

ABSTRACT

Laser beam L oscillated by a laser oscillator 4 is guided by an optical fiber 12 constituting laser-guiding means 7 to a processing head 6, a liquid passageway 25 to which a high-pressure liquid is supplied by a high-pressure pump 5 is formed in the processing head, and this high-pressure liquid is jetted in the form of a liquid column W from a jet hole 24 of a jet nozzle 23 provided at a lower end of the processing head 6.

The optical fiber is exposed inside of the liquid passageway, and a tip of a fiber core 12a of the optical fiber projects beyond a fiber clad 12b, and is close to the vicinity of the jet hole.

The laser beam irradiated from the fiber core is guided to the liquid column after it is reflected on a first inclined surface 24a formed on the jet hole, and processing on the workpiece 2 is performed.

The laser beam can easily be guided to the liquid column.