

SEMICONDUCTOR PROCESSING CHAMBER

ABSTRACT

The present disclosure provides a semiconductor processing chamber including a chamber, a housing, a dielectric window, a coil, a hot air hood, and an air distribution structure. The chamber has an opening at a top of the chamber. The housing is disposed above the opening. The dielectric window is disposed inside the housing and above the opening. The coil is arranged circumferentially at an inner top wall of the housing. The hot air hood is disposed inside the housing. The air distribution structure is fixedly attached to the housing. The air distribution structure includes a plurality of air passages. An air exchange port of the air passage is located outside the housing. A transfer port of the air passage is located inside the housing and is connected to an air passage port of the hot air hood. Through directly fixing the hot air hood to the dielectric window and configuring a clearance gap between the hot air hood and an inner top wall of the housing, the semiconductor processing chamber avoids compression between the hot air hood and the housing, avoids the deformation of the top wall of the housing and the change of coil distribution structure caused by the compression of the top wall of the housing by the hot air hood. Thus, the uniform distribution of the ions and free radicals in the plasma is ensured.

FIG. 5