

Control Valve Maintenance Support System

Valstaff™

*Connect to the field.
Change the maintenance.*



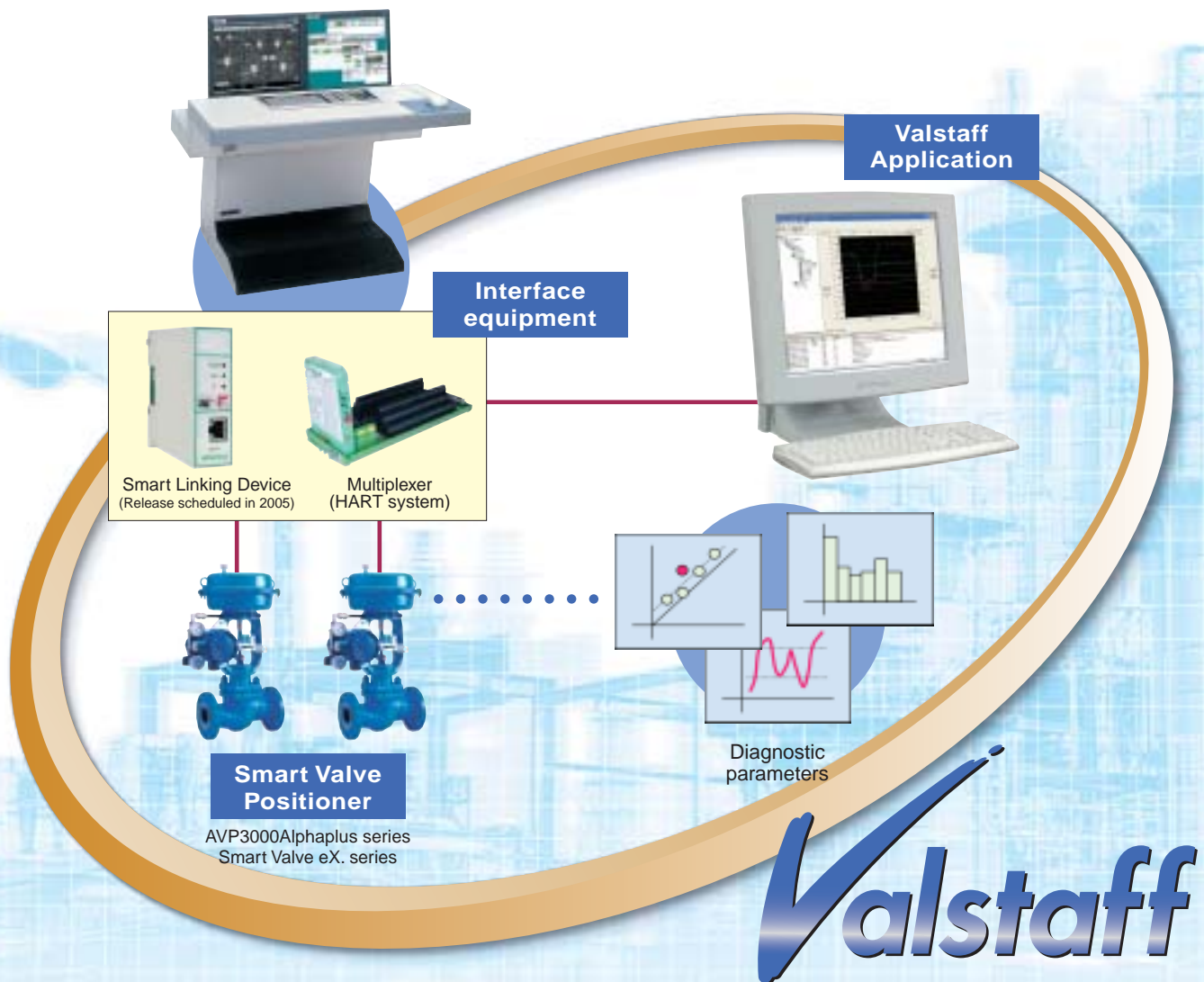
Increase productivity of plant operation.

Valstaff supports the solution of today's plant operation issue from the aspect of control valve maintenance.

CONCEPT

Control Valve Maintenance Support System Valstaff is a maintenance support information system established as a sub-network of a control system.

Valstaff collects the information regarding to the control valve operating condition, supports the decision-making necessary for control valve maintenance and promotes the efficiency of maintenance operations.



1***Increase efficiency of overhaul inspection.***

If you consider diagnostics parameters of Valstaff to make a selection of overhauled control valves, unnecessary overhaul inspection will be reduced.

2***Flexible monitoring of important control valves.***

Valstaff can be easily installed in an existing plant. Also, you can select specific control valves to monitor after Valstaff installation.

3***Quick response against failures.***

If you set alarms to the diagnostics parameters of Valstaff, you can specify deteriorated control valves quickly and take prompt action against unexpected failures.

4***Standardization of maintenance work.***

If you use the Valstaff performance test function, you can evaluate control valve performance with reliable data. Also, Configuration of SVP is much easier than using handheld communicators.

Valstaff Application

Valstaff provides versatile functions to support control valve maintenance that are necessary to bring out maximum performance of a control valve throughout its lifecycle.

Operation Setup Mode



Maintenance importance level registration

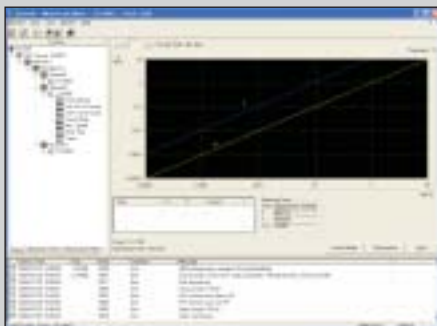


HART Tag commissioning

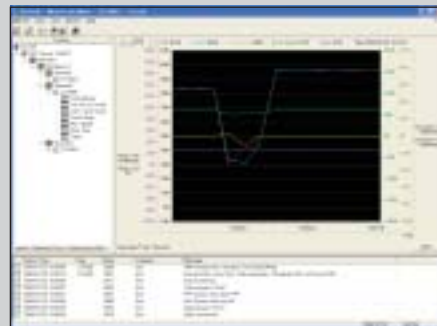
In Operation Setup mode, various types of information necessary for maintenance operation are registered and organized.

Also, system security that is mandatory to use Valstaff effectively is established in this mode by setting password according to user level and security network commissioning.

Monitoring mode



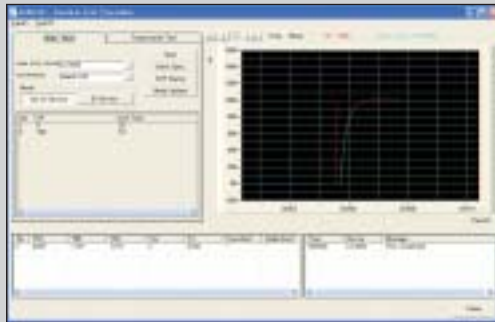
Stick-slip diagnostics algorithm



Set point / Valve travel trend

In Monitoring mode, transition of diagnostic parameters is checked by periodically communicating with smart valve positioners during plant operation. This mode supports effective monitoring of control valves with expected deterioration, allowing quick response against unexpected failures.

Test mode



Execution of solo test



Programming of programmed test

In Test mode, performance test commands are transmitted to smart valve positioners and their responses are received during plant shutdown. You can evaluate control valve performance with historical test results. There are two types of tests; a solo test and a programmed test. The solo test is a test for a single control valve, and the programmed test is a test for a programmed control valve.

SVP Configuration / Calibration mode



Executing Auto setup



Parameter management

In SVP Configuration / Calibration mode, smart valve positioners are configured and calibrated during plant shutdown. The Configuration / Calibration data is saved in Valstaff and can be read anytime.

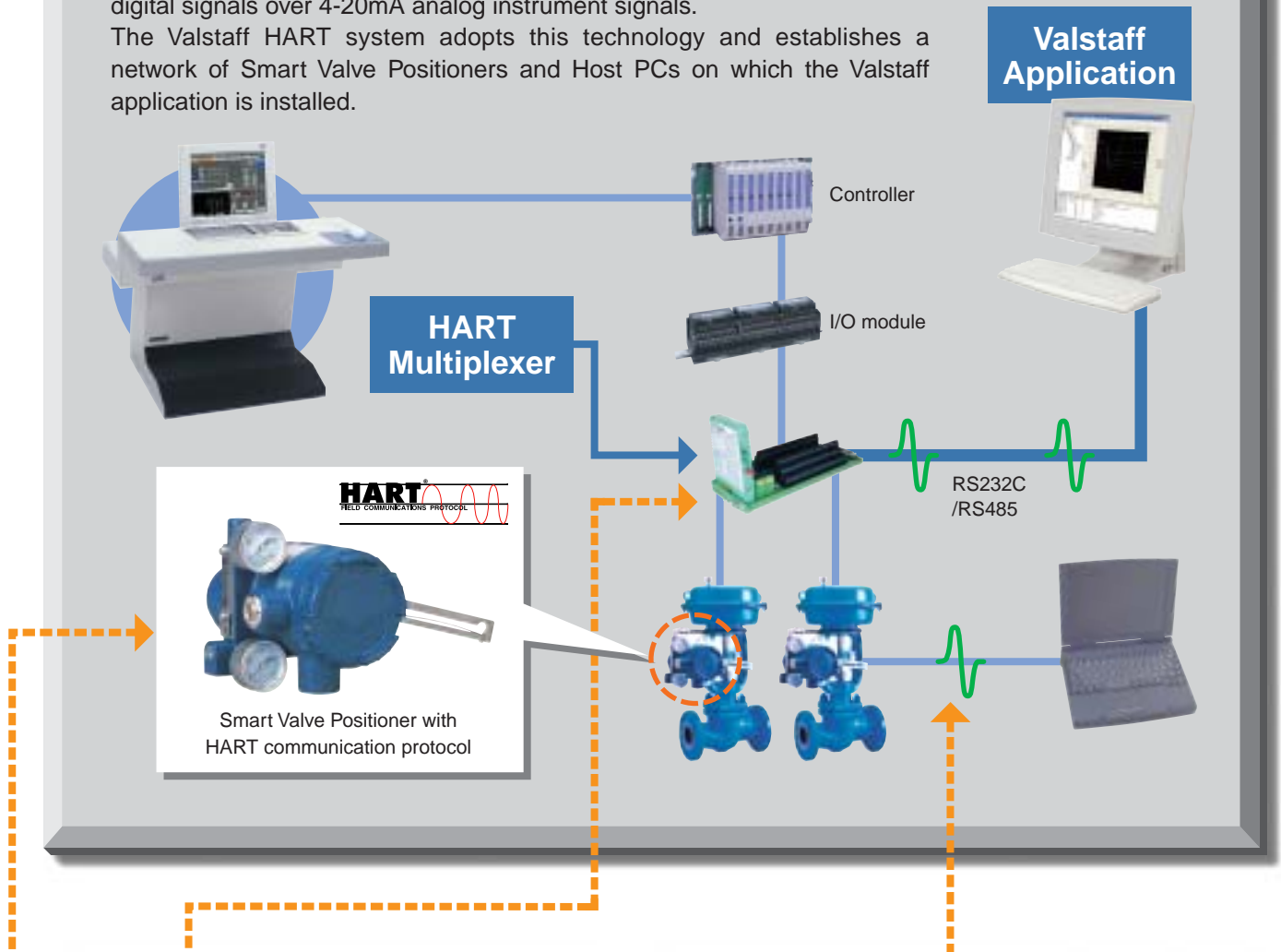


Mode select

System structure

HART System

The HART protocol is a communication technology that superimposes digital signals over 4-20mA analog instrument signals. The Valstaff HART system adopts this technology and establishes a network of Smart Valve Positioners and Host PCs on which the Valstaff application is installed.



HART Multiplexer

The HART Multiplexer enables networking of PCs on which the Valstaff application is installed and multiple Smart Valve Positioners.

Pepperl +Fuchs/Elcon, HART Multiplexer



HART Modem

The HART Modem enables communication between PCs on which the Valstaff Application is installed and Smart Valve Positioners. Suitable for communication using notebook type PCs.

MACTek Corporation, HART Modem

Smart Valve Positioner with HART communication protocol



Model AVP302
(General Type)



Model AVP202
(Remote Type)

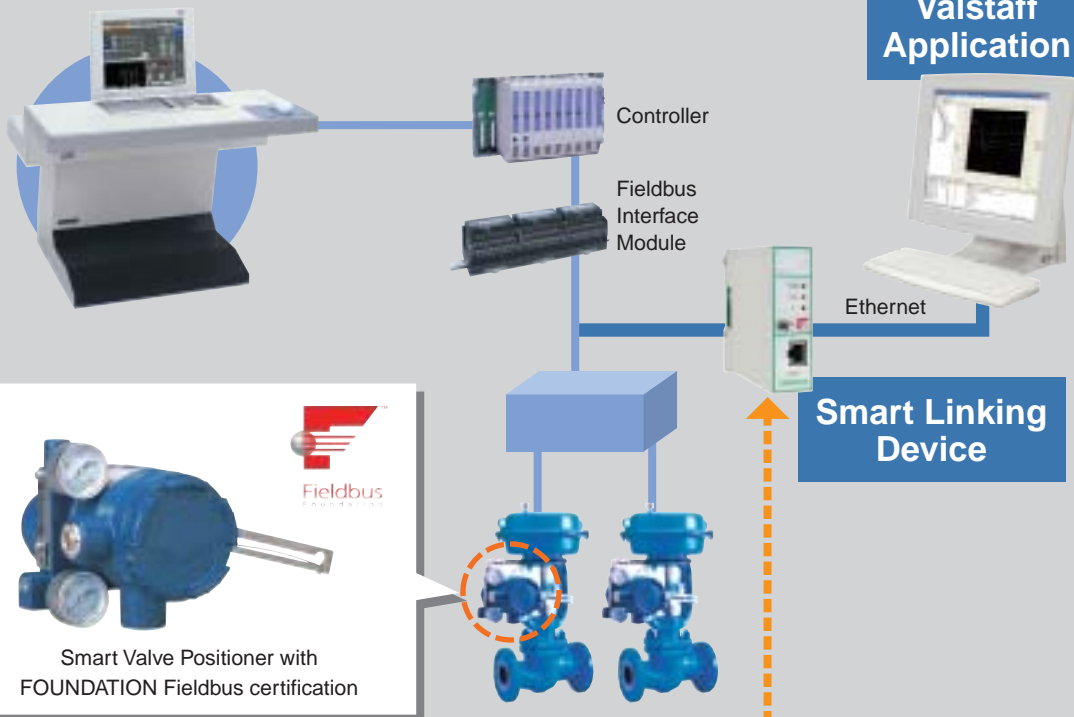


Model SVX102
(For Rotary Control Valve)

A wide range of products is available to meet versatile applications of Valstaff and Smart Valve Positioner. Smart Valve Positioners that are used with Valstaff support diagnostics parameters and performance tests.

FOUNDATION Fieldbus System

FOUNDATION Fieldbus is the digital communication technology that is standardized worldwide. Multiple field instruments and control systems are integrated under this open technology. Valstaff FOUNDATION Fieldbus System is established as a subsystem of the FOUNDATION Fieldbus control system (release scheduled in 2005).



Smart Linking Device (Release scheduled in 2005)

Convert data from H1 Fieldbus to Ethernet. Receives certification of FOUNDATION Fieldbus and OPC Foundation/OPC Server.

Smart Valve Positioner with FOUNDATION Fieldbus certification



Model AVP303
(General Type)



Model AVP203
(Remote Type)



Model AVP304
(General Type, Analog / FF Hybrid type)
(Release scheduled in 2005)

(1) Specification of Valstaff application (HART System)

Main functions	Monitoring with diagnostics parameters
	Alarm setting with diagnostics parameters
	Step response test
	SVP Configuration / Calibration
	Control Valve specification management
	Maintenance importance rank information management
	Area / Equipment information management
	Setting of user level
	Commissioning
	Data backup / Data load
Related software	HART OPC Server (attached to Valstaff Application)
	License key driver (attached to Valstaff Application)

(2) Specification of Smart Valve Positioner (HART System)

AVP3000Alphaplus series (AVP302, AVP202)	Software version 3.a or later
Smart Valve eX series (SVX102)	Software version 4.9 or later

(3) PC Specification

Type	DOS/V Machine
CPU	Pentium4 1.0 GHz or higher
RAM	256 MB or more
Operating system	Microsoft Windows XP Professional SP1
	Microsoft Windows XP Home Edition SP1

(4) Related equipment

HART Multiplexer	Pepperl+Fuchs / Elcon MUX2700-G (Recommended)
HART Modem	MACTek Corporation Model 010001 (RS-232C connection, Recommended)
RS-232C / RS-485 Converter	Yamatake Corporation Communication Controller CMC10L (Recommended)

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HART is a registered trademark of HART Communication Foundation.

FOUNDATION is a registered trademark of Fieldbus Foundation

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