

What is claimed is:

1. A power feeding mechanism for feeding output power of a power source into a rotating component, comprising:

a conductive stationary member, which is electrically connected with the power source;

a conductive rotating member, which is electrically connected with the rotating component and synchronously rotates with the rotating component; and

a conductive connecting structure, which is in electrical contact with the conductive stationary member and the conductive rotating member, respectively, without affecting rotation of the conductive rotating member;

wherein the conductive rotating member is disposed opposite to and spaced apart from the conductive stationary member; and the conductive connecting structure is disposed in a gap between the conductive rotating member and the conductive stationary member;

wherein:

the conductive connecting structure comprises a second elastic conductive member, a third elastic conductive member and a spring, wherein,

two ends of the spring are connected to the conductive stationary member and the second elastic conductive member thereabove, respectively;

the third elastic conductive member is provided on the second elastic conductive member and is kept in electrical contact with the conductive rotating member under action of elastic force of the spring; and

a hardness of the second elastic conductive member is lower than that of the third elastic conductive member;

or,

the conductive connecting structure comprises:

a second elastic conductive member, which is connected with the conductive stationary member and is a ring body disposed around the conductive rotating member;

a third elastic conductive member, which is connected with the conductive rotating member, is located between an inner wall surface of the ring body and an outer wall surface of the conductive rotating member, and is in electrical contact with the ring body and the conductive rotating member respectively;
and
a hardness of the second elastic conductive member is lower than that of the third elastic conductive member.

2. The power feeding mechanism of claim 1, wherein a vertical length of the gap is greater than or equal to 1mm.

3. The power feeding mechanism of claim 1, wherein a surface of the conductive rotating member and a surface of the conductive stationary member that are opposite to each other are parallel to each other or are embedded in each other.

~~4. The power feeding mechanism of claim 1, wherein the conductive connecting structure comprises a first elastic conductive member.~~

~~5. The power feeding mechanism of claim 4, wherein the first elastic conductive member is a ring body, a planar spiral body or a columnar spiral body.~~

~~6. The power feeding mechanism of claim 4, wherein the first elastic conductive member is made of a soft alloy.~~

~~7. The power feeding mechanism of claim 4, wherein a mounting groove is provided on at least one of a surface of the conductive rotating member and a surface of the conductive stationary member that are opposite to each other, and a part of the first elastic conductive member is disposed in the mounting groove.~~

~~8. The power feeding mechanism of claim 1, wherein the conductive connecting~~

~~structure comprises a second elastic conductive member, a third elastic conductive member and a spring, wherein,~~

~~two ends of the spring are connected to the conductive stationary member and the second elastic conductive member thereabove, respectively;~~

~~the third elastic conductive member is provided on the second elastic conductive member and is kept in electrical contact with the conductive rotating member under action of elastic force of the spring; and~~

~~a hardness of the second elastic conductive member is lower than that of the third elastic conductive member.~~

94. The power feeding mechanism of claim 81, wherein the conductive rotating member is provided with a recess, and at least a part of the second elastic conductive member is located in the recess.

105. The power feeding mechanism of claim 81, wherein the conductive connecting structure further comprises a fixing seat connected to the spring; and

a mounting groove is provided on the fixing seat, and the second elastic conductive member is detachably fixed in the mounting groove.

~~11. The power feeding mechanism of claim 1, wherein the conductive connecting structure comprises:~~

~~a second elastic conductive member, which is connected with the conductive stationary member and is a ring body disposed around the conductive rotating member;~~

~~a third elastic conductive member, which is connected with the conductive rotating member, is located between an inner wall surface of the ring body and an outer wall surface of the conductive rotating member, and is in electrical contact with the ring body and the conductive rotating member respectively; and~~

~~a hardness of the second elastic conductive member is lower than that of the third elastic conductive member.~~

~~126~~. The power feeding mechanism of claim ~~91~~ or ~~114~~, wherein the second elastic conductive member is made of graphite or a soft alloy.

~~137~~. The power feeding mechanism of claim ~~91~~ or ~~114~~, wherein the third elastic conductive member is a ring body, a planar spiral body or a columnar spiral body.

~~148~~. The power feeding mechanism of claim ~~91~~ or ~~114~~, wherein the third elastic conductive member is made of a soft alloy.

~~159~~. The power feeding mechanism of any one of claims 1 to ~~115~~, further comprising a conductive liquid container, and a part of the conductive stationary member and a part of the conductive rotating member are immersed in a conductive liquid in the conductive liquid container, so as to electrically connect the conductive stationary member to the conductive rotating member through the conductive liquid.

~~1610~~. The power feeding mechanism of claim ~~159~~, wherein the conductive liquid container is connected to the conductive stationary member or the conductive rotating member.

~~1711~~. The power feeding mechanism of claim 1, wherein the conductive connecting structure comprises a conductive liquid container, and a part of the conductive stationary member and a part of the conductive rotating member are immersed in a conductive liquid in the conductive liquid container, so as to electrically connect the conductive stationary member to the conductive rotating member through the conductive liquid.

~~1812~~. The power feeding mechanism of claim 1, wherein the rotating component comprises a base, a target or a coil.

~~1913~~. A rotary base device, comprising a rotatable base, a bias power source, and

a power feeding mechanism configured to feed output power of the bias power source into the base, wherein the power feeding mechanism is the power feeding mechanism of any one of claims 1 to ~~17~~11.

~~20~~14. The rotary base device of claim ~~19~~13, further comprising:

a rotating shaft, which is vertically disposed, and has an upper end connected with the base and a lower end connected with the power feeding mechanism; and

a rotation driving mechanism, which is connected with a middle part between the upper end and the lower end of the rotating shaft, so as to drive the rotating shaft to rotate.

~~24~~15. Semiconductor processing equipment, comprising a reaction chamber, wherein the rotary base device of claim ~~19~~13 or ~~20~~14 is disposed in the reaction chamber.