DRESSER Masoneilan

Specification Data
CW4000
02/08

# FVP® 110

## FOUNDATION Fieldbus™ Valve Positioner and Controller Interoperable and Integrated Single & Double-Acting


FOUNDATION

**Masoneilan's FVP® positioner, certified and approved by Fieldbus™ Foundation, can be used in conjunction with all certified Foundation Fieldbus™ Host systems. Within the FF host system, certified device descriptors (DD) enable seamless integration *and* interoperability of the Masoneilan FVP positioner. The Masoneilan FVP positioner has unequalled "on-board" data gathering capabilities, alarms, and diagnostics as well as standard positioner functionality. The Masoneilan FVP as advanced diagnostics integration and automated valve data analysis available with leading asset management software. Further enhanced capabilities of graphical data manipulation and valve signature acquisition are accomplished with Masoneilan's ValVue® FF software program, which may be used either as a standalone program or integrated with major FF host systems.**

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## Precise Digital Positioning & Diagnostics

The Masoneilan FVP is an intelligent digital valve positioner and PID process controller that communicates using the FOUNDATION Fieldbus protocol. The Masoneilan FVP offers advanced control technology for pneumatically actuated valves; provides higher precision, greater flexibility and ease of use. The major advantages of the Masoneilan FVP are:

- High Performance: Can respond to Step Changes of (0.05%)
- Low Power Consumption: (16mA) – Ideal for Intrinsically Safe applications
- Fast Commissioning: User friendly ValVue FF Set-up Wizard and Methods
- Low Life Cycle Cost: Low Air Consumption (< 10 scfh @ 20 psi)
- Self-initiated Valve Alarms
- Diagnostics and software integration possible with virtually all control systems
- On Board Valve Signature & Diagnostics Storage: Easily retrieved diagnostic information
- One Model Fits All: The same unit can be mounted on any manufacturer's rotary or linear actuator
- Manual Pneumatic Override Switch: Bypass electronics for valve installation, commissioning, and diagnosing
- Standard or Advanced Diagnostics: Scalable valve diagnostics to match process application
- Online Firmware Flash: Update Firmware without Process Interruption
- Built in Positioning Autotune: Patented for optimal response regardless of actuator size, can be launched from the control system or any FF configurator
- Frictionless Position Sensor: High resolution and maintenance free
- Modular Design: Makes for a compact and easily maintained and installed positioner
- Single- and Double-Acting models available


FIELDBUS FOUNDATION
DEVICE REGISTRATION
FOUNDATION
Presented To: Dresser Flow Control (w/ Yokogawa)
Model: FVP (Software Download)
Device Type: Valve Positioner
ITK_Ver: 4
IT Campaign Number: IT022400
Registration Date: 10/30/2003
DD Revision: 0x01
CFF Revision: 010101.cff
Heather Cansard
Test Technician
Richard J. Timoney
President

# Masoneilan FVP Overview

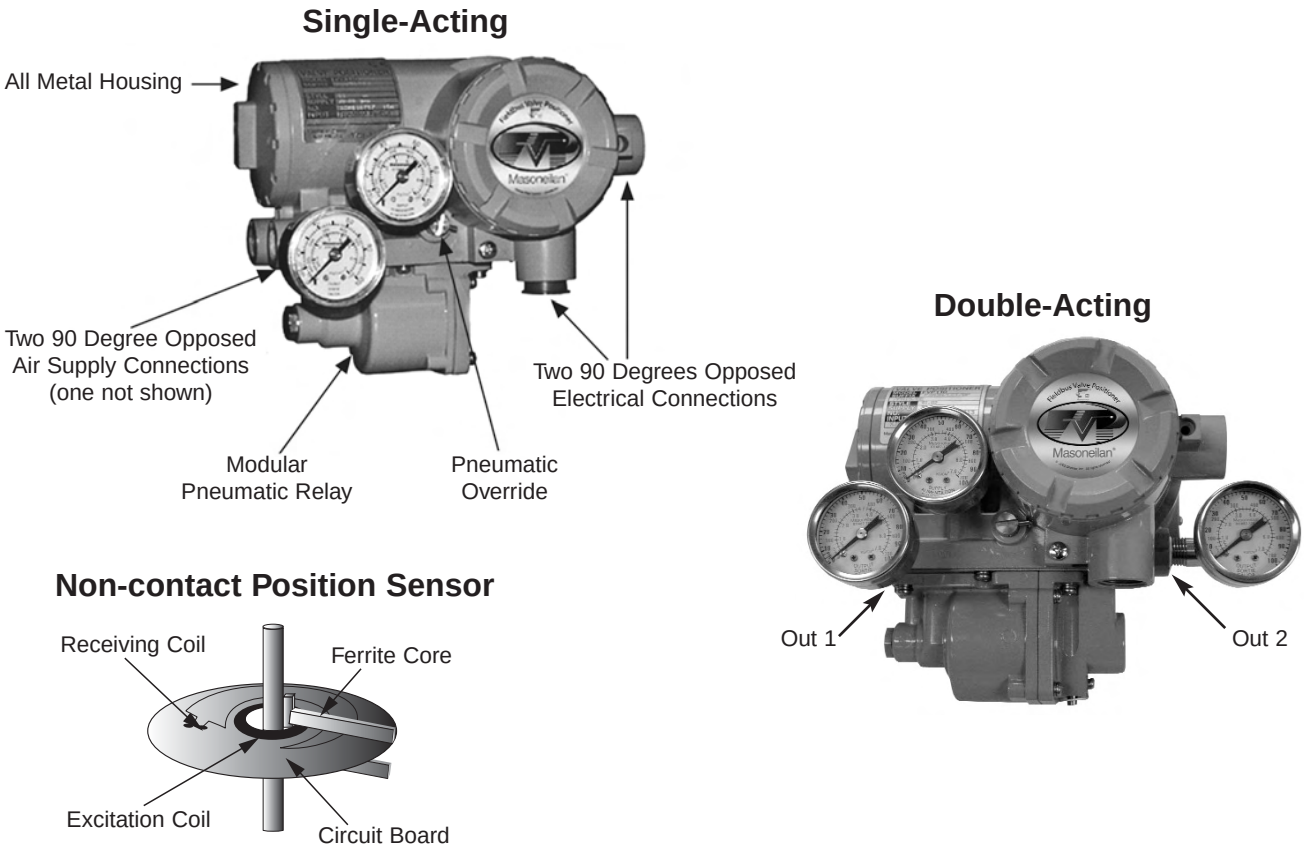



**Figure 1: Masoneilan FVP Components**

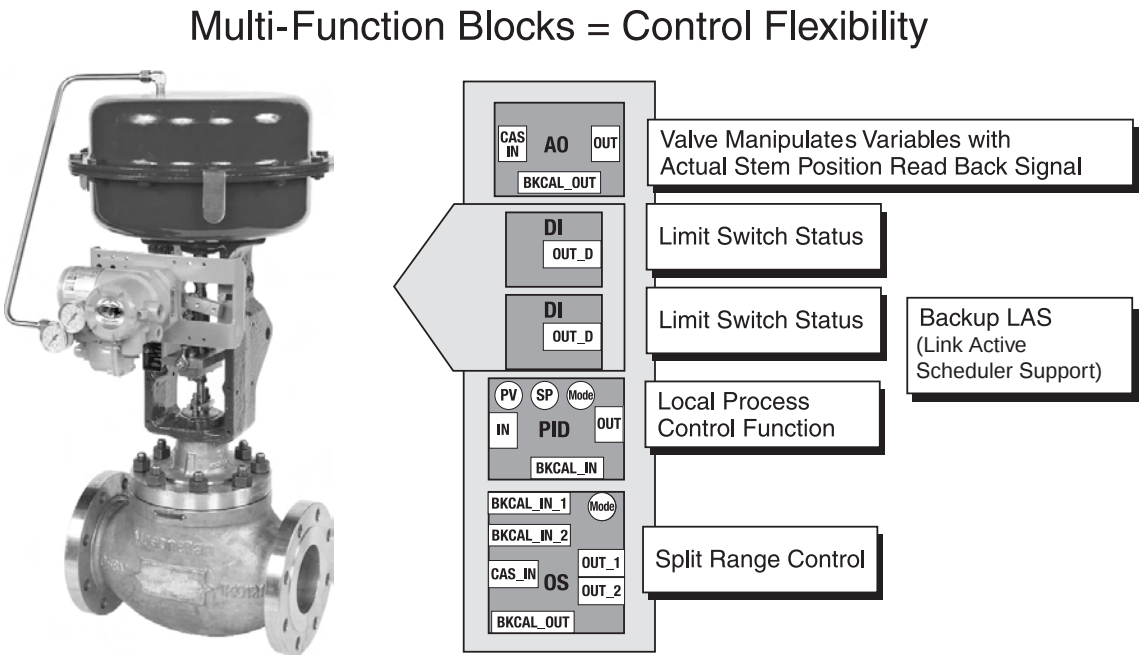



**Figure 2: Masoneilan FVP Functional Overview**

# Physical and Operational Specifications

| Item | | Specification |
|---|---|---|
| Communication Protocol | | FOUNDATION Fieldbus™ |
| Voltage/Capacitance | | 9 - 32 Vdc / 1.76 nF |
| Housing Materials | | Case: Aluminum die-cast / Paint: Polyurethane resin-baked finish |
| Weight | | Single-Acting = 5.1 lbs (2.3 Kg) |
| | | Double-Acting = 6.2 lbs (2.8 Kg) |
| Supply Current (Standard) | | 17mA max (16mA standard) |
| Supply Current (on-line download version) | | 17mA (approximately 41mA when flashing firmware) |
| Action | | Single-Acting / Double-Acting |
| Connections | Pneumatic | 1/4 NPT Female |
| | Electrical | 1/2 NPT Female (other options available) |
| | Gauges | 1/8 NPT |
| External Pneumatic Auto/Manual Switch | | Included |
| Position Sensor Span | | Rotary Travel 20 - 90°<br>Linear Travel 0.4 - 6 inches (10 - 152mm) (1) |
| Operating Temperature Limits | | Single-Acting = -40°F to 185°F (-40°C to 85°C)<br>Double-Acting = -40°F to 140°F (-40°C to 60°C) Option available for higher temperature. |
| Enclosure Rating | | IP65, NEMA4X |
| Linearity | | +/-0.5% |
| Hysteresis | | 0.3% |
| Dead Band | | 0.1% |
| Supply Pressure | | Single-Acting = 20 - 100 PSI (1.4 - 6.9 bar)<br>Double-Acting = 30 - 105 PSI (2 - 7 bar) |
| Air Consumption | | Single-Acting = 0.32 $m_3$/h at 20 PSI (1.4 bar)<br>Double-Acting = 0.508 SCFM (0.915 $Nm_3$/h) |
| Air Delivery | | Single-Acting = 6.6 $m_3$/h at 20 PSI (1.4 bar)<br>Double-Acting = 11.7 SCFM (18.85 $Nm_3$/h) |
| Temperature Effect | | +/- 0.04% of F.S./°F (+/-0.08% of F.S./°C) |
| Lightning Protection (Optional) | | Max current 6000 A (rise 1 micro second, fall 40 micro seconds)<br>Repeating current 1000 A (rise 1 micro second, fall 40 micro seconds) 100 times |
| Ambient Humidity Limits | | 5 to 95% RH at 104°F (40°C) |
| Vibration Limit | | 4 mm at 5 to 15 Hz / 2G at 15 to 2000 Hz |
| Shock Limit | | 10G |
| Flow Characterization | | Linear, Equal Percentage (50:1 and 30:1), Quick Opening, Camflex Eq%<br>User Defined, Tight Shut-off and Full Open |
| Valve Position Auto Tune | | Masoneilan FVP performs an automatic determination of the optimal valve position control parameters (during setup). |
| On-line Firmware Download | | Optional |
| Backup Link Active Scheduler | | Standard |

1. Above 6 inches can be achieved with custom mounting. Consult factory for mounting details.

**Table 1: Masoneilan FVP Specifications**

# Physical and Operational Specifications

| Item | Specification |
|---|---|
| Function Blocks Included | PID, AO, DI X 2: and OS (splitter block) |
| Positioner Alarms | Block Alarm, Process Alarm, and Event Update<br>Each alarm provides detailed information |
| Fail Safe Action | Internal diagnostics and configurable deviation alarm can set output pressure to zero |
| Diagnostics | Standard or Advanced (see pages 8 & 9) |
| ITK (consult www.fieldbus.org for latest updates) | 4.61 |

**Table 1: FVP110 Specifications (cont.)**

| Item | Specification | | Code |
|---|---|---|---|
| ATEX | Flame Proof | Per EN 50014 (1997) and EN 50018 (2000)<br>Group: II<br>Category: 2G<br>EEx d IIC T6, ambient Temp.: -40 to 167°F (-40 to 75°C)<br>EEx d IIC T5, ambient Temp.: -40 to 176°F (-40 to 80°C) | KF2 |
| ATEX | Intrinsically Safe | Per EN 50014 (1997), EN 50020 (2002), EN 50284 (1999), EN60529 (1991), and EN50281-1-1 (1998)<br>Group: II<br>Category : 1GD, 1G or 1D<br>Maximum Surface Temp for dust proof: 212°F (100°C)<br>Ambient Temp for 1G: -40 to 140°F (-40 to 60°C)<br>Ambient Temp for 1D: -40 to 176°F (-40 to 80°C)<br>Ambient Temp for 1GD: -40 to 140°F (-40 to 60°C) | KS25 |
| | Gas Proof/Dust Proof | EEx ia IIC T4<br>EEx ia IIB T4 | |
| ATEX | Type n | Group: II, Category: 3G | Consult Factory |
| Factory Mutual Approvals | Explosion Proof | Class I, Division 1, Groups B, C and D | FF1 |
| | Intrinsically Safe | Class I, II, III Division 1, Groups A, B, C D, E, F and G | FSI5 |
| | Non-incendive | Class 1, Division 2, Groups A, B, C and D Suitable for Class II, Division 2, Groups F and G and Class III with Non-incendive Field Wiring applications Hazardous (Classified) | FN15 |
| CSA Approvals | Explosion Proof | Class I, Division 1, Groups B, C and D | CF1 |
| | Intrinsically Safe | Ex ia IIB/IIC T4; Tamb = -58 - 140°F (-50 to 60°C);<br>CSA Enel Type 4X; IP66 | CS15 |
| JIS Approvals | Explosion Proof | Class I, Division 1, Groups B, C and D | JF3 |
| | Intrinsically Safe | | JS3 |
| CE Conformity | | Yes per EN61326 | |

Note: Intrinsically safe approvals per FISCO.

**Table 2: Agency Approvals**

## Model Numbering System

Table 3 (below) describes the Masoneilan FVP model numbering system and features. For example, Masoneilan FVP model number *FVP110-F1A1/LC1/BP/FF1* indicates: Foundation Fieldbus input signal, is intended for a Single-Acting Actuator, has a PID Function Block, Pressure Sensor and Diagnostics and meets FM Explosion Proof Agency Certification.

| Model | Suffix Codes | Description |
|---|---|---|
| FVP110 | | |
| Input Signal | -F | Foundation Fieldbus |
| Applicable Actuator | 1 | Single-Acting Actuator |
| | 2 | Double-Acting Actuator. See price sheet for an example. |
| - | A | Always A |
| Connection | 3 | Electrical Connection: 1/2NPT, Pneumatic Connection: 1/4NPT |
| | 6 | Electrical Connection: M20, Pneumatic Connection: Rc 1/4" |
| | N | |
| Option Codes | / | Optional Specifications (see table below for codes and descriptions) |

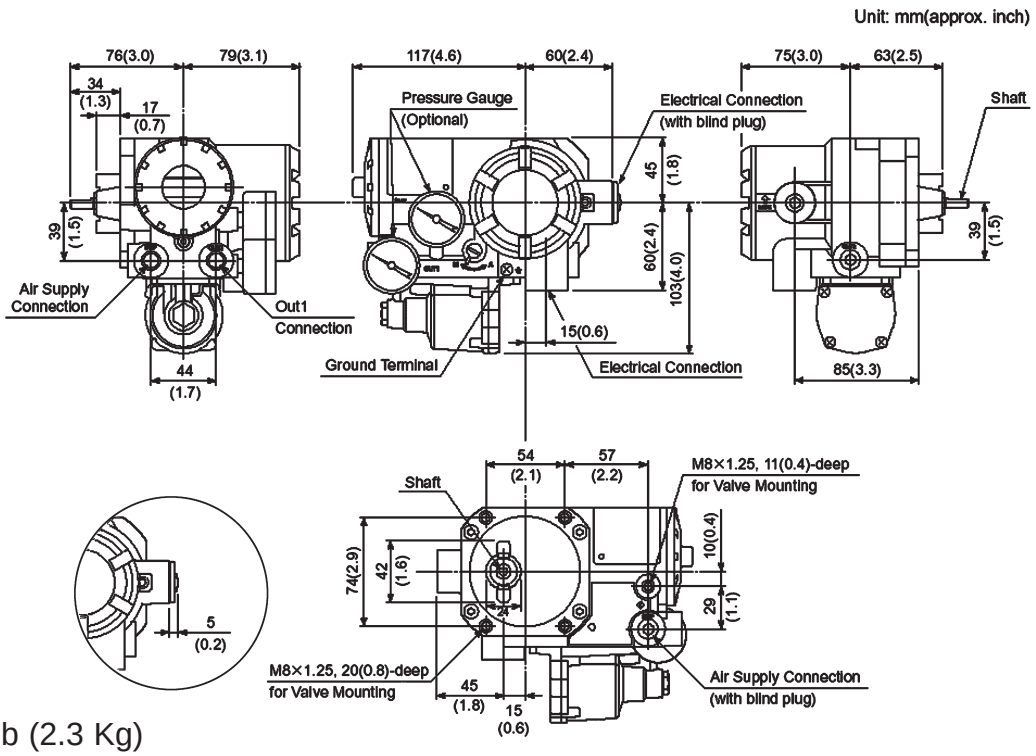
**Note:** 0-100 psi (0-7 bar) pressure gauges for OUTPUT and SUPPLY are provided as standard.

## Optional Specifications

| Item | Description | Code |
|---|---|---|
| Lightning protection | Power supply 10.5 to 32 V DC Allowable current Max.6000A(1×40µS), repeating 1000A(1×40µS) 100 times | A |
| Coating Change | Epoxy resin coating | X1 |
| PID Function Block, Link master function | Process control function block with backup link master function | LC1 |
| Output pressure detecting function, Signature function | Advanced Diagnostics | BP |
| High Temperature (for Double-Acting Only) | +14°F to +180°F (-10°C to +85°C) ambient temperature | HT |
| FF Firmware Download Function (Not available for Intrinsic Safety) | Online Firmware Upgrade | EE |
| FM Explosion proof | See Table 2 | FF1 |
| FM Intrinsic Safety | See Table 2 | FS15 |
| FM Non incendive | See Table 2 | FN15 |
| CSA Explosion proof | See Table 2 | CF1 |
| CSA Intrinsic Safety | See Table 2 | CS15 |
| ATEX Type N Consult Factory | See Table 2 | KN25 |
| ATEX (KEMA) Flame Proof Approval | See Table 2 | KF2 |
| ATEX (KEMA) Intrinsic Safety Approval | See Table 2 | KS25 |

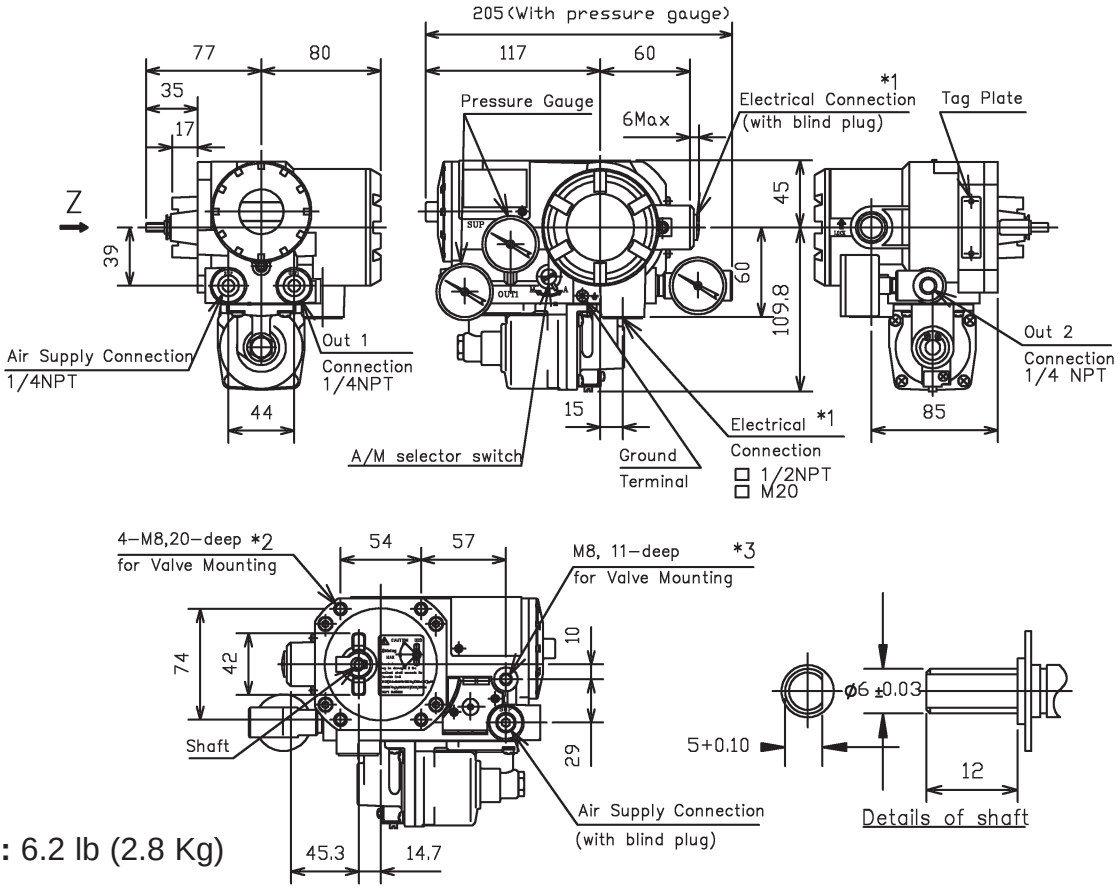
**Table 3: Masoneilan FVP Model Nomenclature**

# Dimensions and Weights




**Weight:** 5.1 lb (2.3 Kg)

**Figure 3: Masoneilan FVP Dimensions (Single-Acting)**




**Weight:** 6.2 lb (2.8 Kg)

**Figure 3: Masoneilan FVP Dimensions (Double-Acting)**

# Alarms

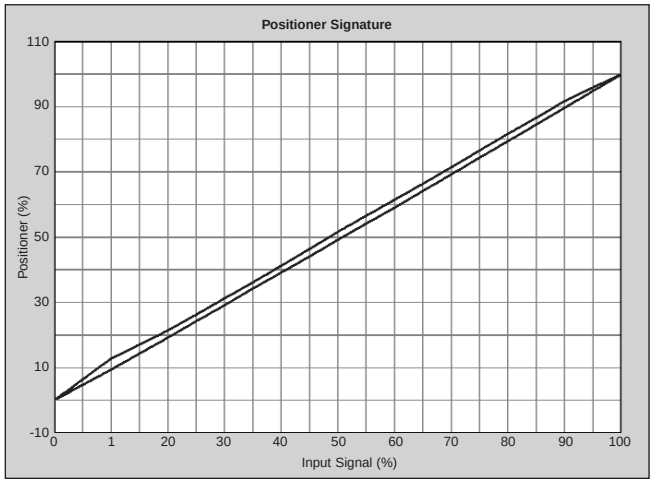
| Control Valve Related Runtime Alarms | Diagnostics Option | |
|---|---|---|
| | Standard | Advanced / BP |
| Temperature Sensor Failure | X | X |
| Pressure Sensor Failure | | X |
| Position Sensor Failure | X | X |
| A/D Converter Failure (Position Sensor) | X | X |
| EEPROM Failure | X | X |
| Amplifier Failure | X | X |
| Failsafe | X | X |
| Temperature Measurement Out of Range | X | X |
| Pressure Measurement Out of Range | | X |
| Position Sensor Out of Range | X | X |
| Adjustable Hi-Lo Servo Drift Warning | X | X |
| Cycle Count Limit Exceeded | X | X |
| Travel Limit Exceeded | X | X |
| Total Time Open Limit Exceeded | X | X |
| Total Time Closed Limit Exceeded | X | X |
| Total Time Near Closed Limit Exceeded | X | X |
| Deviation Warning | X | X |
| Deviation Error | X | X |
| **Calibration Related Feedback / Alarms** | | |
| Auto Tune / Travel Calibration Error | X | X |
| Exhaust Air Press Warning | | X |
| Small Air Supply Warning | | X |
| Large Air Supply Warning | | X |
| Offset Drift Warning | X | X |
| Large Response Speed Warning | X | X |
| Large Hysteresis Warning | X | X |
| Large Slip Width Warning | X | X |
| Small Angle Span Warning | X | X |
| Large Angle Span Warning | X | X |
| 50% Angle Warning | X | X |
| Small Angle Span Error | X | X |
| Large Angle Span Error | X | X |
| 50% Angle Error | X | X |
| Linear Adjustment Error | X | X |
| Offset Measurement Failed | X | X |
| Gain Measurement Failed | X | X |
| Response Speed Measurement Failed | X | X |
| Hysteresis Measurement Failed | X | X |

# Masoneilan FVP Diagnostics

The Masoneilan FVP has two levels of diagnostics: **Standard** or **Advanced**. The **standard diagnostics version** provides Fieldbus Alarms (see page 8).

The **advanced diagnostics version** provides more in depth calculations (friction, spring range, etc) using a built in pressure sensor (see examples below). This version also provides a means of measuring online friction as well as the dynamic performance of the valve without disturbing the process (consult Masoneilan for details).

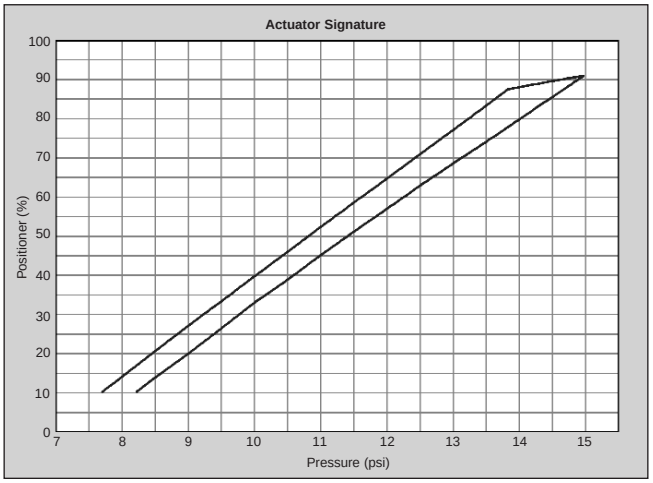
## Positioner Signature
### (Stored on PC)
**Travel vs Setpoint**




**Analysis**

- Hysteresis
- Deadband
- Accuracy
- Linearity
- Overall "Picture"

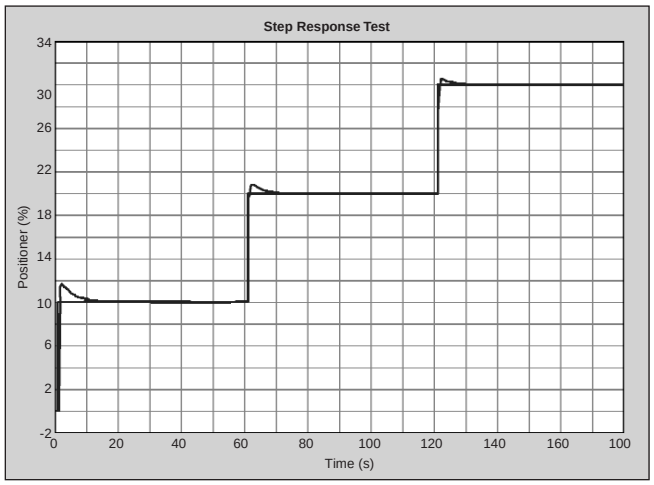
## Standard Actuator Signature*
### (Stored in the Masoneilan FVP or PC)
**Travel vs Actuator Pressure**




**Analysis**

- Friction
- Spring Range
- Stick-Slip Width
- Actuator Pressure

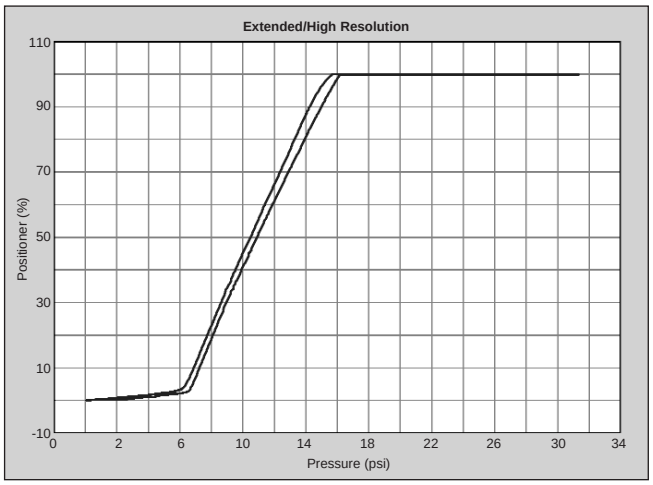
## Step Signature
### (Stored on PC)
**Travel & Setpoint vs Time**




**Analysis**

- T86
- Overshoot
- Resolution
- Dead Time

## Extended Actuator Signature*
### (Stored on PC)
**Travel vs Actuator Pressure**




**Analysis**

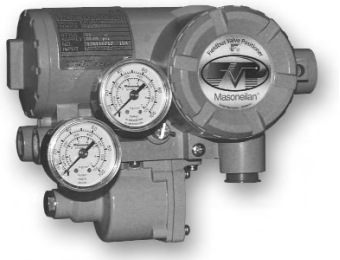
- Friction
- Spring Range
- Stick-Slip Width
- Actuator Pressure
- Seating Analysis

***Available with Single-Acting version only.***

**Figure 4: Masoneilan FVP Diagnostics, Graphs**

# Masoneilan FVP Integration With Host Systems

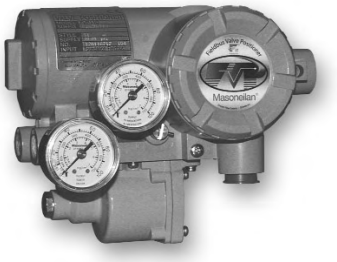
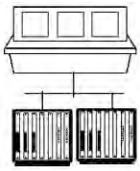
Table 4 below provides a summary of the possible Masoneilan FVP and Host System integration configurations.

|  | **Certified & Approved FF Host System With Advanced Diagnostics Integration [3]** | | | **All Certified & Approved Foundation Fieldbus Host Systems** |
|---|---|---|---|---|
| | **Honeywell** | **Emerson** | **Yokogawa** | |
| | Experion™ PKS | Emerson DeltaV™ | Yokogawa CS 1000 CS 3000 STARDOM™ | |
| **Configuration – Calibration – Diagnostics** | | | | |
| Diagnostics Integration | Yes[1] | Yes[2] AMS™ | Yes[4] PRM | Consult Masoneilan |
| Configuration / Calibration Using Menus, Methods & Setup Wizards | Yes[4] | Yes[4] | Yes[4] | Yes |
| Configuration / Calibration via Host | Yes | Yes | Yes | Yes |
| Asset Management Support | Yes[1] FVP Scout | Yes[2] AMS | Yes[4] PRM | Consult Masoneilan |
| Configuration / Calibration via Host | Yes | Yes | Yes | Yes |
| Configuration / Calibration / Diagnostics via ValVue FF Standalone connected to H1 Segment | Yes | Yes | Yes | Yes |
| ValVue | | | | |
| Configuration / Calibration / Diagnostics via Integrated Package | Yes[1] | Yes[2] | Yes | Consult Factory |
| ValVue | | | | |
| Name of Add-On Package | Pending | AMS ValVue FF SNAP-ON™ | ValVue FF PRM Plug-In | N/A |

1. Asset Manager Fault Models for FVP.
2. Emerson Delta V AMS SNAP-ON for ValVue FF.
3. At Time of Print. For other systems contact Masoneilan.
4. Device Type 1, Rev 3 or Type 7 only

**Table 4: Masoneilan FVP - Host Integration**

# Table of Contents

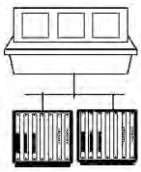
| Diagnostic Item | Diagnostics Version | | Accessibility Read and Write (if applicable) | | | Device Initiated |
|---|---|---|---|---|---|---|
|  | Standard | Advanced /BP Option | Host System (TB Block and menus-and-methods)  | FF Handheld (TB Block and menus-and-methods)  | ValVueFF   | Minimal or No Highway Loading (2) |
| **Diagnostics Tests** | | | | | | |
| Self check including auto-analysis of spring range, low and high air supply, valve hysteresis, time constant, and stick-slip | ✔* | ✔ | ✔ | ✔ | ✔ | ✔ |
| Standard Actuator Signature test with automatic friction, and spring range analysis (4) | | ✔ | ✔ | ✔ | ✔ | ✔ |
| On board non-volatile memory storage for two actuator signatures with analysis (4) | | ✔ | ✔ | ✔ | ✔ | ✔ |
| Extended actuator test with automatic friction, spring, and seating analysis (4) | | ✔ | | | ✔ | ✔ |
| High resolution extended actuator test with automatic friction, spring, and seating analysis (4) | | ✔ | | | ✔ | N/A |
| Positioner performance signature (positioner signature) | | ✔ | | | ✔ | ✔ |
| Valve/Actuator/Positioner performance signature (step test) | | ✔ | | | ✔ | ✔ |
| Online performance analysis including friction | ✔(3) | ✔ | | | Consult Factory | |
| **Signature Handling** | | | | | | |
| Comparative signature overlay and analysis of 8 tests | N/A | N/A | ✔(1) | | ✔ | N/A |
| Trending window of diagnostic test progress can be saved | N/A | N/A | ✔(1) | | ✔ | N/A |
| Batch operation for diagnostic tests | N/A | N/A | ✔(1) | | ✔ | N/A |
| HTML report | N/A | N/A | ✔(1) | | ✔ | N/A |

1. This feature is host system dependent. See table “Integration with control systems” for more details, page 10.
2. Diagnostic tests or calibration routines, which are “device initiated” and running within the micro-processor of the Masoneilan FVP. Therefore, minimal or no communication bandwidth is affected, which allows for successful completion of these tasks without sacrificing the H1 segment throughput.
3. Friction related information not available.
4. Not available with Double-Acting.

* Spring Range, Air Supply Not Available

**Table 5: Diagnostics Summary**

# Diagnostics Summary

| Diagnostics Item | Diagnostics Version | | Accessibility Read and Write (if applicable) | | | Device Initiated |
|---|---|---|---|---|---|---|
|  | Standard | Advanced /BP Option | Host System (TB Block and menus-and-methods)  | FF Handheld (TB Block and menus-and-methods)  | ValVueFF ValVue | Minimal or No Highway Loading [2] |
| **Valve Historian** | | | | | | |
| 32 bit cycle counter with adjustable alarm threshold | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 32 bit Travel accumulator with adjustable alarm threshold | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Accumulating timer of valve position “closed” with adjustable alarm threshold | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Accumulating timer of valve position “near closed” with adjustable alarm threshold | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Accumulating timer of valve position “open” with adjustable alarm threshold | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| **FVP Self Initiated Diagnostics** | | | | | | |
| Impending positioner or control valve problem (servo alarm) | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Control valve position deviation from commanded setpoint | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Sensor failures (position, temperature, A/D converter, etc) | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| CPU tasks, memory integrity, communication integrity | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| **Setup and Calibration Diagnostics** | | | | | | |
| Auto-Calibration with 9 pass-fail criteria | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Positioning AutoTune with 11 pass-fail criteria | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

1. This feature is host system dependent. See table “Integration with control systems” for more details, page 10.
2. Diagnostic tests or calibration routines, which are “device initiated” and running within the micro-processor of the Masoneilan FVP. Therefore, minimal or no communication bandwidth is affected, which allows for successful completion of these tasks without sacrificing the H1 segment throughput.
3. Friction related information not available.

**Table 5: Diagnostics Summary (cont.)**

# Fieldbus Specification Data Summary

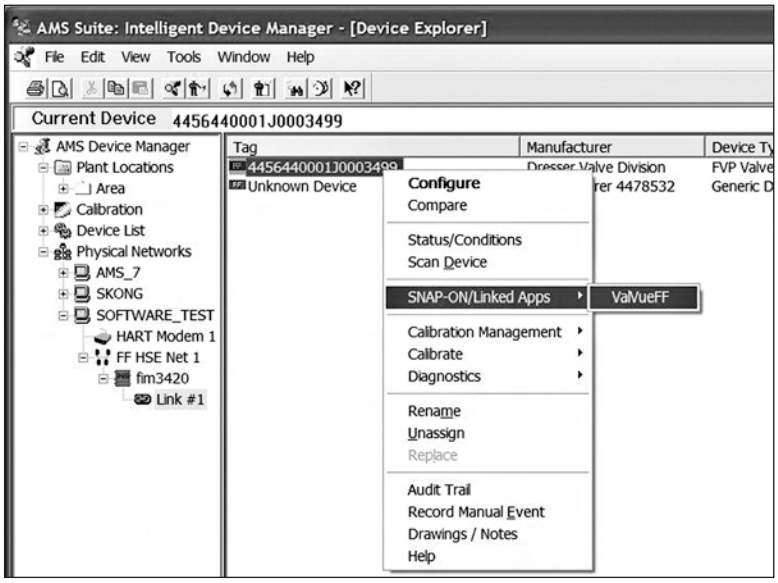
| | | |
|---|---|---|
| **1. General** | | |
| | Is the device registered at the Fieldbus Foundation (Y/N) | Yes |
| | Manufacturer Name | Dresser Masoneilan |
| | Manufacturer ID | 445644 |
| | Model | FVP110 |
| | Device Type/Rev | 1/4 |
| | | 7/2 |
| | ITK (See www.fieldbus.org for latest updates) | 4.61 |
| **2. DD and CFF** | | |
| | Device Description File Name (.ffo and .sym) | Type 1: 0401.FFO, 0401.SYM |
| | | Type 7: 0202.FFO, 0202.SYM |
| | Capabilities File Name | Type 1: 040101.CFF |
| | | Type 7: 040101.CFF |
| | List of Methods | Setup Wizard |
| | | Auto Tuning |
| | | Travel Calibration |
| | | Operational Configuration |
| | | Search Stop Points |
| | | Control Parameter Tuning |
| | | Self Check Execution |
| | | Release Fail Safe |
| | | Signature Execution |
| | | Upload Signature Data |
| | | Upload Signature Header Data |
| | | Instant Troubleshooting |
| **3. Physical** | | |
| 3.1 | Polarity Sensitive (Y/N) | Yes |
| 3.2 | Quiescent Current Draw (mA) | 16 |
| 3.3 | Startup Current Draw (ma) | 17 |
| 3.4 | Capacitance | 176nF |
| 3.5 | 4-wire Device | No |
| **4. Communication** | | |
| 4.1 | Stack Manufacturer | Yokogawa/Softing |
| 4.2 | Does the Device support Backup LAS functionality? | Yes |
| 4.3 | Total Number of VCRs | 29 |
| | Number of Fixed VCRs for user configuration (Publisher, Subscriber, Alarming, and Trending) | QUB/Server-3 |
| | | QUU/Source(Alert)-1 |
| | | QUU/Source(Trend)-1 |
| | | BNU/Publisher - 11 |
| | | BNU/Subscriber - 12 |

# Fieldbus Specification Data Summary (cont'd)

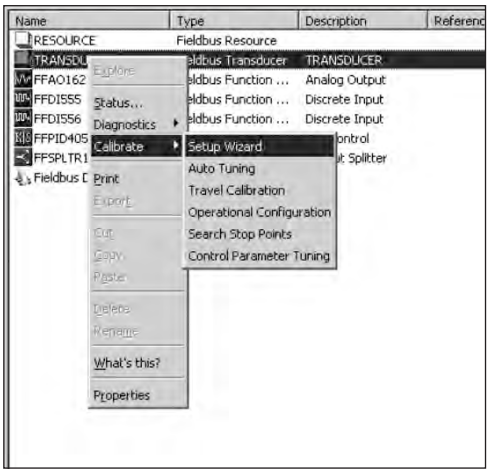
| | | |
|---|---|---|
| **5. User Layer General** | | |
| 5.1 | Function Block Application Manufacturer | Yokogawa |
| 5.2 | Function Blocks (list all type, but not including transducer) | AO, PID, DI, OS |
| 5.3 | Device Support Block Instantiation (Y/N) | No |
| 5.4 | Number of Link Objects | 25 |
| 5.5 | Device Support firmware upgrade over fieldbus segment? (Y/N) | Yes (optional) |
| **6. Resource Block** | | |
| 6.1 | Block Class (Standard, Enhanced, Custom) | Standard |
| 6.2 | Special Features | No |
| **7. Transducer Blocks** | | |
| 7.1 | Block Class (Standard, Enhanced, Custom) | Custom |
| 7.2 | Does the device support methods in the Resource and Transducer Blocks? | Yes |
| 7.3 | Special Features besides Methods (multiple views, etc.) | Yes |
| 7.4 | Transducer Block Special Features (supports Methods, multiple VIEWS, etc.) | Multiple VIEWS |
| **8. Function Blocks** | | |
| 8.1 | Does the Device support Custom Function Blocks? | No |
| 8.2 | Block Type | DI1, DI2, OS, PID, AO |
| 8.3 | Number Available | 5 (RB and TB not included) |
| 8.4 | Execution Time (ms) | AO: 95 ms, PID: 120 ms, OS: 95 ms, DI1 & DI2: 40 ms |
| 8.5 | Block Class (Standard, Enhanced, Custom) | Standard |
| 8.6 | Is the AO block of the device able to operate in Cascade mode? | Yes |
| **9. Channels** | XD_SCALE and CHANNEL value | Listed by Channel, Unit Code, Enumerated Description, and Function Block Type |
| 9.1 | Channel 0 | PID Controlled Value Input |
| 9.2 | Channel 1 | Analog |
| | | Input/Output |
| | | Set point and readback signals |
| 9.3 | Channel 2 | Discrete output High limit switch status |
| 9.4 | Channel 3 | Discrete output Low limit switch status |

# Ease of Setup

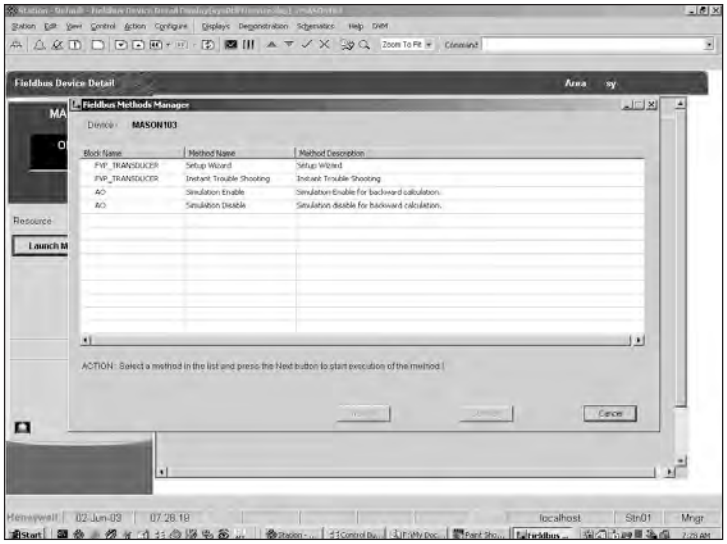
The Masoneilan FVP is very easy to setup, configure and commission from any FF host, because the (DDs) that reside in the host system contain "menu and methods" to guide the user through the Masoneilan FVP setup. Below are a few examples of the Setup Wizard executed from some commonly used host systems and Masoneilan FVP.



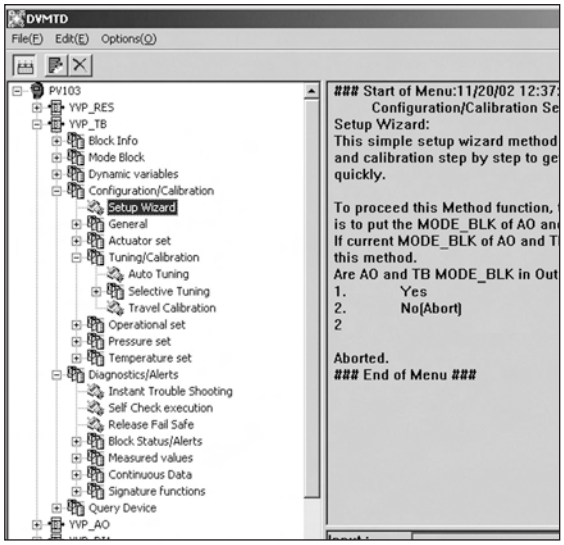

Emerson Process Management integration - ValvueFF Snap-On for AMS 7.0, DeltaV 7.2 or later edition




Launching the Setup Wizard by Right-clicking on the TB Block from the DeltaV Explorer




Honeywell ExperionPKS – How to Launch the Setup Wizard from the "Fieldbus Methods Manager"




Yokogawa Centum system – How to Launch the Setup Wizard from the "Method Invoker"

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