Standard Operating Procedure for Changing the Film Thickness Monitor Quartz Crystal on the Q150R ES Coating System Version: 2 MAR 2021

1. General Information and Precautions

- a. The Q150R ES is a combination sputter coating and carbon/metal evaporation tool. Interchangeable inserts are provided for each process. See the separate *SOP for the EMS Q150R ES Coating System* for directions on operating the tool.
- b. The Q150R ES is fitted with a quartz film thickness monitor (FTM) to gauge film thickness in real time. The quartz crystal requires periodic replacement.

2. Checking the Status of the FTM Crystal

- a. From the home screen, press System and then FTM. The screen at right will be shown.
- b. If the percent used is greater than 95%, change the crystal. See Section 3 below.

3. Replacing the FTM Crystal

- a. Power OFF the tool using the rocker switch on the back (right side).
- a. Lift the gray process head.
- b. Remove the glass cylinder and set it on a clean

wiper. Do not set the glass cylinder on its side! Avoid touching the mating surfaces and rubber gaskets; wipe the surfaces clean with IPA if necessary. Do not apply vacuum grease to the rubber gaskets.

- c. Unscrew (CCW) the top cap of the crystal holder and remove it. See Figure 1.
- d. Turn the top cap upside down and pull out the black spring insulator assembly.
- e. Tip the old crystal out of the cap and dispose of it. See Figure 2.
- f. Place the cap upside down on a flat surface, then insert the new crystal.
- g. Press the spring insulator assembly back into the cap.
- h. Screw the cap assembly back in to the crystal holder body.
- i. Replace the glass cylinder.
- j. Close the top cover assembly and press down firmly.
- k. Power ON the tool using the rocker switch on the back (right side).
- After system initialization, check that the FTM is working in the System > FTM menu. See Section 2 above.





