

CLAIMS

1. A chuck assembly comprising:
 - a chuck plate having an up-facing surface and a bottom surface;
 - a slot plate having a vertical section attached to the up-facing surface of the chuck plate, and the slot plate having a horizontal section parallel to the up-facing surface, the slot plate having an L-shaped cross section, the slot plate forming a slot between the up-facing surface and the horizontal section of the slot plate, the slot facing a lead-in recess in the chuck plate;
 - a clamp rod having a head, the head being configured to be secured in the slot to clamp the chuck plate onto a rotor of an electroplating system;
 - a contact ring on the bottom surface of the chuck plate, with the contact ring having a plurality of contact fingers adapted to contact a workpiece between the contact ring and the chuck plate; and
 - at least one chuck contact on the chuck plate making electrical contact with the plurality of contact fingers of the contact ring.
2. The chuck assembly of claim 1 further including an annular seal on the contact ring.
3. The chuck assembly of claim 1 further including one or more chuck magnets on or in the chuck plate, and one or more contact ring magnets on or in the contact ring.
4. The chuck assembly of claim 1 further including one or more alignment pins projecting into one or more openings in the up-facing surface of the chuck plate, for aligning the chuck plate with a rotor of an electroplating system.
5. The chuck assembly of claim 1 further including a plurality of electrical chuck contacts extending from the up-facing surface of the chuck plate to the contact ring.
6. The chuck assembly of claim 1 further including one or more ring conductors electrically connecting the at least one chuck contact to the contact ring.
7. A chuck assembly for use in an electroplating system having a rotor, comprising:
 - a chuck plate having an up-facing surface and a bottom surface;
 - a contact ring on the bottom surface of the chuck plate, with the contact ring having a plurality of contact fingers adapted to contact a workpiece between the contact ring and the chuck plate;
 - a slot plate having a vertical section on the up-facing surface of the chuck plate, and the slot plate having a horizontal section parallel to the up-facing surface, the slot plate forming a slot between the up-facing surface and the horizontal section of the

slow plate, the slot facing a lead-in recess in the chuck plate, the slot configured to receive a head of a clamp rod of the rotor of the electroplating system;

the horizontal section of the slot plate extending across a center of the chuck plate; and

at least one chuck contact on the chuck plate making electrical contact with the plurality of contact fingers of the contact ring.

8. The chuck assembly of claim 7 further including an annular seal on the contact ring.

9. The chuck assembly of claim 8 further including one or more chuck magnets on or in the chuck plate, and one or more contact ring magnets on or in the contact ring.

10. The chuck assembly of claim 8 further including one or more alignment pins projecting into one or more openings in the up-facing surface of the chuck plate, for aligning the chuck plate with the rotor of the electroplating system.

11. The chuck assembly of claim 7 further including a plurality of electrical chuck contacts extending from the up-facing surface of the chuck plate to the contact ring.

12. The chuck assembly of claim 7 further including one or more ring conductors electrically connecting the at least one chuck contact to the contact ring.

13. A chuck assembly comprising:

a chuck plate having an up-facing surface and a bottom surface;

a slot plate having a vertical section attached to the up-facing surface of the chuck plate, and the slot plate having a horizontal section parallel to the up-facing surface, the slot plate forming a slot between the up-facing surface and the horizontal section of the slot plate, the slot facing a lead-in recess in the chuck plate, the slot configured to receive a head of a clamp rod of a rotor of a substrate electro-processing system;

a contact ring on the bottom surface of the chuck plate, with the contact ring having a plurality of contact fingers adapted to contact a workpiece between the contact ring and the chuck plate; and

at least one chuck contact on the chuck plate making electrical contact with the plurality of contact fingers of the contact ring.