

TF30 Operating manual for Room temperature

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IF AT ANY STAGE YOU ARE UNSURE SEEK ADVICE FOR UNIT STAFF

1. Before starting any work check that the microscope is in the right state, go to the setup tab (see figure below):

The Vacuum pane

- The column vacuum should be 6
- The column valve button should be yellow

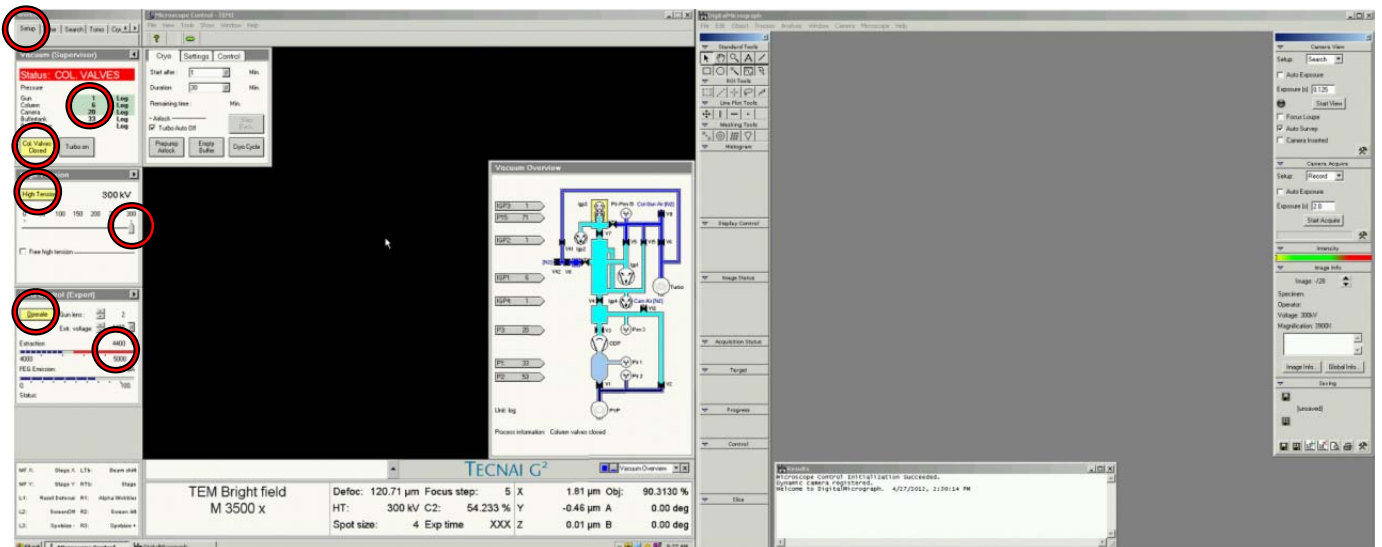
The High Tension pane

- High tension button should be yellow
- The high tension should be 300 kV (or 200kV)

The FEG Control pane

- should show OPERATE in yellow
- Value of 4400V (or 3950V)

If it is all good you can go to the next step, if not **call Eric x42449 or Sergey x42515**

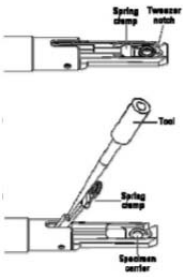


2. Start the turbo pump, in the set up tab click on the turbo button (it should turn from grey to orange)



3. Load your sample in the holder

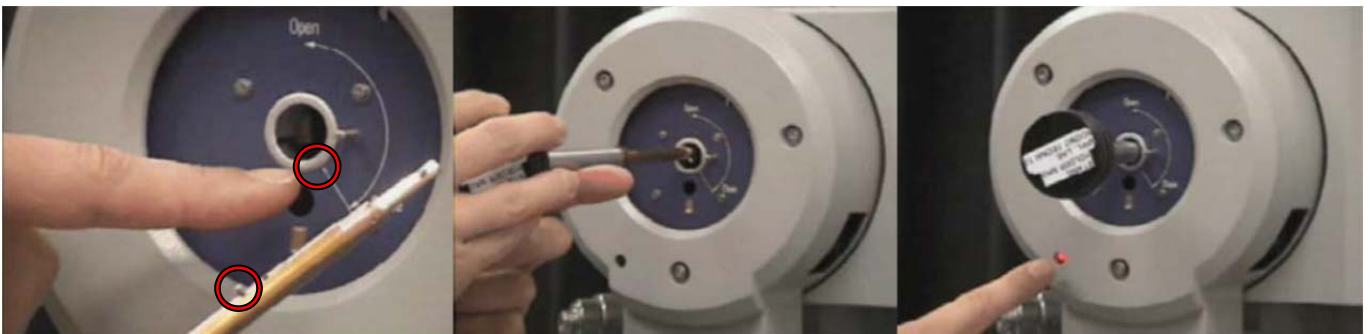
- Lift the spring clamp with the needle provided
- Insert your grid in the carrier
- Lower the spring clamp with the needle



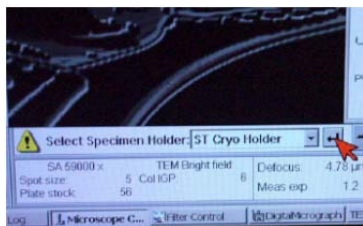
4. Wait that the turbo button is yellow (keep filling the sample holder until it is)



5. Insert your sample



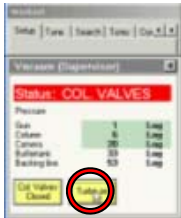
- Pin in front of groove (5 O'clock position)
- Gently push the holder all the way in (pencil mark)
- The red LED goes on, the Select the holder (**single tilt holder**) at the bottom of the right screen



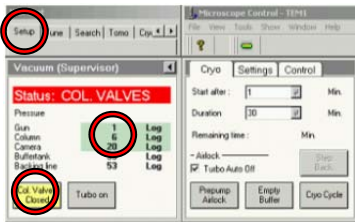
d. When the red LED goes off, turn the holder anticlockwise until it stops and guide it in (do not hold it)



e. Switch off the turbo pump



- In the setup tab check that the Column vacuum is below 10, if it is click on column valve (it should turn grey as the valve opens), if it is not wait until it reaches it.



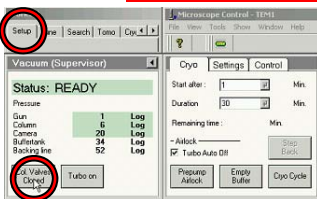
- Find a piece of dirt or of feature you can see and Set the eucentric height of your sample (R1 on right hand panel to start alpha wobbler, Z-height to set up or down Z, Z should be between -60um and +60um depending on the orientation and the kind of grid you are using)

Stop the Alpha wobbler (R1)

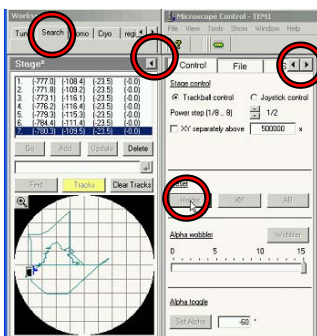
- Press "eucentric focus" on the right hand control panel
- Set the Focus with the focus knob on the right hand control panel
- Take micrographs

- removing the sample

a) **Close the column valves, in the Setup tab press COL. VALVE CLOSED (it should turn yellow)**



b) In the search tab click on the top arrow and navigate with the two right arrow heads to find the control panel, when there press Reset HOLDER

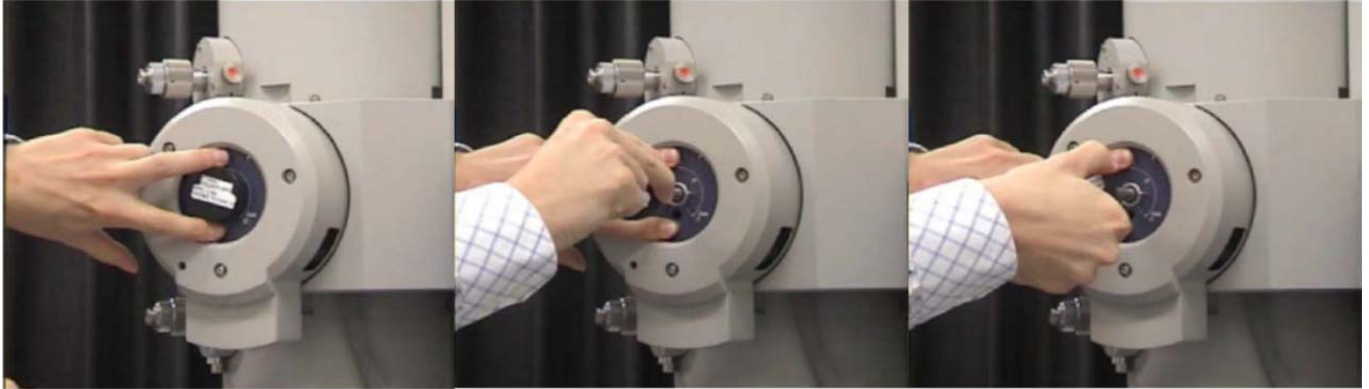


c) remove the camera (untick "camera inserted" on the gatan software, Digitalmicrograph)

e) remove the holder

- Put two finger on the blue part of the stage, pushing toward the cloumn, the other on the holder. Pull the holder out until you fill a hard stop

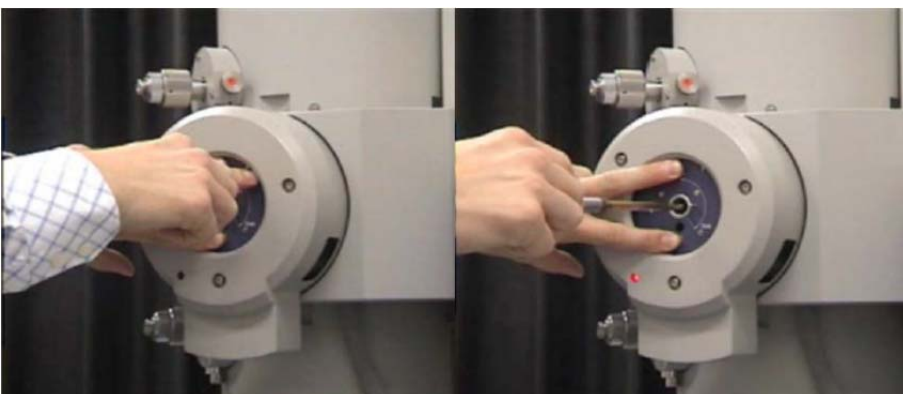
- turn clockwise until you fill a hard stop, RELAX



- Hold the stage with your left hand to stabilize yourself

- Put the index of your right hand on the compustage while holding the holder in the palm of your hand

- pull the holder out fully pushing the compustage out with your finger (if you pull the holder out with your shoulder you will break the little know on the holder)



e) For a new sample repeat from [2.](#)

AT THE END OF YOUR SESSION

If someone has booked the microscope after you , fill the LN2 dewar and leave

If you are the last one, remove the LN2 dewar and start the cryo cycle (the turbo should start)

