



Osprey, Nest, and Ancillary Hardware Cleaning and Sanitation SOP

Daily CIP (Clean in Place):

The below detailed CIP process should be completed at the end of every shift before the machine is left alone until the next shift. Some white label operations may decide to perform this process in between batches if going from one producer to another to avoid the possibility of contamination from one batch to another.

1. Evacuation of biomass. This can be done simply with a plastic ice scooper for a large majority of the biomass. Any small contaminants can simply be rinsed down the drain on The Osprey.
 - a. If rinsing down the drain of The Osprey, simply open the drain on the machine, and put a 220u bag inside of your Nest or collection vessel. This will capture any biomass, and keep it out of your Nest/Pump/Sanitary hoses.
 - b. After all the biomass has been collected and rinsed down, all contact surfaces need to be rinsed off with clean water and drained through all pumps, hoses, and vessels.
 - c. [Click this link for a video example.](#)
2. Sanitization process. Mixing Isopropyl alcohol (or ethanol) with water (The colder, the better), fill The Osprey tank with about 40-50 gallons. Turn it on full speed for about 15 minutes. Open the drain of The Osprey, and turn on The Nest's recirculation pump. This creates a passive cycle for the sanitizing solution. The agitation from the impeller should spray The Osprey's tank, The Nest will be sanitized, and the pump/hose will also be actively sanitized.
 - a. A microfiber rag and/or a [white scotch-Brite pad](#) can be used for stubborn resins on stainless steel surfaces, whether they be in the Osprey or Nest.
 - b. Once the sanitizing solution has been recirculated, it needs to be evacuated from the system. Empty all solution through the drains/pumps.
 - c. Spray in around 5 gallons of water into The Osprey, rinse it down the drain, and into The Nest. This will rinse any remaining cleaning agent out of the system.
 - d. [Click this link for a video example.](#)
3. Nest Evacuation. Close the ball valve at the back of the Nest, and disconnect it from the pump. Wheel it over to a floor drain or capture tank/bucket, and reopen the ball valve. Allow the Nest to fully drain, take the rear lid off, and use a sprayer and iso microfiber to wipe down the back of the tank, all walls, and lid/seals. Eliminate all water, and return back into position in the Osprey.
4. Air Dry. Keep the lid open and remove the impeller/wipe dry. If in a very moist environment, airflow can be beneficial to help air dry components as they sit until the next shift. We recommend removing the impeller, and leaving it in open air/on a rack until next use.

Deep Cleaning Procedure

Depending on the processor, environment, and product inputs (single source, outdoor, etc), the regularity of this deep cleaning procedure can be done either every day to once every 2-3 weeks. **We would advise performing this process at least every week as cleaning maintenance.** We have not seen any microbial issues with this schedule and performing regular CIP. We recommend regular swab testing for microbes of hoses, pumps, etc to ensure cleanliness.

1. Remove all Tri clamps and gaskets and soak in the sanitization tub. Hoses can also be soaked in the same sanitizing solution.
2. Disassemble the recirculation pump. Remove the phillips head screws on the face of the pump and pull the pump face off.



Make note of gaskets, rings, etc. IF YOU DO NOT PUT THEM BACK IN THEIR PLACE, THE PUMP WILL FAIL! Pull the impeller off. Pull the mag drive insert out of the pump. It will be magnetic, and a glove may help you get a solid grip on it.



Wipe all surfaces down with 99% Isopropyl Alcohol. Pull the ceramic shaft out and use a q-Tip or pipe cleaner to scrub out the skinny sections. Clean the ceramic shaft along with every nook and cranny.



Once all surfaces have been deeply cleaned and disinfected, the pump needs to be reassembled. The first step is to put the ceramic rod into the pump. There is a seat for it in the rear of the cavity of the pump. Once seated, it will be the guide for the mag drive insert. **MAKE SURE TO PUT THE WASHER IN BEFORE PUTTING THE MAG DRIVE INSERT OVER THE CERAMIC SHAFT.**



Remove and clean the gasket that seals the face of the pump.





Finish reassembly of the pump, reinstalling all gaskets and parts in their original position. Put the pump face back on with the phillips head screws.

3. If a floor drain is present, the entire Osprey and Nest can be washed down with clean water. The control panels, PLC, and motor are all waterproof, but should not be sprayed directly with pressurized water. Open all drains and spray top to bottom, avoiding spraying electronics directly.
4. Remove all sanitary tri clamps, ball valves, gaskets, hoses, etc and do a sanitization soak inside of a clean sink or container for at least 3 hours. Rinse off and air dry.
5. Physical cleaning of all contact and non contact surfaces. Utilize a microfiber cloth or white Scotch-Brite and 99% Isopropyl Alcohol to wipe down all surfaces inside The Osprey, The Nest, as well as the exterior surfaces.
 - a. Use a microfiber cloth and iso on the impeller. Do NOT use any aggressive fabrics such as Scotch-Brite pads on the impeller.
 - b. Remove The Nest lids and clean all surfaces, including the gaskets on the lid, all corners, walls, etc.
 - c. Open The Osprey lid and clean the lid, gaskets, etc.
 - d. [Use a pipe cleaner](#) with 99% Iso inside the impeller threads on the driveshaft in The Osprey.
6. Rinse all surfaces with clean water and wipe down with a microfiber cloth.

Component Replacements

If pursuing a GMP standard lab, we would recommend replacing certain components on a schedule to ensure compliance.

1. Insulated Hash Hoses- Replace every 2 years maximum.
2. Silicone tri clamp gaskets - Replace every 6 months. These are cheap and readily available.
3. Recirculation Pump- Replace every 2 years maximum.