Masoneilan™ SVI™ 3

Advanced Performance Digital Positioner Bench Quick Start

Instruction Manual (Rev A)

Baker Hughes

About this Guide

This instruction manual applies to the following instruments and approved software:

- SVI3
  - SVI3 DTM version 3.10 or later
  - ValVue 3.60 or later

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Bench Quick Start

The goal of this procedure is to perform a configuration of the SV II3 up to running Find Stops and Autotune on a bench. Additionally, this document also provides guidance on when to run signatures and produce associated reports. This procedure uses Baker Hughes' ValVue3™ software (ver. 3.60 or later) and the SVI3 DTM (ver. 3.10 or later).

WARNING

Changing the Application to Normal mode may move the valve. It may be dangerous if someone is still working with the valve.

This procedure consists of the following major steps:

1. Physical Setup

1. Buy a kit similar to the one shown in Figure 1. This kit contains a HART® Loop Calibrator (with wall power supply and loop test lead wires) and either a USB connector or a serial port connector for your laptop. The setup shown in Figure 1 is a GE product and can be purchased at: *https://www.gemeasurement.com/test-calibration/calibrators/ ups-iii-loop-calibrator-ma-v*

2. Download and install software to use HART® loop on your PC. For example, MACTek® USB or RS232 software (Universal VIATOR Installer v3.1.9 with drivers for 32 bit Windows XP/Vista/7/8) available at software *https://www.mactekcorp.com/ download.php*. When installed this software should the serial or USB port into which it is plugged. If it does not, the VIATOR installation includes a utility called *USB View* for viewing USB connections. For a serial connection, you can check using Windows Device Manager.

3. Prepare the HART® hardware by:

   a. Plugging the HART® Loop Power Calibrator power supply in and setting up the calibrator as per its manual, ensuring the mode is correct to supply a 4 - 20 mA.

   b. Plugging the USB plug or serial connector into the appropriate connector on the laptop/PC. Opening the cover on the SVI3 and connecting the other end of the USB/Serial connector to the 4 - 20 mA IN connections.

   c. Connecting the loop calibrator cables to the 4 - 20 mA IN. Maintain polarity | + and -, respectively.
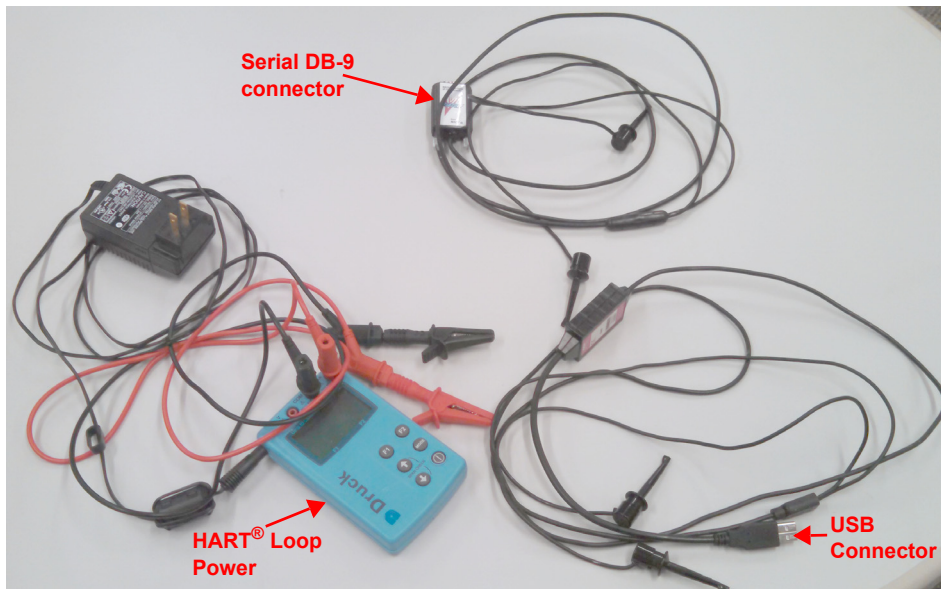
Figure 1   Bench Setup Equipment

4. Mount the SVI3 on the actuator per instructions in the SVI3 Quick Start Guide or Instruction Manual. These manuals are available for download at *https://valves.bakerhughes.com/resource-center*.

5. Pipe the SVI3 to the actuator. Ensure:

   √ The airset provides the SVI3 with at least 5-10 psig more supply pressure than required by the actuator (maximum spring pressure):

   ☐ Supply pressure for single acting SVI3:
   20 -100 psi (1.4 - 6.9 bar) (138 - 690 kPa)

   ☐ Minimum tubing diameter 1⁄4" (6 mm x 4 mm)

   √ Any other pneumatic accessories are correctly piped without restricting the SVI3 output(s) to the actuator.

2. Software Install and Configuration

1. Download the ValVue and DTM software and install. See "Masoneilan Software" on page 13 for download site.

2. Download the Codewrights HART® Communication DTM and install. See "Code wrights HART® Communication DTM" on page 14 for download site.

3. Sign on to ValVue3 with default values:

   √ User name *admin*.

   √ Password *ValVue3*.

NOTE

For security purposes, you are forced to change your password during the first use.

The ValVue and SVI3 DTM license trial period works as follows:
1. Once you download and install the ValVue software, you are granted a 30 day trial period. During the 30 days, you have access to all the advanced features of ValVue and the SVI3 DTM.
2. Once the first 30 days expires, you lose the advanced features of both ValVue and the SVI3 DTM. You then have an additional 30 day period with just standard features, after which you must register to continue using the product.
We strongly encourage you to register your license with us as soon as possible. Contact Baker Hughes at software.reg@ge.com.

The evaluation periods for both are independent of each other and commence with first use.

NOTE

[!]

If you have updated ValVue, a dialog appears when you open Val-Vue3:
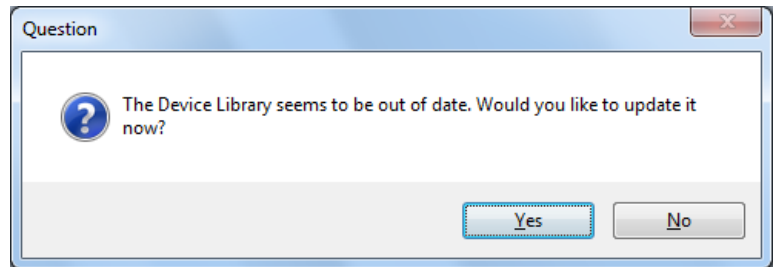
Click:

√ **Yes** *and the library is updated.*

√ **No** *and you need to manually updated from the DTM Library Management dialog to access any new functionality.*
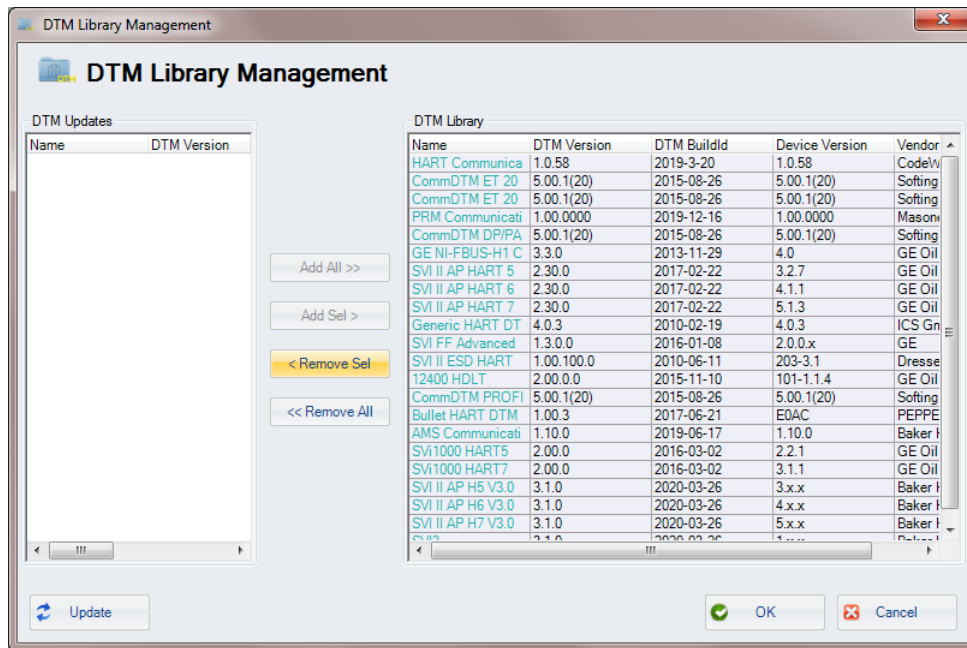
4. Click **Settings > DTM Library** and Figure 2 appears.
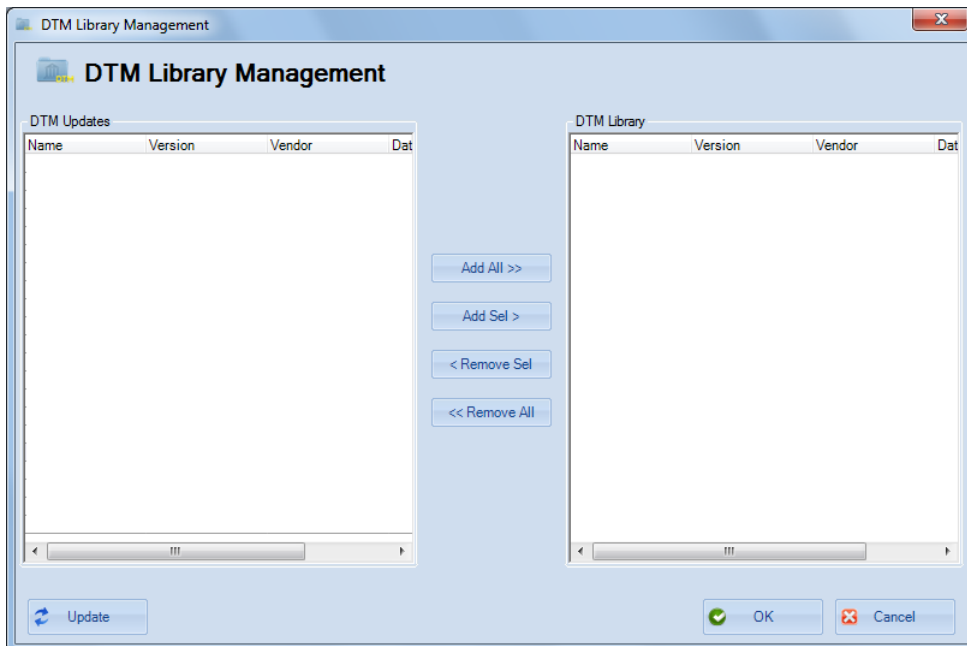
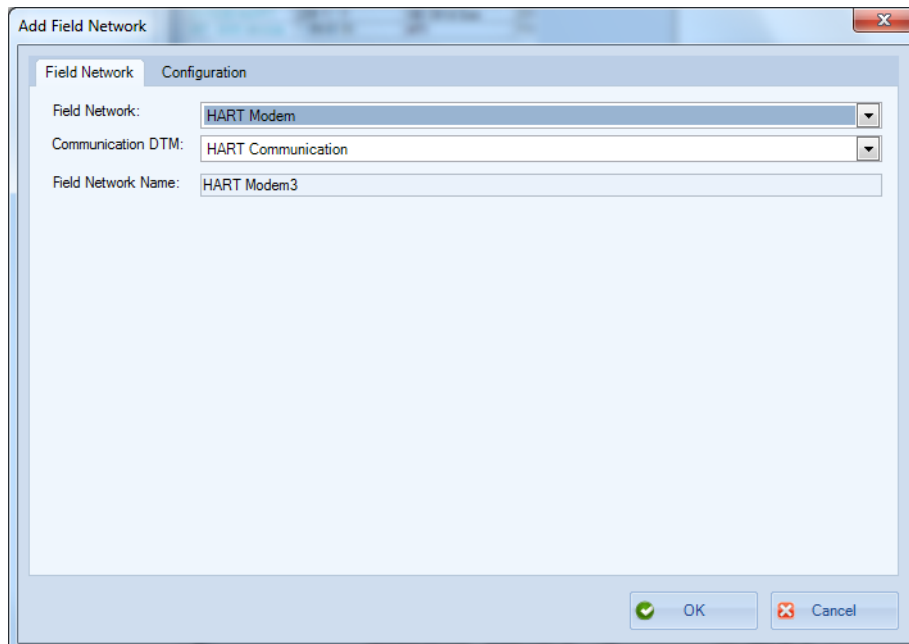**Figure 2   DTM Library Management: Before Update**

5. Click **Update** and once the *DTM Updates* list refreshes, select the **HART Communications** and the **SVI3**.

6. Click **Add Sel** and then click **OK** to close *DTM Library Management* dialog.

Figure 3   DTM Library Management: After Update

7. Click **Settings > Field Networks**, click **Add** and Figure 4 appears. Select **HART Modem** and click **OK**.

Figure 4   Add Field Network

8. Click **OK** again to add the *HART Modem* to *Network View* and Figure 5 appears.
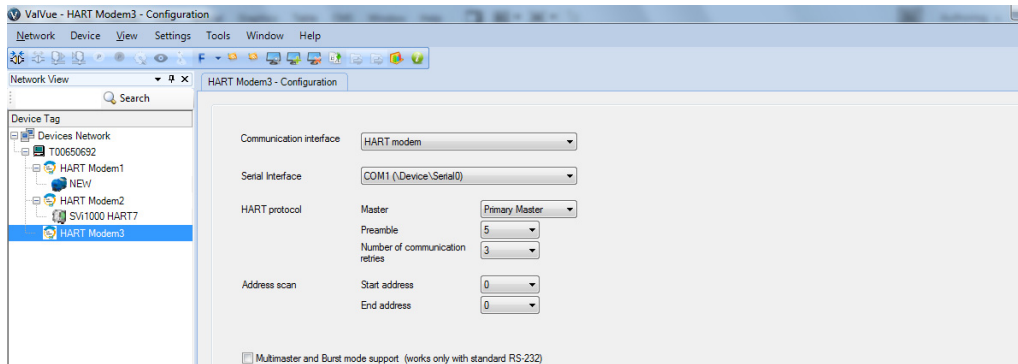
Figure 5   HART Modem Configuration Tab

9. Ensure the *Serial Interface* pulldown and the *Address scan* fields are correct. Click **Apply** and then **OK**.

NOTE	*If device is connected (or powered through DCS), set Master to Secondary Master.*

10. Right-click on the **HART Modem** and do one of the following:

√   Selecting **Network > Rebuild Network**.

or

√   Selecting **Open Connected**

or

√   Clicking **Add New Device,** Figure 6 appears, highlighting **SVI3** and clicking **OK**.
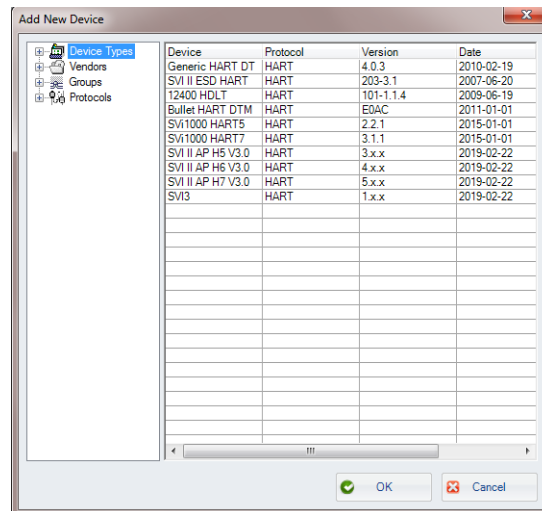
Figure 6   Add New Device

11. Right-click on the SVI3 in the *Project* pane and click **Connect**.

12. Click **OK** to the DTM evaluation period warning, if it appears. The SVI3 DTM opens. If the SVI3 DTM doesn't open automatically: Select the SVI3 device you added, right-click and select **Online Parameter**.

13. Check that the SV3 is connected (see red oval in Figure 7).
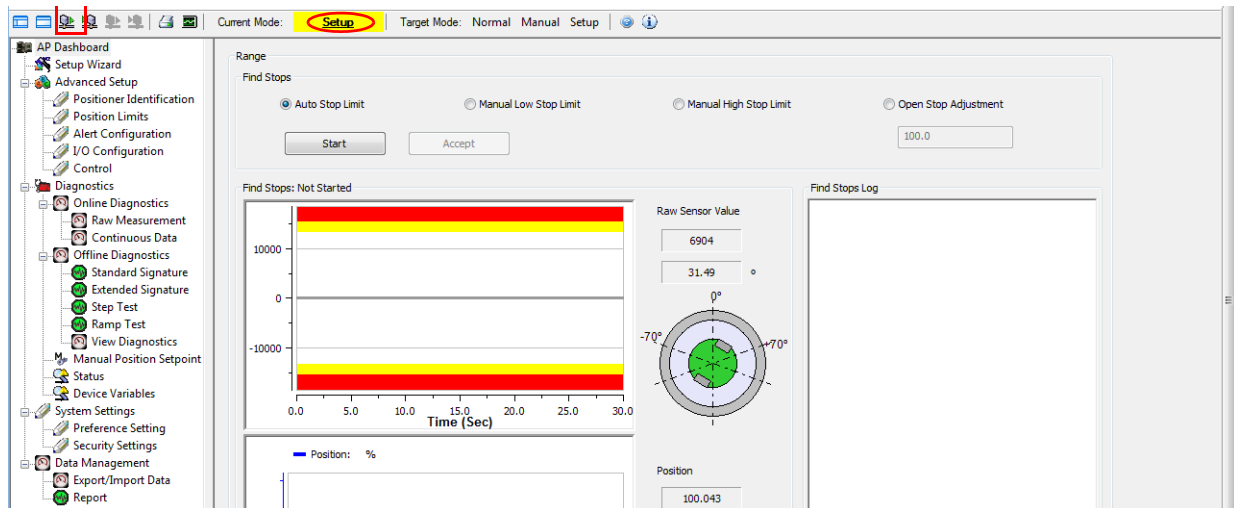
Figure 7   Connected

If not it does not connect:

√   Right-click on the device in the topology pane, select **Additional Functions** > **DTM Address** and Figure 8 appears. Correct the *Polling Address* and click **Apply**. Disconnect and then reconnect.
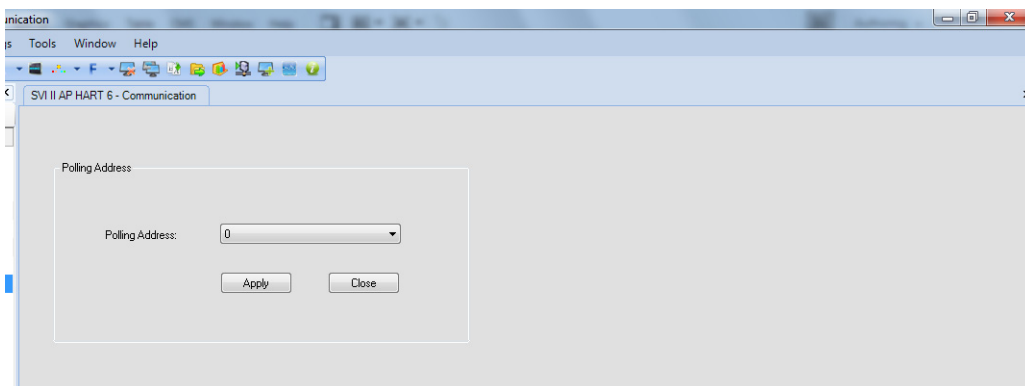
Figure 8   Communication Tab

14. Click **Upload All Parameters** icon (see red box in Figure 7).

NOTE [!]	*Upload means to pull data from the SVI3 and load data into DTM onto the PC. Download puts data from the DTM into the SVI3.*

3. Perform Setup Wizard

Use the *Setup Wizard* to configure the basic setup for the SVI3 (Figure 9).

WARNING

⚠️

This procedure moves the valve.

Before beginning, confirm that the valve is isolated from the process. This procedure exhausts and then fills the valve actuator to supply pressure and therefore strokes the valve over its full range.

Supply pressure MUST NOT exceed the actuator pressure rating marked on the actuator. Positioner supply pressure MUST BE at least 5 psi higher than the upper spring range of the valve.

CAUTION

✋

*Procedures (e.g. Find Stops, Auto Tune, Step Test, Ramp Test, Signature) should **NOT be** invoked if the ValVue sequencer is running. For information on the sequencer, see ValVue 3's online help.*

Do not Auto Tune if manual tuning has been used. Auto Tune creates new parameters that override the manual tuning parameters.

For a successful Auto Tune process, the supply pressure must be at least 5 PSI (34.5 kPa) above the spring range.

1. Select the **Setup Wizard** tab and ensure the mode is in *Setup*.
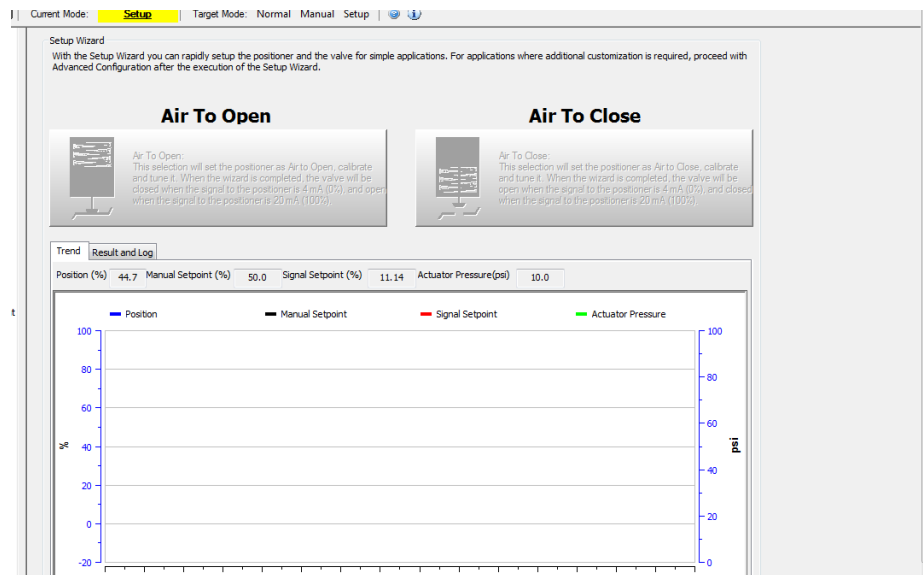
Figure 9   Setup Wizard Tab

2. Click either **Air To Open** or **Air To Close**, as appropriate.

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4. Save Settings and Device Baseline

1. Perform any needed diagnostic tests and run tests. See the SVI3 DTM online help for steps to configure and run diagnostic tests. Save the results.

2. After finishing with the control valve, make sure all saved reports contain all necessary order information, by:

    a. Selecting **Diagnostics > Offline Diagnostics > Report** and the report appears.

Figure 10 Example Report

Use the icon bar on the top of the report to export this to a Word or pdf file, which can be printed or saved.

    b. Clicking the *Disconnect* icon on the ValVue 3 toolbar**.**

    c. Clicking **Network > Exit** to close the DTM. If you have unsaved data, click the *Download Parameters to Device* icon to save.

3. Connect the SVI3 wires to next item on order. Click **Import and Add New**. Go to step 4 of "2. Software Install and Configuration" on page 6 and repeat.

Appendix A: Download Instructions

## Masoneilan Software

Download and Install ValVue3 DTMs

1. Go to the *Resource Library* (*https://valves.bakerhughes.com/resource-center*) and enter *ValVue* in the search field (arrow in Figure 11).
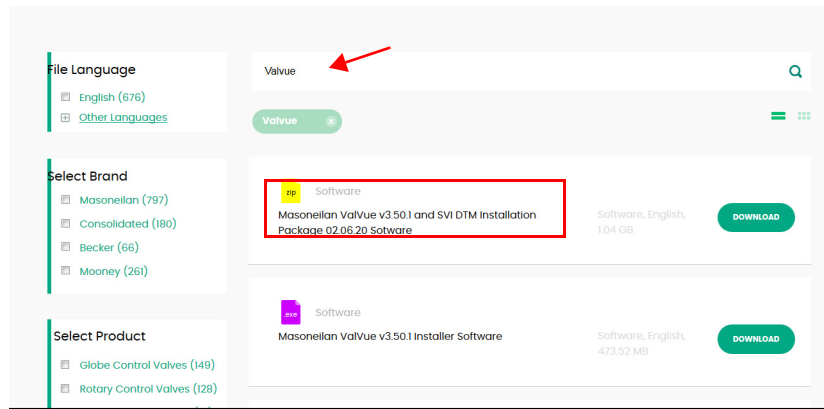
Figure 11   Resource Center: Search for Valve 3

The results appear (red box in Figure 11).

2. Use the arrows to move through the selections. Select **Download** below the installer and Figure 12 appears.
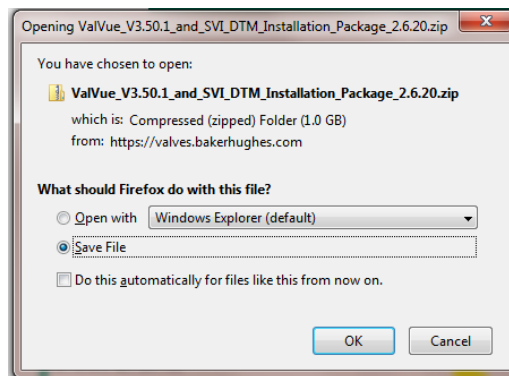
Figure 12   Opening Dialog

NOTE

⚠

The dialog that appears for download varies by the program used.

3. Click **Save File**, click **OK** and it saves to the *Windows Downloads* folder.

NOTE	For fastest installation, save the download file to your laptop/ PC. *Don't install from the website.*

4. Open *Windows Explorer* and click the **Windows Downloads** folder.

NOTE	*If you are upgrading from ValVue 2.x you must update the SQL database location to match ValVue3's.*

5. Double-click on the installer and follow the instructions to install.

Code wrights HART® Communication DTM

You must download and install this DTM to use Masoneilan's HART®-based DTM.

Go to the link: http://www.codewrights.biz/index.php/en/downloads/software and follow instructions to download and install the CW_CommDTM_HART.

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