

Rigaku XPS Standard Operating Procedure 2: Sample Extraction

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Latest Update:

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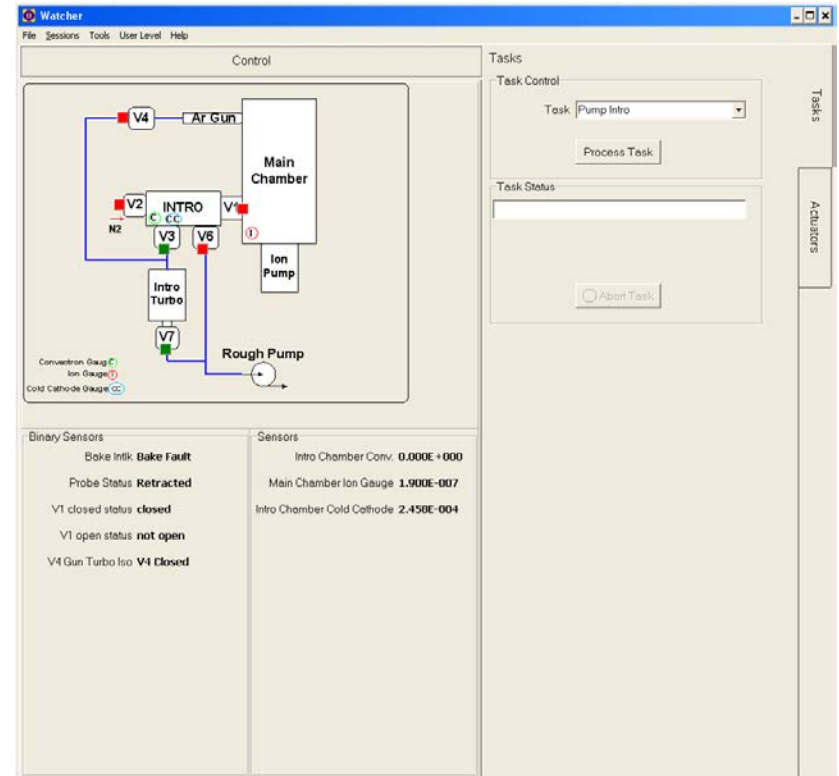
These notes are meant to serve as an aid to assist users who have been trained and certified by MCC Staff. If ever you are unsure about the correct operation of the instrument or any of its components, please consult a MCC staff member before continuing. Never use equipment that you are not trained and approved to use.

Before using the MCC, please review the MCC User Handbook available through our website.

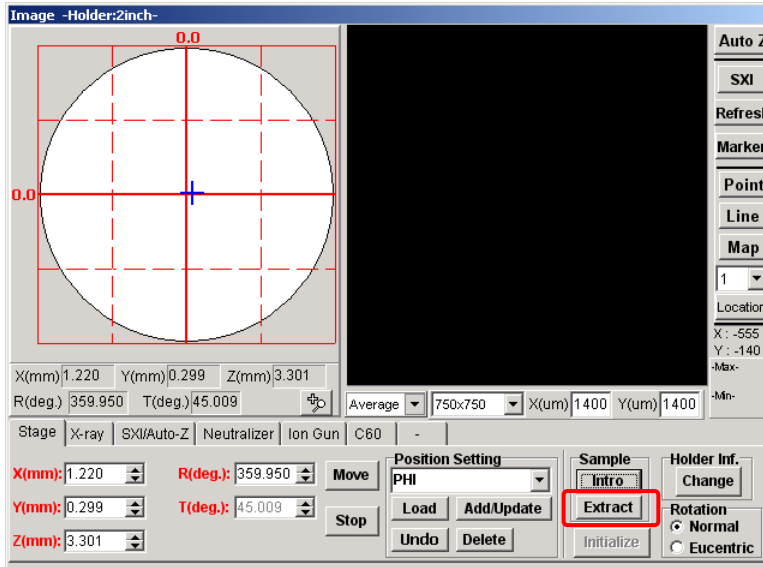
Sample Extraction

- Ensure that there is no argon leaking into the system (**Ion Gun off** and **toggle switch** on ion gun control panel is **up** (“limit”))
- Click the **Pump Intro** button in **Vacuum Watcher**. The **Pump Intro** routine takes approximately 6 minutes

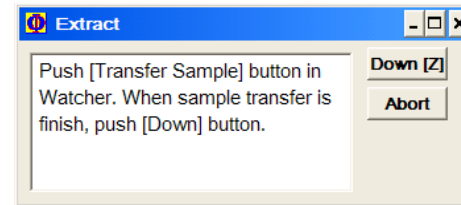
• However 15-20 min is recommended as the glass window on the intro is not HV seal and during your data acquisition there might have been enough leak as it is not being continuously pumped down.



Sample Extraction

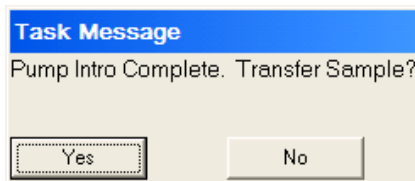


- Sample holder (platen) extraction from main chamber: Click the **Extract** button in the **Summitt – Image – Stage** window, the stage moves to a pre-calibrated home position. This dialog box appears:

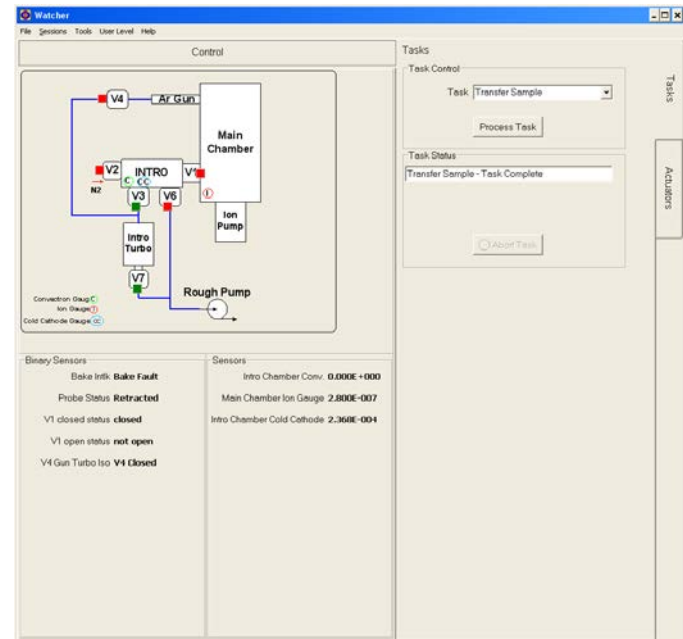
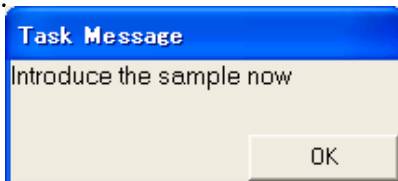


- **Do not click Down[Z] !!**

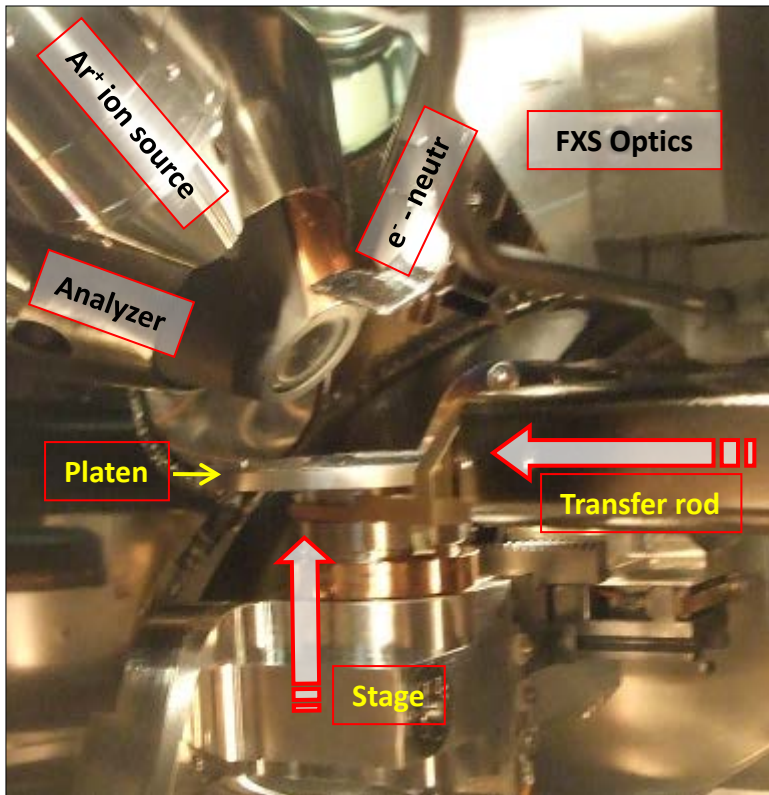
- Click **Transfer Sample** button in **Vacuum Watcher** window to initiate the sequence for opening the main chamber valve V1. This dialog box appears, **Click Yes**



- When V1 opens another **Watcher** Task message appears, **click OK:**

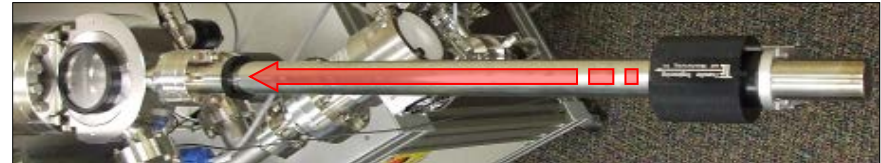


Sample Extraction

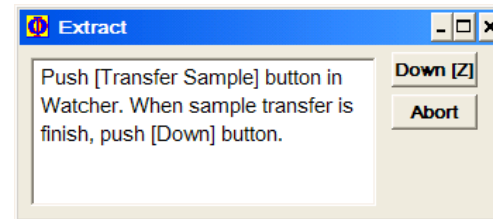


View of sample position in main chamber

- Insert fully the transfer rod into the main chamber. Watch through the viewport as the fork engages the sample holder. Ensure that the fork is fully engaged before proceeding.



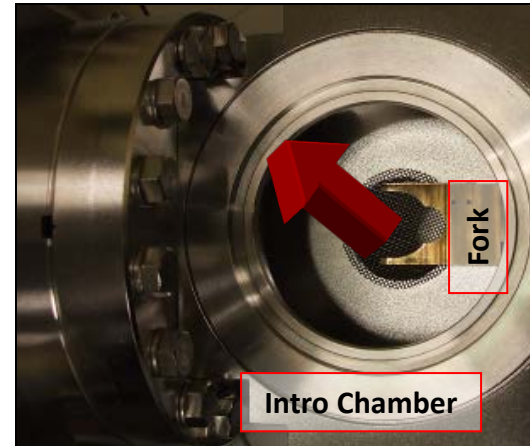
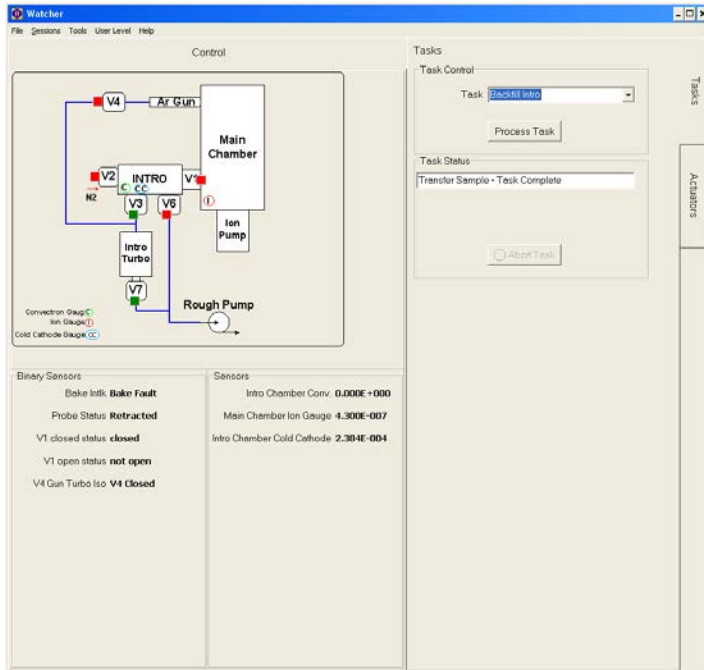
- In the **Extract** dialog box click **Down [Z]** to lower the stage. The sample holder will remain on the Transfer rod fork. Ensure that the stage clip is below the sample holder and clear prior to pulling the Transfer rod out of the chamber.



- Retract Transfer Rod with Sample Holder completely out of the analysis chamber. Valve V1 in **Vacuum Watcher** will automatically close once the transfer rod is fully retracted (see next slide)



Sample Extraction



- Make sure N2 tank reads the pressure (not empty) valve of dry N2 purge cylinder should be open. The outlet pressure is fixed to 4 -5 psi
- Click the **Backfill Intro** button, wait for cover cap of **Intro** to be released! Close main valve on cylinder
- Remove cover cap from **Intro chamber**
- Extract **sample holder** from **Transfer rod** using the special tool.
- Place cover on the **Intro chamber**
- **Introduce** another sample (See Sample Introduction SOP) or **Pump Intro**