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(21) International Application Number: PCT/US99/17037 (22) International Filing Date: 27 July 1999 (27.07.99) (30) Priority Data: 09/124,160 27 July 1998 (27.07.98) US (71) Applicant: STRASBAUGH, INC. [US/US]; 825 Buckley Road, San Luis Obispo, CA 93401 (US). (72) Inventors: KALENIAN, Bill; 1639 Phillips Lane, San Luis Obispo, CA 93401 (US). LENTZ, Terry, L.; 3275 Highway 41 East, Templeton, CA 93465 (US). (74) Agent: LOHSE, Timothy, W.; Gray Cary Ware & Freidenrich, 400 Hamilton Avenue, Palo Alto, CA 94301 (US).		(81) Designated States: JP, KR, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report.
(54) Title: APPARATUS FOR SENSING THE PRESENCE OF A WAFER (57) Abstract Apparatus for use in a semiconductor wafer polishing machine of a type in which the wafer (10) is picked up and held by a suction cup effect between the wafer and a resilient diaphragm (40) on the wafer carrier. The apparatus permits the presence or absence of a wafer on the carrier to be sensed so that this information can be used in controlling the operation of the machine. In normal operation, a vacuum is applied to a downwardly-opening plenum (54) that is covered by a resilient diaphragm (40). The present invention is the addition to the wafer carrier of an air conduit (20) opening into the plenum through an air port (22) and connected to an orifice (18) so that air can flow through the orifice, through the air conduit and the air port into the plenum at a rate that is slow relative to the capacity of the vacuum pump (14). The present invention further requires the addition of a pressure sensor (24) for sensing the pressure in the air conduit or alternatively in the vacuum conduit. The sensed pressure in the vacuum conduit is lower in the absence of a wafer than in the presence of a wafer, and the sensed pressure in the air conduit is greater in the absence of a wafer than it is when a wafer is present.		