E160-50W



USER MANUAL

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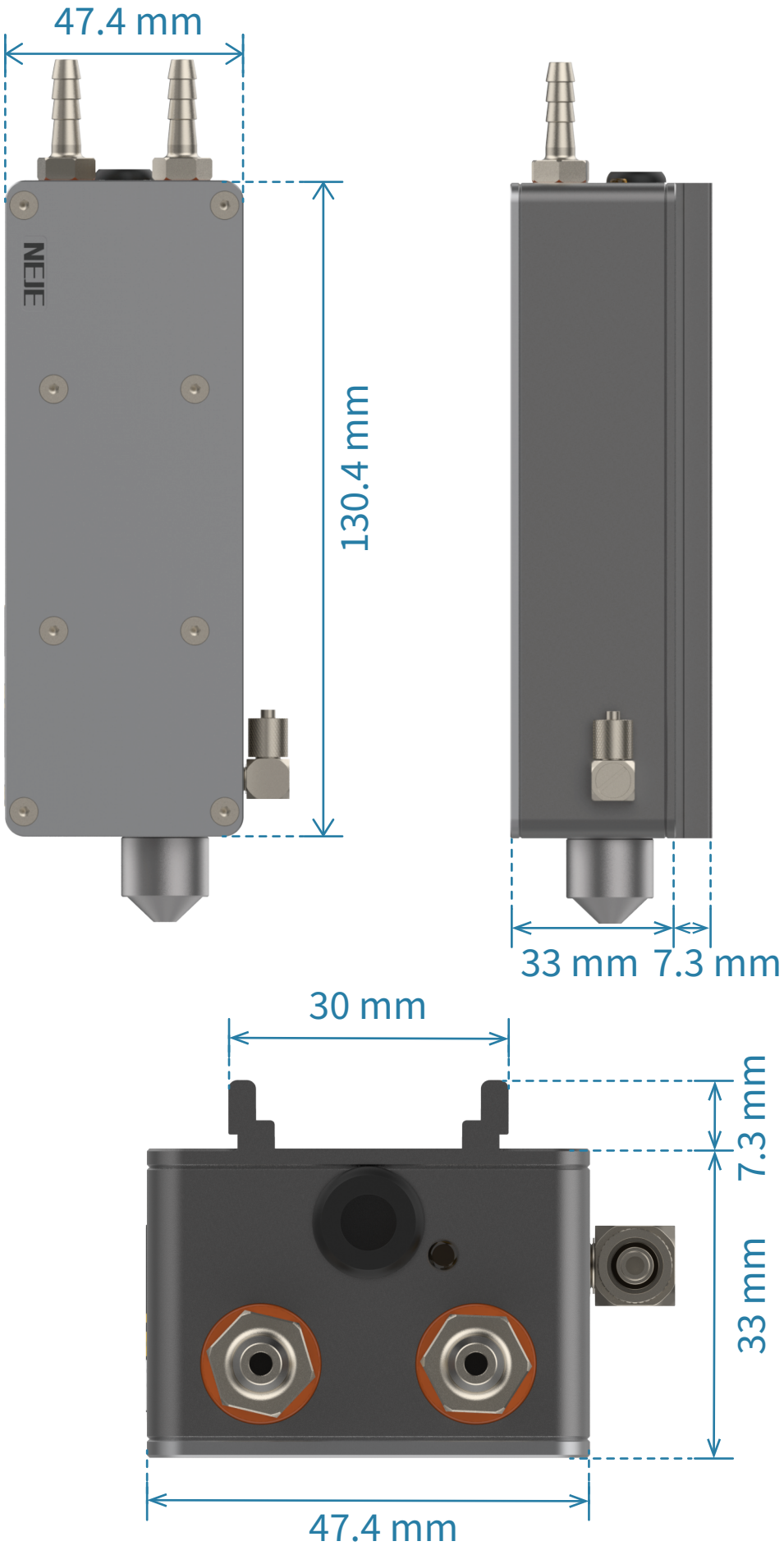
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1.LASER MODULE INTRODUCTION

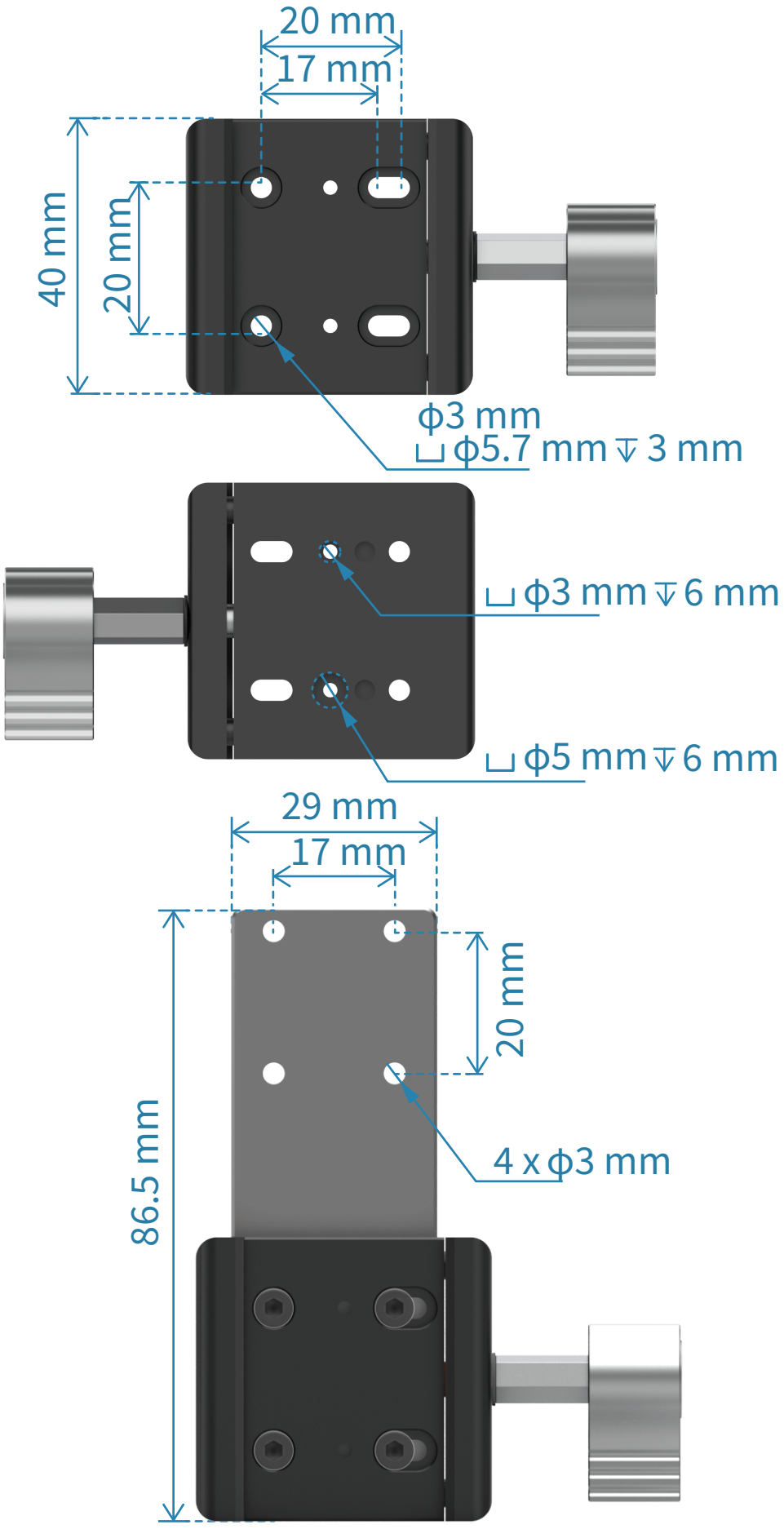
1.1 Parameters

Laser Wavelength	Spot Size
450 nm	90 µm x 90 µm (6X the energy density of standard 120 W modules. Faster cutting speeds)
Laser Optic Output Power	**Interface**
CW 50 W + Avg Power	Independent power supply: 48 V 160 W. Recommended PSU: 200 W +, 3.3 - 24 V PWM adjustable power + Temp Feedback: Optional
Engraving Materials	**Cutting Materials**
Wood, stainless steel, Steel, Rubber, hardwood, bamboo, cardboard, painted metal, fabric, PUeather, selected plastics, leather, PCB, aluminumoxide, electroplated layers, glass, ceramics, slate, etc	Wood & plywood < 40 mm, MDF/HDF Board < 17 mm, ABS sheet < 17 mm - Dark, Black-acrylic < 40 mm, Leather < 5 mm, Steel plate 0.3 mm / pass, Corrugated cardboard < 18 mm, Hard cardboard 8 mm, Scratch paper Weeding invitation paper, Colored A4 paper, Kraft paper, Non-woven, Cotton, Linen, Velvet, Canvas, Fabric polyester, Fabric synthetics.
Weight / Total Wire Length	**Warranty**
560 g / 3.2 m	2 years

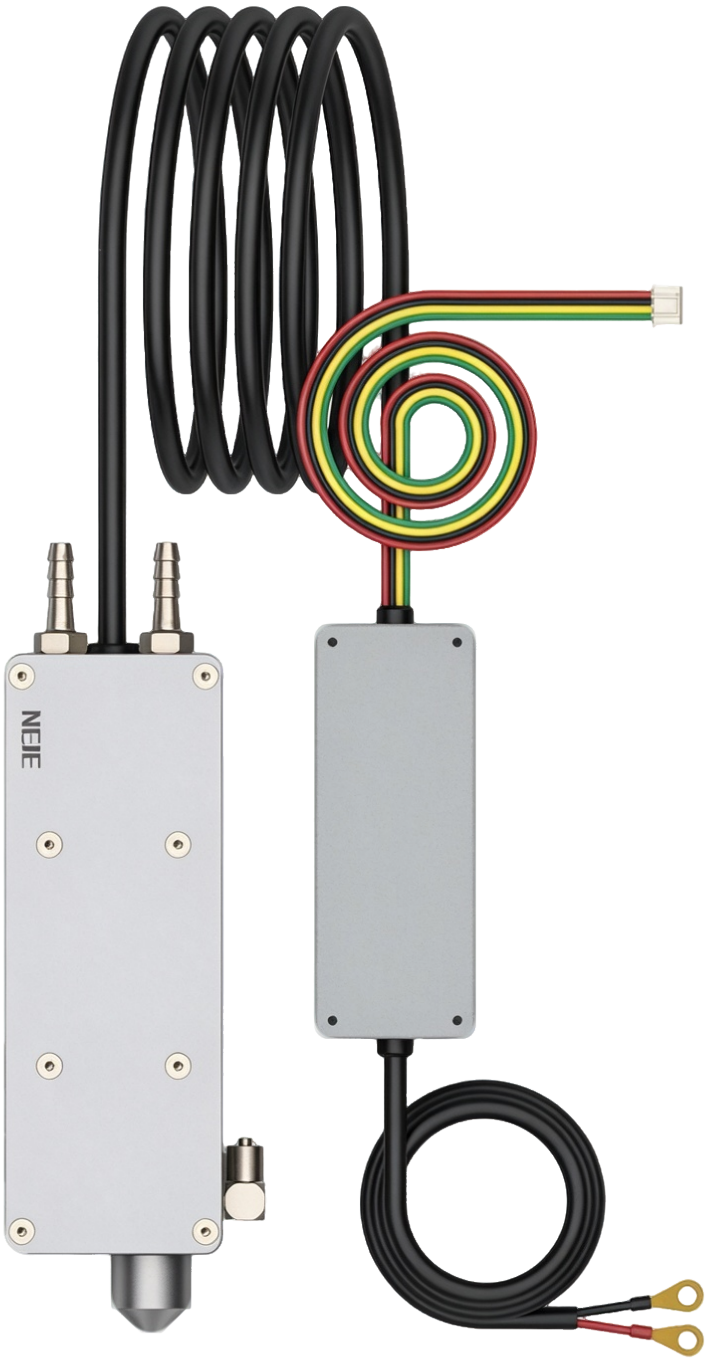
1.2 Overall Dimensions



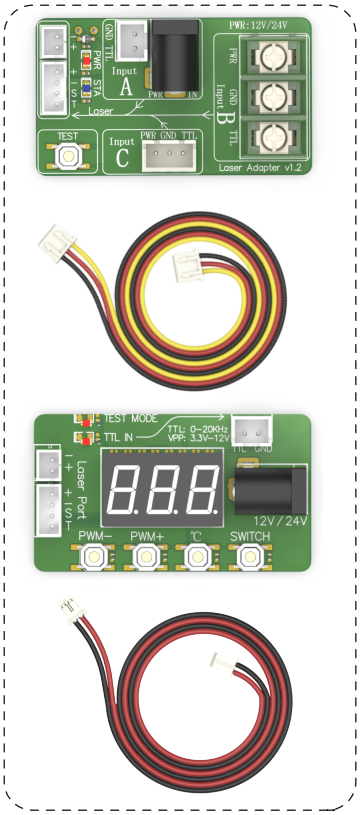
1.3 Mounting Hole Specification



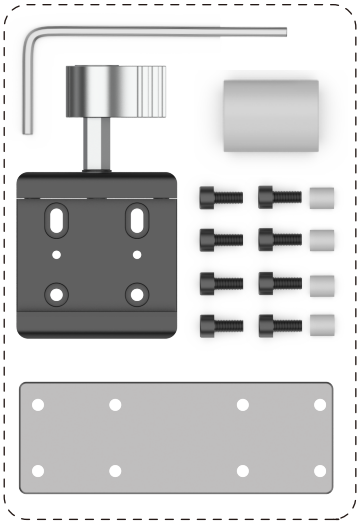
1.4 Package List



NEJE E160 Laser Module
(Total Lengh: 3.2 m)



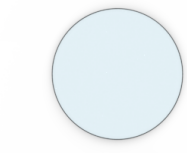
Interface & Test Board Kit



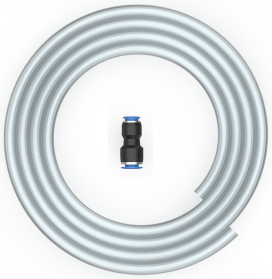
Module Mounting Kit



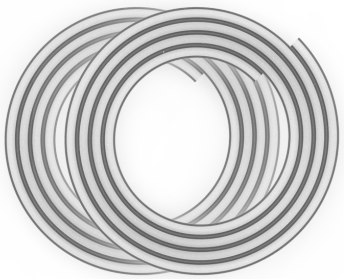
Short air nozzle



Replacement Lens



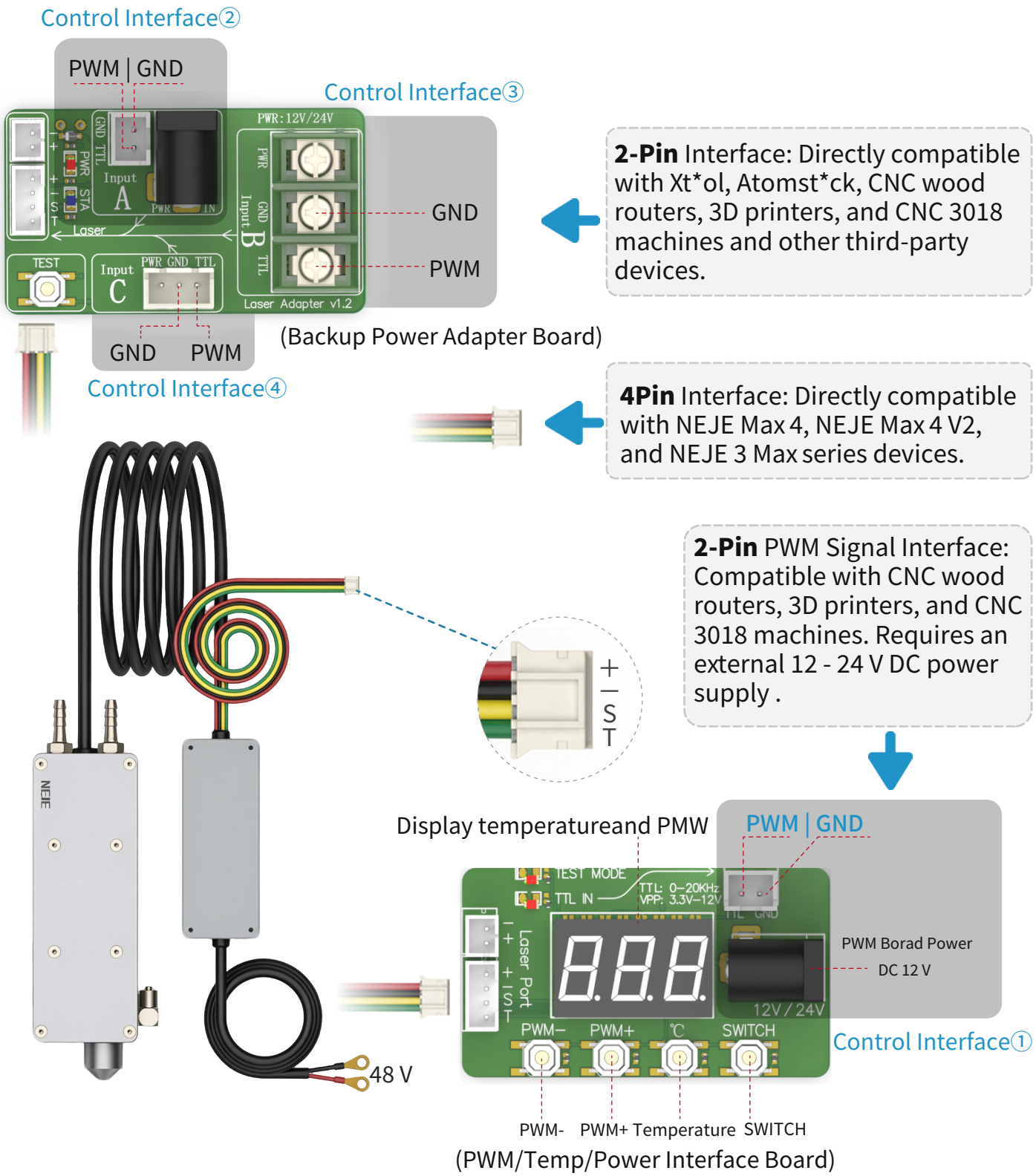
3.2 m x 6 mm Pneumatic Tube



2 x 3.2 m 6 mm Tubes

2.LASER MODULE CONNECTION DESCRIPTION

2.1 Widely compatible



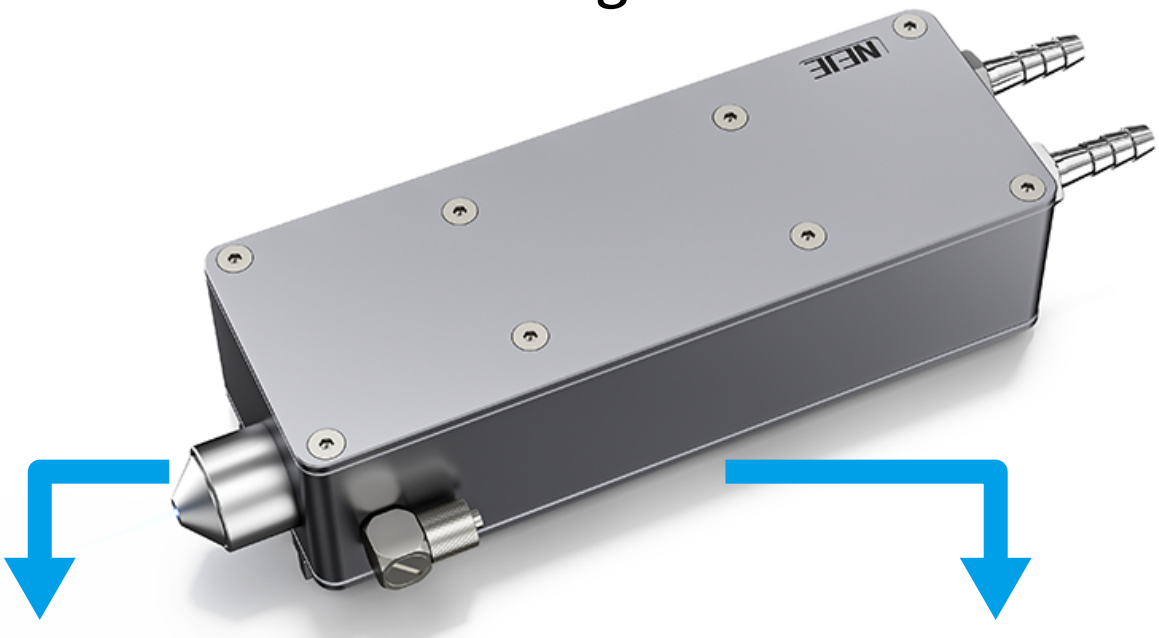
2.2 Air Assist Selection Guide

Lens Protection & Cutting Support



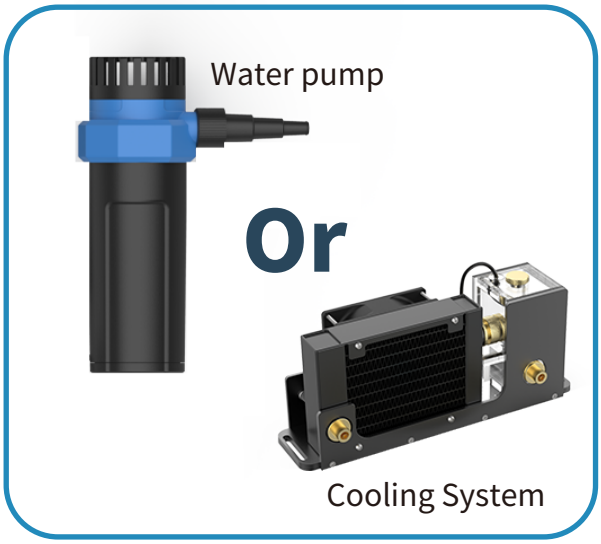
	Option	Purpose	Note
	High-pressure oil-filled pump	✗ Not recommended	Oil & water damage lens
	Standard filter + compressor	✗ Not recommended	Oil & water damage lens
	Silent oxygen pump	✓ Lens protection	Safe for daily engraving
	Pro oil-water separator + compressor	✓ Cutting assist	For MDF, plywood, etc.

2.3 Maintenance-free design



Water cooling pump

48 V 200 W + power supply





NOTE:Water Pump and 48 V Power Supply Not Included – Prepare Separately

Cooling Solutions

For infrequent equipment use, water cooling can be achieved at room temperature by circulating over 10 L of clean water with a pump. Two solutions are available for continuous long-term operation:

1. Use a pump paired with a sealed bucket and more than 10 L of deoxygenated water or automotive windshield washer fluid. This configuration provides natural heat dissipation while preventing limescale buildup in the cooling lines.

2. Choose an internal circulation radiator with a 100 W heat dissipation rating. Typically, the pump for this setup generates relatively low flow pressure, yet it comes with active fan cooling. The coolant must be deoxygenated water or automotive windshield washer fluid to inhibit limescale formation.

3.LASER MODULE REFERENCE SETTINGS

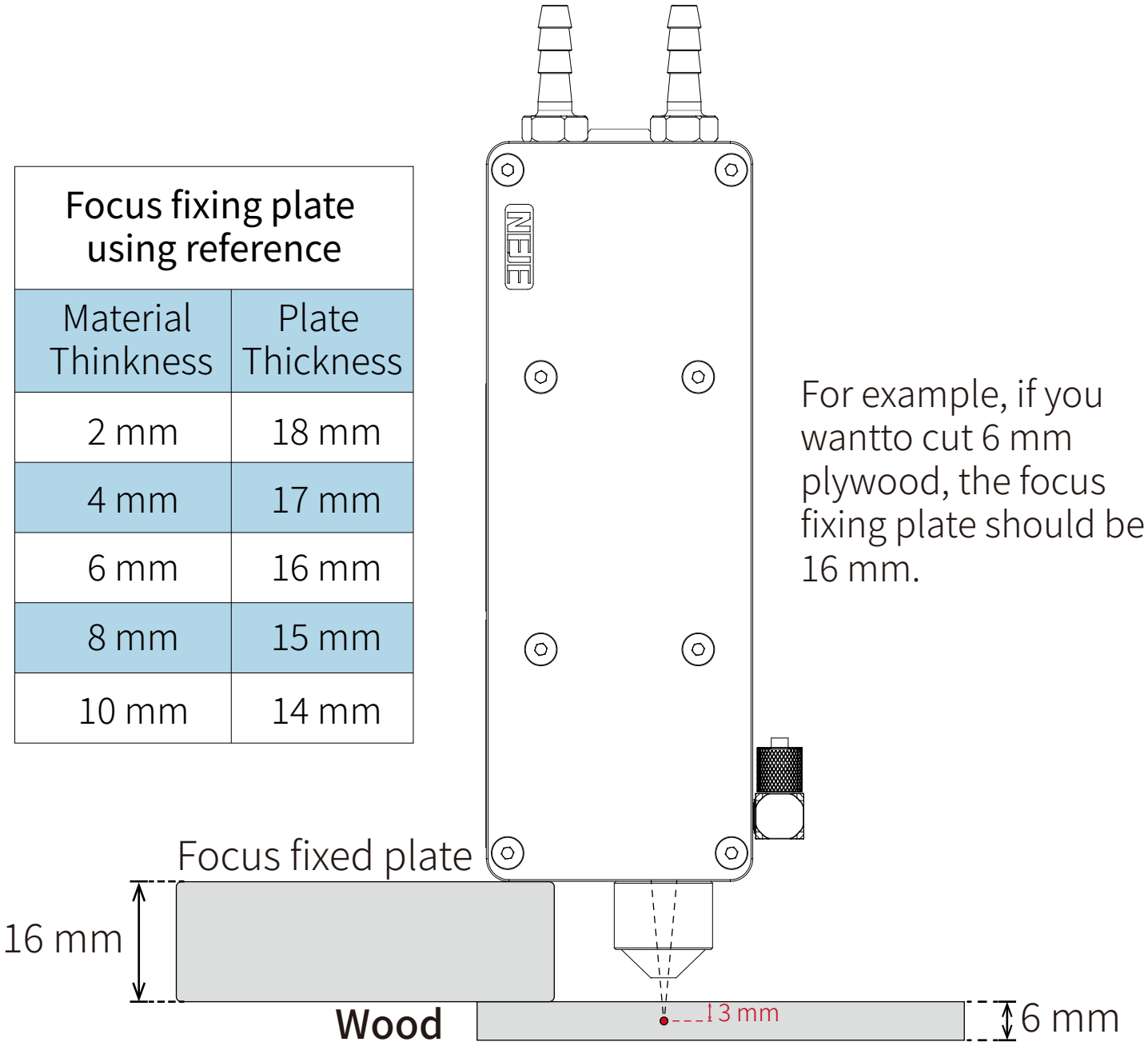
3.1 For cutting

The focal length of the NEJE E160 laser module is 19 mm.

When cutting, you only need to make the focus located a bit lower than the surface of materials.

Reference settings for cutting

Focus fixing plate using reference	
Material Thinkness	Plate Thickness
2 mm	18 mm
4 mm	17 mm
6 mm	16 mm
8 mm	15 mm
10 mm	14 mm

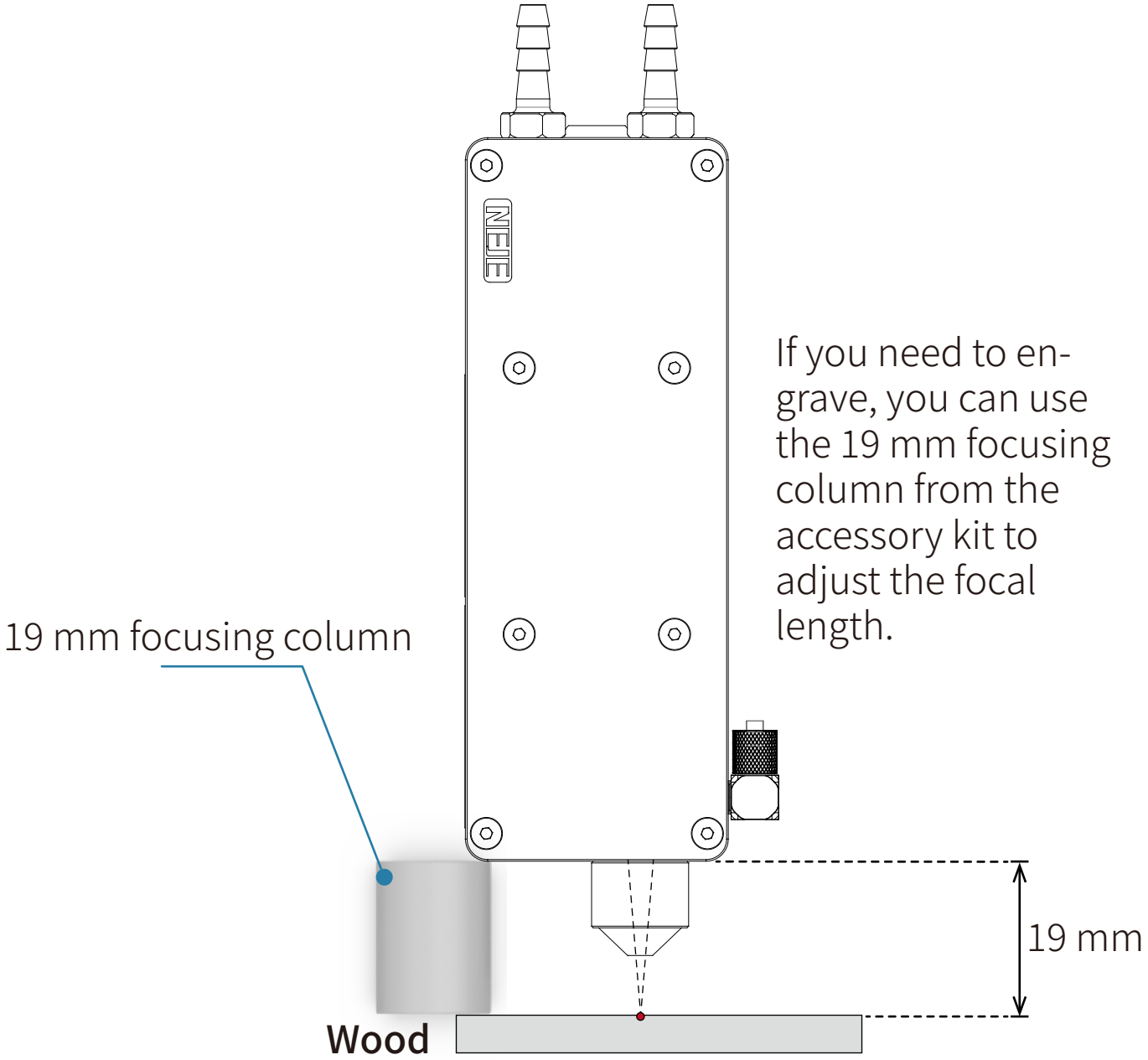


For example, if you wantto cut 6 mm plywood, the focus fixing plate should be 16 mm.

3.2 For engraving

When engraving, please ensure that the focus is located on the material surface.

Reference settings for engraving



3.3 Common Material Parameter Settings

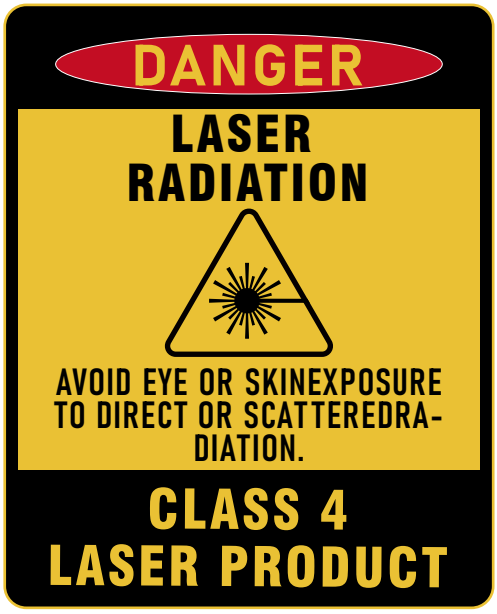
Cutting			
Material	Speed (mm/min)	Power(%)	Passes
30 mm Wood Strip	50	100	2
20 mm wooden strip	120	100	1
10 mm Plywood	120	100	1
3 mm plywood	1200	100	1
6 mm MDF	500	100	1
3 mm MDF	700	100	1
8 mm paulownia board	15000	100	1
3 mm acrylic	450	100	1
non-woven fabric	12000	100	1
2 mm ABS	1000	100	1

Engraving			
Material	Speed (mm/min)	Power(%)	Passes
8 mm paulownia board	900	100	1
Stainless Steel	1000	100	1
Walnut	15000	100	1

4.PRECAUTIONS AND MAINTENANCE

4.1 Precautions

- Please wear laser goggles.
- Turn on the Air Assist before use.
- Doesn't support hot plug.
- For Professional Use Only.



4.2 Maintenance

- When the laser module is not used for a long time, please ensure that the lens is not polluted by dust.
- When you replace the air nozzle, please ensure that your operation willnot pollut the lens. Finger prints or dust on the lens will weaken theoutput power of the laser module, or even damage the lens.
- When you find the cutting ability decreases, the lens might be not clean.Please use a clean alcohol swab to clean it according to the following figure.

• For more information about maintenanoe, please contact us at forum.neje.shop


Dust







NEJE

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