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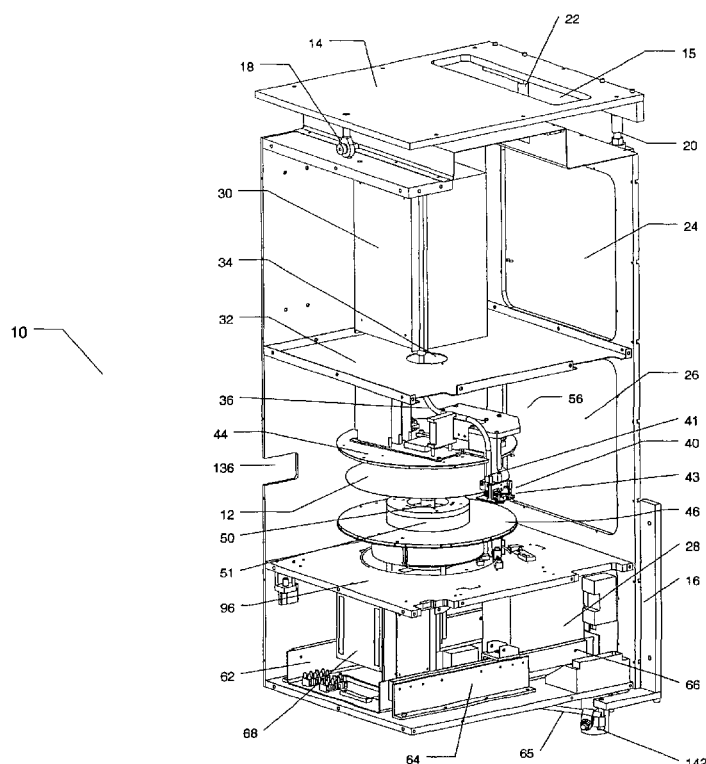
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(54) Title: SYSTEMS AND METHODS FOR EXPOSING SUBSTRATE PERIPHERY



(57) Abstract: The present invention describes systems (10) and methods for exposure and removal of material on the periphery of a substrate. The system includes an emitting radiation or exposure source, preferably a guide such as an optical assembly (36) and an emitter (41), an edge detector (43), a transport, which comprise rotating and radial mechanisms, and a substrate support. The optical assembly (36) directs radiation from the exposure source to the wafer or emitter. The transport supports the emitter and the edge detector (43) about the substrate, and a tracking exposure head preferably supports the emitter and edge detector (43). As the emitter (41) moves along the periphery of the substrate, the edge detector (43) sends signals to control systems, which process signals, and command the transport to adjust the position of the emitter (41) when necessary to expose the periphery of the substrate. In another embodiment, the system provides an exposure source chamber, a process chamber, and optionally a control chamber to isolate particle and thermal problems. In another embodiment, the wafer is in a rotating drum, which supports a radial mechanism, supporting a tracking exposure head (40) holding the emitter and edge detector. The drum

and tracking exposure head (40) have guidance components and stopping mechanisms.