

LASER MACHINING APPARATUS

ABSTRACT

A laser machining apparatus that allows efficient machining of a workpiece includes a nozzle for jetting a jet liquid column, a rectifying chamber attenuating disturbances in flow of liquid, a liquid oscillating chamber guiding the liquid flowing from the rectifying chamber to a nozzle inlet opening, a laser oscillator generating a laser beam, a focusing optical system focusing the laser beam generated by the laser oscillator above the nozzle inlet opening so that the laser beam is guided by the jet liquid column, and a window opposed to the nozzle inlet opening so that the laser beam transmitting from the focusing optical system enters the liquid oscillating chamber. The liquid oscillating chamber increases a surface wave on an outer surface of the jet liquid column so that the jet liquid column jetted from the nozzle onto a workpiece is easily atomized at a machining point.

Fig. 1