Red Seal Measurement
Mass Flowmeter Sizing Program

Installation

The program requires 50 MB of free disk space and will run on all versions of Windows XP, Windows Vista, Windows 7, and Windows 8, both 32 and 64 bit.

To install the program, run the file "Sizing_Program_Setup.exe". (If downloaded from the web site as a zip file, extract the file before running.) In addition to the Sizing Program, files comprising the the Labview Runtime Engine will also be installed. These files are necessary for the operation of the sizing program and will be placed in a folder labeled "National Instruments" inside the "Progam Files" folder.

If you wish to run the Sizing Program from the desktop, check the box for "Create Desktop Icon" during the installation process.

To run the Sizing Program, double-click the destop icon, or click "Mass Flowmeter Sizing Program" in the "Red Seal Measurement" program grouip, accessible by clicking "Start" and "All Programs".

The iitial screen allows you to begin a new evaluation, reload a saved file, or view information about the program. The buttons at the bottom of the screen allow quick navigation to any screen or function, and are accessible from all program screens.

Process Variables

The process variables screen allows entry of all application data relevant to the sizing calculations. For each variable, enter the minimum, normal, and maximum values encountered during the process.

Values may be entered in most commonly used units. Each variable has a drop-down menu to the right which allows selection of the input units. Remember to select the correct units or the results will be incorrect.

All variables except flow rate and temperature have selection buttons beneath the values. This allows you to choose which condition to use for the calculation of the sizing results. Only one value can be selected. The normal value is the default.

Beneath the varaible entry section is an input box for the number of data points that will be calculated between the minimum and maximum values. The default is 10, but this can be set to any value.

The temperature value is not used for calculations, but is included for reference as part of the overall application evaluation. The maximum and minimum process temperatures are -45° C (-50° F) and 204°C (400°F) respectively.

After entering all of the process information, click the "Enter Data" button. At any time, the process variables may be modified by returning to this screen, entering new values, and re-clicking "Enter Data".

After the data is entered, click "Next" to proceeed.

Evaluate Transducers

After the process variables have been entered, the program evaluate the suitability of each meter size for the entered flow range, aqnd will display selection buttons for all models of Red Seal Measurement mass flowmeters. Green buttons indicate that the process flow rate range is within the designed range of the meter, otherwise the buttons are red. Select theh flowmeter model(s) you wish to evaluate, then click "Calculate". (You may select any or all of the model numbers, including those in red.)
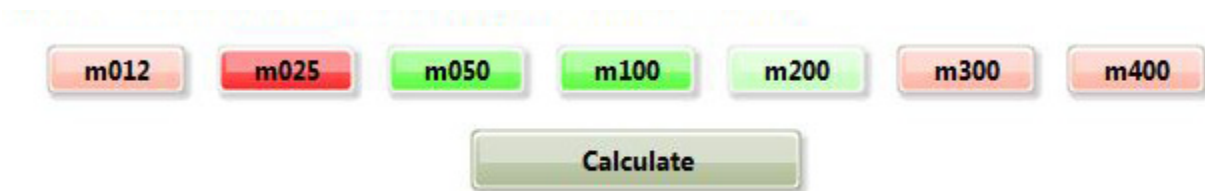
The program will display the calculated values for each flowmeter model, presented sequentially in the table. Use the scroll bar on the right to view the complete table.

After the data is calculated, the selection buttons are cleared. If you wish to see the results for other meters, make the new selections and click "Calculate" again.

Graphs

On the graphs page, you can view the data from all selected meters plotted simultaneously for comparison. Use the drop-down menu at the top of the page to the select the calculated parameter that is currently visible. Each selected meter is plotted in a different color, as indicated by the key at the top right of the plot area.
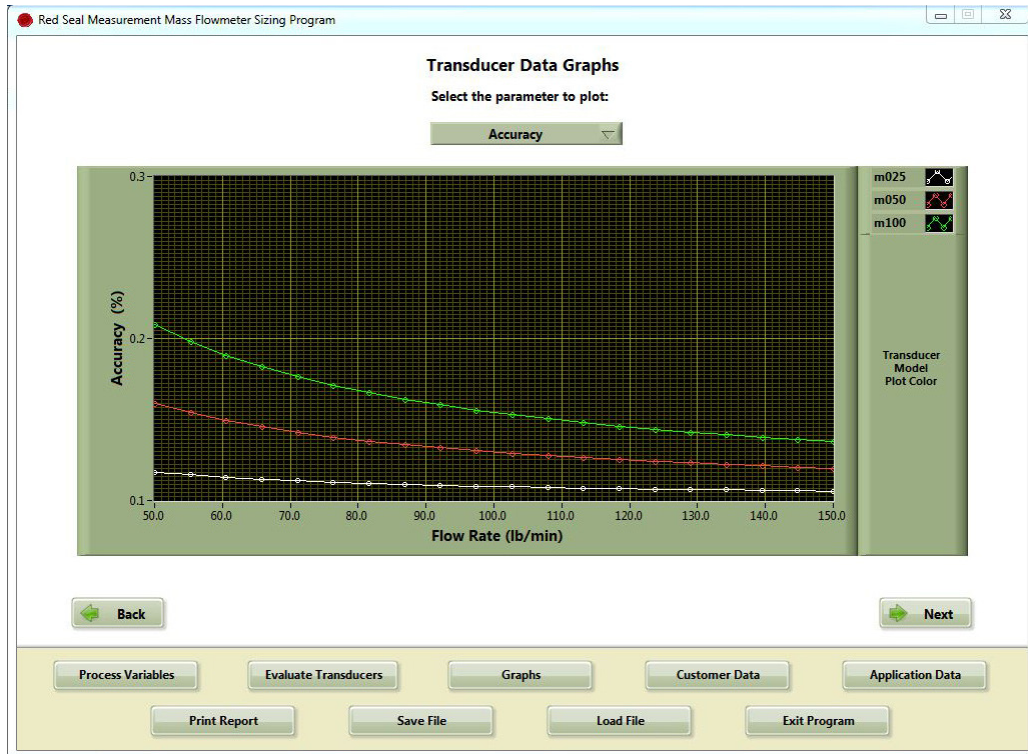
Customer and Process Information

These screens allow entry of information about the customer and the application for which the meters are being evaluated. The program will run with our without this data, but the process information should also be considered when evaluating the suitability of a specific meter for the application.

After entering all of the process information, click the "Enter Data" button before progressing to another screen.

Printing Reports

The report printing function will print a summary of the entered process variable, calculated results, customer information, and process information. Graphs are not printed in the report.
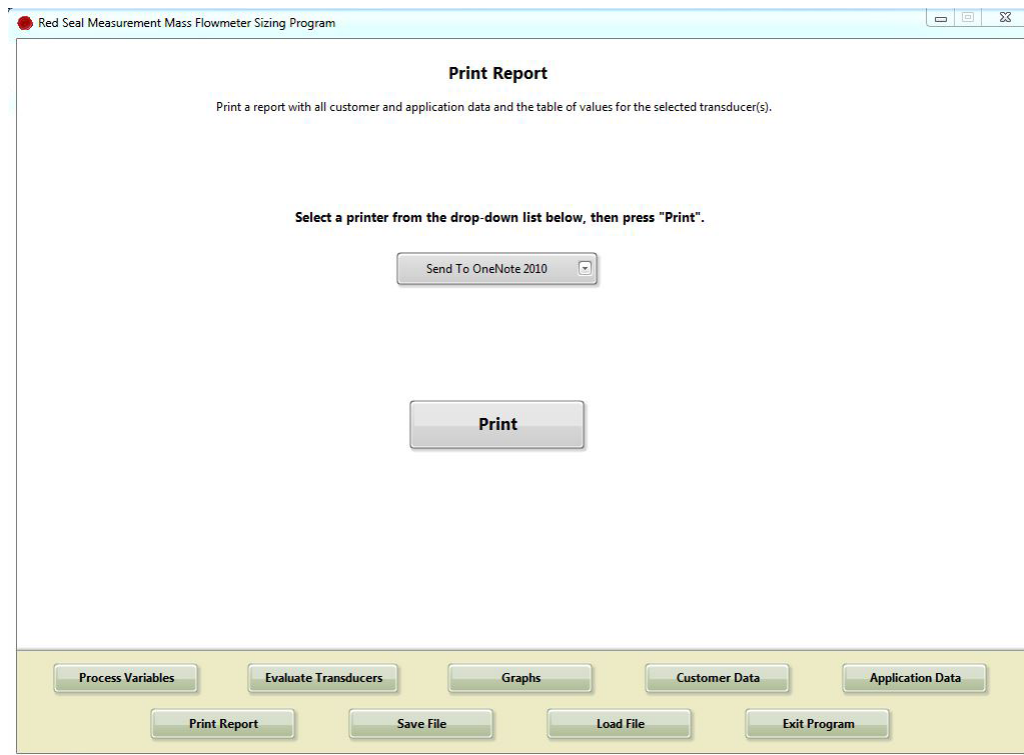
Saving and Loading Files

Information entered into the program may be saved for future use or to send to someone else. All entered process variable, customer information, and process information will be saved. If calculations have been performed, these values will be saved as well..