

Partial Stroke Test using ValveLink™ Software

Supplement to Fisher® FIELDVUE™ DVC6200 SIS Digital Valve Controller Instruction Manual

A partial stroke test allows DVC6200 SIS digital valve controllers to perform a diagnostic test while the instrument is in service and operational. In a safety application, it is important to be able to exercise and test the valve to verify that it will open or close when commanded. If a safety demand arises, the partial stroke test will abort and the valve will move to its commanded position.

The test procedure contained in this Instruction Manual Supplement is to be considered as a guideline only and should be modified to address site-specific requirements. Use this procedure in conjunction with the Safety Manual (D103601X012) and Instruction Manual (D103557X012). In addition, exercise good engineering practices and abide by specific plant safety guidelines for safe operation.

Note

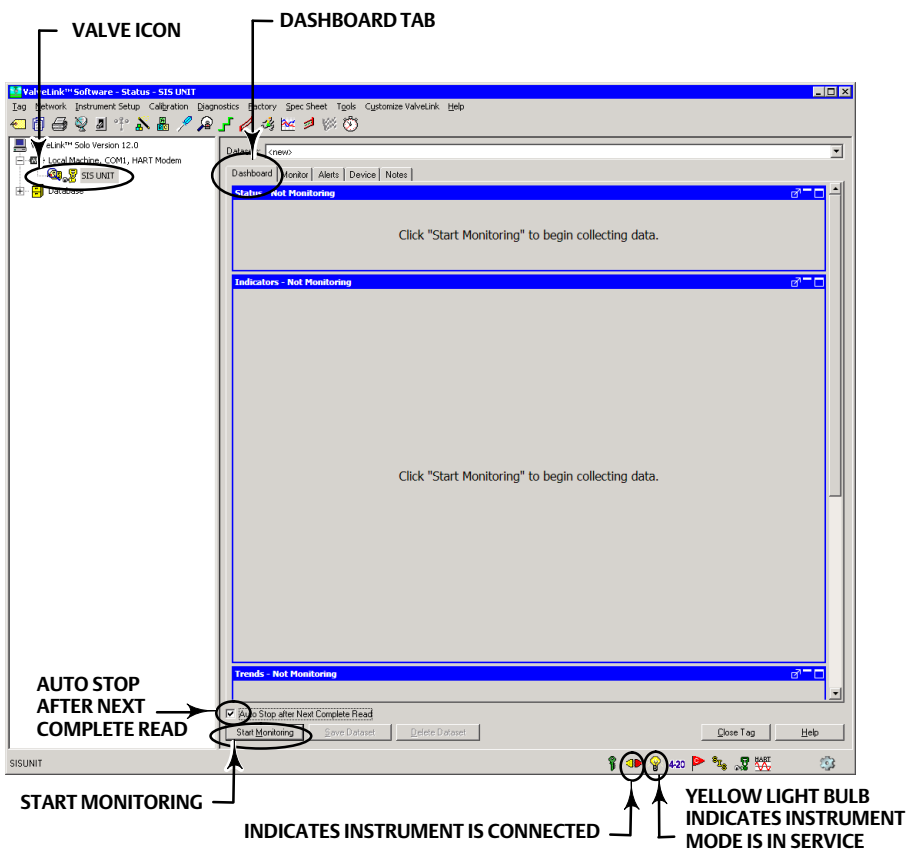
This procedure requires the use of ValveLink Software, version 12.0 or later. This procedure should be done with the digital valve controller's Instrument Mode set to "In Service".



Partial Stroke Test Procedure

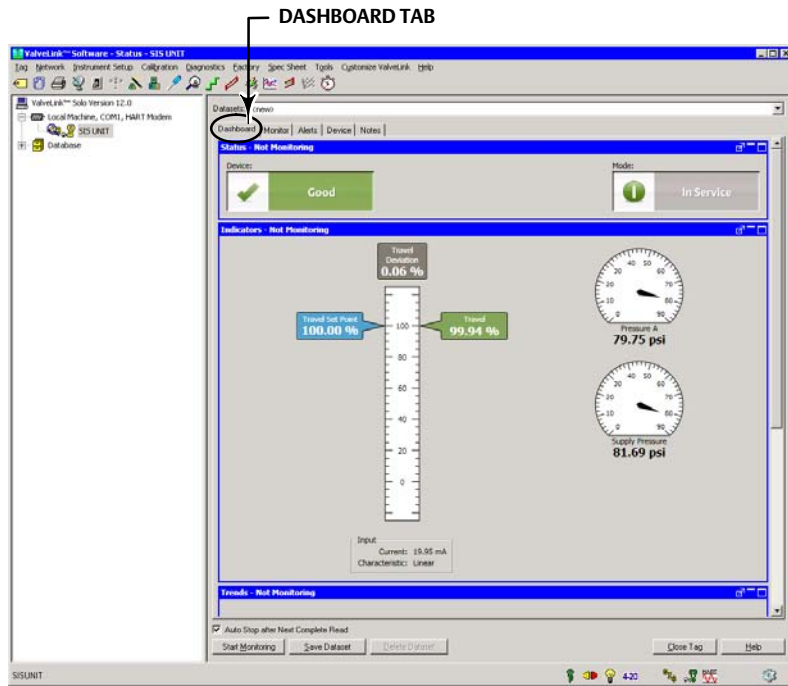
1. Physically inspect the valve and digital valve controller for any loose screws, loose mounting bracket, loose feedback linkage, loose or broken tubing/conduit or the other mechanically loose conditions. Check the air filter regulator to ensure that it is clean and operating properly. Inspect gauges and verify that they are reading correctly.
2. From the ValveLink “Device Connection View”, double-click on the valve icon corresponding to the desired tag (figure 1).
3. When the “Dashboard” screen appears, check the “Auto Stop After Next Complete Read” box. Verify that the instrument is connected and “Instrument Mode” is “In Service” (light bulb at bottom right-hand side is shown yellow). Select the “Start Monitoring” button. When available select “Save Dataset”.

Figure 1. Start Monitoring



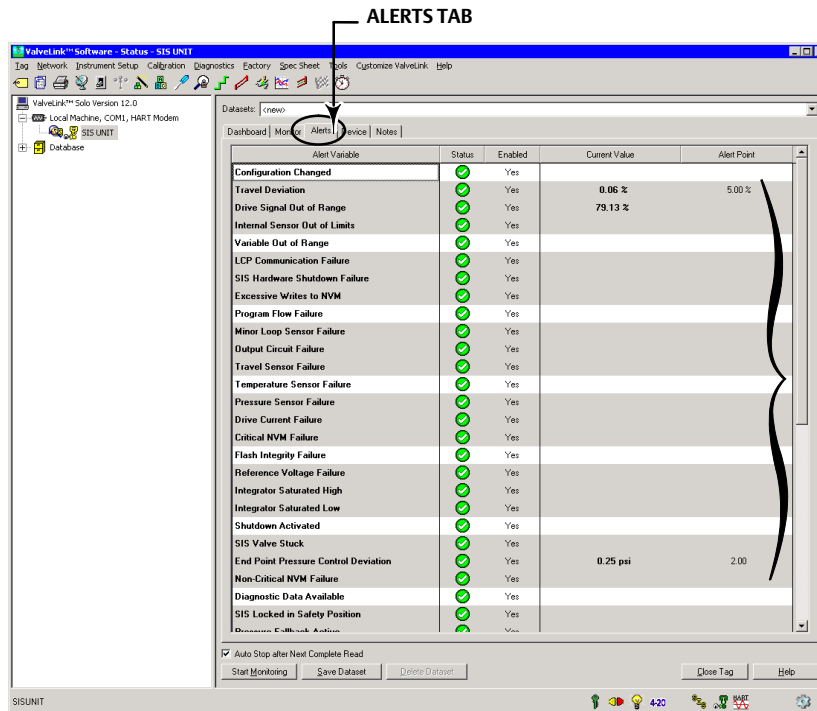
4. On the “Dashboard” tab (figure 2) check the “Status” and “Indicators” to ensure that all readings are OK.

Figure 2. Check Parameters on Dashboard Tab



5. Select the “Alerts” tab (figure 3) and check the status of the alerts.

Figure 3. Alerts Tab

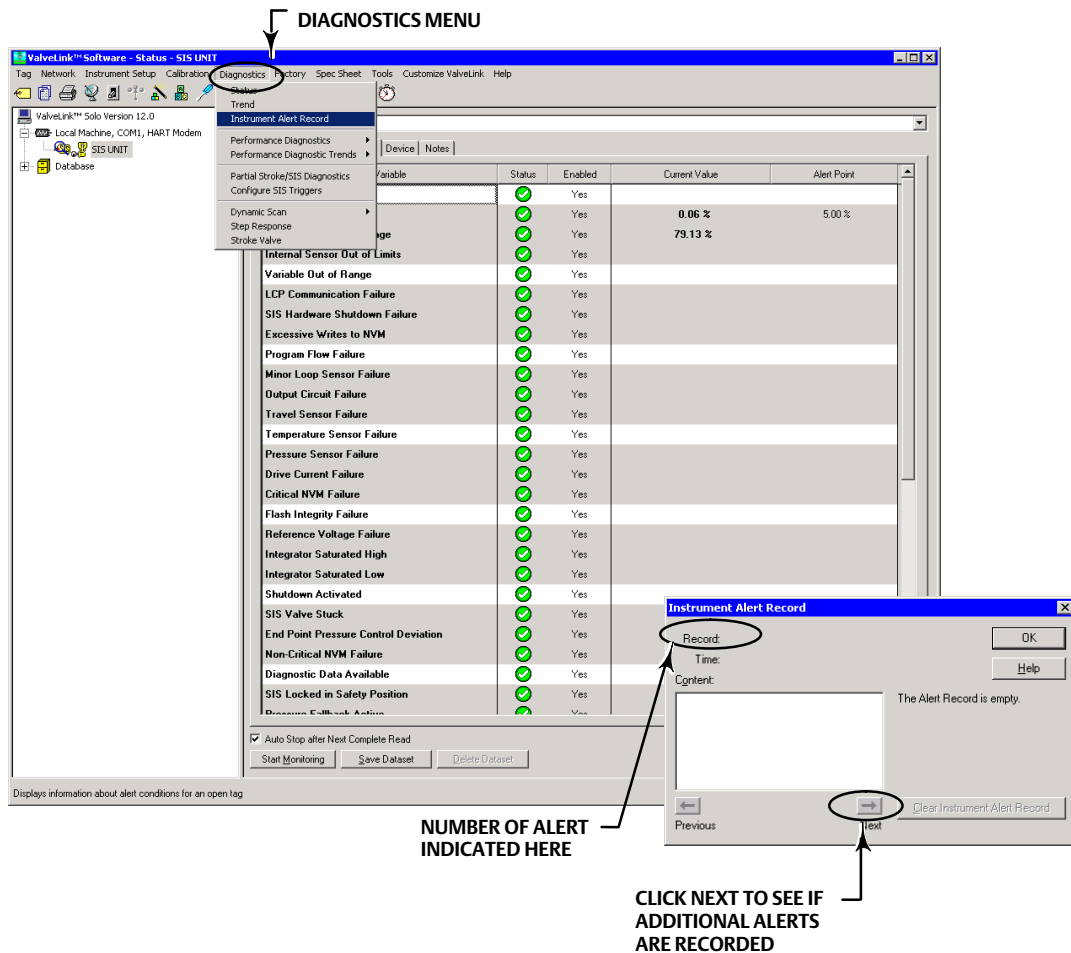


CHECK FOR ANY CURRENT VALUES THAT ARE ABOVE/BEYOND THE ALERT POINTS

- Green checkmark: GREEN LIGHTS INDICATE ALERTS ARE ENABLED BUT NOT ACTIVE.
- Red X: RED LIGHTS INDICATE ALERTS ARE ACTIVE.
- Grayed out: GRAYED OUT STATUS INDICATES ALERT IS NOT ENABLED.

- Select the “Diagnostics” menu (figure 4) and select “Instrument Alert Record”. Note any alerts. Any active alert message should be resolved before proceeding to the partial stroke test. Clear the instrument alert record.

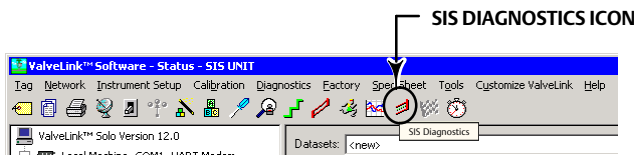
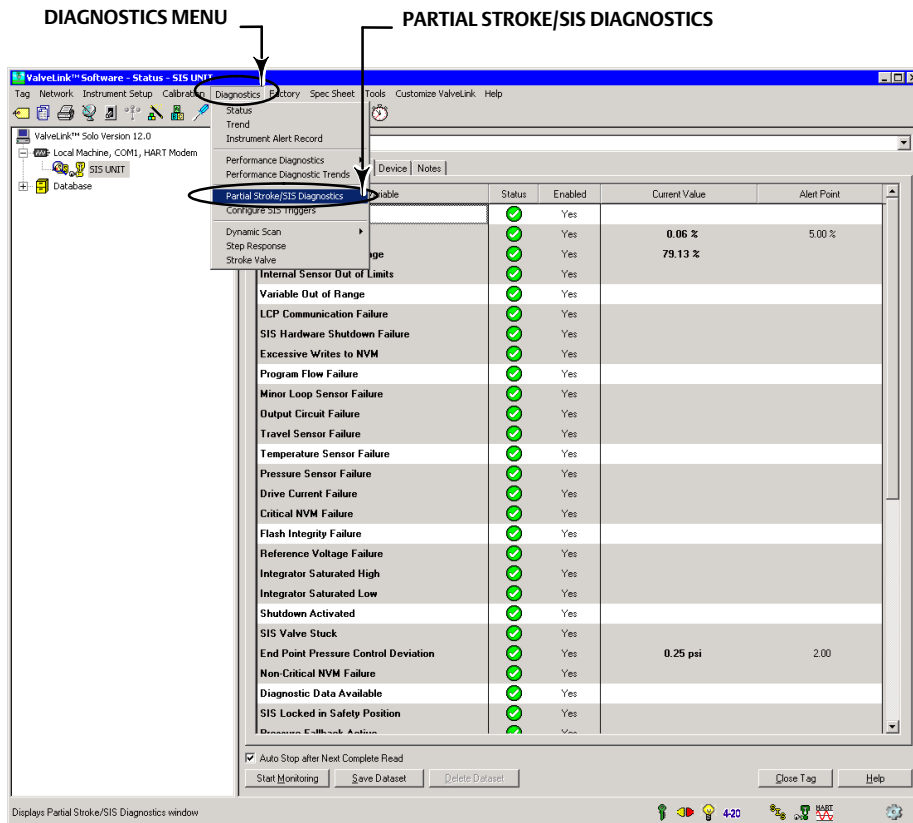
Figure 4. Instrument Alert Record



- Verify that the Instrument Mode is In Service (light bulb at bottom right-hand side is yellow).

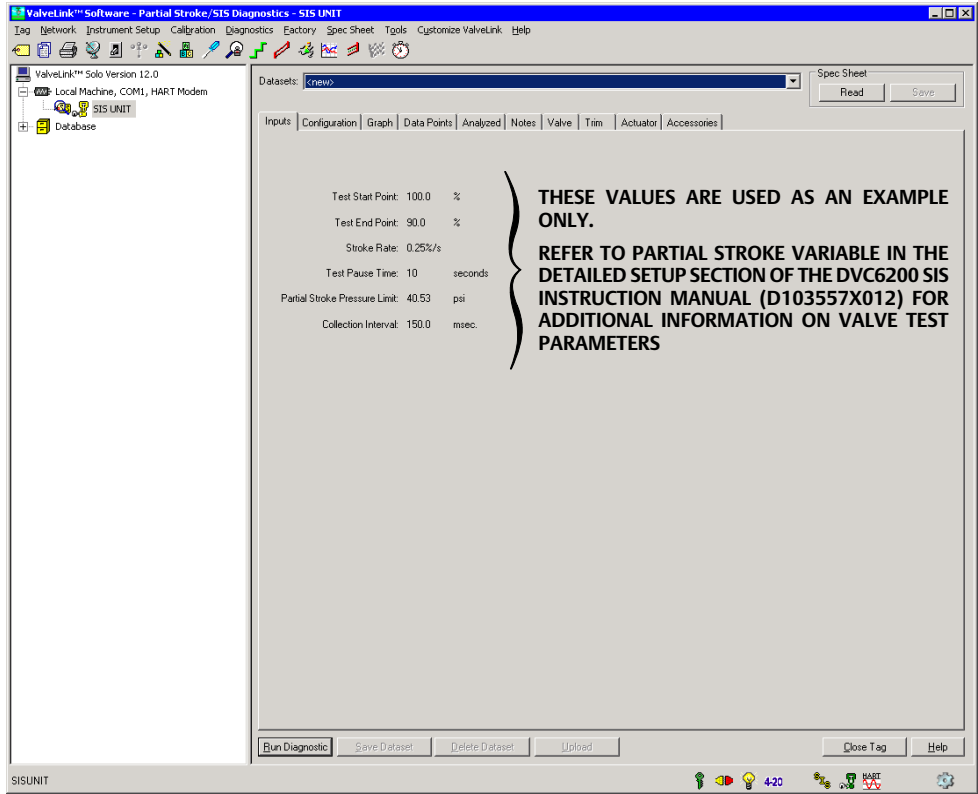
8. Perform a Partial Stroke Test.
 - a. Select “Partial Stroke/SIS Diagnostic” from the “Diagnostics” menu (figure 5), or
 - b. Click on the “SIS Diagnostic” icon on the tool bar.

Figure 5. Partial Stroke Test



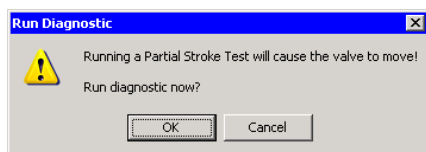
c. Verify that the test parameters are correct (figure 6).

Figure 6. Verify Test Parameters



d. Select “Run Diagnostic”, then “OK” when prompted with the warning screen (figure 7).

Figure 7. Run Diagnostic Warning Screen

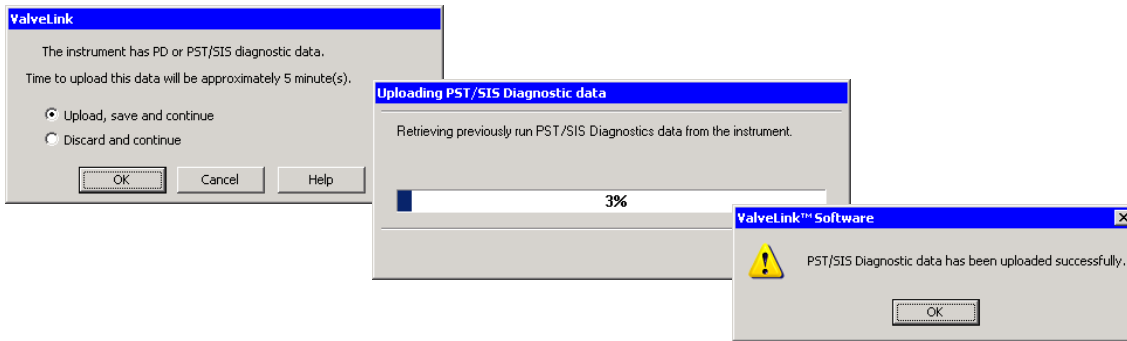


- e. If partial stroke test data is present in the microprocessor memory, you will have a choice to upload or discard the data (figure 8). If “Upload” has been selected, a progress bar will be displayed. Once the upload is complete, select “OK” and the partial stroke test will begin.

Note

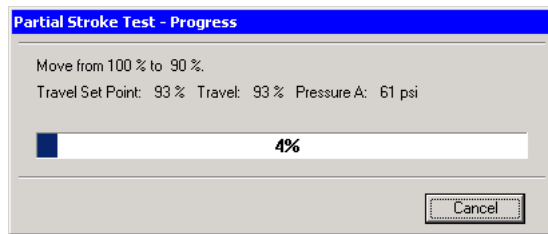
If there is no diagnostic data present, these screens will not appear and the partial stroke test will begin.

Figure 8. Uploading PST/SIS Diagnostic Data



- f. A progress bar will be shown while the partial stroke test is running (figure 9).

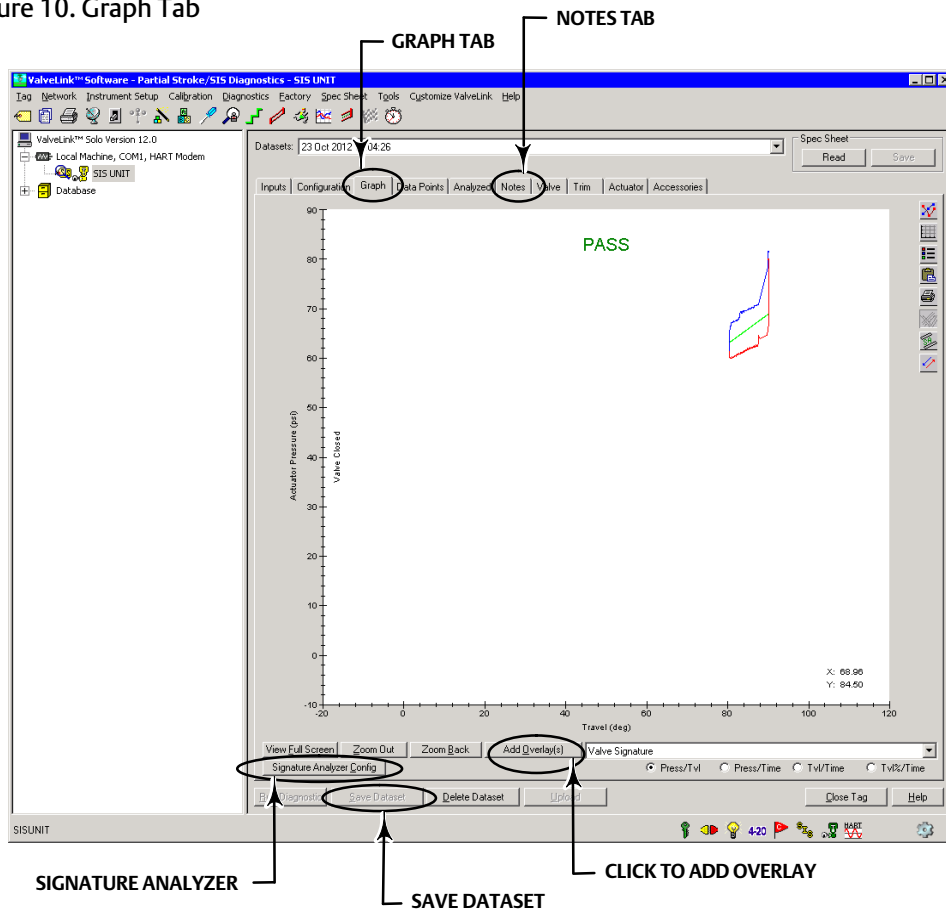
Figure 9. Partial Stroke Test Progress Bar



- 9. Once the test is complete, select the “Notes” tab to type in a test name. Click “Save Dataset” to the save the partial stroke test results.

10. Select the "Graph" tab (figure 10).

Figure 10. Graph Tab

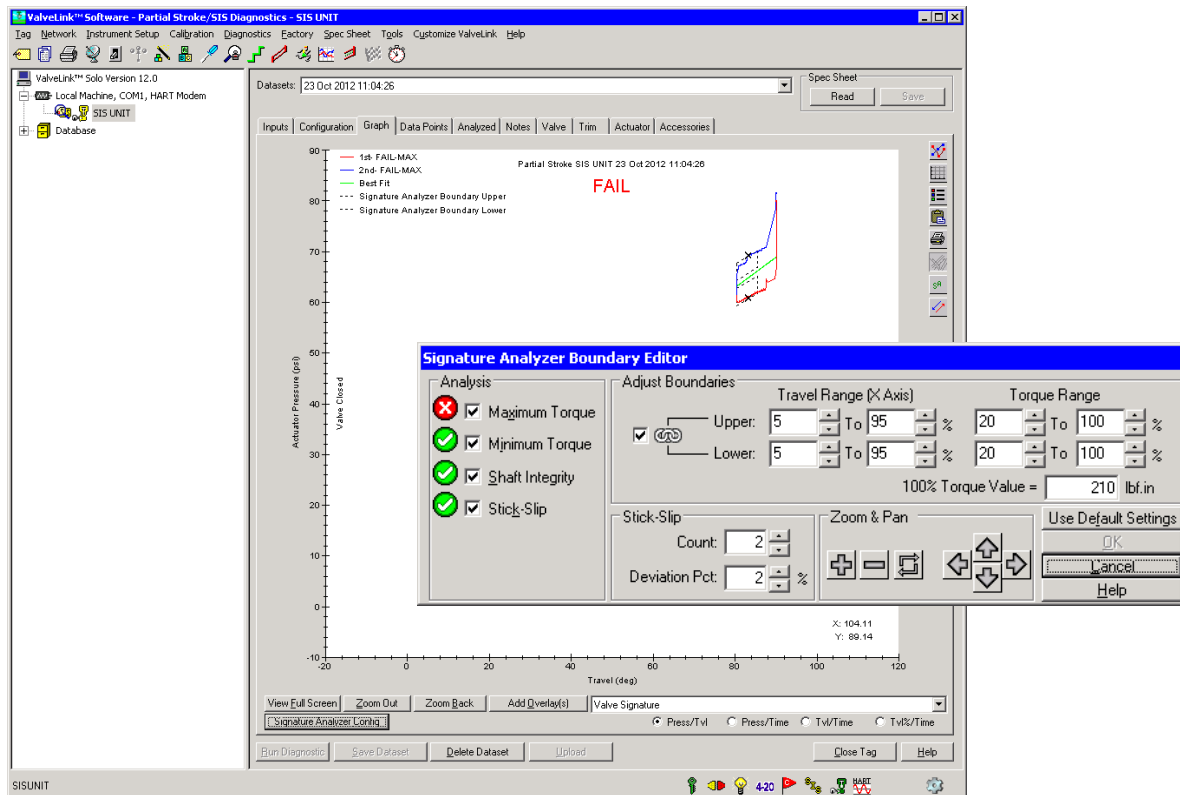


11. Select “Signature Analyzer” (figure 11) to analyze friction of the valve. Signature Analyzer serves as a tool to check on valve performance.

Note

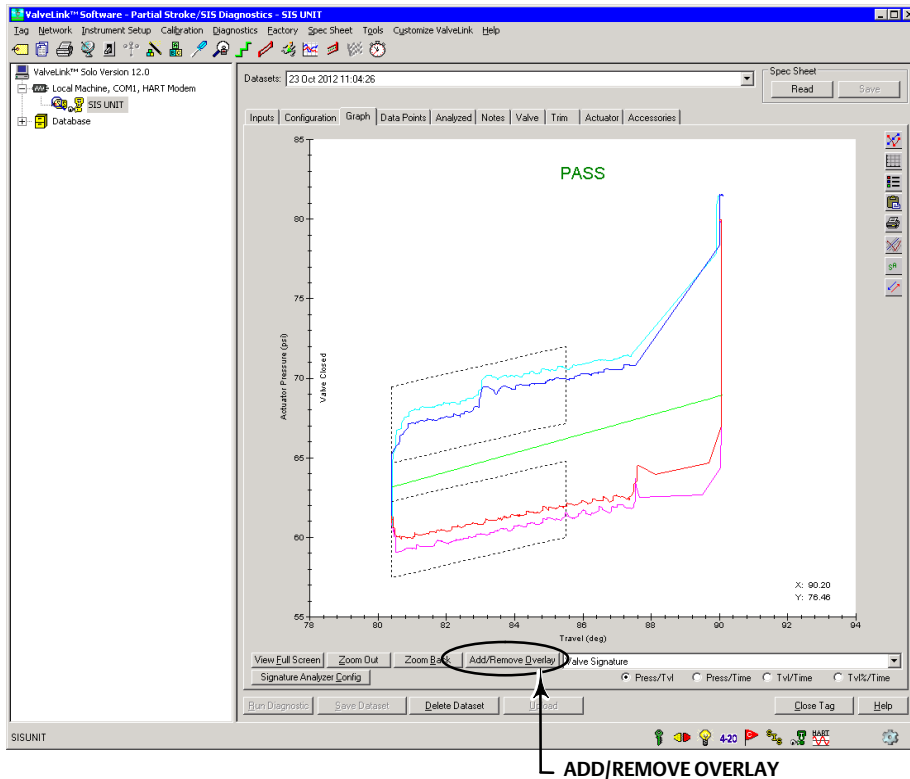
Signature Analyzer is only available with “saved” datasets.

Figure 11. Signature Analyzer



12. To view multiple saved datasets on one graph, select “Add Overlay(s)” (figure 12).
 - a. Overlay the most recent test graph and look for any inconsistencies.
 - b. Overlay the initial (oldest date) test graph and look for any inconsistencies.

Figure 12. Add Overlay



13. Should alarms or alerts be detected during operation, maintenance, or periodic inspection and test, notify the appropriate personnel.
14. After the partial stroke test is completed, navigate to the “Dashboard” screen (figure 2) and select “Start Monitoring” to verify that the status and indicators are in-line with expected values.
15. Click the Dataset Report icon (see figure 13) and save the report to a file.

Figure 13. Dataset Report



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