



ISTITUTO ITALIANO
DI TECNOLOGIA

Instron 3365 uniaxial testing machine user reference guide

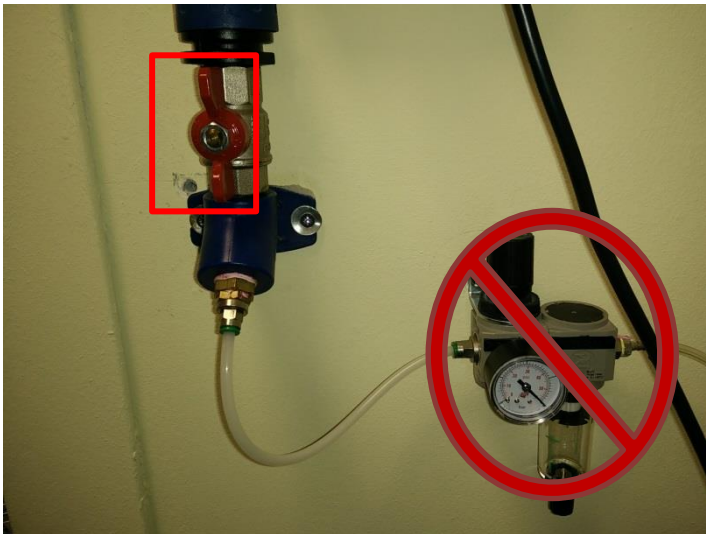


This document is a quick reference guide for the use of the Instron 3365 testing machine. It does not replace formal training. For any doubt or problem contact luca.ceseracciu@iit.it, tel. 241

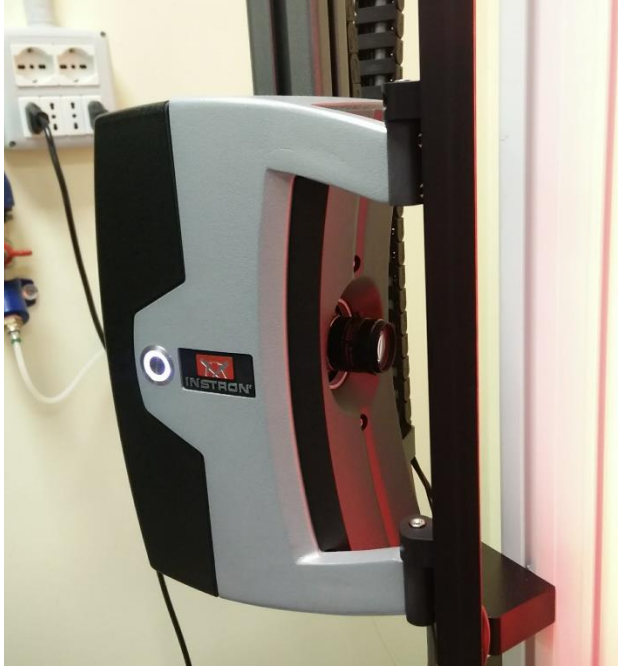
1. Turn on the machine from the switch on the right side



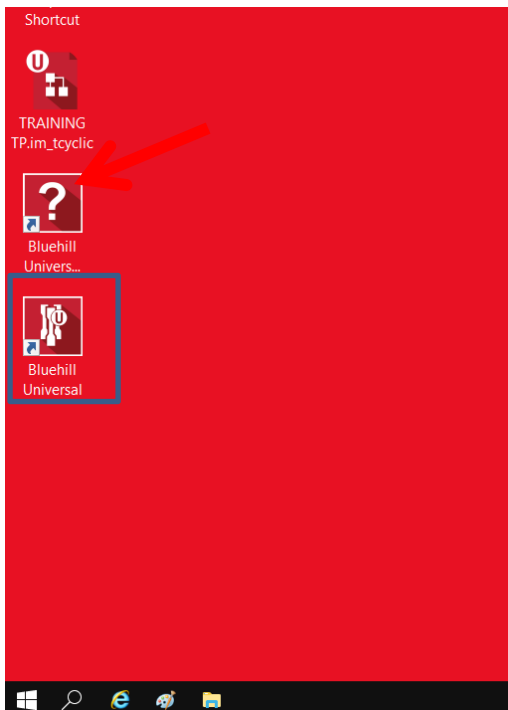
2. Only for tensile/wire tensile tests: open air pressure handle. Do not modify the pressure from the gauge.



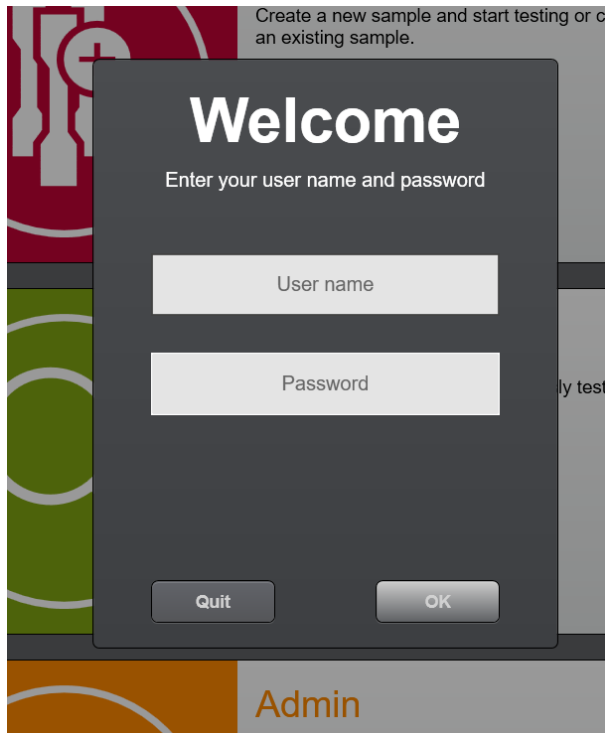
3. If needed, turn on the video extensometer SVE2



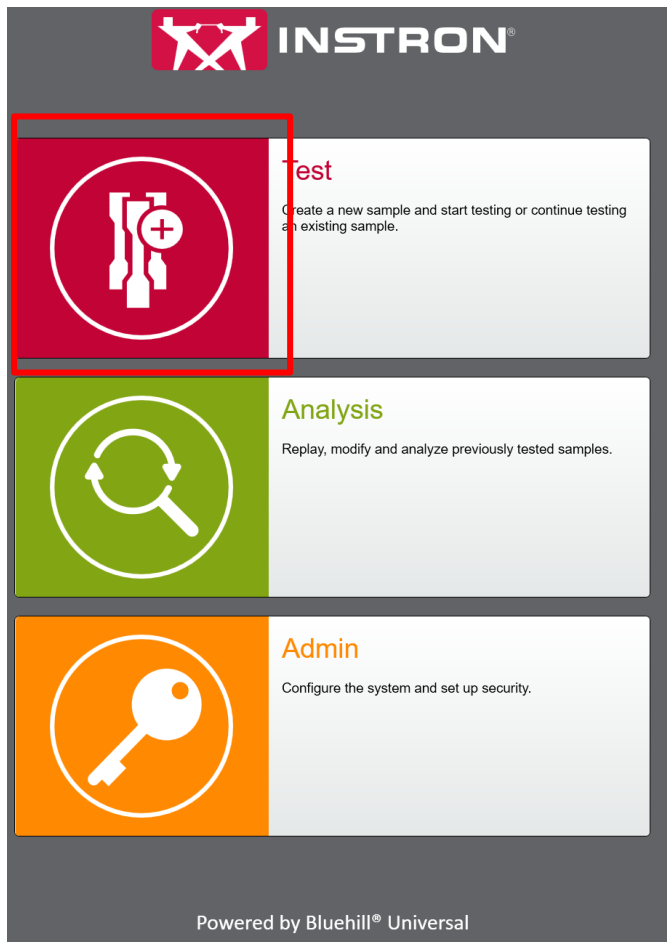
4. Turn on PC from the back of the top right corner
5. Open the Bluehill Universal software. This must be done 2 minutes after turning on the instrument.



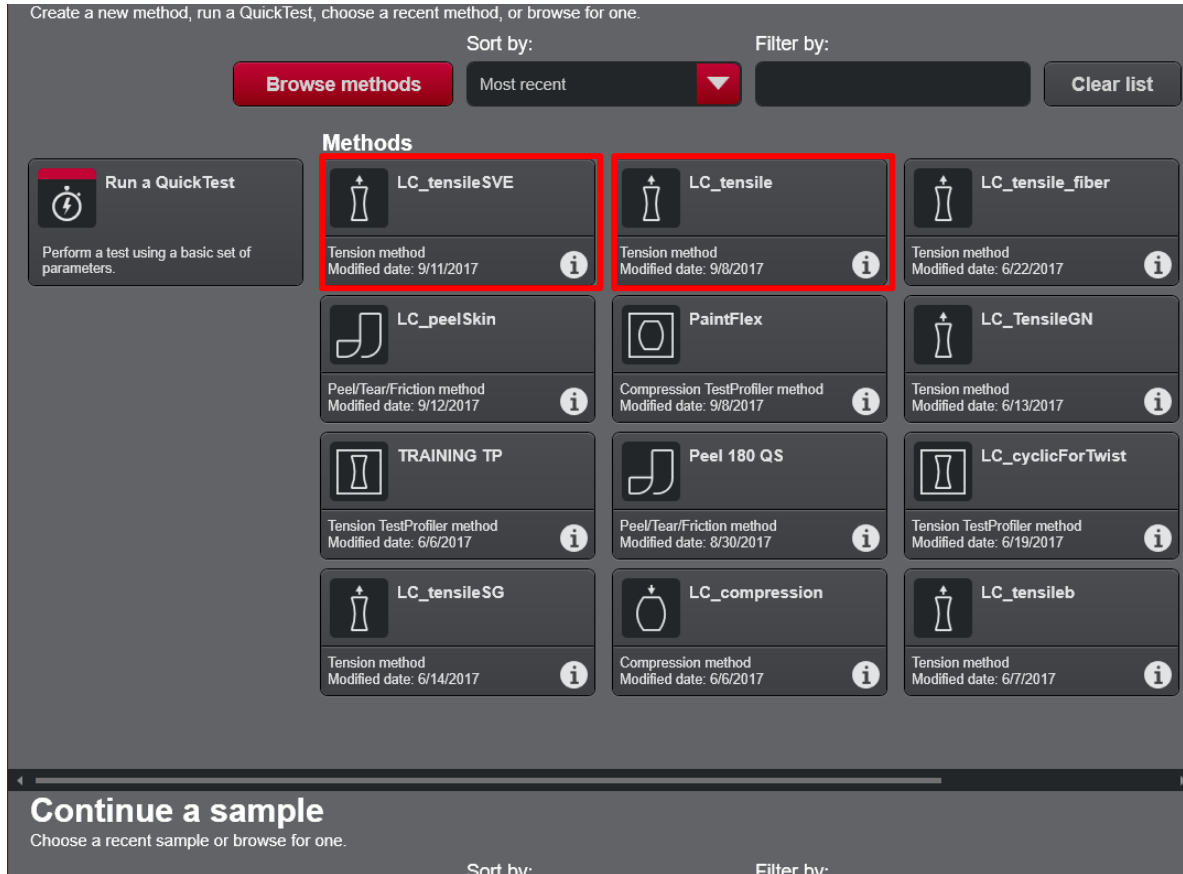
6. Log in with the username **USER** and the password **Morego2010**



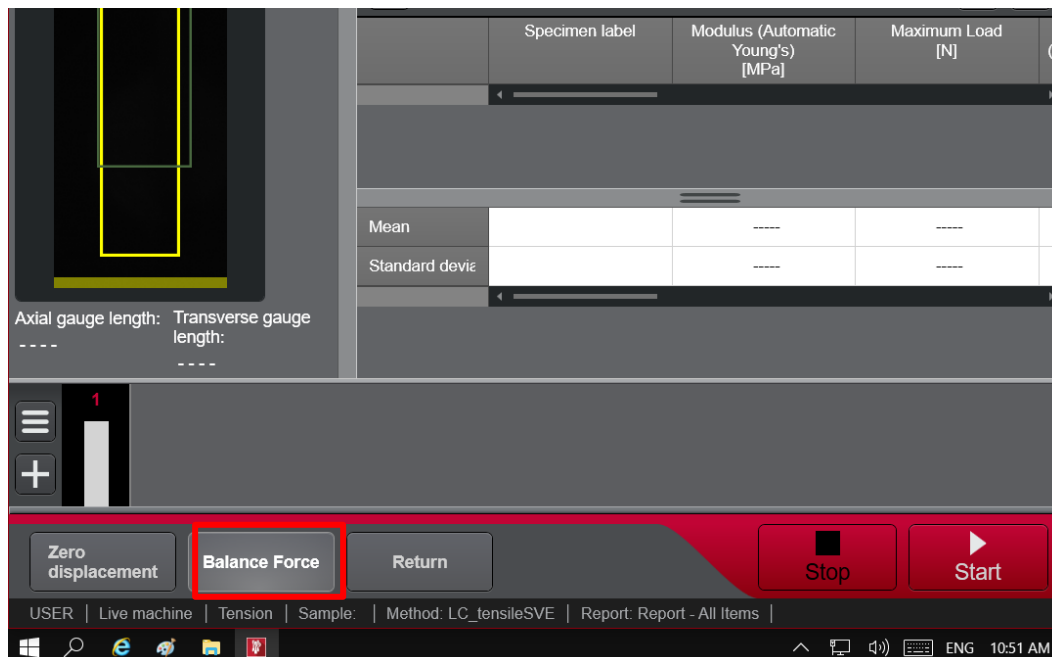
7. Click or tap on the Test icon



8. Select the testing method. For standard tensile tests, it is "LC_tensile." If you are going to use the Video Extensometer SVE2 select "LC_tensileSVE." From this screen, you can also continue testing on an existing file.



9. Balance Force

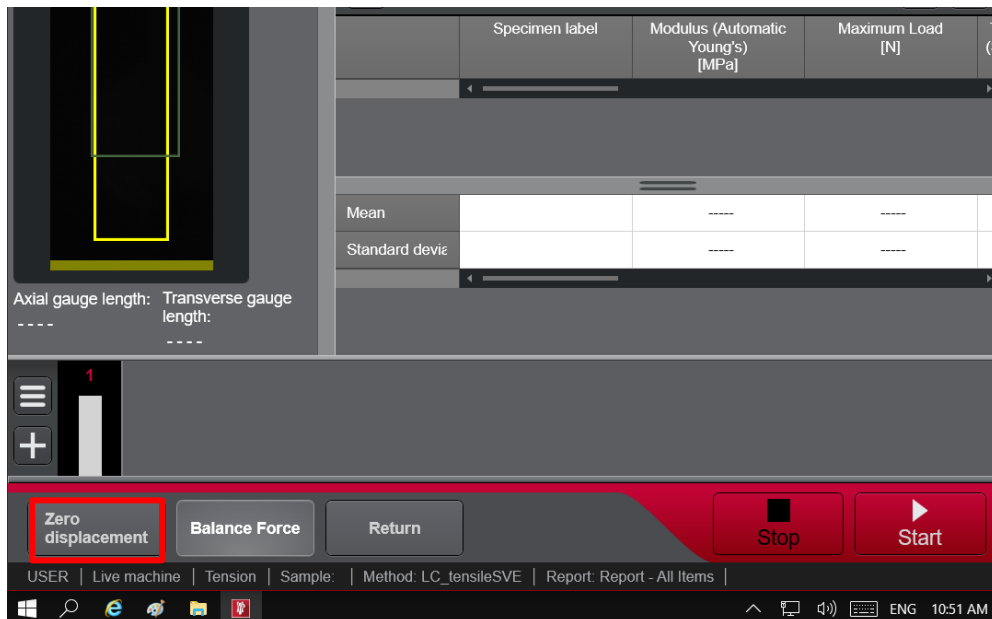


10. Calibrate the initial position:

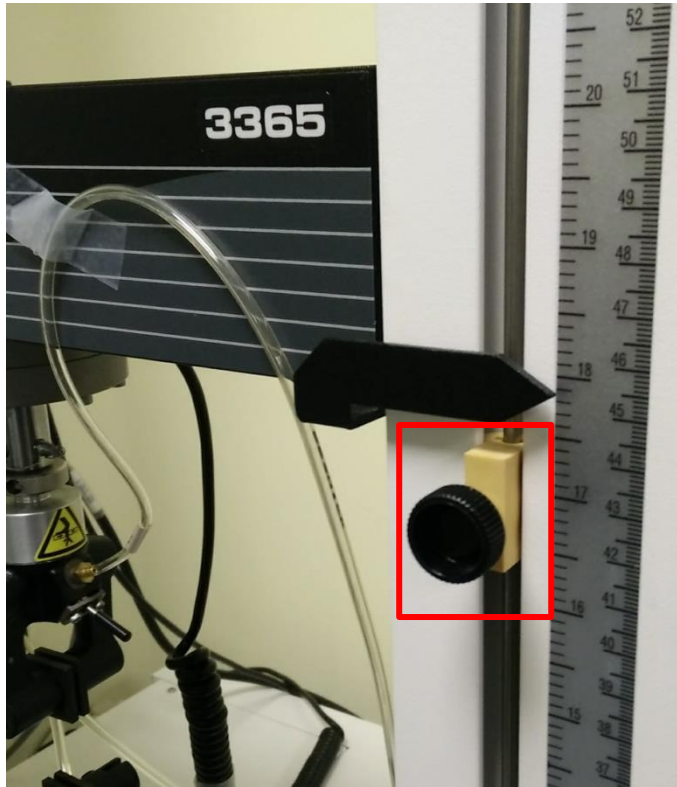
- a. Insert the 35 mm length gauge in the upper clamp and close it by pressing once the CLOSE pedal. Move the clamp with the physical buttons until the bottom of the length gauge is aligned with the bottom clamp.



- b. Click on *Zero Displacement*. The *Displacement* signal should now be 0



- c. If you need to test with a different initial length, move the clamp of the distance needed (e.g. if you need an initial length of 20 mm, move the clamp down of 15 mm)
- d. Reset gauge length again (*Zero displacement*).
- e. Set the stopper close to the safety trigger

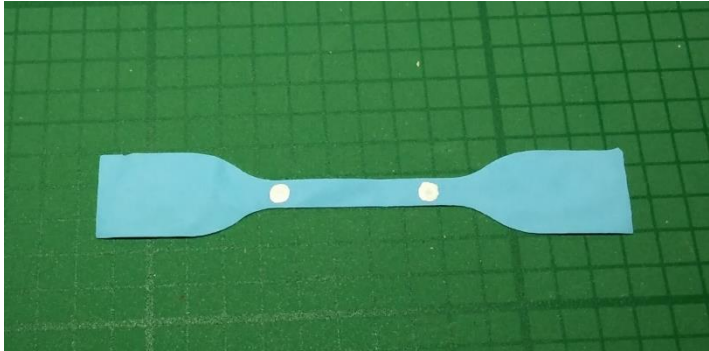


11. Test:

- a. Tension only: standard shape: cut with the hollow die punch cutter and measure the thickness of the sample. Insert the thickness value in the Operator Input window.



- b. Select and input the testing rate. Typical values are 1 mm/min for brittle materials, 10 mm/min for ductile materials, up to 100 mm/min for elastomers.
- c. Only if you are using the SVE: mark sample with 2 dots on the narrow length with the white or black marker



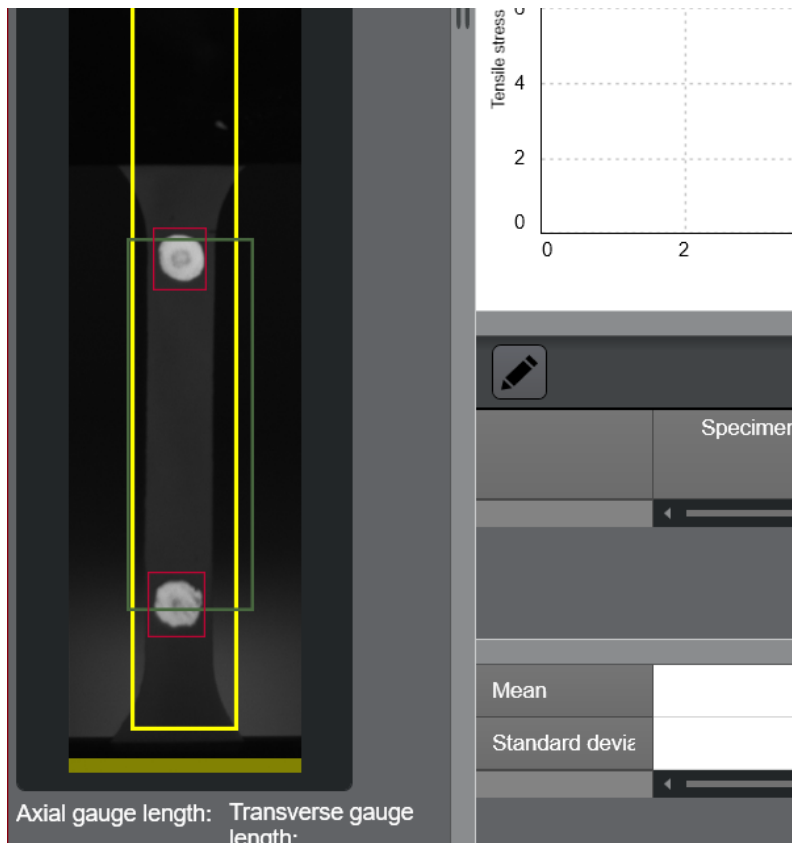
- d. Tension only: mount sample inserting one end on the top clamp and close by pressing once the CLOSE pedal



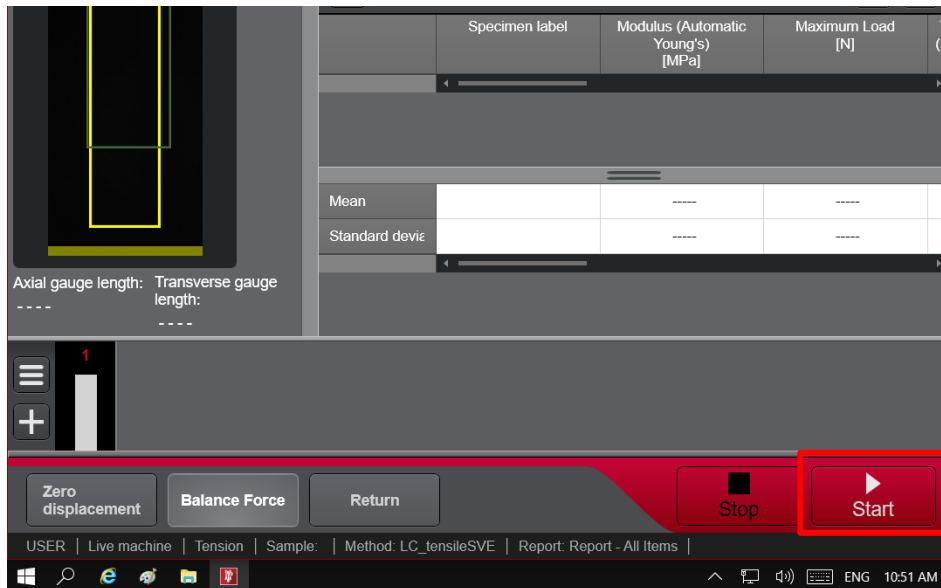
- e. Insert the other end in the bottom clamp and press the pedal again. Be sure the sample is straight and centered



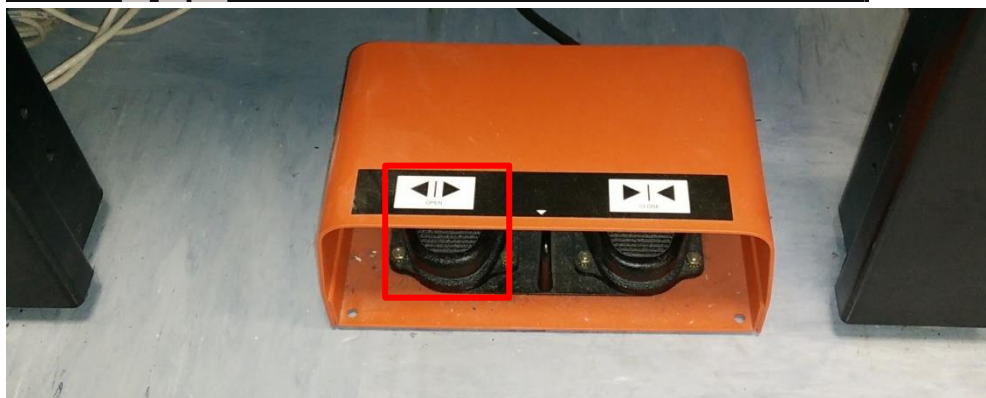
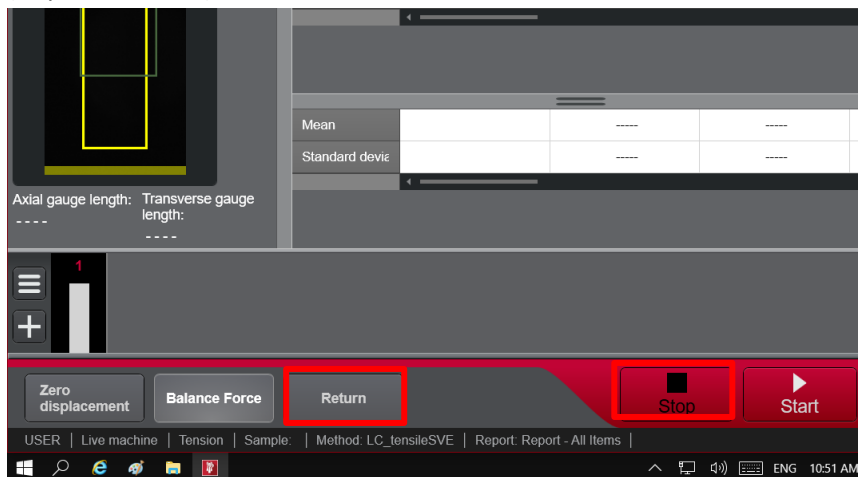
- f. If you are using the SVE, be sure that the sample is visible in the SVE frame and that the dots are properly grabbed by the software (red frame boxes). The detection area, indicated by a green box, can be modified by dragging the finger or mouse pointer over the desired zone.



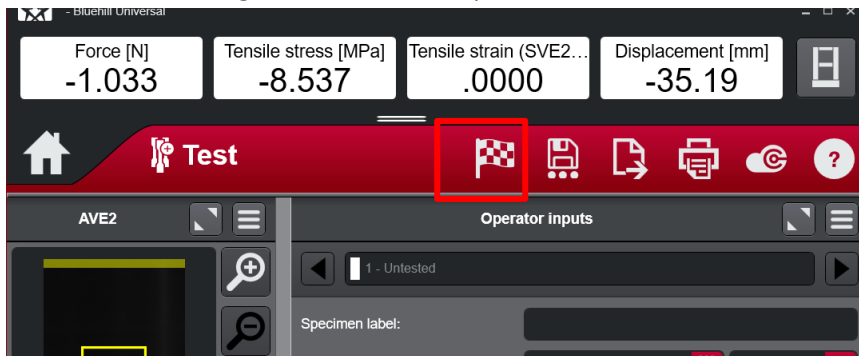
g. Click or tap on the start button



h. The standard method is set to detect sample failure. However, the algorithm does not always successfully detects the break. When the sample breaks and the machine does not stop, click or tap on the *Stop* button. Then remove the sample by pressing the OPEN pedal and click or tap on the *Return* button. The clamp will return to the starting position (*displacement=0*)

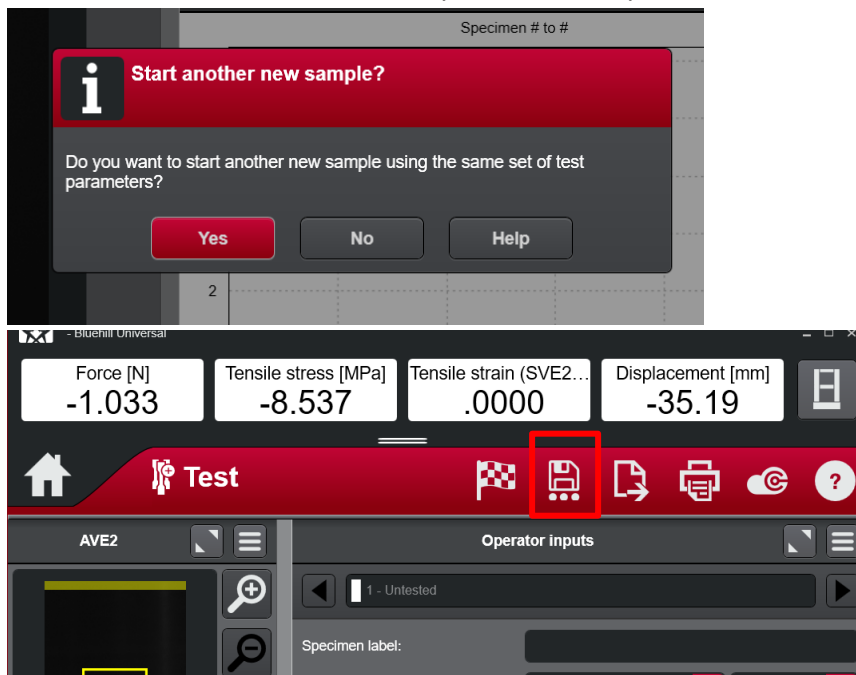


- i. Before mounting the next sample, check whether the load is lower than $|0.001 \text{ N}|$. If not, click on *Balance Force*
 - j. Repeat for all samples
12. At the end of testing session, click or tap on the *Finish* icon

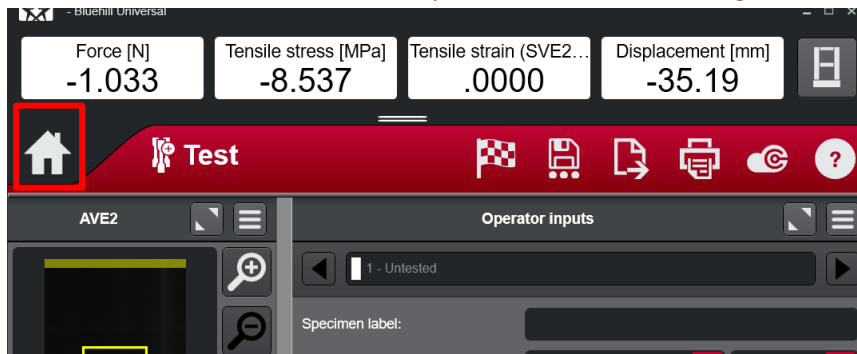


13. A prompt window will ask you to save the file. *Remind to check that the correct path is selected!*

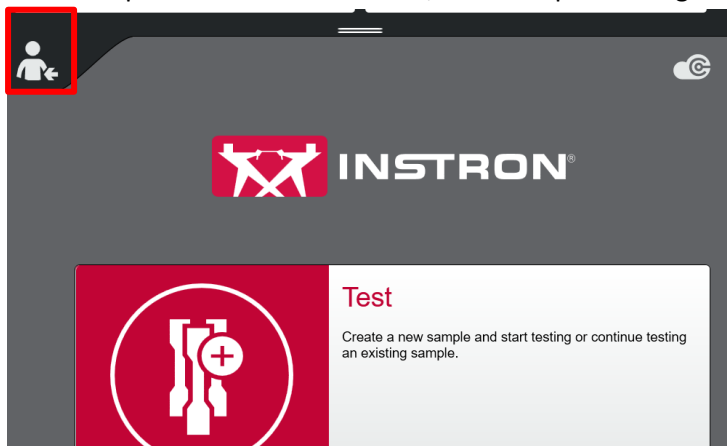
14. A prompt will ask whether you wish to start another set of samples with the same parameter. Click yes or no accordingly. Notice that if you select “yes” the sw will automatically name the new file. To avoid confusion, it is recommended you immediately “save as” the file and name it properly



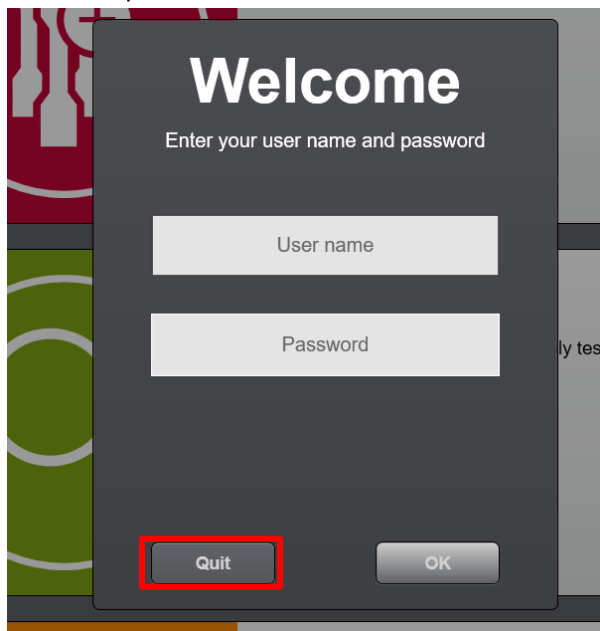
15. At the end of the session, click or tap on the home button to go to the home screen



16. Click or tap on the User Switch icon; this will open the login window



17. Click or tap on the Quit button



18. After 2 minutes, turn off the instrument and close the air pressure handle.
19. Copy the files (report in .doc or .pdf format, results in .csv format) and the raw data folder from the **documents/Instron/Bluehill Universal/Output/** folder into a USB memory stick
20. Turn off the PC