EXPOSURE METHOD AND APPARATUS, MAINTENANCE METHOD AND DEVICE MANUFACTURING METHOD

ABSTRACT

An exposure method includes holding a substrate (P) held by a substrate holder (PH) on a substrate stage (PST) moving on an image plane side of a projection optical system (PL); forming an immersion area (AR2) on a side of the image plane of the projection optical system (PL) by using a liquid (1) supplied from a liquid supplying mechanism (10); and exposing a substrate (P) by exposure light (EL) via the projection optical system (PL) and the immersion area (AR2). During a period when exposure of the substrate (P) is not performed, an upper portion of the substrate holder (PH) is cleaned by moving the substrate stage (PST) relative to the immersion area (AR2), and an upper portion of a measuring stage (MST) is cleaned by moving the measuring stage (MST) relative to the immersion area (AR2). A cleaning liquid can be used as a liquid for forming the immersion area (AR2) during cleaning. Upon performing exposure by the immersion method, high-resolution immersion exposure is performed at a high throughput by suppressing entering and mixing of foreign materials into and with the liquid.

Figure 1