

A CHEMICAL MECHANICAL POLISHING SYSTEM AND METHOD THEREFOR

5

Abstract of the Disclosure

A chemical mechanical planarization tool (21) comprises a platen (22), a wafer carrier arm (31), a carrier assembly (37), a conditioning arm (28), and an end effector (33). A slurry delivery system (51) reduces waste by providing polishing chemistry at a minimum required delivery rate that ensures consistent wafer planarization. The slurry deliver system comprises a check valve (52), a diaphragm pump (53), a check valve (54), a back pressure valve (55), and a dispense bar (58). The diaphragm pump (53) provides a precise volume of polishing chemistry with each pump cycle, independent of input pressure. The check valves (52,54) prevent reverse flow of the polishing chemistry through the diaphragm pump (53). Back pressure valve (55) creates a pressure differential across the check valve (54) to prevent the flow of polishing chemistry during a downstroke of the diaphragm pump (53). The polishing chemistry is dispensed onto a polishing media from dispense bar (58).

(Fig. 2 to accompany abstract).