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(54) Title: VACUUM PUMP, VACUUM PUMP SET FOR EVACUATING A SEMICONDUCTOR PROCESSING CHAMBER AND METHOD OF EVACUATING A SEMICONDUCTOR PROCESSING CHAMBER

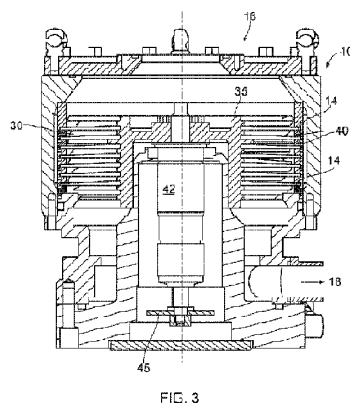


FIG. 3

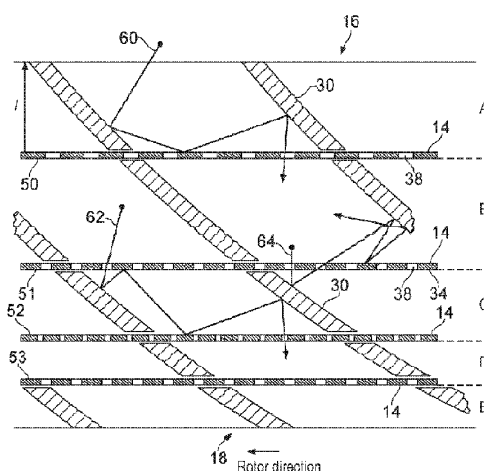


FIG. 5

(57) Abstract: A vacuum pump, vacuum pump set and method for evacuating a semiconductor processing chamber is disclosed. The vacuum pump is configured for mounting to a semiconductor processing chamber to evacuate the chamber to pressures between 1 mbar and 5×10^{-2} mbar. The vacuum pump comprises: a rotor rotatably mounted within a stator. The rotor comprises a plurality of angled blades arranged along a helical path from an inlet to an outlet. The stator comprises a plurality of perforated elements arranged to intersect the helical path, the perforations allowing gas molecules travelling along the helical path to pass through the perforated elements. The rotor mounted on a magnetically levitated bearing; and the perforated elements located towards an inlet of the vacuum pump comprise a transparency of more than 40% and the perforated elements located towards an outlet of the vacuum pump comprise a transparency of more than 30%.

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