CLAIMS

WHAT IS CLAIMED IS:

1. A collection assembly sleeved on a base and configured to collect particle impurities in a semiconductor pre-cleaning chamber, comprising a protection plate (100) and a collection plate group arranged at an interval in the semiconductor pre-cleaning chamber, wherein the protection plate (100) is annular, first through-holes (110) are arranged at the protection plate (100), the first through-holes (110) are arranged opposite to the collection plate group, the collection plate group includes at least one annular collection plate (210) arranged fixedly and at an interval, and

at least a part of the particle impurities in the semiconductor pre-cleaning chamber passing through the first through-holes (110) is captured by the at least one collection plate (210).

2. The collection assembly according to claim 1, wherein a surface of the at least one collection plate (210) opposite to the protection plate (100) is a plane.

3. The collection assembly according to claim 1, wherein the at least one collection plate (210) is arranged parallel to the protection plate (100);

and/or, an outer edge portion of at least one of the at least one collection plate (210) has an annular protrusion (212) extending in a direction toward the protection plate (100), and a gap is provided between the annular protrusion (212) and the protection plate (100).

4. The collection assembly according to claim 1, wherein a surface of the at least one collection plate (210) opposite to the protection plate (100) has a concave structure.

5. The collection assembly according to claim 4, wherein the concave structure is an annular groove (211) arranged around an axis, the axis is a geometric centerline of the protection plate (100), and a shape of a longitudinal cross-section of the annular groove (211) is of a rectangle, an arc, a triangle, or a stepped shape.

6. The collection assembly according to claim 1, wherein an projection of one of the at least one collection plate (210) closest to the protection plate (100) on a horizontal plane is a first projection, and projections of all the first through-holes (110) at the protection plate (100) on the horizontal plane are within the first projection.

7. The collection assembly according to any one of claims 1 to 6, wherein a surface of the at least one collection plate (210) opposite to the protection plate (100) is a roughened surface.

8. The collection assembly according to any one of claims 1 to 6, wherein a distance adjustment piece is provided between the at least one collection plate (210) and the protection plate (100) and/or between adjacent two collection plates (210).

9. The collection assembly according to any one of claims 1 to 6, wherein each of the at least one collection plate (210) is also provided with a connection member (220) for fixed connection, the connection member (220) being arranged at an inner edge portion of the collection plate (210), or the connection member (220) being arranged at an outer edge portion of the collection plate (210).

10. The collection assembly according to any one of claims 1 to 6, wherein the collection plate group includes at least two collection plates (210), except a collection plate (210) of the at least two collection plates (210) farthest to the protection plate (100), straight through-holes are arranged at the other collection plates (210), axes of the straight through-holes of neighboring collection plates (210) do not coincide, and axes of the straight through-holes of the collection plate (210) closest to the protection plate (100) do not coincide axes of the first through-holes (110) of the protection plate (100).

11. A semiconductor pre-cleaning chamber comprising a chamber body (510), a Faraday cup (560) arranged in the chamber body (510), a base (590) configured to carry a work piece (800) to be processed, and the collection assembly according to any one of claims 1 to 10, wherein the collection assembly is sleeved on the base (590), and the protection plate (100) cooperates with the Faraday cup (560) in a process to divide space inside the chamber body (510) into an upper sub-chamber and a lower sub-chamber.