CLAIMS

WHAT IS CLAIMED IS:

1. A process chamber of a semiconductor process apparatus comprising a chamber body, a base, and a magnetic conductive device, wherein:

the base is arranged in the chamber body, and the base is configured to carry a wafer; and

the magnetic conductive device includes a magnet structure and a magnetic conductive structure made of a soft magnetic material, the magnet structure is arranged around two sides of the base and configured to provide a magnetic field near the base; the magnetic conductive structure is arranged in the base, has a preset distance from an upper surface of the base, and is configured to constrain magnetic field lines in an arc shape of the magnet structure to magnetic field lines parallel to the upper surface of the base to guide intensity of the magnetic field to be evenly distributed and orientations of the magnetic field to be consistent.

2. The process chamber according to claim 1, wherein the magnet structure includes a fixing bracket and a plurality of magnet columns, the fixing bracket is arranged around the two sides of the base; the plurality of magnet columns are evenly distributed on the fixing bracket, and N poles and S poles of all the magnet columns are arranged along a first direction at a same height, the first direction being parallel to a radial direction of the base.

3. The process chamber according to claim 2, wherein the magnetic conductive structure includes a magnetic conductive assembly and a fixing ring, the magnetic conductive assembly is arranged in the fixing ring, and the fixing ring is configured to fix the magnetic conductive assembly in the base.

4. The process chamber according to claim 3, wherein the magnetic conductive assembly includes a plurality of first magnetic conductive bars arranged evenly at intervals in the fixing ring and connected to the fixing ring; the plurality of first magnetic conductive bars extend along a second direction having a preset angle with the first direction; or

the magnetic conductive assembly includes a plurality of second magnetic conductive bars and a plurality of magnetic conductive rings, the plurality of second magnetic conductive bars extending along a radial direction of the fixing ring, connected to the fixing ring and arranged evenly along a circumference of the fixing ring; and the plurality of magnetic conductive rings are sequentially nested on the plurality of second magnetic conductive bars and arranged evenly at intervals; or

the magnetic conductive assembly includes a magnetic conductive plate arranged at an inner side of the fixing ring and having an outer edge connected to an inner edge of the fixing ring.

5. The process chamber according to claim 4, wherein a distance between any two neighboring first magnetic conductive bars of the plurality of first magnetic conductive bars is greater than or equal to 4 mm and smaller than or equal to 8 mm, and the preset angle is greater than or equal to 0° and smaller than or equal to 90°.

6. The process chamber according to claim 5, wherein the preset angle is 90°.

7. The process chamber according to claim 2, wherein an outer side of a magnet column is covered with an anti-corrosion layer made of a soft magnetic material.

8. The process chamber according to any one of claims 1 to 7, wherein the magnetic conductive structure is a disc-shaped structure and a ratio of a diameter of the magnetic conductive structure to a diameter of the base is greater than or equal to two-thirds and smaller than or equal to one.

9. The process chamber according to claim 8, wherein a thickness of the magnetic conductive structure is greater than or equal to 2 mm and smaller than or equal to 10 mm, and the preset distance is greater than or equal to 2 mm and smaller than or equal to 5 mm.

10. A semiconductor process apparatus comprising the process chamber of the semiconductor process apparatus of any one of claims 1 to 9.