1. **Introduction**

*Osiris Unixx S 20 D* is an automated dry-in dry-out spin-developer station, which can develop positive and negative photoresists including SU8. Please contact staff for approved materials and processes.

2. **Features**

1. Touch Screen Interface
2. Up to 6 process chemicals
3. Maximum substrate size: 8”
4. Minimum substrate size: none
5. Encoded spin motor for precise positioning and speed control

3. **Safety**

Follow general safety guidelines in the lab and the specific safety rules as per follows:

1. **Chemical hazard:** This equipment uses hazardous chemicals for processing. Wear appropriate PPE.
2. Electric Hazard: Fatal electrical shock and/or severe burns can be caused by the supply voltage of up to 208VAC 15A for the system. **Do not remove any covers or tamper with the system.**

3. Pay attention to safety symbols on the equipment.

4. Press EMO button if there is an immediate danger to personnel or the equipment and inform the staff.

5. All power sources, pumps, and valves are interlocked to prevent errors during operation.

### 4. Available processes

Various recipes for different conditions are available. See the appendix for default recipes.

### 5. Precautions

1. Make sure all the Status and Supply indicators are green (Figure 1) on the Process tab on the touch screen.

2. Never attempt to remove your substrate during operation.

3. Don’t put your hands in the way of the media arm or inside the Splash Ring area (Figure 2) during the process.

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**Figure 1:** Status and Supply indicators are green

**Figure 2:** Media arm and splash ring
6. Operating Procedure

4. Start your reservation in NUCORE.

5. Install the appropriate chuck for your substrate:
   a. Pull the existing chuck straight up from the middle to remove it (Figure 3 left). **Never pull chucks from the wings. Doing so will break it.**
   b. Align the groove under the chuck to the pin on the drive shaft. (Figure 3 right bottom)
   c. Push straight down from the middle until the backside rinse pin is visible in the center (Figure 3 right top). **Never push chucks from the wings. Doing so will break it.**
   d. Leave the chuck installed when you are done.

6. Running the process:
   a. Make sure the Process tab is selected on the touch screen. (Figure 1)
   b. Click “Load New Recipe” button, select the desired recipe (Figure 4) and click “Open”.

![Figure 3: Chuck Replacement](image1)

![Figure 4: Loading a recipe](image2)
c. Place your substrate on the chuck

d. Click “START” on the touchscreen or press “START” button on the bench

7. Removing the sample:
   a. After process finishes, wait until the media arm returns to the park position.
   b. Wait until the spin motor turns the chuck to the beginning position.
   c. Remove your substrate

8. End your reservation in NUCORE.

Appendix A – Default Recipes

a. These recipes are tested for photoresists which are coated at 3000 RPM.
   b. Use S1805 recipe for 4 and 5 inch masks
   c. New recipes will be added soon

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Appendix B – Application Examples