CW DPSS Laser System
DPF Series

Data Sheet

Overview

The DPF series is a line of visible and near infrared diode pumped solid state (DPSS) lasers that generate output power levels up to 2500mW. The laser series features a compact design, long lifetime, easy operation, and FDA-compliant system with driver. The DPF series is widely used in fluorescence sensors, Raman spectrum, laser printing, holography, laser display, submarine communication, biomedicine, laser lighting show, and many other applications.

Features

- Visible and near IR wavelengths
- CW operating mode
- Optical output power 10mW to 2500mW
- Ultra-compact design
- FDA compliant

Applications

- Fluorescence sensors
- Raman spectrum
- Laser printing
- Holography
- Laser display
- Submarine communication
- Biomedicine
- Laser lighting show

457-540 nm Specifications

Parameter	DPF457		DPF473		DPF480	DPF515	DPF532	DPF540	
Wavelength	457±1 nm		473±1 nm		480±1 nm	515±1 nm	532±1 nm	540±1 nm	
Output power	>50 mW, >100 mW, >300 mW	>500 mW, >800 mW, >1000 mW	>200 mW, >300 mW	>400 mW, >500 mW	>10 mW, >20 mW, >30 mW, >40 mW, >50 mW	>10 mW, >30 mW, >50 mW, >80 mW, >100 mW	>2000 mW, >2500 mW	>20 mW, >30 mW, >50 mW, >100 mW	>200 mW, >300 mW, >400 mW, >500 mW
Transverse mode	Near TEM_{00}	Near TEM_{01}	TEM_{00}	Near TEM_{00}	Near TEM_{00}	Near TEM_{00}	TEM_{00}	TEM_{00}	Near TEM_{00}
Operating mode	CW								
Power stability (rms, over 4 hours)	<5%, <3%	<10%, <5%	<5%, <3%, <2%		<10%, <5%	<5%, <3%, <2%	<5%, <3%, <2%, <1%	<3%, <2%, <1%	
M^2 factor	<2.0		<2.0		<2.0	<2.0	<1.2	<1.5	
Beam diameter at aperture ($1/e^2$)	~2.0 mm		~2.0 mm		~3.0 mm	<3.0 mm	~2.0 mm	<2.0 mm	
Beam divergence, full angle	<1.5 mrad		<1.5 mrad		<1.5 mrad	<2.0 mrad	<1.2 mrad	<2.0 mrad	
Polarization ratio	>100:1		>100:1		>100:1	>100:1	>100:1	>100:1	
Warm-up time	<5 min		<5 min		<5 min	<5 min	<5 min	<5 min	
Pointing stability after warm-up	<0.05 mrad		<0.05 mrad		<0.05 mrad	<0.05 mrad	<0.05 mrad	<0.05 mrad	
Operating temperature	10-35°C								
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz, 10kHz, 10kHz-30kHz								
Expected lifetime	10,000 hours								
Warranty period	10 months								

Remarks:

- Specifications of the CW laser is based on the laser performance at full power output after the specified warmup period. The stability of output power may change when output power is adjusted at a different power level.
- Specifications are subject to change without notice.

577-1105 nm Specifications

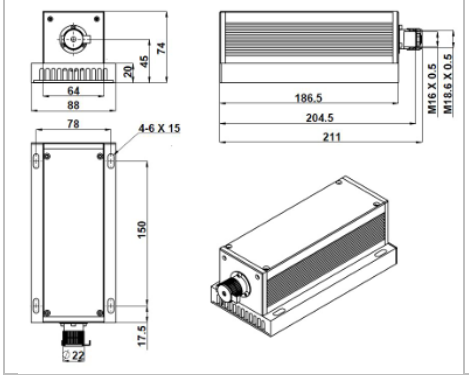
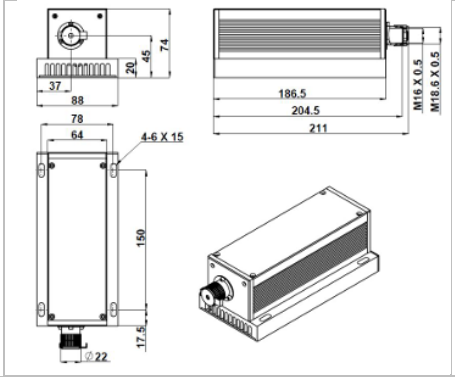
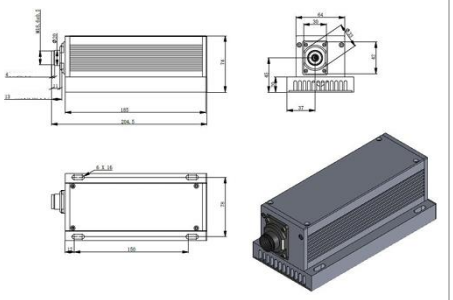
Parameter	DPF577		DPF588	DPF589	DPF671	DPF1030		DPF1073		DPF1105
Wavelength	577±2 nm		588±2 nm	589±1 nm	671±1 nm	1030±2 nm		1073±1 nm		1105±1 nm
Output power	>30 mW, >50 mW, >100 mW, >200 mW	>500 mW	>100 mW, >200 mW, >300 mW	>100 mW, >200 mW, >300 mW	>100 mW, >200 mW, >300 mW, >500 mW, >800 mW, >1000 mW, >1200 mW, >1500 mW	>50 mW, >100 mW	>300 mW, >500 mW, >600 mW	>100 mW, >200 mW, >300 mW, >500 mW	>800 mW, >1000 mW, >1500 mW	>50 mW, >100 mW, >200 mW, >300 mW, >400 mW, >500 mW
Transverse mode	TEM_{00}	Multimode	TEM_{00}	Near TEM_{00}	Near TEM_{00}	TEM_{00}		Near TEM_{00}		Near TEM_{00}
Operating mode	CW									
Power stability (rms, over 4 hours)	<3%, <2%, <1%		<3%, <2%, <1%, <0.5%	<3%, <2%, <1%, <0.5%	<5%, 3%, <2%, <1%	<5%, 3%, <2%, <1%	<5%, 3%	<5%, 3%, <2%	<5%, 3%	<5%, 3%, <2%
M^2 factor	<1.5	<3.0	<1.5	<1.5	<1.5	<1.5	<2.0	<2.0		<2.0
Beam diameter at aperture ($1/e^2$)	<3.0 mm		<2.5 mm	<2.5 mm	<2.5 mm	~1.5 mm		~1.5 mm		~1.5 mm
Beam divergence, full angle	<1.5 mrad		<2.0 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad		<2.0 mrad		<2.0 mrad
Polarization ratio	>100:1		>100:1	>100:1	>100:1	>100:1		>100:1		>100:1
Warm-up time	<5 min		<5 min	<5 min	<5 min	<5 min		<5 min		<5 min
Pointing stability after warm-up	<0.05 mrad		<0.05 mrad	<0.05 mrad	<0.05 mrad	<0.05 mrad		<0.05 mrad		<0.05 mrad
Operating temperature	10-35°C									
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz, 10kHz, 10kHz-30kHz									
Expected lifetime	10,000 hours									
Warranty period	10 months									

Remarks:

- Specifications of the CW laser is based on the laser performance at full power output after the specified warmup period. The stability of output power may change when output power is adjusted at a different power level.
- Specifications are subject to change without notice.

DPF Series Laser Head Dimensions

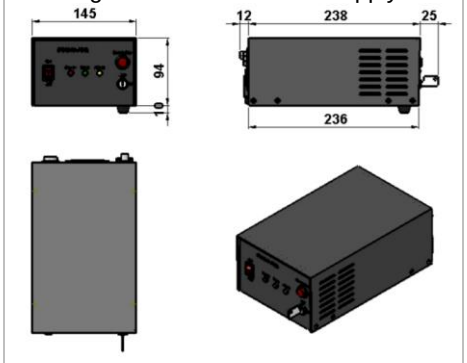
Unit: mm

1030, 1073, 1105 nm	457, 473, 480, 515, 540, 577, 588, 589, 671 nm	532 nm
		

Parameter	1030, 1073, 1105 nm	457, 473, 480, 515, 540, 577, 588, 589, 671 nm	532 nm
Dimensions	211(L)×88(W) ×74(H) mm^3	211(L)×88(W) ×74(H) mm^3	204.5(L)×88(W) ×74(H) mm^3
Weight	1.6 kg	1.6 kg	2.3 kg
Beam height from base plate	45 mm	45 mm	45 mm

DPF Series Power Supply Dimensions

Unit: mm

High Power Elite Power Supply	High Power Laboratory Power Supply	High Power S Version Laboratory Power Supply
		

Parameter	High Power Elite Power Supply	High Power Laboratory Power Supply	High Power S Version Laboratory Power Supply
Dimensions	275(L) ×145(W) ×104(H) mm^3	277(L) ×145(W) ×106(H) mm^3	188(L) ×145(W) ×83(H) mm^3
Weight	2.3 kg	2.6 kg	1.2 kg
Input voltage	90-264VAC	90-264VAC	90-264VAC
Feature	Standard	Adjustable power	Adjustable power

Ordering Information

For more information, please contact Lasermate directly at sales@lasermate.com.

Part Number Configuration DPF[1][2][3][4][5]					
DPF = Laser Model Series	**[1] = Wavelength**	**[2] = Output Power**	**[3] = Power Supply**	**[4] = Power Stability**	**[5] = Modulation**
		10= >10mW 20= >20mW 30= >30mW … 1W= >1000mW 1F= >1200mW 1H= >1500mW 2W= >2000mW 2H= >2500mW	H= High Power Elite Power Supply M= High Power Laboratory Power Supply S= High Power S Version Laboratory Power Supply	B=<10% A=<5% E=<3% 2=<2% D=<1% S=<0.5%	0=None T1=TTL 1Hz-1kHz T2=TTL 1kHz-10kHz T3=10kHz-30kHz A1=Analog 1Hz-1kHz A2=Analog 1kHz-10kHz A3=10kHz-30kHz

Note: The above specifications are subject to change without notice.