheat protection: Yes
- Storing temperature (non-condensing): -10 to +50 °C
- Warranty: 12 months, Hours limitation of 5000 hrs apply for 405, 445, 488, 515, 633, 635, 660 nm diode lasers

Custom wavelengths and specifications are available on request