REPLACEMENT SHEET
07 AUG 2002

162162

ABSTRACT

ADJUSTING METHOD FOR POSITION DETECTING APPARATUS

An adjusting method capable of accurately forming a mark for measuring optical characteristics of an optical system, such as an alignment sensor of an exposure system to be used in manufacturing semiconductor devices or the like and correcting an aberration or the like of the optical system with a high precision. A first mark (DM1) having a recess pattern (31a) with a width a provided at a pitch P in a measuring direction and a second mark (DM2) having a recess pattern (32a) with a width c provided at a pitch P have been formed in the vicinity of each other on a wafer (11) for adjustment, and the duty ratio (= a/P) of the recess pattern (31a) of the first mark and the duty ratio (= c/P) of the recess pattern (32a) of the second mark are different. The distance of the images of the two marks (DM1, DM2) is measured, an error in this measured value with respect to a designed value is determined, and the detecting optical system is adjusted in such a way as to reduce this error.

G00002