

M-Scope type Y

MOCRO SPOT IRRADIATION OPTICS FOR YAG LASER WELDING

Realize high accuracy YAG laser welding of precision parts such as various optical modules, harddisk drive, etc..

M-Scope type Y is the micro spot irradiation optcis for YAG laser welding system, best for assembly by micro spot welding for various optical modules, precision component, etc. As coaxial observation camera and illumination are equipped, easy and accurate welding process can be realized by observing welding position of precision component directly. Furthermore, as double beam simultaneous irradiation system is adopted, high accuracy micro welding is realized.

【Feature】

- Easy and accurate welding by direct observation of welding position
 - As coaxial observation TV camera and illumination are equipped, easy and accurate welding process can be realized by observing welding position of precision component directly.
- Double beam simultaneous irradiation system
 - Double beam simultaneous irradiation system by beam bifurcation is equipped. laser beam introduced by single fiber is bifurcated into equally divided double beams through optics. Equally divided double beams are focused on the same plane through the same focusing lens. This system realizes two beam simultaneous and well-balanced welding, and contributes to make welding declination minimize and realize high accuracy micro welding.
 - Single beam irradiation model is also prepared.
- Prepared two types of irradiation spot magnification :
 - 1:1 type / irrdaiate the same spot size of input optical fiber core diameter
 - 1:2 type / irradiate half size of input optical fiber core diameter

【Summary of specification】

- Optics type: Double beam simultaneous irradiation system
*Single beam irradiation system is also prepared
- Irradiation spot magnification selection: 1:1 (Standard, irrdaiate the same spot size of input optical fiber core diameter)
1:2 (Option, irradiate half size of input optical fiber core diameter)
- Irradiation spot diameter (nugget diameter): Approx. 400umφ (Standard, input fiber diameter:400umφ, Magnification: 1:1)
Approx. 200umφ (Option, input fiber diameter:200umφ, Magnification: 1:2)
- Optical magnification of observation: Approx. 1×
- View of observation: Approx. 7mm×5.2mm (with 1/1.8" CMOS camera)
- Aberration correction wavelength: 1.06um (guidance light wavelength: 633nm)
- W.D.: Approx. 87.7mm
- Illumination: LED ring illumination
- Fiber connector: D-80 fit connector for fiber input

【Standard component】

- Main optics: 1
- Optics base: 1
- LED rign illumination: 1
- CMOS camera system 1



【Application example of manual alignment and welding system for optical module】

Among electronic components, optical components such as optical modules are composed of many optical components such as LDs, lenses and optical fibers. In this assembly, it is necessary to adjust the position of each part by using actual light and fix it by YAG welding so that the optimum optical coupling state is achieved. For this reason, YAG welding fixation with high accuracy is required. M-Scope type Y is designed for high precision YAG welding and fixing of such precision parts.

