CLAIMS

1. Device for processing wafer-shaped articles, comprising a chuck adapted to maintain a wafer-shaped article in a predetermined orientation during a processing operation to be performed on the article, said chuck comprising a chuck body and a plurality of pin assemblies adapted and positioned relative to the chuck body so as to support a wafer-shaped article to be processed, wherein at least one of said pin assemblies is formed from a chemically inert material and includes an electrically conductive inlay at one end, said inlay being located within a central bore in a shaft of said pin assembly and being adapted to physically and electrically engage a bearing element.

2. The device according to claim 1, wherein the chuck is a spin chuck surrounded by a process chamber for single wafer wet processing of semiconductor wafers.

3. The device according to claim 1, wherein said bearing element is an electrically conductive needle bearing.

4. The device according to claim 1, wherein said chuck is adapted to engage and be supported by a spindle, said chuck further comprising an electrically conductive pathway leading from said at least one pin assembly through said bearing element to said spindle.

5. The device according to claim 4, wherein said chuck body comprises an upper part joined to a lower part so as to form an internal gap therebetween, said electrically conductive pathway being provided within said internal gap.

6. The device according to claim 5, wherein the electrically conductive pathway comprises one or more conductive elements located within said internal gap.

7. The device according to claim 1, wherein said pin assemblies are positioned in a circular series about an area where a wafer-shaped article is to be positioned on the chuck, each of said pin assemblies being formed from a chemically inert material and including an electrically conductive inlay at one end, each said inlay being adapted to physically and electrically engage a bearing element.

8. The device according to claim 7, wherein said chuck is adapted to engage and be supported by a spindle, said chuck further comprising an electrically conductive pathway leading from said pin assemblies through said bearing elements to said spindle.

9. The device according to claim 8, wherein said electrically conductive pathway comprises an electrically conductive seat electrically connected to said bearing element, a radial conductor electrically connected to said seat, and a conducting member electrically connected to said radial conductor and adapted to be electrically connected to said spindle when said chuck engages said spindle.

10. A structure for use in devices for processing wafer-shaped articles, comprising a pin assembly, wherein said pin assembly is formed from a chemically inert material and includes an electrically conductive inlay located within a central bore at one end in a shaft of said pin assembly.

11. The structure according to claim 10, wherein said inlay is adapted to physically and electrically engage a bearing element.

12. The structure according to claim 11, wherein said bearing element is an electrically conductive needle bearing.

13. The structure according to claim 10, wherein said pin assembly comprises a gripping pin eccentrically arranged at one end of a shaft.

14. The structure according to claim 13, wherein said pin assembly further comprises a gear ring located at an end opposite to said gripping pin.

15. Pin assembly for use in a device for processing wafer-shaped articles, wherein said pin assembly is formed from a chemically inert conductive polymer material and includes an electrically conductive inlay located within a central bore at one end in a shaft of said pin assembly.

Claims

[Claim 0001] Device for processing wafer-shaped articles, comprising a chuck adapted to maintain a wafer-shaped article in a predetermined orientation during a processing operation to be performed on the article, said chuck comprising a chuck body and a plurality of pin assemblies adapted and positioned relative to the chuck body so as to support a wafer-shaped article to be processed, wherein at least one of said pin assemblies is formed from a chemically inert material and includes an electrically conductive inlay at one end, said inlay being adapted to physically and electrically engage a bearing element.

[Claim 0002] The device according to claim 1, wherein the chuck is a spin chuck surrounded by a process chamber for single wafer wet processing of semiconductor wafers.

[Claim 0003] The device according to claim 1, wherein said bearing element is an electrically conductive needle bearing.

[Claim 0004] The device according to claim 1, wherein said chuck is adapted to engage and be supported by a spindle, said chuck further comprising an electrically conductive pathway leading from said at least one pin assembly through said bearing element to said spindle.

[Claim 0005] The device according to claim 4, wherein said chuck body comprises an upper part joined to a lower part so as to form an internal gap therebetween, said electrically conductive pathway being provided within said internal gap.

[Claim 0006] The device according to claim 5, wherein the electrically conductive pathway comprises one or more conductive elements located within said internal gap.

[Claim 0007] The device according to claim 1, wherein said pin assemblies are positioned in a circular series about an area where a wafer-shaped article is to be positioned on the chuck, each of said pin assemblies being formed from a chemically inert material and including an electrically conductive inlay at one end, each said inlay being adapted to physically and electrically engage a bearing element.

[Claim 0008] The device according to claim 7, wherein said chuck is adapted to engage and be supported by a spindle, said chuck further comprising an electrically conductive pathway leading from said pin assemblies through said bearing elements to said spindle.

[Claim 0009] The device according to claim 8, wherein said electrically conductive

pathway comprises an electrically conductive seat electrically connected to said bearing element, a radial conductor electrically connected to said seat, and a conducting member electrically connected to said radial conductor and adapted to be electrically connected to said spindle when said chuck engages said spindle.

[Claim 0010] A structure for use in devices for processing wafer-shaped articles, comprising a pin assembly, wherein said pin assembly is formed from a chemically inert material and includes an electrically conductive inlay at one end.

[Claim 0011] The structure according to claim 10, wherein said inlay is adapted to physically and electrically engage a bearing element.

[Claim 0012] The structure according to claim 11, wherein said bearing element is an electrically conductive needle bearing.

[Claim 0013] The structure according to claim 10, wherein said pin assembly comprises a gripping pin eccentrically arranged at one end of a shaft.

[Claim 0014] The structure according to claim 13, wherein said pin assembly further comprises a gear ring located at an end opposite to said gripping pin.

[Claim 0015] Pin assembly for use in a device for processing wafer-shaped articles, wherein said pin assembly is formed from a chemically inert conductive polymer material and includes an electrically conductive inlay at one end.