

FireJet™ FJ100 Gen2

Product Specifications



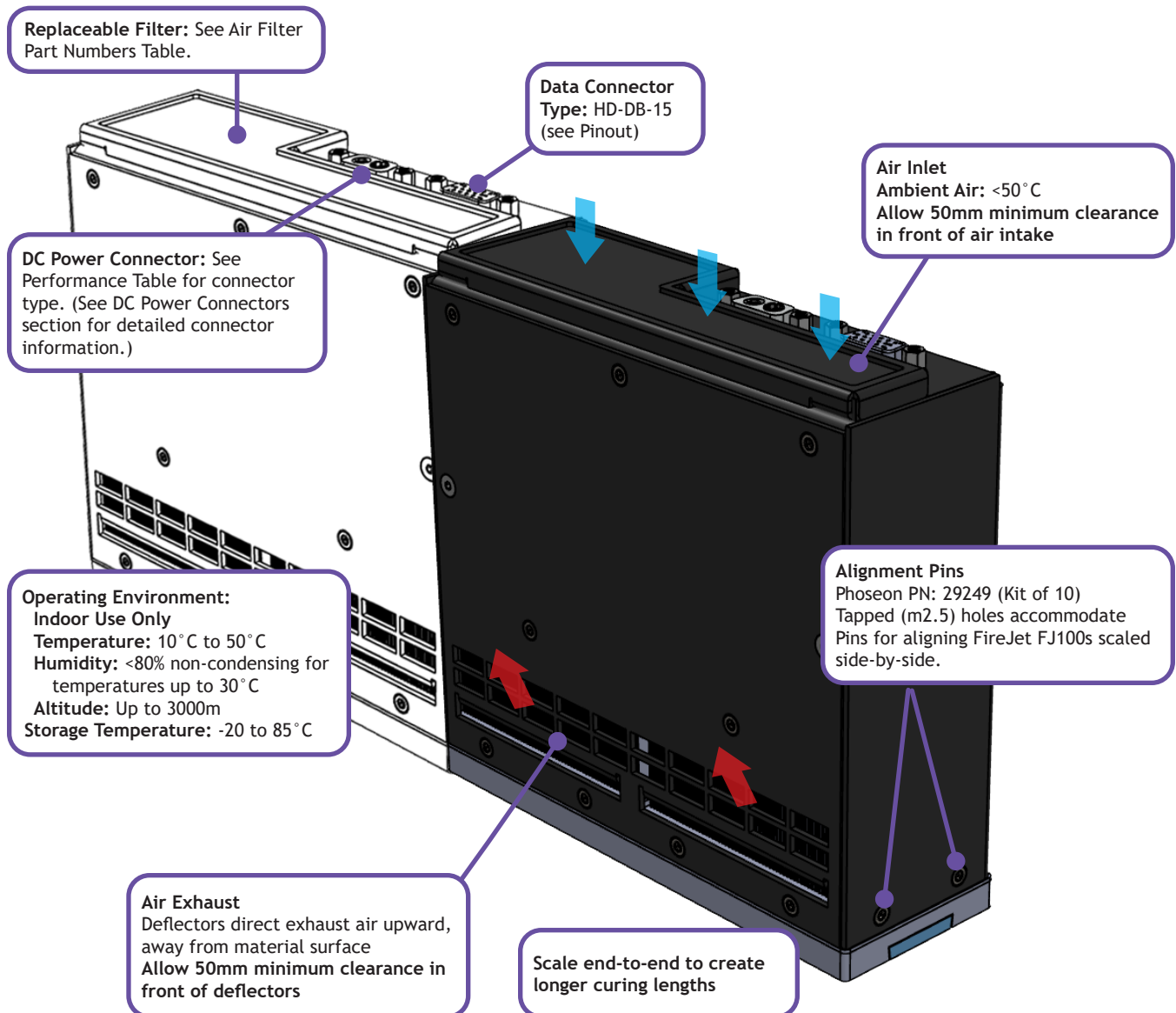
Phoseon UV LED SLM™ Technology

Phoseon Technology is the world leader in providing UV LED solutions for commercial and industrial applications. Phoseon's products deliver superior performance and real-world reliability for UV curing of adhesives, coatings and inks.

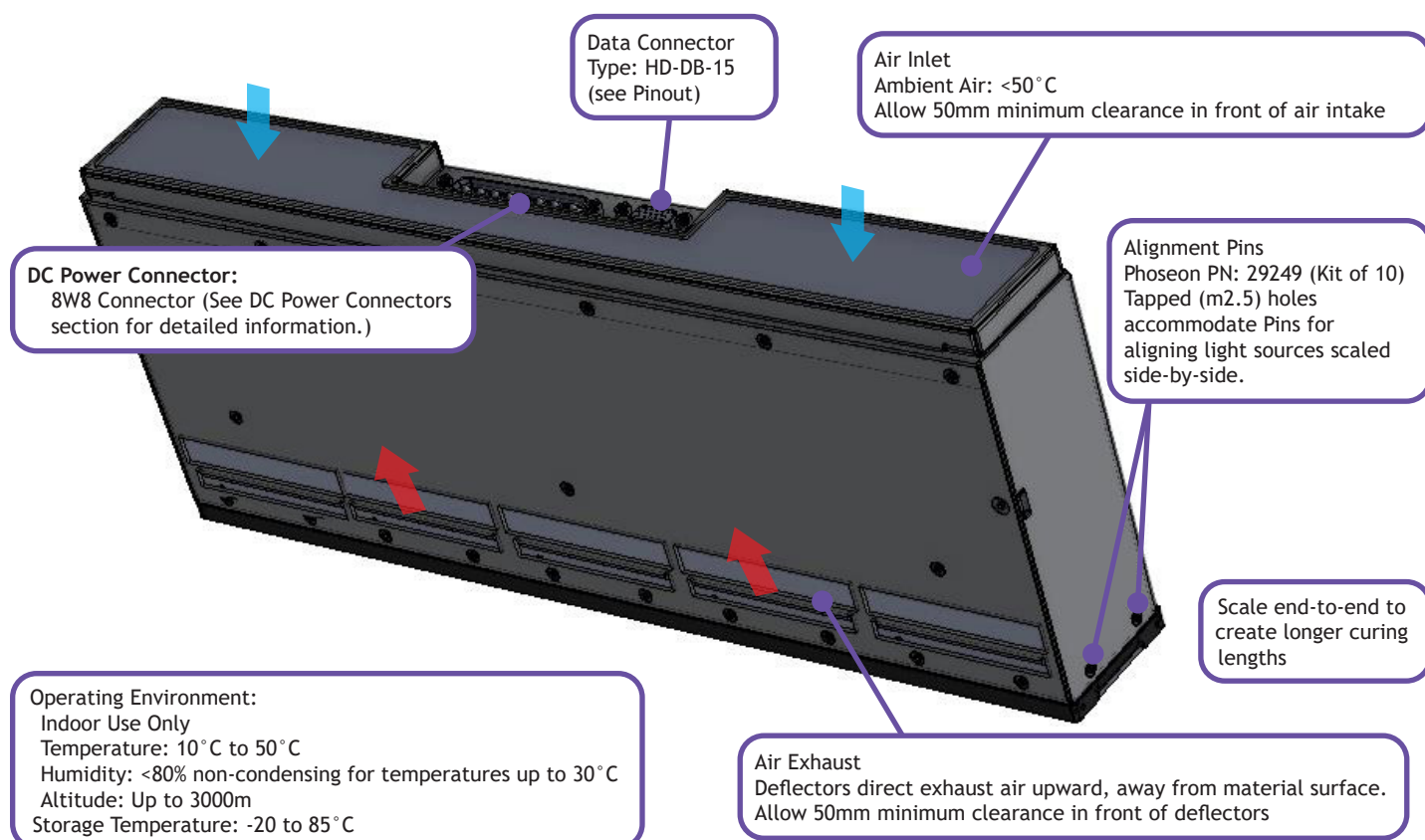
Phoseon's patented Semiconductor Light Matrix (SLM™) technology encapsulates LEDs, arrays, optics and cooling to maximize UV LED curing performance. The small footprint and end-to-end scalability of the FireJet™ FJ100 Gen2 makes it an ideal solution for a variety of applications, including: wide format; and large single pass applications.



Light Source Setup (75, 150, 225, 300x20mm Windows)



Light Source Setup (375x20mm Window)



	Air Filter Part Numbers				
Window Size	75x20	150x20	225x20	300x20	375x20
Kit Part Number	39680 (6 filters/kit)	39681 (6 filters/kit)	39682 (6 filters/kit)	39683 (6 filters/kit)	39684 (6 filters/kit)

Performance

	385, 395, 405nm									
Peak Irradiance	16W/cm ²					12W/cm ²				
Emitting Window (mm)	75x20	150x20	225x20	300x20	375x20	75x20	150x20	225x20	300x20	375x20
Maximum Fan Capacity	50 CFM	100 CFM	150 CFM	200 CFM	250 CFM	50 CFM	100 CFM	150 CFM	200 CFM	250 CFM
48V Power In (Max)	576W 12A	1104W 23A	1632W 34A	2160W 45A	2640W 55A	432W 9A	816W 17A	1200W 25A	1584W 33A	1968W 41A
DC Connector Type	2W2	2W2	2W2	5W5	8W8	2W2	2W2	2W2	2W2	8W8

	365nm					385, 395, 405nm				
Peak Irradiance	8W/cm²									
Emitting Window (mm)	75x20	150x20	225x20	300x20	375x20	75x20	150x20	225x20	300x20	375x20
Maximum Fan Capacity	50 CFM	100 CFM	150 CFM	200 CFM	250 CFM	50 CFM	100 CFM	150 CFM	200 CFM	250 CFM
48V Power In (Max)	288W 6A	720W 15A	960W 20A	1296W 27A	1632W 34A	240W 5A	480W 10A	672W 14A	912W 19A	1152W 24A
DC Connector Type	2W2	2W2	2W2	2W2	8W8	2W2	2W2	2W2	2W2	8W8

Typical Dose*

	16W/cm ² (385, 395, 405nm)									
Process Speed (ft/min)	10	33	50	82	100	164	200	246	250	300
Process Speed (m/min)	3.1	10.0	15.2	25.0	30.5	50.0	61.0	75.0	76.2	91.4
Dose (mJ/cm ²)	4332.7	1321.5	867.2	528.5	433.6	264.3	216.8	176.2	173.4	144.6

	12W/cm ² (385, 395, 405nm)									
Process Speed (ft/min)	10	33	50	82	100	164	200	246	250	300
Process Speed (m/min)	3.1	10.0	15.2	25.0	30.5	50.0	61.0	75.0	76.2	91.4
Dose (mJ/cm ²)	3257.7	993.6	652.0	397.4	326.0	198.7	163.0	132.5	130.4	108.7

	8W/cm ² (365nm)									
Process Speed (ft/min)	10	33	50	82	100	164	200	246	250	300
Process Speed (m/min)	3.1	10	15.2	25	30.5	50	61.0	75	76.2	91.4
Dose (mJ/cm ²)	2150.1	655.8	430.3	262.3	215.1	131.2	107.6	87.4	86.1	71.7

*(+/-10%) at 100% Intensity and 5mm working distance

DC Power Connectors

The male Dsub connector is used to provide power to the light source.

2W2 Connector

Mating DC Connector Options

2W2 Female Dsub connector

FCT PN: F2W2SC-K121

Input Voltage: 48±4Vdc

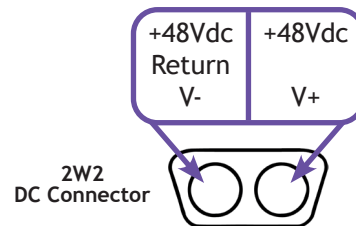
Mating Connector on Cable:

FCT PN: F2W2PC-K120 (Connector)

152-FMP007S103 (Socket)

152-FMP007P103 (Plug)

Phoseon Kit PN: 39598



5W5 Connector

Mating DC Connector Options

5W5 Female Dsub connector

Connector Housing: FCI PN DB5W5SA00LF

Female Contacts:

FCI PN 8638PSS4005LF (40A Max Solder

Contacts) or FCI PN 8638PSC4005LF

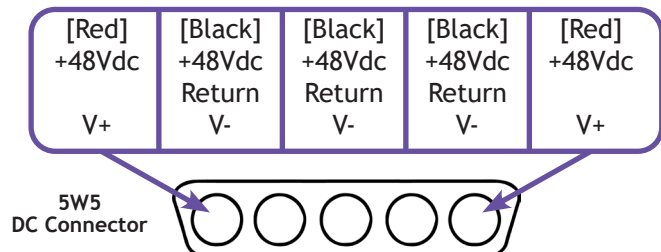
(40A Max Crimp Contacts)

Phoseon Custom Backshell Kit PN: 32968

Female 40A 5W5 with Solder Contacts:

Norcomp PN 6805W5203L401

Custom Backshell Components plus hardware



8W8 Connector

Mating DC Connector Options

8W8 Female Dsub connector

MFR: Amphenol

MFR PN: DCO8W8P543H40LF

Input Voltage: $48 \pm 1\text{Vdc}$

Mating Connector on Cable:

Connector

MFR: Amphenol

MFR PN: DC8W8SA00LF

Socket

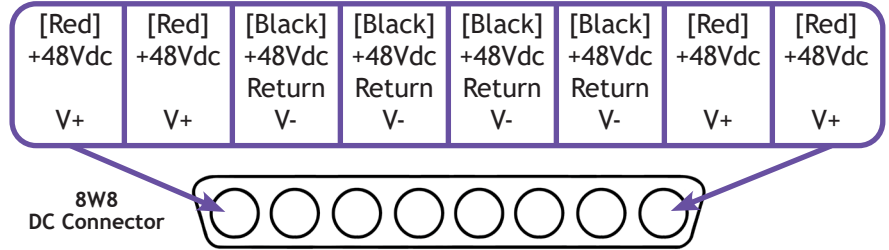
MFR: Conec

MFR PN: 132C11039X

Hood

MFR: ITT Cannon

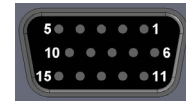
MFR PN: 980-2000-353



PLC Interface

The female HD-DB-15 connector is used to control the light source via PLC.

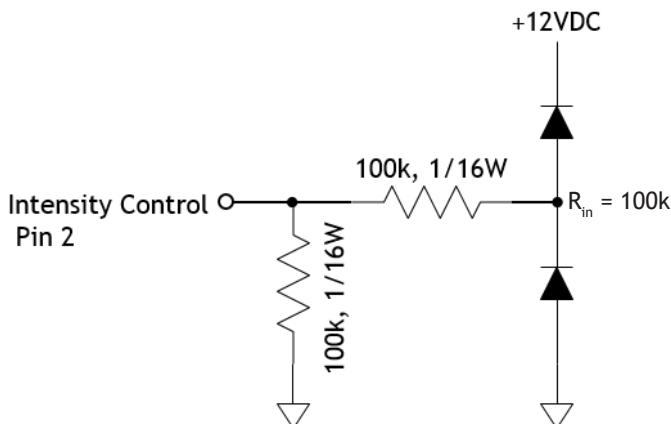
Data Connector



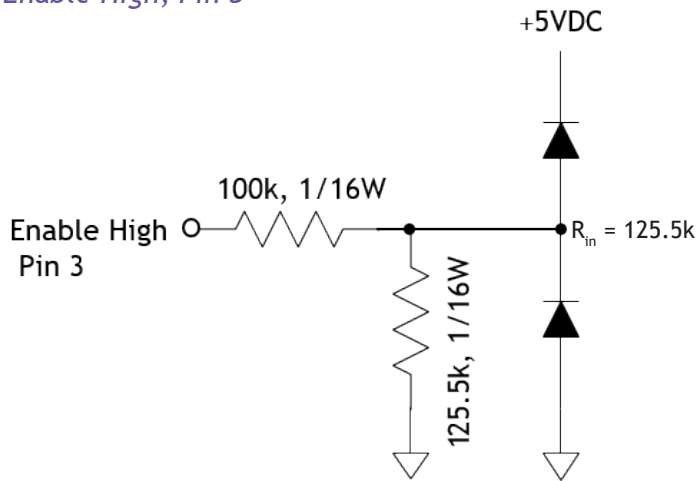
- | | | |
|---|---|--|
| 1 Do Not Connect | 5 Lamp Ready: (24V PLC Output)
0 to 6V = Not Ready or
16 to 24V = Ready
External resistive load on this
Pin must be $\geq 10\text{k}\Omega$ | 11 Do Not Connect |
| 2 Intensity Control: (Voltage Input)
0.5V = 5% of full power,
10V = 100% of full power
Internal resistive load on this Pin
is $100\text{k}\Omega$ | 6 Do Not Connect | 12 RS485 Communication: Serial - |
| 3 Enable High: (24V PLC Input)
0 to 6V (ground/open input) = OFF
or 16 to 24V = ON
Internal resistive load on this
Pin is $125\text{k}\Omega$ | 7 Do Not Connect | 13 RS485 Communication: Serial + |
| 4 Do Not Connect | 8 Ground | 14 Ground |
| | 9 Ground | 15 Temperature Monitor: (Voltage Output)
Voltage proportional to SLM heat sink
temperature $0.1\text{V} = 1^\circ\text{C}$
External resistive load on this Pin must
be $\geq 10\text{k}\Omega$ |
| | 10 Ground | |

The equivalent circuits inside the FireJet FJ100 UV curing source are shown below:

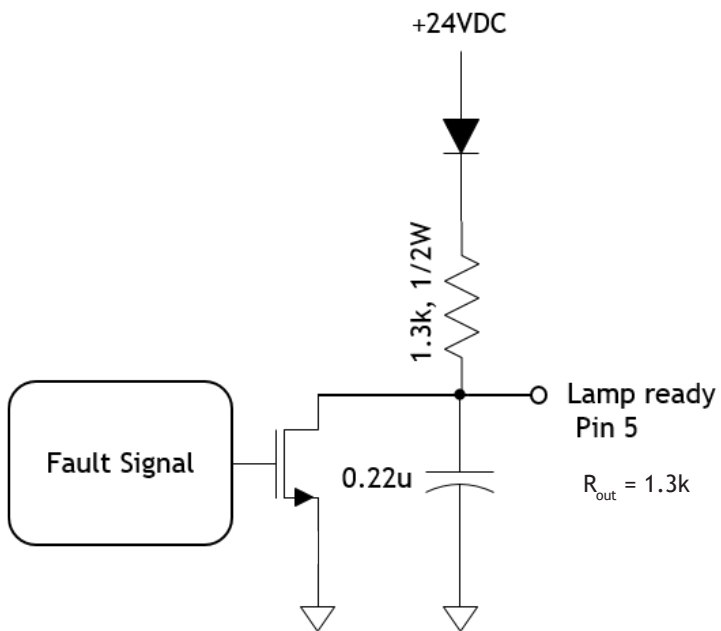
Intensity Control, Pin 2



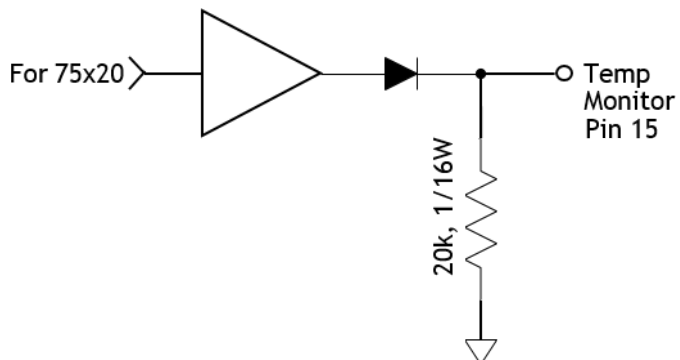
Enable High, Pin 3



Lamp Ready, Pin 5



Temperature Monitor, Pin 15



- For FireJet FJ100 75x20mm, $R_{out} = 20\text{k}$
- For FireJet FJ100 150x20mm, $R_{out} = 10\text{k}$ (two output modules parallel)
- For FireJet FJ100 225x20mm, $R_{out} = 6.7\text{k}$ (three output modules parallel)
- For FireJet FJ100 300x20mm, $R_{out} = 5\text{k}$ (four output modules parallel)
- For FireJet FJ100 375x20mm, $R_{out} = 4\text{k}$ (five output modules parallel)

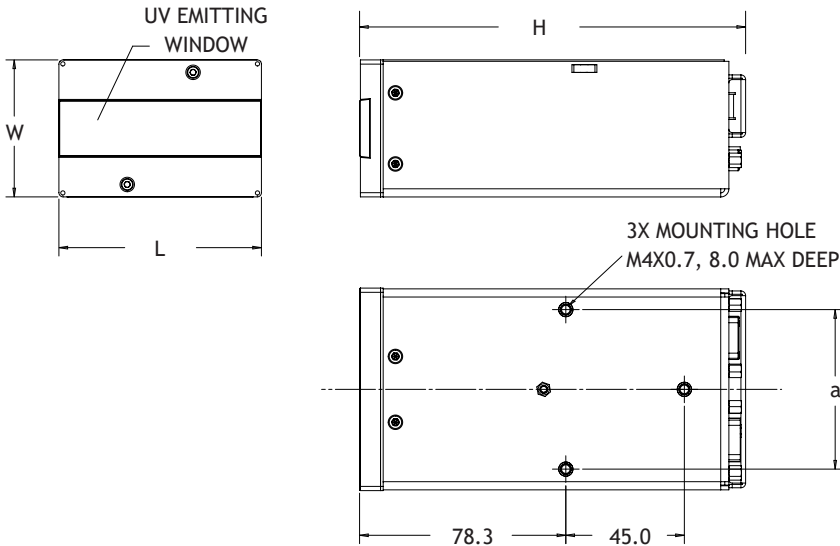
Dimensions

Units of measurement: mm

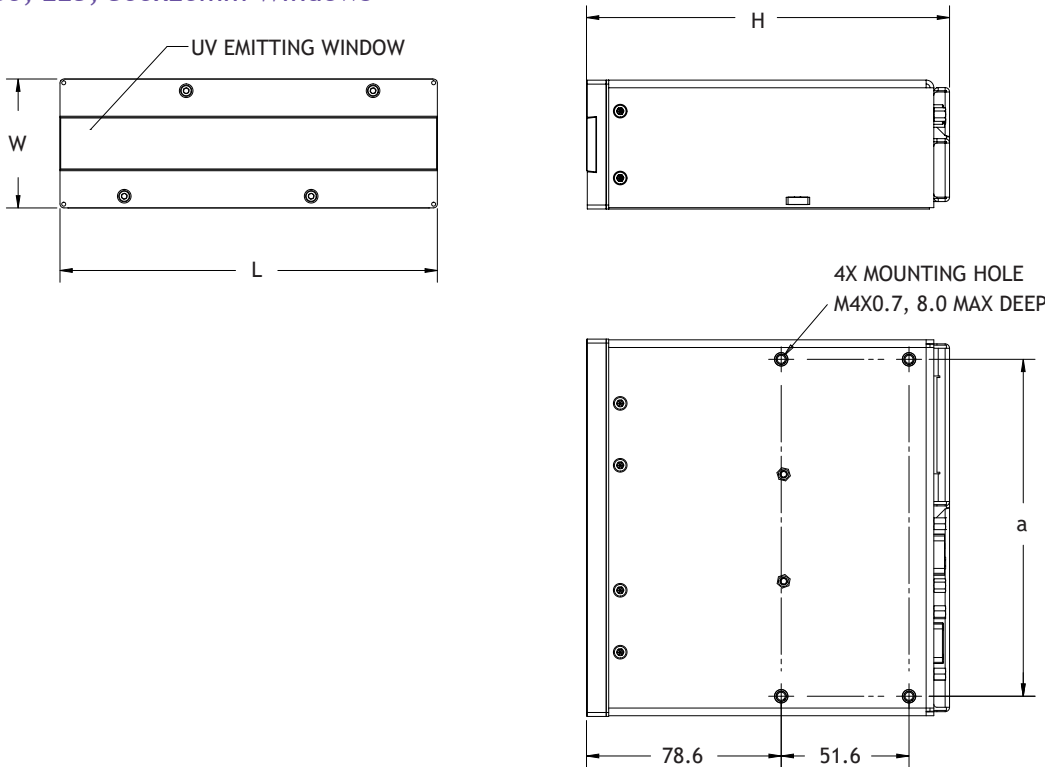
FJ100 Gen2					
UV Emitting Window (mm)	75x20	150x20	225x20	300x20	375x20
L	76.8	152.3	227.8	303.2	378.6
H	147.0	147.0	147.0	147.0	147.0
W	52.0	52.0	52.0	52.0	52.0
a	60.6	136.0	211.7	165.8	362.3
Weight (kg)	0.5	1.0	1.5	2.0	2.5

Note: Mounting holes differ between window sizes. See light source control drawing for specific mounting points and complete dimensions.

75x20mm Window



150, 225, 300x20mm Windows



375x20mm Window

