DEGASSING CHAMBER AND SEMICONDUCTOR PROCESSING DEVICE

TECHNICAL FIELD

The present disclosure relates to the field of semiconductor device manufacturing technology, and in particular, relates to a degassing chamber and a semiconductor processing device.

BACKGROUND

Physical Vapor Deposition (PVD) technique is widely applied in the field of semiconductor manufacturing technology. In the PVD process, generally a degassing process step is required to remove impurities such as water vapor absorbed from atmosphere by a substrate, to clean the surface of the substrate, and to provide a substrate as clean as possible for subsequent procedures. For example, a copper interconnection PVD process flow as shown in Fig. 1 includes this degassing process step.

In general, the degassing process step is performed by a degassing heating system. For example, Fig. 2 shows a conventional degassing heating system, generally including a vacuum chamber 4, a substrate cassette 2, a lifting system 5 and a light source 6. The vacuum chamber 4 provides a process environment, and has a substrate transferring opening 11 on its sidewall, for transferring a substrate into or out of the vacuum chamber 4; the substrate cassette 2 is configured to carry multiple substrates; the lifting system 5 is configured to drive the substrate cassette 2 up and down to transfer substrates placed at different levels of height in the substrate cassette 2 to a level of height corresponding to the substrate transferring opening 11, to facilitate picking and placing substrates; the light source 6 is configured to provide heat.

Operation flow of the above degassing heating system is as follows: 1) multiple substrates of one batch are received through the substrate transferring opening 11, and placed at different levels of height in the substrate cassette 2 by lifting of the lifting system 5; 2) the substrate cassette 2, driven by the lifting system 5, moves to a