

Argon-Ion Lasers

532 Series



Air-cooled, compact, and economical, Melles Griot 532 argon-ion lasers are convenient sources of single and fixed multiple wavelength output. Their footprint and industry-standard mounting holes allow platform or breadboard installation, as well as easy integration into OEM systems. A selection of beam delivery systems is available.

- ▶ Wavelengths from 457 to 514 nm
- ▶ Power to 500 mW
- ▶ Forced-air cooling
- ▶ Low optical noise
- ▶ CE versions available
- ▶ Custom wavelength selection
- ▶ Wide operating temperature range
- ▶ Light feedback regulated

MELLES GRIOT

Specifications:
532 Series Argon-Ion Lasers

Common to All Models

Mode Spacing (c/2L): 469 MHz

Coherence Length (approx): 10 cm

Linear Polarization: Vertical $\pm 5^\circ$

Extinction Ratio: >250:1

Warmup Time from Cold Start: <15 minutes

Recovery from Standby: 1 second

Beam Pointing Stability: < 30 $\mu\text{rad}/^\circ\text{C}$

Power Stability over 2 hours: $\pm 0.5\%$

Recommended Power Supply

Model 170B-XXXY or 176B-XXXY

(XXX = 100, 120, 208, 220, 230, 240)

(Y = B for Black, G for Grey)

Environmental Specifications

Cooling: Forced air

Operating Temperature: 5°C to 40°C

Storage Temperature: -30°C to 60°C

Relative Humidity, Operating:

0-90% noncondensing

Laser Head Weight: 15.5 lbs (7.0 kg)

Options

- Beam delivery systems
- Remote cooling
- Custom configurations
- RS-232 computer interface
- Tunable prism assembly
- Remote controller



Most Melles Griot lasers and instruments are designed, tested, and manufactured for compliance with applicable European electrical and laser safety standards.

Argon-Ion Lasers –
Compact, Powerful, Economical

The 532 series of line-tunable laser systems are ideal sources for many applications, because they combine the availability of wavelengths across the blue-green spectrum with near-diffraction-limited output, high stability, low noise, long life, and unit-to-unit repeatability. Due to their small footprint, forced-air cooling, and low cost, Melles Griot 532-series lasers are used in a wide variety of OEM applications in fields ranging from microscopy and process control to digital imaging. They are particularly suited to biotechnology and photoluminescence applications, because their output wavelengths closely match the absorption peaks of a wide range of dyes (see the table below for a partial list).

532-series lasers produce low-noise, TEM₀₀ output in discrete wavelengths that range from 454 nm to 514 nm. Configurations include single line (457 nm, 488 nm, and 514 nm) or all-line operation. The 532-AP line-tunable series incorporates a prism that allows the user to manually select individual wavelengths.

These lasers can be operated in either light-regulated or current-regulated mode. In light regulation, power drift is reduced to less than one percent over long periods of time; rms output noise is also significantly reduced. Current regulation can be used to increase plasma-tube life and to control the balance between laser lines in multiline operation.

The industry-standard packaging and mounting configurations permit easy integration into new and existing OEM designs. Custom configurations and a variety of beam delivery options (e.g., fiber optics and collimators) are also available.

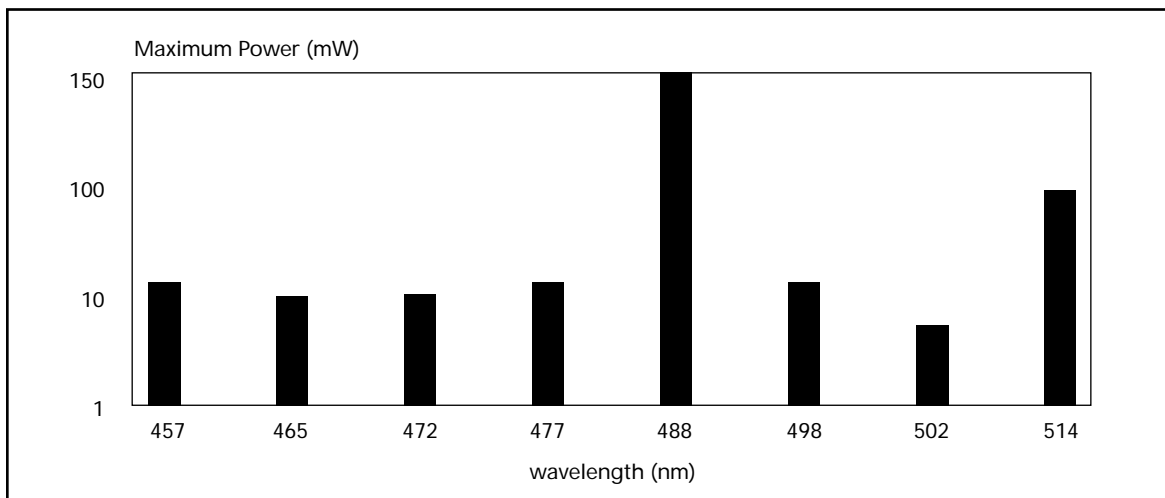
532 Series Argon-Ion Lasers

Fluorochrome (dye)	Peak Excitation Wavelength (nm)	Laser Wavelength (nm)	Laser Type
Calcium Green	505	488 or 502	532
Fluo 3	480	488	532
FITC	490	488	532
Lucifer Yellow	428	465	532
Rhodamine	560	514	532
EGFP	490	488	532
EGFP	513	488 or 514	532
EGFP	453	457	532

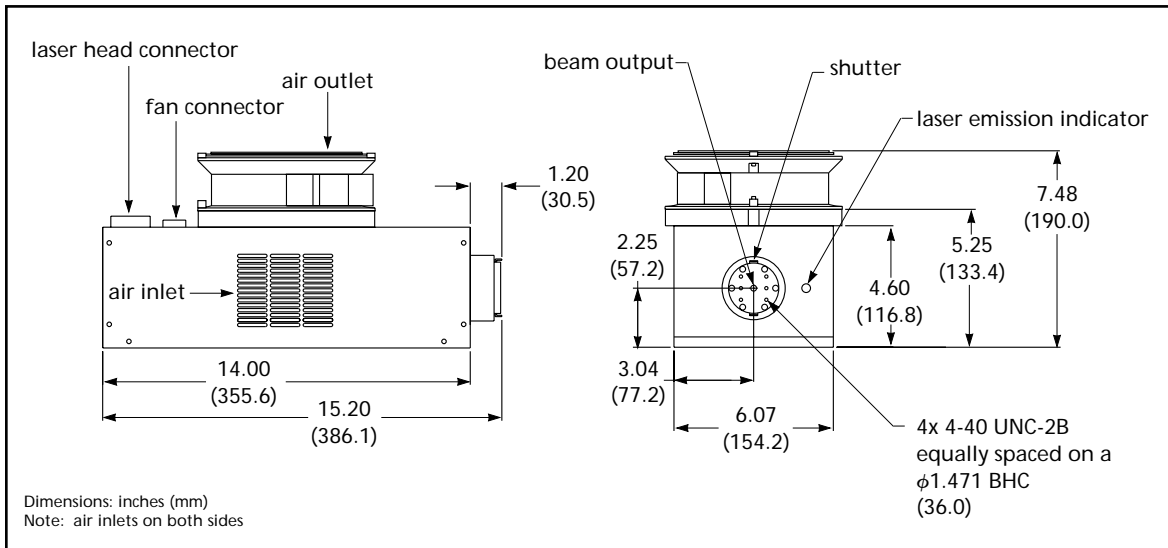
Specifications for 532 Series Argon-Ion Laser

Model	Wavelength (nm)	Power min. (mW)	Beam Diameter (mm)	Beam Divergence (mrad)	M ² (max)	Noise <100 kHz/<1 MHz (max % p-p)
532-VS-A01	457	2	0.70 ± 5%	1.0 ± 5%	1.2	4/5
532-VS-A02	457	5	0.70 ± 5%	1.0 ± 5%	1.2	4/5
532-VS-A03	457	10	0.70 ± 5%	1.0 ± 5%	1.2	4/5
532-BS-A01	488	5	0.72 ± 5%	1.0 ± 5%	1.2	2/3
532-BS-A02	488	15	0.72 ± 5%	1.0 ± 5%	1.2	2/3
532-BS-A03	488	25	0.72 ± 5%	1.0 ± 5%	1.2	2/3
532-BS-A04	488	50	0.72 ± 5%	1.0 ± 5%	1.2	2/3
532-GS-A01	514	5	0.70 ± 5%	1.1 ± 5%	1.2	3/5
532-GS-A02	514	15	0.70 ± 5%	1.1 ± 5%	1.2	3/5
532-GS-A03	514	25	0.70 ± 5%	1.1 ± 5%	1.2	3/5
532-GS-A04	514	50	0.70 ± 5%	1.1 ± 5%	1.2	3/5
532-A-A01	457-514	10	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-A-A02	457-514	25	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-A-A03	457-514	50	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-A-A04	457-514	100	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-B-A01	457-496	10	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-B-A02	457-496	25	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-B-A03	457-496	50	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-B-A04	457-496	75	0.66 ± 5%	1.1 ± 5%	1.2	4/6
532-MVS-A01	457	5	0.90 ± 5%	2.4 ± 5%	multimode	3/4
532-MVS-A02	457	10	0.90 ± 5%	2.4 ± 5%	multimode	3/4
532-MVS-A03	457	20	0.90 ± 5%	2.4 ± 5%	multimode	3/4
532-MA-A01	457-514	25	0.94 ± 5%	2.4 ± 5%	multimode	3/4
532-MA-A02	457-514	50	0.94 ± 5%	2.4 ± 5%	multimode	3/4
532-MA-A03	457-514	100	0.94 ± 5%	2.4 ± 5%	multimode	3/4
532-MA-A04	457-514	200	0.94 ± 5%	2.4 ± 5%	multimode	3/4
532-MB-A01	457-496	25	1.00 ± 5%	2.6 ± 5%	multimode	2/3
532-MB-A02	457-496	50	1.00 ± 5%	2.6 ± 5%	multimode	2/3
532-MB-A03	457-496	100	1.00 ± 5%	2.6 ± 5%	multimode	2/3
532-MB-A04	457-496	200	1.00 ± 5%	2.6 ± 5%	multimode	2/3
532-MBS-A01	488	25	1.30 ± 5%	2.6 ± 5%	multimode	3/4
532-MBS-A02	488	50	1.30 ± 5%	2.6 ± 5%	multimode	3/4
532-MBS-A03	488	100	1.30 ± 5%	2.6 ± 5%	multimode	3/4
532-MBS-A04	488	150	1.30 ± 5%	2.6 ± 5%	multimode	3/4
532-MGS-A01	514	10	1.00 ± 5%	2.6 ± 5%	multimode	2/3
532-MGS-A02	514	25	1.00 ± 5%	2.6 ± 5%	multimode	2/3
532-MGS-A03	514	50	1.00 ± 5%	2.6 ± 5%	multimode	2/3
532-MGS-A04	514	100	1.00 ± 5%	2.6 ± 5%	multimode	2/3

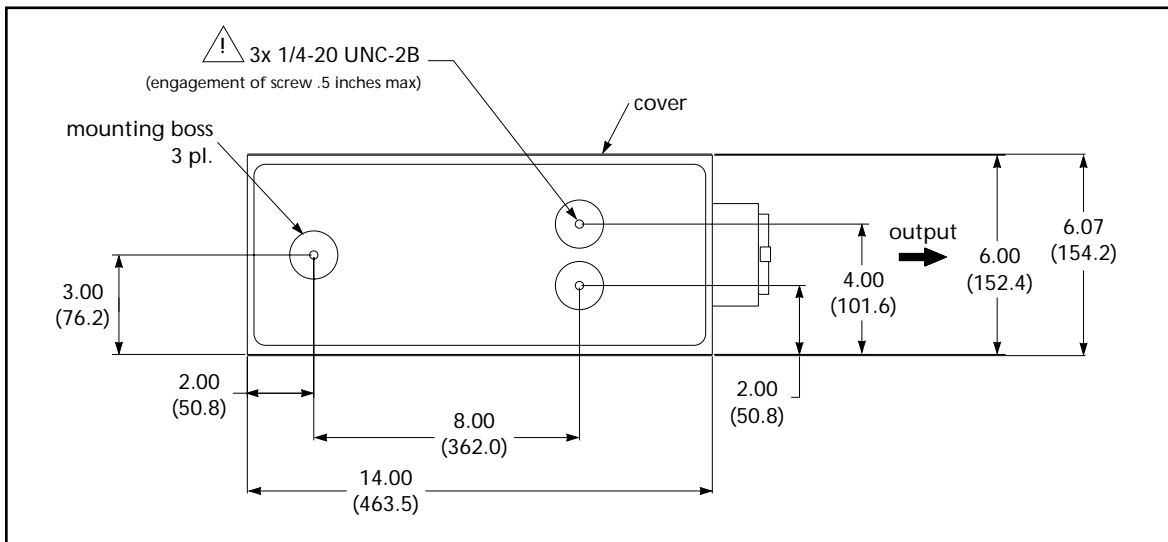
Note: Performance characteristics obtained by using Melles Griot 170B-XXXB supply.



Available output power of laser lines for 532 argon ion lasers



532 series argon-ion laser outline drawing



532 series argon-ion laser mounting plate (bottom view)

MELLES GRIOT

www.mellesgriot.com

Laser Group 2051 Palomar Airport Road, 200 • Carlsbad, CA 92009 • 1-800-645-2737 • (760) 438-2131 • FAX (760) 438-5208 • E-mail: sales@carlsbad.mellesgriot.com

Canada (613) 226-5880 Denmark (08) 630-8950 France (01) 3012-0680 Germany (06251) 84060

Japan (03) 3407-3614 Netherlands (0316) 333041 Singapore 392-5368 Sweden (08) 630-8950 United Kingdom (01353) 654500

MELLES GRIOT® is a registered trademark of Melles Griot Inc. in the United States and certain other countries.
In France, Germany, Italy, Belgium, The Netherlands, and Luxembourg, MELLES GRIOT® is a registered trademark of Melles Griot B.V.
Melles Griot follows a policy of continuous product development. For this reason, specifications are subject to change without notice.
PRINTED IN USA

©2000 MELLES GRIOT
2739 1/00