

ABSTRACT

A semiconductor wafer polishing apparatus accurately polishes a film formed on the surface of a semiconductor wafer to a predetermined thickness. The semiconductor wafer polishing apparatus (1) for polishing an inter-layer film formed on the surface of the semiconductor wafer by a chemical mechanical polishing process is primarily composed of: a measuring unit (16) for measuring the film thickness of the inter-layer film formed on the semiconductor wafer (3) before and after polishing the semiconductor wafer; and a controller for detecting the polished state of the semiconductor wafer according to the thickness of the inter-layer film measured by the measuring instrument and for comparing the detected polished state with a reference film thickness so as to control the polishing condition of the semiconductor wafer polishing apparatus. With this arrangement, the film thickness of the semiconductor wafer can be detected before and after polishing to enable the polishing condition of the apparatus to be grasped accurately, making it possible to carry out proper polishing according to the grasped polishing condition.