DYNAMIC VACUUM SEAL SYSTEM FOR PHYSICAL VAPOR DEPOSITION SPUTTER APPLICATIONS

ABSTRACT

Provided is a vacuum seal and seal system including a corresponding isolation ring and a corresponding sputtering target. The seal and seal system may be used in PVD sputter applications. The seal may include a compressible portion and a rigid portion. The compressible portion may include two or more higher profile protrusions and two or more lower profile recesses that facilitate formation of a vacuum seal through compression by and between the isolation ring and the sputtering target. The seal may further include a removable and replaceable plasma shield that is attachable to a first end of the seal. The seal may further include a rim on a second end that selectively couples with a corresponding step-out portion of the isolation ring. The sputtering target may have a continuous peripheral flange surface. In an embodiment, the seal and seal system is self-centering.

Fig. 3A