WHAT IS CLAIMED IS:

1. A laser processing apparatus comprising:

a chuck table that holds a workpiece;

a laser beam irradiation unit that irradiates the workpiece held by the chuck table with a laser beam;

input means that inputs a processing condition of the laser beam; and

a control unit that controls at least the chuck table, the laser beam irradiation unit, and the input means,

wherein the laser beam irradiation unit includes

a laser oscillator,

a condensing lens that condenses the laser beam emitted from the laser oscillator,

a beam adjusting unit that is disposed between the laser oscillator and the condensing lens and adjusts a beam diameter of the laser beam emitted from the laser oscillator, and

a beam measuring unit that measures the beam diameter of the laser beam for which the beam diameter has been adjusted by the beam adjusting unit,

the beam adjusting unit includes

a first lens unit and a second lens unit that are disposed on an optical path of the laser beam

emitted from the laser oscillator and are disposed movably along the optical path,

a reference lens that is disposed between the laser oscillator and the first lens unit on an optical path of the laser beam emitted from the laser oscillator, and

a first movement mechanism and a second movement mechanism that move the first lens unit and the second lens unit, respectively, along the optical path,

the control unit includes a storing section that stores the beam diameter of the laser beam and positions of the first lens unit and the second lens unit corresponding to the beam diameter in advance, and

the control unit causes the first movement mechanism and the second movement mechanism of the beam adjusting unit to be actuated to move the first lens unit and the second lens unit to positions corresponding to a predetermined beam diameter input from the input means.

2. The laser processing apparatus according to claim 1, wherein the beam measuring unit includes

a beam profiler that measures the beam diameter and spatial intensity distribution of the laser beam.