Partial Stroke Test using ValveLink[™] Mobile Software

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 (<u>D103601X012</u>), Instruction Manual (<u>D103557X012</u>) and 475 Field Communicator <u>User's Manual</u>, available from your Emerson sales office or Local Business Partner, or at <u>Fisher.com</u>. In addition, exercise good engineering practices and abide by specific plant safety guidelines for safe operation.

This document is not intended to be used as a stand-alone document. It *must* be used in conjunction with the following documents:

Safety Manual for FIELDVUE[™] DVC6200 SIS Digital Valve Controller and Position Monitor (<u>D103601X012</u>) Fisher[™] FIELDVUE DVC6200 SIS Instruction Manual (<u>D103557X012</u>)

Failure to use this instruction manual supplement in conjunction with the above referenced manuals could result in personal injury or property damage. If you have any questions regarding these instructions or need assistance in obtaining any of these documents, contact your <u>Emerson sales office</u> or Local Business Partner.

Note

This procedure requires the use of ValveLink Mobile Software and a 475 Field Communicator. This procedure should be performed with the digital valve controller's Instrument Mode set to "In Service".



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Partial Stroke Test Procedure

- 1. Physically inspect the valve and the DVC6200 SIS 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. Connect the 475 Communicator to the DVC6200 SIS digital valve controller. Be sure to carefully read, understand, and follow the contents of the 475 <u>User's Manual</u>, including all safety cautions and warnings.
- 3. Initiate ValveLink Mobile software within the 475 Field Communicator (figure 1).

Figure 1. Field Communicator Main Menu

Field Communicator Main Menu		Ver: 3.9
HART	F	VL
HART	Fieldbus	ValveLink Mobile
-OP®	P	- V
Settings	Listen for PC	ScratchPad

4. In the 475 Handheld Communicator select "HART" communication from the ValveLink Mobile Main Menu (figure 2).

Figure 2. ValveLink Mobile Main Menu

ValveLink Mobile				
Mobile	ValveLink(TM) Mobile Software Version 5.0			
Select the type of device to connect to.				
	HART	F	fieldbus	
	Cancel			

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- D104168X012
- 5. Connect to your device by selecting the "HART Connect" icon (figure 3). Verify the valve is "Connected" and "In Service" by looking at the bottom right hand corner.

Figure 3. ValveLink Mobile HART Menu

ValveLink Mobile		
HART Connect	Setup	Calibration
Status	Diagnostics	x Utilities
025 5075 Stroke Valve		
Done	No	t Connected

Figure 4. ValveLink Mobile HART Main Menu after

valve is connected and placed in service. Diagnostics

6. Once connected to your valve, you will be able to find "Partial Stroke" in the "Diagnostics" menu (figure 4 and 5).

icon is selected. V15 ***** Qo Connect Setup Calibration × ۲ 1 Utilities Status Diagnostics 0 25 Stroke Valve Done In Service

Figure 5. Diagnostics Menu

ValveLink Mobile	
Total Scan	Step Response
PD One Button	PD Traces
Partial Stroke	
Done	In Service

7. After selecting Partial Stroke a notification will appear, warning that running a diagnostic will move the valve (figure 6). Select "Start" (figure 7).





Figure 7. Partial Stoke Test Warning with Start Selected



8. The Partial Stroke Test has begun. The test will begin by "Reading Spec Sheet" (figure 8) and "Reading data" (figure 9).

Figure 8. Partial Stroke Test in Progress – Reading Spec Sheet



Figure 9. Partial Stroke Test in Progress - Reading data

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9. You will begin to see the results showing on the screen (figure 10). Completed results example shown in figure 11. Select Done.

Figure 10. Partial Stroke Test in Progress – Reading data



Options Completed Partial Stroke Diagnostic 500 400 Pressure (kPa) 300 200 100 0 -20 0 20 40 60 80 100 120 Tvl (%)

Start

Figure 11. Partial Stroke Test Completed

Done

The information will save under the tag name in ValveLink Mobile. These results may be exported to ValveLink software on a PC at a later time if necessary.

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