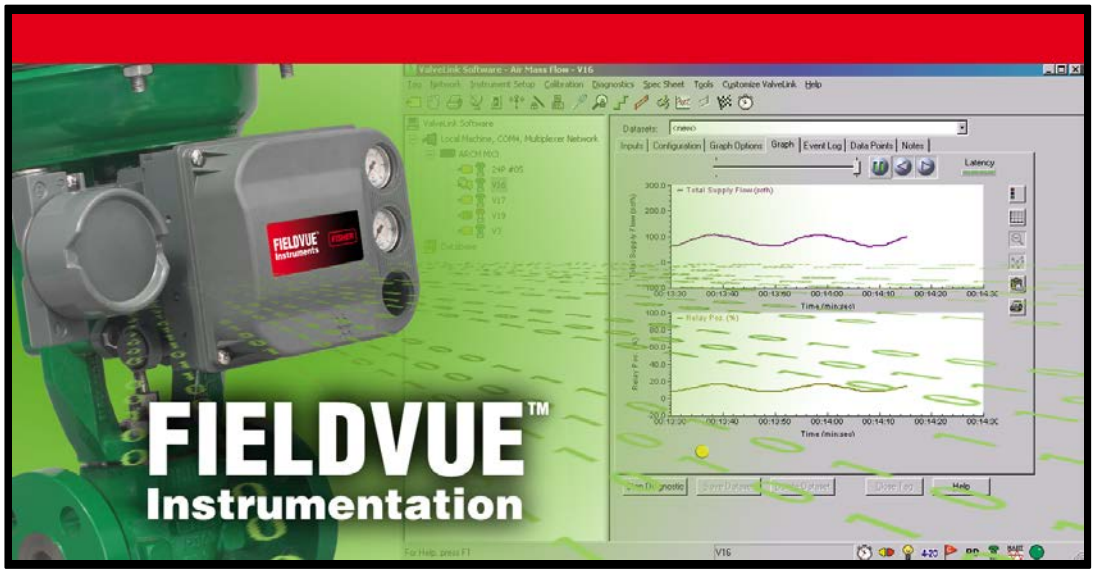
ValveLink™ Software



ValveLink™ Solo
AMS ValveLink™ SNAP-ON™
ValveLink™ DTM
ValveLink™ PLUG-IN for PRM®

- *Communicate with both HART® and FOUNDATION™ fieldbus FIELDVUE™ digital valve controllers*
- *Configure, calibrate, and diagnose FIELDVUE instruments from one location*
- *Use Stabilize & Optimize and Performance Tuner to easily optimize tuning*
- *Performance Diagnostics provide in-service diagnostics for monitoring the health of the valve assembly without disturbing the process*
- *Diagnostics provide validation of assembly rebuild and detailed insight into the physical condition of the valve/actuator assembly*
- *Setup and test FIELDVUE instruments for Safety Instrumented System (SIS) Solutions*
- *Scheduler allows you to specify a time and date to automatically run tasks on a regular basis*
- *Ability to preconfigure calibration and diagnostics in the shop with Batch Runner or setup your own "Macro" file*
- *Time saving Concurrent Batch allows executing a diagnostic test or Calibration on multiple valves at the same time*
- *Merge Database feature provides the ability to automate multiple ValveLink databases and tags to a single or multiple stations*
- *ValveLink Express licensing allows you to obtain a free version of ValveLink software that allows FIELDVUE instrument setup, calibration and verification*

ValveLink Software Product Suite

ValveLink software is available in a variety of configurations to allow you to realize the full benefit of FIELDVUE digital valve controllers.

ValveLink Solo

ValveLink Solo permits users to perform configuration, calibration, and diagnostics on HART and FOUNDATION Fieldbus FIELDVUE digital valve controllers.

Integrate ValveLink software into AMS Suite: Intelligent Device Manager

AMS ValveLink SNAP-ON provides integration with AMS Suite: Intelligent Device Manager to perform configuration, calibration, and diagnostics. Integration with AMS Device Manager provides the ability to communicate with FIELDVUE digital valve controllers via DeltaV™, Ovation™, PROVOX™, HART multiplexers, and HART modems. Non-Emerson host integration, including Invensys and Honeywell (HART only) systems, can be provided through HSI (Host System Integration).

Integrate ValveLink DTM into Field Device Tool - FDT

ValveLink DTM provides integration into a Field Device Tool frame application to perform configuration, calibration, and diagnostics on FIELDVUE digital valve controllers. The ValveLink DTM is certified with the FDT group.

Integrate AMS ValveLink Software into the Yokogawa Plant Resource Manager (PRM)

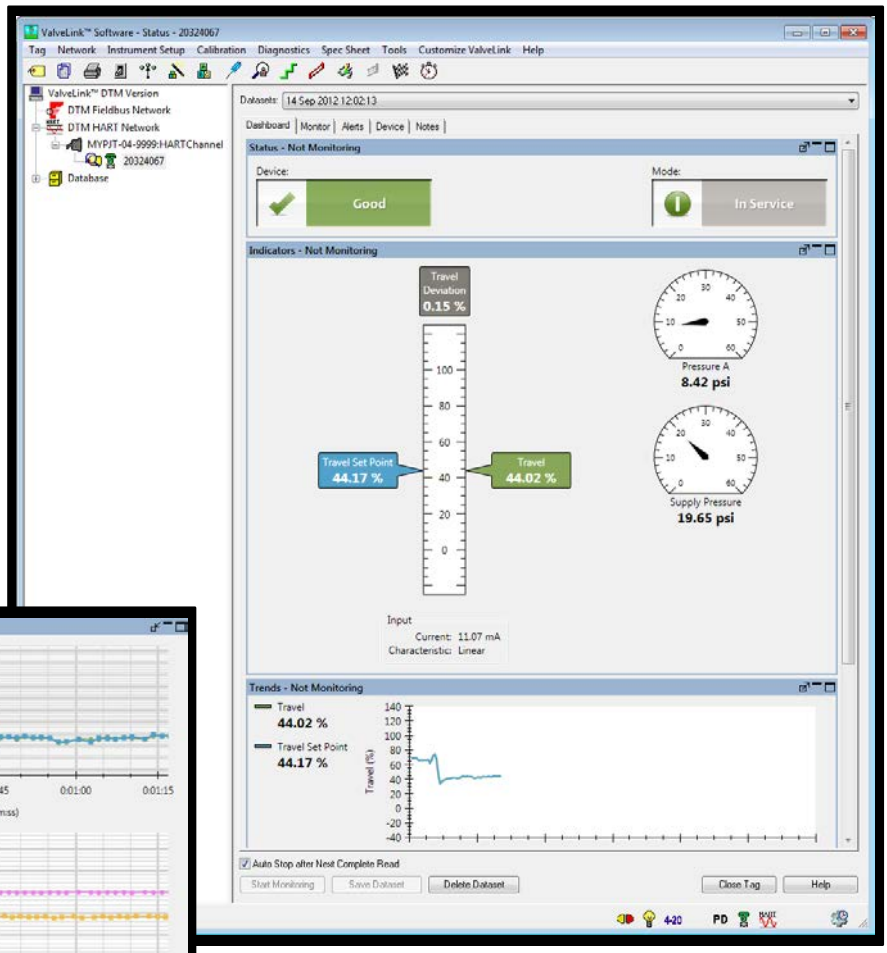
ValveLink PLUG-IN for PRM provides integration with the Yokogawa Plant Resource Manager (PRM). This integration provides PRM users with the ability to launch the ValveLink PLUG-IN for PRM directly from PRM and to communicate with HART and FOUNDATION fieldbus FIELDVUE digital valve controllers through PRM and the Yokogawa CENTUM CS 3000 R3 and CENTRUM VP.

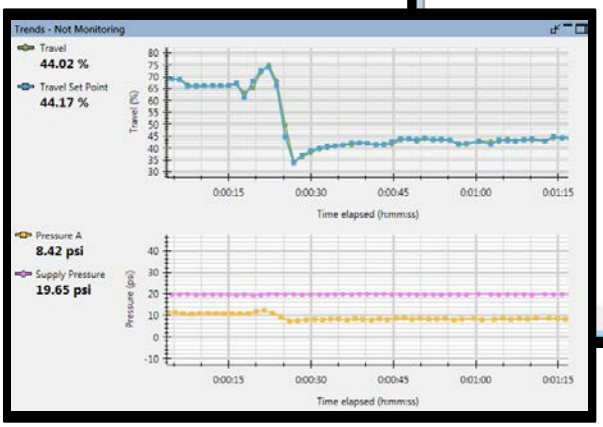
ValveLink software is a core component of the proven PlantWeb™ digital plant architecture. ValveLink software powers PlantWeb through predictive and proactive control valve maintenance using intelligent digital valve controllers to improve availability and performance.

Communicate with both HART and FOUNDATION fieldbus FIELDVUE digital valve controllers

Integrated or standalone ValveLink software remotely communicates with HART FIELDVUE instruments over the existing 4-20 mA signal wiring using the HART communication standard. The same software also can communicate with FOUNDATION fieldbus FIELDVUE instruments over the fieldbus H1 segment. Information is presented in a consistent, easy-to-interpret interface that provides the capability to configure, calibrate, and diagnose FIELDVUE instruments from one location:

- Dashboard of critical instrument information
- A device connection view of all connected instruments
- Monitoring of instrument operational parameters and alerts
- Review and comparison of diagnostic graphs
- Instrument setup and calibration
- Data import and export



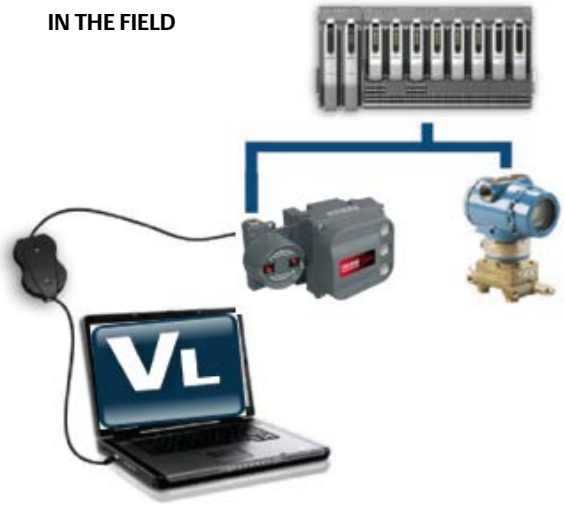


TREND VALVE TRAVEL AND PRESSURE

Standalone ValveLink software can use the Emerson USB Fieldbus Interface, as well as the National Instruments (NI-Fbus) interface to connect to Fieldbus FIELDVUE instruments (DVC6200f and DVC6000f) to configure, calibrate, and diagnose the device on a bench or in the field:

ON THE BENCH

IN THE FIELD



Use the Performance Tuner to easily optimize tuning

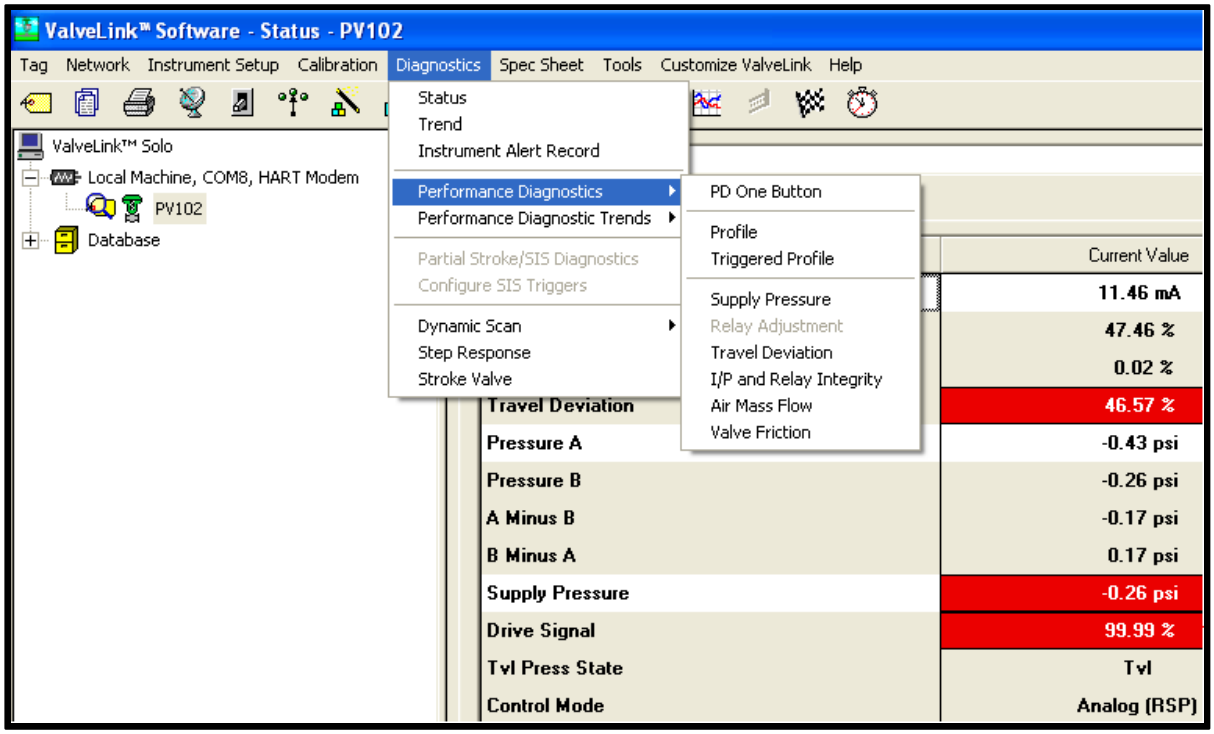
The Performance Tuner lets you easily adjust a FIELDVUE digital valve controller for optimum performance. When mounting a FIELDVUE digital valve controller, to either a Fisher or a non-Fisher valve, the Performance Tuner can optimize valve performance for you.

Performance Diagnostics provide in-service diagnostics for monitoring the health of the valve assembly without disturbing the process

Performance Diagnostics (PD) provides predictive in-service diagnostics for monitoring the health of the valve assembly and customized diagnostics for advanced troubleshooting. Performance Diagnostics continuously analyze the valve assembly and passively gather data without disturbing or interrupting the control valve while it is in the process.

PD may be used to help detect problems with air leakage, valve assembly friction and deadband, instrument air quality, loose connections, supply pressure restriction, and valve assembly calibration. When a problem is identified, the diagnostic provides a description and severity of the problem, a probable cause, and recommended action.

In-service diagnostics for troubleshooting allow custom diagnostics to be set up to collect data at a high-frequency collection rate and present the data in a graphical format.



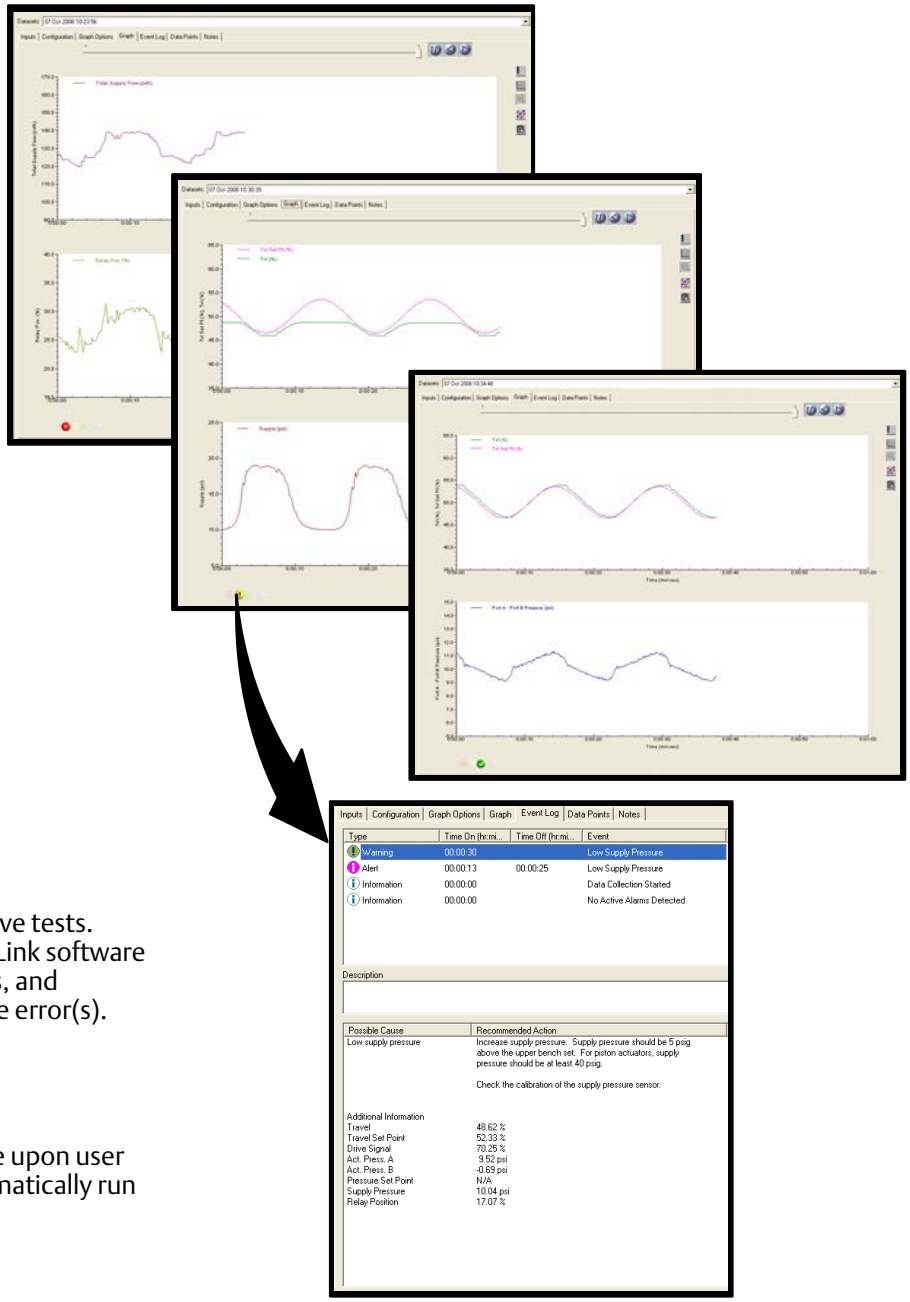
Performance Diagnostics tests are available upon user request or a pre-selected daily, weekly, monthly, or yearly schedule without user intervention

Provide Real-Time Notification of Current and Potential Valve and Instrument Problems using Performance Diagnostics

Performance Diagnostics enables the use of diagnostics while the valve is in-service and operating. Tests can be performed to identify problems with the entire control valve assembly, such as:

- Red/Yellow/Green condition indicator - provides a quick visual indication of the following:
  - the physical condition of the FIELDVUE instrument I/P and relay components
  - instrument air supply pressure and volume
  - relay adjustment on double acting piston actuators
  - the total air received and used by the instrument, and
  - why a valve assembly is deviating from the set point
- PD One Button is a sweep of the above tests. When the sweep is complete, ValveLink software will show any errors, possible causes, and recommended actions to resolve the error(s).
- Friction and Deadband Trending

Performance Diagnostics are available upon user request or may be scheduled to automatically run on a daily, weekly, or monthly basis.



Performance Diagnostics provide on-line/in-service predictive diagnostics to identify faults and list possible causes and recommended corrective actions for each fault

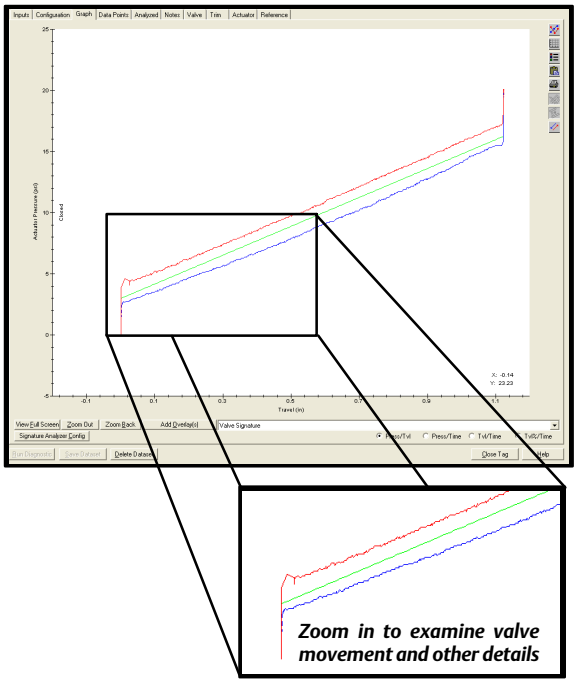
Provide validation of assembly rebuild and detailed insight into the physical condition of the valve/actuator assembly

Performance Diagnostics monitor the digital valve controller set point and plot valve operation to provide insight into the dynamic performance of the valve/actuator assembly. Out-of-service diagnostics such as valve signature, dynamic error band, and step response assist in the identification of emerging valve problems quickly and accurately.

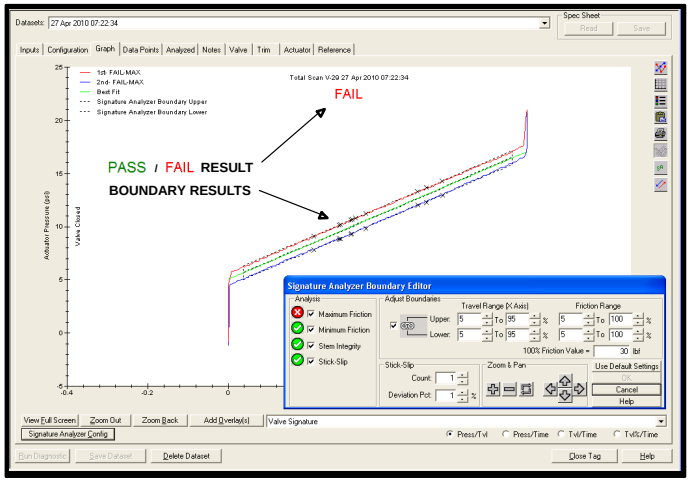
Out-of-service diagnostics are optimally run as part of a plant shutdown.

The Valve Signature diagnostic is used to:

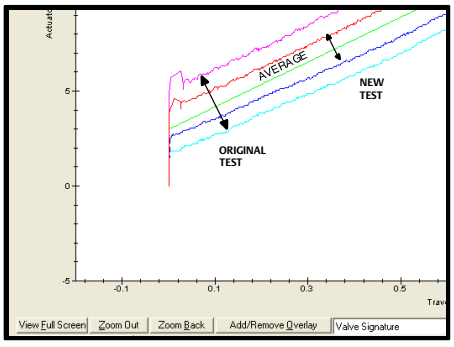
- Evaluate valve friction, deadband, and shutoff capability.
- Calculate actuator spring rate and bench set.
- Identify potential packing problems.
- Compare current condition to previous baseline condition.
- Signature Analyzer enables rapid analysis of the Valve Signature to more efficiently manage your plant assets. Based on default or user defined settings, Signature Analyzer provides pass/fail results for Maximum Friction, Minimum Friction, Stem Integrity, and Stick Slip, enabling better documentation for required maintenance or validation of valve repairs.



Diagnostic tests, such as the Valve Signature Diagnostic example shown here, help you detect emerging valve repair requirements before they impact performance



Signature Analyzer Boundary Editor allows you to use default or customized test criteria



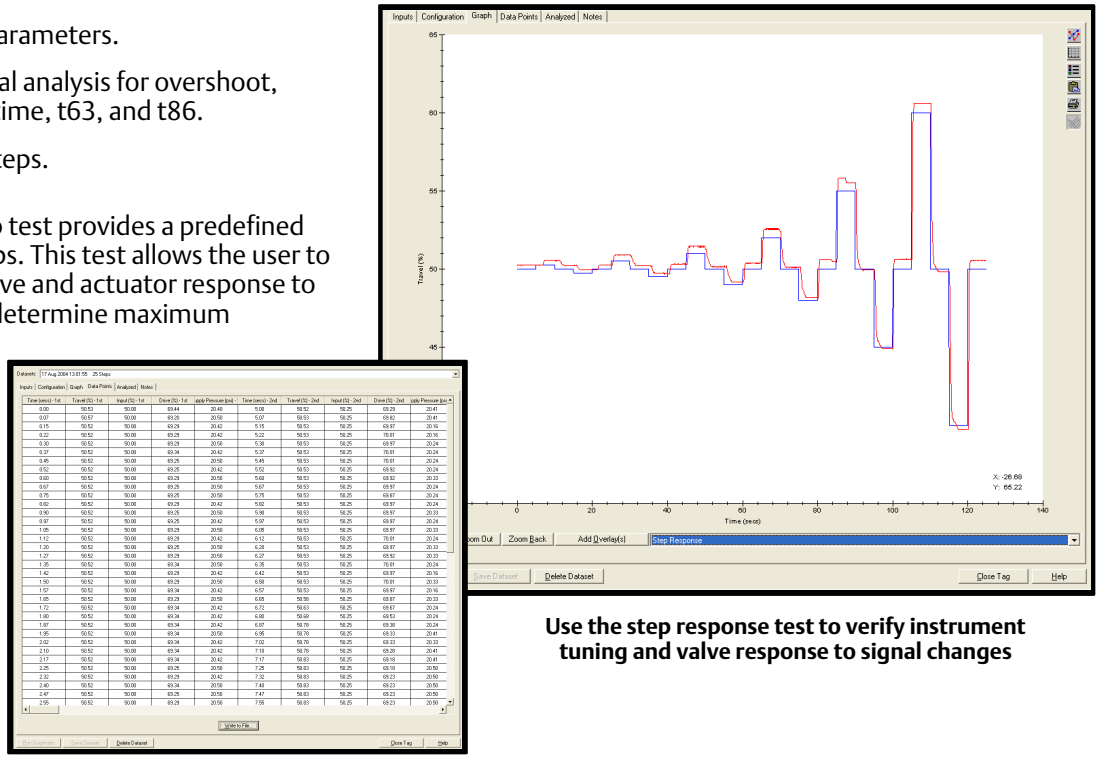
ValveLink software enables simultaneous multiple overlay of tests (up to ten). This allows you to trend valve history.

The Dynamic Error Band diagnostic is used to analyze hysteresis, deadband, and dynamic error.

The Step Response diagnostic allows you to evaluate how well the valve tracks an input change. By minimizing dead time, deadband, and overshoot, process control is greatly enhanced. With the Step Response test you can:

- Validate tuning parameters.
- Obtain a numerical analysis for overshoot, hysteresis, dead time, t63, and t86.
- Define up to 30 steps.

A performance step test provides a predefined sequence of 25 steps. This test allows the user to quickly evaluate valve and actuator response to signal change and determine maximum deadband.

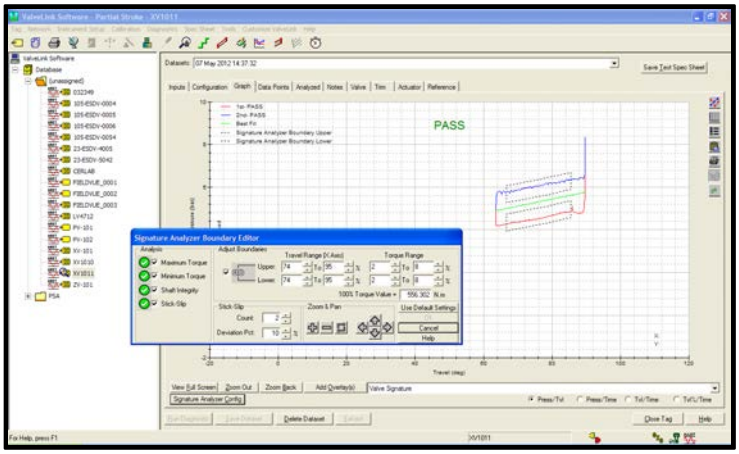


Use the step response test to verify instrument tuning and valve response to signal changes

Setup and test FIELDVUE instruments for Safety Instrumented System (SIS) Solutions

Use ValveLink software to set up and test the final control element in safety instrumented system applications. ValveLink software for DVC6000 SIS digital valve controllers provides:

- A Setup Wizard to set up the digital valve controller for use in a Safety Instrumented System. ValveLink software provides a pneumatic hookup representation to help ensure tubing is correctly connected.
- The capability to initiate a partial stroke test of the final control element without requiring a process shutdown. You can run a partial stroke test to prove the valve will respond on demand. Store partial stroke test results for future comparison and study. You can also initiate the test by shorting the AUX Terminal in the field with a push button located at the device, or remotely from the valve.



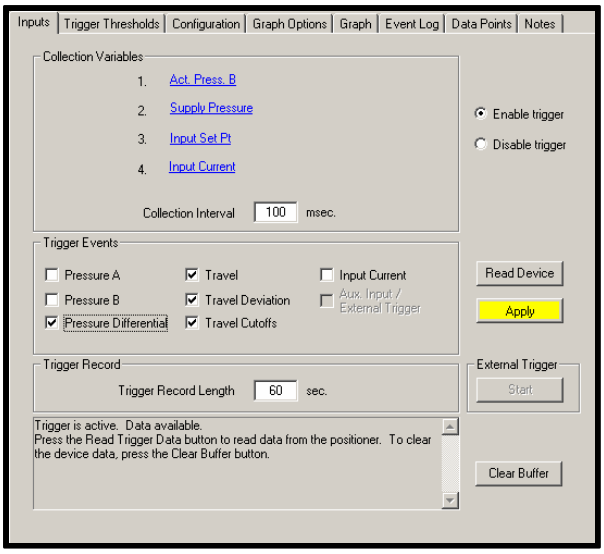
At the same time the instrument performs the partial stroke test, ValveLink software also gathers diagnostic data. Use this data to evaluate valve performance and determine if maintenance is required.

- A Signature Analyzer to automate diagnostics results of Valve Signature and Partial Stroke diagnostic data. The Signature Analyzer uses a set of user configurable limits to help determine possible issues with the valve assembly, such as a broken shaft or stem.

- A Trigger event that allows you to log the “Safety Demand” event while storing pre-event and post-event data. Trip event data can be accessed for an audit and presented to regulatory or insurance authorities.

  The Trigger functionality allows data to be collected and stored in the microprocessor memory of the digital valve controller. Trip event data can be accessed for an audit and presented to a regulatory or insurance authority. The trigger will initiate on-board data collection based on a change in actuator pressure, valve travel, input current, pressure differential, travel deviation, or travel cutoff. The data is stored on board the device for later retrieval, and is retained in the event of a power loss.

  Every event performed with ValveLink software is logged with a time and date stamp to document that tests were run and how the valve assembly responded.

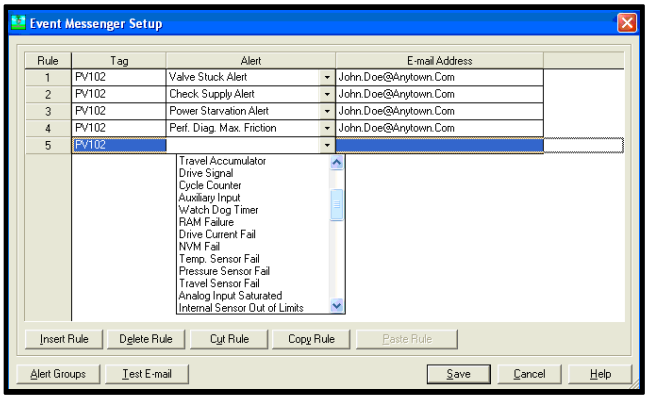


A Trigger event, based on one of eight process variables, documents a “Safety Demand” event when used in a safety instrumented system

- Diagnostic information to allow predictive maintenance of the final control element. No need to unnecessarily shutdown the process to perform maintenance on the safety shutdown valve.

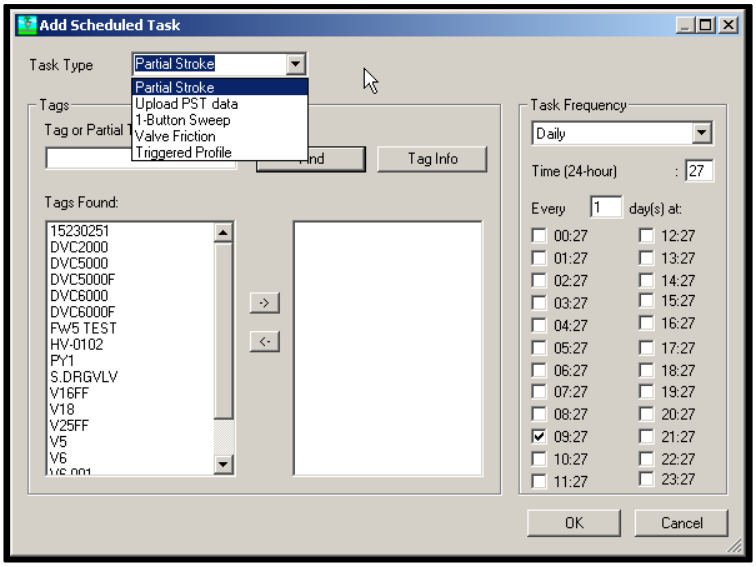
- The capability to monitor the health of a solenoid valve downstream of the digital valve controller. This can improve safety reliability and provide assurance that the solenoid valve is not stuck in the open position.

- ValveLink Solo Event Messenger capability to send notification via email, pager, or cell phone if a specific alert, or set of alerts, occurs on a predefined set of safety shutdown valves.

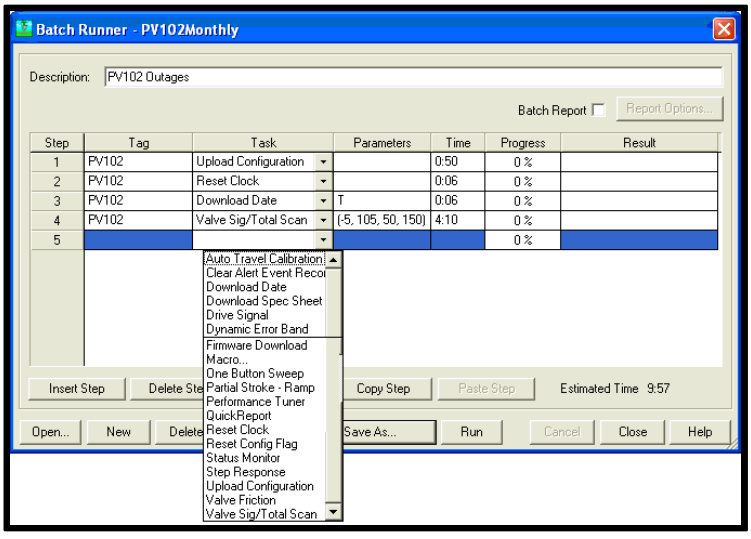


Scheduler allows you to specify a time and date to automatically run tasks on a regular basis

With Scheduler, you can schedule tasks, such as in-service Performance Diagnostics and SIS Partial Stroke diagnostics to run on a recurring daily, weekly, monthly, or yearly schedule that you specify. A summary of the outcome of scheduled tasks is available from within Scheduler and for complete details you can view the resulting diagnostic graphs and analyses.



Ability to preconfigure calibration and diagnostics in the shop with Batch Runner or setup your own “Macro”



Use Batch Runner to automate diagnostic tests and other repetitive activities

With Batch Runner you can setup ValveLink software to automatically run diagnostic tests, calibrate, or upload configuration data from multiple valves with a user specified routine. During a turnaround or production change, you can download firmware, upload configurations, run the Performance Tuner to optimize tuning, or even reset the instrument clock without any interaction by personnel.

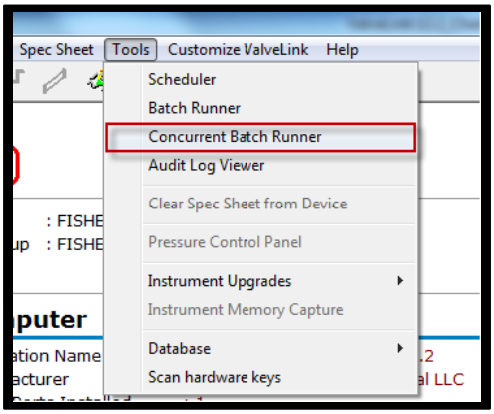
Batch Runner increases efficiency by allowing you to set up a batch once, and repeatedly run that set of actions on different groups of valve assemblies.

Time saving Concurrent Batch Runner to run Signature test, Step-Response test, or Auto-Calibration on multiple valves at the same time

In addition to the Batch Runner, ValveLink software version 12.2 and later includes the time-saving Concurrent Batch Runner capability. This allows executing a diagnostic test or Auto-Calibration on multiple valves at the same time. The diagnostic results from the tested valves can be collected at the completion of the concurrent batch or at a later time after the tags have been put back “In-Service” .

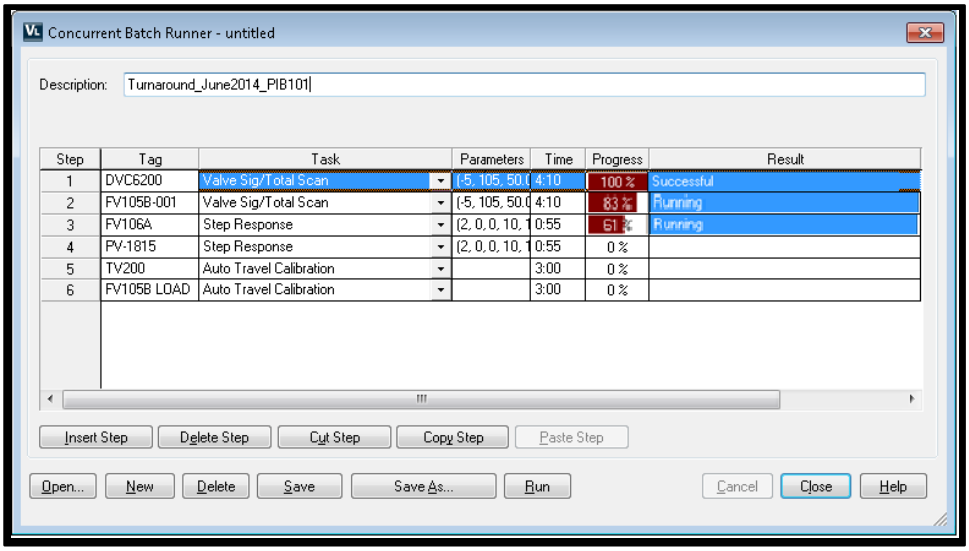
The Concurrent Batch Runner is a 2-part process:

1. Executes diagnostic or calibration on multiple valves simultaneously, then,
2. the follow up batch uploads the diagnostic results in ValveLink software either during current outage or once valves are back “In-Service”.



Key benefits

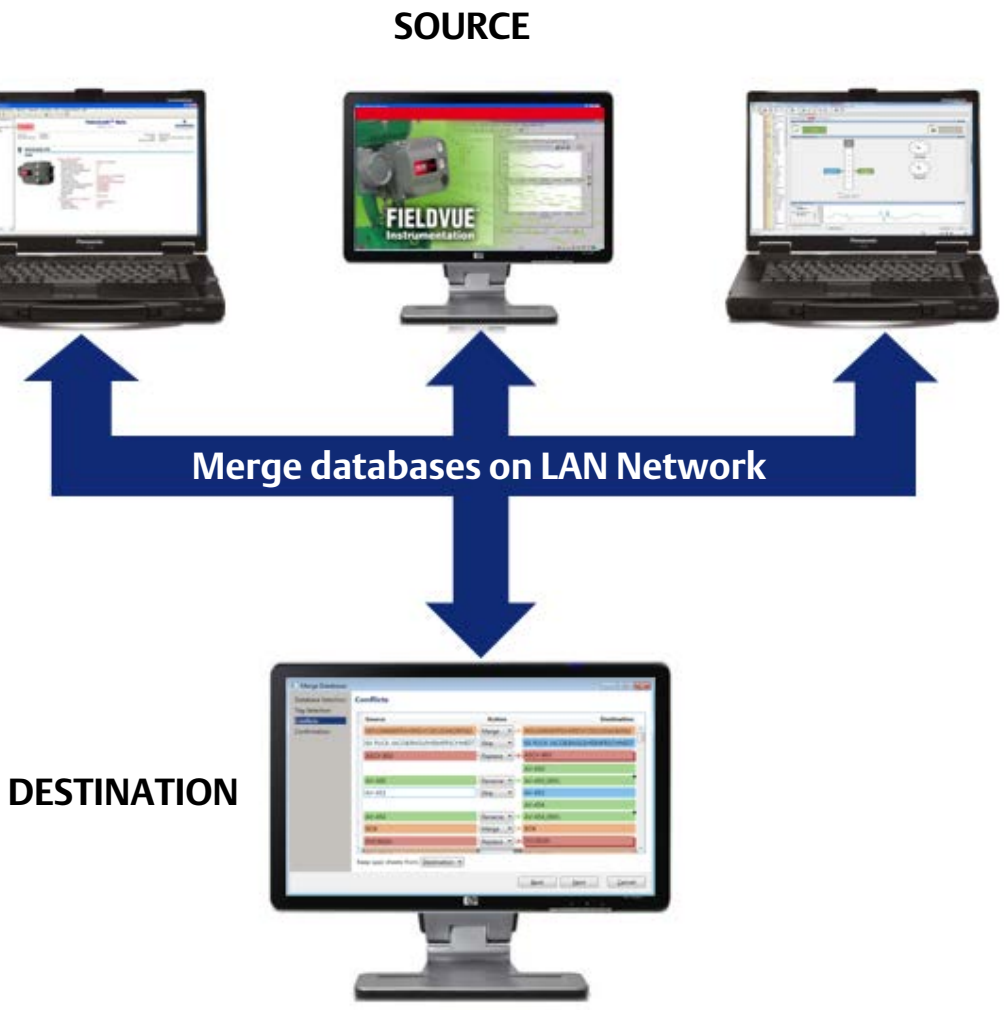
- Further increase process uptime and improve productivity with up to 80% time saving when running Concurrent Batch over a Batch Runner for similar tasks.
- Diagnostics are stored in the instrument after the concurrent batch is executed, allowing for data retrieval immediately after completion of the test or at a later time when valve is In-Service
- Available with all versions of ValveLink software suite (ValveLink SOLO, AMS ValveLink SNAP-ON, ValveLink DTM and ValveLink PLUG-IN for PRM).
- Supported on DVC6200, DVC6200f, DVC6000, and DVC6000f instruments.
- Fits into the proactive maintenance strategy of monitoring and diagnosing problems and correcting root cause sooner by gathering maximum data in a minimum amount of time.



Merge Database feature provides ability to automate multiple ValveLink software databases and tags into single or multiple stations

Available with ValveLink SOLO, ValveLink DTM and ValveLink PLUG-IN for PRM.

Manually or automatically, using scheduler feature, merge multiple ValveLink software databases to a single or multiple stations, helping to eliminate diagnostic data silos on individual stations.



ValveLink Express—free version of ValveLink software license designed to setup, calibrate, verify, and configure alerts on FIELDVUE instruments

ValveLink Express license is available for ValveLink SOLO, ValveLink DTM, and ValveLink PLUG-IN for PRM.

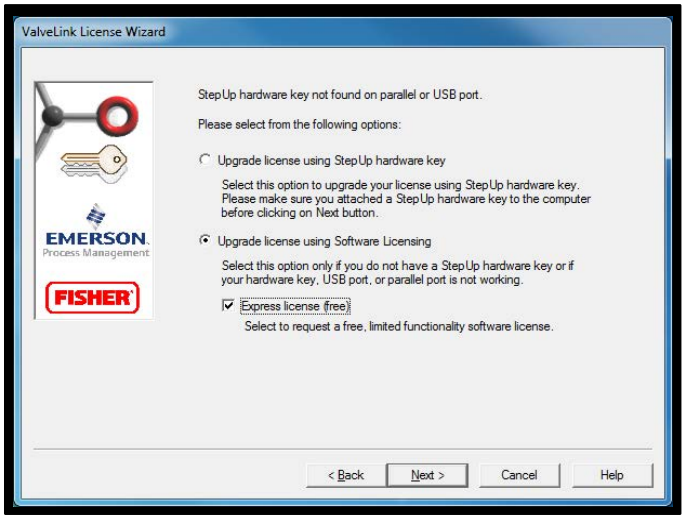
After the 60 days of full functionality temporary license available with each installation, the express license can be enabled by running the ValveLink License Wizard and requesting a New License using software licensing (Express).

ValveLink Express is designed primarily to allow you to perform key tasks such as setup, calibration, and alert configuration and to set the instrument In-Service.

The Express license can be upgraded to a full functionality license to add diagnostic capabilities at anytime. Contact your Emerson Process Management sales office for further information.

ValveLink Express provides:

- Users and Security Group setup
- Instrument specification sheet update
- Setup, Calibration (Auto, Manual, Partial Stroke and Hardware)
- Dashboard overview, Multi-Tag status, Status Monitoring and Alert monitoring
- Instrument Detailed Setup (parameter modification)
- Instrument Firmware upgrades
- Stroke valve for verification
- Monitor Instrument Alert Event Record
- Allow HART, Fieldbus and Multiplexer capabilities
- Network Alert Scan capabilities
- Modbus and Trending



Specifications

Hardware Requirements

Computer and processor:

1 gigahertz (GHz) processor

Memory:

512 megabytes (MB) RAM (Windows XP)

1 gigabyte (GB) RAM (All other Operating Systems)

Hard disk:

No Trending - 65 MB available storage space

Trending - 125 MB available storage space

Drive:

CD-ROM Drive

Display:

1024 X 768 resolution

I/O (ValveLink Solo):

USB Port required for instrument level step-ups

HART communications require at least one of the following interfaces:

HART Modem - Standard RS-232 Port (requires dedicated interrupt)

HART Multiplexer - Standard RS-232 Port (requires RS-485 converter)

MACTek VIATOR USB HART Modem - USB Port

MACTek VIATOR Bluetooth HART Interface - Windows Bluetooth Serial Port Profile (SPP)

Modbus communications require the following:

Standard RS-232 Port

Additional HART Interface (see above)

FOUNDATION Fieldbus communications require at least one of the following:

National Instruments Fieldbus H1 interfaces

NI USB-8486

PCI-FBUS/2 and above

PCMCIA-FBUS/2 Series 2 and above

Emerson USB Fieldbus Interface (v3.0)

NI-FBUS Configuration - 2 Port Card

The following settings are applicable for configuration of a NI-FBUS 2 Port Card:

a) If only one port will be connected to a LIVE segment, the other port must be set to “LAS” (not “Bus Monitor”).

b) If both ports will be connected to LIVE segments, then both ports must be set to “Basic” mode.

NI driver software must be installed BEFORE installing the NI hardware.

Other configurations may result in initialization failure of the NI Communication Manager software

Supported Languages

ValveLink Software v12.2 is only available in English

Supported Operating Systems

ValveLink Solo
Windows® XP SP3 (32 bit)
Windows 7 Professional SP1 (32 and 64 bit)
Windows 7 Enterprise SP1 (32 and 64 bit)
Windows Server® 2008 SP2 (64 bit)
Windows Server 2008 R2 SP1 (64 bit)
Windows 8 Professional (64 bit)
Windows 8 Enterprise (64 bit)
Windows 8.1 Professional (64 bit)
Windows 8.1 Enterprise (64 bit)
Windows Server 2012 Essential (64 bit)
Windows Server 2012 Datacenter (64 bit)

AMS ValveLink SNAP-ON
Operating systems supported by AMS Suite:
Intelligent Device Manager v10.1, v10.5.1, v11.0, v11.1.1, v11.5, v12.0, v12.5

ValveLink DTM
FDT frame applications using:
Windows XP SP3 (32 bit)
Windows 7 Professional SP1 (32 and 64 bit)
Windows 7 Enterprise SP1 (32 and 64 bit)
Windows Server 2008 SP2 (64 bit)
Windows Server 2008 R2 SP1 (64 bit)
Windows 8 Professional (64 bit)
Windows 8 Enterprise (64 bit)
Windows 8.1 Professional (64 bit)
Windows 8.1 Enterprise (64 bit)
Windows Server 2012 Essential (64 bit)
Windows Server 2012 Datacenter (64 bit)

ValveLink PLUG-IN for PRM
Operating systems supported by Yokogawa Plant Resource Manager (PRM) v3.02 or newer.

Note: ValveLink software is not supported on Windows NT/95/98/ME/2000/Windows Vista®
Windows XP SP1/SP2

Software Requirements

Internet Explorer 5.01 or later (6.0 SP1 recommended; required by Microsoft .NET Framework)
Microsoft Windows Installer 3.0 or later (3.5 recommended; required by Microsoft .NET Framework)

Table 1. ValveLink Software Capability

CAPABILITY		PRODUCT TYPE						
		ValveLink Solo		AMS ValveLink SNAP-ON		ValveLink DTM	ValveLink PLUG-IN for PRM	VaveLink Mobile
		VLDATA_UNLM Database Only	VLSOLO-XXXX(1)	AW7070VL00025 SNAP-ON	AW7070VL00100 SNAP-ON	VLDTM-XXXX(1)	VLPRM-XXXX(1)	VLMOBILE-1(4)
HART Modem			●	●(2)	●(2)			
HART Multiplexer			●	●(2)	●(2)			
*Wireless*HART® Communications				●(2)	●(2)			
FOUNDATION Fieldbus PC Card			●					
FOUNDATION USB Interface			●					
Performance Diagnostics	Valve Signature(3)	○	●	●	●	●	●	●
	Dynamic Error Band(3)	○	●	●	●	●	●	●
	Drive Signal Test(3)	○	●	●	●	●	●	●
	Step Response(3)	○	●	●	●	●	●	●
	Step Response Analysis	○	●	○	●	●	●	●
	Performance Step Test(3)	○	●	○	●	●	●	●
	Graph Overlay	○	●		●	●	●	
	Stroke Valve		●	●	●	●	●	●
	I/P & Relay Integrity	○	●	●	●	●	●	●
	Travel Deviation	○	●	●	●	●	●	●
	Supply Pressure(4)	○	●	●	●	●	●	●
	Relay Adjustment(4)	○	●	●	●	●	●	●
	Air Mass Flow(4)	○	●	●	●	●	●	●
	PD One Button	○	●	●	●	●	●	●
	Valve Friction / Deadband Estimation	○	●	●	●	●	●	●
	Valve Friction / Deadband Trend	○	●	●	●	●	●	●
	Profiler	○	●	●	●	●	●	
	Triggered Profile	○	●	●	●	●	●	
Status Monitor		○	●	●	●	●	●	●
Network Scan(5)			●					
Trending(5)		○	●					
Event Messenger(5)			●					
Modbus(5)			●					
Batch Runner			●	●	●	●(6)	●	
Scheduler			●	●	●	●(6)	●	
Merge Database		●	●			●	●	
Export Tag Data		●	●	●	●	●	●	●
Firmware Download(4)			●	●	●	●	●(5)	●
Temporary Tiering(4)			●	●	●	●	●	●
Instrument Level StepUp			●	●	●	●	●	●
Initial Tag Limit		Unlimited	5	25	100	5	5	Unlimited
Max Tag Limit		Unlimited	Unlimited	---(2)	---(2)	Unlimited	Unlimited	Unlimited

● Indicates capability available
○ Indicates diagnostics can be reviewed but not run
1. XXXX indicates tag count.
2. AMS based capability. AMS ValveLink SNAP-ON does not control or limit this functionality.
3. Diagnostic can only be run when the instrument is out of service.
4. DVC6200, DVC6200f, DVC6000, DVC6000f, and DVC2000 only.
5. HART only.
6. Limited to Host FDT Frame connected devices.

Emerson Process Management
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Sorocaba, 18087 Brazil
Cernay, France 68700
Dubai, United Arab Emirates
Singapore 128461 Singapore

www.Fisher.com