

# Accuracy Troubleshooting

## Question / Suggestion

## Detail

Does Serial number of the machine match the number at the upper left corner of the home screen?

If RefleX's home screen is not showing the correct serial number, than this means that the controller does not have the correct volcomp installed. A new software card with the correct volcomp will have to be obtained. See section 11-6, 11-7.

Is the qual sphere diameter, found in page 2 of the system options, correct?

Enter the value stamped on the qual sphere's shaft into the system. See section 10-9.

Are proper measuring techniques being used to measure the part?

Always approach perpendicularly, allowing at least 1 probe radius of approach vector. If the operator fails to do this, values may be off by either 1 probe radius or diameter, if the system can even solve it.

Is the part secure?

Make sure the part is properly clamped to the granite.

Is the room at 20 degrees Celsius, away from direct sunlight, vents, vibrations, etc.?

The machine must be in an environmentally controlled area to obtain good measurement results.

Clean tip, qualification sphere and part with alcohol.

Dust, dirt, oil, etc. are common causes of measurement error. Clean these items regularly.

Is the qualification result good? +/- 5 microns for diameter, +/- 10 microns form error?

If not, first, use a stylus key verify stylus is tight. If that doesn't help, try a different stylus. Remove any extensions. If that doesn't help, and another probe is available, try replacing to eliminate the probe from the equation. If using a MIP, verify attenuation is set properly.

Use a ring gage to find out if the problem is in 1 axis, or in all 3.

Measuring a ring gage in the 3 different orientations will help diagnosing where the problem lies.

Verify signal quality using the service utilities "Lissajous Plot".

Poor signals increase sub division error. Re-AutoTune if necessary. See section A7-4.

Verify the measurement in question is valid for a accuracy / repeatability test.

For example, a user is getting unacceptable repeatability when measuring only a 10 degree slice of a circle. See section 3-13 for more information.

What size tip is being used?

For less than perfect surface finishes, consider increasing the tip size. See section 3-13, step 4 (towards the bottom)

What type of TTP is being used?

If you are using a TP-ES, consider upgrading to a TP-MIP. See section 3-13, step 6 (towards the bottom).

# RefleX Notes