

DUAL-WALLED EXHAUST TUBING FOR VACUUM PUMP

ABSTRACT

A dual walled exhaust assembly (28) is provided for an ion implantation system for connecting system components residing at differing voltage potentials. The assembly comprises a disposable corrugated inner tube (84) connected between inner mounting portions of a first end mount and a second end mount, and a permanent outer tube (82) connected between outer mounting portions of the first and second end mounts. The inner and outer tubes (84, 82) are constructed from polytetrafluoroethylene (PTFE), or some similar dielectric material with appropriate non-flammable properties. The inner corrugated surface of the tube (84) has a plurality of surfaces which are pitched downwardly toward an axis (87) of the inner tube to prevent contaminant accumulation. The corrugated surface also reduces the risk of arcing between the system components residing at differing voltage levels by effectively increasing the length of the ground path that a leakage current would need to traverse across the length of the tube. The outer tube provides a containment mechanism for containing the toxic effluent if the thinner inner wall should puncture, perhaps due to electrical discharge which might still occur as a result of contaminant build-up on the inner surface of the inner tube.

(Fig. 2)