model	DVS-1010AI	DVS-1010AI
Laser power	500W/10bar	500W/10bar
Center wavelength	808±10nm	808±10nm
Fast axis divergence angle	≦31°	≦31°
Slow axis divergence angle	≦8°	≦8°
Bar spacing	2.1mm	2.1mm
Spot size	10×19.4mm	10×19.4mm
Drift coefficient	0.28nm/℃	0.28nm/℃
Threshold current	12A	12A
Working current	40-50A	40-50A
Maximum working voltage	1.9V/Bar	1.9V/Bar
repeat frequency	1～10Hz	1～10Hz
Maximum duty cycle	30%	30%
Maximum pulse width	300ms	300ms
Working temperature	15～35℃	15～35℃
Optimal water temperature	20-25℃	20-25℃
storage temperature	-10-60℃	-10-60℃
Water flow	＞3.0L／min	＞3.0L／min
Water pressure	0.4-0.6MPa	0.4-0.6MPa
Water quality requirements	Grade 3 or above deionized water, conductivity ≤20us/cm, resistivity ≥1 MΩ·cm, particulate matter ≤20 microns	

W/bar			200-600W Pulse width (ms)					Iop（A）
		10	20	40	100	200	300	
frequency（Hz）	1	50A/50W	50A/50W	50A/50W	48A/48W	45A/45W	40A/40W	≤50A
	2	50A/50W	50A/50W	48A/48W	45A/45W	40A/40W		
	4	50A/50W	48A/48W	45A/45W	43A/43W			
	10	50A/50W	48A/48W	45A/45W	40A/40W			

Note: The semiconductor laser chip can withstand a maximum current of 50A. Exceeding this current will directly shorten the life of the laser. It is only used for rapid laser aging experiments. It is not recommended for customers. This will shorten the life of the laser or burn out, which is not covered by the warranty.

3. Precautions for the use of the laser: ensure anti-static measures

1. Before use, please follow the principle of connecting water first, then wiring and plug, and finally electrifying, which can effectively avoid the unstable voltage of the laser during the plugging and unplugging process, which will cause the laser to over-excite and fail.
2. The ideal temperature of the cooling water is ≤25℃. It is recommended to combine with the local room temperature to ensure that the laser temperature is not lower than the room temperature 10℃ to avoid condensation;
3. The actual water flow through the laser is required to be ≥3.0L/min. Conditional customers can use a flow monitoring system to protect the product and ensure long-term use; the return water temperature rise ≤ 2 ℃ is the best. If the temperature of the return water exceeds 3°C, the wavelength of the laser will obviously drift and the life will be shortened, which may cause the laser to burn out. The reason may be insufficient water flow or exceeding the electrical parameter usage standards.
4. Please use it in a dry and clean environment, and the product window must not be stained with dirty water;
5. A reasonable size O-ring must be used to connect the water inlet and outlet holes of the product. If the size is too small, it will increase the ineffective water resistance of the waterway.
6. In order to ensure the long-term use of this product, please use deionized water for circulating cooling. Regularly replace the deionized water and the filter element of the filter system. It is recommended to replace the deionized water once every two weeks;
7. The wire diameter of the electric wire connected to the laser is ≥4mm²;
8. If the customer needs a grounding wire, you can wire it by yourself at the four screw positions of the module base.
9. If customers use a constant current source for power supply, they must pay attention to avoiding invalid resistance in the welding circuit, thereby reducing load changes and protecting the laser; in addition, the instantaneous pulse power of the current output signal must not be higher than 50A, otherwise the laser will be burned.
10. When unpacking and installing the laser module, pay attention to electrostatic protection measures for the laser, and the welding tool must be grounded.
11. Each time the customer turns on the machine, he needs to open and close the water pump or the water inlet valve more than three times in a row, so that the air in the waterway cavity can be discharged smoothly.
12. Before the laser is energized, use a low current of 20A for trial operation, and then increase it to use the standard current to effectively protect the characteristics of the chip.