**Purpose**

This describes the steps for quality control and the schedule for preventive maintenance for the Helmer Quickthaw System.

**Required Materials**

* Helmer Cleanbath (Benzalkonium Chloride 50% solution)
* Drain and fill tubing
* Soft cloth or sponge
* Mild detergent or TB quant
* Light duty oil (WD-40)

**Limitations and Precautions**

* Helmer Cleanbath is a combustible liquid that can cause severe skin and eye damage, is toxic if swallowed and maybe harmful if inhaled. Wear safety goggles or face shield, gloves and protective clothing when in use.
* Keep away from heat, sparks and open flame. Keep containers tightly closed in a dry, cool and well ventilated area.
* **NEVER use bleach** due to corrosion and damage to plastic parts.
* Do not press the LIFT OUT button if the basket is not attached to the lift-out system. The weight of the basket is needed for the rail and internal cabling to remain properly positioned during operation.
* Instructions for cleaning should be referenced prior to deviation from this SOP.

**Procedure**

|  |  |
| --- | --- |
| **Tasks:** | |
| **Daily:** | * Record both the LED temperature and the external thermometer temperature of the water bath on the Helmer Quickthaw Daily QC Form F3007. |
| **Weekly:** | * Drain and clean the chamber and baskets * Clean the exterior * Clean the vents * Refill the chamber * Document on F3007 and F3017 |
| **Monthly:** | * Verify the Digital temperature and external thermometer with the Fluke thermometer, and record on the Helmer Quickthaw Daily QC Form F3007. |
| **Quarterly done by TSL:** | * Test the high temperature * Check the temperature calibration for the controller readout and change if necessary * Document on F3007 and F3017 |
| **Quarterly done by S.I.:** | * Lubricate moving parts and check basket bearings for wear |
| **As Needed:** | * All of the above can be performed as needed |

**Weekly, Monthly, Quarterly, and as Needed Maintenance instructions:**

|  |  |  |
| --- | --- | --- |
| **Step** | **Action** | **Related Documents** |
| Cleaning the chamber and baskets | * Confirm the baskets have been lowered into the chamber. Lower them if necessary by pressing and releasing the LIFT OUT button for each basket. * Turn OFF and disconnect the power to the thawer. * Drain the chamber completely.   + - Turn off the thawer and disconnect it from power.     - Place the open end of the drain tube into the sink to drain.     - Push the coupling valve on the other end of the drain tube into the drain port until it clicks into place. The water immediately starts flowing out of the chamber. To speed up the draining process, remove any air pockets in the tubing by squeezing the tubing next to the coupling valve.     - After the chamber has fully drained, remove the baskets by unscrewing the finger knobs securing the baskets to the lift-out system. * To clean the chambers and baskets * Use a soft cloth or sponge.   + - Rinse thoroughly with water and allow the chamber to empty. * Release the drain tube from the port by pressing down on the button on the drain port. * Re-Install the baskets. | Helmer Quickthaw Operations Manual   * Draining the chamber, Section 4.10   Helmer Quickthaw Operations Manual   * Cleaning the thawer, Section 5.2 |
| Cleaning the exterior and vents | * Use a soft cloth or sponge. Do not use an abrasive material. * Use soap or a mild cleaning agent and water. * Wipe vents to improve airflow and prevent overheating. * Rinse with water. | Helmer Quickthaw Operations Manual   * Cleaning the thawer, Section 5.2 |
| Refilling the chamber | * Add tepid water to the chamber by using a tube connected to the faucet. * Add 3cc Helmer Cleanbath disinfectant. * Turn on the main power to start heating the water * Allow the baskets to agitate for at least 15mins to mix the disinfectant and the water temperature to stabilize to set point. * Allow the water temperature to heat back to set point before using the thawer. | Helmer Quickthaw Operations Manual   * Filling the chamber, Section 4.1 |
| Verify Digital temperature and change if necessary | * Verify the Digital temperature using the external thermometer against the Fluke thermometer * If not within 1 degree, calibrate the controller readout | Helmer Quickthaw Operations Manual   * Calibrating the temperature controller readout, Section 5.4 |
| **Step** | **Action** | **Related Documents** |
| Test the High Temperature | * Verify the temperature controller display has been calibrated * Change the set point of the thawer to 0.5 degrees above the high temperature alarm set point * Observe the chamber temperature reading on the temperature controller increase slowly. * When the displayed temperature reaches the high alarm set point, the High Temperature alarm will activate and “AL.hi” will flash on the temperature controller. * The baskets will lift out of the chamber and “E1” will flash on both cycle time indicators. * Change the set point back to the original value and allow temperature to stabilize before use. | Helmer Quickthaw Operation Manual   * Testing the high Temperature alarm, Section 5.5 |
| Check the temperature calibration for the controller readout | * Press and hold the \* button * The controller displays the current setpoint value * Verify setpoint value matches chamber temperature against digital temperature * If not within 1 degree, calibrate the controller readout | Helmer Quickthaw Operations Manual   * Calibrating the temperature controller readout, Section 5.4 |
| Lubricating the rails and bearings on the lift-out system | * Bearings should be checked regularly for wear. * Lubricate the rails with light-duty oil. Do not use grease. * Lift the baskets out of the chamber by pressing and releasing the LIFT OUT button for each basket. * Remove the baskets by unscrewing the finger knobs securing the baskets to the lift-out system. * Place a maximum of 3 drops of light-duty oil on your finger, then rub the oil along the length of all four sides of each lift-out rail. Lubricating all four sides of the rail ensures the bearing is properly lubricated. * Install the baskets and lower them into the chamber by pressing and releasing the LIFT OUT button for each basket. | Helmer Quickthaw Operations Manual   * Maintaining Moving Parts, Section 5.3. |

**References**

Helmer Quick Thaw Plasma Thawing System Operation Manual

Standards for Blood Banks and Transfusion Services, Current Edition: American Association of Blood Banks. AABB Press, Bethesda, MD.