CLAIMS:

1. A semiconductor process device, comprising: a process pipe, a gas intake pipe, and electrode groups;

wherein a process chamber and a buffer chamber are formed inside the process pipe, the buffer chamber is communicated with the process chamber and arranged corresponding to at least one of the electrode groups, one end of each of the electrode groups penetrates through a sidewall of the process chamber and extends into the buffer chamber, the other end of each of the electrode groups is configured to be connected to a radio frequency power supply, and the gas intake pipe is configured to introduce a process gas into the buffer chamber, wherein

each of the electrode groups comprises two electrode assemblies, which are configured to be connected to a positive electrode and a negative electrode of the radio frequency power supply, respectively; each of the electrode assemblies comprises a deformable electrode core, a plurality of electrode tubes, and an electrode mesh, the plurality of electrode tubes are sequentially arranged along an extension direction of the electrode core, a preset gap is provided between every two adjacent electrode tubes of the plurality of electrode tubes, and the electrode core is inserted into the plurality of electrode tubes, and is respectively connected to the plurality of electrode tubes; and the electrode mesh is disposed along the extension direction of the electrode core, and is nested outside the plurality of electrode tubes.

2. The semiconductor process device of claim 1, wherein each of the electrode assemblies comprises a plurality of electrode cores; and

each of the plurality of electrode cores is inserted into the plurality of electrode tubes, and is fixedly connected to inner walls of the plurality of electrode tubes.

3. The semiconductor process device of claim 1, wherein the electrode core is a nickel wire; and/or

the electrode tubes are nickel tubes; and/or

the electrode mesh is a nickel mesh.

4. The semiconductor process device of any one of claims 1 to 3, wherein a

plurality of buffer chambers are provided and distributed along a circumferential direction of the process pipe, and are all communicated with the process chamber, and each of the plurality of buffer chambers is arranged corresponding to at least one of the electrode groups.

5. The semiconductor process device of claim 4, wherein a plurality of gas intake pipes are provided, and penetrate through the sidewall of the process pipe and extend into the plurality of buffer chambers in a one-to-one correspondence manner for introducing the process gas into the corresponding buffer chambers, wherein an exhaust port is provided at the sidewall of the process pipe, and is communicated with the process chamber for discharging a gas from the process chamber.

6. The semiconductor process device of claim 5, wherein the number of the buffer chambers is two, the two buffer chambers are symmetrically arranged on two sides of the exhaust port, and a plurality of through holes are provided on a side of each of the buffer chambers away from the process pipe, and are arranged along an axial direction of the process pipe for connecting each of the buffer chambers to the process chamber.

7. The semiconductor process device of any one of claims 1 to 3, further comprising a protective pipe group, which comprises at least one protective pipe, the protective pipe penetrates through the sidewall of the process pipe and extends into the buffer chamber, and at least one electrode assembly of the electrode groups is inserted into the protective pipe.

8. The semiconductor process device of claim 7, wherein the protective pipe group comprises two protective pipes, and two electrode assemblies of the electrode groups are respectively inserted into the two protective pipes.

9. The semiconductor process device of claim 8, further comprising a first connecting assembly and a second connecting assembly, which are provided for each electrode assembly; and

the first connecting assembly is nested outside the protective pipe and the

second connecting assembly, and is respectively hermetically connected to the protective pipe and the second connecting assembly, one end of the second connecting assembly is connected to the electrode assembly, and the other end of the second connecting assembly is configured to be connected to the radio frequency power supply.

10. The semiconductor process device of claim 9, wherein the first connecting assembly comprises an electrode holder, a first locking member, and a second locking member;

the electrode holder is provided with a through cavity, one end of the electrode assembly is disposed in the through cavity, and at least part of the second connecting assembly is disposed in the through cavity and is connected to the electrode assembly; and

the electrode holder is hermetically connected to the protective pipe through the first locking member, and the second connecting assembly is hermetically connected to the electrode holder through the second locking member.

11. The semiconductor process device of claim 10, wherein the second connecting assembly comprises an electrode terminal and a fastener;

a first connecting end of the electrode terminal which is located in the through cavity is provided with a first mounting hole, and a second connecting end of the electrode assembly which is located in the through cavity is provided with a second mounting hole; and

the first connecting end and the second connecting end overlap each other, and the fastener is inserted into the first mounting hole and the second mounting hole in sequence to fasten the first connecting end to the second connecting end.

12. The semiconductor process device of claim 10, wherein a first sealing member is provided between the first locking member and the electrode holder to seal a gap between the first locking member and the electrode holder; and/or

a second sealing member is provided between the second locking member and the electrode holder to seal a gap between the second locking member and the electrode holder.

13. The semiconductor process device of claim 10, further comprising a protective gas pipeline; wherein

a protective gas inlet is provided at a sidewall of the through cavity, the two protective pipes of the same protective pipe group are hermetically communicated with each other in the corresponding buffer chamber, and the protective gas pipeline is communicated with an interior of the protective pipe through the protective gas inlet for introducing a protective gas.