

CLAIMS:

1. Apparatus comprising:
 - an enclosure;
 - a lift assembly within the enclosure, with the lift assembly including an upper rotor plate and a shaft attached to the upper rotor plate and rotated by a rotation motor, with an upper end of the shaft connected to a chuck clamp;
 - a lower rotor plate connected for rotation with the shaft; and
 - a lift motor connected to the lift assembly for lifting and lowering the lift assembly to move the upper rotor plate vertically relative to the lower rotor plate; and
 - a swing arm having one or more spray nozzles, with the swing arm movable from a first position above the lift assembly, to a second position off to one side of the lift assembly.
2. The apparatus of claim 1 further comprising three or more contact ring standoffs on the lower rotor plate aligned with outer through holes in the upper rotor plate, and three or more wafer standoffs on the lower rotor plate aligned with inner through holes in the upper rotor plate.
3. The apparatus of claim 1 further including a tension spring urging the shaft downward.
4. The apparatus of claim 1 further including a weir within the enclosure, and a weir lift actuator connected to the weir for lifting and lowering the weir.
5. The apparatus of claim 1 further including a seal test assembly positioned above the rotor plate and having a pressure plate including a pressure plate seal and a gas port, with the pressure plate seal adapted to seal against a top surface of a contact ring of a chuck assembly supported on the rotor plate.
6. The apparatus of claim 1 further including a chuck assembly held onto the shaft, with the chuck assembly having a contact ring having a seal, with the contact ring attachable to a backing plate, and the backing plate having a chuck fitting engaged with the chuck clamp.
7. The apparatus of claim 6 with the upper rotor plate moveable to a load/unload position wherein the contact ring is supported on contact ring standoffs attached to the lower rotor plate and is separated from the backing plate.
8. The apparatus of claim 6 further including a laser directed at the seal, and one or more sensors for sensing light reflected from the seal.
9. The apparatus of claim 1 further including magnets attaching the backing plate to the contact ring.
10. Apparatus comprising:
 - an enclosure;
 - a lift assembly within the enclosure, with the lift assembly including an upper rotor plate and a shaft attached to the upper rotor plate and rotated by a rotation motor, with an upper end of the shaft connected to a chuck clamp;

a lift motor connected to the lift assembly for lifting and lowering the lift assembly; and
a seal test assembly positioned above the upper rotor plate and having a pressure plate including a pressure plate seal and a gas port, with the pressure plate seal adapted to seal against a top surface of a contact ring of a chuck assembly supported on the upper rotor plate.

11. The apparatus of claim 10 further including a swing arm having one or more spray nozzles, with the swing arm movable from a first position above the lift assembly, to a second position off to one side of the lift assembly.

12. The apparatus of claim 10 further including a weir within the enclosure, and a weir lift actuator connected to the weir for lifting and lowering the weir.

13. The apparatus of claim 10 with the chuck assembly held onto the shaft, and the chuck assembly including a contact ring attachable to a backing plate having a chuck fitting engaged with the chuck clamp, with the lift assembly moveable to a load/unload position wherein the contact ring is supported on contact ring standoffs and is separated from the backing plate.

14. The apparatus of claim 13 with the contact ring having a seal, further including a laser directed at the seal, and one or more sensors for sensing light reflected from the seal.

15. The apparatus claim 13 with the contact ring standoffs on a lower rotor plate attached to the shaft, with the contact ring standoffs aligned with outer through holes in the upper rotor plate, and three or more wafer standoffs on the lower rotor plate aligned with inner through holes in the upper rotor plate, and with the upper rotor plate vertically moveable relative to the lower rotor plate via operation of the lift motor.

16. Apparatus comprising:

an enclosure;

a lift assembly within the enclosure, with the lift assembly including an upper rotor plate and a shaft attached to the upper rotor plate and rotated by a rotation motor, with an upper end of the shaft connected to a chuck clamp;

a lift motor connected to the lift assembly for lifting and lowering the lift assembly;

a chuck assembly held onto the shaft, with the chuck assembly having a contact ring attachable to a backing plate, the contact ring having a seal and the backing plate having a chuck fitting engagable with the chuck clamp;

the lift assembly moveable to a load/unload position wherein the contact ring is separated from the backing plate; and

a swing arm having one or more spray nozzles, with the swing arm movable from a first position above the lift assembly, to a second position off to one side of the lift assembly.

17. The apparatus of claim 16 further including a lower rotor plate connected for rotation with the shaft, and with the upper rotor plate vertically moveable relative to the lower rotor plate via operation of the lift motor, and further including contact ring standoffs attached to the lower rotor plate.

18. The apparatus claim 17 with the contact ring standoffs aligned with outer through holes in

the upper rotor plate, further including three or more wafer standoffs on the lower rotor plate aligned with inner through holes in the upper rotor plate.