On Site Quartz Clean Procedure

Note: - this procedure will cover the cleaning of quartz sleeves, thimbles and windows. For information on how to safely remove/install these parts from the reaction chamber, please see the relevant O&M manual.

Initial Steps

Before turning off the system to perform any maintenance work, put the system into full power mode, wait for 10 minutes, and make a note of the UV intensity reading. Ensure that all necessary equipment and PPE is available and prepared.

Once the quartz sleeve(s) and window(s) have been safely removed from the reaction chamber, inspect them for any signs of fouling/deposits. Take pictures if possible. The fouling may be in the form of cloudy smears, or brown discolouration.
Note: - even slight deposits may have an effect on performance, so it is always worth cleaning the quartz once it has been removed.

To clean the quartz, use a weak, dilute acid, such as phosphoric/citric acid in 5% solution. If you do not have access to this, use a cleaning agent that contains acid, such as some glass/window cleaners.

Sleeve

Make sure you are working on a large, flat surface, and use a sponge or cloth to wipe the quartz sleeve with the acidic solution, making sure that all areas on the outside of the quartz come into contact with the acid/cleaner, while ensuring the inside remains dry.

Leave the quartz sleeve in to rest while still coated with the acid/cleaner for ~10 minutes. Then, rinse the quartz sleeves and window thoroughly with water, again ensuring the inside of the quartz sleeve remains dry. Use a paper towel to dry around the seal face(s) of the sleeve, so that no liquid can come into contact with the lamp when re-installed.
Note: - the quartz may become quite slippy after being cleaned.

Window

The quartz window should be left to soak in the acid/cleaner for ~ 10 mins, then rinsed with water, and dried with a lint free cloth. Inspect before re-installing into the chamber, looking for smudges, dirt/dust or fingerprints. Also check that there are no cracks or damage to the window. If this is the case, it will need to be replaced.
Note: - Gloves should be worn when handling the window to avoid leaving fingerprints on the surface.

Final Steps

Once the system is built back up and has been running for at least 10 minutes, compare the intensity reading to the reading taken before cleaning – this will ensure that the quartz has been cleaned effectively.

Equipment List

- Sponge/cloth
- Lint free wipe
- Dilute acid /window cleaner
- Water
- Large, flat working space

PPE

- Surgical Gloves
- Long sleeves (if using acid)
- Eye protection (if using acid)
- Plastic apron (is using acid)

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