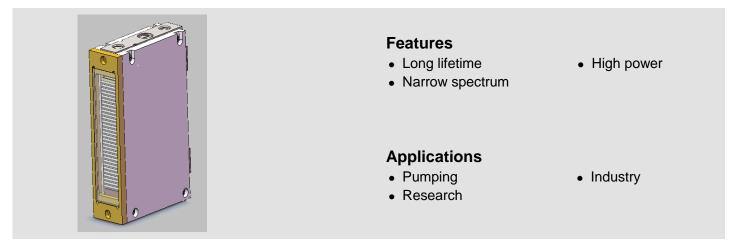


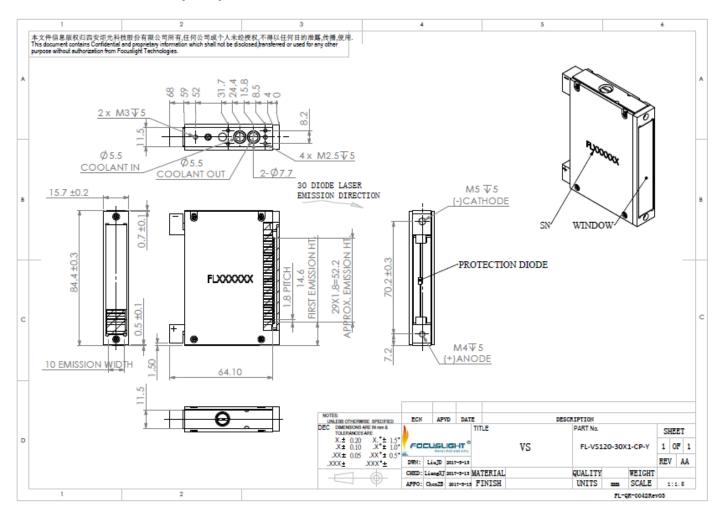
FocusEngine[™]

Micro-Channel Water Cooled Vertical Stack Diode Laser(QCW)

VS120



Device Dimension (mm)



This structure drawing is only for reference. For any other special requirement, please feel free to contact us.



Specification

Center Wavelength λ nm 808 Wavelength Tolerance nm ±3 Dutput Power per Bar W 500 Available Number of bars - 1-65 Bar-to-Bar Spacing mm 1.8 Spectral Width FWHM nm ≤4 Spectral Width FW90%E nm ≤6 Pulse Width μs 200 Duty Cycle % ≤8 Fast Axis Divergence(FWHM)³ degree 35 Slow Axis Divergence(FWHM) degree 8 Polarization Mode - TE/TM Navelength Temp. Coefficient nm/°C ~0.28 Electrical Parameters Deparating Current I _{to} A ≤430 Threshold Current I _{th} A ≤25 Operating Voltage V _{oo} ⁴ V ≤2 Slope Efficiency ⁴ W/A ≥1.1 Power Conversion Efficiency % ≥48 Thermal Parameters °C 0~55 Coolant - Deionized Water F	Module Type ¹	Units	FL-VS120-NX1- 500XN-808(Q)
Wavelength Tolerance nm ±3 Dutput Power per Bar W 500 Available Number of bars - 1-65 Bar-to-Bar Spacing mm 1.8 Spectral Width FWHM nm ≤4 Spectral Width FW90%E nm ≤6 Pulse Width µs 200 Duty Cycle % ≤8 Fast Axis Divergence(FWHM)³ degree 35 Slow Axis Divergence(FWHM) degree 8 Polarization Mode - TE/TM Wavelength Temp. Coefficient nm/℃ ~0.28 Electrical Parameters Deparating Current I _{to} A ≤430 Threshold Current I _{th} A ≤25 Operating Voltage V _{oo} ⁴ V ≤2 Slope Efficiency⁴ W/A ≥1.1 Power Conversion Efficiency % ≥48 Thermal Parameters © 20~30 Storage Temperature ⁶ °C 0~55 Coolant - Deionized Water Flow Rate⁴ L/min 0.3~0.4 Max Inlet Pressure	Optical ²		
Dutput Power per Bar W 500 Available Number of bars - 1-65 Bar-to-Bar Spacing mm 1.8 Spectral Width FWHM nm ≤4 Spectral Width FW90%E nm ≤6 Pulse Width μs 200 Duty Cycle % ≤8 Fast Axis Divergence(FWHM)³ degree 35 Slow Axis Divergence(FWHM) degree 8 Polarization Mode - TE/TM Wavelength Temp. Coefficient nm/°C ~0.28 Electrical Parameters Deparating Current I _{op} A ≤430 Threshold Current I _{th} A ≤25 Operating Voltage V _{op} ⁴ V ≤2 Slope Efficiency ⁴ W/A ≥1.1 Power Conversion Efficiency % ≥48 Thermal Parameters Operating Temperature ⁶ °C 0~55 Coolant - Deionized Water Flow Rate ⁴ L/min 0.3~0.4 Max Inlet Pressure	Center Wavelength λ	nm	808
Available Number of bars - 1-65 Bar-to-Bar Spacing mm 1.8 Spectral Width FWHM nm ≤4 Spectral Width FW90%E nm ≤6 Pulse Width µs 200 Outy Cycle % ≤8 Fast Axis Divergence(FWHM)³ degree 35 Slow Axis Divergence(FWHM) degree 8 Polarization Mode - TE/TM Wavelength Temp. Coefficient nm/℃ ~0.28 Electrical Parameters Diperating Current I₀₀ A ≤430 Threshold Current Ith A ≤25 Diperating Voltage V₀₀⁴ V ≤2 Slope Efficiency⁴ W/A ≥1.1 Power Conversion Efficiency % ≥48 Thermal Parameters Diperating Temperature⁵ ℃ 20~30 Storage Temperature⁶ ℃ 0~55 Coolant - Deionized Water Flow Rate⁴ L/min 0.3~0.4 Max Inlet Pressure kPa 380	Wavelength Tolerance	nm	±3
## Bar-to-Bar Spacing mm 1.8	Output Power per Bar	W	
Spectral Width FWHM Spectral Width FWHM Spectral Width FW90%E Pulse Width Puls	Available Number of bars	-	1-65
Spectral Width FW90%E Pulse Width Pulse W	Bar-to-Bar Spacing	mm	1.8
Pulse Width μ_S 200 Duty Cycle % $\leqslant 8$ Fast Axis Divergence(FWHM) degree 35 Slow Axis Divergence(FWHM) degree 8 Polarization Mode - TE/TM Wavelength Temp. Coefficient nm/°C ~ 0.28 Electrical Parameters Degrating Current I_{op} A $\leqslant 430$ Threshold Current I_{th} A $\leqslant 25$ Deparating Voltage V_{op} 4 V $\leqslant 2$ Slope Efficiency 4 W/A $\geqslant 1.1$ Power Conversion Efficiency 6 8 Deparating Temperature 5 8 8 Coolant 6 Deionized Water Flow Rate 4 4 4 Max Inlet Pressure 4 4 4 Max Inlet Pressure	Spectral Width FWHM	nm	≪4
Duty Cycle% ≤ 8 Fast Axis Divergence(FWHM)degree35Slow Axis Divergence(FWHM)degree8Polarization Mode-TE/TMWavelength Temp. Coefficientnm/°C ~ 0.28 Electrical ParametersDeparating Current I_{op} A ≤ 430 Operating Current I_{th} A ≤ 25 Operating Voltage V_{op}^4 V ≤ 2 Slope Efficiency 4 W/A $\geqslant 1.1$ Power Conversion Efficiency% $\geqslant 48$ Thermal Parameters $^{\circ}$ C $20 \sim 30$ Storage Temperature 6 $^{\circ}$ C $0 \sim 55$ Coolant-Deionized WaterFlow Rate 4 L/min $0.3 \sim 0.4$ Max Inlet PressurekPa380	Spectral Width FW90%E	nm	≪6
Fast Axis Divergence(FWHM) Slow Axis Divergence(FWHM) Polarization Mode Polarization Mode Fast Axis Divergence(FWHM) Fast Axis Divergence(FWHM) Polarization Mode Polarization Mode Fast Axis Divergence(FWHM) Fast Axis Divergence(FWHM) A Selectrical Parameters Departing Corrent Ion Poperating Current Ion Fast Axis Divergence(FWHM) Fast Axis Divergence(FWHM) Fast Axis Divergence(FWHM) Fast Axis Divergence Fast Base Base Base Base Base Base Base Base	Pulse Width	μs	200
Slow Axis Divergence(FWHM) Polarization Mode Pola	Duty Cycle	%	≪8
Polarization Mode Polarization	Fast Axis Divergence(FWHM) ³	degree	35
Wavelength Temp. Coefficientnm/°C ~ 0.28 Electrical Parameters ~ 0.28 Operating Current I_{op} A ≤ 430 Threshold Current I_{th} A ≤ 25 Operating Voltage V_{op} V ≤ 2 Slope Efficiency W/A $\geqslant 1.1$ Power Conversion Efficiency $\%$ $\geqslant 48$ Thermal Parameters $^{\circ}$ $^{\circ}$ $^{\circ}$ Operating Temperature $^{\circ}$ $^{\circ}$ $^{\circ}$ Coolant- $^{\circ}$ $^{\circ}$ Flow Rate $^{\circ}$ $^{\circ}$ $^{\circ}$ Max Inlet Pressure $^{\circ}$ $^{\circ}$ $^{\circ}$	Slow Axis Divergence(FWHM)	degree	8
Electrical Parameters Operating Current I_{op} Threshold Current I_{th} Operating Voltage V_{op} Slope Efficiency W/A Power Conversion Efficiency Operating Temperature Operating Temperature Coolant Flow Rate Max Inlet Pressure A ≤ 430 A ≤ 430 A ≤ 25 V W/A ≤ 2 W/A ≤ 1.1 Overating Voltage Vop W/A ≤ 1.1 Overating Temperature Coolant Coolant Deionized Water 1./min 0.3~0.4 Max Inlet Pressure Rea A ≤ 430 A ≤ 430 Coolant ≤ 25 Coolant ≤ 20 Deionized Water Overating Temperature A Overating Temperature Coolant A Overating Temperature Coolant A Overating Temperature A Overating Temperature Overating Temperature	Polarization Mode	-	TE/TM
Operating Current I_{op} A ≤ 430 Threshold Current I_{th} A ≤ 25 Operating Voltage V_{op} V ≤ 2 Slope Efficiency ⁴ W/A ≥ 1.1 Power Conversion Efficiency % ≥ 48 Thermal Parameters Operating Temperature ⁵ $^{\circ}$ $^{\circ}$ Storage Temperature ⁶ $^{\circ}$ $^{\circ}$ Coolant - Deionized Water Flow Rate ⁴ L/min $^{\circ}$ Max Inlet Pressure kPa 380	Wavelength Temp. Coefficient	nm/°C	~0.28
Threshold Current I_{th} Operating Voltage V_{op}^{4} Slope Efficiency W/A Power Conversion Efficiency W/A Poperating Temperature Operating Temperature Conversion Efficiency Conversion Efficie	Electrical Parameters		
Operating Voltage V_{op}^4 V ≤2 Slope Efficiency ⁴ W/A ≥1.1 Power Conversion Efficiency % ≥48 Thermal Parameters Operating Temperature ⁵ $^{\circ}$ C 20~30 Storage Temperature ⁶ $^{\circ}$ C 0~55 Coolant - Deionized Water Flow Rate ⁴ L/min 0.3~0.4 Max Inlet Pressure kPa 380	Operating Current I _{op}	Α	≤430
Slope Efficiency ⁴ W/A ≥1.1 Power Conversion Efficiency % ≥48 Thermal Parameters Departing Temperature ⁵ °C 20~30 Storage Temperature ⁶ °C 0~55 Coolant - Deionized Water Flow Rate ⁴ L/min 0.3~0.4 Max Inlet Pressure kPa 380	Threshold Current Ith	Α	≤25
Power Conversion Efficiency % ≥48 Filtermal Parameters ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	Operating Voltage V _{op} ⁴	V	≤2
Thermal Parameters Operating Temperature ⁵ ℃ 20~30 Storage Temperature ⁶ ℃ 0~55 Coolant - Deionized Water Flow Rate ⁴ L/min 0.3~0.4 Max Inlet Pressure kPa 380	Slope Efficiency ⁴	W/A	≥1.1
Operating Temperature ⁵ ℃ 20~30 Storage Temperature ⁶ ℃ 0~55 Coolant - Deionized Water Flow Rate ⁴ L/min 0.3~0.4 Max Inlet Pressure kPa 380	Power Conversion Efficiency	%	≥48
Storage Temperature © 0~55 Coolant - Deionized Water Flow Rate 4 L/min 0.3~0.4 Max Inlet Pressure kPa 380	Thermal Parameters		
Coolant - Deionized Water Flow Rate ⁴ L/min 0.3~0.4 Max Inlet Pressure kPa 380	Operating Temperature ⁵	${\mathbb C}$	20~30
Flow Rate ⁴ L/min 0.3~0.4 Max Inlet Pressure kPa 380	Storage Temperature ⁶	${}^{\mathbf{c}}$	0~55
Max Inlet Pressure kPa 380	Coolant	-	Deionized Water
	Flow Rate ⁴	L/min	0.3~0.4
Conductivity µS/cm <5	Max Inlet Pressure	kPa	380
	Conductivity	μS/cm	<5

¹ FL(abbreviation of Focuslight) - VSxx(structure code) –Nx1(Number of Bars) -xx(Power) -xx(center wavelength).

Please feel free to contact with Focuslight if you have any requirement.



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² Data at 25°C temperature, unless otherwise stated.

 $^{^3}$ For fast axis collimation: divergence $\, \leqslant \! 0.5^{\circ} \,$.

⁴ Parameters for single Bar.

⁵ If exceed operating temperature, the device lifetime will be impacted, which will cause wavelength drift.

⁶ Please avoid use and storage in the condensation environment