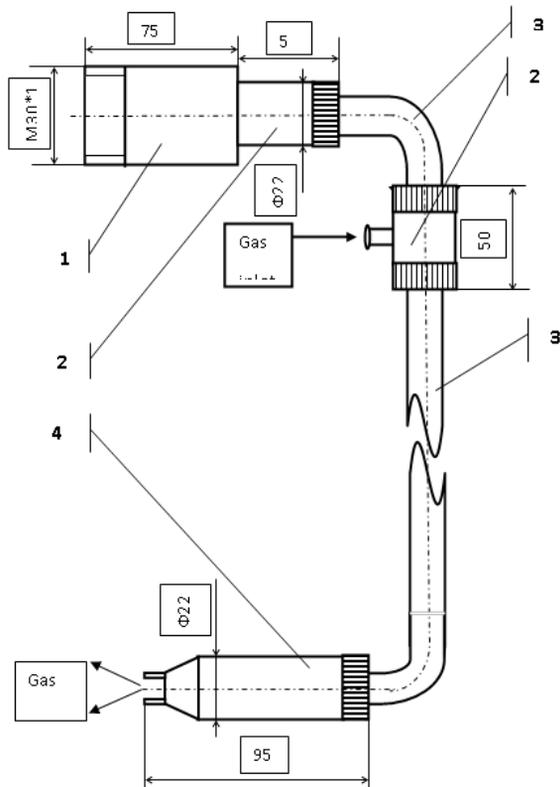


## **High Power Fiber Cables for Flexible Delivery of CO<sub>2</sub> laser power**

Instruction Manual



## 1. General View



- 1- Coupler, including adjustable ZnSe lens and SMA adapter
- 2- Hermetic unit
- 3- Flexible metallic hose in plastic jacket, carrying cooling gas and containing optical cable
- 4- Handpiece, containing output objective and SMA-adapter
- 5- Adjusting screws

## 2. Assembling and Adjustment

2.1. Remove a cap and protective cover, then screw a coupler into a tap M30\*1 of your laser.

### **WARNING!**

Axis of laser beam must coincide with axis of coupler. Diameter of laser beam must not exceed 8 mm.

2.2. Set level of output laser power 0.5-2 W, switch it on and verify adjustment of coupler by measurement level of power, irradiated from output of SMA adapter. The coupler needs adjustment (i.2.3), if the level is less 90% of input power from laser.

2.3. Release adjusting screws of coupler to let input lens move.

Install power meter against of SMA adapter and move input lens in X and Y directions singly by turning opposite adjusting screws of coupler (unscrew one and screw up another) to achieve maximum output power. Switch off laser.

2.4. Install fiber cable, remove the cap from cable connector, insert connector into adapter on the coupler and tighten srewnut of connector.

2.5. Install power meter against output of handpiece at distance 0.04-0.06m and verify total transmission, provided the level of output laser power is 0.5-2 W; wherein the power level should correspond to the level indicated in the certificate (+/- 3%).

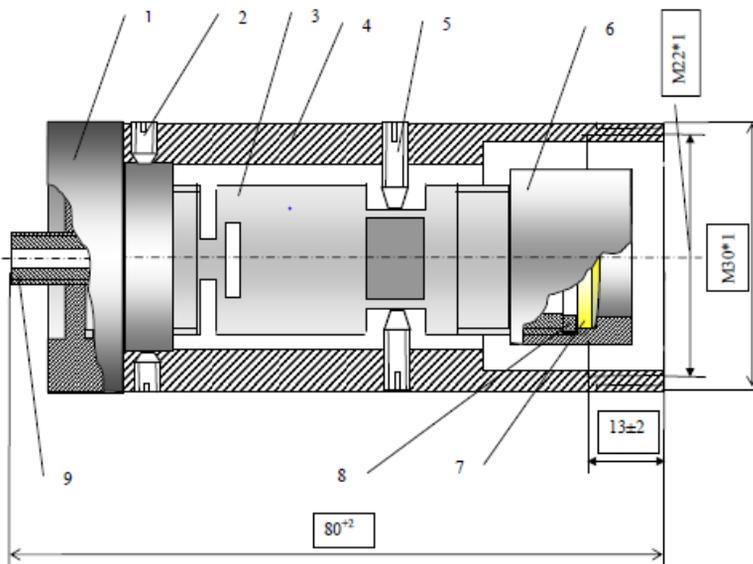
### 3. Operating

- 3.1. Set necessary level of laser power for operating, but not exceed 40 W (CW).  
Position of maximum power density should be 5-6 mm from the end of coupler.
- 3.2. Do not pull, jerk or yank fiber cable during operating.
- 3.3. Do not try to adjust coupler under high power (more than 2 W).
- 3.4. Cover of handpiece can be unscrewed for sterilization

### 4. PIR-cables for power delivery. Handling recommendations

- 4.1. Do not let the sun light or luminescent radiation exposure without protective caps .  
Do not contaminate the ends of fiber in connectors by any dust, smoke or moisture.  
Do not leave the connectors without caps out of operating.
- 4.2. Blowing the ends of cable by clean pure air is desirable before and after connecting to handpiece and coupler.  
Do not touch the ends of fiber with any cleaning tools.  
Do not rinse or wipe the connectors.
- 4.3. Avoid direct reflection of output beam backwards to the output end of cable.

### 5. Focusing Coupler. General View



1. Lid
2. Fixing screw
3. Positioner
4. Body
5. Adjusting screw (4 screws for X-Y adjustment)
6. Screwnut
7. Zn-Se lens, Ø14, F50, AR at 10.6mcm
8. Washer
9. SMA-adapter

Maximal laser beam diameter - 8 mm,