

To Operate Micro-Mill

Step-1: Drill bit set up

1) Rotate the bit holder clockwise to open and fix the bit in the opening by rotating the holder anticlockwise.

Step-2: Stage Calibration (Operation using Micro-Mill software)

1) Double click on the “**Stages Calibrated**” icon in the window (Pop up window). It is to adjust the stage w.r.t axes.

2) Turn on “**Reflected Light**”

Step-3: Operation using Micro-Mill software

1) Click “**Scope View**”

2) Put the sample under microscope to view it under “**Scope View**” mode. Focus by clicking on the arrows in the window.

3) Click “**Drill View**”. Measure sample thickness using icon “**Sample Surface**”. Go to “**Define Flat Surface Thickness**” from “**Sample Surface**”.

4) Depending on the thickness of sample use “**Transmitted**” or “**Reflected**” light from the Micro-Mill software.

5) Go to “**Scope View**”.

6) Select areas of interest. For quick scan use arrows in the window of software.

7) Go to “tool” for selecting a design of drilling.

8) Go to “**Define Patterns**”. Select “**Grid/Spot**”.

9) Click on “**Properties**” icon

a) give drill speed b) drill time (Dwell time)

10) Click on “move to” icon.

11) Click on “drill view” icon.

12) Click on “run scan”.

a) Select drill plunge speed b) Enable drill during scan.

13) Click “ok” to start drill.

Note: To take photograph, click on “file”, then select “Save video Image”.

Step-3: Operation using Micro-Mill software

1. Click “**Drill View**”. Measure sample thickness by going into checklist in view option.
 - a. Click on the view option.
 - b. Click on check list.
 - c. Click on set sample thickness.
 - d. Bring the drill bit just above the sample by clicking on drill view.
 - e. Read the instruction being displayed. The drill bit would automatically come down and measure the sample thickness by touching the sample.
 - f. Once the sample thickness is measured. Go to scope view. Make sure that the drill bit is up
 2. Giving drill option to computer.
 - a. Click on tool. Select the pattern you want to drill. Generally we go for raster.
 - b. Click on raster.
 - c. Now select the location where you want to drill. It will make the pattern as shown in diagram.
 - d. You can select as many defined pattern you want.
 - e. Now click on drill view.
 - f. Select all the defined patterns shown on left side of the screen.
 - g. Click on properties.
 - h. Here you can change different parameters. Like drill speed (speed which with the drill would rotate (10-30)), drill movement speed (speed with which the x and y axis of the computer would move.)
- 9) Click on “**Properties**” icon
a) give drill speed b) drill time (Dwell time)
- 10) Click on “move to” icon.
- 11) Click on “drill view” icon.
- 12) Click on “run scan”.
a) Select drill plunge speed b) Enable drill during scan.
- 13) Click “ok” to start drill.

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