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# Flowserve ValveSight DTM installation instructions for the D3 HART Digital Positioner

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# 1 Introduction

The Flowserve ValveSight package for the D3 HART Digital Positioner offers functionality for configuring, calibrating, maintaining and diagnosing your control valve's health and operation. The package consists of two main parts – an advanced diagnostics engine inside the D3 HART Digital Positioner, and an associated DTM to run under an FDT frame on a PC or in a DCS or PLC system.

This Quick Start Guide focuses on the DTM and the environment it requires to operate.

# 2 **Pre-requisites**

- D3 HART Digital Positioner, firmware revision 10.0 or higher (D3 HART ValveSight). A D3 with pressure sensors is recommended to make full use of the diagnostics functionality.
- HART communication hardware (i.e. HART modem).
- A HART communication DTM certified by the FDT group, suitable for the HART communication hardware. A certified HART communication DTM working with most HART modems on the market can be obtained through Flowserve.





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- An FDT compliant frame such as Endress + Hauser Fieldcare, M&M fdtContainer, Yokogawa FieldMate or Pactware. Or use a DCS or PLC FDT frame such as the ABB DIC, Yokagawa PRM, Foxboro FDM, Honeywell FDM Smar FDM, Allen Bradley FDM, or the Metso Automation FDM,.
  - Note: Pactware is a free download at <u>http://www.pactware.com</u>) or fdtCONTAINER is also a free download at <u>http://www.fdtcontainer.com</u>)
- ValveSight D3 HART DTM installer package "ValveSight D3 HART DTM Setup.exe".

**NOTE:** To start the ValveSight D3 DTM it is required that the D3 is Online, i.e. communication with the D3 is established.







# 3 Installing the D3 HART DTM

The latest version of the ValveSight D3 HART DTM can be downloaded from the web page: http://www.pmv.nu/downloads.aspx?pathlocator=8.1

To install the DTM, please run the "ValveSight D3 HART DTM Setup.exe". It will automatically start the installer and guide you through the process.



Figure 1: Installation dialog

You are required to read through and accept the License Agreement before continuing the installation.



Figure 2: License agreement





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Pressing the Next button after accepting the License Agreement will allow you decide where you wish to install the DTM on your computer.

🔽 Setup - ValveSight D3 HART DTM					
Select Destination Location Where should ValveSight D3 HART DTM be installed?					
Setup will install ValveSight D3 HART DTM into the following folder.					
To continue, click Next. If you would like to select a different folder, click Browse.					
C:\Program Files\Flowserve ValveSight\D3 HART DTM Browse					
At least 30,3 MB of free disk space is required.					
Kack Next > Cancel					

Figure 3: DTM install location

Short cuts are then placed in the Start Menu.

🔽 Setup - ValveSight D3 HART DTM
Select Start Menu Folder Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
Flowserve ValveSight\D3 HART DTM Browse
< Back Next > Cancel

Figure 4: Selecting the Start Menu Folder

Before finishing the installation, review your choices.



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ady to Install		
Setup is now ready to begin installin computer.	g ValveSight D3 HART DTM on you	r
Click Install to continue with the inst change any settings.	allation, or click Back if you want to r	eview or
Destination location: C:\Program Files\Flowserve Va	veSight\D3 HART DTM	2
Start Menu folder: Flowserve ValveSight\D3 HAR	I DTM	
		2

Figure 5: Ready to install

Select Install and the DTM will extract the required files, register the components and create the Start Menu Folder for the DTM.

🔽 Setup - ValveSight D3 HART DTM
Installing Please wait while Setup installs ValveSight D3 HART DTM on your computer.
Extracting files c:\\Flowserve ValveSight\D3 HART DTM\Bin\Icon\store values to device.ico
Cancel

Figure 6: Installation progress





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To finish the installation, select Finish at the closing screen.

🛃 Setup - ValveSight D3	HART DTM
FLOWSERVE	Completing the ValveSight D3 HART DTM Setup Wizard Setup has finished installing ValveSight D3 HART DTM on your computer. The application may be launched by selecting the installed icons. Click Finish to exit Setup.
	Finish

Figure 7: Finishing installation

You need a suitable FDT frame, HART modem and Communication DTM installed on your computer to be able to run the ValveSight DTM. Next chapter will cover briefly the installation of a third party HART modem and communication DTM.







# 4 Installation recommendations for HART modems and communication DTM's

When running the HART version of the ValveSight DTM a HART communication hardware is required, e.g. a HART modem. This section will cover briefly the installation of two third party HART modems; the Microlink USB HART modem and the ifak USB HART modem (ifak isHRT USB). For more detailed information on the third party HART modems or communication DTMs, please refer to the installation guide for those products.

A communication DTM, CommDTM, is required to connect to the software communication components. With the Microlink USB HART modem, there is an accompanying HART communication DTM from Codewrights. The ifak USB HART modem can be purchased with a certified communication DTM: (http://www.ifak-system.com/products/communication-adapter/hart-interfaces/ishrt-usb.html). M&M has a universal HART communication DTM which works with most HART modems. (http://www.mm-software.com)

The universal HART communication DTM from M&M and a basic MicroLink HART modem can also be obtained through Flowserve.

#### 4.1 Installing HART modem, including HART driver

- 1. Start by installing the HART modem, following the manufacturer's instructions.
- 2. The USB HART modems require the installation of a driver that should accompany the modem from the manufacturer. Please install this driver. For some setups, if you move the USB modem from one USB port to another, you will have to install the driver for the new port as well or the USB HART modem will not work.
- 3. Verify which COM port the modem is attached by the following procedure:
  - a. Open the Control Panel and select System
  - b. In the System Properties, select the Hardware tab and click on the Device Manager button
  - c. In the **Device Manager** select **Ports (COM & LPT)**
  - d. Check which port the modem is installed on (see Figure 8: Finding the HART modem port). You will need this port number when starting the DTM in the FDT frame.

**NOTE:** For the ifak HART modem and Communications DTM, you will instead have to run the ifak Driver configuration utility called isHRT Driver Configuration. This software is located in the installed ifak systems folder.



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Figure 8: Finding the HART modem port

#### 4.2 Installing Communication DTM

1. Install a suitable communication DTM, for example the M&M universal HART communication DTM which works with most HART modems, by following the installation instructions provided by the manufacturer.





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## 5 An example of how to setup and run the ValveSight DTM

This section describes an example of how to get started when using a stand-alone FDT frame and a HART modem. The instructions and pictures below are using the PACTware frame. However, for example fdtCONTAINER start-up is very similar

- 1. If not done already, install the FDT frame software you have selected to use, following that frame's installation instructions.
- 2. Open the FDT frame. If you are using PACTware, log in using either the default password, or the password your organization has decided to use for PACTware. For information on the default PACTware password, please see the PACTware manual.
- 3. After a new installation of the ValveSight DTM, an update of the device catalog is required. To reach the device catalog, you can select the menu item View / Device catalog, or press F3. In PACTware the device catalog is updated by pressing the **Update device catalog** button.

PACTware					
Eile Edit View Project Dev	ice Extras Window Help ] 願 @ 望 邈 忝 恭				
catalog			-¤ X	40	
All Devices	All Devices				
CodeWrights GmbH	Device	A Protocol	Vendor	vice	
Flowserve Corporation	D3 HART	HART	Flowserve Corporation	Gata	
ifak system	🐺 FF H1 Communication DTM	FF-H1	CodeWrights GmbH		
M&M Software GmbH	Generic FF Core DTM	FF	Vendor		
PMV	🚺 Generic HART DTM	HART	ICS GmbH		
Vendor	HART Communication	HART	CodeWrights GmbH		
	😂 is HRT USB	HART	ifak system		
	togix500si/D2	HART	PMV		
	GEM HART Communication DTM	HART	M&M Software GmbH		
	Tutorial DPV1 CommDTM	Profibus DP/V1	M&M Software GmbH		
	TutorialFieldDevice1	Profibus DP/V1	M&M Software GmbH		
Group Type Protocol	TutorialFieldDevice2	Profibus DP/V1	M&M Software GmbH		
w all devices	K		)		
	Up	date <u>d</u> evice catalog	Info Add		
NONAME>	Administrator				

Figure 9: The Device Catalog

- 4. Close the device catalog window by pressing the X at the top right corner of the catalog view.
- 5. Add the COM DTM
  - a. Right Click on the **Host PC** line on the left side of the window and select Add device.





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PACTware	
Eile Edit View Project Device Extras Window Help	
Project <b>4</b> ×	
In the second se	
→ Statespart	
	G
DAC	Tanan
PAC	ware
Administrator	
Figure 10: Adding a communication DTM	17

0 0

b. Select **OEM HART Communication DTM** if you are using the M&M generic communication DTM. Or select the Communication DTM that accompanied your HART communications hardware and press the Ok button.

🔽 Device for 🛛 🔀					
All Devices					
Device 🔺	Protocol	Vendor	Group	Device Version	
🗑 FF H1 Communication DTM	FF-H1	CodeWrights GmbH	FDT	1.1.4 / 2006-10-04	
HART Communication	HART	CodeWrights GmbH	FDT	1.0.17 / 2004-11-17	
😂 is HRT USB	HART	ifak system	FDT	1.x / 2005-05-03	
🔋 OEM HART Communication DTM	HART	M&M Software GmbH	FDT	1.0.8 / 2008-06-20	
🗑 Tutorial DPV1 CommDTM	Profibus DP/V1	M&M Software GmbH	DTM specific	2.04.0003 / 2006-10-19	
<b>N</b>					
<u> </u>					
			OK	Cancel	

Figure 11: Selecting a communications DTM

6. After the communications DTM has been selected, it needs to be configured before use. How the communication DTM is configured is brand dependant.

For instance the ifak communication DTM for HART requires you to run a specific piece of configuration software that comes with the ifak HART modem



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and Communication DTM. The M&M Communications DTM requires you to do the configuration from the FDT frame by following these steps:

- a. Double click on the Communications DTM line to open its configuration.
- b. If using a USB HART modem, you need to make sure that the COM port the Communication DTM is the same as it is connected to on your computer. Often this is by default set to port 1. However, port 1 is for serial communication (serial HART modems), and if you are using a USB modem you will have to investigate which port it is connected to and then select this port. Please see *Figure 8: Finding the HART modem port* for this procedure.
- c. In the M&M OEM HART Communication DTM there is a self test available. If you are using this Communication DTM it is a good idea to run the self test before closing the configuration. USB hart modems must be set to Emulated access mode. The configuration view for the Communication DTM may differ depending on which Communication DTM you are running.



Figure 12: Communication DTM parameters





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- 7. Adding the D3 DTM
  - a. Right click on the communications DTM to access its menu selection and select Add device.

PACTware		
Eile Edit View	Project Device Extras Window Help	
Project	4 x	
Device tag		
HOST PC	1. 11. 2004	
	Connect	
**	Disconnect	
<u> </u>	Load from device	
ତ	Store to device	
	Parameter	G
	Measured Value	
	Simulation	
	Diagnostics	
	Display channels	
	Channels +	~
	Up-/Download-Manager	
	Print	
	Additional <u>functions</u>	
Q	Add device	
<u>_</u>	Delete device	navo
	Properties <oem communication="" dtm="" hart="">OEM HART Communication DTM</oem>	vare
dani in the		
<		
	<noname> Administrator</noname>	

Figure 13: Adding a device DTM

b. Select D3 HART from the list of devices and press the OK button.

📝 Device for 🛛 🔀						
All Devices						
Device 🔺	Protocol	Vendor	Group	Device Version		
D3 HART	HART	Flowserve Corporation	FDT	9.4.4 / 2008-07-07		
🕑 Generic HART DTM	HART	ICS GmbH	DTM specific	3.1.6 / 2004-11-08		
🔜 Logix500si/D2	HART	PMV	Positioner	1.1 / 2001-01-01		
<u>₩</u>						
			ОК	Cancel		

Figure 14: Selecting the D3 ValveSight HART DTM







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c. Verify that the device DTM information is correct.

PACTware		
<u>File Edit View Project Device Extras</u>	<u>Window</u> Help	
0 🗟 🗟 🗖 🖬 🖉 🖉 🖉	本 北 & 全	
Project <b>4</b> ×	© OEM HART Communication DTM Set Device Address	4 ≬ X
Device tag HOST PC G G OEM HART Communication DTM D3 HART	DEM HART Communication DTM M&M Software GmbH COM17	M& M
	A new Device DTM was attached Please verify the information for the new Device DTM. Device Dtm Information New DTM Tag: D3 HART HART Address: 0 Help Ok Cancel	Apply Close
∜0º   ★   ()   <noname>   A</noname>	dministrator	

Figure 15: Device DTM information

8. Save the project to your desktop or someplace you can easily remember. This step will remove the need for you repeatedly having to go through the above steps when starting the FDT frame.



Figure 16: Saving the project setup





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9. Connect the DTM to the D3 positioner (called "Go online" on some FDT frames). This is done by right clicking on the device DTM and selecting **Connect**. Both the HART DTM and D3 DTM need to be bold font which indicates the devices are connected and ready to launch.



Figure 17: Connecting to the device





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#### 10. Launch the D3 DTM

- a. Double click on the D3 HART DTM. This will launch the DTM.
- b. If this is the first time you are running a D3 ValveSight DTM, or if the D3 ValveSight positioner is unlicensed, the DTM will start in basic mode. This is identified at startup. The basic version has limited functionality and lacks the advanced diagnostics available in the advanced version.



Figure 18: DTM starting in basic

11. To upgrade the DTM to the Advanced version, please follow the instructions in the next chapter.







# 6 Upgrading from Basic to Advanced version

To upgrade the DTM from Basic to Advanced version you need to go through the following steps

- Contact your Flowserve representative to obtain information on how to purchase a full ValveSight license or how to obtain a time limited evaluation license.
- 2. Retrieve the Machine ID. You can get it from the License Registration view on the DTM. You will find a short cut button to the License Registration view on the Dashboard view (see picture below). You can also navigate to the License Registration view via the Configuration view and then the Information view.



Figure 19: Short cut to the License Registration view.





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Actuator Flowserve Corp.		FLOWSER	
7) HART (Online)	Active Alarman D Alarma	SEV DTM	
Dashboard Alarms Digital Output Alarm Configuration		Dashboard 🚳	
Diagnostics Histogram	License Registration		
- Data Logger - Calibration	Machine ID: 5C00E213 Extended Machi	ine ID: A38A694E	
Automatic Calibration     Automatic Calibration Settings	License Key.		
Pressure Sensor Calibration     Setpoint Calibration     Configuration	User Name:		
Custom Positioner	Company Name:		
- Tuning - Units	License Information: DTM registered for basic version		
- Information - Actuator - Value - Value	License Validity: Register DTM	Unregister DTM	
HART information	Private Dialog Enabling		
	Authorise Key:		
	User Name:		
	Company Name:		
	Private Dialog Check: Not bypassed Enable Private Dialog	ogs Disable Private Dialogs	

Figure 20: The License Registration view.

You can also retrieve your Machine ID with a program installed along with the D3 ValveSight DTM package; Go to the Windows **Start** menu, select **All Programs / Flowserve / ValveSight D3 HART DTM** and run the **Get Machine ID** program.

3. Send an email to <u>ValveSightD3support@flowserve.com</u> with the following information:

Your PMV Customer Number (see invoice): Your PMV Order Number (see invoice): Your User Name: Your Company Name: Your Standard Machine ID: Communication protocol (HART, Profibus or Foundation Fieldbus):





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  - 4. When your purchase of the licenses has been verified you will receive an email back with a license number.
  - 5. Go to the License Registration view and enter the License Number, User Name and Company Name and finish the registration by pressing the 'Register DTM' button. If the registration was successful you will be directed to the Advanced version of the Dashboard view.

The license can also be registered by going to the **Start** menu, selecting **All Programs / Flowserve / Valvesight D3 HART DTM / License registration**.

License Administrator			
Please enter your Lice Machine Id License Number	ense details: 85F4706F 1A08A0685F4706F00100651559B		
User Name Company Name	Flowserve		
Apply Extn Packs	Info Close	About	

Figure 21: The License Administrator

If you encounter any problems during installation of the DTM, please contact the D3 support team at <u>ValveSightD3support@flowserve.com</u>.





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# 7 Troubleshooting

- 1. There are known software types that will allocate Com ports on their own. For example Palm Pilot software and AT&T virtual modem software are both known to do this. Make sure the software is disabled when using ValveSight.
- 2. Older XP version with either service pack 1 or service pack 2 could be missing Microsoft .NET Framework.
  - .NET Framework 1.1 and 2.0 should **both** be installed. This can be checked in the add/remove programs section in the Control Panel
- 3. If the installer presents a pop-up containing a warning that the existing file is newer than the one the Setup is trying to install, please make sure to use the newest version.
- 4. If the DTM is started while the D3 is in burst mode, communication will not be able to keep up and the DTM may lose contact with the D3 repeatedly, or not be able to start at all. Please ensure that the D3 is not in burst mode before trying to use the D3 HART ValveSight DTM.

