StationManager™

Demonstration Guide

B3PE LLC
419 East Columbia Street
Colorado Springs, Colorado 80907 USA
(719) 578-9391
www.b3pellc.com

Thank you for your interest in our products and for taking time to view the demonstration software. I hope that you will be pleased with what you see during the demonstration. We are truly committed to providing products that ensure your success. If you have suggestions which might help improve the StationManager software - *please,* let us know your ideas. Again, thank you for your interest...

Bradley B. Bean

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Revision 002

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StationManager™ 2.1 *Demonstration Guide*

General Information

The StationManager™ software provides the User with a comprehensive predefined database for maintaining design, operation, inspection, and compliance data associated with pressure-reducing stations. Data is accessed through an easy-to-use spreadsheet-style interface. The spreadsheet interface is enhanced by several complementary interface options. A Data Entry Form that allows "fill-in-the-blank" access and entry. And a powerful Schematic Data Interface, which allows graphical viewing of data values and results, and point-and-click access to the station data. Integral to the database is a full calculation engine for performing capacity and pressure calculations to ensure regulatory and operational compliance.

The information contained in this guide is intended to provide an overview of the StationManager software by demonstrating a portion of its rich, robust, and extensive feature set. Although the entire StationManager feature set is not fully demonstrated, the features that are used during the exercise should provide a good appreciation of how StationManager may be used to satisfy your regulator/relief valve station management needs.

The instructions in this guide assume that the User has a working knowledge of the Windows operating environment, is familiar with navigating Windows-based applications, and has an understanding of regulator/relief valve stations in a natural gas application. The example in this guide demonstrates how to create a new database, add a station, perform a calculation, and review the calculation results. Although the tasks used in the example are not comprehensive, they represent many of the most commonly used features of StationManager and provide a good foundation for building an understanding of its use.

The remainder of this guide will step you through the installation of StationManager and the creation and manipulation of a simple example database. Inserted throughout the text are notes which provide additional information about the software. The example is a bit long. Please be patient and persistent in working through it - completing the example will provide a valuable lesson on how to utilize the software to efficiently meet your station management needs.

System/Hardware Requirements

StationManager will operate on any device configured to Windows 8 through Windows 11.

The StationManager software - Demonstration version will require a minimum of 25 MB of free hard disk space when installed.

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Installing StationManager

An appropriate version of Windows must be running in order to install StationManager. If it is not, start Windows now, then proceed with the installation process described below.

Note... On Windows Vista and newer devices, you will need to be logged on as the Full Administrator or use the "*Run as administrator*" option when executing the installation file.

● Download the compressed folder (.zip) containing the setup executable file from our website (www.b3pellc.com) to your device. Navigate to the folder's location and open or explore it using Windows File Explorer.

● Double-click the setup file's name in the compressed folder. If a Windows Security warning appears, allow your device to execute the file.

● After the setup program has been started, several screens will be displayed during the installation process. Read the contents of each screen carefully and respond appropriately.

Note... On the Terms Of Use screen, read the Terms Of Use agreement carefully and select the *"I agree to..."* option. If you do not wish to accept the Terms Of Use agreement, you will not be able to continue with the installation process.

● A message will be displayed when the installation process is complete. The message will indicate whether the installation was successful or whether it failed. Select the appropriate option to clear the message.

Starting StationManager

Note...

• An appropriate version of Windows must be running before StationManager may be executed. If Windows is not running, begin its execution now.

• On Windows Vista and newer devices, you will need to be logged on as the Full Administrator or use the "*Run as administrator*" option the first time you execute the StationManager software.

• The device must be connected to the internet the first time that the StationManager software is executed.

● From the Windows Desktop, double-click the *StatMan* shortcut icon.

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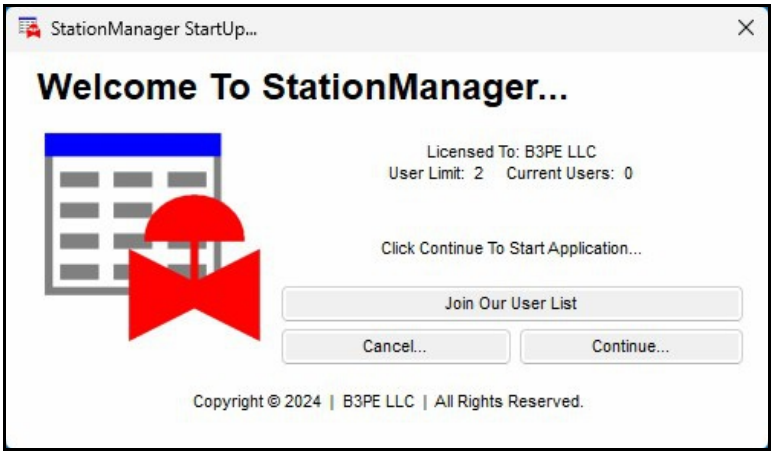
● The StationManager software will be started, and the Welcome screen will be displayed. Click the *Continue* command button.



● The Demonstration Notes screen will be displayed. Read carefully, then click the *Continue* command button.

Depending on the preference settings, a blank screen may be displayed, or the last opened database will be displayed. In either case, choose the desired option from the pull-down menus.

Database Design

The StationManager software provides the User with a comprehensive predefined database for maintaining design, operation, inspection, and compliance data associated with pressure-reducing stations. Data is accessed through an easy-to-use spreadsheet-style interface. The spreadsheet interface is enhanced by several complementary interface options.

- A Data Entry Form allows “fill-in-the-blank” access and entry.
- An Audit Report allows view-only access to station and compliance data and results.
- A powerful Schematic Data Interface allows graphical viewing of data values and results and point-and-click access to the station data.

Integral to the database is a full calculation engine for performing capacity and pressure calculations to ensure regulatory and operational compliance.

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The StationManager database consists of a group of files containing various values associated with different aspects of the station data. These include a file containing general database setup and default information, a file containing general station information, a file containing the data required for the hydraulic analysis, a file containing inspection results, and a file containing specific equipment information for the pressure regulating and relief devices. The Station Data file contains a record for each station. Each station record is linked to the remaining data files so that all data can be accessed based on the selected station record.

StationManager defines a station as a collection of runs, stages, devices, and piping sections. A run consists of one or more stages. A stage consists of one or more devices and the associated piping sections. A device is a pressure limiting or overpressure device - regulator or relief valve. Devices are designated as upstream (regulator) or downstream (regulator or relief valve). The piping sections are defined as upstream (supply or inlet), intermediate (between the upstream and downstream device), downstream (outlet of station), and stack (outlet of relief valve).

A station can contain one or two runs. A run can contain one or two stages. A stage can contain one or two devices. Stages can be configured as regulator only, regulator-regulator, regulator-relief valve, dual regulator-relief valve, or relief valve only. Operation schemes for regulator-regulator configurations can be upstream monitoring - downstream controlling, upstream working monitor - downstream controlling, or upstream controlling - downstream monitoring.

When two stages are present, the downstream section of the first (upstream) stage is disabled, and the upstream piping of the second (downstream) stage is assumed to be connected directly to the outlet of the first-stage downstream device.

If a stage consists of a regulator only, the downstream device is disabled. The regulator must be assigned as the upstream device. The intermediate piping is disabled, and the downstream piping is assumed to be connected directly to the outlet of the upstream device (regulator).

If a stage consists of a relief valve only, the upstream device is disabled. The relief valve must be assigned as the downstream device. The intermediate piping is disabled, and the upstream piping is assumed to be connected directly to the inlet of the downstream device (relief valve).

In addition to the station data, a set of data files referred to as “Property Tables” are also maintained. These files contain common information about pipe, fitting, regulator, and relief valve properties. The common data contains values such as inside pipe diameter, equivalent lengths for fittings, and valve factors for the regulator and relief valves. The Property Tables can be customized by the User to reflect their specific needs.

Some of the supported station configurations are shown in the following figure.

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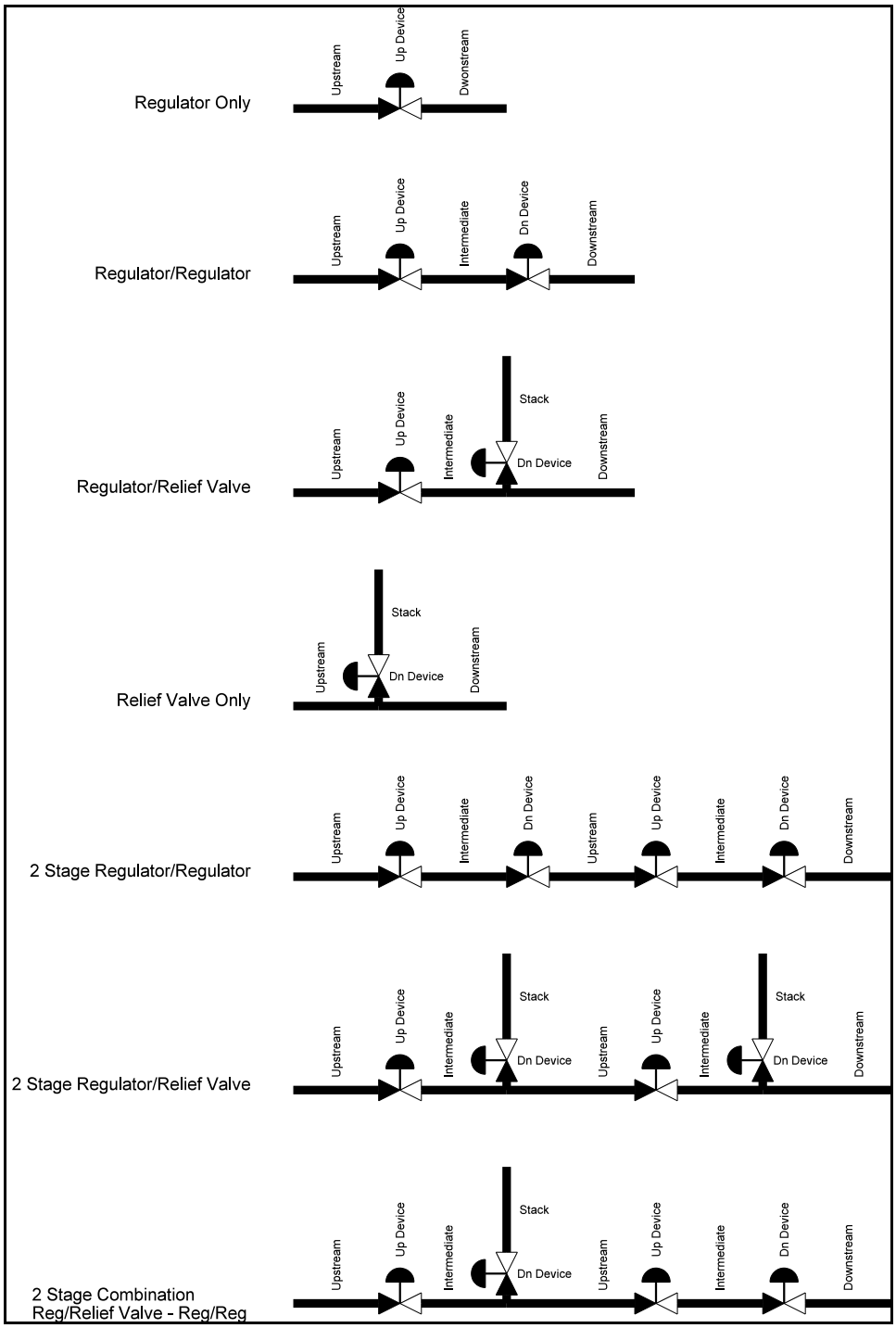

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In addition to the configurations shown, relief valves can be "shared" between a parallel run and stage or "combined" on stages in series. Sharing a relief valve refers to the case where regulators in a parallel run and stage are protected by a single relief valve, assumed to be installed on one run or the other. Combining a relief valve refers to the case where an upstream regulator is protected by two (different) downstream relief valves - the capacity of the relief valves is combined during the compliance check. The combined relief valves are assumed to be installed in series on the same run.

The device control lines are assumed to be connected as follows:

Control Line Sense Location		
Configuration	**Device**	**Sense Location**
Regulator Only	Upstream (Control)	Inlet of Downstream Piping
Monitor - Upstream	Upstream (Monitor)	Inlet of Downstream Piping
	Downstream (Control)	Inlet of Downstream Piping
Monitor - Downstream	Upstream (Control)	Inlet of Downstream Piping
	Downstream (Monitor)	Inlet of Downstream Piping
Monitor - Upstream Working	Upstream (Control)	Inlet of Intermediate Piping
	Upstream (Monitor)	Inlet of Downstream Piping
	Downstream (Control)	Inlet of Downstream Piping
Regulator/Relief Valve	Upstream (Regulator)	Inlet of Intermediate Piping
	Downstream (Relief Valve)	Outlet of Intermediate Piping
Relief Valve Only	Downstream (Relief Valve)	Outlet of Upstream Piping

Sample Database

A sample database is included when StationManager is installed. The database contains sample records for each type of station configuration supported by StationManager. The database will be automatically opened when StationManager is first executed. To open the database at other times, use the *Open* item from the *File* menu. Instructions for browsing and manipulating the database contents are provided in the *Example* section of this Demonstration Guide. If changes are made to the sample database, the original contents can be restored using the *Restore Samples* item from the *File* menu.

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Database Interface

The values contained in the database are accessed through a spreadsheet-style report. The data is grouped by functionality into separate report sections, which are displayed on separate report tabs. The report consists of tabs, rows, and columns. Each row represents a record, and each column represents a specific data item. Each station is represented by a record and a set of sub-records for each run and stage.

Several options are available for viewing and entering data values and results. The primary means of access is through the Database Report. This access option allows direct access to the data values and results and provides a variety of data manipulation tools. The Report interface is complimented by several additional specialized interfaces. The Data Form allows data to be entered using a fill-in-the-blank style interface, and the results are presented in a similar style. The Audit Form allows view-only access to station and compliance data. The Schematic Data Interface provides graphical access to the data values and results and allows point-and-click data editing and graphical display of the calculation results.

The Station Data Report is the only access option that allows station records to be inserted or deleted. Records can be added to the end of the database with any of the edit-enabled interfaces. The report must be open to access the station data or any of the other data access interfaces. Tools are provided to create a selection and sorted sets, limit the data displayed, to add, enter, insert, and move records, to update values en masse based on User-defined selection criteria, and save a selected set of data.

Using The Help System

The help documents are stored on the B3PE server. You must be connected to the internet to access the various StationManager help and support documents.

The StationManager Manual can be used for information on specific screens and commands as well as detailed instructions, descriptions, and explanations.

Once a document is opened, it can be saved locally if you wish. If you save a help document to your machine for offline access, you will need to open it directly in your Portable Document Format (PDF) document viewer. A suitable PDF document viewer or reader is required to view and print the documents.

The Help Menu

Access to the various help documents and information is provided in the *Help* menu. You can also view our contact information, send a help request, or visit our website. *Note* - Some of the features require an internet connection to work properly.

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Contact Us

Hours - Our normal work hours are 8:00 A.M. to 5:00 P.M. Mountain Time, Monday through Friday. However, if you have a problem, please try at any time - we may be in.

By Telephone - (719) 578-9391

By Email - help@b3pe.com

By Website - www.b3pellc.com

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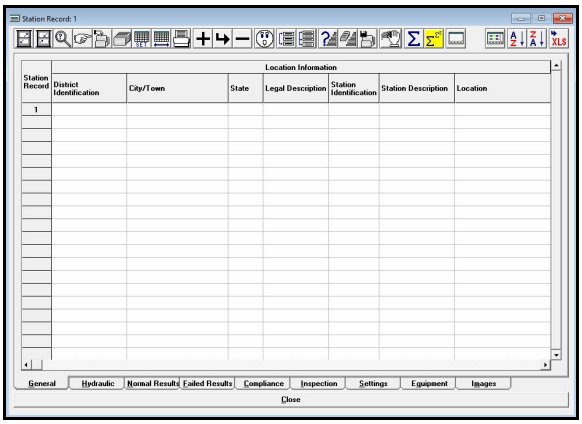
Example

After browsing the sample database, use the instructions provided in the following sections to create, edit, calculate, and report your own example database.

If a database is already open, close it now using the *Close* item from the *File* menu.

Create The Database

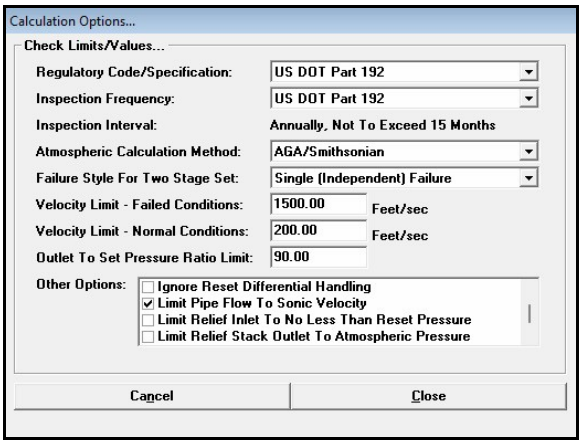


The first step in creating a database is to open a new set of data files. To create a new database, from the *File* menu, select the *New* item. The Database Selection screen will be displayed. For the *Filename*, type "First", then click the *Continue* command button.

A new database containing a single station record will be displayed as a spreadsheet-style report, the Station Data Report. If the report was not displayed when the new database was created, select the *Station Data* item from the *Report* menu to display it now.

Before entering any data, the database must be "set up" by establishing various values, such as dimensional units and default data values.

Set The Calculation Options



When a new database is created, the check limits and values need to be set. These values are part of the Calculation Options. To set the values:

- From the *File* menu, in the *Preferences* submenu, select the *Set Calculation Options* item. The Calculation Options screen will be displayed.

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- Set the following values:

  Regulatory Code/Specification = **US DOT Part 192**
  Inspection Frequency = **US DOT Part 192**
  Atmospheric Calculation Method = **AGA/Smithsonian**
  Failure Style For Two Stage Set = **Single (Independent) Failure**
  Velocity Limit - Failed Conditions = **1500.00 Feet/sec**
  Velocity Limit - Normal Conditions = **200.00 Feet/sec**
  Outlet To Set Pressure Ratio Limit = **90.00**

  Other Options -
  Limit Pipe Flow To Sonic Velocity = **Select**

- After all of the values have been set, click the *Close* command button to save the changes and close the screen.

Set The Default Data Values

In addition to the calculation options, the default data values also need to be set. These values are used to populate various values for the newly added or imported station records. To set the values:

- From the *Utilities* menu, select the *Set Default Values* item. The Default Data Values screen will be displayed. The values are grouped by functional type and displayed on the various data tabs.

  - On the *Dimensional Units* data tab, set the following values:

    Coordinates = **Degrees L/L**
    Diameter = **Inches**
    Efficiency = **Percent**
    Elevation = **Feet**
    Flow Rate = **Mcfh**
    Length = **Feet**
    Pressure (Abs) = **Psi (Abs)**
    Pressure (Gauge) = **Psi**
    Temperature = **Fahrenheit**
    Velocity = **Feet/sec**
    Viscosity = **Lbm/Ft-sec**

  - On the *Base/Gas Properties* data tab, set the following values:

    Pressure = **14.73 Psi (Abs)**
    Temperature = **60 Fahrenheit**

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Viscosity = **0.000007 Lbm/Ft-sec**
Specific Gravity = **0.6**
Specific Heat Ratio = **1.3**

- On the *Hydraulic Data* tab, set the following values:

Pipe Flow Equation = **IGT-Improved**
Pipe Efficiency = **95 Percent**
Pipe Components: *Note - See the following note on Component Entry.*
Upstream = **P: 2S-STD - Len: 10.0**
Intermediate = **P: 2S-STD - Len: 1.0**
Downstream = **P: 2S-STD - Len: 10.0**
Stack = **P: 2S-STD - Len: 5.0**
Station Inlet Pressure: Min = **0 Psi** Max = **500 Psi**
Required Flow: Min = **0 Mcfh** Max = **10 Mcfh**
Station Elevation = **0 Feet**
Flowing Temperature = **60 Fahrenheit**
Inspection For Year = Enter the current year in **YYYY** format.

- After all of the values have been set, click the *Apply All Values* command button. Click the *Yes* command button when prompted to make the change, then click the *OK* command button when complete.

- Click the *Close* command button on the Default Data Values screen to save the changes and close the screen.

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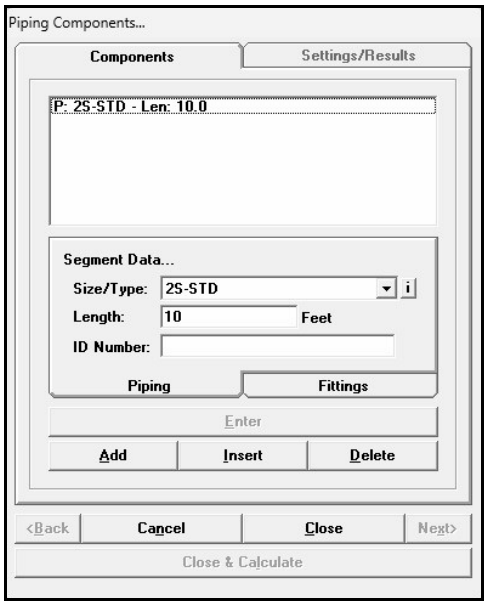
Note...

Component Entry



• A *Components* list describes the pipe and fittings associated with a piping section. For example, the pipe segments and fittings associated with the upstream (inlet) pipe section, the intermediate section, the downstream (outlet) section, and the stack piping. Each component in the list is identified with a "P:" for a pipe segment or "F:" for a fitting, followed by a Size/Type Code, followed by a quantity. Multiple pipe segments and fittings can be assigned to a *Components* list. A *Components* list is generated using the Piping Components screen.

• To edit or create a *Components* list, click in the associated *Piping Components* data field on the *Hydraulic Data* tab of the Default Data Values screen. The Piping Components screen will be displayed. Add or edit the associated components. When satisfied, click the *Close* command button to exit the screen and assign the component list.

• For example, to set the Upstream Piping Component to "P: 2S-STD - Len: 10.0":

1) Click in the box next to the *Pipe Components-Upstream* item. The Piping Components screen will be displayed. Select the *Components* data tab, then select the *Piping* data tab.

2) If the *Components* list already contains values, click on each item and click the *Delete* command button.

3) In the *Segment Data* section, select the value "2S-STD" from the *Size/Type* list. Enter "10" for the *Length*, and leave the *ID Number* data field blank. Then click the *Add* command button.

4) After the item is added to the *Components* list, click the *Close* command button to exit the screen and assign the component.

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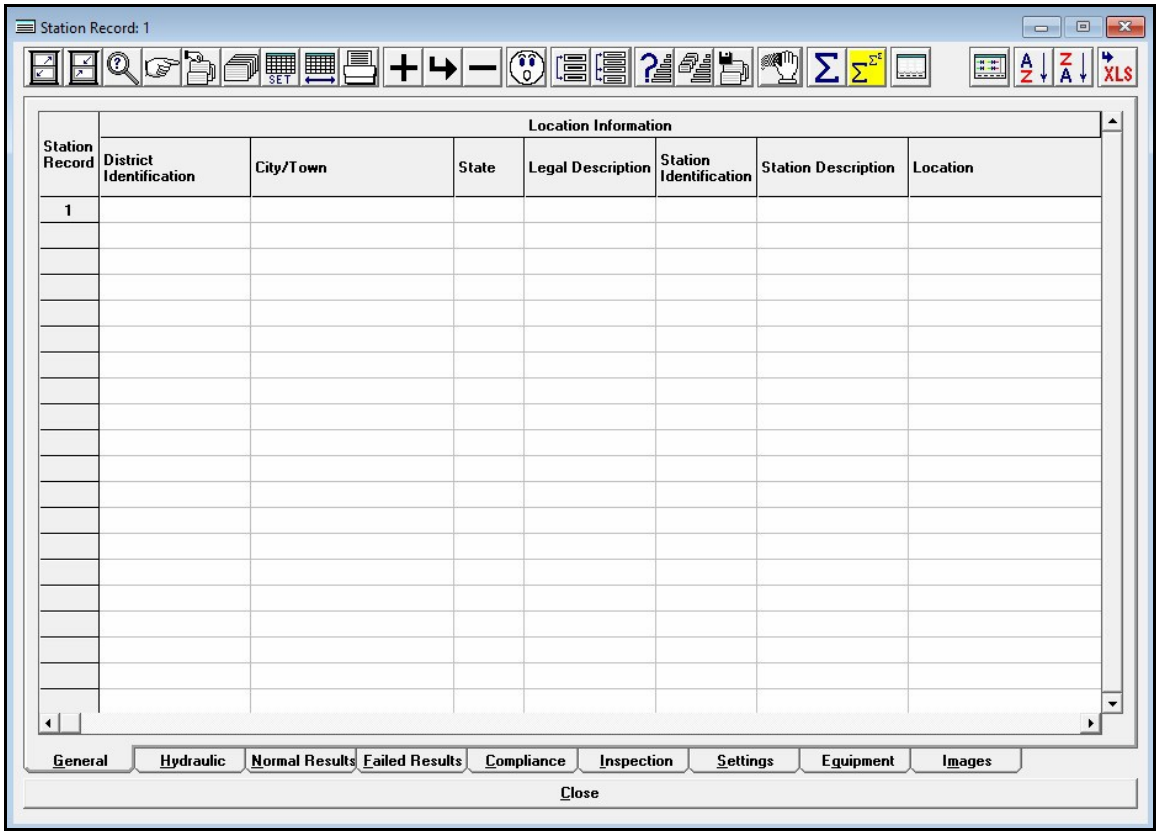
Accessing The Data

Before entering any data, let's discuss how the data values are displayed and how to access the values. The values contained in the database are accessed through a spreadsheet-style report, the Station Data Report.



The Station Data Report contains separate tabbed sections for each functional data group. For example, there are sections for *General*, *Hydraulic*, and *Compliance* data. Each section contains a list of records for each station and may contain sub-records if more than one stage or run is present.

Any item with a white background can be edited by the User. Calculated items are displayed with a yellow cell background, unused items are displayed with a cyan background, and fixed items are displayed with a gray background. If desired, the column widths can be adjusted.

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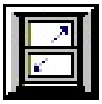
Data values can be changed directly in the Station Data Report or using one of the complimentary entry/edit options. The Data Entry Form or the Schematic Data Interface with Data Panel and Graphic Display can be displayed by selecting the appropriate icon from the Station Data Report icon menu. The Data Entry Form can also be displayed by double-clicking on the *Station Record* number displayed on the left side of the report. Individual data values are accessed in the report by clicking on the cell containing the desired value. When clicked, a data entry box or data list will appear. Either click the *Enter* key or click in another cell to save a change, or click the *Esc* key to leave the value unchanged.

The current record (highlighted record - the record that is being edited) is identified by the greater than symbol (“>”) placed before and after the *Station Record* number.

An icon menu is provided at the top of the Station Record. The icons displayed in the menu allow access to a variety of data manipulation routines. The background of the *Calculate Values For All Stations* icon will display in different colors depending on the calculation and compliance status of the stations in the database. If all of the stations “pass” the hydraulic and compliance analysis, the background will be “Green.” If a change has been made to the database and the results have not been recalculated, the icon background will be “Yellow.” If at least one of the stations has failed the analysis, the icon background will be “Red.”



The report window will display differently on different monitors; let’s resize it now so that it fits nicely on your monitor. Select the *Maximize Window Size* icon to fit the window to your monitor. *Note* - The report window can also be manually sized by dragging the sides or corners of the window with the mouse.

Enter The Station Data

Once the calculation options and the default data values have been set and the Station Data Report opened and resized, the database is ready for data entry. StationManager allows data to be entered directly into the database report (spreadsheet-style report screen) using the Data Entry Form or using the Schematic Data Interface. In this example, we will use each of the methods to define portions of a station consisting of a single run and single stage equipped with a regulator protected by a relief valve. Other station configurations can be entered by adapting the listed steps as appropriate.

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General Data - Station Data Report

We will start by entering the "General" station data directly in the Station Data Report.

- Select the *General* data tab. In *Station Record* "1", set the following values by clicking in the associated data cell and either type a value or select a value from the list, then click the adjacent cell.

Location Information -

District Identification = **Sample**
City/Town = **Rimrock**
State = **CO**
Legal Description = **S21 R67W T24S**
Station Identification = **PRV 1**
Station Description = **District Reg for Subdivision**
Location = **NE Corner of Main & 1st**
X Coordinate = **105.5230 Degrees L/L**
Y Coordinate = **37.5231 Degrees L/L**

Configuration -

Operating Status = **In Service**
Number Of Runs = **1**
Stages Per Run = **1**

Capacity -

Minimum Required = **0 Mcfh**
Maximum Required = **30 Mcfh**

Gas Properties -

Elevation = **6200 Feet**
Flowing Temperature = **50 Fahrenheit**
Base Pressure = **14.73 Psi (Abs)**
Base Temperature = **60 Fahrenheit**
Specific Gravity = **0.6**
Viscosity = **0.000007 Lbm/Ft-sec**
Specific Heat Ratio = **1.3**

Miscellaneous Data -

In Service Date = Yesterday's Date - **MM/DD/YYYY**
Jurisdiction = **US DOT**
Designed By = **Joe Designer**
Design Date = 2 Weeks Ago - **MM/DD/YYYY**
Entered/Revised By = **Your Name**
Entry/Revision Date = Today's Date - **MM/DD/YYYY**

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Comments/Notes = **Single Cut Reg/Relief**

Note...

> You will probably have noticed that some of the data items were already assigned values. These values were set based on the default data that was previously entered. The default data simply provides a way of setting redundant data values and provides an initial value for items that may not be immediately known. As you saw, the items assigned default data values can be assigned another value by entering the desired value.

Hydraulic Data - Data Entry Form

The *Hydraulic* data is subdivided into several functional groups or subsections - *Upstream Piping*, *Upstream Device*, *Intermediate Piping*, *Downstream Device*, *Downstream Piping*, *Relief Stack Piping*, etc. Depending on the station configuration, some subsections may not be applicable. When a subsection does not apply, the items associated with that subsection will be disabled or hidden. For demonstration purposes, let's enter a portion of the *Hydraulic* data using the Data Entry Form and a portion using the Schematic Data Interface.

Upstream Piping

● To display the Data Entry Form, double-click on *Station Record* "1." The Station Record screen (Data Entry Form) will be displayed.

● Select the *Run 1 Stage 1* data tab, then select the *Up Piping* data tab. Set the following values:

Run Configuration -
Run Type = **Working - 1st Cut**
Stage Style = **Regulator - Relief Valve**

Piping Components = **P: 2S-STD - Len: 10.0**
Note - See the previous note on Component Entry.

Hydraulic Data -
Min Inlet Pressure = **100 Psi**
Max Inlet Pressure = **225 Psi**
MAOP = **250 Psi**
Efficiency = **95 Percent**
Flow Equation = **IGT-Improved**

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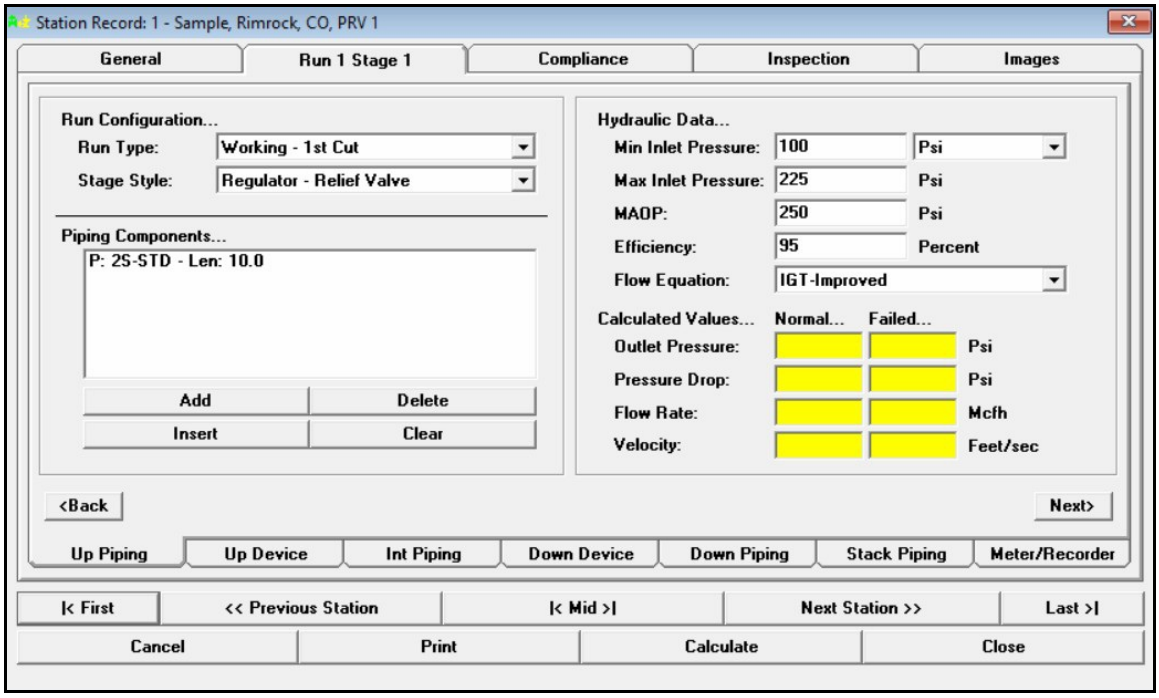
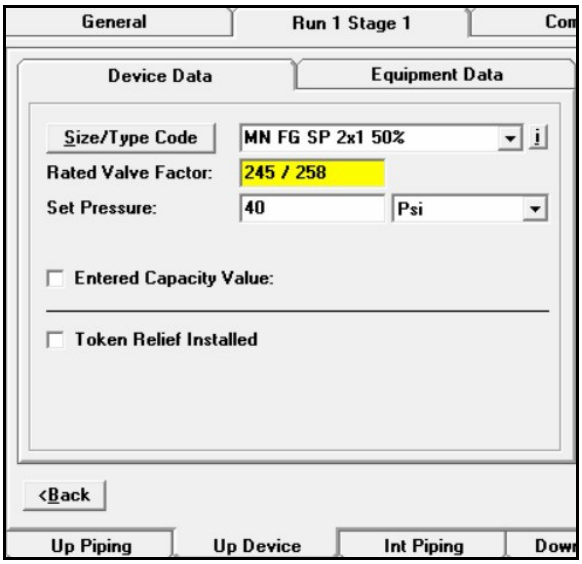


Upstream Device

- Select the *Up Device* data tab, then select the *Device Data* tab. Set the following values:

Size/Type = **MN FG SP 2x1 50%**
Note - See the following note on Device Entry.
Set Pressure = **40 Psi**
Entered Capacity Value = **Unselect**
Token Relief Installed = **Unselect**



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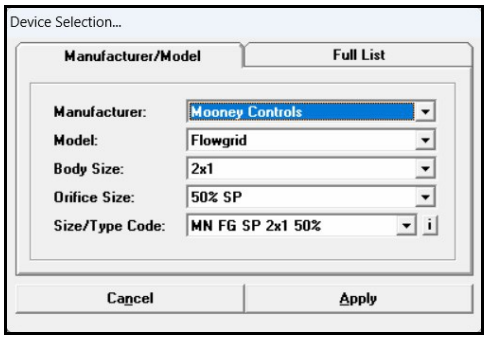
Note...

Device Entry



• A device (regulator or relief valve) is identified by a Size/Type Code. The code generally consists of a two-character manufacturer code, a model number, a body size, and an orifice size or trim option. For example, the code **MN FG SP 2x1 50%** refers to a Mooney Controls (MN) Flowgrid (FG) with a 2" x 1" (2x1) body size and a 50% (50%) Single Port (SP) restricted grid plate.

• A Size/Type Code can be entered by one of two methods: either by selecting the code from the Full List or by generating the code using the *Manufacture/Model* data tab on the Device Selection screen.

• The following describes how to enter the code using the Device Selection screen.

1) On the *Device Data* tab, click the *Size/Type Code* command button. The Device Selection screen will be displayed. On the *Manufacturer/Model* data tab:

• From the *Manufacturer* list, select **Mooney Controls**.

• All of the models associated with the selected *Manufacturer* will be displayed in the *Model* list. From the *Model* list, select **Flowgrid**.

• From the *Body Size* list, select **2x1**.

• From the *Orifice Size* list, select **50% SP**.

• When a valid combination has been selected, the associated code(s) will be displayed in the *Size/Type Code* list. Select **MN FG SP 2x1 50%** from the list. Click the *Apply* command button to assign the code and exit the screen.

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Intermediate Piping

- Select the *Int Piping* data tab. Set the following values:

  Piping Components = **P: 2S-STD - Len: 5.0**
  Note - See the previous note on Component Entry.

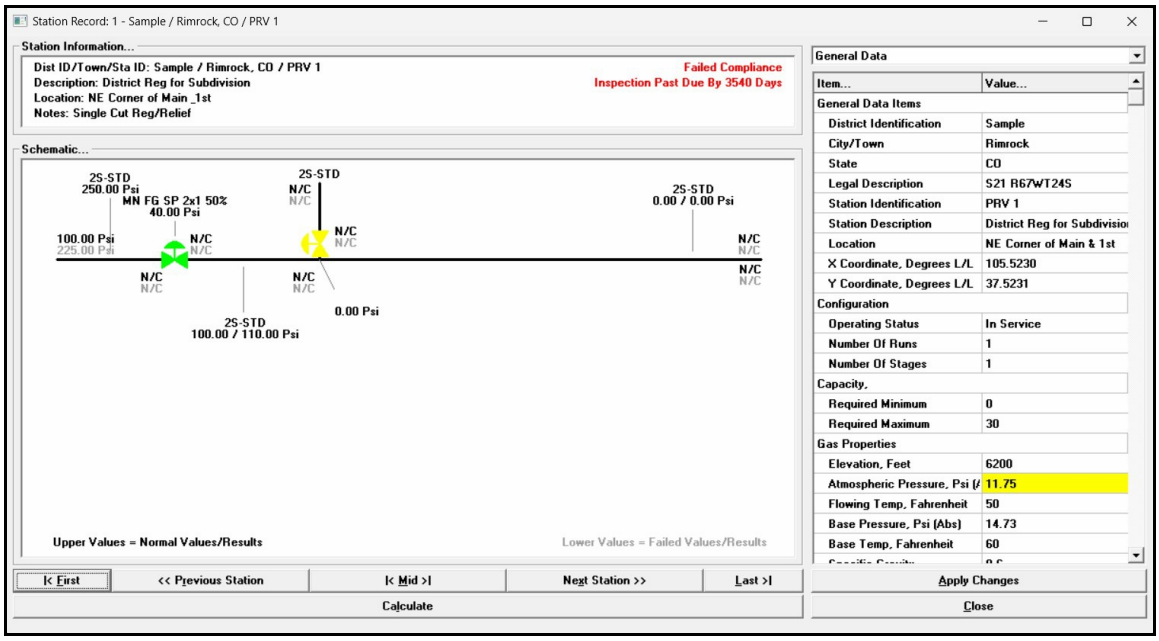
  Hydraulic Data -
  MAOP = **100 Psi**
  Efficiency = **95 Percent**
  Flow Equation = **IGT-Improved**

- Click the *Close* command button to save the changes and close the screen.

Hydraulic Data - Schematic Data Interface

We can use the Data Entry Form to enter all of the data, calculate the station, and review the results. However, for demonstration purposes, let's use the Schematic Data Interface with the Data Panel and Graphic Display to enter the remaining data.

- To open the Schematic Data Interface, click on *Station Record* "1," then select the *Display Schematic Interface* icon from the icon menu. The Schematic Data Interface will be displayed.



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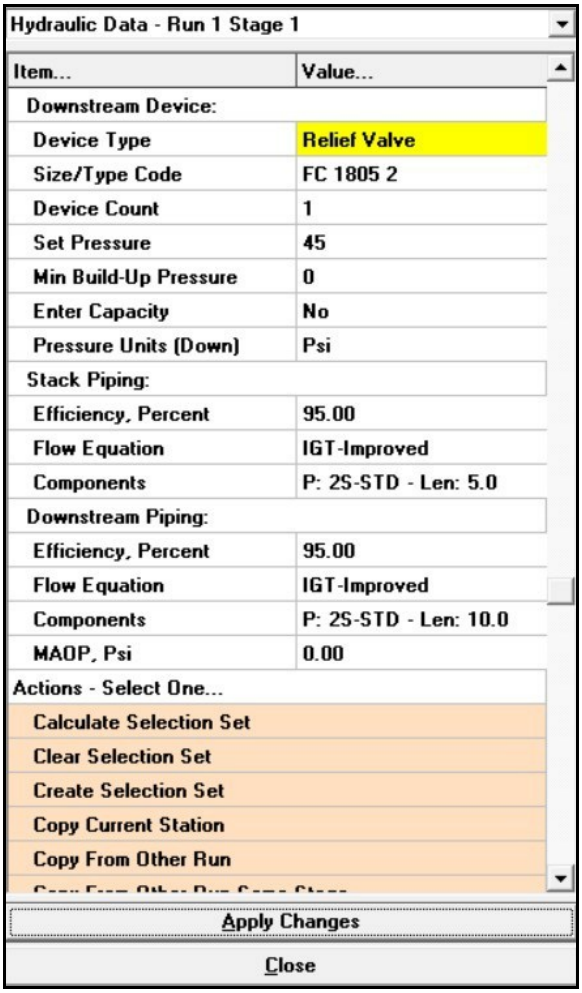
Downstream Device

● To enter the Downstream Device data, place the mouse pointer over the downstream area, and left-click the mouse. The Hydraulic Data - Run 1 Stage 1 information will be displayed in the Data Panel. Scroll to the *Downstream Device* section. Set the following values.

● Set the following values:

Size/Type Code = **FC 1805 2**
Device Count = **1**
Set Pressure = **45**
Min Build-Up Pressure = **0**
Entered Capacity = **No**
Pressure Units (Down) = **Psi**

● Click the *Apply Changes* command button to save the changes.



Downstream Piping

● To enter the Downstream Piping data, scroll to the *Downstream Piping* section.

● Set the following values:

Efficiency, Percent = **95**
Flow Equation = **IGT-Improved**
Components: **P: 2S-STD - Len: 10.0** *Note - See the previous note on Component Entry.*
MAOP, Psi = **100**

● Click the *Apply Changes* command button to save the changes.

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Stack Piping

- To enter the Stack Piping data, scroll to the *Downstream Piping* section.

  - Set the following values:

    Efficiency, Percent = **95**
    Flow Equation = **IGT-Improved**
    Components = **P: 2S-STD - Len: 5.0**; **F: 2 Pipe Exit - Qty: 1**
    Note - See the previous note on Component Entry.

  - Click the *Apply Changes* command button to save the changes.

- Click the *Close* command button on the Schematic Data Interface to return to the Station Data Report.

Note...

Various other data and result values will appear in the Station Data Report and on the Data Entry Form. These items include:

• *Normal & Failed Results* - These values are computed when the station is "calculated." No data values are entered for these data groups. We will review the various values later in the *Results* section of the example.

• *Inspection Data* - The data contained in the *Inspection* group does not affect the hydraulic or compliance analysis. We will not enter data for this group. A discussion of the items contained in this group is provided later in this document.

• *Settings & Equipment Data* - The data contained in the *Settings* and *Equipment* groups are maintained for informational purposes only. The values in these groups do not affect the hydraulic or compliance analysis. We will not enter data values for these groups in this example. However, if you wish to enter data for these groups, the data entry process is similar to the steps described for the previously addressed data groups.

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Performing The Hydraulic & Compliance Analysis

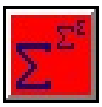
After the data values have been entered, the hydraulic and compliance analysis can be performed. The analysis will calculate the pressure and flow values through the station for both normal and failed conditions, then check the results with the requirements of the selected regulatory code. The calculated values are compared against operational and compliance standards to determine whether the station "passes" or "fails."

- To perform the analysis:

  - From the Station Data Report, select the *Calculate Values For All Stations* icon from the icon menu.

  - When the analysis is complete, a message will be displayed with the Calculation Summary. Review the contents of the message, then click the *OK* command button to close the message.

The station should have passed the analysis - the calculation icon should be colored "Green."



If the station failed the analysis, the calculation icon will be "Red." Double-check the entered values against those listed in the example, correct them as appropriate, and then recalculate them. When the station passes, proceed with the remainder of the example.

Reviewing The Results

After the analysis has been performed, the results will be displayed in the *Normal Results*, *Failed Results*, and *Compliance* data tabs of the Station Data Report on the various Run/Stage data sections (Upstream Piping, Upstream Device, etc.) on the *Compliance* data tab of the Data Entry Form, or displayed on the Schematic Data Interface. Browse the results as desired.

Note...

> The displayed result values will vary depending on the outcome of the analysis (passed, failed, or ignored). If a run is ignored or fails the analysis, a calculation message will describe the error or condition that caused the problem. Multiple problems may exist on a run, so check the calculation message and status after each analysis to ensure all problems have been eliminated.

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Normal Results

To view the results associated with the normal operation of the station using the Station Data Report, select the *Normal Results* data tab. The results are displayed on a run-by-run, stage-by-stage basis. If the run/stage passes the analysis, the calculated pressure and flow values for normal operating conditions will be displayed. If the run/stage did not pass the analysis, a message will be displayed in the rightmost column of the report.

To view the normal hydraulic results using the Data Entry Form, select the appropriate "*Run*" data tab, then click on the various section data tabs to view the associated values.

On the Schematic Data Interface, normal results are displayed in the upper values (black) text.

The minimum inlet pressure and maximum flow rate are used as the basis for the normal analysis calculation. The normal analysis assumes that any associated relief valves are closed, that any monitor regulators are operating in "monitor" mode, and that the control device is operating normally.

Failed Results

To view the results associated with the failed operation of the station using the Station Data Report, select the *Failed Results* data tab. The results are displayed on a run-by-run, stage-by-stage basis. If the run/stage passes the analysis, the calculated pressure and flow values for failed conditions will be displayed. If the run/stage did not pass the analysis, a message will be displayed in the rightmost column of the report.

To view the failed hydraulic results using the Data Entry Form, select the appropriate "*Run*" data tab, then click on the various section data tabs to view the associated values.

On the Schematic Data Interface, failed results are displayed in the lower values (gray) text.

The maximum inlet pressure and minimum flow rate are used as the basis for the failed analysis calculation. The failed analysis assumes that the normal control device has failed wide-open, that any associated relief valve is relieving, and that any monitor regulator has taken overpressure control.

Compliance Results

The detailed normal and failed results are listed with the hydraulic values as described above. The compliance results list the overall station results and a comparison of the calculated values and the regulatory required values and limits.

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To view the compliance results using the Station Data Report, select the *Compliance* data tab. The results are displayed on a station-by-station basis. If all runs and stages associated with the station passed the analysis, the overall station passed the analysis, and the calculated pressure and flow comparisons will be displayed. If any run or stage does not pass the analysis, the overall station will fail, and a message will be displayed in the right-most column of the report.

To view the compliance results using the Data Entry Form, select the *Compliance* data tab.

To view the compliance results using the Schematic Data Interface, move the mouse pointer near the compliance status message (upper-right corner of the *Station Information* section) and press the left mouse button. The Compliance Data will be displayed.

For the compliance analysis, the regulator (upstream device) capacity is calculated using the maximum inlet pressure, and the relief valve (downstream device) capacity is calculated using the maximum allowable downstream value (MAOP and Allowable Build-Up). The maximum calculated pressure values shown in the compliance results are based on the values associated with the failed analysis.

Printing The Data & Results

The StationManager Print routine allows the data and results contained in the database to be sent to a print device. The values for a single record or for multiple records can be printed in a spreadsheet format from the Station Data Report. The report Print routine prints in a spreadsheet-style format.

Data for individual stations can be printed when using the Data Entry Form or the Schematic Data Interface. The data forms are printed in a document format. The schematic prints the graphical depiction and data similarly to the format displayed on the Schematic Data Interface.

Printing From The Data Entry Form

To print values from the Data Entry Form, click the *Print* command button. The Items To Print screen will be displayed. Select the desired items to print, then click the *Continue* command button. The Print Settings screen will be displayed. Enter or select the desired settings, then click the *Print* command button to send the report to the printer.

Printing From The Schematic Data Interface

To print values from the Schematic Data Interface, in the *Actions* section at the bottom of a selected Data Panel item, click either the *Print Current Data List Values* item or the *Print Schematic Data & Results* item. Both *Action* items will display the Print Settings screen. Enter or select the desired settings, then click the *Print* command button to send the report to the printer.

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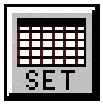
Printing From The Station Data Report

To print values from the Station Data Report, select the *Print* icon from the icon menu. The Print Settings screen will be displayed. Enter or select the desired settings, then click the *Print* command button to send the report to the printer.

Note...

Because of the amount of data in the Station Data Report, the report width will almost always be greater than the page width. A message will be displayed stating that the report width is greater than the page width. An option will be given to cancel the Print routine or continue. Generally, you will want to select the continue option. If the print is continued, the report will be printed on multiple pages.

To better fit the report on the printed page, try reducing the number of columns using the *Set Columns* icon to specify which columns to display and print. When the icon is selected, a dialog box will be displayed. The checked column names represent the columns that are currently displayed. Uncheck some of the columns by clicking on the associated checkbox.



Use a proportional font like “Arial Narrow” and use a font size of 9 points or smaller. Set the printer orientation to “Landscape.”

Working With The Inspection Data

The Inspection data provides a facility to document the results from station field inspections. The data consists of a variety of common inspection items, inspection dates, required actions, and status. The status indicates whether the station has already been inspected, has been inspected and requires additional action, or needs to be inspected. The number of days remaining in the required inspection period will also be calculated and displayed.

The inspection findings are set by clicking in the associated cell until the desired setting is displayed. The value of the inspection findings does not affect the inspection status. If an item fails inspection, it should be noted in the *Required Actions* data field in the *Miscellaneous* section. This will cause it to be noted in the inspection status until the required action is completed.

The *Required Inspection Date* and number of days left in the inspection period are calculated based on the *Previous Inspection Date*, the *For Year* value, and the selected *Regulatory Code*.

A field inspection form can be printed for each station. The inspection form provides a means of documenting the field inspection and aids in the entry of the inspection and setting data. The form can be printed using the report Print routine.

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To print an inspection form:

● Select the *Print* icon from the icon menu at the top of the Station Data Report. The Print Settings screen will be displayed.

- In the *Include* section, only select the *Inspection Form* item.

- To print forms for all stations in the current selection set (or the entire database if no selection set is present), ensure that the *Current Record Only* item is not selected in the *Other Settings* section. To print a form for the current record only, ensure the *Current Record Only* item is selected.

- When the appropriate settings have been made, click the *Print* command button to print the form(s).

What To Do Next

This simple example provided a brief overview of the basic routines found in the StationManager software. There are many other routines and features that were not demonstrated by the example - the Import/Export routines and the Mass Update routines are especially robust and useful. Perhaps you may wish to explore some of these features on your own. You can refer to the help topics for more information and further explanation of StationManager's capabilities.

After exploring the software, select the *Exit StationManager - And Return License* item from the *File* menu to leave StationManager. If the "save changes" message is displayed, select the appropriate response to save or ignore the changes you made to the database.

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Uninstalling StationManager

If, after using the StationManager software, you wish to remove it, select the *Uninstall StationManager 2.1* item from the *StationManager* menu list.

● After the Uninstall Program has been started, read the contents of each screen carefully and respond appropriately.

Note... If the Uninstall Program asks to remove any shared system files, click the *No* command button.

● A message will be displayed when the Uninstall routine is complete. The message will indicate whether the routine was successful or whether it failed. Select the appropriate option to clear the message.

Note...

• On some devices, the Uninstall routine will not be able to remove any directory or file that has been created after the initial installation.

• Some of the files and/or folders created by StationManager after the installation may include files in the initialization directory (ini), files in the default calculation file directory (files), and/or files in the application directory (app).

• To remove these files and/or folders, use Windows File Explorer to find and delete the remaining files and folders. An example of the path for the initialization folder is shown below. The other folders have similar path locations.

- 32-bit machines - **C:\Program Files\StatMan 2\ini**
- 64-bit machines - **C:\Program Files (x86)\StatMan 2\ini**

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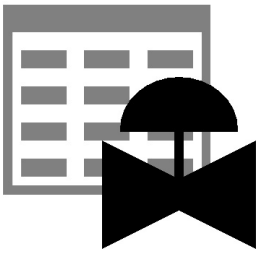

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