CLAIMS

1. Method of limiting the deflection of a laser head formed of stainless steel during temperature changes,

wherein the temperature difference between an upper wall and a lower wall of the laser head is reduced by metal plate parts with high thermal conductivity and low specific weight attached by a thermally conductive joint to side walls of the laser head configured to connect the upper wall and the lower wall of the laser head,

wherein the upper wall is the warmest wall and the lower wall is the coldest wall during operation of the laser head as the lower wall is configured to be connected via a low thermal resistance to a cooler for exchanging heat with the environment; and

wherein the upper wall is configured to carry a high voltage, HV, bushing of main discharge electrodes, and the side walls are configured to carry bushings of pre-ionizers.

2. A laser head with limited deflection during temperature changes consisting of an upper wall carrying a high voltage, HV, bushing of main discharge electrodes and a lower wall, side walls with bushings of pre-ionizers, a front wall and a rear wall with elements of an optical resonator,

wherein metal plate parts with high thermal conductivity and low specific weight are attached by a thermally conductive joint to the side walls connecting the warmest upper wall and the coldest lower wall of the laser head; and wherein the laser head is formed of stainless steel; and

wherein the lower wall is configured to be connected via a low thermal resistance to a cooler for exchanging heat with the environment.