Fisher[™] FIELDVUE[™] DVC6200f Digital Valve Controller PST Calibration and Testing using ValveLink[™] Software

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 DVC6200 Series quick start guide (D103556X012) and the DVC6200f instruction manual (D103412X012). In addition, exercise good engineering practices and abide by specific plant safety guidelines for safe operation.

For additional information on Partial Stroke Testing and associated parameters refer to Partial Stroke Test Information on page 19.

PST Calibration

This document covers the basic PST calibration, as well as details for making adjustments to the normal end, using Advanced Settings (see figure 11).

Figure 1. Calibration > Partial Stroke





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Figure 2. Set Transducer Block to Manual

ValveLink S	oftware
?	The Transducer Block Actual Mode must be MANUAL to complete this task. To change the Block Mode, from main menu select Instrument Setup Mode Block menu. Do you wish to change the Block Mode now?
	<u>Y</u> es <u>N</u> o

Change Transducer Mode				
STOP	Set to MANUAL			
Warning!	Advanced			
Valve may move.	Cancel			
Valve will no longer follow loop setpoint.	<u>H</u> elp			

r:	Fatasta	Desine	A	Daman	
FIQUEE 3.	. Enter the	Desire	Outaoina	Kamp	кате

Partial Stroke Calibration	— Supports separate ramp
	rates for outing and incoming strokes
Step 1 Please enter the desired OUTGOING ramp rate:	
© 1.00 %/s	
© 0.50 %/s	
0.25 %/s	
© 0.12 %/s	
© 0.06 %/s	
< <u>B</u> ack <u>N</u> ext > Cancel Help	

Figure 4. Enter the Desired Incoming Ramp Rate

Partial Stroke Calibration	
Step 2 Please enter the desired INCOMING ramp rate:	Additional ramp rates for the incoming stroke
◎ 4.00 %/s	
© 2.00 %/s	
© 1.00 %/s	
© 0.50 %/s	
© 0.12 %/s	
© 0.06 %/s	
< <u>B</u> ack <u>N</u> ext > Cancel Help	

Figure 5. Enter the Minimum Travel Movement

Partial Stroke	Calibration	×
Step 3	Please enter the Minimum Travel Movement:	
	15 %	
	< <u>B</u> ack Next > Cancel H	elp

Figure 6. Partial Stroke Calibration progress

Partial Stroke Calibration Progress		
Moving to Partial Stroke Start Point		
Travel: 100.02 %		
33%		
	Cancel	

Partial Stroke Calibration Progress	
Running Calibration Test. Outgoing Ramp Rate: 0.25 %/s	
Travel: 97.36 %	
60%	
	Cancel

Instruction Manual Supplement

Figure 7. Partial Stroke Calibration progress



Figure 8. Step or Ramp to Normal Position on Failed PST

Partia	l Stroke Cali	bration	x
	Step 4	On a failed PST, step back or ramp back to the normal position?	
		● Step○ Ramp	
		< <u>B</u> ack Next > Cancel H	lelp

Figure 9. Partial Stroke Calibration Progress



Figure 10. Calibration Procedure Complete

ValveLink Software	
The following values were written during PST Calibration: Outgoing Ramp Rate: 0.25 %/s Incoming Ramp Rate: 0.25 %/s Travel Low End: 4.00 % Travel High End: 96.05 % Additional Partial Stroke Test Parameters and Acceptance Criteria have been written to the device.	List of parameter values being downloaded to the device
ОК	
ValveLink Software	
The calibration procedure is completed.	
ОК	

If you need to make adjustments to the normal end default settings, select Advanced Settings, as shown in figure 11, and make the necessary adjustments.

Partial Stroke Calibration	
Calibration procedures may result in a sudden change in the valve position, and loss of process control. DO NOT continue until the instrument and the associated valve are isolated from the process. Image: Calibration procedures may result in a sudden change in the valve position, and loss of process control. DO NOT continue until the instrument and the associated valve are isolated from the process. Image: Calibration procedures may result in a sudden change in the valve position, and loss of process control. Image: Calibration procedures may result in a sudden change in the valve position, and loss of process control. Image: Calibration procedures may result in a sudden change in the valve position, and loss of process control. Image: Calibration procedures may result in a sudden change in the valve position, and loss of process control. Image: Calibration procedures may result in a sudden change in the valve position, and loss of process control. Image: Calibration procedures may result in a sudden change in the valve position, and loss of process control. Image: Calibration procedure may result in a sudden change in the valve position, and loss of process control. Image: Calibration procedure may result in the instrument and the associated valve are isolated from the process. Image: Calibration position	Select to define the normal end

Figure 11. Select Advanced Settings to Make Adjustments to the Normal End

Figure 12. Set Travel High End

Partial Stroke Calibration	×	Defines the
Step 4 Travel High End		end of travel
< <u>B</u> ack <u>N</u> ext > Canc	el Help	

Figure 13. Enter Minimum Travel Movement

Partial Stroke Calil	bration	x
Step 3	Please enter the Minimum Travel Movement:	
	< <u>B</u> ack <u>N</u> ext > Cancel He	lp

If Minimum Travel Movement + Set Point Overdrive is more than Maximum Allowable Travel then the below message is presented and you are directed to the next screen as shown in figure 14



Figure 14. Review Inputs

Partial Stroke Calibration	
Step 3 Please enter the Minimum Travel Movement: 50 % Please enter the PST Overdrive Amount: 10 % Please enter the Maximum Allowable Travel: 30 %	Minimum Travel Movement + PST Overdrive Amount is greater than the Maximum Allowable Travel
< <u>B</u> ack <u>N</u> ext > Cancel Help	

Figure 15. Enter New Maximum Allowable Travel

Partial Stroke Calibration	
Step 3 Please enter the Minimum Travel Movement: 50 % Please enter the PST Overdrive Amount: 10 % Please enter the Maximum Allowable Travel: 70 % Z	Enter a value greater than Minimum Travel Movement + PST Overdrive Amount

Figure 16. Partial Stroke Calibration Progress

P	artial Stroke Calibration Progress
-	Running Calibration Test. Outgoing Ramp Rate: 0.25 %/s
	Travel: 41.41 %
	60%
-	
	Cancel

Configuration

After successfully calibrating the valve for PST go to the Detailed Setup FST/ PST tab and verify that the values for the parameters in the Valve Stroke Test group box are correct. Then go to the Partial Stroke group box and enable any of the behaviors required for the PST.

Figure 17. Verify FST/PST Values

ValveLink Software - Detailed	Setup - 0051004602FISHERD\	VC0902114421687
<u>Iag</u> <u>N</u> etwork Instrument Setu	up Cali <u>b</u> ration <u>D</u> iagnostics	s <u>S</u> pec Sheet T <u>o</u> ols C <u>u</u> stomize ValveLink <u>H</u> elp
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ValveLink Solo Version 13	Dataset: <new></new>	
. NI Card	Page Group: Transducer Block	
Database		
-	Proximity Alerts ? « Initial Setup Tuning	conting Alerts ?
	Parameter	
	Valve Stroke Test (FST/F	PST)
	Valve Stroke Test:	Partial Stroke Test
	Test Start Point:	Valve Open
	Travel High End:	96.07
	Travel Low End:	4.00
	Test Pause Time:	43.68
	High Friction Breakout Press:	1.46
	Low Friction Breakout Press:	2.76
	Action on Failed Test:	Step Back
	Full Stroke	
	Ramp Rate:	2.00
	Wait Time:	30.00
	Breakout Timeout:	43.68
	Partial Stroke	
	Maximum Allowable Travel:	30.00
	Minimum Travel Movement:	10.00
	Set Point Overdrive:	10.00
	Freeze Analog Feedback:	Enable
	Freeze Discrete Feedback:	F Enable
	Minimum PST Pause Time:	Enable
	Randomized PST:	Enable
	Randomization:	0.00
	Outgoing Ramp Rate:	0.25
	Incoming Ramp Rate:	0.25
	Return Lead:	0.73
	Breakout Timeout:	21.84
	Outgoing Pressure Threshold:	0.99

Once the PST has been setup and calibrated go to the VST Abnormal Criteria group box and select the criteria to be used to evaluate PST after they are run. Then, select the criteria to be used to abort a PST immediately on initiation, and the criteria to be used to prohibit a PST before initiation.

Figure 18. Select VST and PST Criteria

V ValveLink Software - Detaile	d Setup - 0051004602FISHERDVC090211442168	7
<u>T</u> ag <u>N</u> etwork <u>I</u> nstrument S	etup Cali <u>b</u> ration <u>D</u> iagnostics <u>S</u> pec Sheet	i <u>o</u> ols C <u>u</u> stomize ValveLink <u>H</u> elp
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ValveLink Solo Version 13	Dataset: https://www.englistensets.com	
□	Page Group: Transducer Block	
		s ?
	Parameter Instrument	
	Randomized PST: Enable	
	Randomization: 0.00	
	Outgoing Ramp Rate: 0.25	
	Incoming Ramp Rate: 0.25	
	Return Lead: 0.73	
	Breakout Timeout: 21.84	
	Outgoing Pressure Threshold: 0.99	
	Incoming Pressure Threshold: 2.67	
	VST Abnormal Criteria] /
	Breakout Time: 🔽 Enable	
	Incoming Pressure Threshold: 👿 Enable	
	High Friction Breakout Press: 🔽 Enable	
	Low Friction Breakout Press: 🔲 Enable	
	VST Abort Criteria	
	Breakout Time: 🔽 Enable	
	Outgoing Pressure Threshold: 🔽 Enable	
	Incoming Pressure Threshold: 🔲 Enable	
	High Friction Breakout Press: 👿 Enable	
	PST Prohibited	
	Check Alert: 🔽 Enable	
	Drive Current: 🔽 Enable	
	Drive Signal: 🔽 Enable	
	Processor Impaired: 🔽 Enable	
	Travel Sensor: 🔽 Enable	
	Output Pressure Sensor: 🔽 Enable	
	Supply Pressure Sensor: 🔽 Enable	
	Temperature Sensor: 🔽 Enable	
	Supply Pressure: Enable	
	Temperature Limit: 🔽 Enable	
	Travel Deviation: 🔽 Enable	
	Pressure Fallback Active: IV Enable	
	PS1 Abnormal: IV Enable	

Categorize the stroke alerts from the Valve Stroke Alerts tab into one of the Field Diagnostic Alert categories and suppress them if publishing on the segment is not desired.

Figure 19. Set Valve Stroke Alerts



Initiating a PST Diagnostic

If an Auto PST is desired then go to the Auto PST tab and set up the PST schedule. The instrument will present a message when the next PST becomes due. If a scheduled PST is not initiated then a PST overdue alert is generated.

Figure 20. Setting Auto PST



To run a manual PST select the Partial Stroke Test icon as shown in figure 21.

Figure 21. Initiating a Manual PST

V ValveLink Software - Partial S	troke Test/Demand and Reset	Data - 0051004602FISHE	RDVC0902114421687			
Tag Network Instrument Se	tup Cali <u>b</u> ration <u>D</u> iagnostics	Spec Sheet Tools C	L <u>u</u> stomize ValveLink <u>H</u> elp			
🕣 🚺 🔮 🧾 🕆 ,	י ד 🖉 🖉 🖁 🔇		Ø 🕅			
ValveLink Solo Version 13	Datasets: <new></new>				•	Spec Sheet
NI Card						Read Save
Database	Inputs Configuration Graph	Data Points Analyzed N	lotes Valve Trim Actuator	Reference		
	T . C . D	100.0 *				
	Test Start Point:	100.0 %				
	Test End Point:	90.0 %				
	Outgoing Ramp Rate:	0.25%/sec				
	Incoming Ramp Rate:	0.25%/sec				
	Test Pause Time:	44 seconds				
	Partial Stroke Pressure Limit:	14.31 psi				
	Collection Interval:	100.0 msec.				
	Max Allowable Travel:	30.0 %				
4	Run Diagnostic Save Dataset	Delete Dataset	pload Mark <u>G</u> olden			<u>Close Tag</u> <u>H</u> elp
0051004602FISHERDVC090211442	21687				()	рет 🧝 🦉 🤹

Figure 22. Upload or Delete Saved Partial Stroke Diagnostics

These Partial Stroke diagnostics ar Select a diagnostic to upload or	e currently in the instrument. delete from the list below.
14 Sep 2016 15:56:26	Not In Database
14 Sep 2016 16:03:59	Not In Database
19 Aug 2016 14:54:41	Not In Database
13 Sep 2016 11:02:25	Not In Database
15 Sep 2016 11:04:23	Not In Database
22 Sep 2016 13:14:29	Not In Database
22 Sep 2016 14:35:04	
14 Sep 2016 07:53:40	Not In Database
14 Sep 2016 12:23:33	Not In Database
14 Sep 2016 12:32:58	Not In Database
14 Sep 2016 12:24:34 Trigger	Not In Database
14 Sep 2016 15: 19:07 Trigger	Not In Database
14 Sep 2016 15:17:34 Trigger	Not In Database

Before the manual PST initiates, you are given the opportunity to upload and save the instrument diagnostic data to ValveLink software. Select the datasets that are Not In Database and upload. Deletion of the data from the instrument is not necessary as new data will overwrite the oldest dataset. Datasets that are not uploaded to ValveLink software will not be accessible in the instrument once they are overwritten by new data

Instruction Manual Supplement

Figure 23. Partial Stroke Test Progress

Partial Stroke Test - Progress	
Reading device configuration.	Outgoing Stroke
Moving to 80.00 %.	
4%	
Cancel	
Partial Stroke Test - Progress	
Reading device configuration.	Incoming Stroke
24%	
Cancel	

Figure 24. PST Analyzed Data

Iag Network Instrument	Setup Cali <u>b</u> ration <u>D</u> iagnostics <u>S</u> pec Sheet T <u>o</u> ols C <u>u</u> stomize ValveLink <u>H</u> elp	
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🗄 🚽 🚍 Database	Inputs Configuration Graph Data Points Analyzed Notes Valve Inm Actuator Reference	1
	Zero Ranged Travel at: -3.48 %	
	nuin vangeo intavenat: 100.78 % Averance Dopamic Emr. 0.76 %	
	Maximum Dynamic Error: 1.13 %	
	Minimum Dynamic Error: 0.30 %	
	Dynamic Lineartly (Ind): 0.15 %	
	Average lorque: 68 lbf.in Musieur Tanguer 72 lbf.in	
	Minimum Torque: 60 lbf in	
	Spring Rate: 228.13 bf/in Parale Cat. 759.2407 crit	
	benut Set. 7.56-54.37 psi	
	DST Posult	
	F31 Result	
	PST/Demand/Reset initiated by: Command	
	PST/Demand/Reset status: Success	
	Task type: Executed by PS1/Demand/Heset view	
	Max Travel Reached: 10.19 %	
	Time to Achieve Max Travel: 39:54 sec	
	breakout Pressure: 30.36 psi Breakout Pressure: 14.50 eec	
	Test Completion Time: 64.82 sec	
1		
	Run Diagnostin Save Dataset Delete Dataset Unload Mark Solden	Tag Help
۰ اس ۲۰	Bun Diagnostic Save Dataset Delete Dataset Upload Mark Golden Close	Tag <u>H</u> elp
	PST/Demand/Reset status PST/Demand/Reset status Task Type: Executed by PST/Demand/Reset New Max Travel Reached: 10.19 % Time to Achieve Max Travel: 39.54 sec Beakout Presure: 30.36 psi Beakout Time: 14.59 sec Test Completion Time: 64.82 sec	









A PST Diagnostic can be run with Minimum PST Pause Time disabled, as shown in the figure below. When Minimum PST Pause Time is disabled the pause time will be in effect when the valve reaches the desired test point, resulting in a slower PST.

Figure 27. Disable Minimum PST Pause Time in FST/PST Partial Stroke

g Network Instrument So	etup Cali <u>b</u> ration Diagnostics	Spec Sheet Tgols Cystomize ValveLink Help			
ValveLink Solo Version 13	Dataset: <new></new>				
	Page Group: Transduce Block				
🗐 Database	Proximity Alerts ?	Config Alerts ? Kensor Alerts Performance Alerts ? Travel History Alerts ?	Pressure/Tempera		
	« Initial Setup Tuning	?	MAI Channels ?		
	Parameter	Instrument	Tran		
	Valve Stroke Test (FST/P	ST)			
	Valve Stroke Test:	Partial Stroke Test			
	Test Start Point:	Valve Open			
	Travel High End:	96.07	%		
	Travel Low End:	4.00	× 🔺		
	Test Pause Time:	43.68	sec 🗲		
	High Friction Breakout Press:	1.46	bar 💻 📥		
	Low Friction Breakout Press:	2.76	bar 🗲 🔿		
	Action on Failed Test:	Step Back			
	Full Stroke		/		
	Ramp Rate:	2.00	%/sec 🗲		
	Wait Time:	30.00	sec 🗲		
	Breakout Timeout:	43.68	sec		
	Partial Stroke		\langle		
	Maximum Allowable Travel:	30.00	× 🔺		
	Minimum Travel Movement:	10.00	× ~		
	Set Point Overdrive:	10.00	× ~ A		
	Freeze Analog Feedback:	Enable			
	Freeze Discrete Feedback:	Enable Minimum PST Pause			
	Minimum PST Pause Time:	Time disabled			
	Randomized PST:	Enable			
	Randomization:	0.00	× E7		
	Outgoing Ramp Rate:	0.25	%/sec (=		
	Incoming Ramp Rate:	0.25	%/sec		
	Return Lead:	0.73	%		
	Breakout Timeout:	21.84	sec 🗲		
	Outgoing Pressure Threshold:	0.99	bar 🗲 🔿		
	Incoming Pressure Threshold:	2.67	bar 🗲 🔿		
	VST Abnormal Criteria				
	Breakout Time:	🔽 Enable			
	Incoming Pressure Threshold:	🔽 Enable	← →		
	High Friction Breakout Press:	Frable			
	Low Friction Breakout Press:	Enable	~		
4 m	Save Dataset Reset I	Dataset Delete Dataset Copy From Tag			



Figure 28. Resulting Press/Tvl Graph Results with Minimum Pause Time Disabled

Figure 29. Resulting Tvl/Time Graph Results with Minimum Pause Time Disabled



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<u>T</u> ag <u>N</u> etwork Instrument S	etup Cali <u>b</u> ration <u>D</u> iagnostics <u>S</u>	pec Sheet T <u>o</u> ols C <u>u</u> stomize ValveLink <u>H</u> elp	
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NI Card	Datasets: 22 Sep 2016 14:40:32	•	Bead Save
0051004602F			
⊕ <mark>=</mark> Database	Inputs Configuration Graph Dat	a Points Analyzed Notes Valve Trim Actuator Reference	
	Zero Ranged Travel at:	-1.46 %	
	Full Ranged Travel at:	100.51 %	
	Average Dynamic Error: Maximum Dynamic Error:	0.78 %	
	Minimum Dynamic Error:	0.32 %	
	Dynamic Linearity (Ind):	0.13 %	
	Average Torque:	71 lbf.in	
	Maximum Torque: Minimum Torque:	80 lofun 65 lhfin	
	Parameter Porque.		
	Spring Rate: Reach Set:	225.33 lbf/in 11.92 24.69 ppi	
	bench Set.	11.33-34.00 psi	
	PST/Demand/Reset initiated by:	Command	
	PST/Demand/Reset status:	Success	
	Task Type:	Executed by PST/Demand/Reset View	
	Max Iravel Reached: Time to Achieve Max Travel:	20.17 % 40.14 sec	
	Breakout Pressure:	30.33 psi	
	Breakout Time:	15.07 sec	
	Test Completion Time:	188.53 sec	
4	Bun Diagnostic Save Dataset	Delete Dataset	<u>C</u> lose Tag <u>H</u> elp
0051004602FISHERDVC09021144	21687	()	PST 🎜 🦉
		8	

Figure 30. PST Analyzed Data with Minimum Pause Time Disabled

Select a PST style, either with or without Minimize PST Pause Time, and standardize on that style, as the data may be difficult to compare between the two styles. If the desire is to minimize the amount of time the valve is away from the normal end, then enabling Minimize PST Pause Time is recommended. If the amount of time away from the normal end is not a concern, then disabling Minimize PST Pause Time will cause the set point to pause at the end of the outgoing stroke for the travel to catchup to the set point. The results of the test with the Minimize PST Pause Time disabled will be similar to the PST as offered in earlier versions of SIS instruments.

Partial Stroke Test Information

Valve Stroke Test

A valve stroke test is the process of taking the valve from the normal end to another target position at a preconfigured ramp rate before returning to the normal end while gathering data. The data is analyzed to evaluate the condition of the valve assembly against a set of user defined thresholds. A valve stroke test is only run if everything is normal in the instrument. A safety demand signal will always take precedence over a valve stroke test.

- Valve Stroke Test, select Partial Stroke Test, Full Stroke Test, or Disable to select the test to run when the test is initiated using the VST_COMMAND parameter.
- Partial Stroke Start Point defines the normal end of the valve. The valve needs to be at this end for a PST to be initiated. When a FST is initiated the valve will be moved by the test to this end before being ramped to the opposite end and ramped back. Setting this value to Not Configured will disable partial stroke tests.

- Travel Open End defines, in percent (%) of calibrated travel, the point above which the valve is considered to have reached the high end.
- Travel Closed End defines, in percent (%) of calibrated travel, the point below which the valve is considered to have reached the low end.
- Test Pause Time is the time between the outgoing and incoming strokes of the test. The default value is 5 seconds. Pause Time will not be used if Minimum PST Pause Time is enabled. The outgoing stroke is from the normal end to the PST target and the incoming stroke is the return stroke to normal. See figure 31.
- VST High Friction Breakout Pressure indicates that the breakout required a higher force than configured by the user. Refer to figure 31.
- VST Low Friction Breakout Pressure indicates that the breakout required a lower force than configured by the user. Refer to figure 31.
- Action On a Failed Test defines if the valve should step or ramp back on a failed stroke test.

Figure 31. Valve Signature Representation



VST Abnormal & Abort Criteria

• VST Abnormal Criteria

① SUPPLY PRESSURE

A partial stroke test is marked as abnormal if it fails one of the following criteria.

The device always evaluates a PST on the following criteria:

1. Target Travel achieved

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2. Return to the normal end

In addition to the above, any of the following can be selected to evaluate a Partial Stroke Test.

- 1. Breakout Time
- 2. Outgoing Pressure Threshold
- 3. Incoming Pressure Threshold
- 4. High Friction Breakout Pressure
- 5. Low Friction Breakout Pressure
- VST Abort Criteria

The PST is terminated and the valve is returned to the normal end. The return to the normal end will be per the user configuration for an aborted test. The abort criteria will only be active if it is added as a criteria to be evaluated during PST by adding it to the PST Abnormal Criteria.

The device always aborts a PST if the Max Travel displacement is exceeded.

In addition to the above, any of the following can be selected to abort a Partial Stroke Test:

- 1. Breakout Time
- 2. Incoming Pressure Threshold
- 3. High Friction Breakout Pressure

Partial & Full Stroke

• Partial Stroke

PST Max Travel defines how much travel displacement is allowed before the PST aborts (see figure 32).

PST Minimum Travel is the percentage of total span that the valve moves away from its normal operating end of travel towards its tripped end of travel during the test. The default value is 10%.

Set Point Overdrive defines the extent of the set point overdrive over the Minimum Travel Movement when the early turn around is enabled. When the early turn around is not enabled it defines the travel target.

Freeze Analog / Discrete Feedback when enabled, freezes the corresponding feedback during a partial stroke test.

Minimum PST Pause Time, when enabled, the incoming stroke is initiated as soon as the travel reaches the minimum travel movement. Refer to figure 32 for a time series representation of this parameter.

Randomized PST, when enabled the instrument randomizes the target travel, for each PST.

PST Randomization is defined in percent (%) of calibrated travel span, it defines the extent of randomization from the minimum travel movement towards the normal end. If the user defined randomization is too large the instrument will cap the max randomization to ensure that there will be at least 1% travel movement away from the defined normal end. Refer to figure 31.



Outgoing Ramp Rate is the rate at which the valve will move during the Outgoing stroke of the Partial Stroke test. The default value is 0.25%/second.

Incoming Ramp Rate is the rate at which the valve will move during the Incoming stroke of the Partial Stroke test. The default value is 0.25%/second.

PST Return Lead defines the percent (%) change in setpoint to overcome the hysteresis in the valve assembly. The error between setpoint and actual error is added to this percent change. For example, if the Return Lead is set at 0.5% and there is a 1% error this will be set at 1.5%

PST Breakout Timeout is the user configured amount of time before which the valve must leave the normal end during a PST.

VST Outgoing Pressure Threshold defines the actuator pressure at which a partial stroke test will abort during the outgoing stroke (see figure 31). This prevents the DVC6200f from exhausting (or building) excessive pressure from/to the actuator in an attempt to move a stuck valve. During PST Calibration, the Partial Stroke Outgoing Pressure Threshold will be set automatically.

VST Incoming Pressure Threshold defines the actuator pressure at which a partial stroke test will abort during the incoming stroke (see figure 31). This prevents the DVC6200f from exhausting (or building) excessive pressure from / to the actuator in an attempt to move a stuck valve.

D104217X012

• Full Stroke

Full Stroke Ramp Rate is the rate at which the valve will move during the full stroke test.

FST Wait Time is the amount of time to wait for the valve to move to the normal end after initiation of the full stroke test.

Full Stroke Breakout Timeout is the user configured amount of time before which the valve must leave the normal end during a full stroke test.

PST Prohibited

A partial stroke test will not be initiated if any of the following user-configurable conditions are active:

- 1. Check Bit Alert
- 2. Drive Current
- 3. Drive Signal
- 4. Processor Impaired
- 5. Travel Sensor
- 6. Output Pressure sensor
- 7. Supply Pressure Sensor
- 8. Temperature Sensor
- 9. Supply Pressure
- 10. Temperature Limit
- 11. Travel Deviation
- 12. Pressure Fallback
- 13. PST Abnormal

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