

HK series

HK30 adjustable optical fiber welding system

An instruction manual



Wuhan Xinghong Photoelectric Technology Co., Ltd

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Catalogue

Chapter 1: product introduction and display

1.Product introduction.....	4
2.Accessories display.....	5
3.Cautions: 5 steps for inserting and unplugging optical fiber.....	6
4.Special note: Steps for plugging and unplugging optical fibres (new QBH connectors).....	7

Chapter 2: product installation

1.Welding joint installation.....	8
2.Drive wiring diagram.....	9

Chapter 3: introduction of coil adjustment function

1.Introduction to the laser ring adjustment function.....	10
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Chapter 4: routine operation

1.Replace the protective sheet.....	11
2.Wind knife, coaxial switch.....	11

Revision History



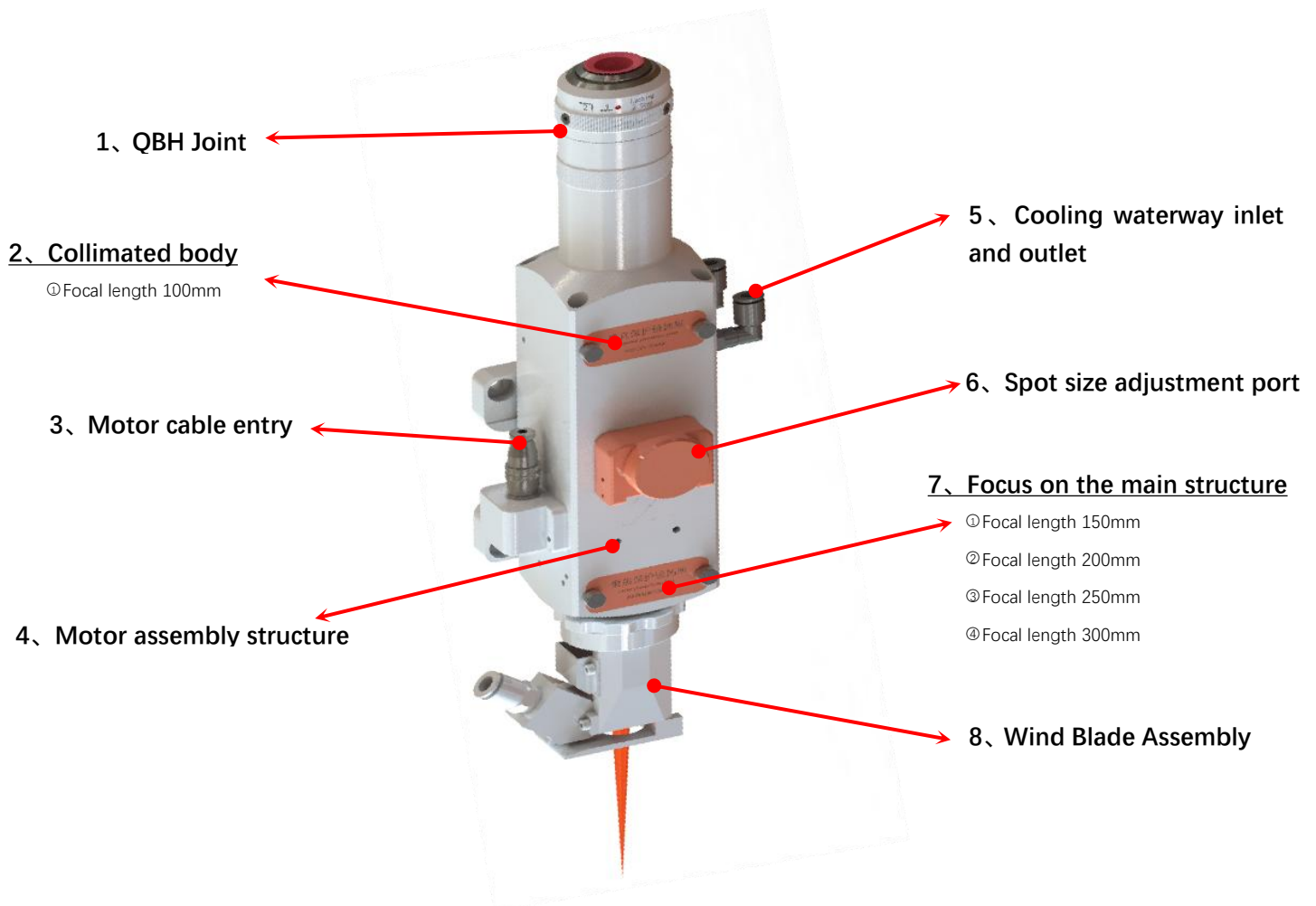
**Please read this product manual carefully after
Then carry out the installation, debugging and use of the product**

You must wear safety glasses when operating the laser equipment. Safety glasses should be selected appropriately for the wavelength of the laser emitted by the laser. If the device is a laser tunable or Raman product, it emits laser light outside the normal output wavelength range of the device's laser and requires appropriate safety protection for this phenomenon. Laser safety glasses should be selected to shield the laser from the entire wavelength range emitted by the laser device.

Chapter I product introduction and display

1. Product introduction

"HK series adjustable optical fiber welding system" is composed of "brushless motor driver" and "optical fiber swing adjustable welding joint". The adjustable spot structure is manual adjustment. Remember to ensure that the motor stops running when adjusting the spot size. After receiving the product, open the packing box, including: 1 set of optical fiber swing adjustable welding joint, 1 driver, 1 set of 8-inch display screen, 1 3-core connecting wire and several accessories.

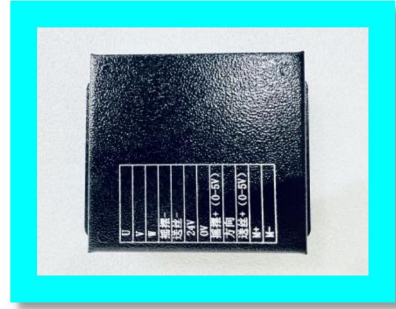


Note: adjusting the size of the light spot is manual, and it can be adjusted only after the motor stops completely. Otherwise, the gear will be damaged and the internal motor will run disorderly.

2. Accessories display



Optical fiber swing adjustable welding joint (sample drawing)



Driver (sample)



8-inch display screen (sample)



3-core connecting wire (sample drawing)



Protective lens (sample)

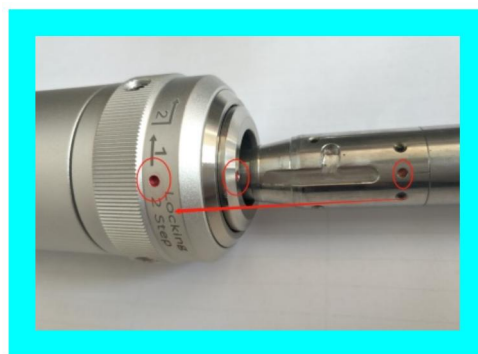
3. Special attention: 5 steps for inserting and unplugging optical fiber

Note: when inserting optical fiber, the laser head shall be placed horizontally; Ensure that the optical fiber is inserted horizontally

3. 1 Check whether QBH connector and optical fiber plug are dirty, and wipe them with alcohol and cotton swab (cotton paper) in time



3.2 QBH homing "two points and one line" 3.3 alignment insertion of optical fiber plug



3.4 secondary locking clockwise

3.5 optical fiber protective jacket for complete protection



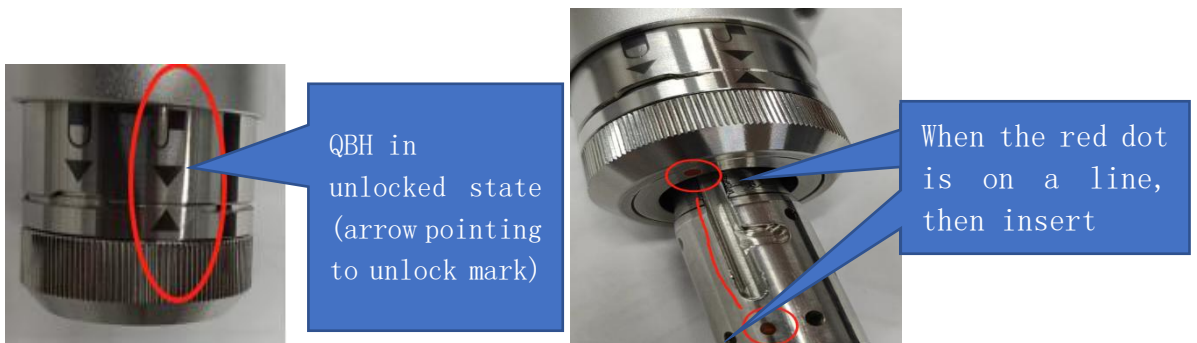
Note: when inserting optical fiber, the laser head shall be placed horizontally; Ensure that the optical fiber is inserted horizontally

4. Special note: Steps for plugging and unplugging optical fibres (new QBH connectors)

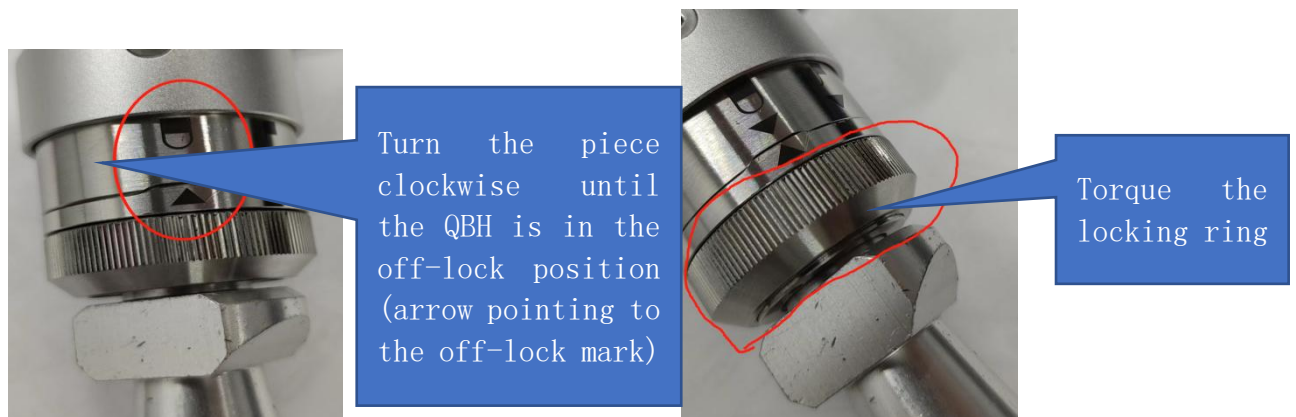
4.1 Inspect QBH connectors and fibre plugs for dirt and wipe them clean promptly with alcohol and cotton swabs (cotton paper).



4.2 The QBH is in the unlocked position (arrow pointing to the unlocked logo) and the red dot of the fibre optic plug is inserted into place against the red dot on the end of the QBH.

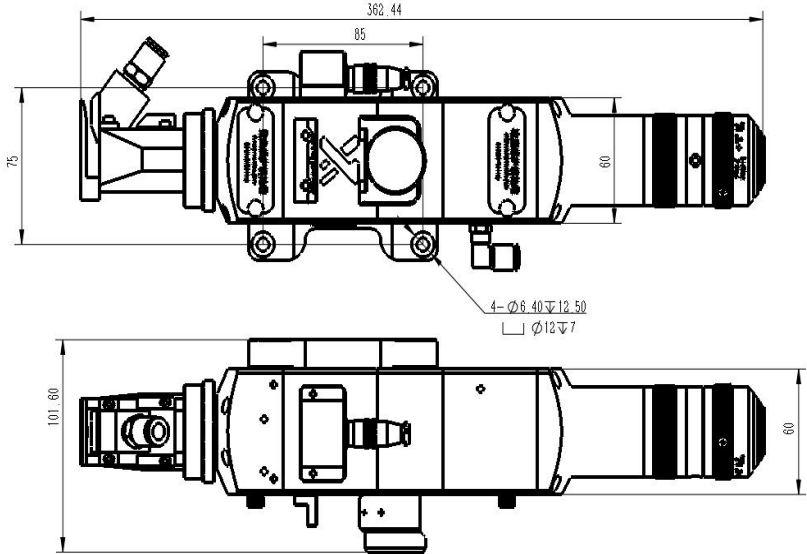


4.3 Turn the ring with the lock mark on the QBH connector clockwise until the QBH is in the off-lock position (arrow pointing to the off-lock mark) and finally twist the locking ring to tighten it.

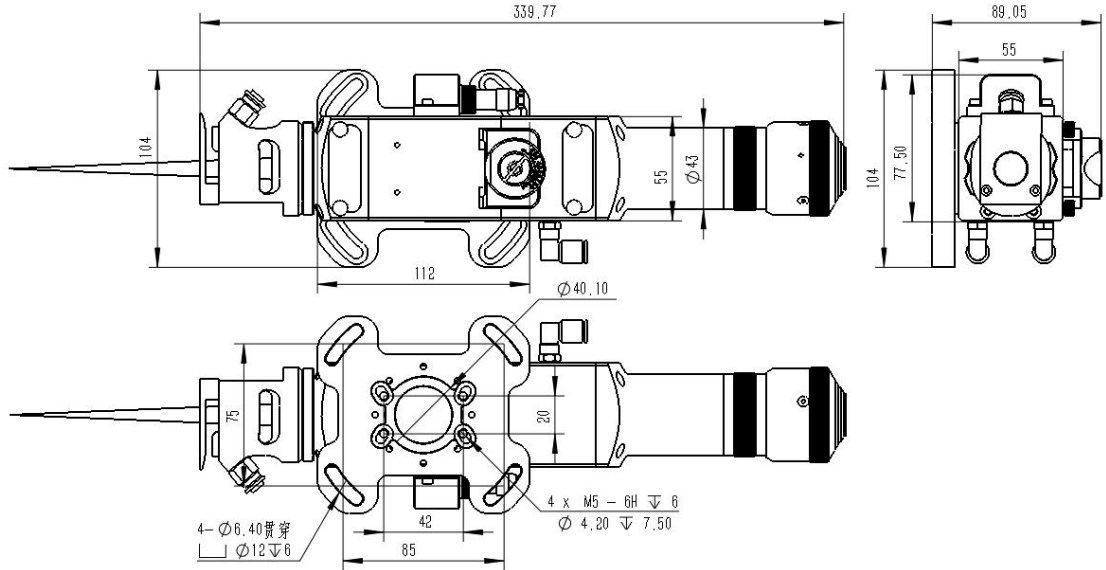


Chapter 2 product installation

1. Welding joint installation

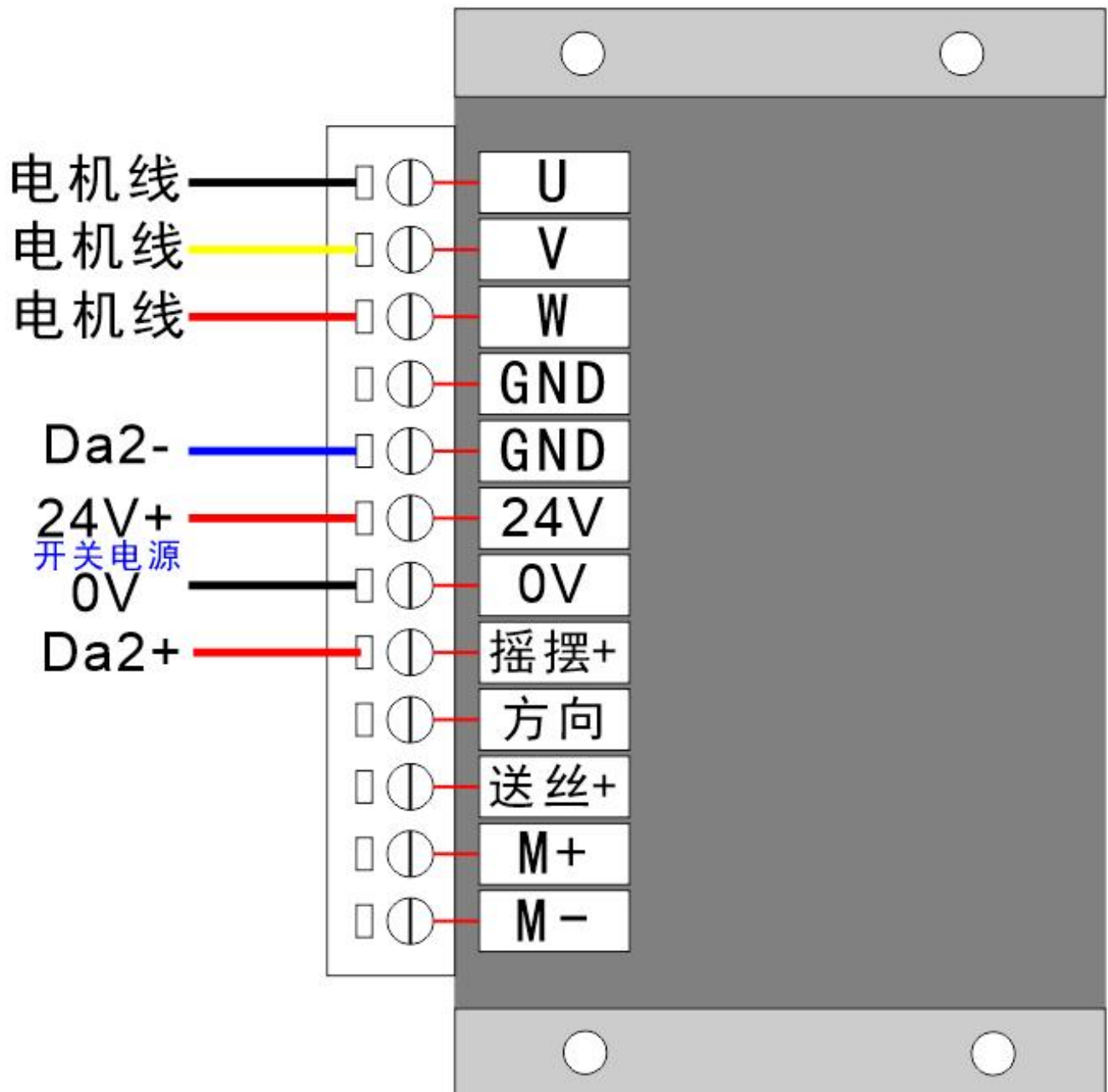


Mounting adapter plate hole 85x75-M6,



2. Drive wiring diagram

Controller model: XMDDC V3.1

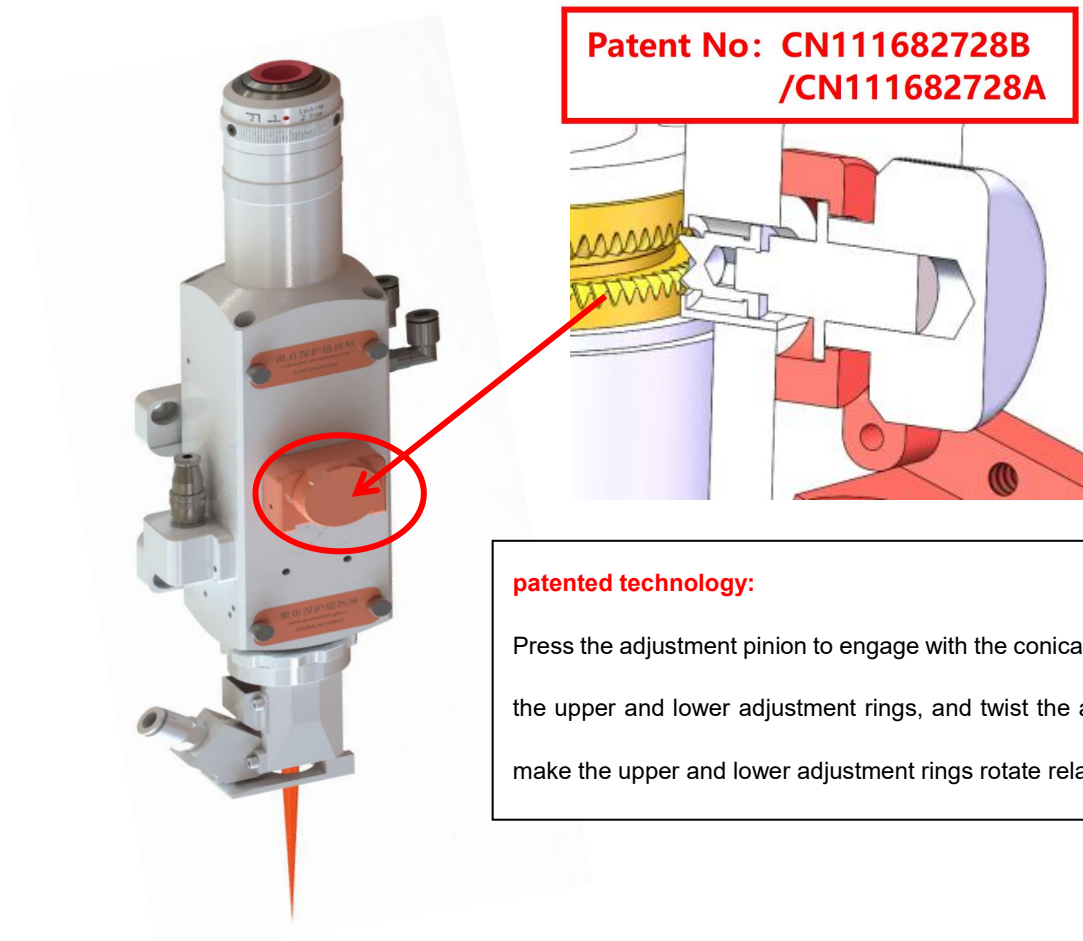


Drive (XMDDC V3.1) wiring diagram

Chapter 3: Adjustment methods for the ring adjustment function

1. Introduction to the laser ring adjustment function

Change the single welding method of point-shot laser welding, change the traditional point-type light-emitting method to swing O-type light-emitting, better realize the welding effect of "fish scale welding", and expand the welding width; and the welding spot can change the fixed spot size of laser welding. A single welding method can realize multi-directional and different welding seam conditions, and various welding conditions can be realized



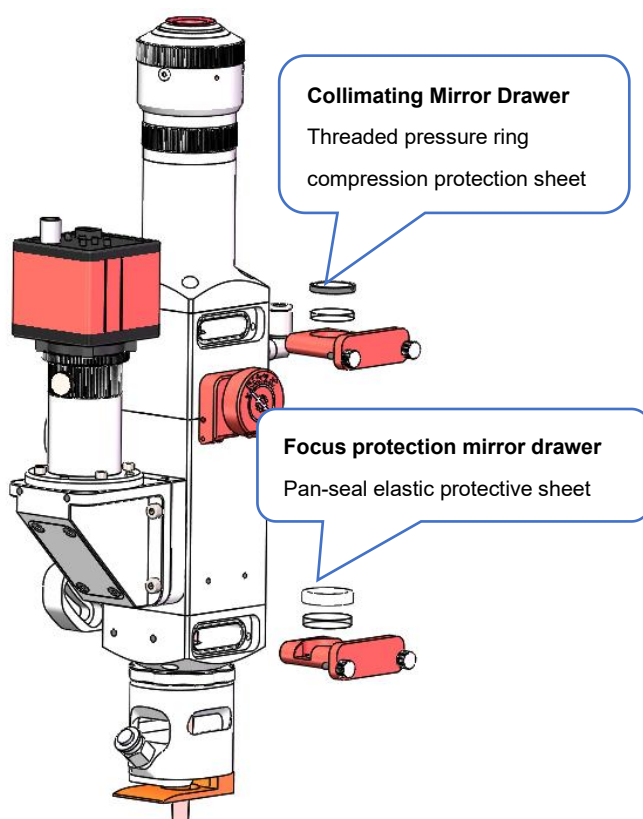
patented technology:

Press the adjustment pinion to engage with the conical adjustment teeth of the upper and lower adjustment rings, and twist the adjustment pinion to make the upper and lower adjustment rings rotate relative to each other.

Note: Adjusting the spot size is manual adjustment and must wait for the motor to stop completely before adjusting. Otherwise, the gears will be damaged and the internal motor will run erratically

Chapter 4 General Operations

1. Replace the protective sheet



Precautions:

1. Do not reuse lint-free cotton cloth or cotton swab to wipe the protective lens.

2. Do not touch the protective lens with your fingers.

Do not blow directly with the mouth to protect the dirt on the surface of the lens, as this may bring new dirt.

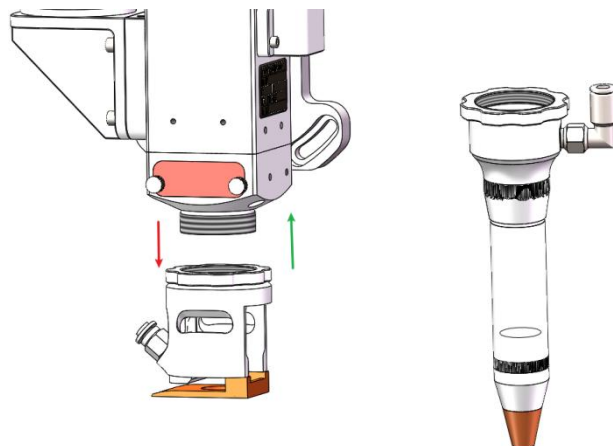
Don't forget to clean when replacing the mirror drawer.

3. When using compressed air, please do not blow the dirt directly from the front, but use the side blowing method to prevent the dirt from sneaking into the surface.

In particular, powder-free gloves or finger cots must be worn when cleaning the product. It is now clear that if the damage is caused by, improper handling or the use of incorrect cleaning procedures or chemical use, damage due to such causes is not covered by the warranty.

2. Air knife, coaxial switch

Thread switching, double thread self-locking, can achieve universal positioning, to ensure that the air outlet meets customer needs, the thread specification is M36X0.75mm.



Revision history

Date	Modify the content	Software version
20220225	First Edition (First Release)	V1.0
20220516	Version 2 (replacement of drive wiring definition, drive X-Q02 replaced with drive XMDDC V3.1)	V1.1
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