

ABSTRACT

PLASMA CONFINEMENT RING ASSEMBLY FOR PLASMA PROCESSING CHAMBERS

A plasma confinement ring assembly with a single movable lower ring can be used for controlling wafer area pressure in a capacitively coupled plasma reaction chamber wherein a wafer is supported on a lower electrode assembly and process gas is introduced into the chamber by an upper showerhead electrode assembly. The assembly includes an upper ring, the lower ring, hangers, hanger caps, spacer sleeves and washers. The lower ring is supported by the hangers and is movable towards the upper ring when the washers come into contact with the lower electrode assembly during adjustment of the gap between the upper and lower electrodes. The hanger caps engage upper ends of the hangers and fit in upper portions of hanger bores in the upper ring. The spacer sleeves surround lower sections of the hangers and fit within lower portions of the hanger bores. The washers fit between enlarged heads of the hangers and a lower surface of the lower ring. The spacer sleeves are dimensioned to avoid rubbing against the inner surfaces of the hanger bores during lifting of the lower ring.

FIG. 1A